ACMA Radio Test Report

APPLICANT	:	**Quanta Computer Inc.**
EQUIPMENT	:	**Laptop Computer**
BRAND NAME	:	**OLPC**
MODEL NAME	:	**XO-4 Touch, XO-4 HS Touch,XO-4, XO-4 HS**
STANDARD	:	**AS/NZS 4268:2012**
TEST DATE(S)	:	**Jan. 17, 2013 ~ Feb. 16, 2013**

The measurements shown in this test report were made in accordance with the Standard AS/NZS 4268:2012.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL (KUNSHAN) INC., the test report shall not be reproduced except in full.

Reviewed by:

Jones Tsai

Jones Tsai / Manager

Testing Laboratory 1190

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
AR2D1707	Rev. 01	Initial issue of report	Feb. 25, 2013

SUMMARY OF TEST RESULIT

CLAUSE	TEST PARAMETER	PASS/FAIL	REMARK
Transmitter Parameters			
8.1	Maximum EIRP	PASS	-
8.2	Transmitter Spurious Emissions	PASS	Under limit 3.84 dB at 77.050 MHz
8.3	Emission Bandwidth	PASS	-
8.4	Transmitter Frequency Range	PASS	-
8.4	Radiated Power Spectral Density	PASS	-
8.4	Band Edges	PASS	-
Receiver Parameters			
9.1	Receiver Emissions	PASS	Under limit 2.10 dB at 244.920 MHz

1. General Description of Equipment under Test

1.1 Applicant

Quanta Computer Inc.
No.188, Wen Hwa 2nd Rd., Kuei Shan Hsiang, Tao Yuan Shien, TaiWan

1.2 Manufacturer

Quanta Computer Inc.
No.188, Wen Hwa 2nd Rd., Kuei Shan Hsiang, Tao Yuan Shien, TaiWan

1.3 Feature of Equipment under Test

Product Feature & Specification	
Equipment	Laptop Computer
Brand Name	OLPC
Model Name	XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS
WLAN Module	Trade Name: Liteon Model Name: WCBN603MH
Tx / Rx Frequency Range	Bluetooth : 2400 MHz ~ 2483.5 MHz 802.11b/g/n : 2400 MHz ~ 2483.5 MHz 802.11a/n : 5150 MHz ~ 5250 MHz, 5725 MHz ~ 5850 MHz
Channel Spacing	Bluetooth : 1 MHz 802.11b/g/n : 5 MHz 802.11a/n : 20 MHz
Maximum EIRP Average Power	Bluetooth BDR (1Mbps) : 4.84 dBm **<2400 MHz ~ 2483.5 MHz>** 802.11b : 12.64 dBm 802.11g : 12.60 dBm 802.11n HT20 : 12.83 dBm 802.11n HT40 : 13.87 dBm **<5150 MHz ~ 5250 MHz>** 802.11a : 14.81 dBm 802.11a/n HT20 : 15.42 dBm 802.11a/n HT40 : 14.97 dBm **<5725 MHz ~ 5850 MHz>** 802.11a : 14.10 dBm 802.11a/n HT20 : 14.15 dBm 802.11a/n HT40 : 14.96 dBm
Duty Cycle	Bluetooth BDR (1Mbps) : 78.45 % **<2400 MHz ~ 2483.5 MHz>** 802.11b : 100.00% 802.11g : 100.00% 802.11n HT20 : 100.00% 802.11n HT40 : 100.00% **<5150 MHz ~ 5250 MHz>** 802.11a : 100.00% 802.11a/n HT20 : 100.00% 802.11a/n HT40 : 100.00% **<5725 MHz ~ 5850 MHz>** 802.11a : 100.00 dBm 802.11a/n HT20 : 100.00 dBm 802.11a/n HT40 : 100.00 dBm

Product Feature & Specification	
Antenna Type	Bluetooth : Monopole Antenna with gain 1.37 dBi **<2400 MHz ~ 2483.5 MHz>** 802.11b/g/n : Monopole Antenna with gain 0.12 dBi **<5150 MHz ~ 5250 MHz>** 802.11a/n : Monopole Antenna with gain 0.05 dBi **<5725 MHz ~ 5850 MHz>** 802.11a/n : Monopole Antenna with gain -0.48 dBi
Type of Modulation	Bluetooth BDR (1Mbps) : GFSK Bluetooth EDR (2Mbps) : π/4-DQPSK Bluetooth EDR (3Mbps) : 8-DPSK 802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11a/g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)
EUT Stage	Identical Prototype

Remark:

1. There are four models of this project. The differences between them are summary below:

Sample List	Model Name	Configuration
Sample 1	XO-4 Touch	Child Product with touch screen
Sample 2	XO-4 HS Touch	ITE Product with touch screen
Sample 3	XO-4	Child Product without touch screen
Sample 4	XO-4 HS	ITE Product without touch screen

2. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.4 Testing Facility

Test Site	SPORTON INTERNATIONAL (KUNSHAN) INC.
Test Site Location	No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P.R.C. TEL: +86-0512-5790-0158 FAX: +86-0512-5790-0958
Test Site No.	**Sporton Site No. :**
	05CH01-KS; 03CH01-KS ; TH01-KS

1.5 Applied Standards

According to the specifications of the manufacturer, the EUT must complies with the requirements of **AS/NZS 4268:2012.**

Note: All test items were verified and recorded according to the standards and without any deviation during the test.

1.6 Description of Test System

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Bluetooth Base Station	R&S	CBT	FCC DoC	N/A	Unshielded,1.8m
2.	DC Power Supply	GWINSTEK	GPS-3030D	N/A	N/A	Unshielded, 1.8 m
3.	Notebook	Dell	PP42L	N/A	N/A	AC I/P: Unshielded, 0.8 m DC O/P: Shielded, 1.8 m
4.	Earphone	Lenovo	SH100	N/A	N/A	N/A
5.	iPod	Apple	A1199	FCC DoC	Shielded, 1.0 m	N/A
6.	TV	Sony	KLV32V300A	FCC DoC	N/A	Unshielded, 1.8 m

1.7 Test Condition

Normal Voltage	DC 6.5V
Extreme Voltage	DC 5.0V and DC 7.5V
Normal Temperature for 2.4G	25℃
Normal Temperature for 5G	25℃
Extreme Temperature for 2.4G	-20℃ and 55℃
Extreme Temperature for 5G	-10℃ and 55℃

Note: The manufacturer declared that the EUT could work properly between voltage 5.0V~7.5V.

2. Test Configuration of Equipment under Test

2.1 RF Power

a. During testing, the interface cables and equipment positions were varied according to AS/NZS 4268:2012.

b. Preliminary tests were performed in different data rate and recorded the RF power output in the following tables:

Channel	Frequency	Bluetooth RF Power (dBm)		
		Data Rate / Modulation		
		1 Mbps / GFSK	2 Mbps / π/4-DQPSK	3 Mbps / 8-DPSK
CH00	2402 MHz	-0.87	-4.87	-4.56
CH39	2441 MHz	1.00	-3.84	-3.63
CH78	2480 MHz	**1.16**	-3.34	-3.67
Duty cycle (%)		78.45	33.23	32.59

Channel	Frequency (MHz)	2.4GHz 802.11b RF Power (dBm)			
		DSSS Data Rate			
		1 Mbps	2 Mbps	5.5 Mbps	11 Mbps
CH 01	2412 MHz	12.18	11.74	11.64	11.58
CH 07	2442 MHz	12.48	12.42	12.34	12.44
CH 13	2472 MHz	**12.52**	12.45	12.46	12.48
Duty cycle (%)		100.00	100.00	100.00	100.00

Channel	Frequency (MHz)	2.4GHz 802.11g RF Power (dBm)							
		OFDM Data Rate							
		6 Mbps	9 Mbps	12 Mbps	18 Mbps	24 Mbps	36 Mbps	48 Mbps	54 Mbps
CH 01	2412 MHz	11.20	10.99	10.98	11.14	11.08	10.98	10.92	10.74
CH 07	2442 MHz	**12.48**	12.42	12.39	12.36	12.34	12.28	12.04	12.23
CH 13	2472 MHz	12.38	12.12	12.17	12.35	12.32	12.24	9.18	11.85
Duty cycle (%)		100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Channel	Frequency (MHz)	2.4GHz 802.11n HT20 RF Power (dBm)							
		OFDM Data Rate							
		6.5 Mbps	13 Mbps	19.5 Mbps	26 Mbps	39 Mbps	52 Mbps	58.5 Mbps	65 Mbps
CH 01	2412 MHz	11.48	11.44	11.25	11.08	10.98	11.04	10.95	10.89
CH 07	2442 MHz	**12.71**	12.54	12.48	12.35	12.18	12.08	11.92	11.88
CH 13	2472 MHz	12.28	12.22	12.19	12.10	12.24	12.22	12.18	11.93
Duty cycle (%)		100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Channel	Frequency (MHz)	2.4GHz 802.11n HT40 Conducted Power (dBm)							
		OFDM Data Rate							
		13.5 Mbps	27 Mbps	40.5 Mbps	54 Mbps	81 Mbps	108 Mbps	121.5 Mbps	135 Mbps
CH 03	2422 MHz	11.72	11.24	11.15	11.08	11.13	11.17	11.21	11.26
CH 07	2442 MHz	12.74	12.53	11.93	11.89	12.31	12.38	12.32	12.22
CH 11	2462 MHz	13.06	12.82	13.12	12.72	12.77	12.62	13.13	**13.17**
Duty cycle (%)		100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Channel	Frequency (MHz)	5GHz band 1 802.11a RF Output Power (dBm)							
		OFDM Data Rate							
		6 Mbps	9 Mbps	12 Mbps	18 Mbps	24 Mbps	36 Mbps	48 Mbps	54 Mbps
CH 36	5180 MHz	11.90	11.84	11.87	11.87	11.84	11.95	11.54	11.57
CH 48	5240 MHz	**13.28**	13.13	13.24	13.18	13.08	12.68	12.64	12.59
Duty cycle (%)		100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Channel	Frequency (MHz)	5GHz band 4 802.11a RF Output Power (dBm)							
		OFDM Data Rate							
		6 Mbps	9 Mbps	12 Mbps	18 Mbps	24 Mbps	36 Mbps	48 Mbps	54 Mbps
CH 149	5745 MHz	13.49	13.32	13.23	13.44	13.32	13.30	13.46	13.35
CH 157	5785 MHz	14.40	14.34	14.28	14.32	14.35	14.28	14.12	14.37
CH 165	5825 MHz	**14.58**	14.55	14.45	14.38	14.45	14.37	14.21	14.54
Duty cycle (%)		100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Channel	Frequency (MHz)	5GHz band 1 802.11n HT20 RF Output Power (dBm)							
		OFDM Data Rate							
		6.5 Mbps	13 Mbps	19.5 Mbps	26 Mbps	39 Mbps	52 Mbps	58.5 Mbps	65 Mbps
CH 36	5180 MHz	**13.31**	13.27	13.04	12.98	13.04	13.09	13.07	13.02
CH 48	5240 MHz	13.08	13.04	12.98	12.88	12.97	12.78	12.68	12.64
Duty cycle (%)		100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Channel	Frequency (MHz)	5GHz band 4 802.11n HT20 RF Output Power (dBm)							
		OFDM Data Rate							
		6.5 Mbps	13 Mbps	19.5 Mbps	26 Mbps	39 Mbps	52 Mbps	58.5 Mbps	65 Mbps
CH 149	5745 MHz	12.79	12.66	12.70	12.76	12.68	12.59	12.71	12.70
CH 157	5785 MHz	14.21	14.18	14.05	14.17	14.10	13.96	14.09	14.08
CH 165	5825 MHz	**14.43**	14.39	14.38	14.36	14.23	14.03	14.15	14.21
Duty cycle (%)		100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Channel	Frequency (MHz)	5GHz band 1 802.11n HT40 RF Output Power (dBm)							
		OFDM Data Rate							
		13.5 Mbps	27 Mbps	40.5 Mbps	54 Mbps	81 Mbps	108 Mbps	121.5 Mbps	135 Mbps
CH 38	5190 MHz	**13.17**	13.11	13.12	13.08	13.12	13.11	13.14	13.09
CH 46	5230 MHz	12.98	12.93	12.94	12.84	12.72	12.68	12.64	12.62
Duty cycle (%)		100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Channel	Frequency (MHz)	5GHz band 4 802.11n HT40 RF Output Power (dBm)							
		OFDM Data Rate							
		13.5 Mbps	27 Mbps	40.5 Mbps	54 Mbps	81 Mbps	108 Mbps	121.5 Mbps	135 Mbps
CH 151	5755 MHz	13.95	13.85	13.71	13.78	13.80	13.83	13.75	13.82
CH 159	5795 MHz	**14.38**	14.29	14.22	14.32	14.33	14.20	14.25	14.30
Duty cycle (%)		100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

c. All the test data for each data rate were verified, but only the worst case was reported.

d. The data rates of WLAN 802.11b/g/n were set in 1Mbps for 802.11b, 6Mbps for 802.11g, 6.5 Mbps for 802.11n HT20 and 135 Mbps for 802.11n HT40 due to the highest RF output power.

e. The data rates of 5150 MHz ~ 5250 MHz were set in 6Mbps for 802.11a, 6.5Mbps for 802.11n HT20, and 13.5Mbps for 802.11n HT40 with both antennas transmit due to the highest RF output power.

f. The data rates of 5725 MHz ~ 5850 MHz were set in 6Mbps for 802.11a, 6.5Mbps for 802.11n HT20, and 13.5Mbps for 802.11n HT40 with both antennas transmit due to the highest RF output power.

g. Data rate Bluetooth BDR (1Mbps) was chosen to be tested due to the highest RF output power.

2.2 Test Mode

Frequency range of radiation was investigated from 25 MHz to 12750 MHz.

Pre-scanned tests were conducted to determine the final configuration from all possible combinations. The following tables are showing the test modes as the worst cases and recorded in this report.

Test Modes	
RF	**Bluetooth BDR (1Mbps) GFSK**
Tx	CH00 (2402MHz) in Laptop Mode with Adapter 1 for Sample 1 CH78 (2480MHz) in Laptop Mode with Adapter 1 for Sample 1 CH78 (2480MHz) in Tablet Mode with Adapter 1 for Sample 1 CH78 (2480MHz) in Laptop Mode with Adapter 2 for Sample 2 CH78 (2480MHz) in Laptop Mode with Adapter 3 for Sample 3 **CH78 (2480MHz) in Laptop Mode with Adapter 4 for Sample 4**
Rx	CH00 (2402MHz) in Laptop Mode with Adapter 1 for Sample 1 CH78 (2480MHz) in Laptop Mode with Adapter 1 for Sample 1 CH78 (2480MHz) in Tablet Mode with Adapter 1 for Sample 1

Test Modes	
RF	**802.11b (2400 MHz ~ 2483.5 MHz) DSSS**
Tx	CH01 (2412MHz) in Laptop Mode with Adapter 1 for Sample 1 **CH13 (2472MHz) in Laptop Mode with Adapter 1 for Sample 1** CH13 (2472MHz) in Tablet Mode with Adapter 1 for Sample 1
Rx	CH01 (2412MHz) in Laptop Mode with Adapter 1 for Sample 1 CH13 (2472MHz) in Laptop Mode with Adapter 1 for Sample 1 CH13 (2472MHz) in Tablet Mode with Adapter 1 for Sample 1

Test Modes	
RF	802.11g (2400 MHz ~ 2483.5 MHz) OFDM
Tx	CH01 (2412MHz) in Laptop Mode with Adapter 1 for Sample 1 **CH13 (2472MHz) in Laptop Mode with Adapter 1 for Sample 1** CH13 (2472MHz) in Tablet Mode with Adapter 1 for Sample 1
Rx	CH01 (2412MHz) in Laptop Mode with Adapter 1 for Sample 1 CH13 (2472MHz) in Laptop Mode with Adapter 1 for Sample 1 **CH13 (2472MHz) in Tablet Mode with Adapter 1 for Sample 1**

Test Modes	
RF	802.11n HT20 (2400 MHz ~ 2483.5 MHz) OFDM
Tx	CH01 (2412MHz) in Laptop Mode with Adapter 1 for Sample 1 CH13 (2472MHz) in Laptop Mode with Adapter 1 for Sample 1 **CH13 (2472MHz) in Tablet Mode with Adapter 1 for Sample 1**
Rx	CH01 (2412MHz) in Laptop Mode with Adapter 1 for Sample 1 CH13 (2472MHz) in Laptop Mode with Adapter 1 for Sample 1 CH13 (2472MHz) in Tablet Mode with Adapter 1 for Sample 1

Test Modes	
RF	802.11n HT40 (2400 MHz ~ 2483.5 MHz) OFDM
Tx	CH03 (2422MHz) in Laptop Mode with Adapter 1 for Sample 1 **CH11 (2462MHz) in Laptop Mode with Adapter 1 for Sample 1** CH11 (2462MHz) in Tablet Mode with Adapter 1 for Sample 1
Rx	CH03 (2422MHz) in Laptop Mode with Adapter 1 for Sample 1 CH11 (2462MHz) in Laptop Mode with Adapter 1 for Sample 1 CH11 (2462MHz) in Tablet Mode with Adapter 1 for Sample 1

Test Modes	
RF	802.11a (5150 MHz ~ 5250 MHz) OFDM
Tx	**CH48 (5240MHz) in Laptop Mode with Adapter 1 for Sample 1**
Rx	CH48 (5240MHz) in Laptop Mode with Adapter 1 for Sample 1

Test Modes	
RF	802.11a (5725 MHz ~ 5850 MHz) OFDM
Tx	CH149 (5745MHz) in Laptop Mode with Adapter 1 for Sample 1 CH157 (5785MHz) in Laptop Mode with Adapter 1 for Sample 1 **CH165 (5825MHz) in Laptop Mode with Adapter 1 for Sample 1**

Test Modes	
RF	802.11n HT20 (5150 MHz ~ 5250 MHz) OFDM
Tx	**CH36 (5180MHz) in Laptop Mode with Adapter 1 for Sample 1** CH36 (5180MHz) in Tablet Mode with Adapter 1 for Sample 1
Rx	CH36 (5180MHz) in Laptop Mode with Adapter 1 for Sample 1 CH36 (5180MHz) in Tablet Mode with Adapter 1 for Sample 1

Test Modes	
RF	802.11n HT20 (5725 MHz ~ 5850 MHz) OFDM
Tx	**CH149 (5745MHz) in Laptop Mode with Adapter 1 for Sample 1** CH157 (5785MHz) in Laptop Mode with Adapter 1 for Sample 1 CH165 (5825MHz) in Laptop Mode with Adapter 1 for Sample 1 CH149 (5745MHz) in Tablet Mode with Adapter 1 for Sample 1

Test Modes	
RF	802.11n HT40 (5150 MHz ~ 5250 MHz) OFDM
Tx	**CH38 (5190MHz) in Laptop Mode with Adapter 1 for Sample 1**
Rx	CH38 (5190MHz) in Laptop Mode with Adapter 1 for Sample 1

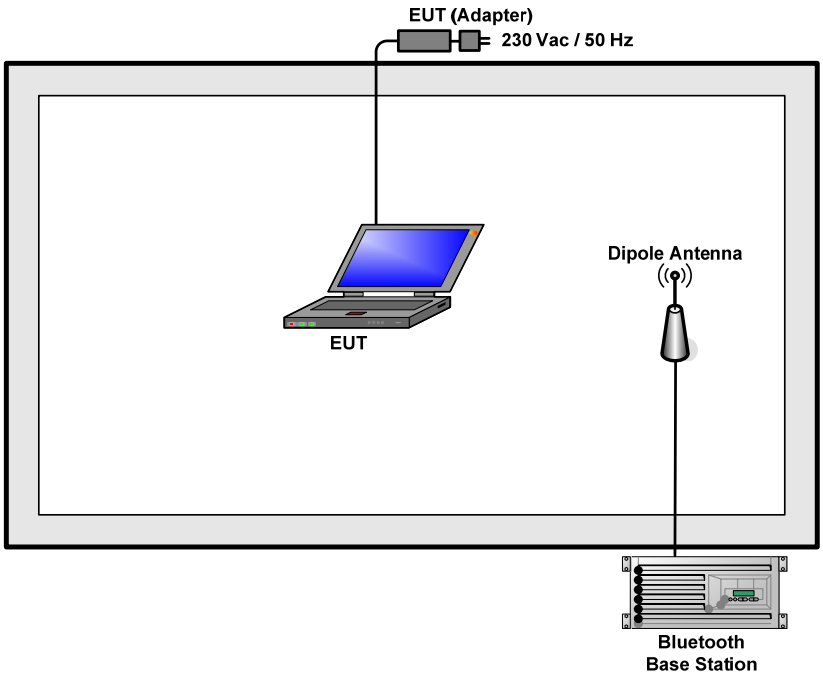
Test Modes	
RF	802.11n HT40 (5725 MHz ~ 5850 MHz) OFDM
Tx	**CH151 (5755MHz) in Laptop Mode with Adapter 1 for Sample 1** CH159 (5795MHz) in Laptop Mode with Adapter 1 for Sample 1

Remark:

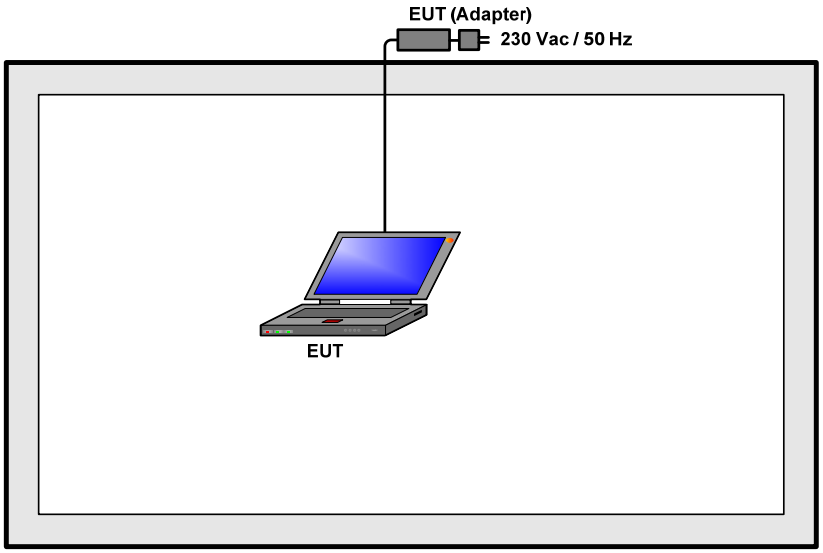
1. The worse cases of the Transmitter Radiated Spurious Emission (RSE) were Bluetooth CH78 (in Laptop Mode with Adapter 4 for Sample 4), 802.11b CH13 (in Laptop Mode), 802.11g CH13 (in Laptop Mode), 802.11n HT20 CH13 (in Laptop Mode), 802.11n HT40 CH11 (in Laptop Mode), 802.11a (5150 MHz ~ 5250 MHz) CH48 (in Laptop Mode), 802.11a (5725 MHz ~ 5850 MHz) CH165 (in Laptop Mode), 802.11n HT20 (5150 MHz ~ 5250 MHz) CH36 (in Laptop Mode), 802.11n HT20 (5725 MHz ~ 5850 MHz) CH149, 802.11n HT 40 (5150 MHz ~ 5250 MHz) CH38, and 802.11n HT40 (5725 MHz ~ 5850 MHz) CH151 Tx modes; only the test data of these modes were reported.
2. The Receiver Radiated Spurious Emission (RSE) is not obviously related to the different modulation, so only the data of the worst case of 802.11g CH13 (in Tablet Mode) Rx mode was reported.

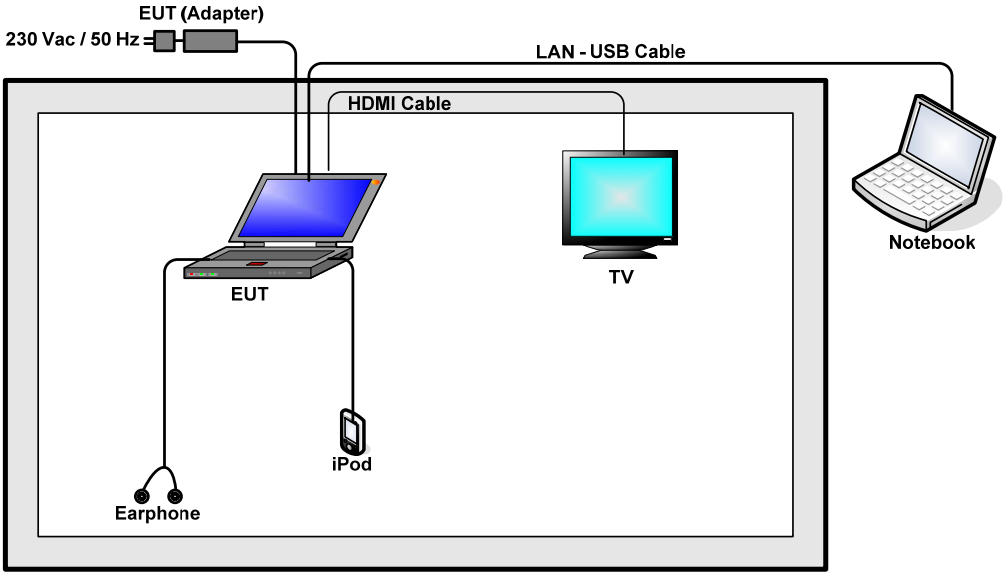
2.3 Connection Diagram of Test System

<Bluetooth Tx/Rx Mode>



<WLAN Tx/Rx Mode>





Remark: The EUT is set in Tablet PC and Laptop PC configurations during test.

2.4 Test Software

For Bluetooth function, turn on “Terminal” program to make the EUT into the engineering modes to contact with Bluetooth base station for continuous transmitting and receiving signals.

For WLAN function, turn on “Terminal” program, the EUT will get into the engineering modes; then, entry instruction under CMD program in the notebook, the EUT will contact with WLAN AP for continuous transmitting and receiving signals.

3. Transmitter Parameters

3.1 Equivalent Isotropic Radiated Power (SUBCLAUSE 8.1)

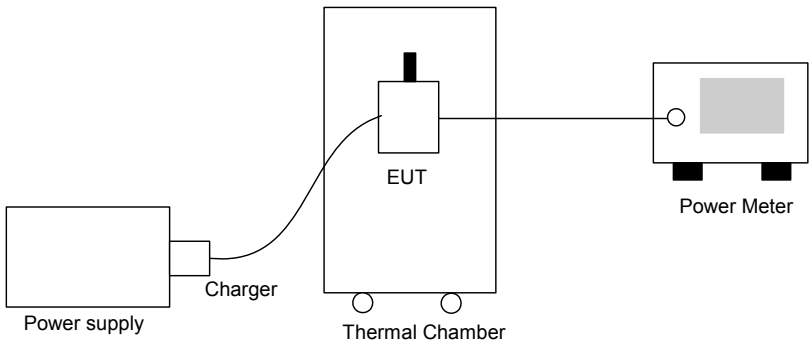
3.1.1 Measuring Instruments

See list of measuring instruments of this test report.

3.1.2 Test Procedure

1. Placing the EUT in thermal chamber.
2. The transmitter output port was connected to the power meter.
3. Connecting the charger to power supply.
4. Setting thermal chamber temperature and power supply voltage at suitable value.
5. The power is equal to the reading on power meter plus cable loss.
6. Repeating step 4 and 5 at different condition and different channel.

3.1.3 Test Setup Layout



3.1.4 Test Results

EUT Mode :	Bluetooth BDR (1Mbps)	**Temperature :**	20~21℃
Test Engineer :	Zhi Lu	**Relative Humidity :**	40~41%
Antenna Gain :	1.37dBi	**Duty Cycle :**	78.45%
Cable loss	15.00dB	**Duty Factor :**	1.05dB

TEST CONDITIONS				TRANSMITTER POWER EIRP (AVERAGE) (dBm)		
				CH 00 2402 MHz	CH 39 2441 MHz	CH 78 2480 MHz
T nom (℃)	25	V nom(V)	6.5	0.50	2.37	2.53
T min (℃)	-20	V max(V)	7.5	4.77	4.71	4.75
		V min(V)	5.0	4.84	4.66	4.79
T max (℃)	55	V max(V)	7.5	4.15	2.93	2.10
		V min(V)	5.0	4.10	2.90	2.17
Measurement uncertainty				1.5dB		

Note:

Measured average power has offset cable loss and duty factor.

For example: cable loss = 15.00 dB, Duty Factor = 1.05 dB, and antenna gain = 1.37 dBi at Ch00, 2402MHz, EIRP = -0.87 dBm (measured average power) + 1.37 dBi (antenna gain) = 0.50 dBm

LIMITS: SUBCLAUSE 8.1.1.1

Under all Test Conditions	36dBm

Limit kept Yes V No

EUT Mode :	802.11b	**Temperature :**	20~21℃
Test Engineer :	Zhi Lu	**Relative Humidity :**	40~41%
Antenna Gain :	0.12dBi	**Duty Cycle :**	100.00%
Cable loss	13.80dB	**Duty Factor :**	0.00dB

TEST CONDITIONS				TRANSMITTER POWER EIRP (AVERAGE) (dBm)		
				CH 01 2412 MHz	CH 07 2442 MHz	CH 13 2472 MHz
T nom (℃)	25	V nom(V)	6.5	12.30	12.60	12.64
T min (℃)	-20	V max(V)	7.5	11.34	11.96	11.69
		V min(V)	5.0	11.36	12.03	11.74
T max (℃)	55	V max(V)	7.5	11.30	11.14	11.66
		V min(V)	5.0	11.34	11.17	11.68
Measurement uncertainty				1.5dB		

LIMITS: SUBCLAUSE 8.1.1.1

Under all Test Conditions	36dBm

Limit kept Yes [V] No [ ]

EUT Mode :	802.11g	**Temperature :**	20~21℃
Test Engineer :	Zhi Lu	**Relative Humidity :**	40~41%
Antenna Gain :	0.12dBi	**Duty Cycle :**	100.00%
Cable loss	13.80dB	**Duty Factor :**	0.00dB

TEST CONDITIONS				TRANSMITTER POWER EIRP (AVERAGE) (dBm)		
				CH 01 2412 MHz	CH 07 2442 MHz	CH 13 2472 MHz
T nom (℃)	25	V nom(V)	6.5	11.32	12.60	12.50
T min (℃)	-20	V max(V)	7.5	11.40	11.50	11.58
		V min(V)	5.0	11.44	11.51	11.66
T max (℃)	55	V max(V)	7.5	10.16	9.66	10.21
		V min(V)	5.0	10.20	9.69	10.27
Measurement uncertainty				1.5dB		

LIMITS: SUBCLAUSE 8.1.1.1

Under all Test Conditions	36dBm

Limit kept Yes [V] No [ ]

EUT Mode :	802.11n HT20	**Temperature :**	20~21℃
Test Engineer :	Zhi Lu	**Relative Humidity :**	40~41%
Antenna Gain :	0.12dBi	**Duty Cycle :**	100.00%
Cable loss	13.80dB	**Duty Factor :**	0.00dB

TEST CONDITIONS				TRANSMITTER POWER EIRP (AVERAGE) (dBm)		
				CH 01 2412 MHz	CH 07 2442 MHz	CH 13 2472 MHz
T nom (℃)	25	V nom(V)	6.5	11.60	12.83	12.40
T min (℃)	-20	V max(V)	7.5	12.17	12.05	11.66
		V min(V)	5.0	12.18	12.10	11.74
T max (℃)	55	V max(V)	7.5	10.27	10.16	9.40
		V min(V)	5.0	10.29	10.20	9.44
Measurement uncertainty				1.5dB		

LIMITS: SUBCLAUSE 8.1.1.1

Under all Test Conditions	36dBm

Limit kept Yes [V] No [ ]

EUT Mode :	802.11n HT40	**Temperature :**	20~21℃
Test Engineer :	Zhi Lu	**Relative Humidity :**	40~41%
Antenna Gain :	0.12dBi	**Duty Cycle :**	100.00%
Cable loss	13.80dB	**Duty Factor :**	0.00dB

TEST CONDITIONS				TRANSMITTER POWER EIRP (AVERAGE) (dBm)		
				CH 03 2422 MHz	CH 07 2442 MHz	CH 11 2462 MHz
T nom (℃)	25	V nom(V)	6.5	11.38	12.34	13.29
T min (℃)	-20	V max(V)	7.5	12.16	13.74	13.81
		V min(V)	5.0	12.30	13.78	13.87
T max (℃)	55	V max(V)	7.5	10.50	11.07	11.71
		V min(V)	5.0	10.53	11.09	11.74
Measurement uncertainty				1.5dB		

LIMITS: SUBCLAUSE 8.1.1.1

Under all Test Conditions	36dBm

Limit kept Yes [V] No [ ]

EUT Mode :	802.11a	**Temperature :**	20~21℃
Test Engineer :	Zhi Lu	**Relative Humidity :**	40~41%
Antenna Gain :	0.05dBi	**Duty Cycle :**	100.00%
Cable loss	13.80dB	**Duty Factor :**	0.00dB

TEST CONDITIONS				TRANSMITTER POWER EIRP (AVERAGE) (dBm)	
				CH 36 5180 MHz	CH048 5240 MHz
T nom (℃)	25	V nom(V)	6.5	11.95	13.33
T min (℃)	-10	V max(V)	7.5	14.11	14.78
		V min(V)	5.0	14.13	14.81
T max (℃)	55	V max(V)	7.5	11.37	12.67
		V min(V)	5.0	11.33	12.64
Measurement uncertainty				1.5dB	

Note: EIRP = measured average power + antenna gain

LIMITS: SUBCLAUSE 8.1.1.1

Under all Test Conditions	23dBm

Limit kept Yes [V] No [ ]

EUT Mode :	802.11a	**Temperature :**	20~21℃
Test Engineer :	Zhi Lu	**Relative Humidity :**	40~41%
Antenna Gain :	-0.48dBi	**Duty Cycle :**	100.00%
Cable loss	13.80dB	**Duty Factor :**	0.00dB

TEST CONDITIONS				TRANSMITTER POWER EIRP (AVERAGE) (dBm)		
				CH 149 5745MHz	CH 157 5785MHz	CH 165 5825MHz
T nom (℃)	25	V nom(V)	6.5	13.01	13.92	14.10
T min (℃)	-10	V max(V)	7.5	13.44	13.87	13.36
		V min(V)	5.0	13.48	13.80	13.39
T max (℃)	55	V max(V)	7.5	11.95	12.06	11.47
		V min(V)	5.0	12.01	12.09	11.51
Measurement uncertainty				1.5dB		

Note: EIRP = measured average power + antenna gain

LIMITS: SUBCLAUSE 8.1.1.1

Under all Test Conditions	36dBm

Limit kept Yes [V] No [ ]

EUT Mode :	802.11n HT20	**Temperature :**	20~21℃
Test Engineer :	Zhi Lu	**Relative Humidity :**	40~41%
Antenna Gain :	0.05dBi	**Duty Cycle :**	100.00%
Cable loss	13.80dB	**Duty Factor :**	0.00dB

TEST CONDITIONS				TRANSMITTER POWER EIRP (AVERAGE) (dBm)	
				CH 36 5180 MHz	CH 48 5240 MHz
T nom (℃)	25	V nom(V)	6.5	13.36	13.13
T min (℃)	-10	V max(V)	7.5	14.87	15.37
		V min(V)	5.0	14.93	15.42
T max (℃)	55	V max(V)	7.5	12.68	13.12
		V min(V)	5.0	12.66	13.10
Measurement uncertainty				1.5dB	

Note: EIRP = measured average power + antenna gain

LIMITS: SUBCLAUSE 8.1.1.1

Under all Test Conditions	23dBm

Limit kept Yes [V] No [ ]

EUT Mode :	802.11n HT20	**Temperature :**	20~21℃
Test Engineer :	Zhi Lu	**Relative Humidity :**	40~41%
Antenna Gain :	-0.48dBi	**Duty Cycle :**	100.00%
Cable loss	13.80dB	**Duty Factor :**	0.00dB

TEST CONDITIONS				TRANSMITTER POWER EIRP (AVERAGE) (dBm)		
				CH 149 5745MHz	CH 157 5785MHz	CH165 5825MHz
T nom (℃)	25	V nom(V)	6.5	12.31	13.73	13.95
T min (℃)	-10	V max(V)	7.5	13.43	14.15	13.40
		V min(V)	5.0	13.45	14.04	13.73
T max (℃)	55	V max(V)	7.5	11.86	11.80	11.68
		V min(V)	5.0	11.84	11.70	11.59
Measurement uncertainty				1.5dB		

Note: EIRP = measured average power + antenna gain

LIMITS: SUBCLAUSE 8.1.1.1

Under all Test Conditions	36dBm

Limit kept Yes [V] No [ ]

EUT Mode :	802.11n HT40	**Temperature :**	20~21℃
Test Engineer :	Zhi Lu	**Relative Humidity :**	40~41%
Antenna Gain :	0.05dBi	**Duty Cycle :**	100.00%
Cable loss	13.80dB	**Duty Factor :**	0.00dB

TEST CONDITIONS				TRANSMITTER POWER EIRP (AVERAGE) (dBm)	
				CH 38 5190MHz	CH 46 5230MHz
T nom (℃)	25	V nom(V)	6.5	13.22	12.99
T min (℃)	-10	V max(V)	7.5	13.90	14.92
		V min(V)	5.0	13.92	14.97
T max (℃)	55	V max(V)	7.5	12.11	12.64
		V min(V)	5.0	12.03	12.59
Measurement uncertainty				1.5dB	

Note: EIRP = measured average power + antenna gain

LIMITS: SUBCLAUSE 8.1.1.1

Under all Test Conditions	23dBm

Limit kept Yes [V] No [ ]

EUT Mode :	802.11n HT40	**Temperature :**	20~21℃
Test Engineer :	Zhi Lu	**Relative Humidity :**	40~41%
Antenna Gain :	-0.48dBi	**Duty Cycle :**	100.00%
Cable loss	13.80dB	**Duty Factor :**	0.00dB

TEST CONDITIONS				TRANSMITTER POWER EIRP (AVERAGE) (dBm)	
				CH 151 5755MHz	CH 159 5795MHz
T nom (℃)	25	V nom(V)	6.5	13.47	13.90
T min (℃)	-10	V max(V)	7.5	14.13	13.94
		V min(V)	5.0	14.15	14.96
T max (℃)	55	V max(V)	7.5	12.46	11.98
		V min(V)	5.0	12.44	11.95
Measurement uncertainty				1.5dB	

Note: EIRP = measured average power + antenna gain

LIMITS: SUBCLAUSE 8.1.1.1

Under all Test Conditions	36dBm

Limit kept Yes [V] No [ ]

3.2 Transmitter Spurious Emissions (SUBCLAUSE 8.2)

3.2.1 Measuring Instruments

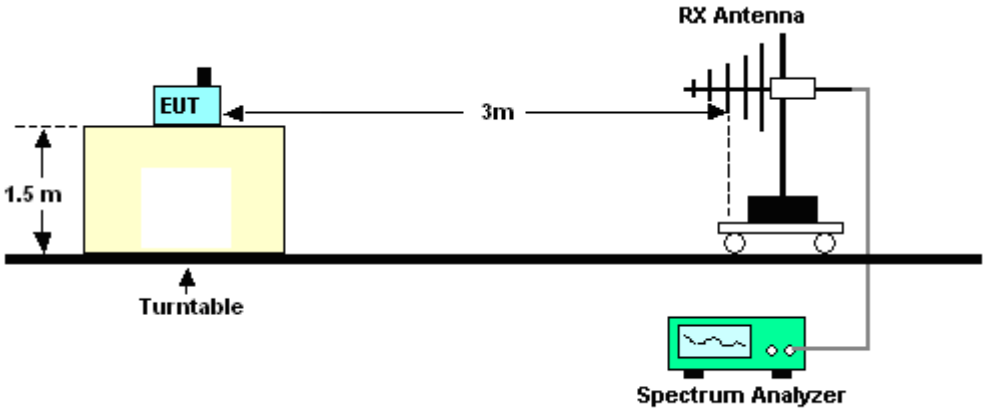
See list of measuring instruments of this test report.

3.2.2 Test Procedures

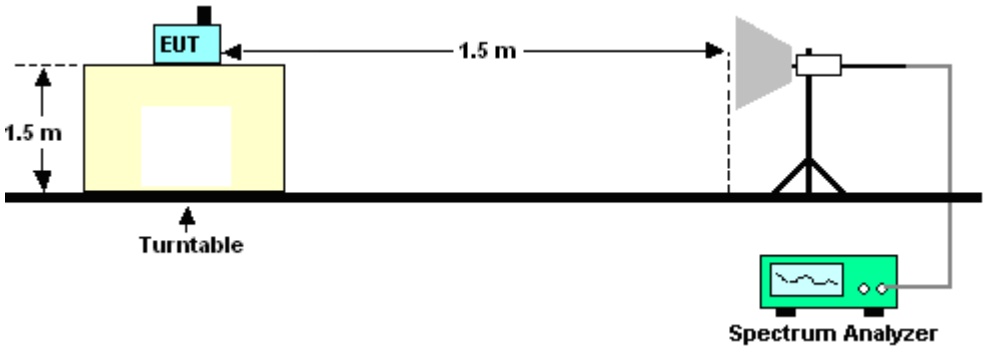
1. The EUT was placed on a rotatable table with 1.5m height.
2. The receiving antenna with horizontal and vertical polarization is 3m away from EUT and keeps the antenna height at 1.5m.
3. Setting EUT in continuous Tx.
4. The table was rotated to search the highest radiation.
5. Repeating step 3 and 4 for different channel.

3.2.3 Test Setup

<Below 1GHz>

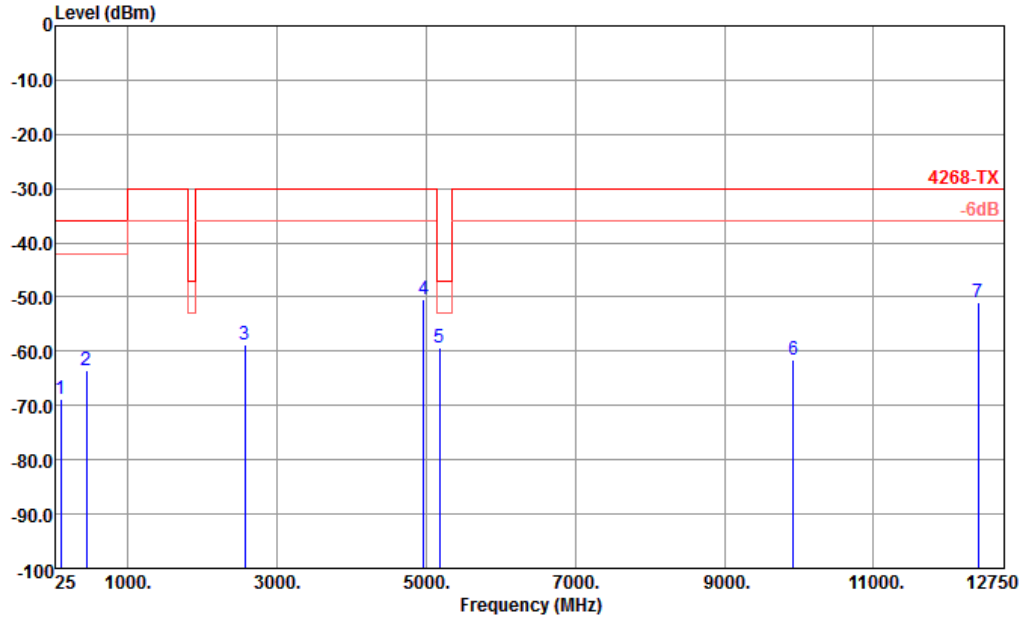


<Above 1GHz>



3.2.4 Test Result

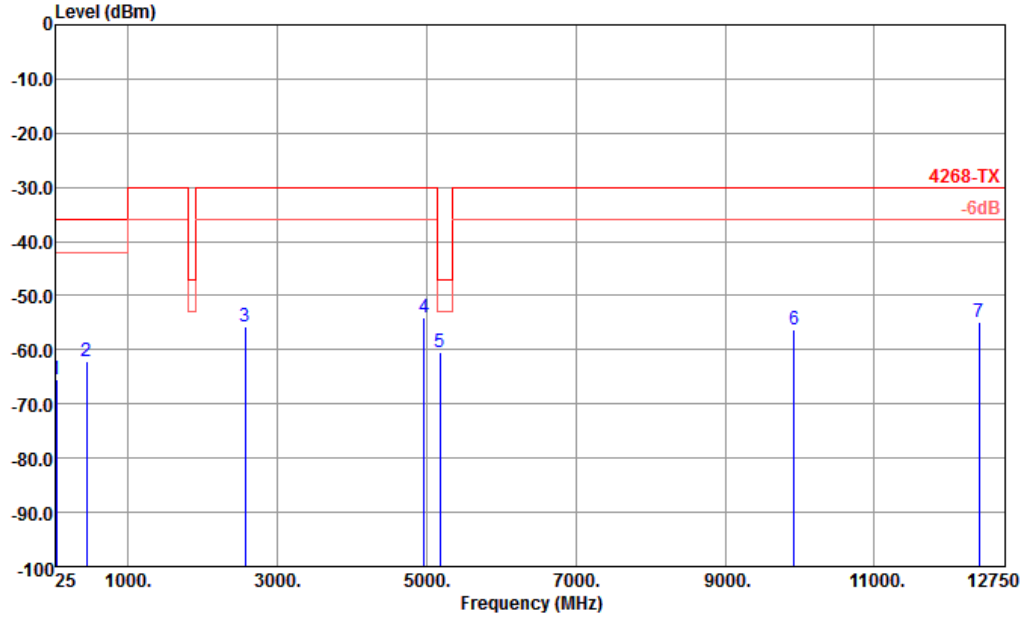
Test Mode :	CH78 (2480MHz) in Laptop Mode with Adapter 4 for Sample 4	Temperature :	21~22℃
Test Engineer :	Lucky Pan	Relative Humidity :	41~42%
Test Distance :	3m (Below 1GHz) 1.5m (Above 1GHz)	Polarization :	Horizontal



Site : 05CH01-KS
Condition : 4268-TX LF EIRP_090504 HORIZONTAL

	Freq	Level	Over Limit	Limit Line	Read Level	Factor
	MHz	dBm	dB	dBm	dBm	dB
1	105.87	-68.68	-32.68	-36.00	-66.50	-2.18
2	448.40	-63.58	-27.58	-36.00	-65.72	2.14
3	2566.00	-58.85	-28.85	-30.00	-68.82	9.97
4	4962.00	-50.33	-20.33	-30.00	-64.15	13.82
5 p	5182.00	-59.19	-12.19	-47.00	-73.60	14.41
6	9922.00	-61.49	-31.49	-30.00	-77.05	15.56
7	12400.75	-51.00	-21.00	-30.00	-74.53	23.53

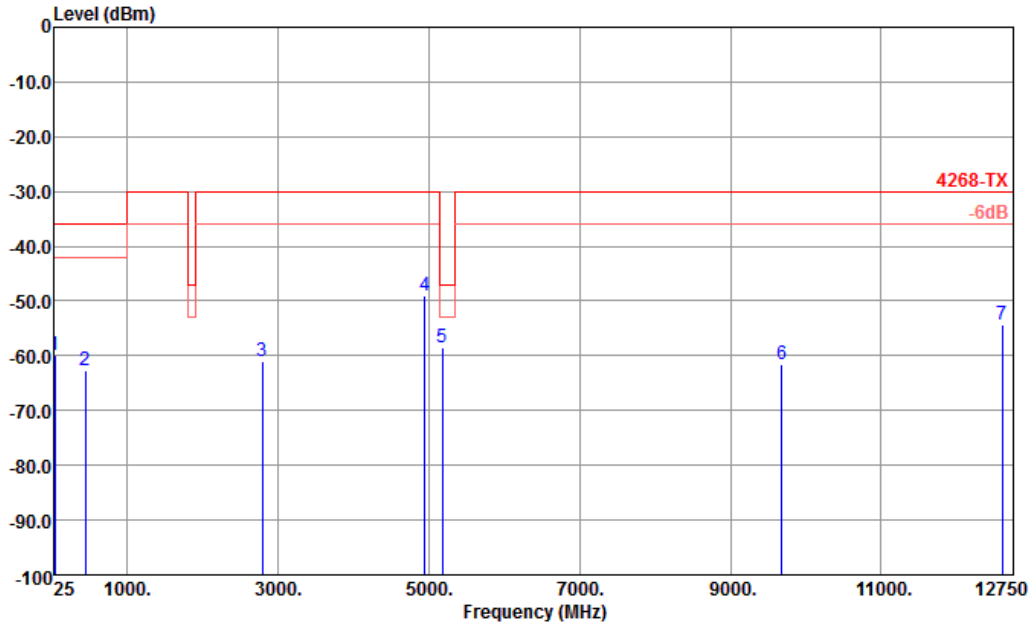
Test Mode :	CH78 (2480MHz) in Laptop Mode with Adapter 4 for Sample 4	**Temperature :**	21~22℃
Test Engineer :	Lucky Pan	**Relative Humidity :**	41~42%
Test Distance :	3m (Below 1GHz) 1.5m (Above 1GHz)	**Polarization :**	Vertical



Site : 05CH01-KS
Condition : 4268-TX LF EIRP_090504 VERTICAL

	Freq	Level	Over Limit	Limit Line	Read Level	Factor
	MHz	dBm	dB	dBm	dBm	dB
1	36.21	-65.37	-29.37	-36.00	-67.93	2.56
2	448.40	-62.16	-26.16	-36.00	-64.30	2.14
3	2566.00	-55.76	-25.76	-30.00	-65.39	9.63
4	4962.00	-54.14	-24.14	-30.00	-68.16	14.02
5 p	5182.00	-60.53	-13.53	-47.00	-74.79	14.26
6	9922.00	-56.28	-26.28	-30.00	-77.49	21.21
7	12400.75	-54.92	-24.92	-30.00	-75.86	20.94

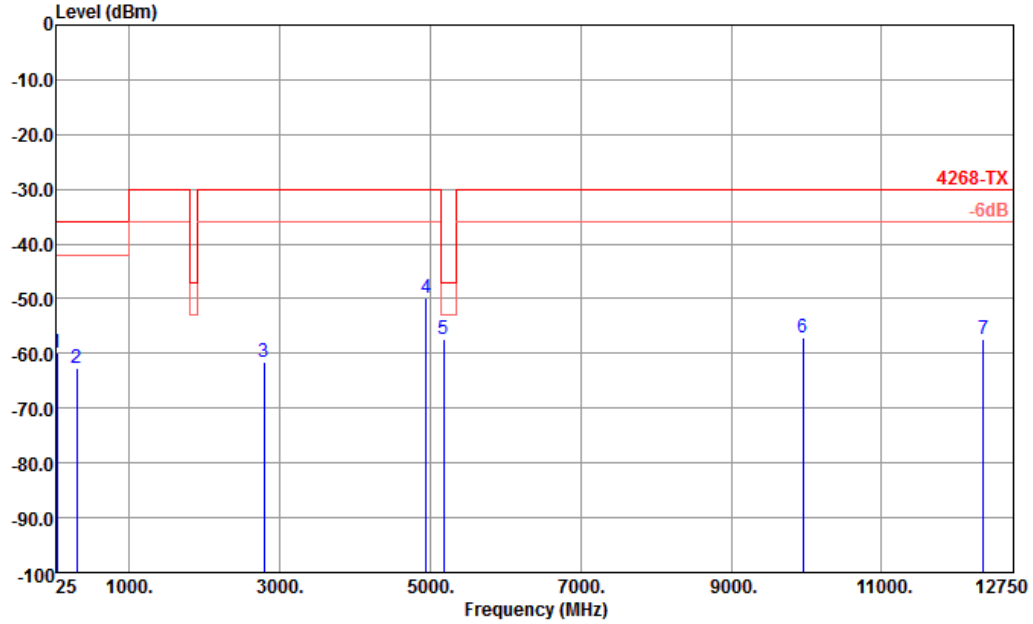
Test Mode :	CH13 (2472MHz) in Laptop Mode with Adapter 1 for Sample 1	**Temperature :**	21~22℃
Test Engineer :	Lucky Pan	**Relative Humidity :**	41~42%
Test Distance :	3m (Below 1GHz) 1.5m (Above 1GHz)	**Polarization :**	Horizontal



Site : 05CH01-KS
Condition : 4268-TX LF EIRP_090504 HORIZONTAL

	Freq	Level	Over Limit	Limit Line	Read Level	Factor
	MHz	dBm	dB	dBm	dBm	dB
1	35.67	-60.02	-24.02	-36.00	-63.85	3.83
2	448.40	-62.54	-26.54	-36.00	-64.68	2.14
3	2792.00	-60.94	-30.94	-30.00	-69.99	9.05
4	4944.00	-49.10	-19.10	-30.00	-63.09	13.99
5 p	5182.00	-58.62	-11.62	-47.00	-73.03	14.41
6	9679.00	-61.42	-31.42	-30.00	-77.50	16.08
7	12604.25	-54.26	-24.26	-30.00	-78.05	23.79

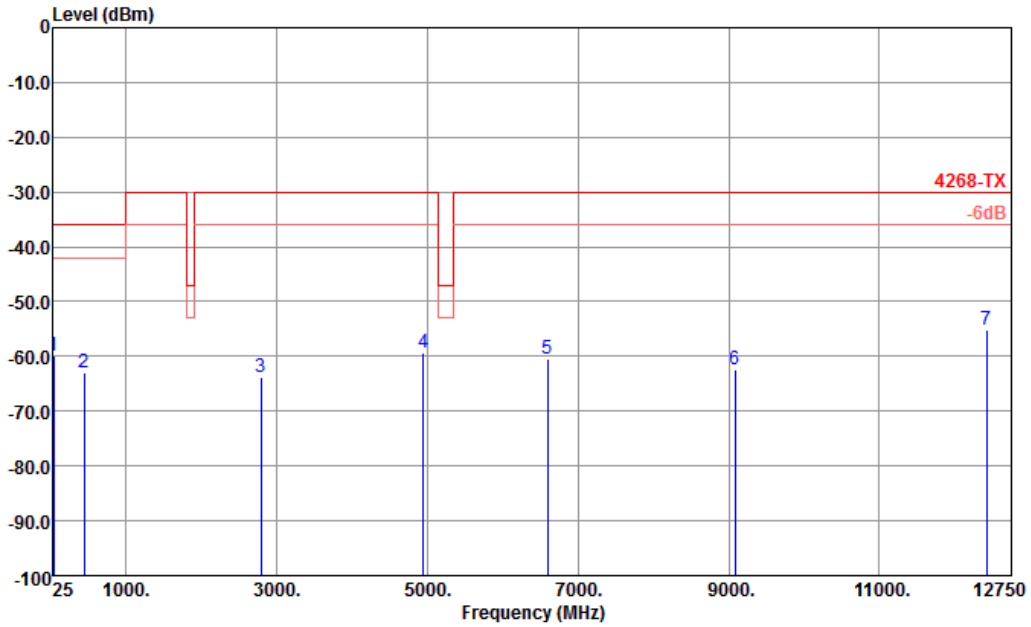
Test Mode :	CH13 (2472MHz) in Laptop Mode with Adapter 1 for Sample 1	**Temperature :**	21~22℃
Test Engineer :	Lucky Pan	**Relative Humidity :**	41~42%
Test Distance :	3m (Below 1GHz) 1.5m (Above 1GHz)	**Polarization :**	Vertical



Site : 05CH01-KS
Condition : 4268-TX LF EIRP_090504 VERTICAL

	Freq	Level	Over Limit	Limit Line	Read Level	Factor
	MHz	dBm	dB	dBm	dBm	dB
1	35.40	-59.87	-23.87	-36.00	-63.70	3.83
2	303.50	-62.64	-26.64	-36.00	-61.93	-0.71
3	2792.00	-61.47	-31.47	-30.00	-70.47	9.00
4	4944.00	-49.87	-19.87	-30.00	-64.00	14.13
5 p	5182.00	-57.31	-10.31	-47.00	-71.57	14.26
6	9952.00	-57.11	-27.11	-30.00	-78.31	21.20
7	12348.50	-57.32	-27.32	-30.00	-77.95	20.63

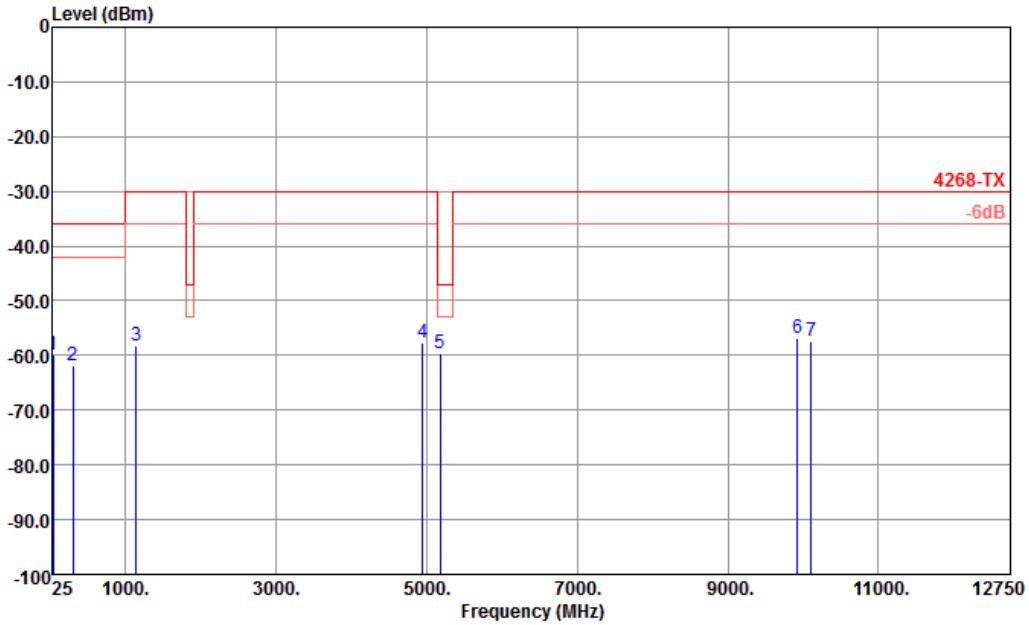
Test Mode :	CH13 (2472MHz) in Laptop Mode with Adapter 1 for Sample 1	**Temperature :**	21~22℃
Test Engineer :	Lucky Pan	**Relative Humidity :**	41~42%
Test Distance :	3m (Below 1GHz) 1.5m (Above 1GHz)	**Polarization :**	Horizontal



Site : 05CH01-KS
Condition : 4268-TX LF EIRP_090504 HORIZONTAL

	Freq	Level	Over Limit	Limit Line	Read Level	Factor
	MHz	dBm	dB	dBm	dBm	dB
1 p	35.67	-59.75	-23.75	-36.00	-63.58	3.83
2	448.40	-62.93	-26.93	-36.00	-65.07	2.14
3	2792.00	-63.79	-33.79	-30.00	-72.84	9.05
4	4946.00	-59.45	-29.45	-30.00	-73.35	13.90
5	6592.00	-60.33	-30.33	-30.00	-75.15	14.82
6	9079.00	-62.43	-32.43	-30.00	-78.11	15.68
7	12425.50	-55.06	-25.06	-30.00	-78.63	23.57

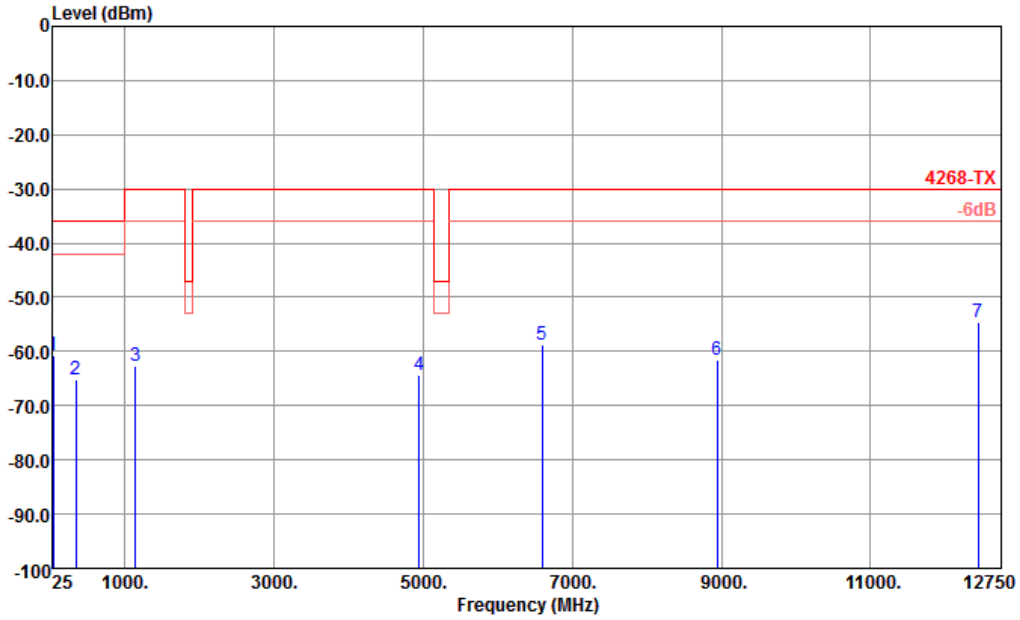
Test Mode :	CH13 (2472MHz) in Laptop Mode with Adapter 1 for Sample 1	**Temperature :**	21~22℃
Test Engineer :	Lucky Pan	**Relative Humidity :**	41~42%
Test Distance :	3m (Below 1GHz) 1.5m (Above 1GHz)	**Polarization :**	Vertical



Site : 05CH01-KS
Condition : 4268-TX LF EIRP_090504 VERTICAL

		Freq	Level	Over Limit	Limit Line	Read Level	Factor
		MHz	dBm	dB	dBm	dBm	dB
1		35.67	-59.76	-23.76	-36.00	-63.59	3.83
2		302.10	-61.78	-25.78	-36.00	-61.12	-0.66
3		1146.00	-58.26	-28.26	-30.00	-60.23	1.97
4		4946.00	-57.58	-27.58	-30.00	-71.65	14.07
5	p	5182.00	-59.56	-12.56	-47.00	-73.82	14.26
6		9922.00	-56.86	-26.86	-30.00	-78.07	21.21
7		10104.50	-57.29	-27.29	-30.00	-78.20	20.91

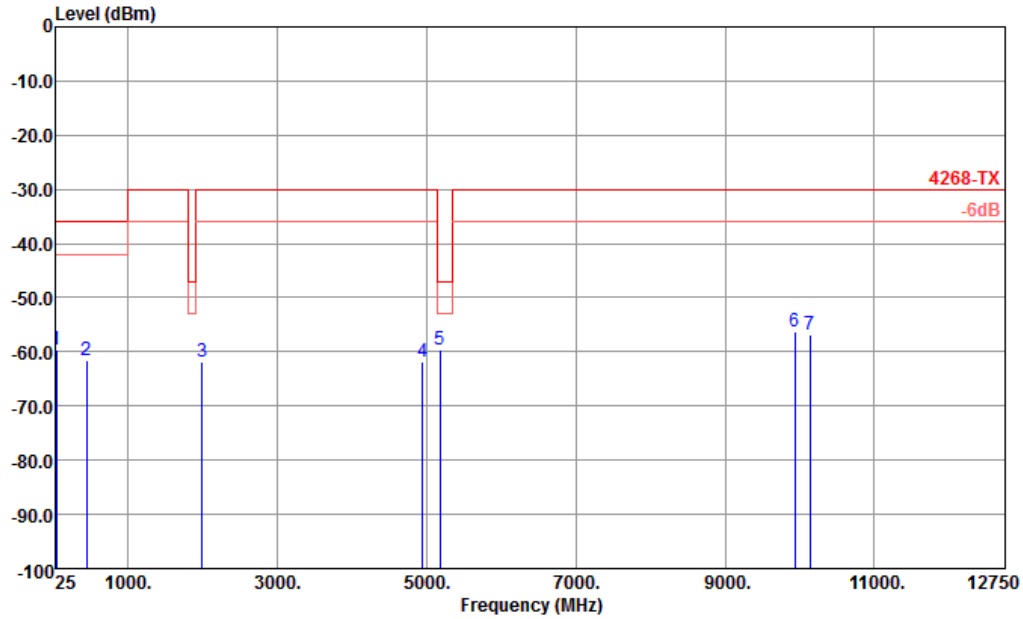
Test Mode :	CH13 (2472MHz) in Tablet Mode with Adapter 1 for Sample 1	**Temperature :**	21~22℃
Test Engineer :	Lucky Pan	**Relative Humidity :**	41~42%
Test Distance :	3m (Below 1GHz) 1.5m (Above 1GHz)	**Polarization :**	Horizontal



Site : 05CH01-KS
Condition : 4268-TX LF EIRP_090504 HORIZONTAL

	Freq	Level	Over Limit	Limit Line	Read Level	Factor
	MHz	dBm	dB	dBm	dBm	dB
1	35.67	-60.73	-24.73	-36.00	-64.56	3.83
2	348.30	-65.12	-29.12	-36.00	-65.40	0.28
3	1146.00	-62.67	-32.67	-30.00	-64.86	2.19
4	4944.00	-64.36	-34.36	-30.00	-78.35	13.99
5	6592.00	-58.85	-28.85	-30.00	-73.67	14.82
6	8941.00	-61.47	-31.47	-30.00	-77.48	16.01
7 p	12436.50	-54.51	-24.51	-30.00	-78.09	23.58

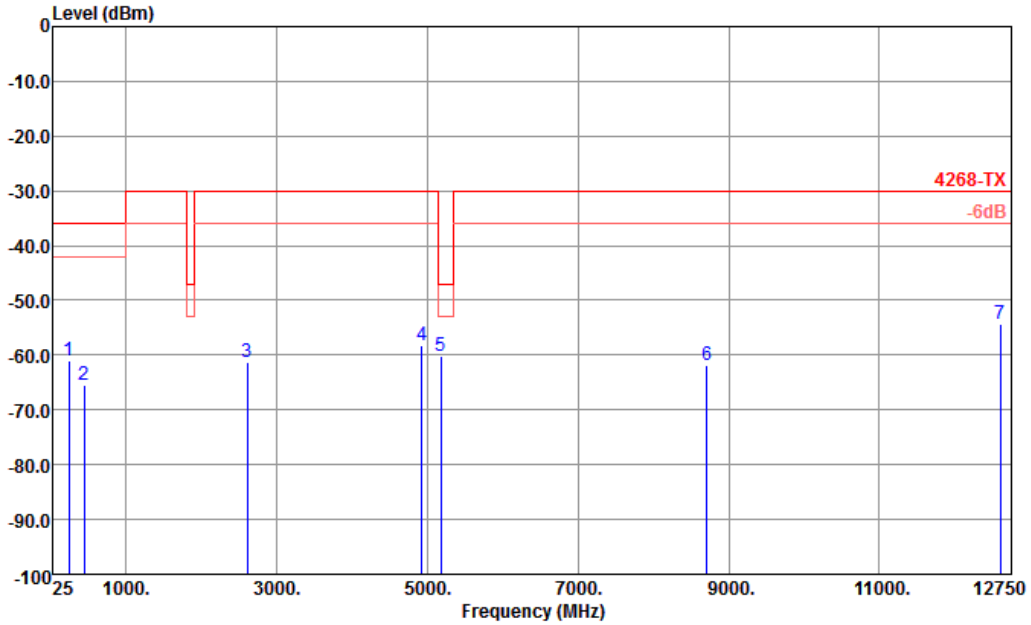
Test Mode :	CH13 (2472MHz) in Tablet Mode with Adapter 1 for Sample 1	Temperature :	21~22℃
Test Engineer :	Lucky Pan	Relative Humidity :	41~42%
Test Distance :	3m (Below 1GHz) 1.5m (Above 1GHz)	Polarization :	Vertical



Site : 05CH01-KS
Condition : 4268-TX LF EIRP_090504 VERTICAL

	Freq	Level	Over Limit	Limit Line	Read Level	Factor
	MHz	dBm	dB	dBm	dBm	dB
1	35.67	-59.50	-23.50	-36.00	-63.33	3.83
2	448.40	-61.54	-25.54	-36.00	-63.68	2.14
3	1994.00	-61.92	-31.92	-30.00	-69.35	7.43
4	4946.00	-61.74	-31.74	-30.00	-75.81	14.07
5 p	5182.00	-59.58	-12.58	-47.00	-73.84	14.26
6	9928.00	-56.28	-26.28	-30.00	-77.48	21.20
7	10132.00	-56.96	-26.96	-30.00	-77.83	20.87

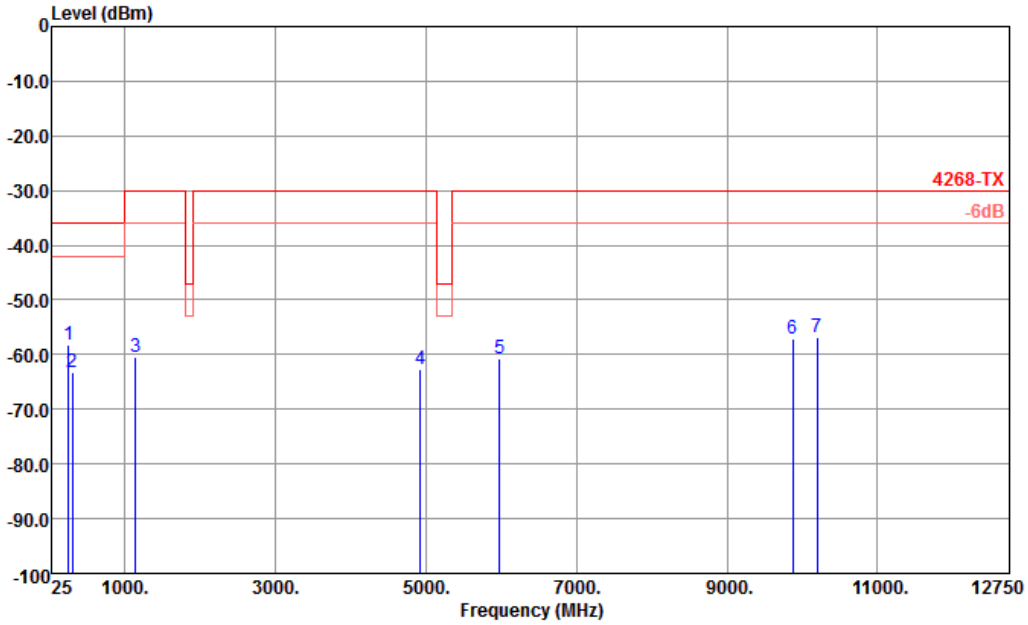
Test Mode :	CH11 (2462MHz) in Laptop Mode with Adapter 1 for Sample 1	**Temperature :**	21~22℃
Test Engineer :	Lucky Pan	**Relative Humidity :**	41~42%
Test Distance :	3m (Below 1GHz) 1.5m (Above 1GHz)	**Polarization :**	Horizontal



Site : 05CH01-KS
Condition : 4268-TX LF EIRP_090504 HORIZONTAL

	Freq	Level	Over Limit	Limit Line	Read Level	Factor
	MHz	dBm	dB	dBm	dBm	dB
1	244.65	-61.05	-25.05	-36.00	-59.30	-1.75
2	448.40	-65.45	-29.45	-36.00	-67.59	2.14
3	2612.00	-61.25	-31.25	-30.00	-71.21	9.96
4	4928.00	-58.29	-28.29	-30.00	-71.85	13.56
5 p	5182.00	-60.28	-13.28	-47.00	-74.69	14.41
6	8713.00	-61.74	-31.74	-30.00	-77.53	15.79
7	12598.75	-54.36	-24.36	-30.00	-78.14	23.78

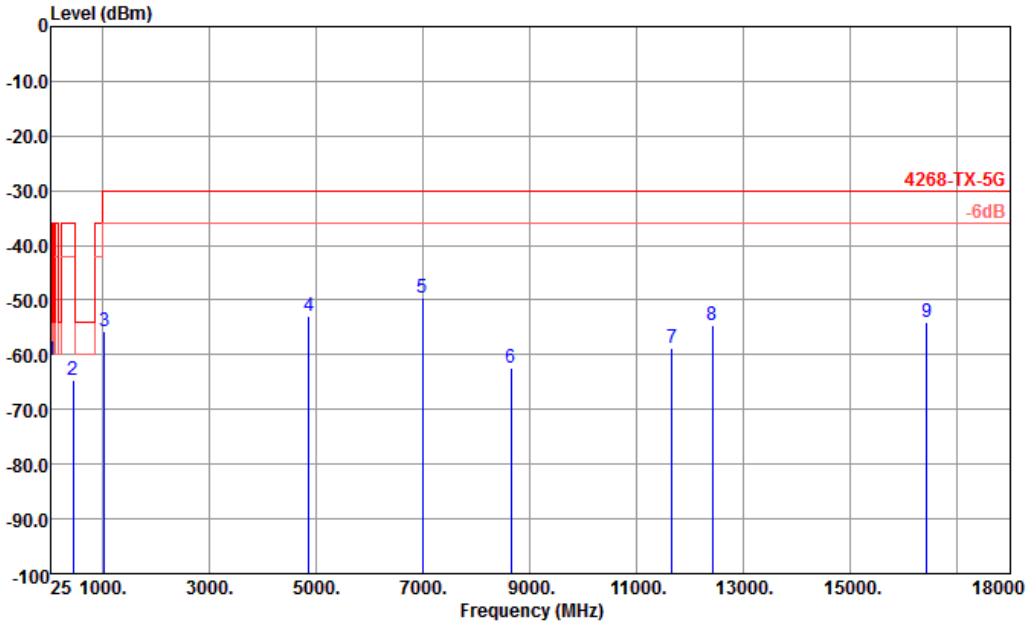
Test Mode :	CH11 (2462MHz) in Laptop Mode with Adapter 1 for Sample 1	**Temperature :**	21~22℃
Test Engineer :	Lucky Pan	**Relative Humidity :**	41~42%
Test Distance :	3m (Below 1GHz) 1.5m (Above 1GHz)	**Polarization :**	Vertical



Site : 05CH01-KS
Condition : 4268-TX LF EIRP_090504 VERTICAL

	Freq	Level	Over Limit	Limit Line	Read Level	Factor
	MHz	dBm	dB	dBm	dBm	dB
1 p	249.24	-58.19	-22.19	-36.00	-56.65	-1.54
2	300.70	-63.14	-27.14	-36.00	-62.48	-0.66
3	1146.00	-60.51	-30.51	-30.00	-62.48	1.97
4	4924.00	-62.66	-32.66	-30.00	-75.82	13.16
5	5980.00	-60.81	-30.81	-30.00	-76.73	15.92
6	9871.00	-57.17	-27.17	-30.00	-78.35	21.18
7	10198.00	-56.78	-26.78	-30.00	-77.48	20.70

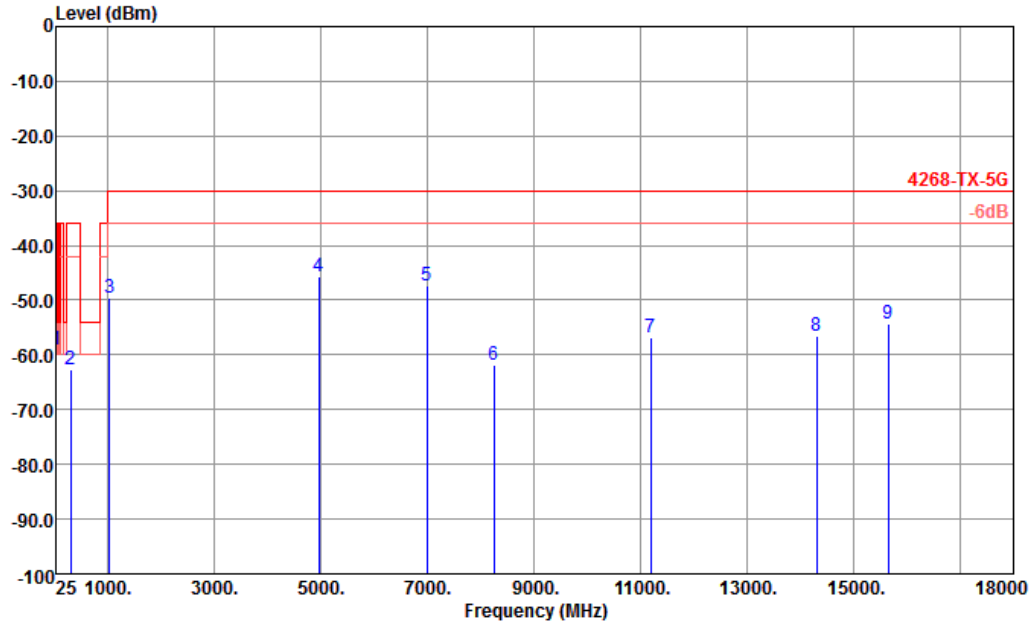
Test Mode :	CH48 (5240MHz) in Laptop Mode with Adapter 1 for Sample 1	**Temperature :**	21~22℃
Test Engineer :	Lucky Pan	**Relative Humidity :**	41~42%
Test Distance :	3m (Below 1GHz) 1.5m (Above 1GHz)	**Polarization :**	Horizontal



Site : 05CH01-KS
Condition : 4268-TX-5G LF EIRP_090504 HORIZONTAL

		Freq	Level	Over Limit	Limit Line	Read Level	Factor
		MHz	dBm	dB	dBm	dBm	dB
1		34.59	-61.01	-25.01	-36.00	-64.84	3.83
2		448.40	-64.71	-28.71	-36.00	-66.85	2.14
3		1034.00	-55.73	-25.73	-30.00	-56.27	0.54
4		4856.00	-52.81	-22.81	-30.00	-63.77	10.96
5	p	6988.00	-49.62	-19.62	-30.00	-63.62	14.00
6		8648.00	-62.37	-32.37	-30.00	-77.06	14.69
7		11658.00	-58.78	-28.78	-30.00	-78.28	19.50
8		12420.00	-54.69	-24.69	-30.00	-77.70	23.01
9		16431.00	-54.16	-24.16	-30.00	-77.54	23.38

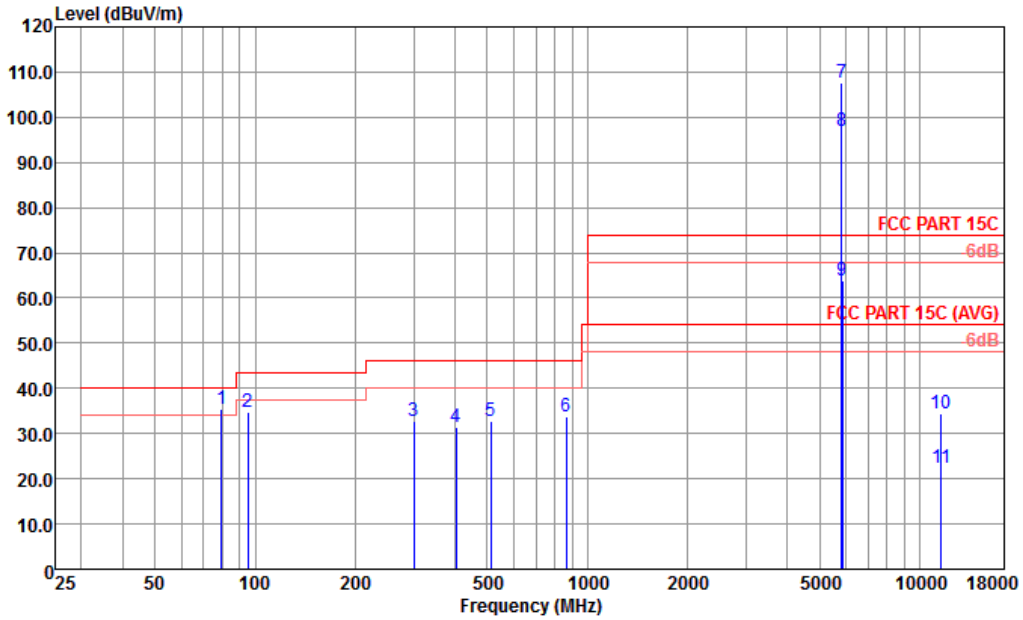
Test Mode :	CH48 (5240MHz) in Laptop Mode with Adapter 1 for Sample 1	**Temperature :**	21~22℃
Test Engineer :	Lucky Pan	**Relative Humidity :**	41~42%
Test Distance :	3m (Below 1GHz) 1.5m (Above 1GHz)	**Polarization :**	Vertical



Site : 05CH01-KS
Condition : 4268-TX-5G LF EIRP_090504 VERTICAL

		Freq	Level	Over Limit	Limit Line	Read Level	Factor
		MHz	dBm	dB	dBm	dBm	dB
1		34.59	-59.13	-23.13	-36.00	-62.96	3.83
2		308.40	-62.61	-26.61	-36.00	-61.79	-0.82
3		1034.00	-49.69	-19.69	-30.00	-50.63	0.94
4	p	4958.00	-45.74	-15.74	-30.00	-59.79	14.05
5		6988.00	-47.41	-17.41	-30.00	-61.13	13.72
6		8250.00	-61.95	-31.95	-30.00	-77.28	15.33
7		11196.00	-56.83	-26.83	-30.00	-78.51	21.68
8		14313.00	-56.44	-26.44	-30.00	-78.55	22.11
9		15651.00	-54.43	-24.43	-30.00	-76.69	22.26

Test Mode :	CH149 (5745MHz) in Laptop Mode with Adapter 1 for Sample 1	**Temperature :**	21~22℃
Test Engineer :	Lucky Pan	**Relative Humidity :**	41~42%
Test Distance :	3m (Below 1GHz) 1.5m (Above 1GHz)	**Polarization :**	Horizontal
Remark :	5825 MHz is fundamental signal which can be ignored.		

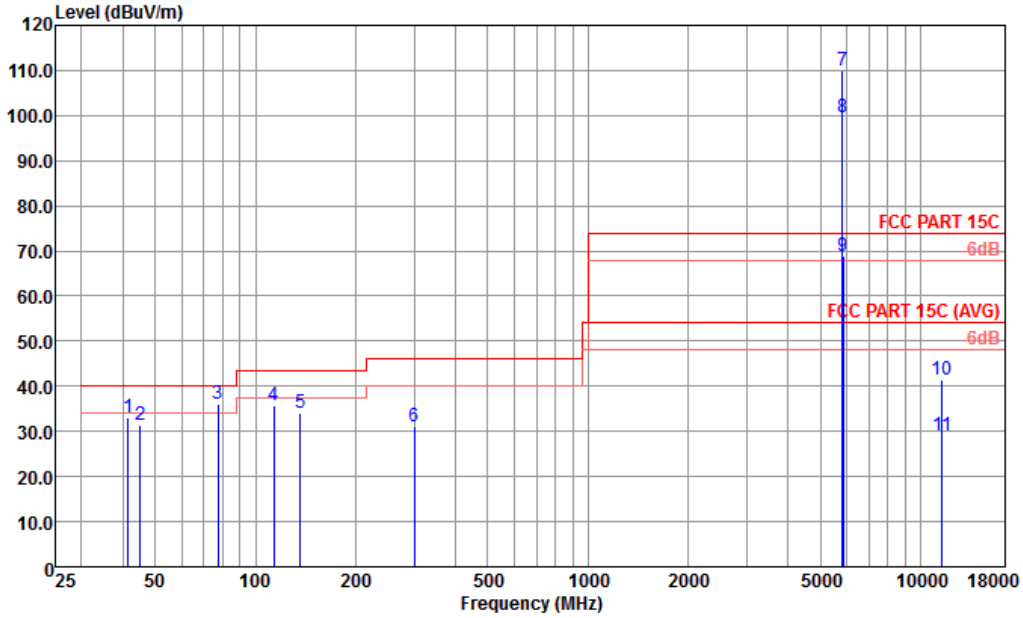


Site : 03CH01-KS

Condition : FCC PART 15C 3m LF_ANT_100803 HORIZONTAL

		Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	!	79.24	35.39	-4.61	40.00	61.97	6.47	0.55	33.60	120	110	Peak
2		95.09	34.78	-8.72	43.50	58.04	9.80	0.56	33.62	---	---	Peak
3		300.37	32.83	-13.17	46.00	52.19	13.02	0.99	33.37	---	---	Peak
4		401.84	31.47	-14.53	46.00	47.62	16.01	1.15	33.31	---	---	Peak
5		513.63	32.63	-13.37	46.00	46.90	17.50	1.33	33.10	---	---	Peak
6		866.09	33.85	-12.15	46.00	44.34	20.49	1.67	32.65	---	---	Peak
7	*	5825.00	107.59			99.65	35.55	3.17	30.78	100	0	Peak
8	*	5825.00	96.79	--.--	--.--	88.85	35.55	3.17	30.78	100	0	Average
9		5850.00	63.85	-10.15	74.00	55.90	35.56	3.16	30.77	100	0	Peak
10		11650.00	34.52	-39.48	74.00	46.08	13.65	4.58	29.79	100	356	Peak
11		11650.00	22.54	-31.46	54.00	34.10	13.65	4.58	29.79	100	356	Average

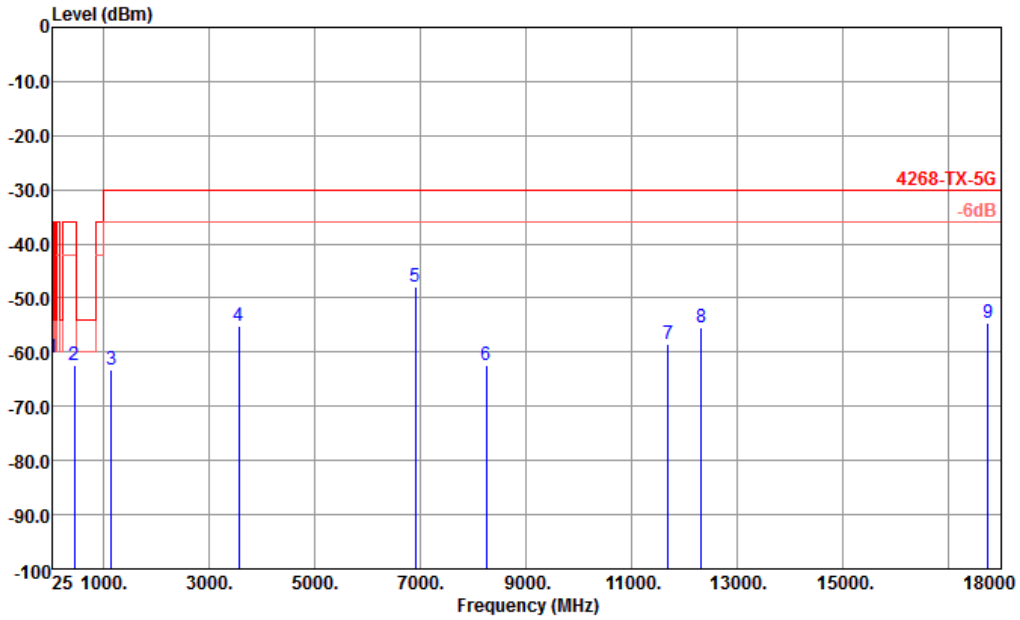
Test Mode :	CH149 (5745MHz) in Laptop Mode with Adapter 1 for Sample 1	**Temperature :**	21~22℃
Test Engineer :	Lucky Pan	**Relative Humidity :**	41~42%
Test Distance :	3m (Below 1GHz) 1.5m (Above 1GHz)	**Polarization :**	Vertical
Remark :	5825 MHz is fundamental signal which can be ignored.		



Site : 03CH01-KS
Condition : FCC PART 15C 3m LF_ANT_100803 VERTICAL

		Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1		41.42	32.95	-7.05	40.00	55.24	10.95	0.40	33.64	---	---	Peak
2		45.06	31.27	-8.73	40.00	55.22	9.25	0.41	33.61	---	---	Peak
3	!	77.05	36.16	-3.84	40.00	63.02	6.20	0.54	33.60	102	134	Peak
4		113.71	35.74	-7.76	43.50	56.94	11.80	0.61	33.61	---	---	Peak
5		136.46	34.22	-9.28	43.50	55.98	11.13	0.70	33.59	---	---	Peak
6		300.37	30.94	-15.06	46.00	50.30	13.02	0.99	33.37	---	---	Peak
7	*	5825.00	110.12			102.18	35.55	3.17	30.78	100	356	Peak
8	*	5825.00	99.61			91.67	35.55	3.17	30.78	100	356	Average
9	!	5850.00	68.99	-5.01	74.00	61.04	35.56	3.16	30.77	100	356	Peak
10		11650.00	41.57	-32.43	74.00	53.13	13.65	4.58	29.79	100	65	Peak
11		11650.00	29.00	-25.00	54.00	40.56	13.65	4.58	29.79	100	65	Average

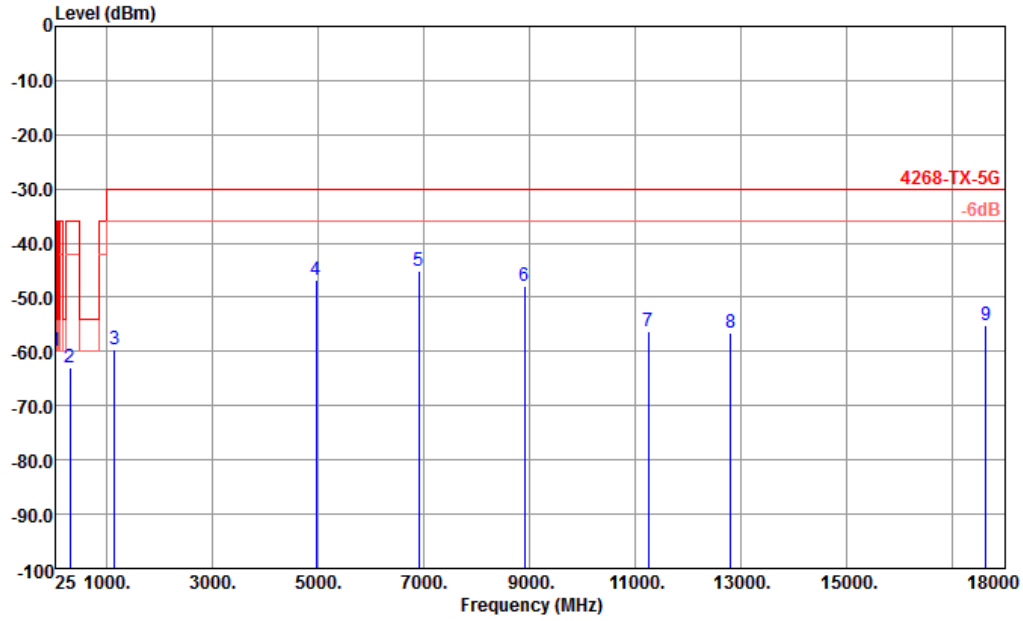
Test Mode :	CH36 (5180MHz) in Laptop Mode with Adapter 1 for Sample 1	**Temperature :**	21~22℃
Test Engineer :	Lucky Pan	**Relative Humidity :**	41~42%
Test Distance :	3m (Below 1GHz) 1.5m (Above 1GHz)	**Polarization :**	Horizontal



Site : 05CH01-KS
Condition : 4268-TX-5G LF EIRP_090504 HORIZONTAL

	Freq	Level	Over Limit	Limit Line	Read Level	Factor
	MHz	dBm	dB	dBm	dBm	dB
1	34.32	-61.01	-25.01	-36.00	-64.84	3.83
2	448.40	-62.36	-26.36	-36.00	-64.50	2.14
3	1146.00	-63.35	-33.35	-30.00	-65.54	2.19
4	3566.00	-55.07	-25.07	-30.00	-64.64	9.57
5 p	6908.00	-47.84	-17.84	-30.00	-61.68	13.84
6	8244.00	-62.43	-32.43	-30.00	-77.61	15.18
7	11688.00	-58.54	-28.54	-30.00	-78.17	19.63
8	12324.00	-55.41	-25.41	-30.00	-78.14	22.73
9	17754.00	-54.60	-24.60	-30.00	-78.51	23.91

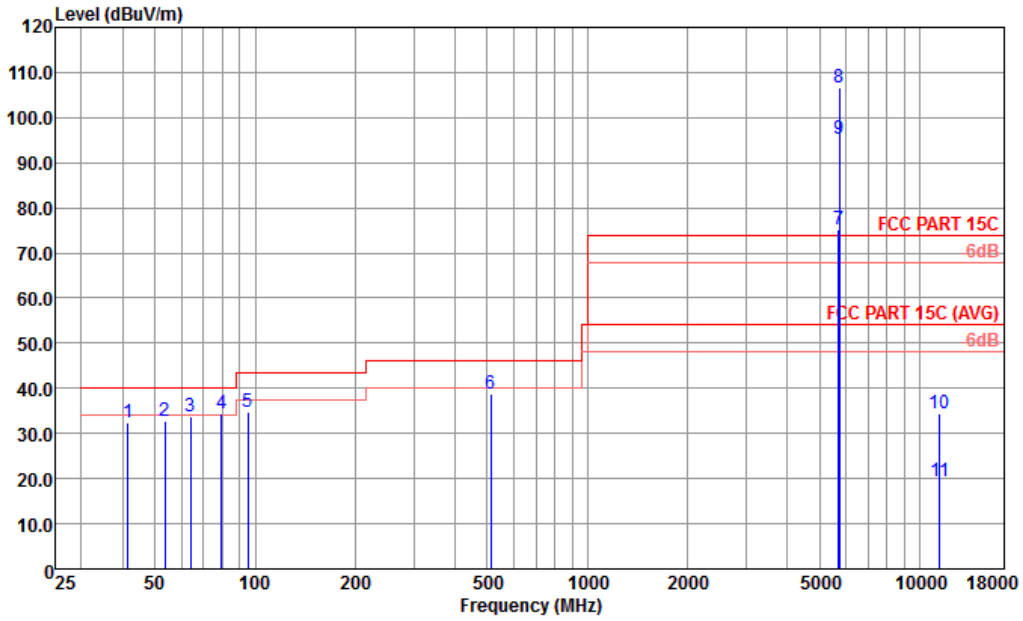
Test Mode :	CH36 (5180MHz) in Laptop Mode with Adapter 1 for Sample 1	**Temperature :**	21~22℃
Test Engineer :	Lucky Pan	**Relative Humidity :**	41~42%
Test Distance :	3m (Below 1GHz) 1.5m (Above 1GHz)	**Polarization :**	Vertical



Site : 05CH01-KS
Condition : 4268-TX-5G LF EIRP_090504 VERTICAL

		Freq	Level	Over Limit	Limit Line	Read Level	Factor
		MHz	dBm	dB	dBm	dBm	dB
1		34.32	-59.89	-23.89	-36.00	-63.72	3.83
2		301.40	-63.08	-27.08	-36.00	-62.42	-0.66
3		1146.00	-59.60	-29.60	-30.00	-61.57	1.97
4		4958.00	-46.66	-16.66	-30.00	-60.71	14.05
5	p	6908.00	-45.06	-15.06	-30.00	-58.68	13.62
6		8908.00	-47.81	-17.81	-30.00	-63.08	15.27
7		11244.00	-56.38	-26.38	-30.00	-78.33	21.95
8		12804.00	-56.68	-26.68	-30.00	-77.71	21.03
9		17631.00	-55.24	-25.24	-30.00	-78.16	22.92

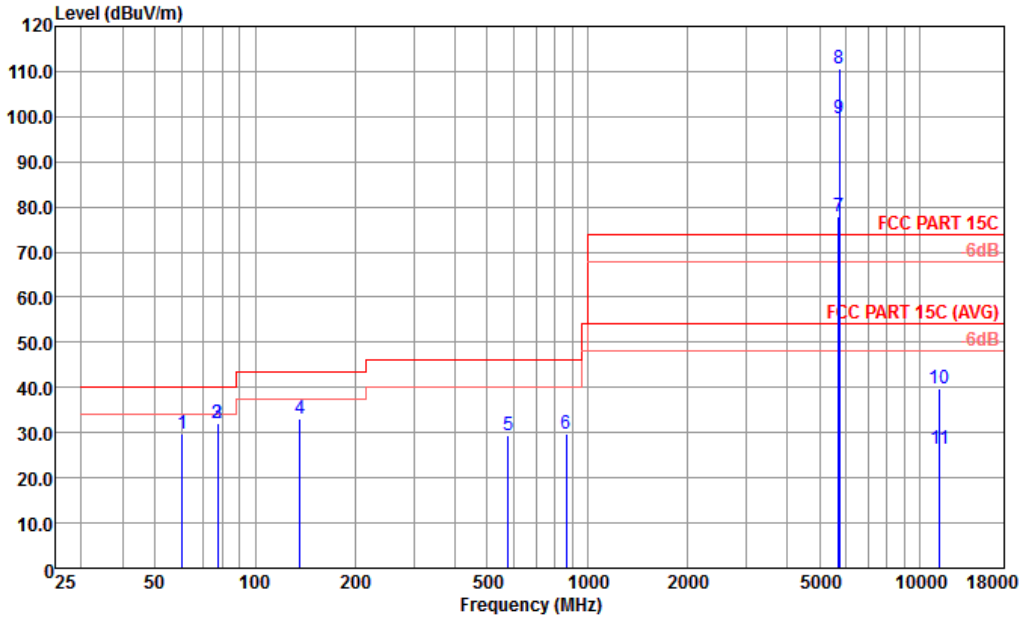
Test Mode :	CH149 (5745MHz) in Laptop Mode with Adapter 1 for Sample 1	**Temperature :**	21~22℃
Test Engineer :	Lucky Pan	**Relative Humidity :**	41~42%
Test Distance :	3m (Below 1GHz) 1.5m (Above 1GHz)	**Polarization :**	Horizontal
Remark :	1. 5745 MHz is fundamental signal which can be ignored. 2. 5724.9 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level.		



Site : 03CH01-KS
Condition : FCC PART 15C 3m LF_ANT_100803 HORIZONTAL

		Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1		41.42	32.42	-7.58	40.00	54.71	10.95	0.40	33.64	---	---	Peak
2		53.51	32.60	-7.40	40.00	58.93	6.80	0.45	33.58	---	---	Peak
3		63.98	33.76	-6.24	40.00	61.63	5.22	0.50	33.59	---	---	Peak
4	!	79.24	34.39	-5.61	40.00	60.97	6.47	0.55	33.60	100	123	Peak
5		95.09	34.78	-8.72	43.50	58.04	9.80	0.56	33.62	---	---	Peak
6		513.63	38.63	-7.37	46.00	52.90	17.50	1.33	33.10	---	---	Peak
7	*	5724.90	75.08			67.19	35.52	3.22	30.85	100	231	Peak
8	*	5745.00	106.54			98.65	35.52	3.21	30.84	100	244	Peak
9	*	5745.00	95.19			87.30	35.52	3.21	30.84	100	244	Average
10		11490.00	34.48	-39.52	74.00	46.22	13.61	4.47	29.82	100	0	Peak
11		11490.00	19.35	-34.65	54.00	31.09	13.61	4.47	29.82	100	0	Average

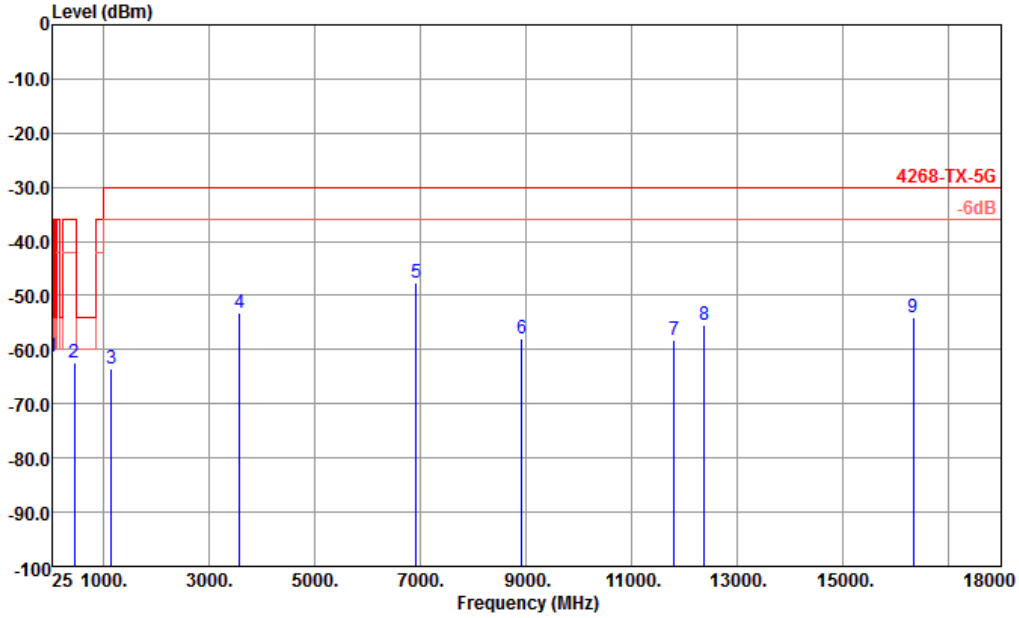
Test Mode :	CH149 (5745MHz) in Laptop Mode with Adapter 1 for Sample 1	Temperature :	21~22℃
Test Engineer :	Lucky Pan	Relative Humidity :	41~42%
Test Distance :	3m (Below 1GHz) 1.5m (Above 1GHz)	Polarization :	Vertical
Remark :	1. 5745 MHz is fundamental signal which can be ignored. 2. 5725 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level.		



Site : 03CH01-KS
Condition : FCC PART 15C 3m LF_ANT_100803 VERTICAL

		Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1		60.28	29.82	-10.18	40.00	57.62	5.30	0.48	33.58	---	---	Peak
2		77.05	32.16	-7.84	40.00	59.02	6.20	0.54	33.60	---	---	Peak
3		77.05	32.16	-7.84	40.00	59.02	6.20	0.54	33.60	106	48	Peak
4		136.46	33.22	-10.28	43.50	54.98	11.13	0.70	33.59	---	---	Peak
5		576.64	29.32	-16.68	46.00	42.37	18.56	1.37	32.98	---	---	Peak
6		866.09	29.71	-16.29	46.00	40.20	20.49	1.67	32.65	---	---	Peak
7	*	5725.00	77.72			69.83	35.52	3.22	30.85	100	7	Peak
8	*	5745.00	110.74			102.85	35.52	3.21	30.84	100	356	Peak
9	*	5745.00	99.45			91.56	35.52	3.21	30.84	100	356	Average
10		11490.00	39.64	-34.36	74.00	51.38	13.61	4.47	29.82	100	360	Peak
11		11490.00	26.37	-27.63	54.00	38.11	13.61	4.47	29.82	100	360	Average

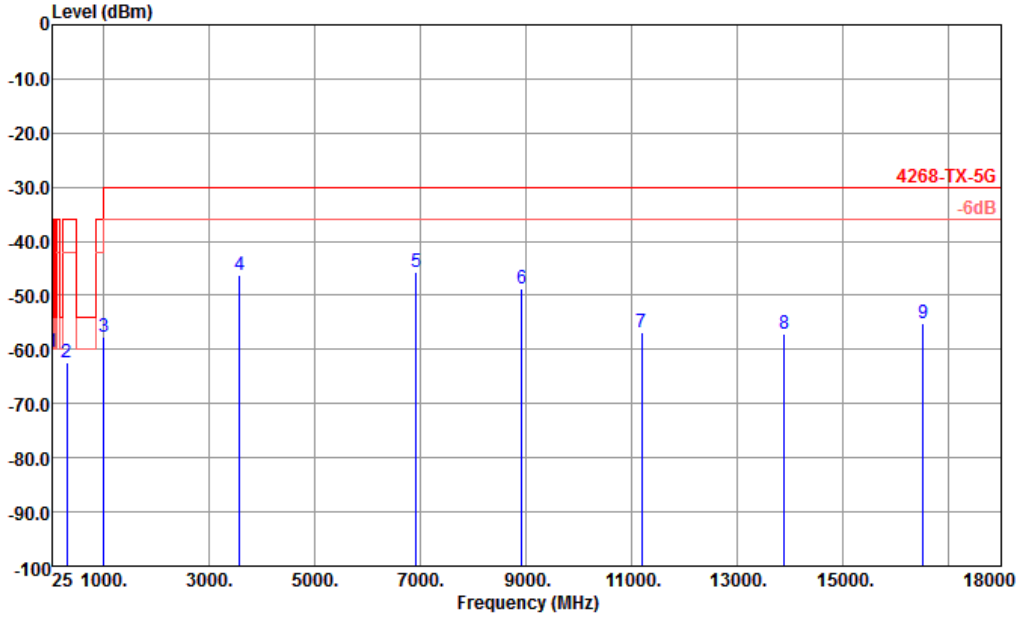
Test Mode :	CH38 (5190MHz) in Laptop Mode with Adapter 1 for Sample 1	**Temperature :**	21~22℃
Test Engineer :	Lucky Pan	**Relative Humidity :**	41~42%
Test Distance :	3m (Below 1GHz) 1.5m (Above 1GHz)	**Polarization :**	Horizontal



Site : 05CH01-KS
Condition : 4268-TX-5G LF EIRP_090504 HORIZONTAL

		Freq	Level	Over Limit	Limit Line	Read Level	Factor
		MHz	dBm	dB	dBm	dBm	dB
1		34.59	-61.15	-25.15	-36.00	-64.98	3.83
2		448.40	-62.40	-26.40	-36.00	-64.54	2.14
3		1146.00	-63.53	-33.53	-30.00	-65.72	2.19
4		3580.00	-53.16	-23.16	-30.00	-62.61	9.45
5	p	6920.00	-47.54	-17.54	-30.00	-61.38	13.84
6		8920.00	-58.01	-28.01	-30.00	-73.28	15.27
7		11799.00	-58.13	-28.13	-30.00	-78.14	20.01
8		12384.00	-55.34	-25.34	-30.00	-78.29	22.95
9		16338.00	-54.08	-24.08	-30.00	-77.43	23.35

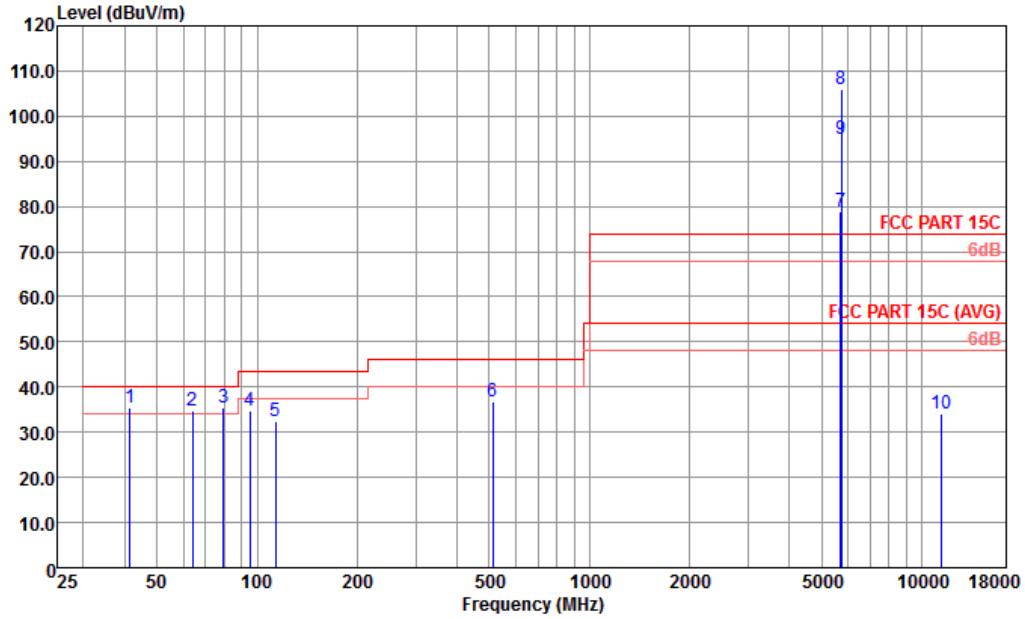
Test Mode :	CH38 (5190MHz) in Laptop Mode with Adapter 1 for Sample 1	**Temperature :**	21~22℃
Test Engineer :	Lucky Pan	**Relative Humidity :**	41~42%
Test Distance :	3m (Below 1GHz) 1.5m (Above 1GHz)	**Polarization :**	Vertical



Site : 05CH01-KS
Condition : 4268-TX-5G LF EIRP_090504 VERTICAL

		Freq	Level	Over Limit	Limit Line	Read Level	Factor
		MHz	dBm	dB	dBm	dBm	dB
1		34.32	-60.33	-24.33	-36.00	-64.16	3.83
2		300.00	-62.40	-26.40	-36.00	-61.79	-0.61
3		1000.00	-57.72	-21.72	-36.00	-58.36	0.64
4		3576.00	-46.17	-16.17	-30.00	-55.54	9.37
5	p	6920.00	-45.77	-15.77	-30.00	-59.39	13.62
6		8920.00	-48.85	-18.85	-30.00	-64.24	15.39
7		11193.00	-56.78	-26.78	-30.00	-78.46	21.68
8		13890.00	-57.05	-27.05	-30.00	-79.41	22.36
9		16515.00	-55.28	-25.28	-30.00	-77.78	22.50

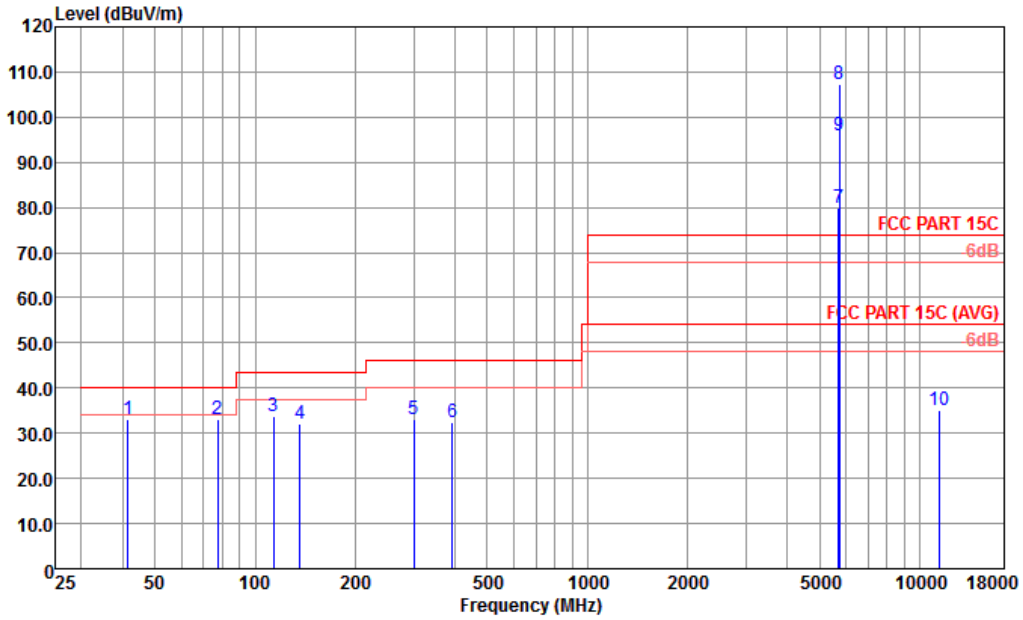
Test Mode :	CH151 (5755MHz) in Laptop Mode with Adapter 1 for Sample 1	**Temperature :**	21~22℃
Test Engineer :	Lucky Pan	**Relative Humidity :**	41~42%
Test Distance :	3m (Below 1GHz) 1.5m (Above 1GHz)	**Polarization :**	Horizontal
Remark :	1. 5755 MHz is fundamental signal which can be ignored. 2. 5723.75 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level.		



Site : 03CH01-KS
Condition : FCC PART 15C 3m LF_ANT_100803 HORIZONTAL

		Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	!	41.42	35.42	-4.58	40.00	57.71	10.95	0.40	33.64	122	54	Peak
2	!	63.98	34.76	-5.24	40.00	62.63	5.22	0.50	33.59	---	---	Peak
3	!	79.24	35.39	-4.61	40.00	61.97	6.47	0.55	33.60	---	---	Peak
4		95.09	34.78	-8.72	43.50	58.04	9.80	0.56	33.62	---	---	Peak
5		113.71	32.51	-10.99	43.50	53.71	11.80	0.61	33.61	---	---	Peak
6		513.63	36.63	-9.37	46.00	50.90	17.50	1.33	33.10	---	---	Peak
7	*	5723.75	78.94			71.05	35.52	3.22	30.85	106	240	Peak
8	*	5755.00	105.82			97.92	35.53	3.20	30.83	106	240	Peak
9	*	5755.00	95.02			87.12	35.53	3.20	30.83	106	240	Average
10		11505.00	33.96	-40.04	74.00	45.61	13.70	4.47	29.82	100	0	Peak

Test Mode :	CH151 (5755MHz) in Laptop Mode with Adapter 1 for Sample 1	**Temperature :**	21~22℃
Test Engineer :	Lucky Pan	**Relative Humidity :**	41~42%
Test Distance :	3m (Below 1GHz) 1.5m (Above 1GHz)	**Polarization :**	Vertical
Remark :	1. 5755 MHz is fundamental signal which can be ignored. 2. 5723.9 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level.		



Site : 03CH01-KS
Condition : FCC PART 15C 3m LF_ANT_100803 VERTICAL

		Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1		41.42	32.95	-7.05	40.00	55.24	10.95	0.40	33.64	---	---	Peak
2		77.05	33.16	-6.84	40.00	60.02	6.20	0.54	33.60	120	154	Peak
3		113.71	33.74	-9.76	43.50	54.94	11.80	0.61	33.61	---	---	Peak
4		136.46	32.22	-11.28	43.50	53.98	11.13	0.70	33.59	---	---	Peak
5		300.37	32.94	-13.06	46.00	52.30	13.02	0.99	33.37	---	---	Peak
6		393.47	32.36	-13.64	46.00	48.65	15.87	1.15	33.31	---	---	Peak
7	*	5723.90	80.02			72.13	35.52	3.22	30.85	100	59	Peak
8	*	5755.00	107.24			99.34	35.53	3.20	30.83	100	59	Peak
9	*	5755.00	96.01			88.11	35.53	3.20	30.83	100	59	Average
10		11508.00	35.21	-38.79	74.00	46.86	13.70	4.47	29.82	100	0	Peak

LIMITS: Clause 8.2

Narrowband spurious emission:

Frequency Range	Limit when operating
47MHz to 74MHz 87.5MHz to 118MHz 174MHz to 230MHz 470MHz to 862MHz	-54dBm
Below 1GHz	-36dBm
Above 1GHz	-30dBm

Limit kept Yes [V] No [ ]

3.3 Emission Bandwidth (SUBCLAUSE 8.3)

3.3.1 Measuring Instruments

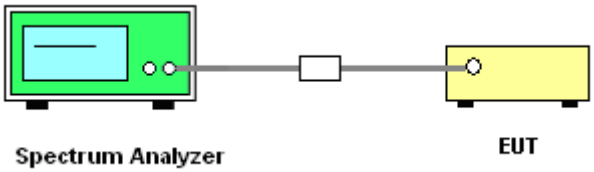
See list of measuring instruments of this test report.

3.3.2 Test Procedure

- **For Bluetooth (20dB Bandwidth Measurement)**
  1. The transmitter output was connected to the spectrum analyzer by a low loss cable.
  2. Set RBW of spectrum analyzer to 30 kHz and VBW to 300 kHz.
  3. The Hopping Channel bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20 dB.

- **For WLAN (6dB Bandwidth Measurement)**
  1. The RF output of EUT was connected to the spectrum analyzer by a low loss cable. The path loss was compensated to the results for each measurement.
  2. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 1-5% or DTS BW, not to exceed 100kHz.Set the Video bandwidth (VBW) ≥ 3 * RBW. In order to make an accurate measurement. The 6 dB bandwidth must be greater than 500 KHz.
  3. The marker-delta reading at this point is the 6 dB bandwidth of the emission.

3.3.3 Test Setup Layout

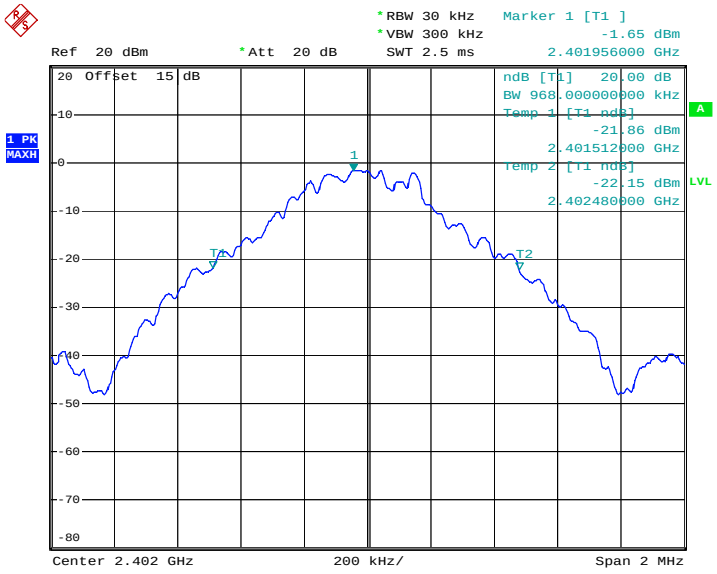


3.3.4 Test Result of Emission Bandwidth

EUT Mode :	Bluetooth BDR (1Mbps)	Temperature :	20~21℃
Test Engineer :	Zhi Lu	Relative Humidity :	40~41%
Antenna Gain :	1.37dBi	Duty Cycle :	78.45%

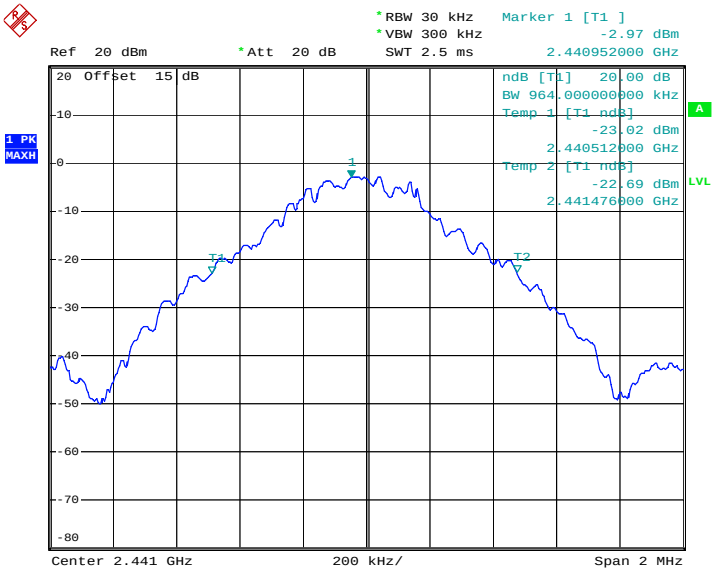
Channel	Measured Frequency (MHz)	20 dB Bandwidth (MHz)
CH 00	2402 MHz	0.968
CH 39	2441 MHz	0.964
CH 78	2480 MHz	0.964

20 dB Bandwidth Plot on Bluetooth Channel 00



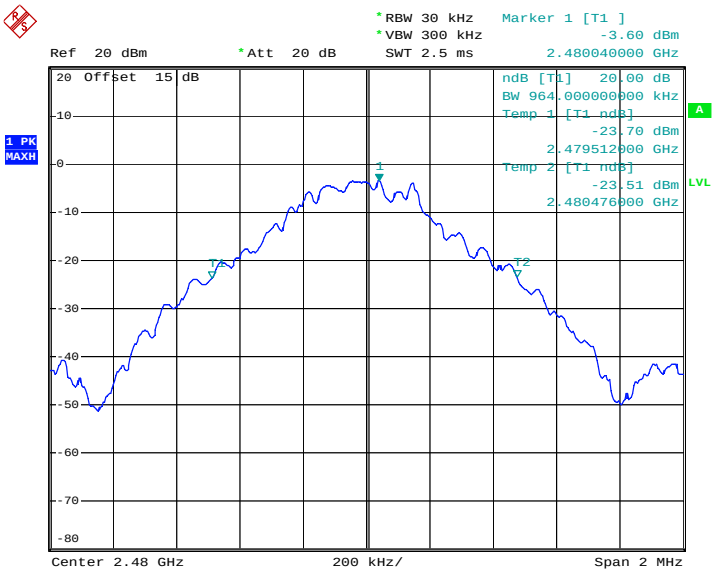
Date: 31.JAN.2013 03:54:29

20 dB Bandwidth Plot on Bluetooth Channel 39



Date: 31.JAN.2013 03:54:39

20 dB Bandwidth Plot on Bluetooth Channel 78

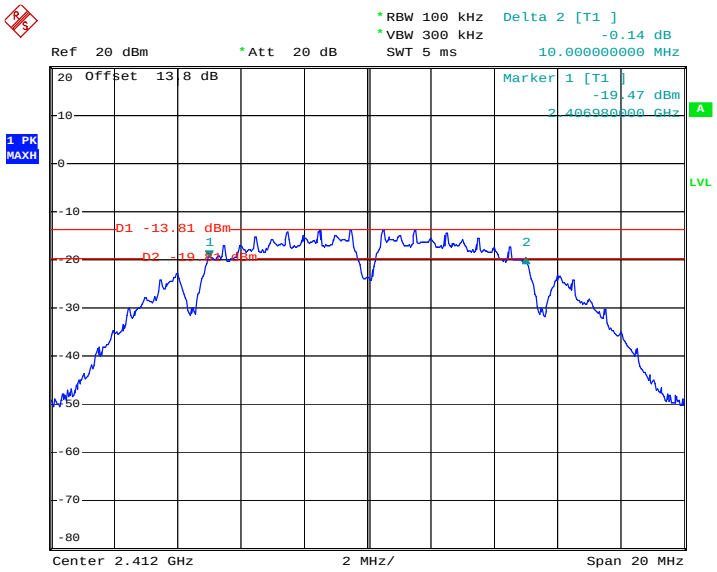


Date: 31.JAN.2013 03:55:34

EUT Mode :	802.11b	Temperature :	20~21℃
Test Engineer :	Zhi Lu	Relative Humidity :	40~41%
Antenna Gain :	0.12dBi	Duty Cycle :	100.00%

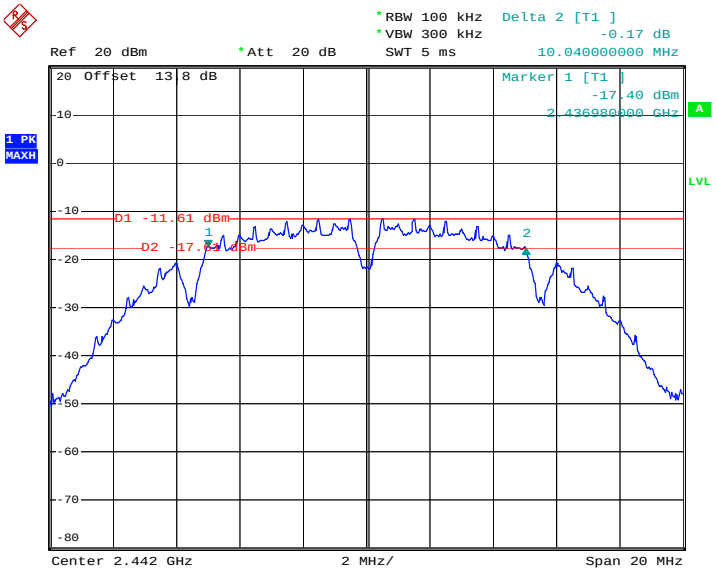
Channel	Measured Frequency (MHz)	6 dB Bandwidth (MHz)	Limit
CH 01	2412 MHz	10.00	> 0.5MHz
CH 07	2442 MHz	10.04	> 0.5MHz
CH 13	2472 MHz	9.72	> 0.5MHz

6 dB Bandwidth Plot on 802.11b Channel 01



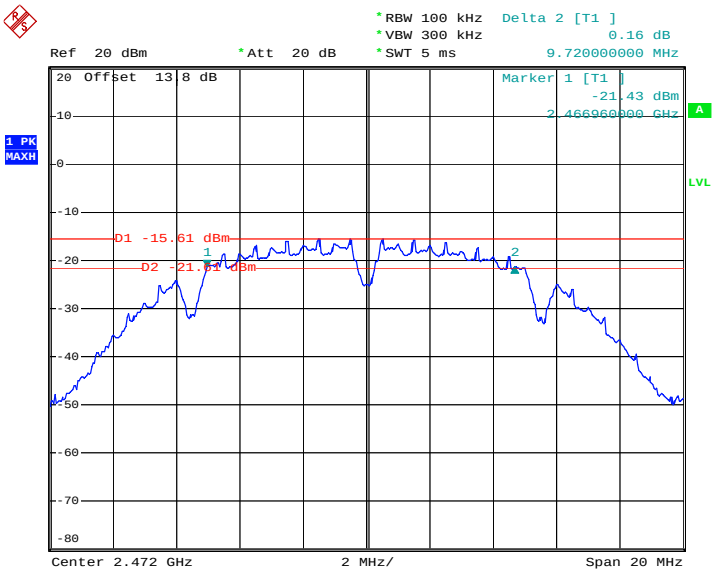
Date: 24.JAN.2013 05:38:55

6 dB Bandwidth Plot on 802.11b Channel 07



Date: 24.JAN.2013 05:47:33

6 dB Bandwidth Plot on 802.11b Channel 13

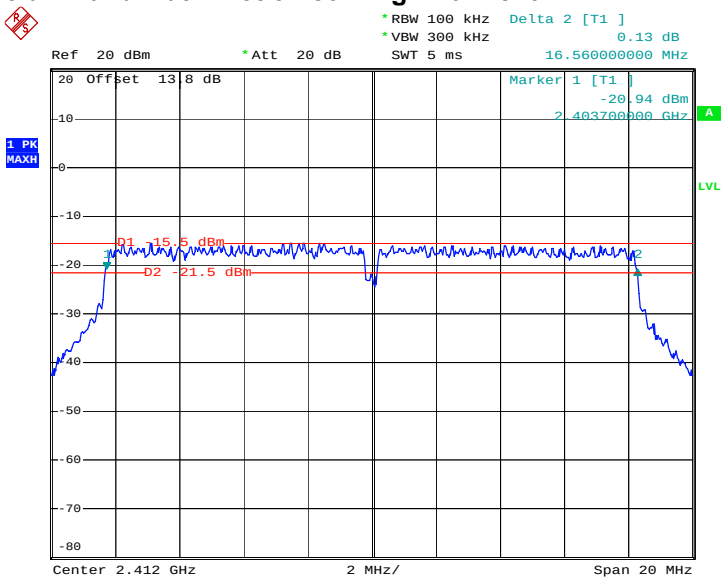


Date: 4.FEB.2013 18:51:37

EUT Mode :	802.11g	Temperature :	20~21℃
Test Engineer :	Zhi Lu	Relative Humidity :	40~41%
Antenna Gain :	0.12dBi	Duty Cycle :	100.00%

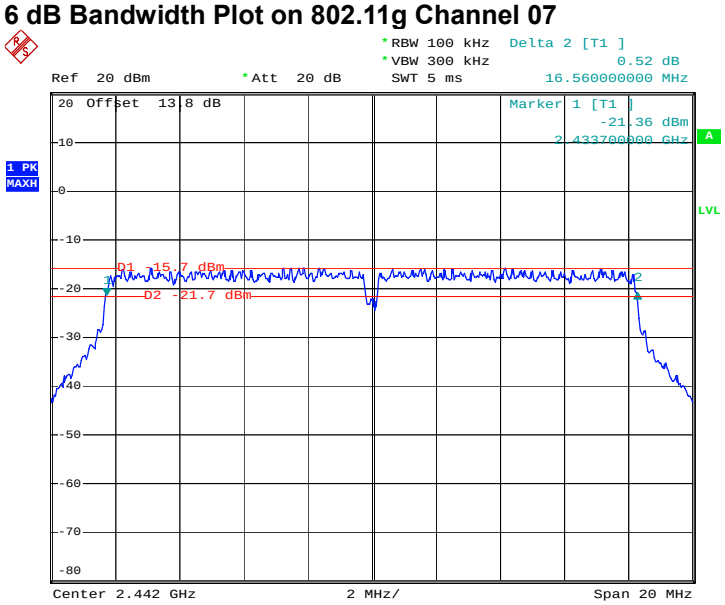
Channel	Measured Frequency (MHz)	6 dB Bandwidth (MHz)	Limit
CH 01	2412 MHz	16.56	> 0.5MHz
CH 07	2442 MHz	16.56	> 0.5MHz
CH 13	2472 MHz	16.56	> 0.5MHz

6 dB Bandwidth Plot on 802.11g Channel 01



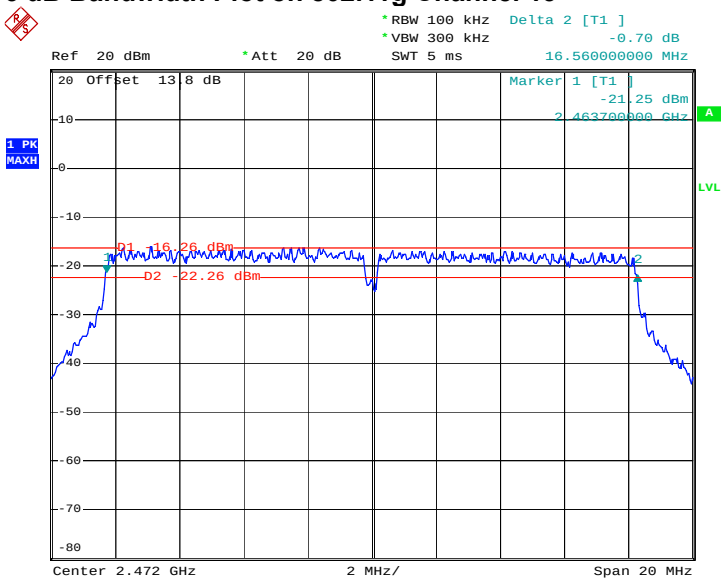
Date: 24.JAN.2013 05:55:10

6 dB Bandwidth Plot on 802.11g Channel 07



Date: 24.JAN.2013 05:57:30

6 dB Bandwidth Plot on 802.11g Channel 13

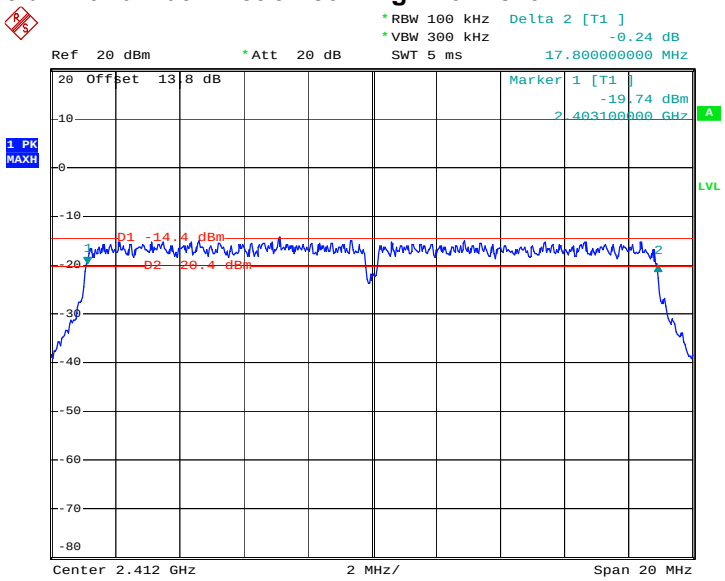


Date: 24.JAN.2013 06:00:15

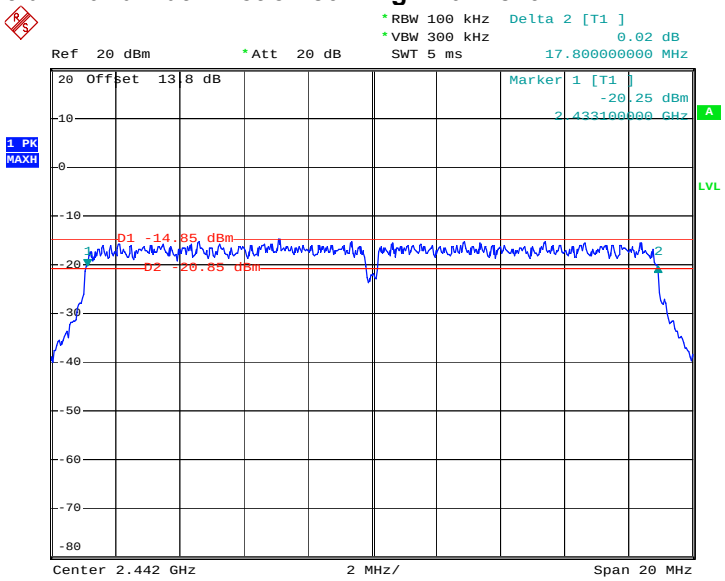
EUT Mode :	802.11n HT20	Temperature :	20~21℃
Test Engineer :	Zhi Lu	Relative Humidity :	40~41%
Antenna Gain :	0.12dBi	Duty Cycle :	100.00%

Channel	Measured Frequency (MHz)	6 dB Bandwidth (MHz)	Limit
CH 01	2412 MHz	17.80	> 0.5MHz
CH 07	2442 MHz	17.80	> 0.5MHz
CH 13	2472 MHz	17.80	> 0.5MHz

6 dB Bandwidth Plot on 802.11g Channel 01

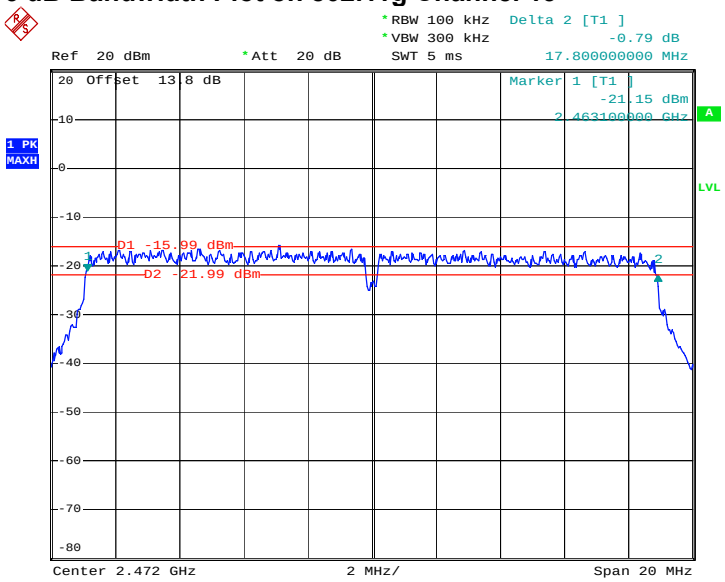


6 dB Bandwidth Plot on 802.11g Channel 07



Date: 24.JAN.2013 06:06:27

6 dB Bandwidth Plot on 802.11g Channel 13

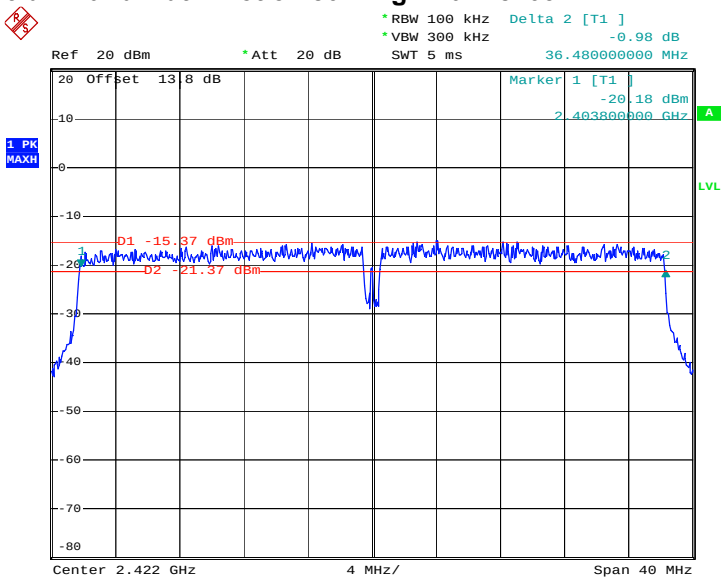


Date: 24.JAN.2013 06:08:45

EUT Mode :	802.11n HT40	Temperature :	20~21℃
Test Engineer :	Zhi Lu	Relative Humidity :	40~41%
Antenna Gain :	0.12dBi	Duty Cycle :	100.00%

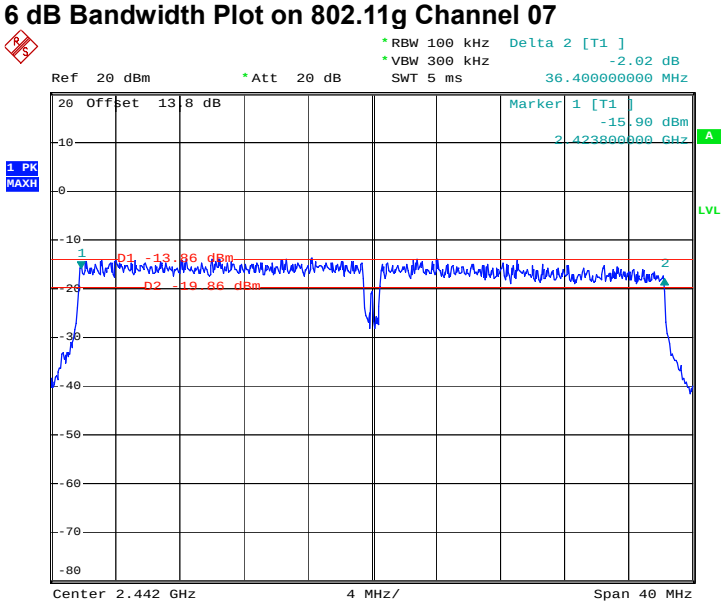
Channel	Measured Frequency (MHz)	6 dB Bandwidth (MHz)	Limit
CH 03	2422 MHz	36.48	> 0.5MHz
CH 07	2442 MHz	36.40	> 0.5MHz
CH 11	2462 MHz	36.48	> 0.5MHz

6 dB Bandwidth Plot on 802.11g Channel 03



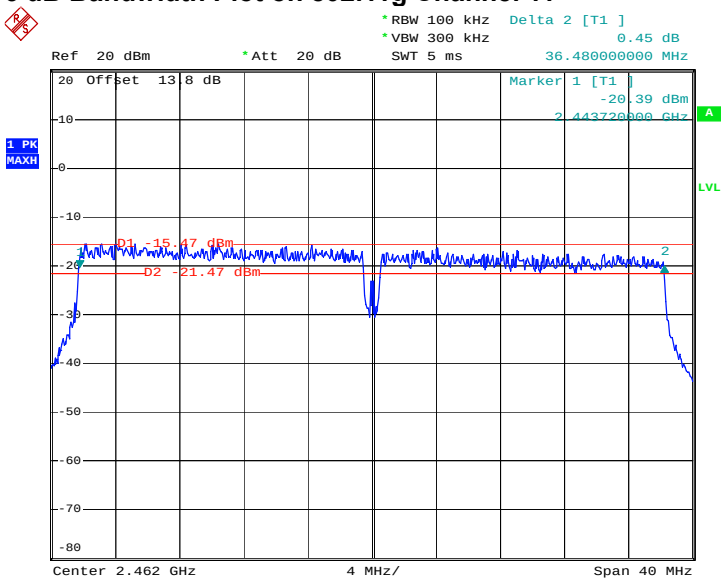
Date: 4.FEB.2013 17:39:24

6 dB Bandwidth Plot on 802.11g Channel 07



Date: 4.FEB.2013 17:48:45

6 dB Bandwidth Plot on 802.11g Channel 11

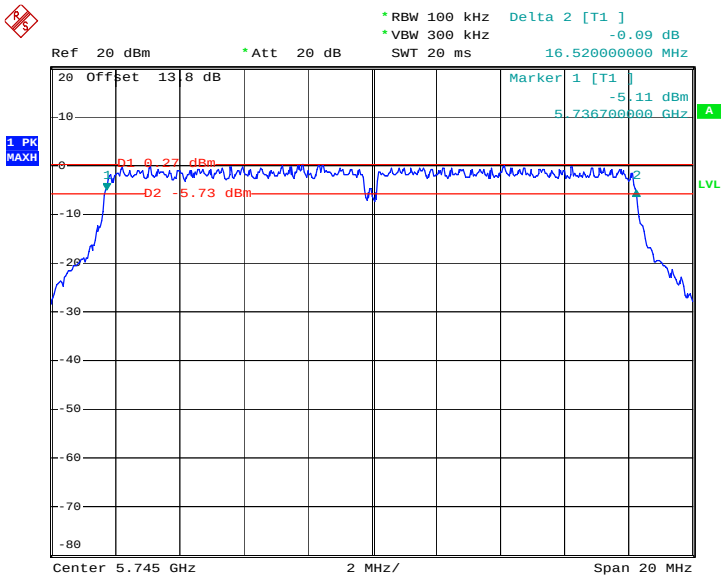


Date: 4.FEB.2013 17:55:55

EUT Mode :	802.11a	Temperature :	20~21℃
Test Engineer :	Zhi Lu	Relative Humidity :	40~41%
Antenna Gain :	-0.48dBi	Duty Cycle :	100.00%

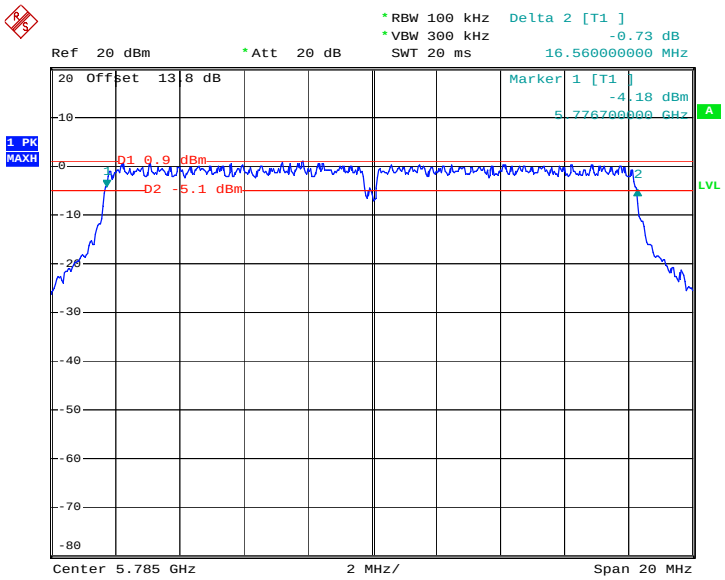
Channel	Measured Frequency (MHz)	6 dB Bandwidth (MHz)	Limit
CH 149	5745 MHz	16.52	> 0.5MHz
CH 157	5785 MHz	16.56	> 0.5MHz
CH 165	5825 MHz	16.56	> 0.5MHz

6 dB Bandwidth Plot on 802.11a Channel 149



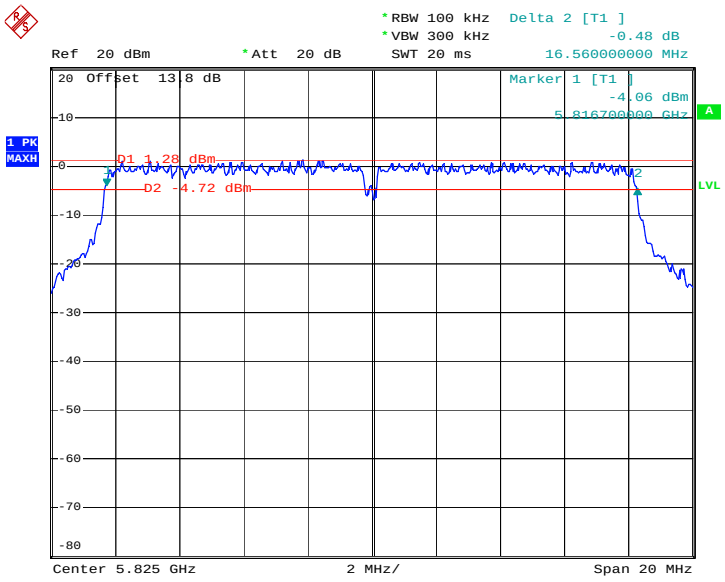
Date: 30.JAN.2013 02:17:33

6 dB Bandwidth Plot on 802.11a Channel 157



Date: 30.JAN.2013 02:05:34

6 dB Bandwidth Plot on 802.11a Channel 165

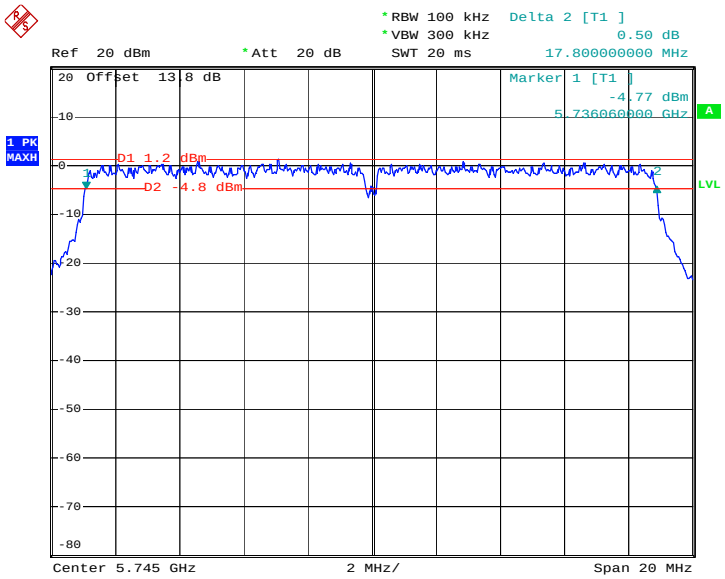


Date: 30.JAN.2013 02:08:48

EUT Mode :	802.11n HT20	Temperature :	20~21℃
Test Engineer :	Zhi Lu	Relative Humidity :	40~41%
Antenna Gain :	-0.48dBi	Duty Cycle :	100.00%

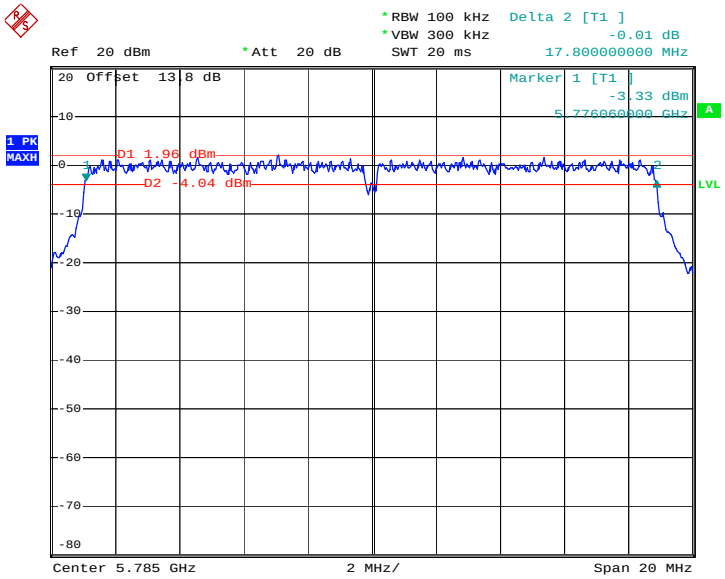
Channel	Measured Frequency (MHz)	6 dB Bandwidth (MHz)	Limit
CH 149	5745 MHz	17.80	> 0.5MHz
CH 157	5785 MHz	17.80	> 0.5MHz
CH 165	5825 MHz	17.80	> 0.5MHz

6 dB Bandwidth Plot on 802.11 n HT20 Channel 149



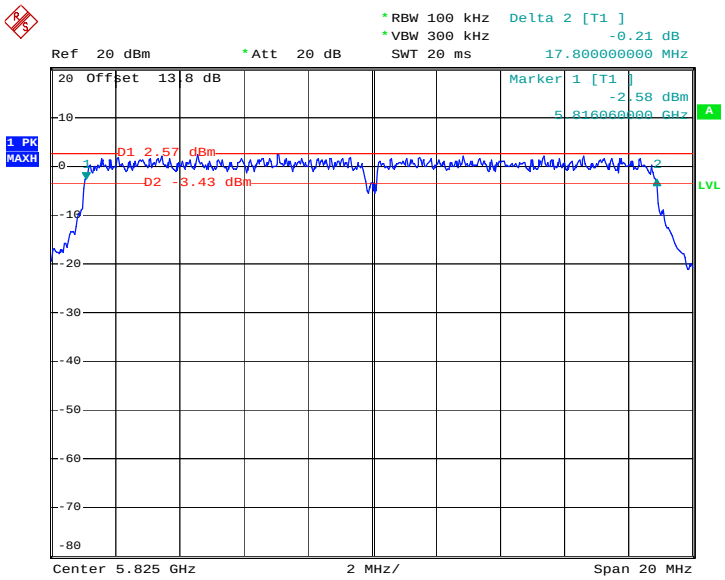
Date: 30.JAN.2013 02:22:00

6 dB Bandwidth Plot on 802.11 n HT20 Channel 157



Date: 30.JAN.2013 02:26:12

6 dB Bandwidth Plot on 802.11 n HT20 Channel 165

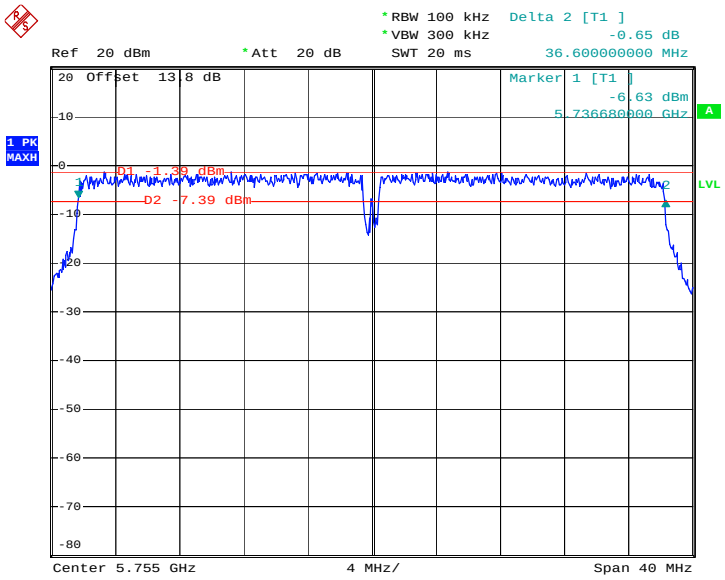


Date: 30.JAN.2013 02:31:15

EUT Mode :	802.11n HT40	Temperature :	20~21℃
Test Engineer :	Zhi Lu	Relative Humidity :	40~41%
Antenna Gain :	-0.48dBi	Duty Cycle :	100.00%

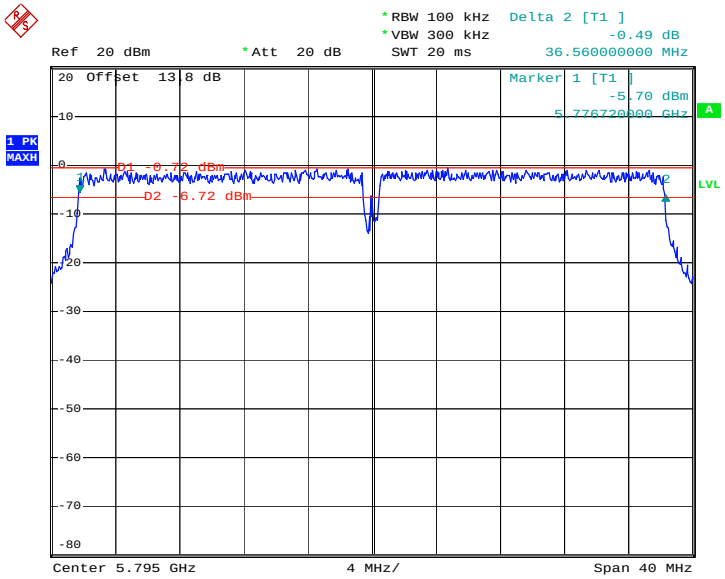
Channel	Measured Frequency (MHz)	6 dB Bandwidth (MHz)	Limit
CH 151	5755 MHz	36.60	> 0.5MHz
CH 159	5795 MHz	36.56	> 0.5MHz

6 dB Bandwidth Plot on 802.11 n HT40 Channel 151



Date: 30.JAN.2013 02:34:06

6 dB Bandwidth Plot on 802.11 n HT40 Channel 159



Date: 30.JAN.2013 02:37:01

3.4 Transmitter Frequency Range (SUBCLAUSE 8.4)

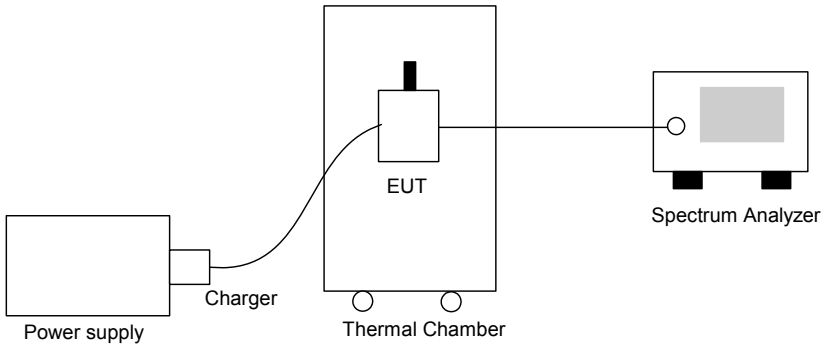
3.4.1 Measuring Instruments

See list of measuring instruments of this test report.

3.4.2 Test Procedure

1. Placing the EUT in thermal chamber.
2. The transmitter output port was connected to the spectrum analyzer.
3. Connecting the charger to power supply.
4. The settings on spectrum analyzer are 100 kHz RBW and 100 kHz VBW.
5. Setting thermal chamber temperature and power supply voltage at suitable value.
6. Recording f_L or f_H according subclause 8.4.
7. Repeating step 5 and 6 at different conditions and different channel.

3.4.3 Test Setup Layout:



3.4.4 Test Result of Transmitter Frequency Range

EUT Mode :	Bluetooth BDR (1Mbps)	**Temperature :**	20~21℃
Test Engineer :	Zhi Lu	**Relative Humidity :**	40~41%
Antenna Gain :	1.37dBi	**Duty Cycle :**	78.45%

TEST CONDITIONS				**FREQUENCY (MHz) at which –80 dBm/Hz occurs**	
				CH 00 2402 MHz	**CH 78 2480 MHz**
T nom (℃)	25	V nom (V)	6.5	2401.34	2480.62
T min (℃)	-20	V max (V)	7.5	2401.36	2480.64
		V min (V)	5.0	2401.36	2480.64
T max (℃)	55	V max (V)	7.5	2401.34	2480.62
		V min (V)	5.0	2401.34	2480.62
Measured frequencies (lowest and highest)				f_L = 2401.34	f_H = 2480.64
Measurement uncertainty				1×10^{-5}	

LIMITS : SUBCLAUSE 8.4.1.1

Under all Test Conditions	f_L > 2400.0 MHz f_H < 2483.5 MHz

Limit kept Yes V No

EUT Mode :	Bluetooth EDR (2Mbps)	**Temperature :**	20~21℃
Test Engineer :	Zhi Lu	**Relative Humidity :**	40~41%
Antenna Gain :	1.37dBi	**Duty Cycle :**	33.23%

TEST CONDITIONS				**FREQUENCY (MHz) at which –80 dBm/Hz occurs**	
				CH 00 2402 MHz	**CH 78 2480 MHz**
T nom (℃)	25	V nom (V)	6.5	2401.30	2480.66
T min (℃)	-20	V max (V)	7.5	2401.30	2480.66
		V min (V)	5.0	2401.30	2480.66
T max (℃)	55	V max (V)	7.5	2401.30	2480.66
		V min (V)	5.0	2401.30	2480.66
Measured frequencies (lowest and highest)				f_L = 2401.30	f_H = 2480.66
Measurement uncertainty				1×10^{-5}	

LIMITS : SUBCLAUSE 8.4.1.1

Under all Test Conditions	f_L > 2400.0 MHz f_H < 2483.5 MHz

Limit kept Yes V No

EUT Mode :	Bluetooth EDR (3Mbps)	**Temperature :**	20~21℃
Test Engineer :	Zhi Lu	**Relative Humidity :**	40~41%
Antenna Gain :	1.37dBi	**Duty Cycle :**	32.59%

TEST CONDITIONS				**FREQUENCY (MHz) at which –80 dBm/Hz occurs**	
				CH 00 2402 MHz	**CH 78 2480 MHz**
T nom (℃)	25	V nom (V)	6.5	2401.32	2480.68
T min (℃)	-20	V max (V)	7.5	2401.32	2480.68
		V min (V)	5.0	2401.32	2480.68
T max (℃)	55	V max (V)	7.5	2401.30	2480.68
		V min (V)	5.0	2401.30	2480.68
Measured frequencies (lowest and highest)				f_L = 2401.30	f_H = 2480.68
Measurement uncertainty				1×10^{-5}	

LIMITS : SUBCLAUSE 8.4.1.1

Under all Test Conditions	f_L > 2400.0 MHz f_H < 2483.5 MHz

Limit kept Yes V No

EUT Mode :	802.11b	Temperature :	20~21℃
Test Engineer :	Zhi Lu	Relative Humidity :	40~41%
Antenna Gain :	0.12dBi	Duty Cycle :	100.00%

TEST CONDITIONS				FREQUENCY (MHz) at which –80 dBm/Hz occurs	
				CH 01 2412 MHz	CH 13 2472 MHz
T nom (℃)	25	V nom (V)	6.5	2404.32	2480.04
T min (℃)	-20	V max (V)	7.5	2403.78	2480.28
		V min (V)	5.0	2403.72	2480.28
T max (℃)	55	V max (V)	7.5	2403.84	2479.92
		V min (V)	5.0	2403.84	2479.92
Measured frequencies (lowest and highest)				f_L = 2403.72	f_H = 2480.28
Measurement uncertainty				1×10^{-5}	

LIMITS : SUBCLAUSE 8.4.1.1

Under all Test Conditions	f_L > 2400.0 MHz f_H < 2483.5 MHz

Limit kept Yes V No

EUT Mode :	802.11g	**Temperature :**	20~21℃
Test Engineer :	Zhi Lu	**Relative Humidity :**	40~41%
Antenna Gain :	0.12dBi	**Duty Cycle :**	100.00%

TEST CONDITIONS				**FREQUENCY (MHz) at which –80 dBm/Hz occurs**	
				CH 01 2412 MHz	**CH 13 2472 MHz**
T nom (℃)	25	V nom (V)	6.5	2403.18	2480.76
T min (℃)	-20	V max (V)	7.5	2403.00	2480.82
		V min (V)	5.0	2403.00	2480.82
T max (℃)	55	V max (V)	7.5	2403.24	2480.34
		V min (V)	5.0	2403.24	2480.34
Measured frequencies (lowest and highest)				f_L = 2403.00	f_H = 2480.82
Measurement uncertainty				1×10^{-5}	

LIMITS : SUBCLAUSE 8.4.1.1

Under all Test Conditions	f_L > 2400.0 MHz f_H < 2483.5 MHz

Limit kept Yes V No

EUT Mode :	802.11n HT20	**Temperature :**	20~21℃
Test Engineer :	Zhi Lu	**Relative Humidity :**	40~41%
Antenna Gain :	0.12dBi	**Duty Cycle :**	100.00%

TEST CONDITIONS				**TRANSMITTER POWER EIRP (AVERAGE) (dBm)**	
				CH 01 2412 MHz	**CH 13 2472 MHz**
T nom (℃)	25	V nom(V)	6.5	2402.58	2481.36
T min (℃)	-20	V max(V)	7.5	2402.52	2481.42
		V min(V)	5.0	2402.52	2481.42
T max (℃)	55	V max(V)	7.5	2402.58	2481.36
		V min(V)	5.0	2402.58	2481.36
Measured frequencies (lowest and highest)				f_L = 2402.52	f_H = 2481.42
Measurement uncertainty				1.5dB	

LIMITS : SUBCLAUSE 8.4.1.1

Under all Test Conditions	f_L > 2400.0 MHz f_H < 2483.5 MHz

Limit kept Yes V No

EUT Mode :	802.11n HT40	**Temperature :**	20~21℃
Test Engineer :	Zhi Lu	**Relative Humidity :**	40~41%
Antenna Gain :	0.12dBi	**Duty Cycle :**	100.00%

TEST CONDITIONS				**TRANSMITTER POWER EIRP (AVERAGE) (dBm)**	
				CH 03 2422 MHz	**CH 11 2462 MHz**
T nom (℃)	25	V nom(V)	6.5	2403.34	2480.63
T min (℃)	-20	V max(V)	7.5	2403.25	2480.81
		V min(V)	5.0	2403.25	2480.81
T max (℃)	55	V max(V)	7.5	2403.43	2480.54
		V min(V)	5.0	2403.43	2480.54
Measured frequencies (lowest and highest)				f_L = 2403.25	f_H = 2480.81
Measurement uncertainty				1.5dB	

LIMITS : SUBCLAUSE 8.4.1.1

Under all Test Conditions	f_L > 2400.0 MHz f_H < 2483.5 MHz

Limit kept Yes V No

EUT Mode :	802.11a	Temperature :	20~21℃
Test Engineer :	Zhi Lu	Relative Humidity :	40~41%
Antenna Gain :	0.05dBi	Duty Cycle :	100.00%

TEST CONDITIONS				Measured Frequency (MHz)			
				CH 36 5180MHz		CH 48 5240MHz	
T nom (℃)	25	V nom (V)	6.5	5171.60	5188.32	5231.60	5248.32
T min (℃)	-10	V max (V)	7.5	5171.68	5188.40	5231.68	5248.40
		V min (V)	5.0	5171.68	5188.40	5231.68	5248.40
T max (℃)	55	V max (V)	7.5	5171.60	5188.32	5231.60	5248.32
		V min (V)	5.0	5171.60	5188.32	5231.60	5248.32
Measured frequencies (lowest and highest)				f_L = 5171.60		f_H = 5239.96	
Measurement uncertainty				1×10^{-5}			

LIMITS : SUBCLAUSE 8.4.1.1

Under all Test Conditions	f_L > 5150.0 MHz f_H < 5350.0 MHz

Limit kept Yes V No

EUT Mode :	802.11a	Temperature :	20~21℃
Test Engineer :	Zhi Lu	Relative Humidity :	40~41%
Antenna Gain :	-0.48dBi	Duty Cycle :	100.00%

TEST CONDITIONS				Measured Frequency (MHz)	
				CH 149 5745MHz	CH 165 5825MHz
T nom (℃)	25	V nom (V)	6.5	5735.70	5834.42

LIMITS : SUBCLAUSE 8.4.1.1

Under all Test Conditions	f_L > 5725.0 MHz f_H < 5850.0 MHz

Limit kept Yes V No

EUT Mode :	802.11n HT20	**Temperature :**	20~21℃
Test Engineer :	Zhi Lu	**Relative Humidity :**	40~41%
Antenna Gain :	0.05dBi	**Duty Cycle :**	100.00%

TEST CONDITIONS				**Measured Frequency (MHz)**			
				CH 36 5180MHz		**CH 48 5240MHz**	
T nom (℃)	25	V nom (V)	6.5	5171.04	5188.96	5231.04	5248.96
T min (℃)	-10	V max (V)	7.5	5171.04	5189.04	5231.04	5249.04
		V min (V)	5.0	5171.04	5189.04	5231.04	5249.04
T max (℃)	55	V max (V)	7.5	5171.04	5188.96	5230.96	5248.96
		V min (V)	5.0	5171.04	5188.96	5231.04	5248.96
Measured frequencies (lowest and highest)				f_L = 5180.00		f_H = 5240.00	
Measurement uncertainty				1×10^{-5}			

LIMITS : SUBCLAUSE 8.4.1.1

Under all Test Conditions	f_L > 5150.0 MHz f_H < 5350.0 MHz

Limit kept Yes V No

EUT Mode :	802.11n HT20	**Temperature :**	20~21℃
Test Engineer :	Zhi Lu	**Relative Humidity :**	40~41%
Antenna Gain :	-0.48dBi	**Duty Cycle :**	100.00%

TEST CONDITIONS				**Measured Frequency (MHz)**	
				CH 149 5745MHz	**CH 165 5825MHz**
T nom (℃)	25	V nom (V)	6.5	5735.52	5834.94

LIMITS : SUBCLAUSE 8.4.1.1

Under all Test Conditions	f_L > 5725.0 MHz f_H < 5850.0 MHz

Limit kept Yes V No

EUT Mode :	802.11n HT40	Temperature :	20~21℃
Test Engineer :	Zhi Lu	Relative Humidity :	40~41%
Antenna Gain :	0.05dBi	Duty Cycle :	100.00%

TEST CONDITIONS				Measured Frequency (MHz)			
				CH38 5190MHz		CH46 5230MHz	
T nom (℃)	25	V nom (V)	6.5	5171.60	5208.40	5211.60	5248.40
T min (℃)	-10	V max (V)	7.5	5171.60	5208.40	5211.76	5248.40
		V min (V)	5.0	5171.52	5208.40	5211.60	5248.40
T max (℃)	55	V max (V)	7.5	5171.60	5208.40	5211.52	5248.40
		V min (V)	5.0	5171.60	5208.40	5211.52	5248.40
Measured frequencies (lowest and highest)				f_L = 5190.00		f_H = 5229.96	
Measurement uncertainty				1×10^{-5}			

LIMITS : SUBCLAUSE 8.4.1.1

Under all Test Conditions	f_L > 5470.0 MHz f_H < 5725.0 MHz

Limit kept Yes V No

EUT Mode :	802.11n HT40	Temperature :	20~21℃
Test Engineer :	Zhi Lu	Relative Humidity :	40~41%
Antenna Gain :	-0.48dBi	Duty Cycle :	100.00%

TEST CONDITIONS				Measured Frequency (MHz)	
				CH 151 5755MHz	CH 159 5795MHz
T nom (℃)	25	V nom (V)	6.5	5735.83	5814.17

LIMITS : SUBCLAUSE 8.4.1.1

Under all Test Conditions	f_L > 5725.0 MHz f_H < 5850.0 MHz

Limit kept Yes V No

3.5 Radiated Power Spectral Density (SUBCLAUSE 8.4)

3.5.1 Measuring Instruments

See list of measuring instruments of this test report.

3.5.2 Test Procedure

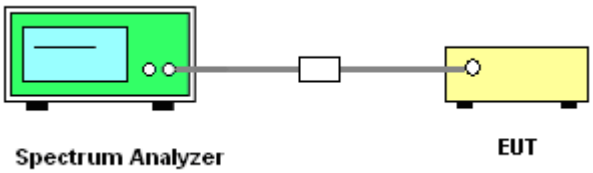
For the 2.4-2.4835GHz, and 5.725–5.850 GHz bands

1. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
2. Set to the maximum power setting and enable the EUT transmit continuously.
3. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 3 kHz. Video bandwidth VBW = 10 kHz In order to make an accurate measurement, set the span to 1.5 times DTS Channel Bandwidth. (6dB BW)
4. Detector = peak, Sweep time = auto couple, Trace mode = max hold, Allow trace to fully stabilize. Use the peak marker function to determine the maximum power level.

For the 5.15–5.25GHz bands

1. Measure and record the results in the test report.
2. The transmitter output port was connected to spectrum analyzer directly and IF port of spectrum analyzer was connected to power meter.
3. The spectrum analyzer’s resolution bandwidth was set at 1MHz RBW and 3MHz VBW under fundamental frequency.
4. The maximum radiated spectral power density, EIRP density, is determined by the conducted power density plus antenna gain with 10log (1/x), where x is the duty cycle of the EUT in continuously transmitting mode.

3.5.3 Test Setup Layout



3.5.4 Test Result of Radiated Power Spectral Density

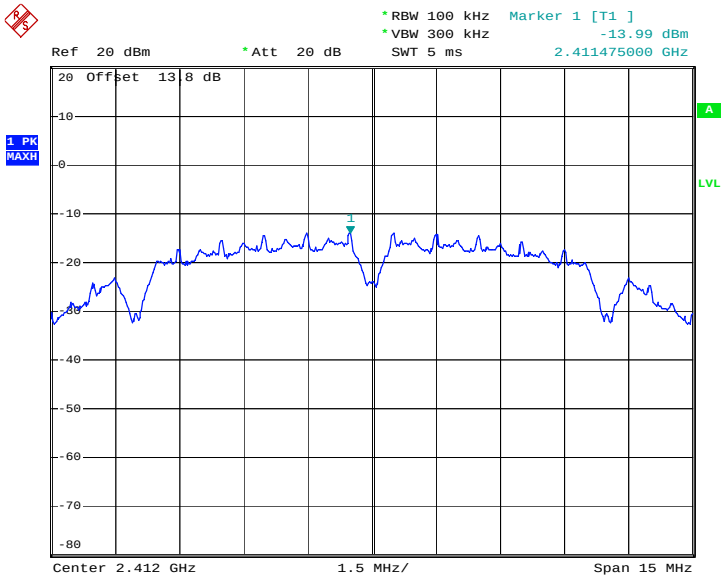
EUT Mode :	802.11b	Temperature :	20~21℃
Test Engineer :	Zhi Lu	Relative Humidity :	40~41%
Antenna Gain :	0.12 dBi	Duty Cycle :	100.00%
Cable loss	13.80dB	Duty Factor :	0.00dB

Channel	Measured Frequency (MHz)	Measured PSD/100kHz (dBm)	Measured PSD/3kHz (dBm)	Radiated Peak Power Spectral Density (e.i.r.p) (dBm)	Limit (e.i.r.p)
CH 01	2412 MHz	-13.99	-32.10	-31.98	< 14dBm per 3kHz
CH 07	2442 MHz	-11.77	-29.83	-29.71	< 14dBm per 3kHz
CH 13	2472 MHz	-13.03	-30.97	-30.85	< 14dBm per 3kHz

Note:

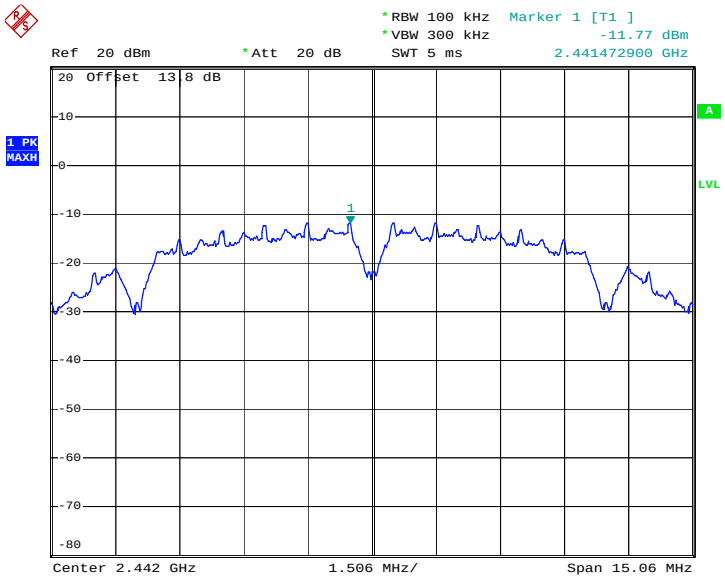
1. *Measured power density (dBm) has offset with cable loss.*
2. *The Measured power density (dBm)/ 100kHz is reference level and used as 20dBc down for Conducted Band Edges limit line.*
3. *Radiated Peak Power Spectral Density (e.i.r.p) (dBm)) = Measured PSD/3kHz (dBm) + Antenna gain (dBi).*

PSD 100kHz Plot on 802.11b Channel 01



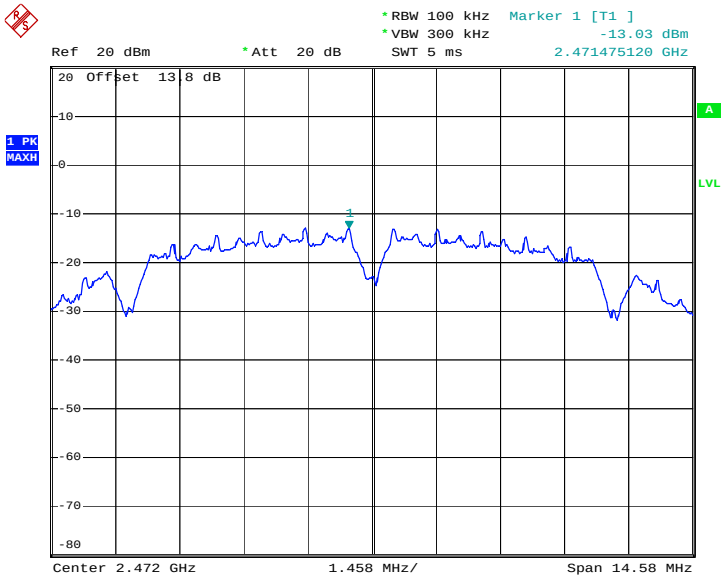
Date: 24.JAN.2013 05:39:25

PSD 100kHz Plot on 802.11b Channel 07



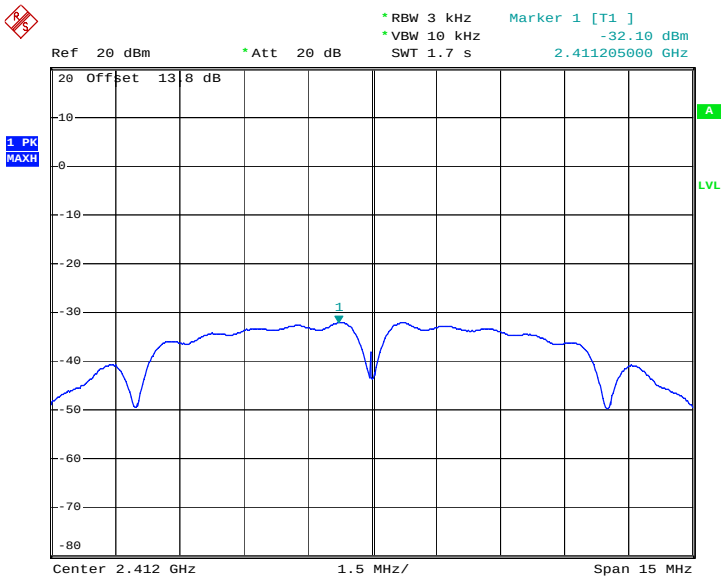
Date: 24.JAN.2013 05:48:03

PSD 100kHz Plot on 802.11b Channel 13



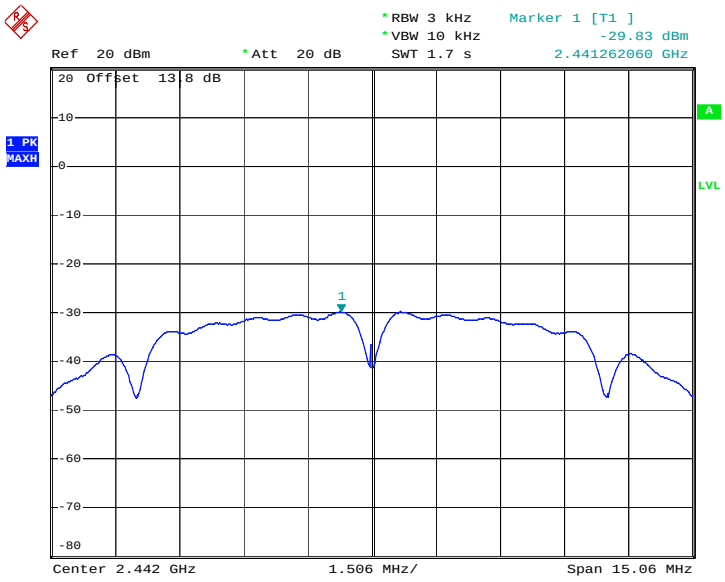
Date: 24.JAN.2013 05:52:31

PSD 3kHz Plot on 802.11b Channel 01



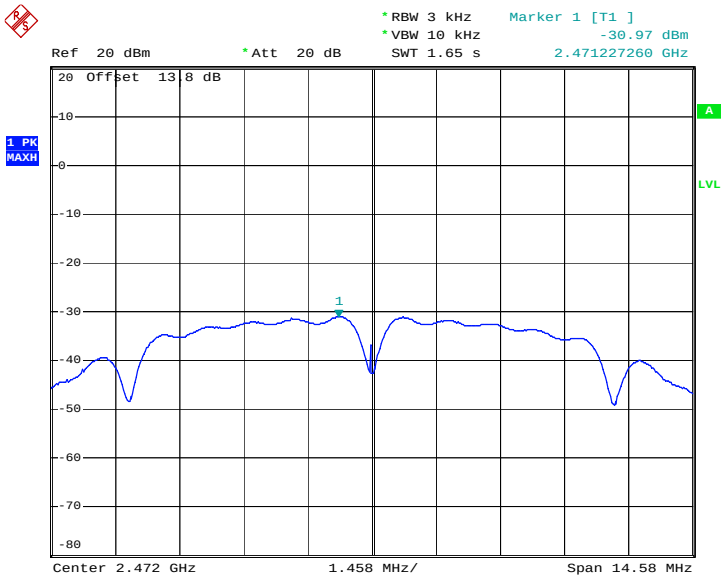
Date: 24.JAN.2013 05:39:15

PSD 3kHz Plot on 802.11b Channel 07



Date: 24.JAN.2013 05:47:53

PSD 3kHz Plot on 802.11b Channel 13



Date: 24.JAN.2013 05:52:21

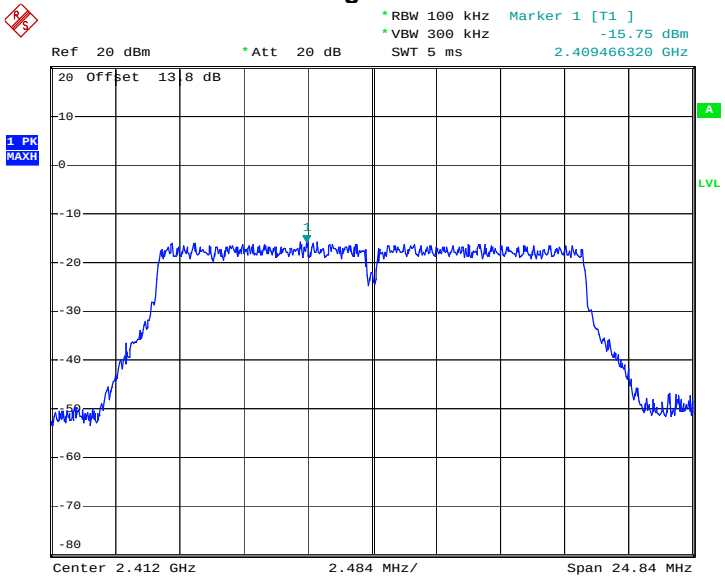
EUT Mode :	802.11g	Temperature :	20~21℃
Test Engineer :	Zhi Lu	Relative Humidity :	40~41%
Antenna Gain :	0.12dBi	Duty Cycle :	100.00%
Cable loss	13.80dB	Duty Factor :	0.00dB

Channel	Measured Frequency (MHz)	Measured PSD/100kHz (dBm)	Measured PSD/3kHz (dBm)	Radiated Peak Power Spectral Density (e.i.r.p) (dBm)	Limit (e.i.r.p)
CH 01	2412 MHz	-15.75	-29.62	-29.50	< 14dBm per 3kHz
CH 07	2442 MHz	-15.89	-30.00	-29.88	< 14dBm per 3kHz
CH 13	2472 MHz	-16.58	-30.48	-30.36	< 14dBm per 3kHz

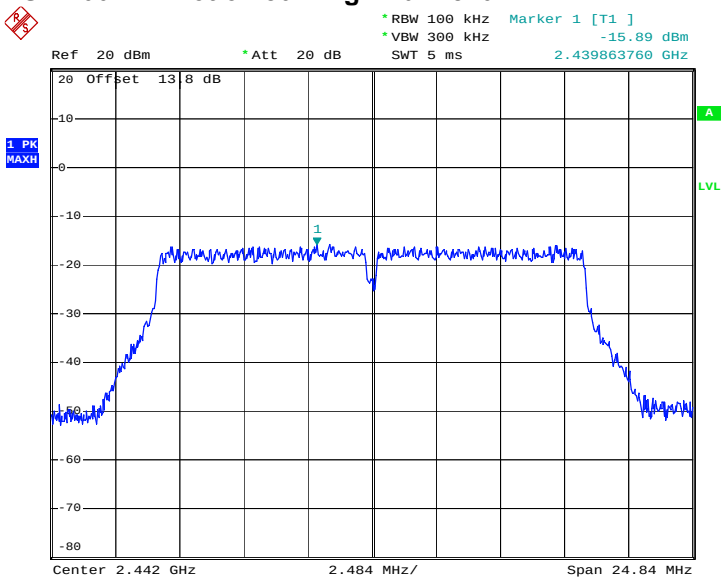
Note:

1. *Measured power density (dBm) has offset with cable loss.*
2. *The Measured power density (dBm)/ 100kHz is reference level and used as 20dBc down for Conducted Band Edges limit line.*
3. *Radiated Peak Power Spectral Density (e.i.r.p) (dBm)) = Measured PSD/3kHz (dBm) + Antenna gain (dBi).*

PSD 100kHz Plot on 802.11g Channel 01

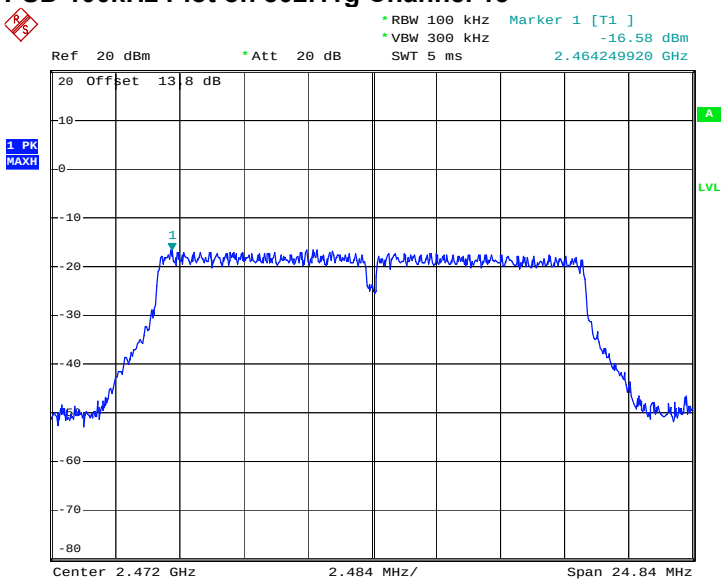


PSD 100kHz Plot on 802.11g Channel 07



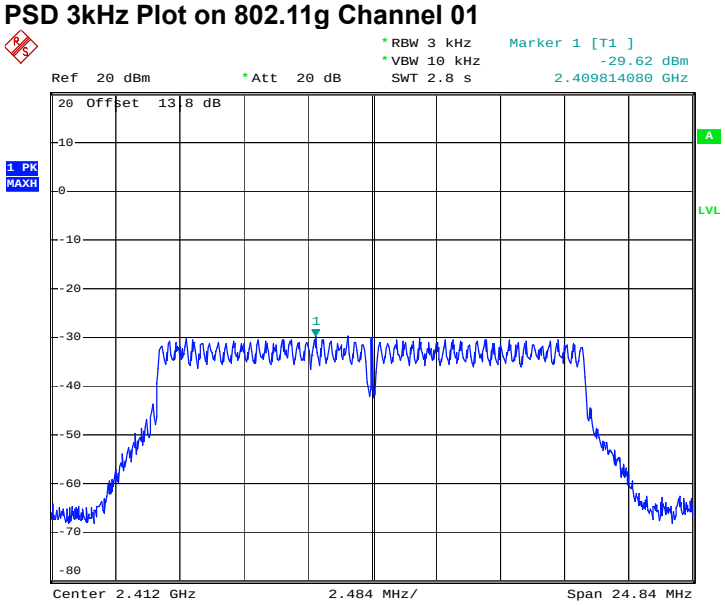
Date: 24.JAN.2013 05:58:01

PSD 100kHz Plot on 802.11g Channel 13



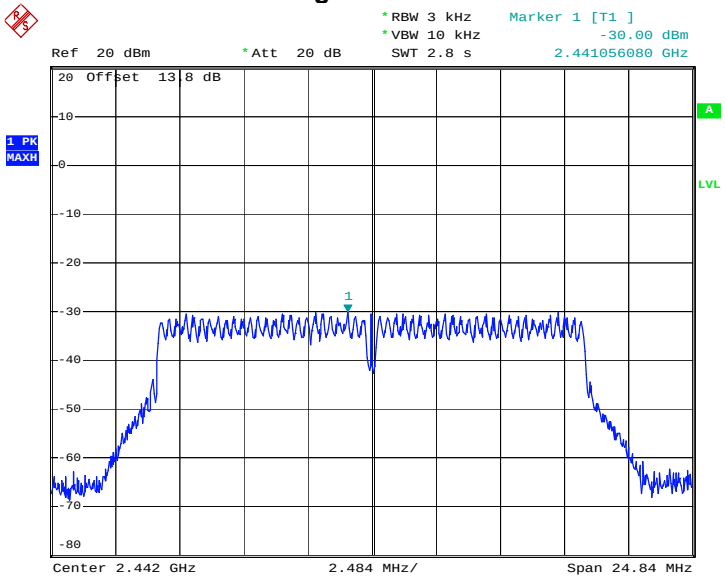
Date: 24.JAN.2013 06:00:45

PSD 3kHz Plot on 802.11g Channel 01



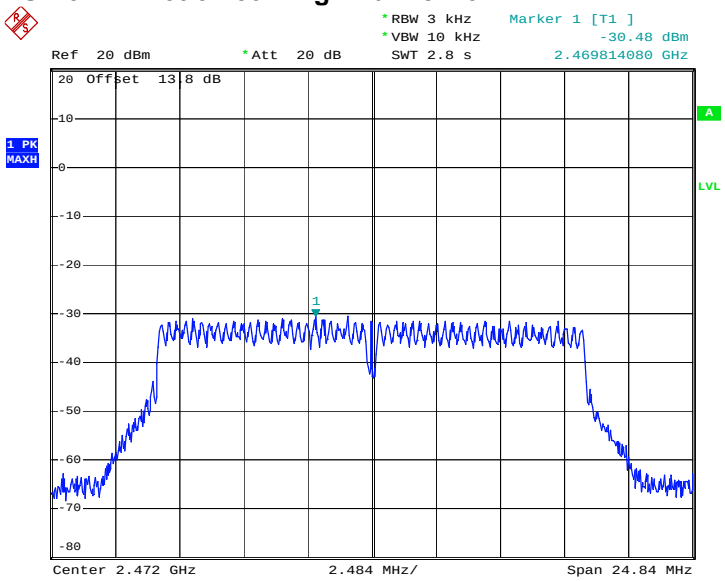
Date: 24.JAN.2013 05:55:31

PSD 3kHz Plot on 802.11g Channel 07



Date: 24.JAN.2013 05:57:51

PSD 3kHz Plot on 802.11g Channel 13



Date: 24.JAN.2013 06:00:35

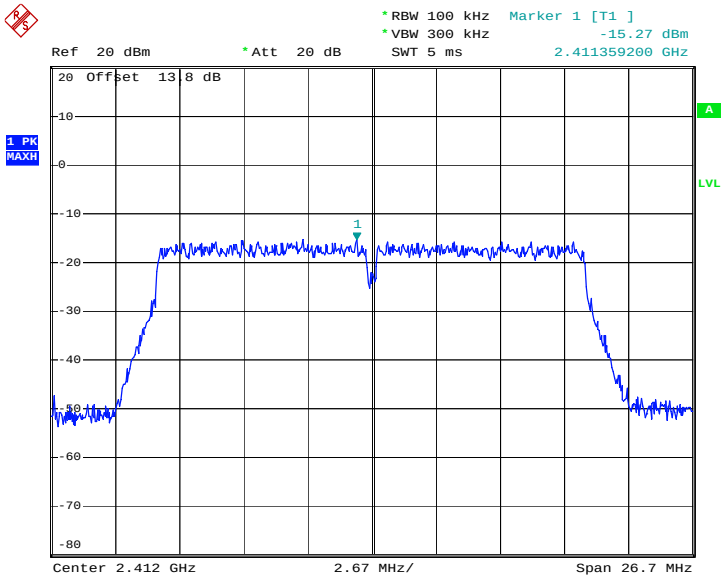
EUT Mode :	802.11n HT20	Temperature :	20~21℃
Test Engineer :	Zhi Lu	Relative Humidity :	40~41%
Antenna Gain :	0.12dBi	Duty Cycle :	100.00%
Cable loss	13.80dB	Duty Factor :	0.00dB

Channel	Measured Frequency (MHz)	Measured PSD/100kHz (dBm)	Measured PSD/3kHz (dBm)	Radiated Peak Power Spectral Density (e.i.r.p) (dBm)	Limit (e.i.r.p)
CH 01	2412 MHz	-15.27	-27.85	-27.73	< 14dBm per 3kHz
CH 07	2442 MHz	-15.62	-28.23	-28.11	< 14dBm per 3kHz
CH 13	2472 MHz	-16.47	-29.64	-29.52	< 14dBm per 3kHz

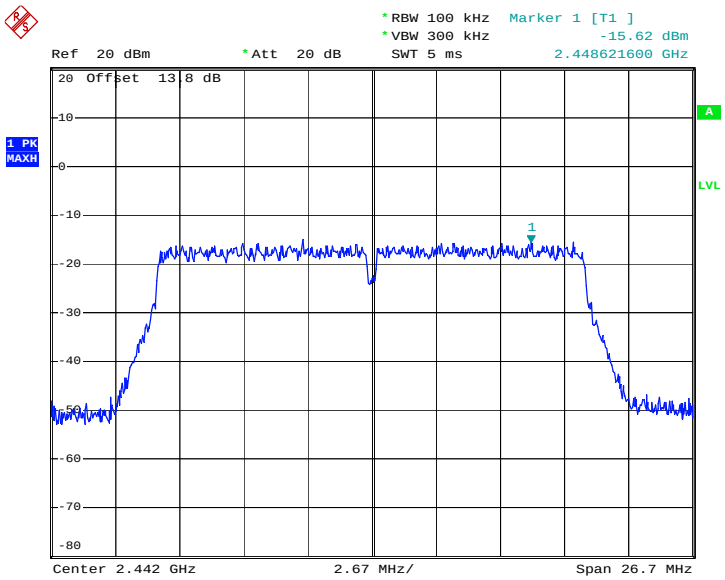
Note:

1. *Measured power density (dBm) has offset with cable loss.*
2. *The Measured power density (dBm)/ 100kHz is reference level and used as 20dBc down for Conducted Band Edges limit line.*
3. *Radiated Peak Power Spectral Density (e.i.r.p) (dBm)) = Measured PSD/3kHz (dBm) + Antenna gain (dBi).*

PSD 100kHz Plot on 802.11n HT20 Channel 01

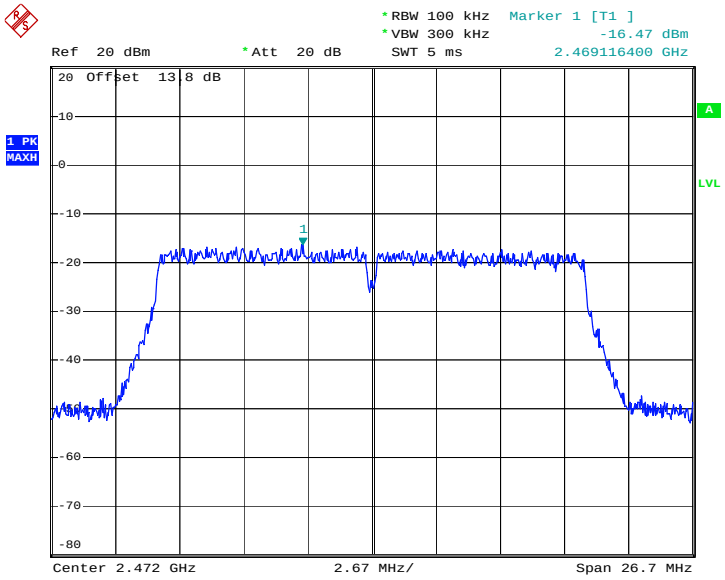


PSD 100kHz Plot on 802.11n HT20 Channel 07



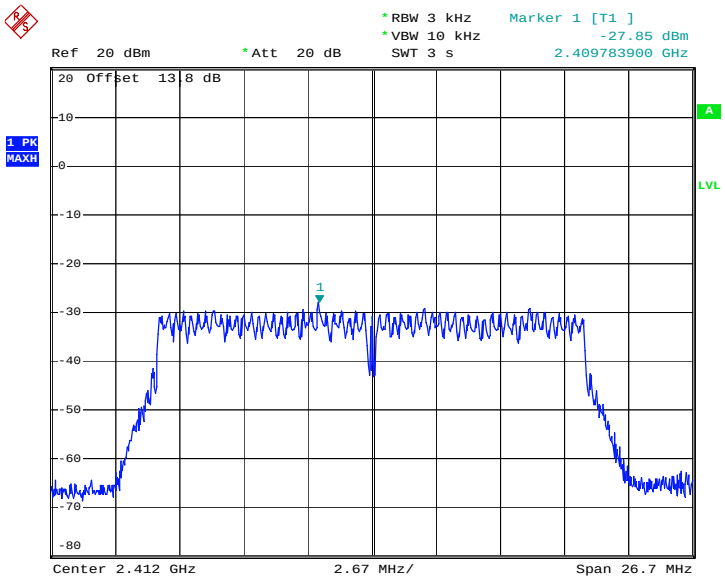
Date: 24.JAN.2013 06:06:58

PSD 100kHz Plot on 802.11n HT20 Channel 13



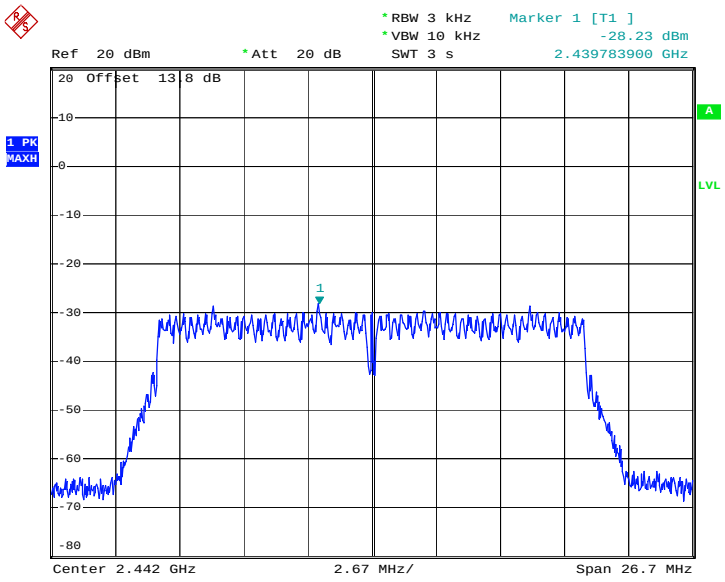
Date: 24.JAN.2013 06:09:15

PSD 3kHz Plot on 802.11n HT20 Channel 01



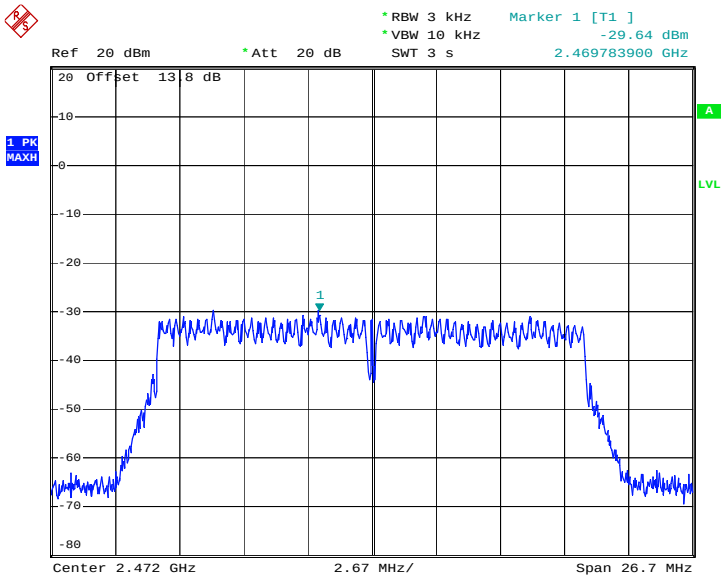
Date: 24.JAN.2013 06:04:08

PSD 3kHz Plot on 802.11n HT20 Channel 07



Date: 24.JAN.2013 06:06:48

PSD 3kHz Plot on 802.11n HT20 Channel 13



Date: 24.JAN.2013 06:09:06

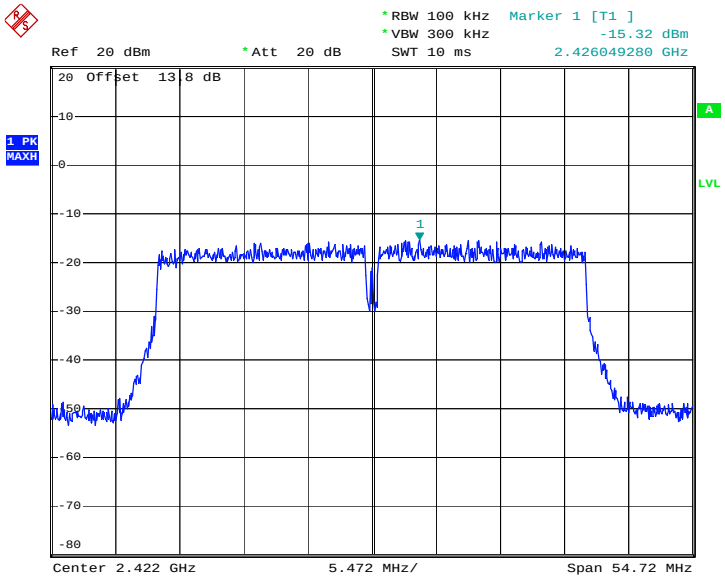
EUT Mode :	802.11n HT40	Temperature :	20~21℃
Test Engineer :	Zhi Lu	Relative Humidity :	40~41%
Antenna Gain :	0.12dBi	Duty Cycle :	100.00%
Cable loss	13.80dB	Duty Factor :	0.00dB

Channel	Measured Frequency (MHz)	Measured PSD/100kHz (dBm)	Measured PSD/3kHz (dBm)	Radiated Peak Power Spectral Density (e.i.r.p) (dBm)	Limit (e.i.r.p)
CH 03	2422 MHz	-15.32	-24.13	-24.01	< 14dBm per 3kHz
CH 07	2442 MHz	-13.97	-24.58	-24.46	< 14dBm per 3kHz
CH 11	2462 MHz	-15.63	-26.90	-26.78	< 14dBm per 3kHz

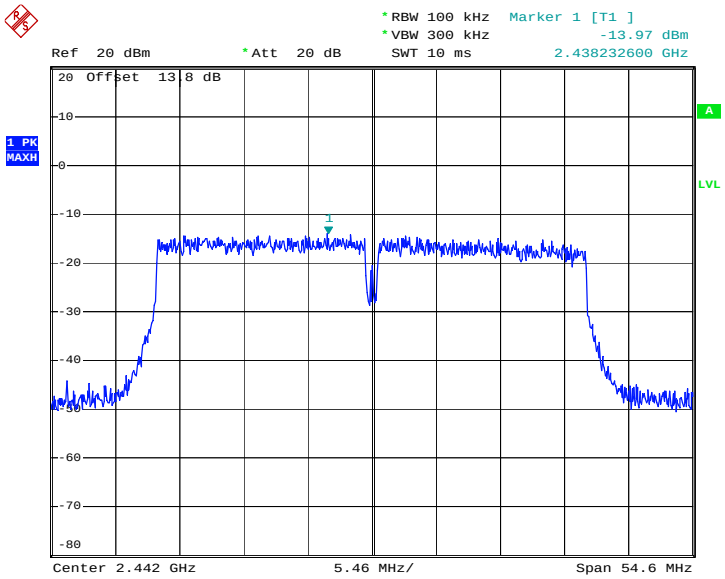
Note:

1. *Measured power density (dBm) has offset with cable loss.*
2. *The Measured power density (dBm)/ 100kHz is reference level and used as 20dBc down for Conducted Band Edges limit line.*
3. *Radiated Peak Power Spectral Density (e.i.r.p) (dBm)) = Measured PSD/3kHz (dBm) + Antenna gain (dBi).*

PSD 100kHz Plot on 802.11n HT40 Channel 03

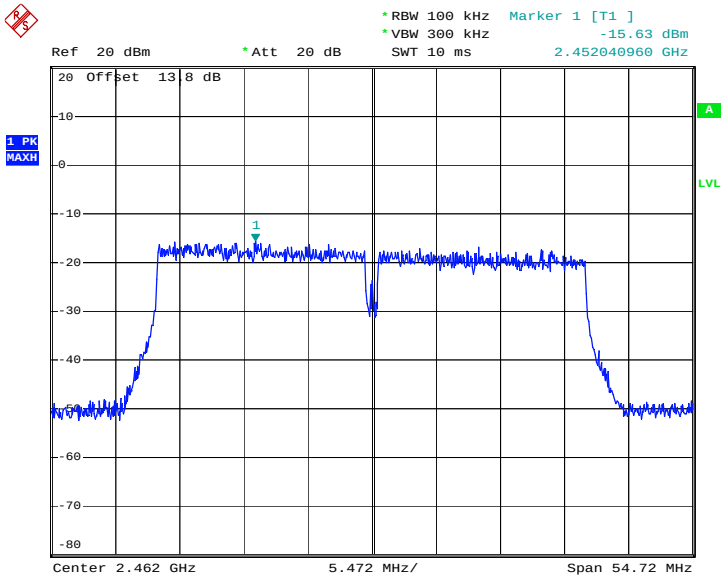


PSD 100kHz Plot on 802.11n HT40 Channel 07



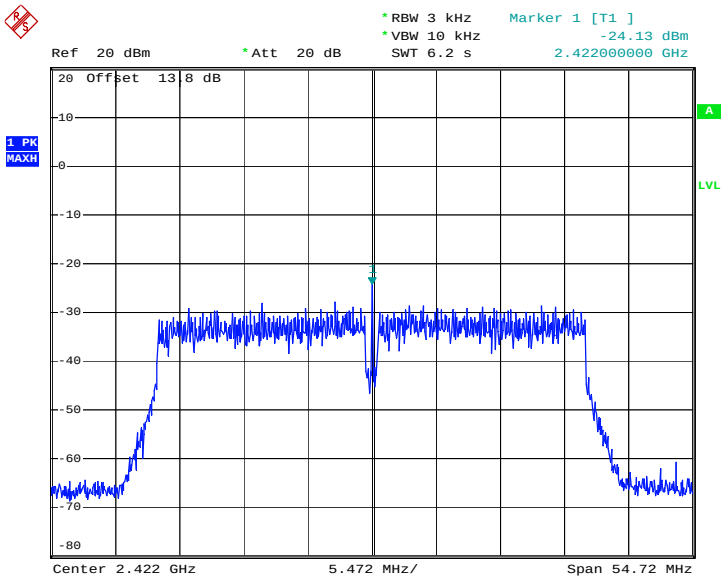
Date: 4.FEB.2013 17:49:19

PSD 100kHz Plot on 802.11n HT40 Channel 11



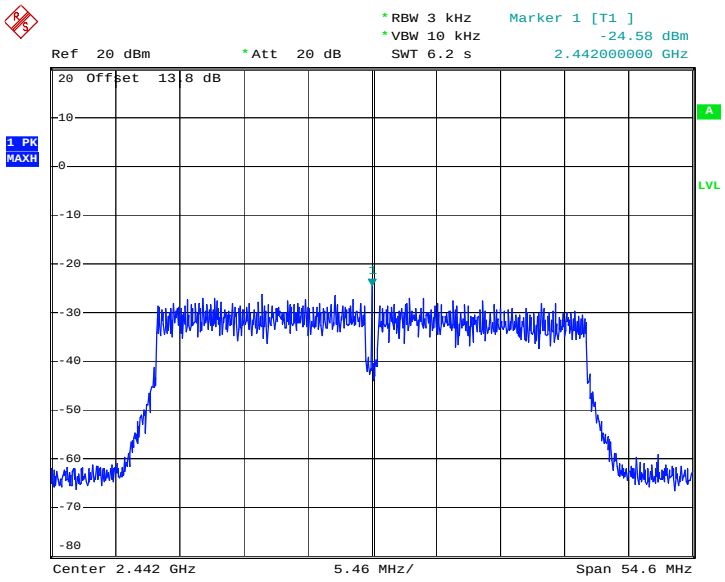
Date: 4.FEB.2013 17:56:29

PSD 3kHz Plot on 802.11n HT40 Channel 03



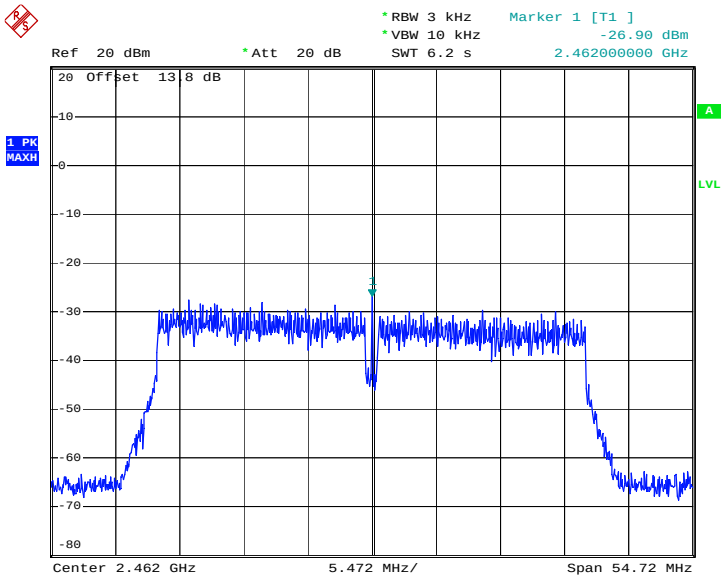
Date: 4.FEB.2013 17:39:49

PSD 3kHz Plot on 802.11n HT40 Channel 07



Date: 4.FEB.2013 17:49:09

PSD 3kHz Plot on 802.11n HT40 Channel 11



Date: 4.FEB.2013 17:56:19

EUT Mode :	802.11a	Temperature :	20~21℃
Test Engineer :	Zhi Lu	Relative Humidity :	40~41%
Antenna Gain :	0.05dBi	Duty Cycle :	100.00%
Cable loss	13.80dB	Duty Factor :	0.00dB

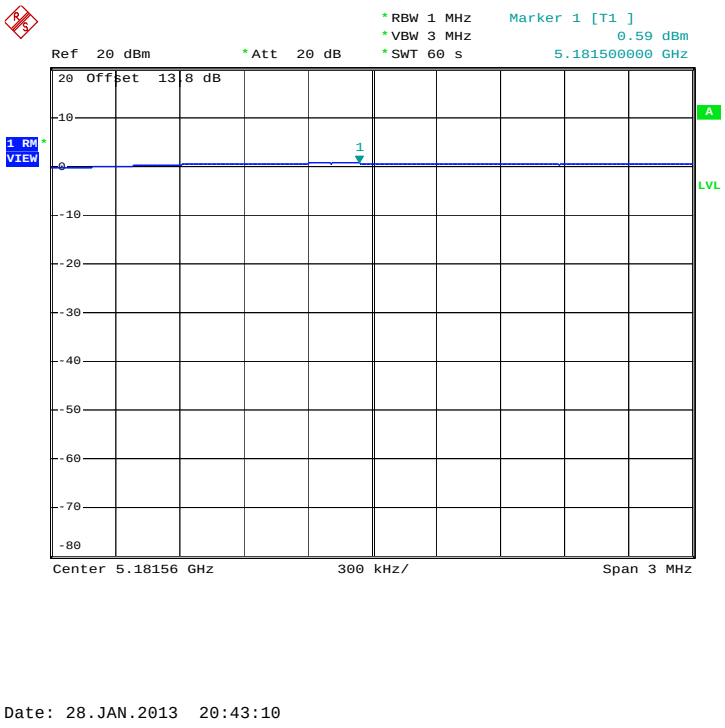
Channel	Measured Frequency (MHz)	Conducted Power Density (dBm/MHz)	EIRP Density (dBm/MHz)	Power Density (W/MHz)	Limit (mW/MHz)
CH36	5180MHz	0.59	0.64	0.001	10
CH48	5240MHz	1.83	1.88	0.002	10

Note:

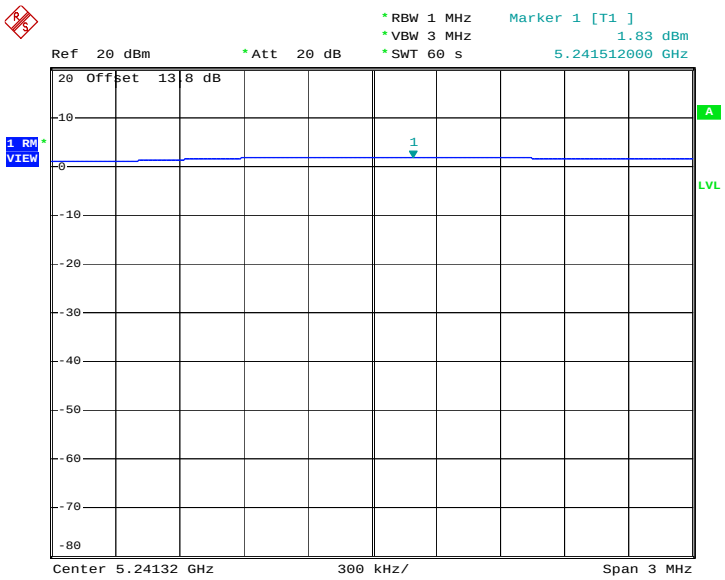
1. Measured power density (dBm) has offset with cable loss.

2. Maximum Spectral Power Density EIRP(dBm) = Measured power density (dBm) + Antenna gain (dBi) + duty factor.

PSD Plot on 802.11a Channel 36



PSD Plot on 802.11a Channel 48



Date: 28.JAN.2013 20:39:54

EUT Mode :	802.11n HT20	Temperature :	20~21℃
Test Engineer :	Zhi Lu	Relative Humidity :	40~41%
Antenna Gain :	0.05dBi	Duty Cycle :	100.00%
Cable loss	13.80dB	Duty Factor :	0.00dB

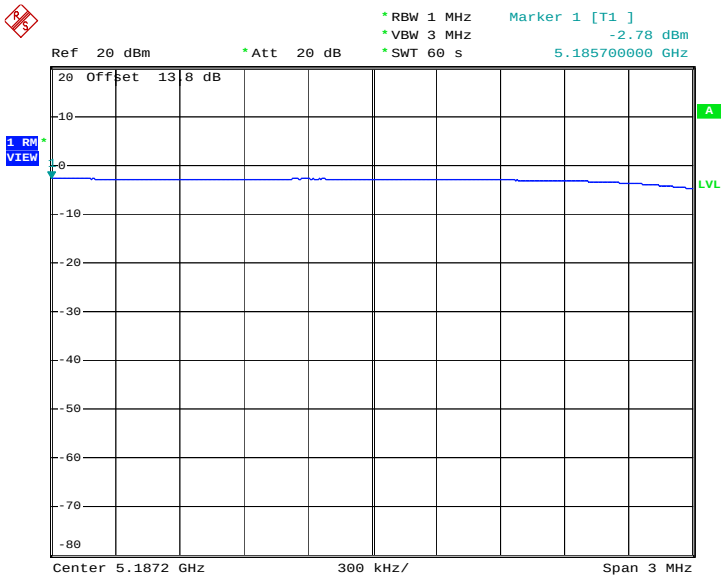
Channel	Measured Frequency (MHz)	Conducted Power Density (dBm/MHz)	EIRP Density (dBm/MHz)	Power Density (W/MHz)	Limit (mW/MHz)
CH036	5180MHz	-2.78	-2.73	0.001	10
CH048	5240MHz	0.77	0.82	0.001	10

Note:

1. Measured power density (dBm) has offset with cable loss.

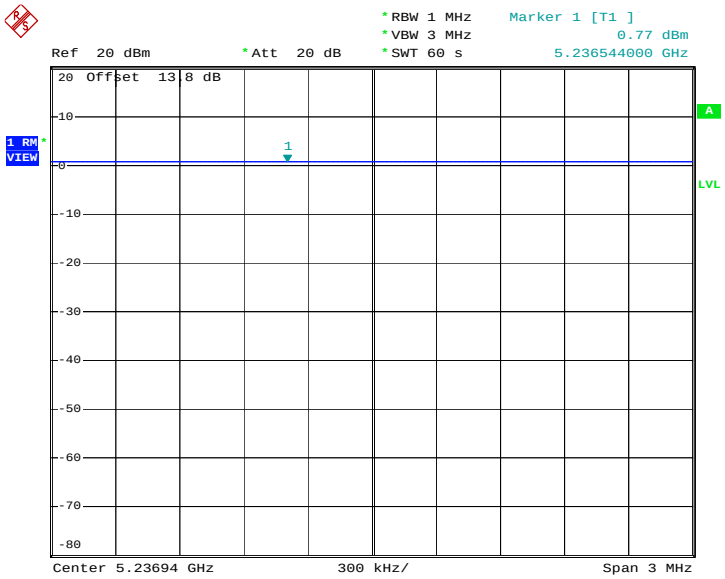
2. Maximum Spectral Power Density EIRP(dBm) = Measured power density (dBm) + Antenna gain (dBi) + duty factor.

PSD Plot on 802.11n HT20 Channel 36



Date: 28.JAN.2013 20:32:55

PSD Plot on 802.11n HT20 Channel 48



Date: 28.JAN.2013 20:36:24

EUT Mode :	802.11n HT40	Temperature :	20~21℃
Test Engineer :	Zhi Lu	Relative Humidity :	40~41%
Antenna Gain :	0.05dBi	Duty Cycle :	100.00%
Cable loss	13.80dB	Duty Factor :	0.00dB

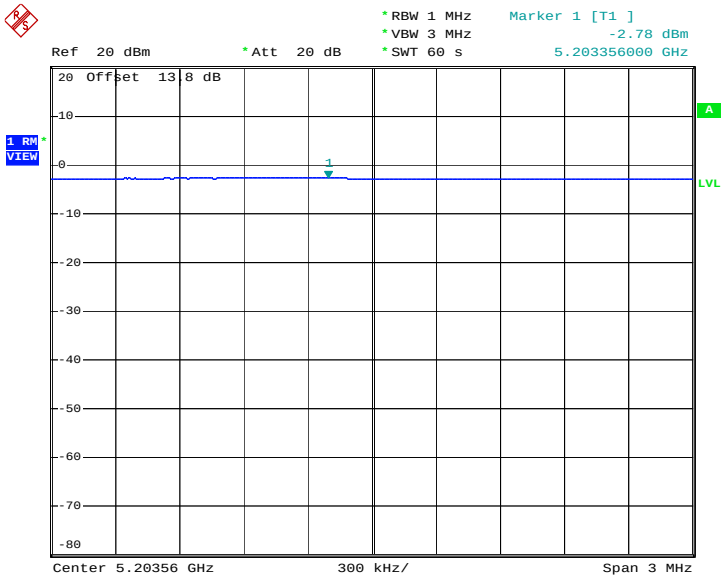
Channel	Measured Frequency (MHz)	Conducted Power Density (dBm/MHz)	EIRP Density (dBm/MHz)	Power Density (W/MHz)	Limit (mW/MHz)
CH 38	5190MHz	-2.78	-2.73	0.001	10
CH 46	5230MHz	-2.42	-2.37	0.001	10

Note:

1. Measured power density (dBm) has offset with cable loss.

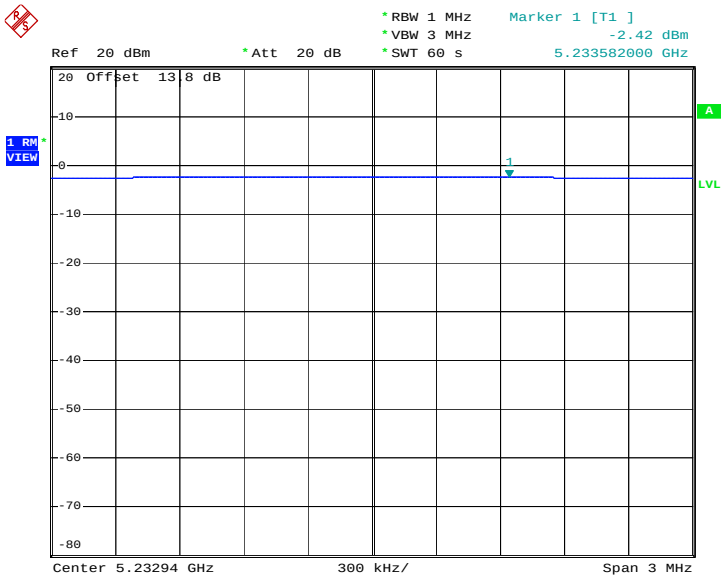
2. Maximum Spectral Power Density EIRP(dBm) = Measured power density (dBm) + Antenna gain (dBi) + duty factor.

PSD Plot on 802.11n HT40 Channel 38



Date: 28.JAN.2013 20:14:56

PSD Plot on 802.11n HT40 Channel 46



Date: 28.JAN.2013 20:11:14

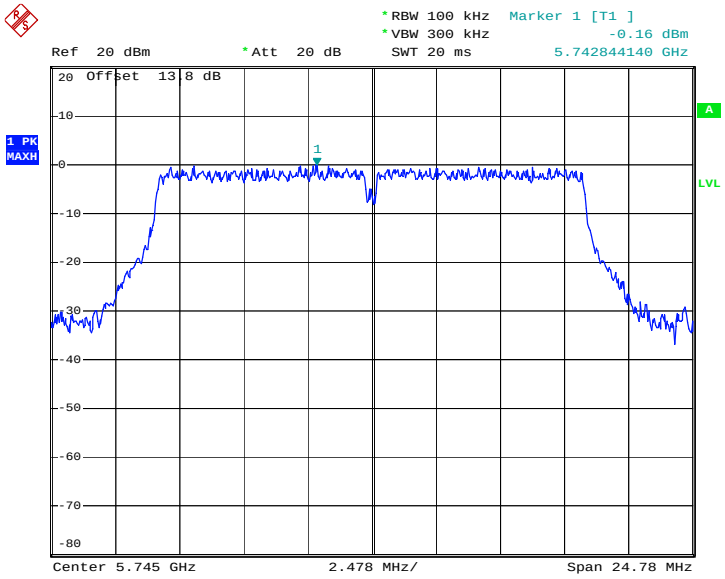
EUT Mode :	802.11a	Temperature :	20~21℃
Test Engineer :	Zhi Lu	Relative Humidity :	40~41%
Antenna Gain :	-0.48dBi	Duty Cycle :	100.00%
Cable loss	13.80dB	Duty Factor :	0.00dB

Channel	Measured Frequency (MHz)	Measured PSD/100kHz (dBm)	Measured PSD/3kHz (dBm)	Radiated Peak Power Spectral Density (e.i.r.p) (dBm)	Limit (e.i.r.p)
CH 149	5745 MHz	-0.16	-10.05	-10.53	< 14dBm per 3kHz
CH 157	5785 MHz	0.43	-10.73	-11.21	< 14dBm per 3kHz
CH 165	5825 MHz	0.83	-10.48	-10.96	< 14dBm per 3kHz

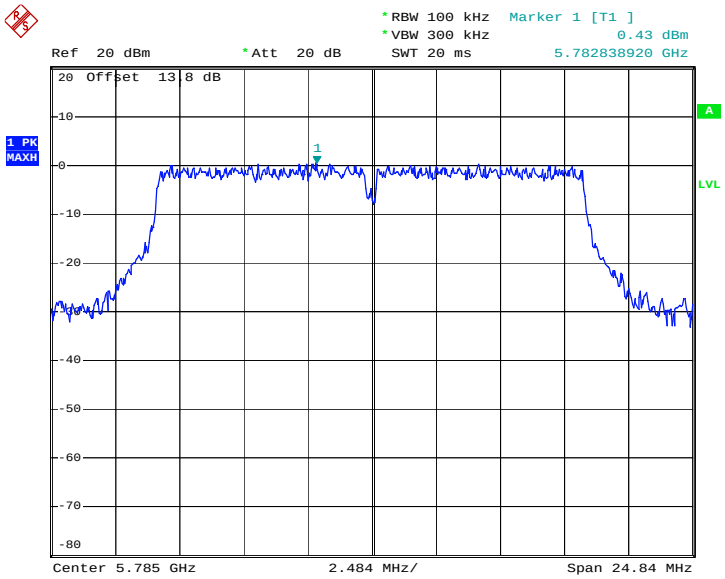
Note:

1. *Measured power density (dBm) has offset with cable loss.*
2. *The Measured power density (dBm)/ 100kHz is reference level and used as 20dBc down for Conducted Band Edges limit line.*
3. *Radiated Peak Power Spectral Density (e.i.r.p) (dBm)) = Measured PSD/3kHz (dBm) + Antenna gain (dBi).*

PSD 100kHz Plot on 802.11a Channel 149

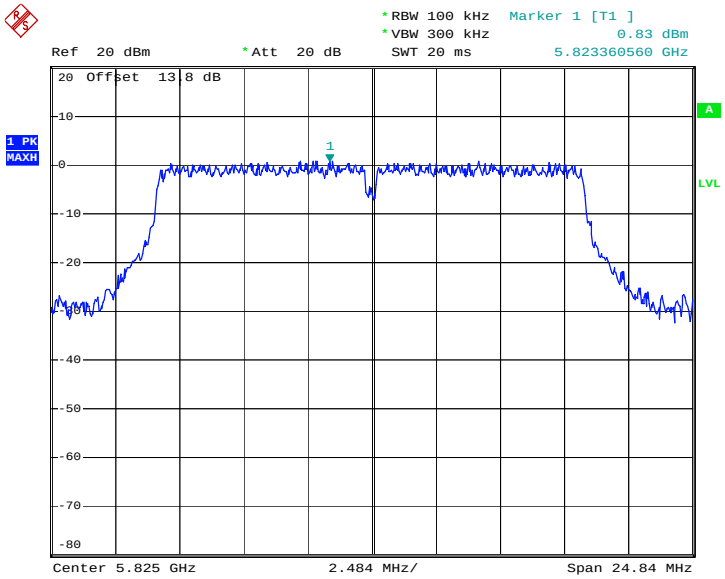


PSD 100kHz Plot on 802.11a Channel 157



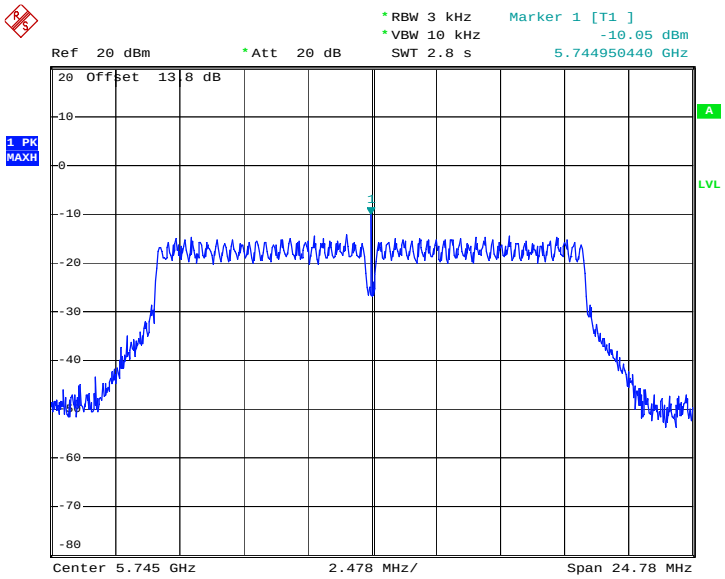
Date: 30.JAN.2013 02:06:05

PSD 100kHz Plot on 802.11a Channel 165



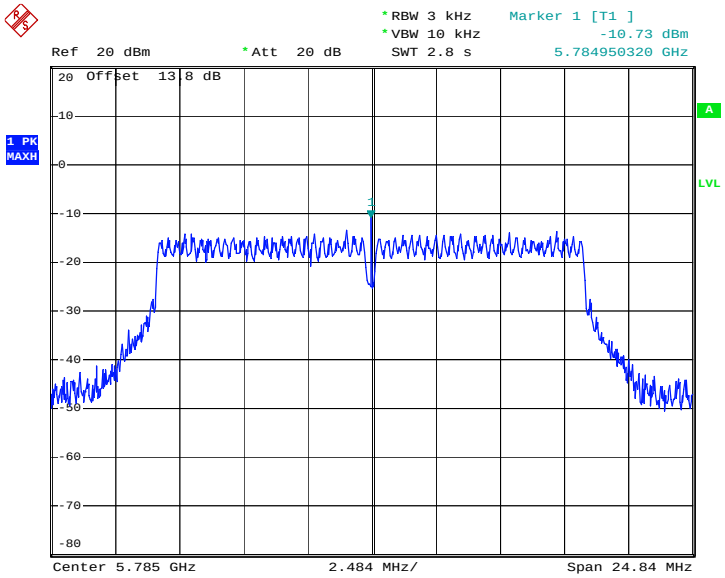
Date: 30.JAN.2013 02:09:19

PSD 3kHz Plot on 802.11a Channel 149



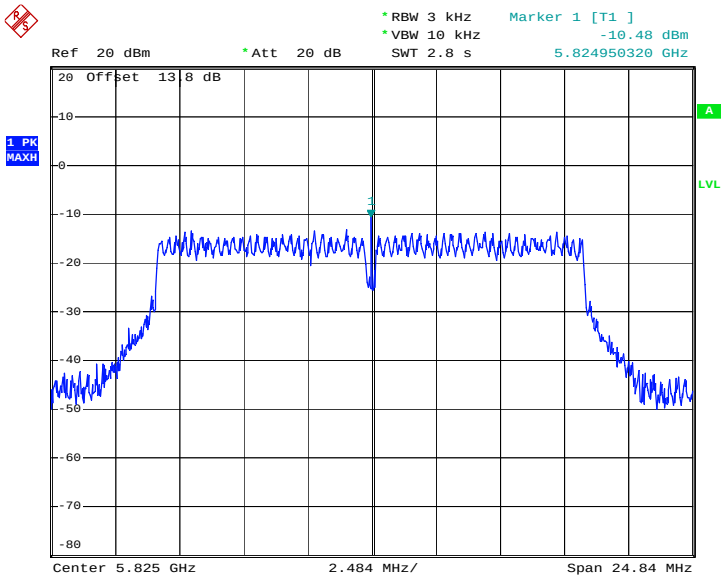
Date: 30.JAN.2013 02:17:54

PSD 3kHz Plot on 802.11a Channel 157



Date: 30.JAN.2013 02:05:55

PSD 3kHz Plot on 802.11a Channel 165



Date: 30.JAN.2013 02:09:09

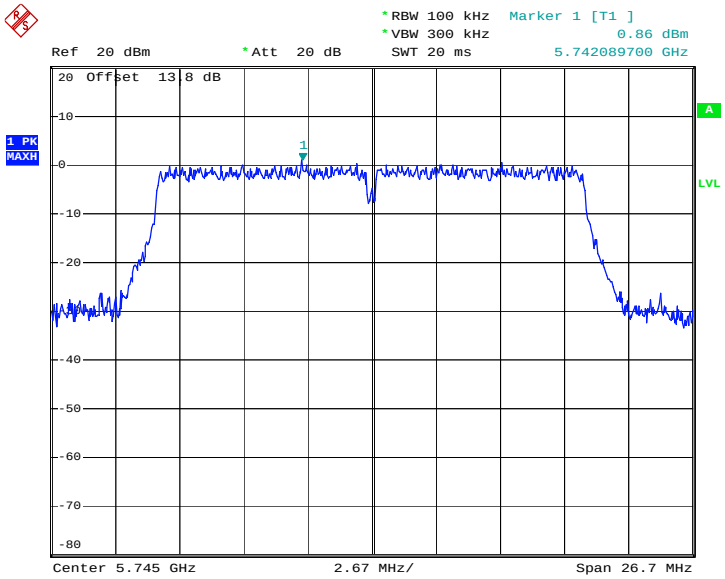
EUT Mode :	802.11n HT20	Temperature :	20~21℃
Test Engineer :	Zhi Lu	Relative Humidity :	40~41%
Antenna Gain :	-0.48dBi	Duty Cycle :	100.00%
Cable loss	13.80dB	Duty Factor :	0.00dB

Channel	Measured Frequency (MHz)	Measured PSD/100kHz (dBm)	Measured PSD/3kHz (dBm)	Radiated Peak Power Spectral Density (e.i.r.p) (dBm)	Limit (e.i.r.p)
CH 149	5745 MHz	0.86	-11.50	-11.98	< 14dBm per 3kHz
CH 157	5785 MHz	1.34	-11.05	-11.53	< 14dBm per 3kHz
CH 165	5825 MHz	2.34	-10.90	-11.38	< 14dBm per 3kHz

Note:

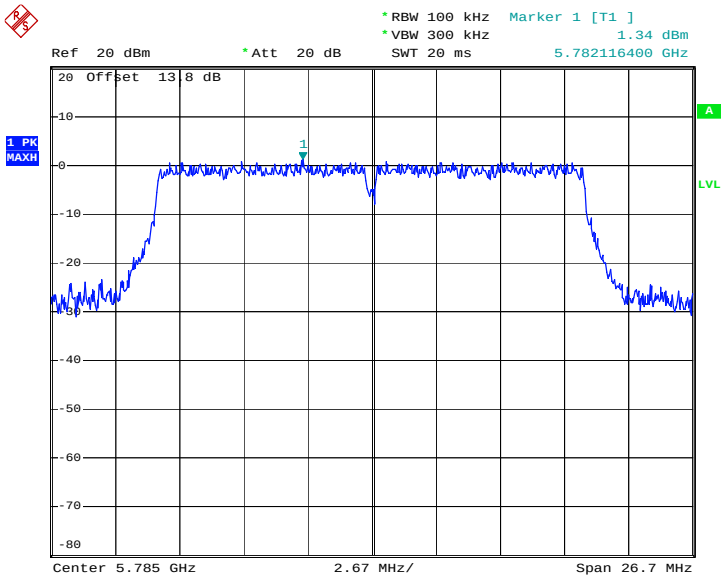
1. *Measured power density (dBm) has offset with cable loss.*
2. *The Measured power density (dBm)/ 100kHz is reference level and used as 20dBc down for Conducted Band Edges limit line.*
3. *Radiated Peak Power Spectral Density (e.i.r.p) (dBm)) = Measured PSD/3kHz (dBm) + Antenna gain (dBi).*

PSD 100kHz Plot on 802.11n HT20 Channel 149



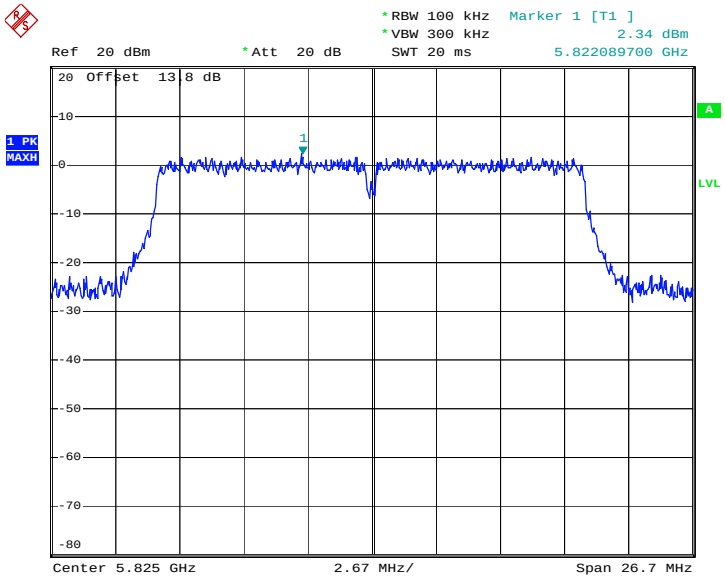
Date: 30.JAN.2013 02:22:31

PSD 100kHz Plot on 802.11n HT20 Channel 157



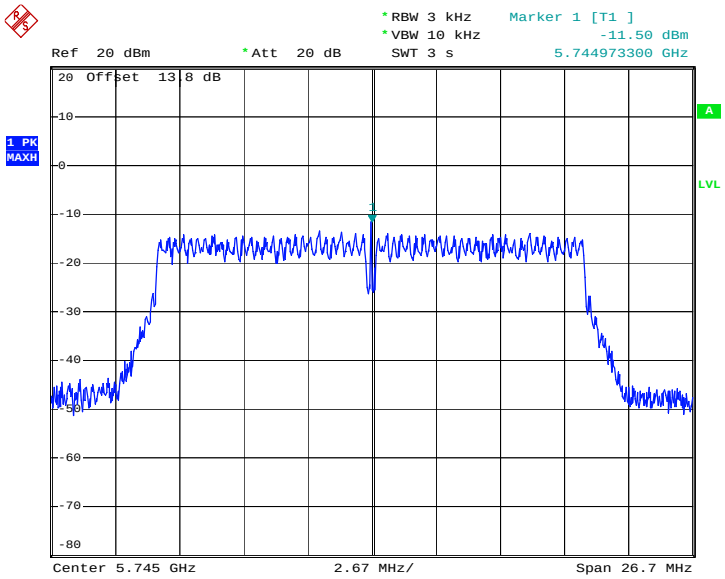
Date: 30.JAN.2013 02:26:43

PSD 100kHz Plot on 802.11n HT20 Channel 165



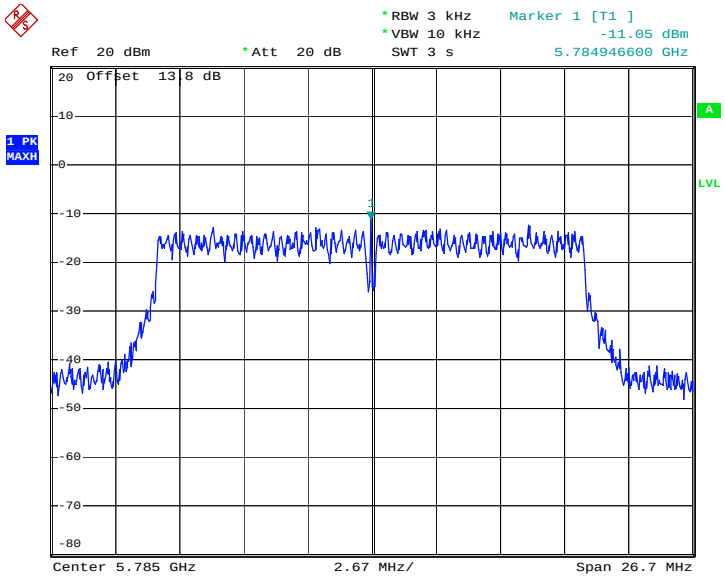
Date: 30.JAN.2013 02:31:46

PSD 3kHz Plot on 802.11n HT20 Channel 149



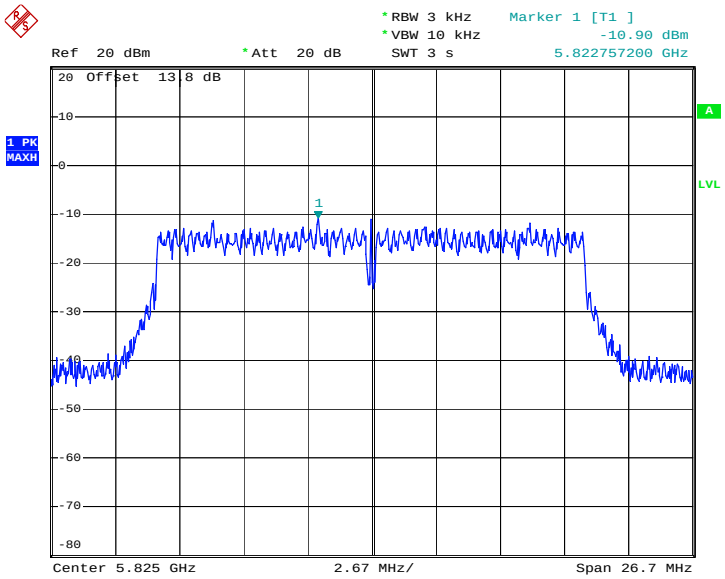
Date: 30.JAN.2013 02:22:21

PSD 3kHz Plot on 802.11n HT20 Channel 157



Date: 30.JAN.2013 02:26:33

PSD 3kHz Plot on 802.11n HT20 Channel 165



Date: 30.JAN.2013 02:31:36

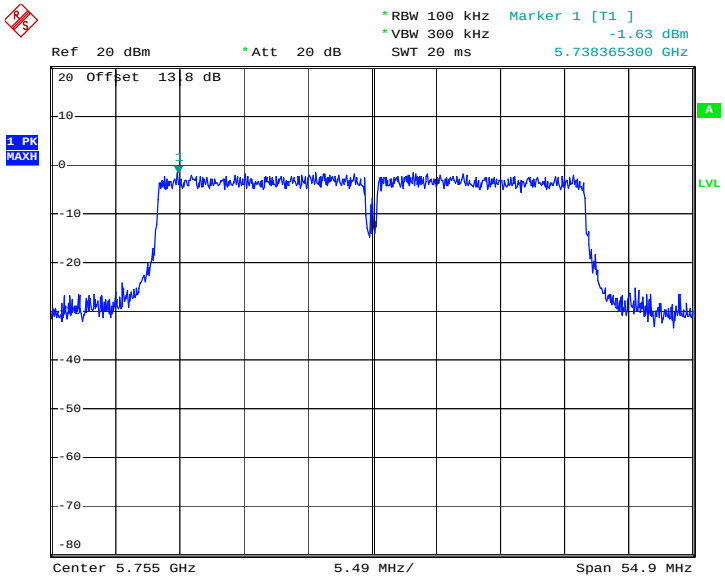
EUT Mode :	802.11n HT40	Temperature :	20~21℃
Test Engineer :	Zhi Lu	Relative Humidity :	40~41%
Antenna Gain :	-0.48dBi	Duty Cycle :	100.00%
Cable loss	13.80dB	Duty Factor :	0.00dB

Channel	Measured Frequency (MHz)	Measured PSD/100kHz (dBm)	Measured PSD/3kHz (dBm)	Radiated Peak Power Spectral Density (e.i.r.p) (dBm)	Limit (e.i.r.p)
CH 151	5755 MHz	-1.63	-11.37	-11.85	< 14dBm per 3kHz
CH 159	5795 MHz	-1.21	-11.30	-11.78	< 14dBm per 3kHz

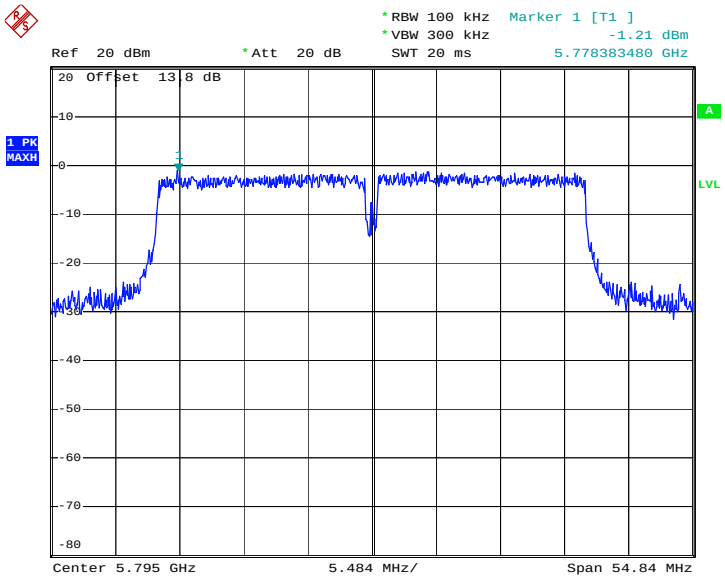
Note:

1. *Measured power density (dBm) has offset with cable loss.*
2. *The Measured power density (dBm)/ 100kHz is reference level and used as 20dBc down for Conducted Band Edges limit line.*
3. *Radiated Peak Power Spectral Density (e.i.r.p) (dBm)) = Measured PSD/3kHz (dBm) + Antenna gain (dBi).*

PSD 100kHz Plot on 802.11n HT40 Channel 151

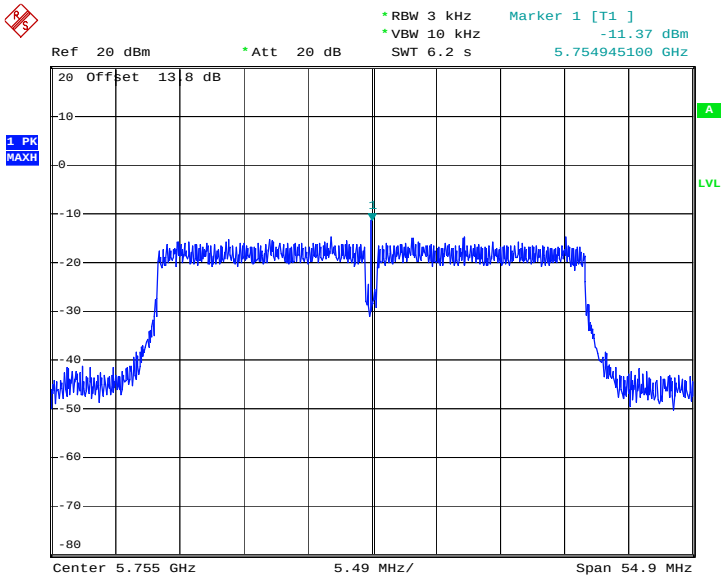


PSD 100kHz Plot on 802.11n HT40 Channel 159



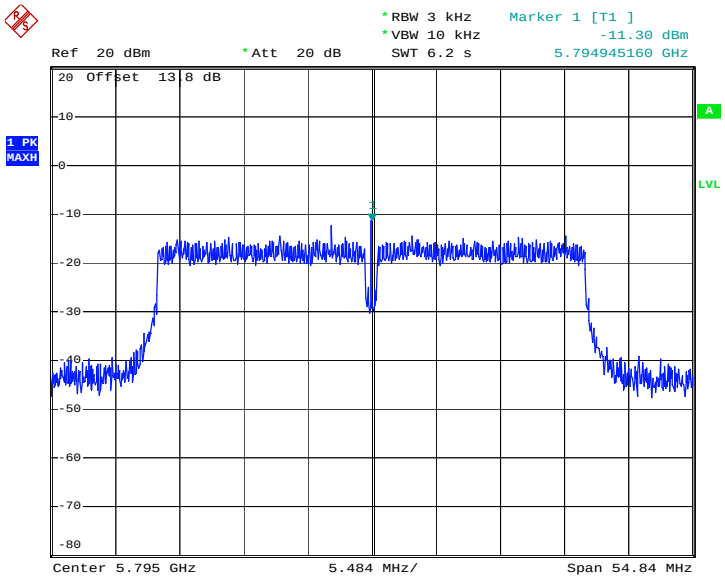
Date: 30.JAN.2013 02:37:35

PSD 3kHz Plot on 802.11n HT40 Channel 151



Date: 30.JAN.2013 02:34:30

PSD 3kHz Plot on 802.11n HT40 Channel 159



Remark: Maximum spectral power density is not applicable to FHSS device.

3.6 Additional Requirements (Table 1 AUSTRALIAN REQUIREMETS NOTES)

3.6.1 Band Edges Measurement

3.6.1.1 Measuring Instruments

See list of measuring instruments of this test report.

3.6.1.2 Test Procedure

- **For Bluetooth**
  1. The transmitter output was connected to the spectrum analyzer via a low lose cable.
  2. Set RBW = 300KHz (≥ 1% span=30MHz), VBW = 300KHz (≥ RBW). Band edge emissions must be at least 20 dB down from the highest emission level within the authorized band as measured with a 300KHz RBW.
  3. The band edges was measured and recorded.

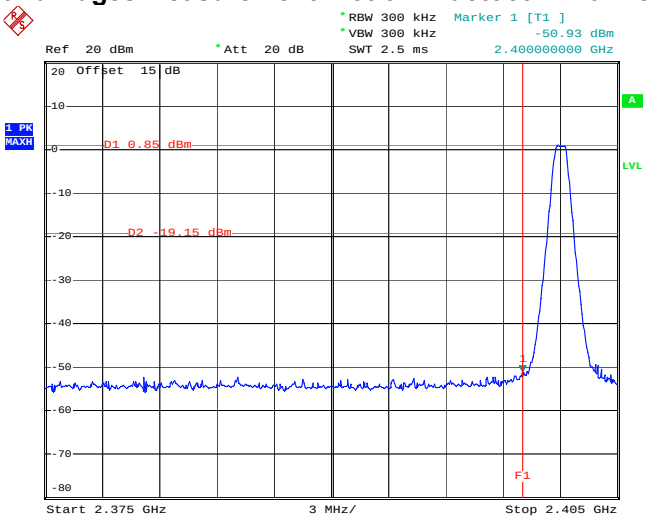
- **For WLAN**
  1. The transmitter output was connected to the spectrum analyzer via a low lose cable.
  2. Set RBW = 100 KHz, VBW=300 KHz, Peak Detector. Unwanted Emissions measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz.
  3. The band edges was measured and recorded.

3.6.1.3 Test Result

EUT Mode :	Bluetooth BDR (1Mbps)	Temperature :	20~21℃
Test Engineer :	Zhi Lu	Relative Humidity :	40~41%

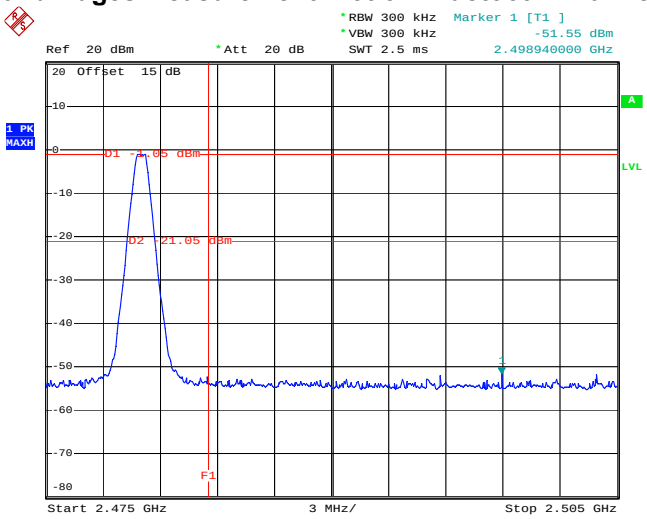
Channel	Measured Frequency (MHz)	Fundamental Signal (dBm)	Mark 1 (dBm)	Frequency of Mark 1 (MHz)
CH 00	2402 MHz	0.85	-50.93	2400.00
CH 78	2480 MHz	-1.05	-51.55	2498.94

Band Edges Measurement Plot on Bluetooth Channel 00



Date: 31.JAN.2013 03:58:41

Band Edges Measurement Plot on Bluetooth Channel 78

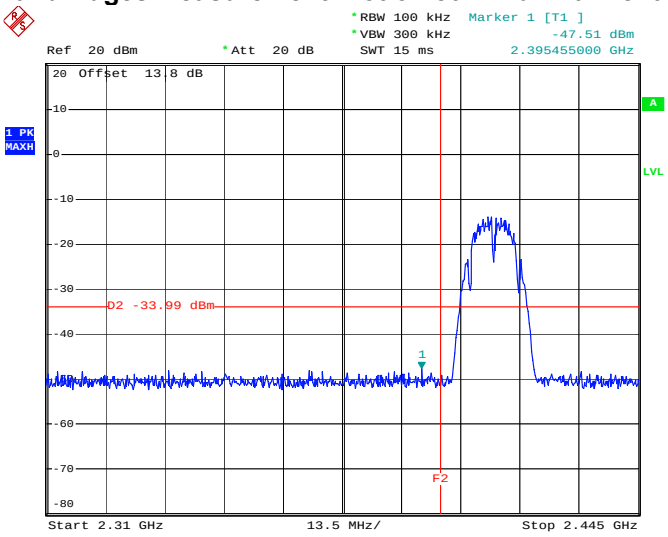


Date: 31.JAN.2013 03:59:44

EUT Mode :	802.11b	Temperature :	20~21℃
Test Engineer :	Zhi Lu	Relative Humidity :	40~41%

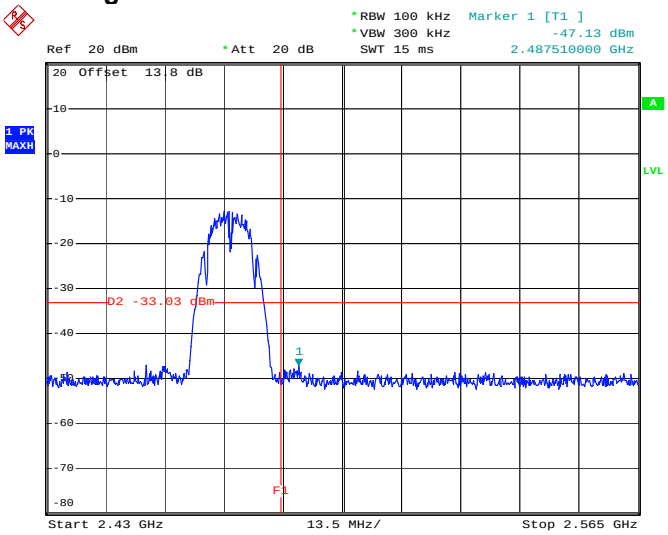
Channel	Measured Frequency (MHz)	Fundamental Signal (dBm)	Mark 1 (dBm)	Frequency of Mark 1 (MHz)
CH 01	2412 MHz	-13.99	-47.51	2395.46
CH 13	2472 MHz	-13.03	-47.13	2487.51

Band Edges Measurement Plot on 802.11b Channel 01



Date: 24.JAN.2013 05:39:41

Band Edges Measurement Plot on 802.11b Channel 13

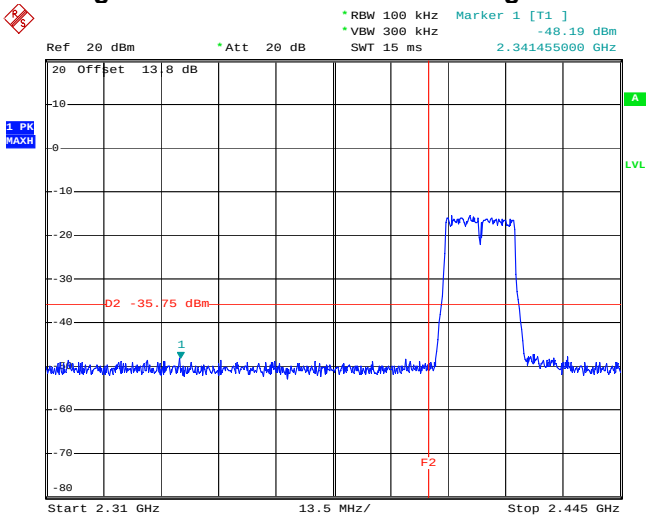


Date: 24.JAN.2013 05:52:47

EUT Mode :	802.11g	Temperature :	20~21℃
Test Engineer :	Zhi Lu	Relative Humidity :	40~41%

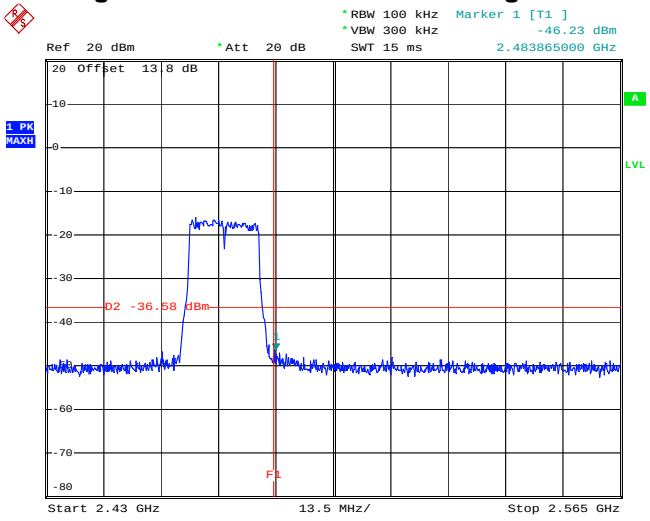
Channel	Measured Frequency (MHz)	Fundamental Signal (dBm)	Mark 1 (dBm)	Frequency of Mark 1 (MHz)
CH 01	2412 MHz	-15.75	-48.19	2341.46
CH 13	2472 MHz	-16.58	-46.23	2483.87

Band Edges Measurement Plot on 802.11g Channel 01



Date: 24.JAN.2013 05:55:57

Band Edges Measurement Plot on 802.11g Channel 13

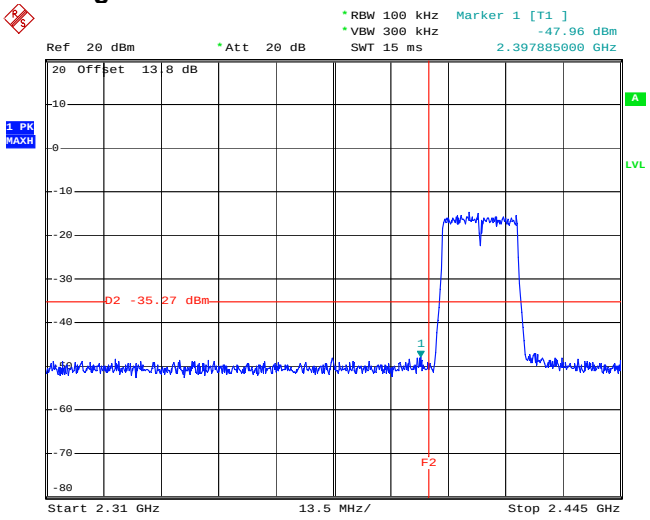


Date: 24.JAN.2013 06:01:01

EUT Mode :	802.11n HT20	Temperature :	20~21℃
Test Engineer :	Zhi Lu	Relative Humidity :	40~41%

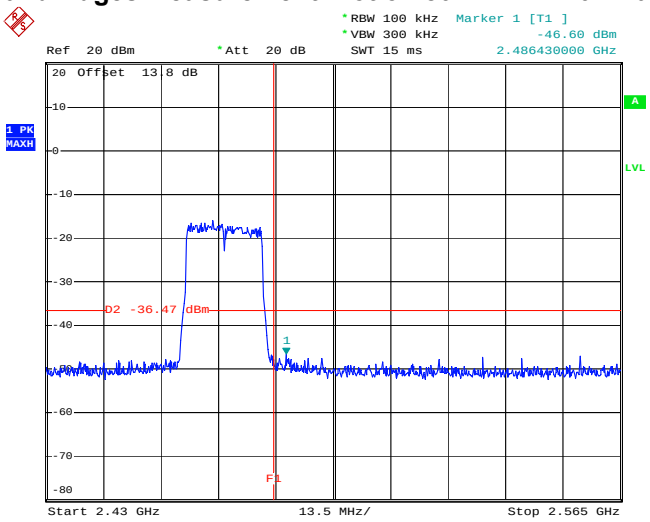
Channel	Measured Frequency (MHz)	Fundamental Signal (dBm)	Mark 1 (dBm)	Frequency of Mark 1 (MHz)
CH 01	2412 MHz	-15.27	-47.96	2397.89
CH 13	2472 MHz	-16.47	-46.60	2486.43

Band Edges Measurement Plot on 802.11n HT20 Channel 01



Date: 24.JAN.2013 06:04:35

Band Edges Measurement Plot on 802.11n HT20 Channel 13

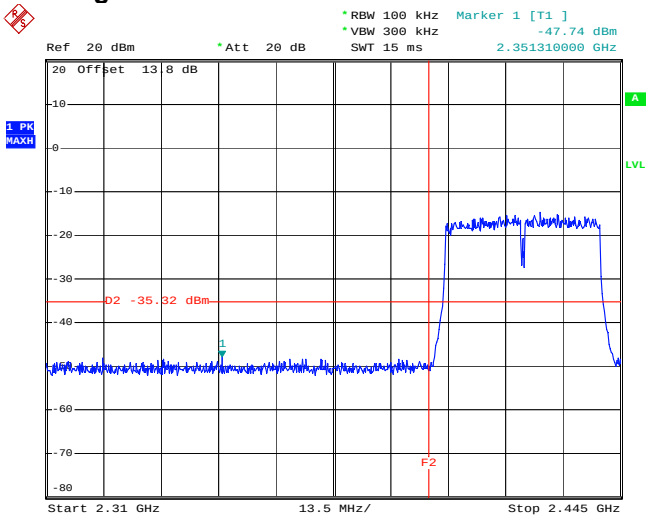


Date: 24.JAN.2013 06:09:32

EUT Mode :	802.11n HT40	Temperature :	20~21℃
Test Engineer :	Zhi Lu	Relative Humidity :	40~41%

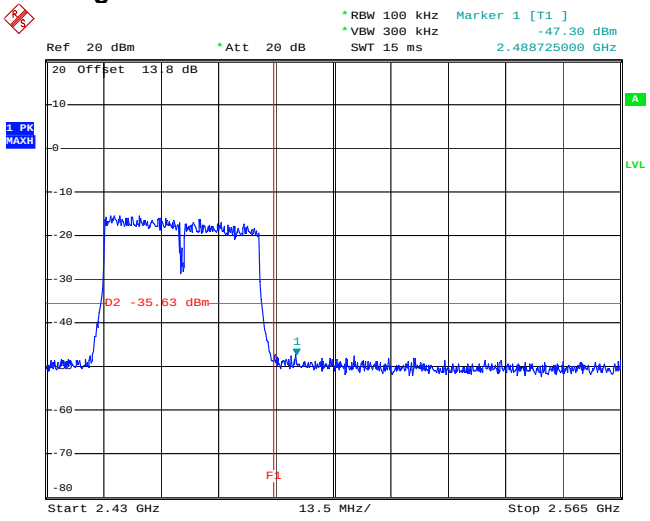
Channel	Measured Frequency (MHz)	Fundamental Signal (dBm)	Mark 1 (dBm)	Frequency of Mark 1 (MHz)
CH 03	2422 MHz	-15.32	-47.74	2351.31
CH 11	2462 MHz	-15.63	-47.30	2488.73

Band Edges Measurement Plot on 802.11n HT40 Channel 03



Date: 4.FEB.2013 17:40:15

Band Edges Measurement Plot on 802.11n HT40 Channel 11

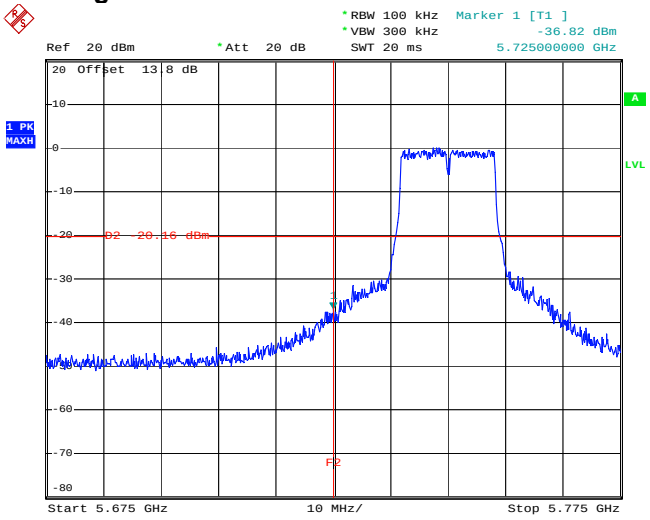


Date: 4.FEB.2013 17:56:45

EUT Mode :	802.11a	Temperature :	20~21℃
Test Engineer :	Zhi Lu	Relative Humidity :	40~41%

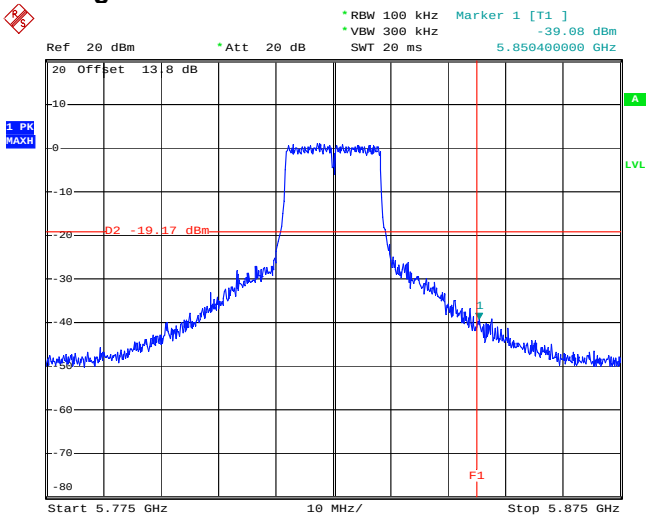
Channel	Measured Frequency (MHz)	Fundamental Signal (dBm)	Mark 1 (dBm)	Frequency of Mark 1 (MHz)
CH 149	5745 MHz	-0.16	-36.82	5725.00
CH 165	5825 MHz	0.83	-39.08	5850.40

Band Edges Measurement Plot on 802.11a Channel 149



Date: 30.JAN.2013 02:18:20

Band Edges Measurement Plot on 802.11a Channel 165

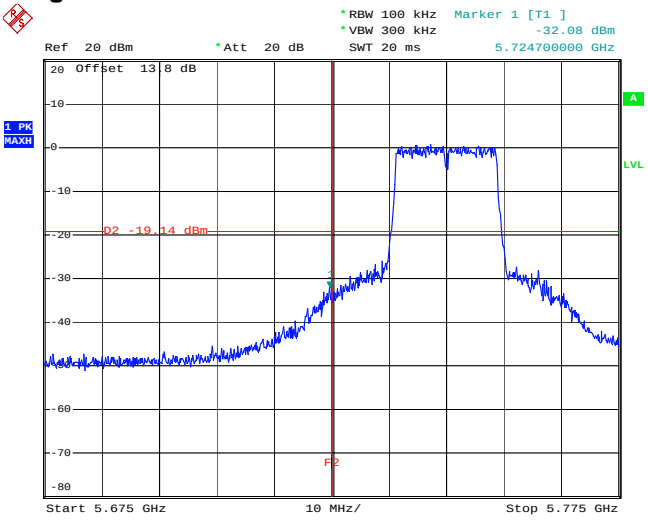


Date: 30.JAN.2013 02:09:35

EUT Mode :	802.11n HT20	Temperature :	20~21℃
Test Engineer :	Zhi Lu	Relative Humidity :	40~41%

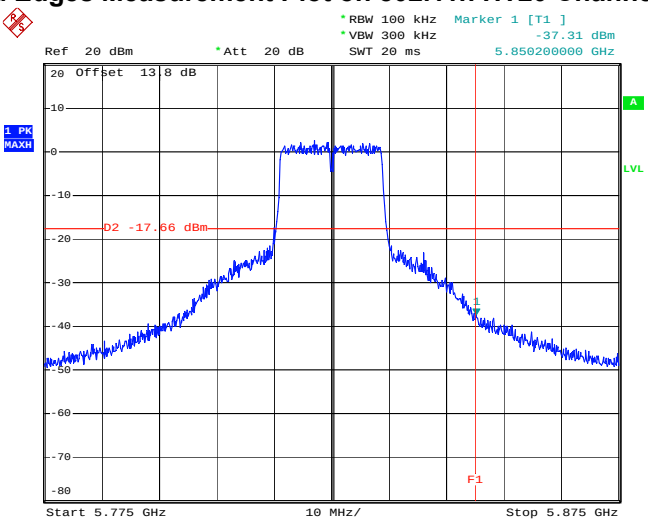
Channel	Measured Frequency (MHz)	Fundamental Signal (dBm)	Mark 1 (dBm)	Frequency of Mark 1 (MHz)
CH 149	5745 MHz	0.86	-32.08	5724.70
CH 165	5825 MHz	2.34	-37.31	5850.20

Band Edges Measurement Plot on 802.11n HT20 Channel 149



Date: 30.JAN.2013 02:22:47

Band Edges Measurement Plot on 802.11n HT20 Channel 165

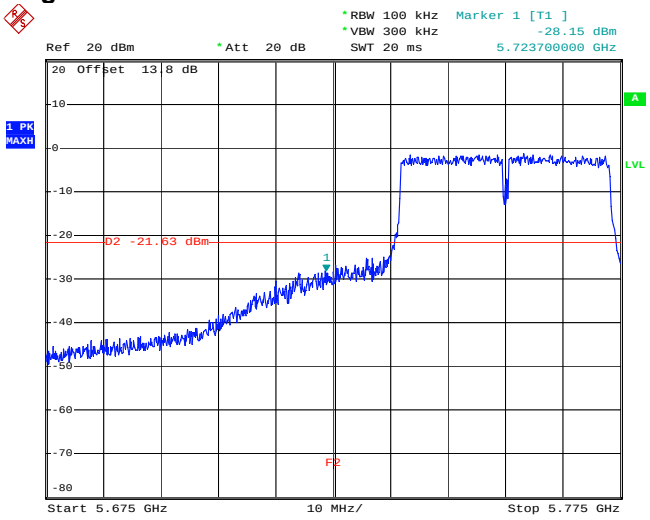


Date: 30.JAN.2013 02:32:02

EUT Mode :	802.11n HT40	Temperature :	20~21℃
Test Engineer :	Zhi Lu	Relative Humidity :	40~41%

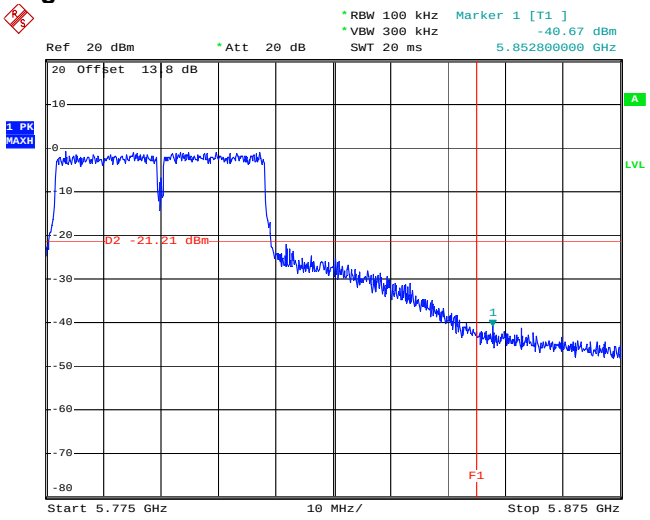
Channel	Measured Frequency (MHz)	Fundamental Signal (dBm)	Mark 1 (dBm)	Frequency of Mark 1 (MHz)
CH 151	5755 MHz	-1.63	-28.15	5723.70
CH 159	5795 MHz	-1.21	-40.67	5852.80

Band Edges Measurement Plot on 802.11n HT40 Channel 149



Date: 30.JAN.2013 02:34:56

Band Edges Measurement Plot on 802.11 n HT40 Channel 165



Date: 30.JAN.2013 02:37:51

3.6.2 Number of Channel Measurement

3.6.2.1 Limits of Number of Hopping Frequency

Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 75 channels.

3.6.2.2 Measuring Instruments

See list of measuring instruments of this test report.

3.6.2.3 Test Procedure

1. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
2. The modulation types of EUT are irrelevant to number of hopping channels deviation.
3. The EUT must have its hopping function enabled. Use the following spectrum analyzer settings:
4. Span = the frequency band of operation; RBW ≥ 1% of the span; VBW ≥ RBW; Sweep = 500 ms; Detector function = peak; Trace = max hold.
5. The number of hopping frequency used is defined as the device has the numbers of total channel.

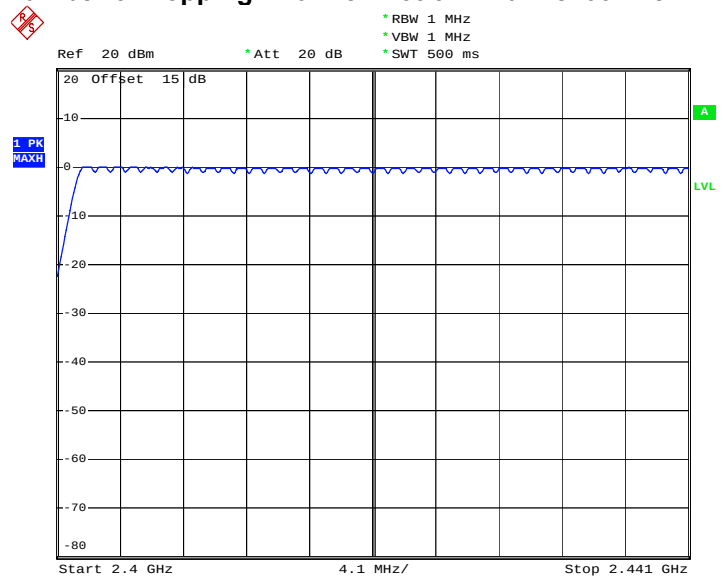
3.6.2.4 Test Setup

3.6.2.5 Test Result of Number of Hopping Frequency

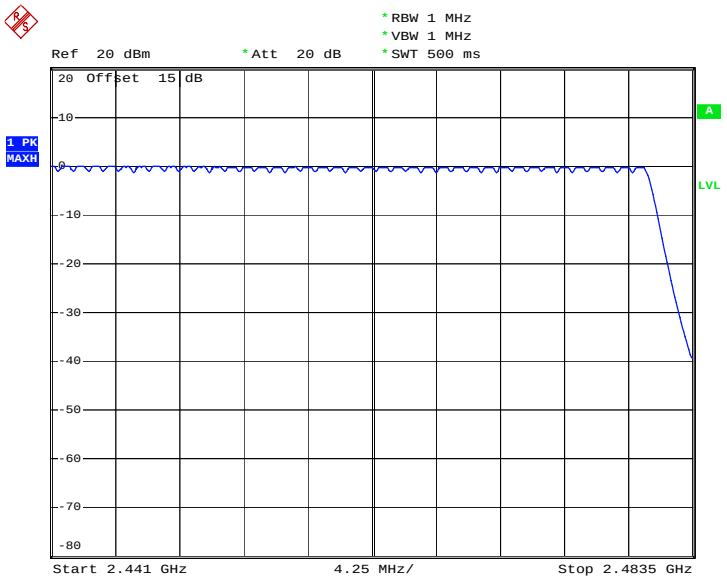
EUT Mode :	Bluetooth BDR (1Mbps)	**Temperature :**	20~21℃
Test Engineer :	Zhi Lu	**Relative Humidity :**	40~41%

Number of Hopping Channels (Channel)	Adaptive Frequency Hopping (Channel)	Limits (Channel)	Pass/Fail
79	20	> 15	Pass

Number of Hopping Channel Plot on Channel 00 - 78



Date: 31.JAN.2013 04:16:58



Date: 31.JAN.2013 04:28:37

3.6.3 Hopping Channel Separation Measurement

3.6.3.1 Limit of Hopping Channel Separation

Frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater.

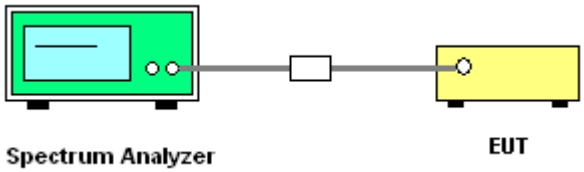
3.6.3.2 Measuring Instruments

See list of measuring instruments of this test report.

3.6.3.3 Test Procedures

1. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
2. The EUT should be transmitting at its maximum data rate as the worst cases.
3. Use the following spectrum analyzer settings:
   Span = wide enough to capture the peaks of two adjacent channels; RBW ≥ 1% of the span;VBW ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold.
4. Use the marker-delta function to determine the separation between the peaks of the adjacent channels.

3.6.3.4 Test Setup



3.6.3.5 Test Result of Hopping Channel Separation

EUT Mode :	Bluetooth BDR (1Mbps)	Temperature :	20~21℃
Test Engineer :	Zhi Lu	Relative Humidity :	40~41%

Channel	Measured Frequency (MHz)	Frequency Separation (MHz)	Limits (MHz)	Pass/Fail
00	2402	1.002	0.65	Pass
39	2441	1.002	0.64	Pass
78	2480	1.002	0.64	Pass

3.6.4 Dwell Time Measurement

3.6.4.1 Limit of Dwell Time

The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

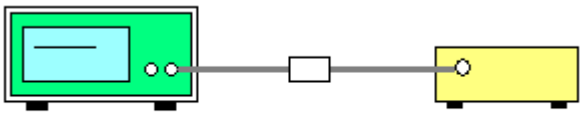
3.6.4.2 Measuring Instruments

See list of measuring instruments of this test report.

3.6.4.3 Test Procedures

1. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
2. The EUT should be transmitting at its maximum data rate as the worst cases.
3. The EUT must have its hopping function enabled. Use the following spectrum analyzer settings:
   Span = zero span, centered on a hopping channel; RBW = 1 MHz; VBW ≥ RBW;
   Sweep = as necessary to capture the entire dwell time per hopping channel;
   Detector function = peak; Trace = max hold.
4. Use the marker-delta function to calculate the dwell time.

3.6.4.4 Test Setup



3.6.4.5 Test Result of Dwell Time

EUT Mode :	Bluetooth BDR (1Mbps)	Temperature :	20~21℃
Test Engineer :	Zhi Lu	Relative Humidity :	40~41%

Package Mode	Hops Over Occupancy Time(hops)	Package Transfer Time (μs)	Dwell Time (sec)	Limits (sec)	Pass/Fail
DH5	106.67	2942	0.31	0.4	Pass

EUT Mode :	Bluetooth AFH	Temperature :	20~21℃
Test Engineer :	Zhi Lu	Relative Humidity :	40~41%

Package Mode	Hops Over Occupancy Time (hops)	Package Transfer Time (μs)	Dwell Time (s)	Limit (s)	Pass/Fail
DH5	53.33	2942	0.16	0.4	Pass

Remark:

1. In normal mode, hopping rate is 1600hops/s with 6 slots in 79 hopping channels.
   With channel hopping rate (1600 / 6 / 79) in Occupancy Time Limit (0.4 x 79) (s),
   Hops Over Occupancy Time comes to (1600 / 6 / 79) x (0.4 x 79) = 106.67 hops.
2. In AFH mode, hopping rate is 800hops/s with 6 slots in 20 hopping channels.
   With channel hopping rate (800 / 6 / 20) in Occupancy Time Limit (0.4 x 20) (s),
   Hops Over Occupancy Time comes to (800 / 6 / 20) x (0.4 x 20) = 53.33 hops.
3. Dwell Time(s) = Hops Over Occupancy Time (hops) x Package Transfer Time

4. Receiver Parameters

4.1 Receiver Spurious Emissions (SUBCLAUSE 9.1)

4.1.1 Measuring Instruments

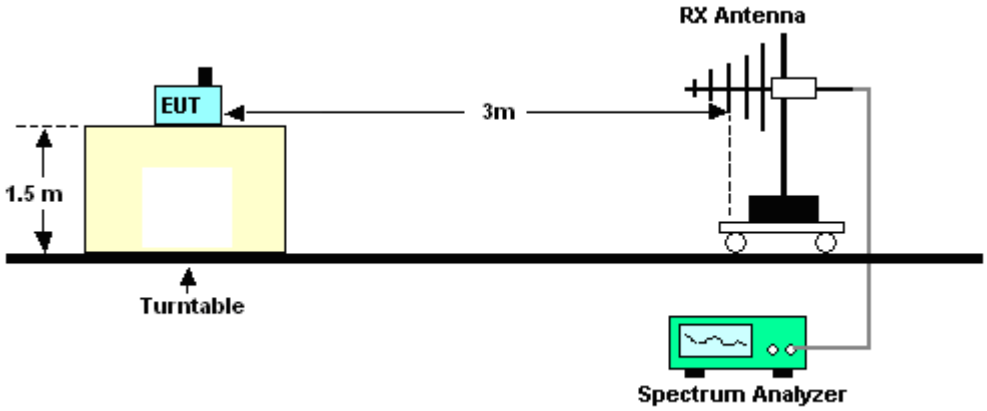
See list of measuring instruments of this test report.

4.1.2 Test Procedures

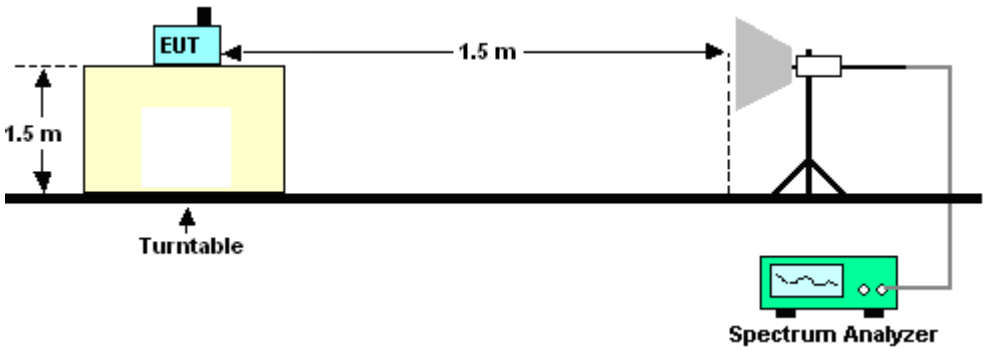
1. The EUT was placed on a turntable with 1.5m height.
2. The receiving antenna with horizontal and vertical polarization is 3m away from EUT and keeps the antenna height at 1.5m.
3. Setting EUT in continuous Rx.
4. The table was rotated to search the highest radiation.
5. Repeating set 3 and 4 for different channel.

4.1.3 Test Setup

<Below 1GHz>

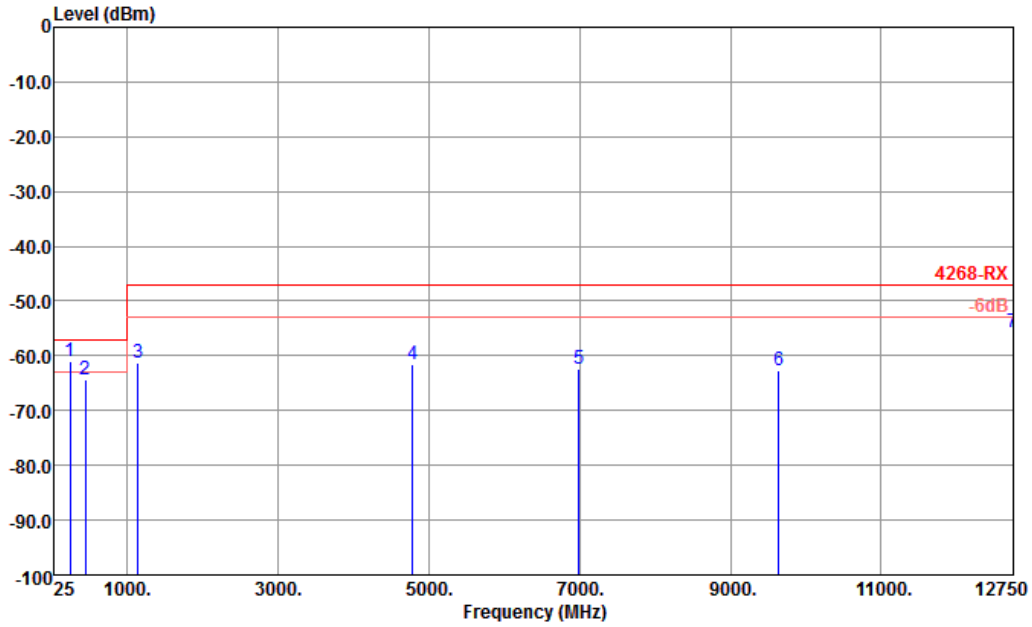


<Above 1GHz>



4.1.4 Test Result

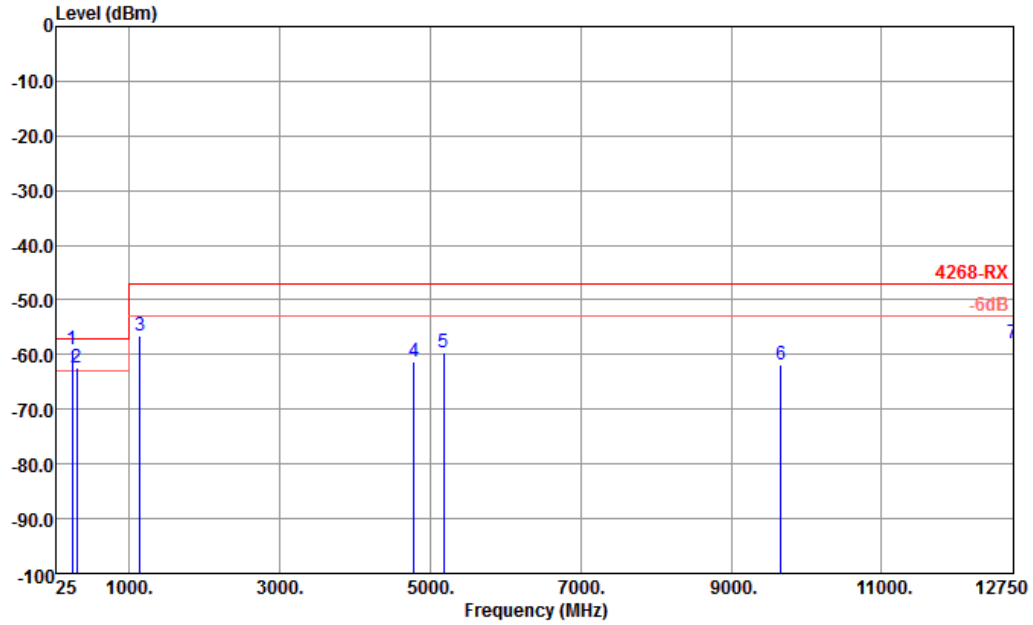
Test Mode :	CH13 (2472MHz) in Tablet Mode with Adapter 1 for Sample 1	Temperature :	21~22℃
Test Engineer :	Lucky Pan	Relative Humidity :	41~42%
Test Distance :	3m (Below 1GHz) 1.5m (Above 1GHz)	Polarization :	Horizontal



Site : 05CH01-KS
Condition : 4268-RX LF EIRP_090504 HORIZONTAL

	Freq	Level	Over Limit	Limit Line	Read Level	Factor
	MHz	dBm	dB	dBm	dBm	dB
1 p	245.19	-60.95	-3.95	-57.00	-59.20	-1.75
2	448.40	-64.25	-7.25	-57.00	-66.39	2.14
3	1146.00	-61.31	-14.31	-47.00	-63.50	2.19
4	4784.00	-61.69	-14.69	-47.00	-72.73	11.04
5	6992.00	-62.51	-15.51	-47.00	-76.51	14.00
6	9643.00	-62.69	-15.69	-47.00	-78.06	15.37
7	12741.75	-55.78	-8.78	-47.00	-79.10	23.32

Test Mode :	CH13 (2472MHz) in Tablet Mode with Adapter 1 for Sample 1	Temperature :	21~22℃
Test Engineer :	Lucky Pan	Relative Humidity :	41~42%
Test Distance :	3m (Below 1GHz) 1.5m (Above 1GHz)	Polarization :	Vertical



Site : 05CH01-KS
Condition : 4268-RX LF EIRP_090504 VERTICAL

	Freq	Level	Over Limit	Limit Line	Read Level	Factor
	MHz	dBm	dB	dBm	dBm	dB
1 p	244.92	-59.10	-2.10	-57.00	-57.35	-1.75
2 !	300.00	-62.44	-5.44	-57.00	-61.83	-0.61
3	1146.00	-56.68	-9.68	-47.00	-58.65	1.97
4	4784.00	-61.35	-14.35	-47.00	-73.92	12.57
5	5182.00	-59.68	-12.68	-47.00	-74.28	14.60
6	9655.00	-61.95	-14.95	-47.00	-77.38	15.43
7	12741.75	-57.80	-10.80	-47.00	-79.07	21.27

LIMITS : Clause 9.1.1

Narrowband spurious emission:

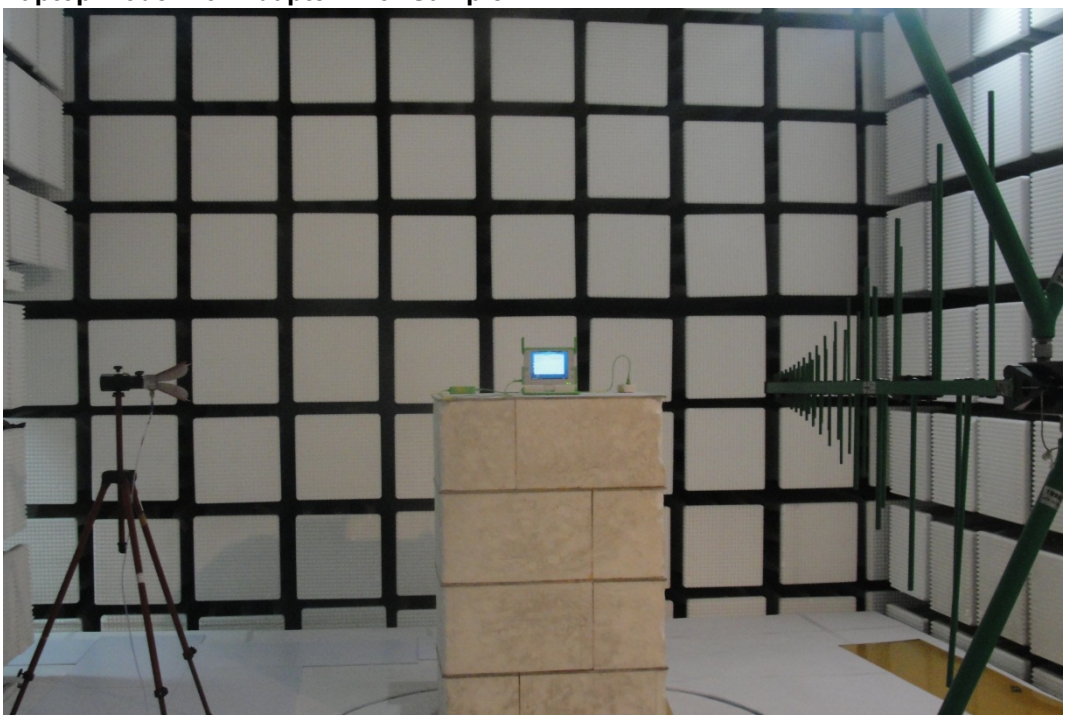
Frequency Range	Limit when in received mode
30MHz to 1 GHz	-57dBm
Above 1 GHz to 12,75 GHz	-47dBm

Limit kept Yes [V] No [ ]

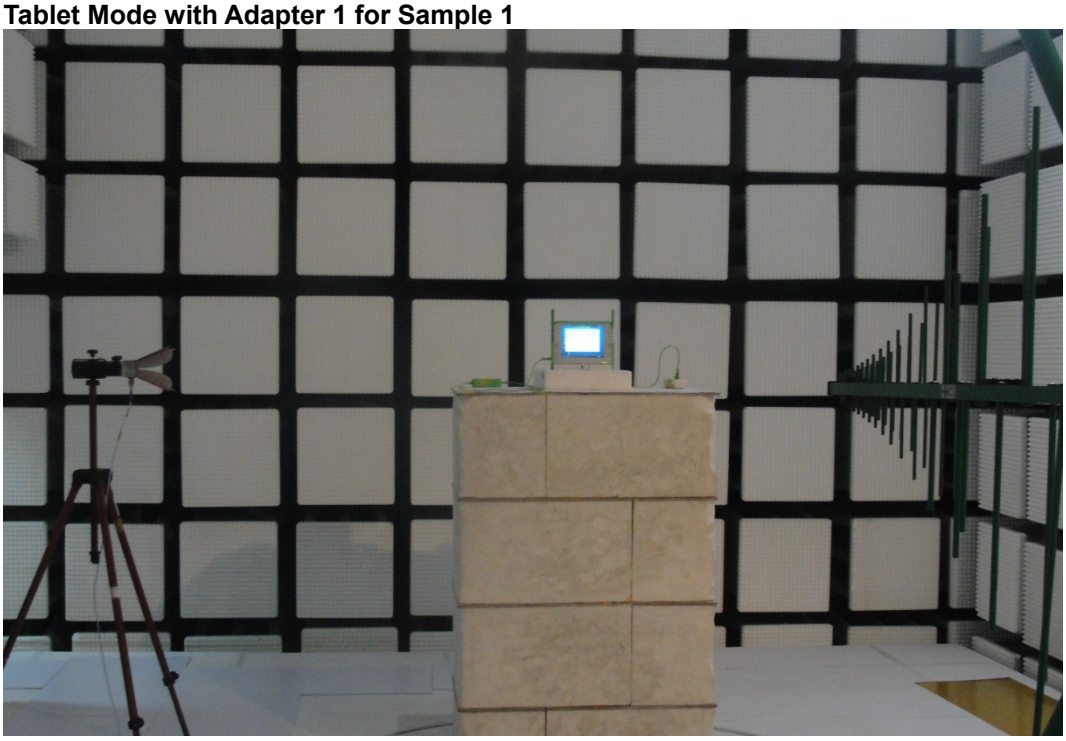
5. Setup Photographs of Radiated Emission Test

Bluetooth Tx/Rx Mode

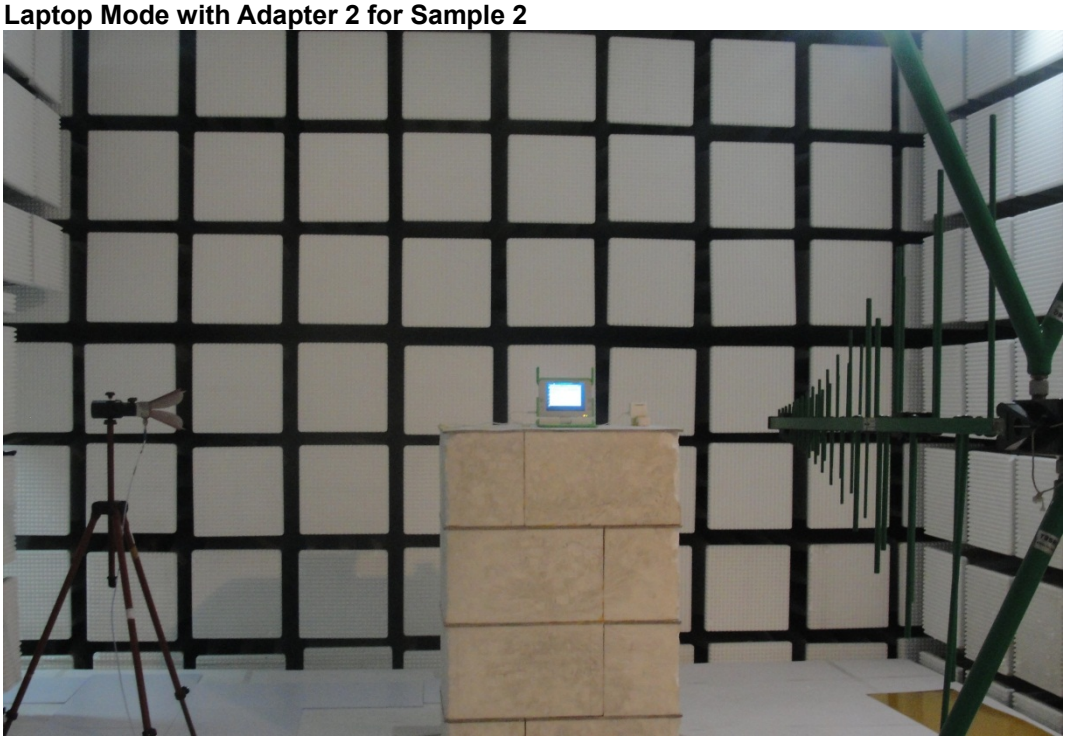
Laptop Mode with Adapter 1 for Sample 1



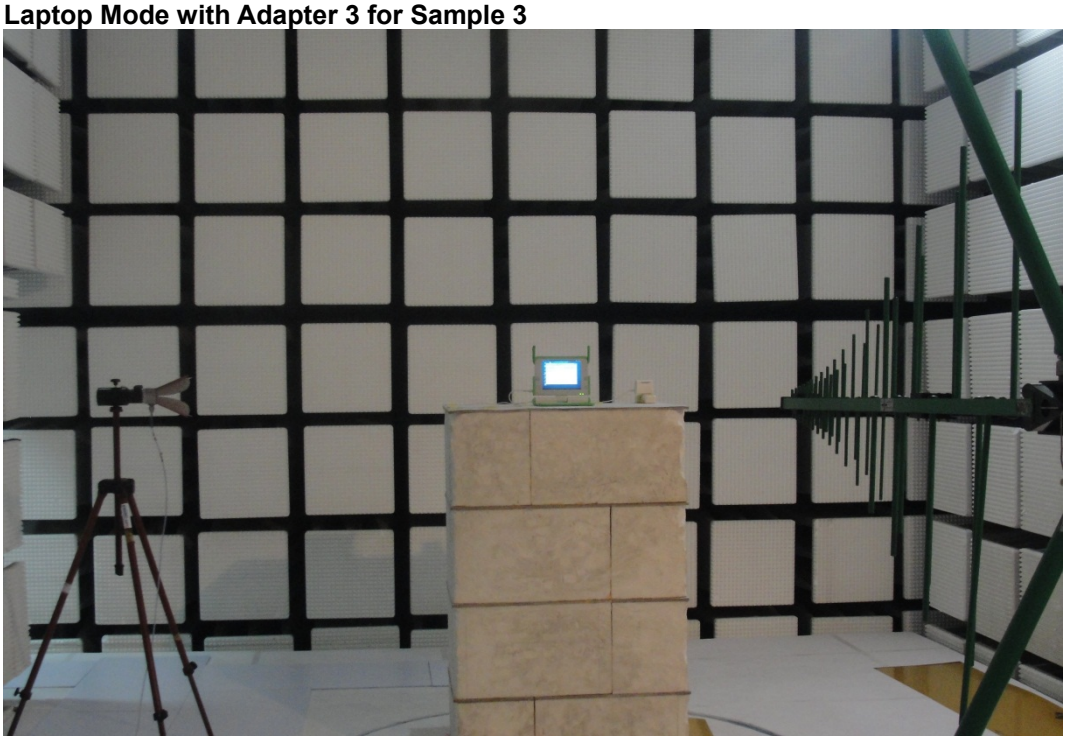
Tablet Mode with Adapter 1 for Sample 1



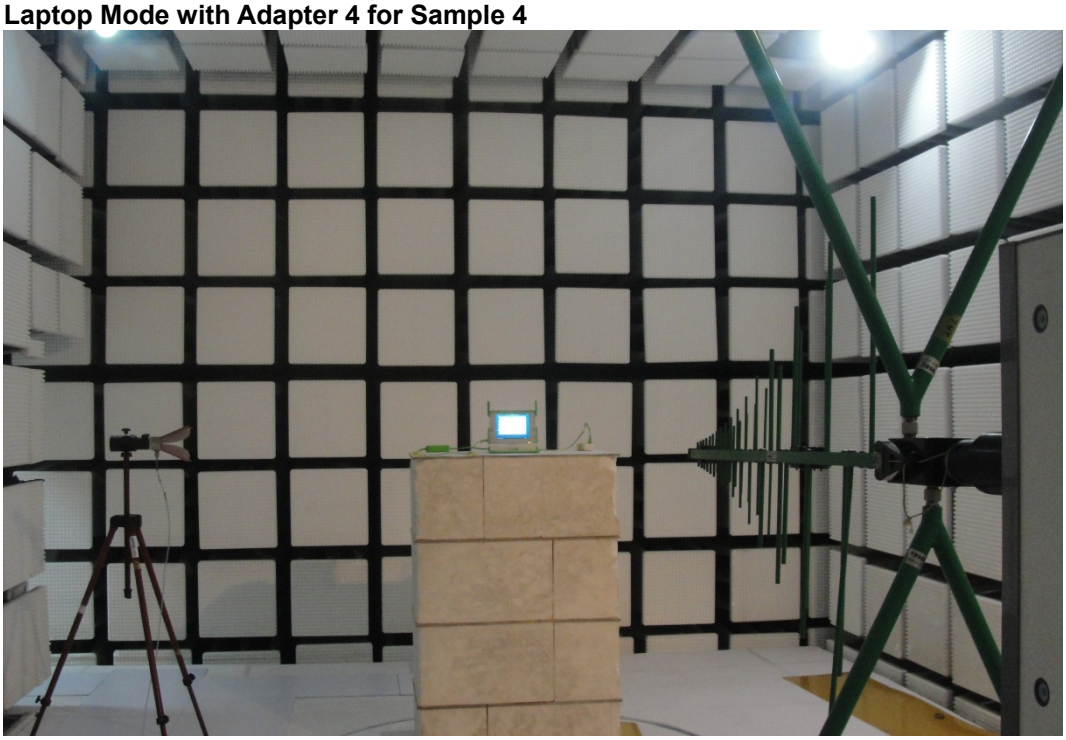
Laptop Mode with Adapter 2 for Sample 2



Laptop Mode with Adapter 3 for Sample 3

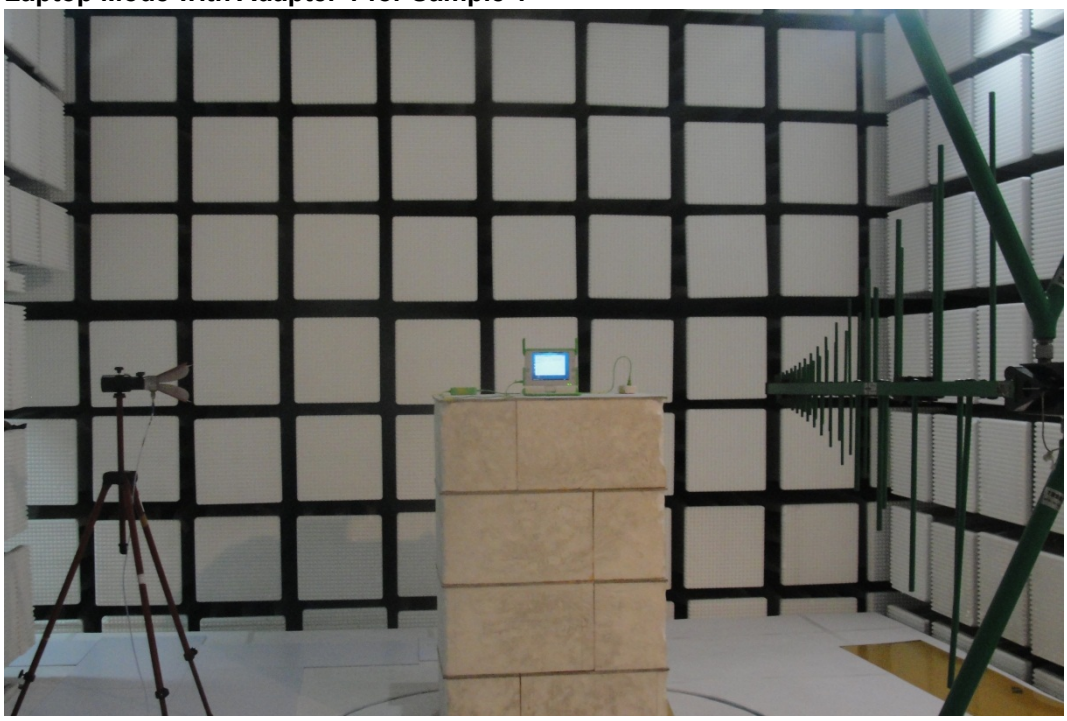


Laptop Mode with Adapter 4 for Sample 4

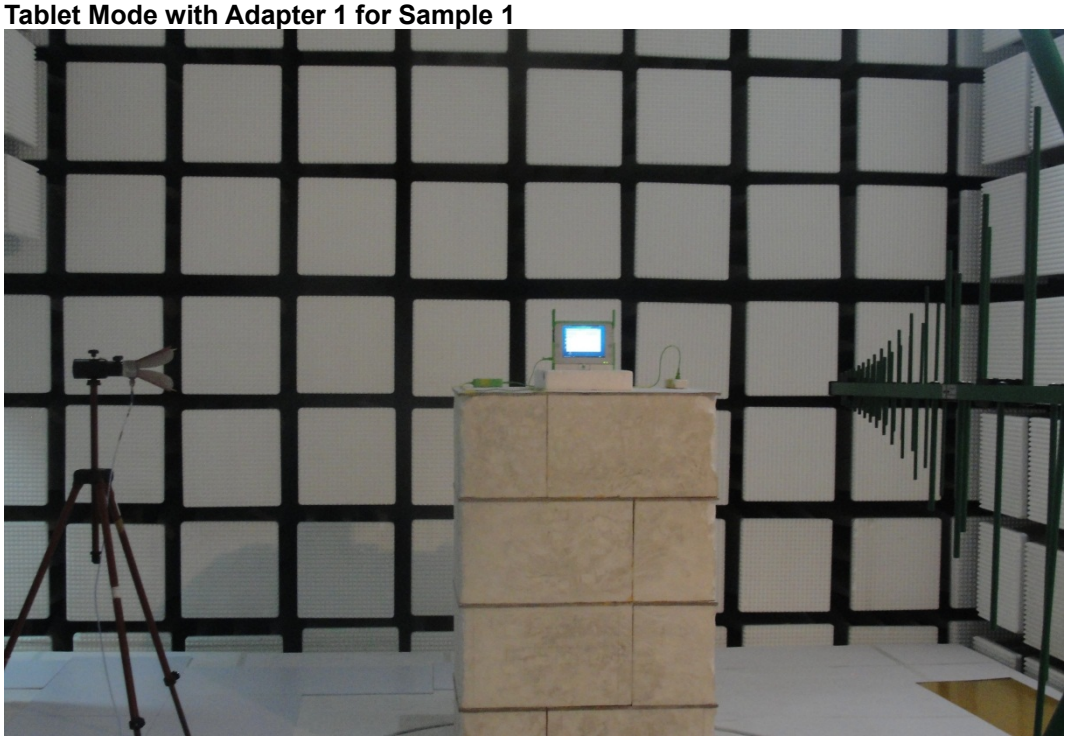


WLAN Tx/Rx Mode

Laptop Mode with Adapter 1 for Sample 1

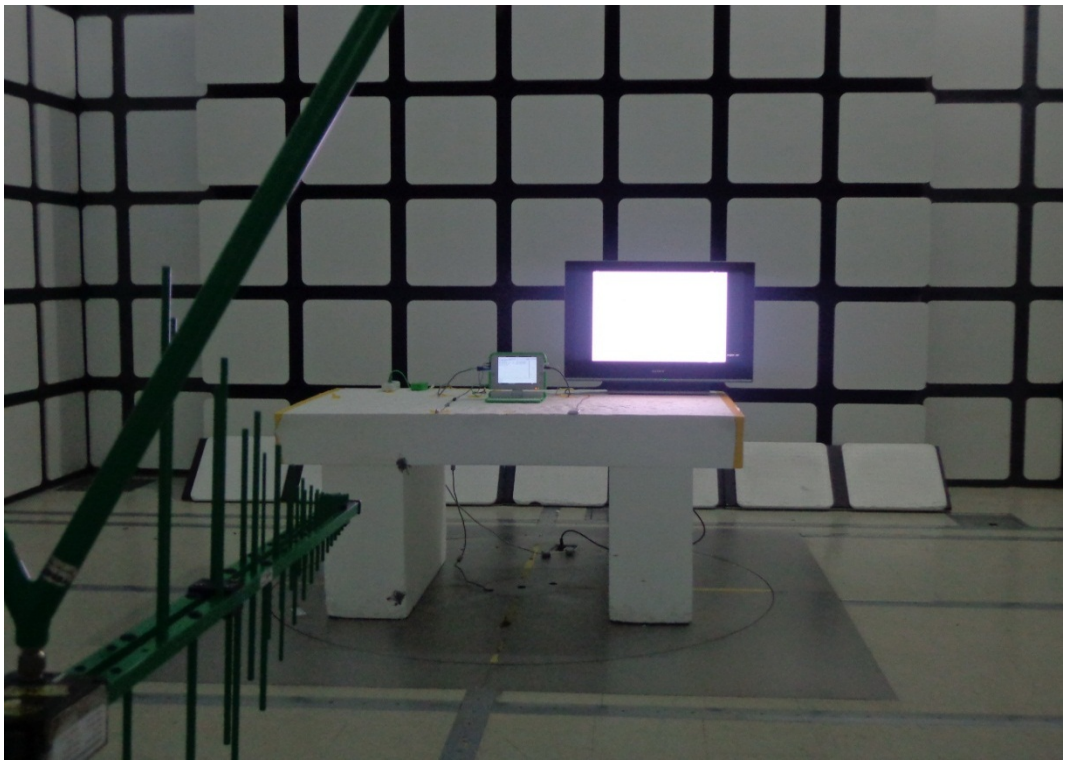


Tablet Mode with Adapter 1 for Sample 1

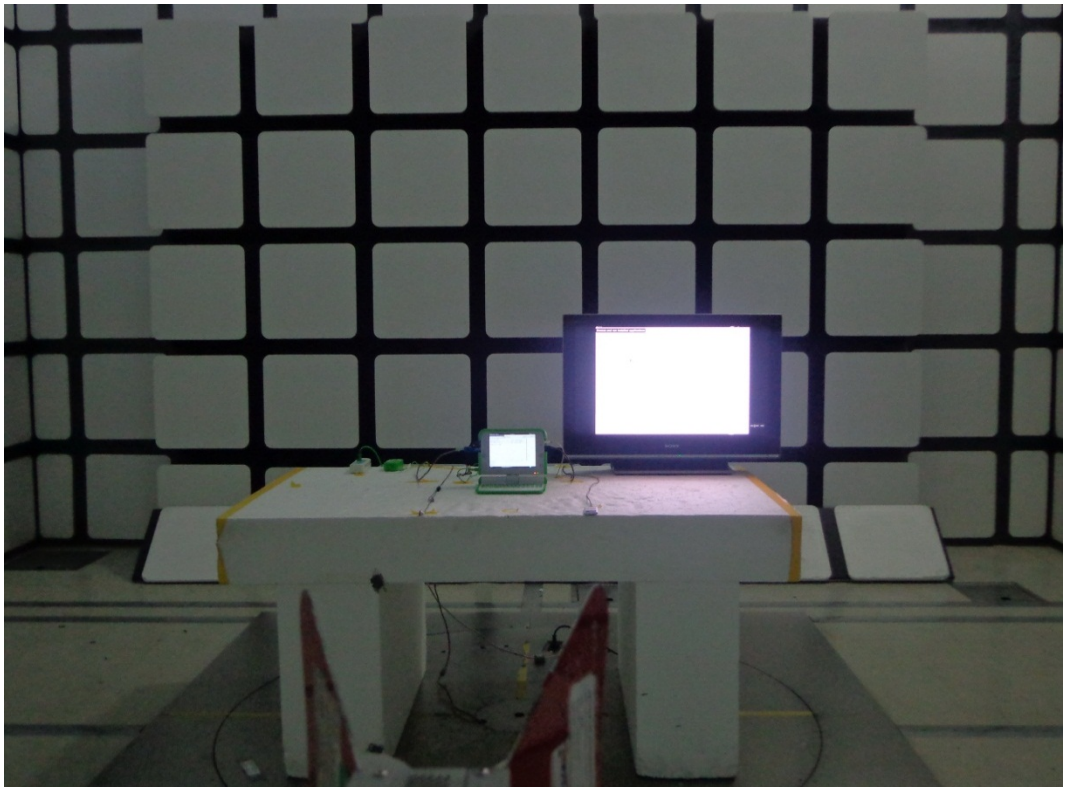


Laptop Mode with Adapter 1 for Sample 1 (5GHz band 4)

LF



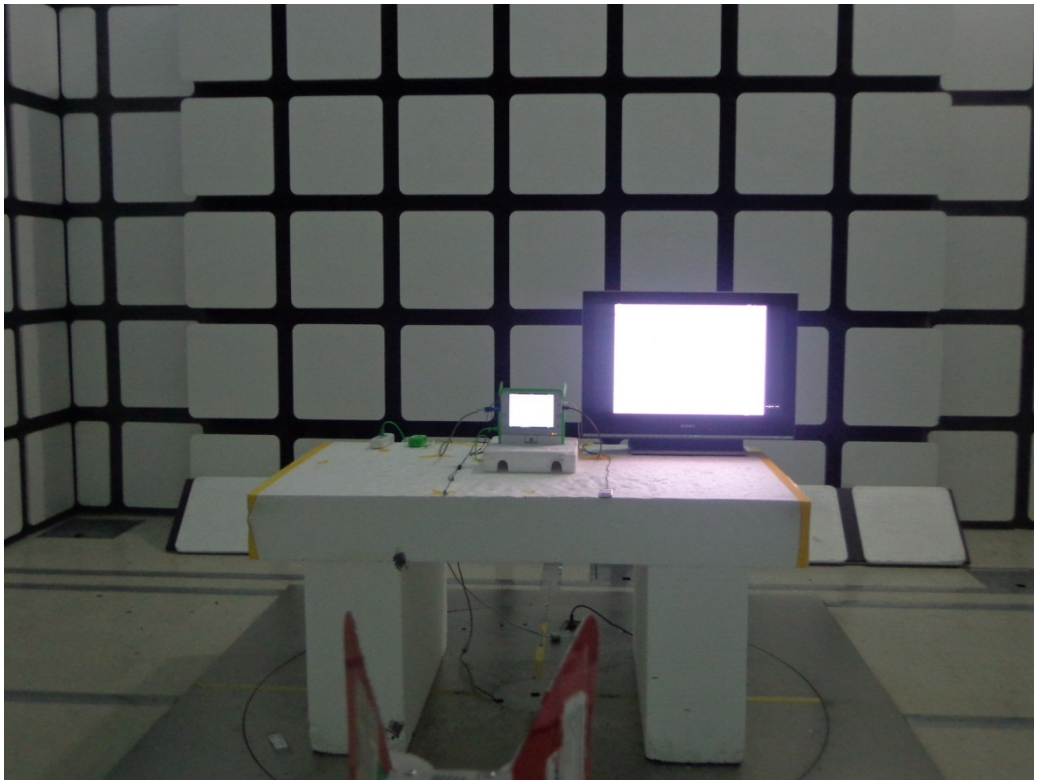
HF



Tablet Mode with Adapter 1 for Sample 1 (5GHz band 4)

LF

HF



6. List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSP40	100319	9kHz~40GHz	Dec. 29, 2012	Jan. 17, 2013~ Feb. 04, 2013	Dec. 28, 2013	Conducted (TH01-KS)
Power Meter	Agilent	E4416A	MY45101555	N/A	Aug. 22, 2012	Jan. 17, 2013~ Feb. 04, 2013	Aug. 21, 2013	Conducted (TH01-KS)
Power Sensor	Agilent	E9327A	MY44421198	N/A	Aug. 22, 2012	Jan. 17, 2013~ Feb. 04, 2013	Aug. 21, 2013	Conducted (TH01-KS)
DC Power supply	GWINSTEK	GPS-3030D	E1884515	N/A	Aug. 22, 2012	Jan. 17, 2013~ Feb. 04, 2013	Aug. 21, 2013	Conducted (TH01-KS)
Thermal Chamber	Ten Billion	TTC-B3S	TBN-960502	N/A	Dec. 29, 2012	Jan. 17, 2013~ Feb. 04, 2013	Dec. 28, 2013	Conducted (TH01-KS)
Spectrum Analyzer	R&S	FSP30	100399	9kHz~30GHz	Jun. 01, 2012	Feb. 16, 2013	May 31, 2013	Radiation (05CH01-KS)
Bilog Antenna	SCHAFFNER	CBL6112D	23183	25MHz~2GHz	Dec. 07, 2012	Feb. 16, 2013	Dec. 06, 2013	Radiation (05CH01-KS)
DRG	ETS-Lindgren	3117	00075957	1GHz~18GHz	Dec. 07, 2012	Feb. 16, 2013	Dec. 06, 2013	Radiation (05CH01-KS)
Amplifier	Wireless	FPA6592G	060007	30MHz~2GHz	Dec. 29, 2012	Feb. 16, 2013	Dec. 28, 2013	Radiation (05CH01-KS)
Amplifier	Agilent	8449B	3008A02370	1GHz~26.5GHz	Dec. 29, 2012	Feb. 16, 2013	Dec. 28, 2013	Radiation (05CH01-KS)
EMI Test Receiver	R&S	ESCI	100534	9kHz~3GHz	Nov. 08, 2012	Feb. 16, 2013	Nov. 07, 2013	Radiation (03CH01-KS)
Spectrum Analyzer	R&S	FSP30	100400	9kHz~30GHz	Jun. 01, 2012	Feb. 16, 2013	May 31, 2013	Radiation (03CH01-KS)
Bilog Antenna	SCHAFFNER	CBL6112D	23182	25MHz~2GHz	Dec. 07, 2012	Feb. 16, 2013	Dec. 06, 2013	Radiation (03CH01-KS)
Loop Antenna	R&S	HFH2-Z2	860004/ 001	9 kHz~30 MHz	Jul. 03, 2012	Feb. 16, 2013	Jul. 02, 2014	Radiation (03CH01-KS)
Double Ridge Horn Antenna	EMCO	3117	00075959	1GHz~18GHz	Jan. 06, 2012	Feb. 16, 2013	Jan. 05, 2014	Radiation (03CH01-KS)
Amplifier	com-power	PA-103A	161069	1MHz~1GHz	Jun. 01, 2012	Feb. 16, 2013	May 31, 2013	Radiation (03CH01-KS)
Amplifier	Agilent	8449B	3008A02370	1GHz~26.5GHz	Dec. 29, 2012	Feb. 16, 2013	Dec. 28, 2013	Radiation (03CH01-KS)
Active Horn Antenna	com-power	AHA-118	701023	1GHz~18GHz	Nov. 07, 2012	Feb. 16, 2013	Nov. 06, 2013	Radiation (03CH01-KS)
SHF-EHF Horn	Schwarzbeck	BBHA 9170	9170249	15GHz~40GHz	Nov. 23, 2012	Feb. 16, 2013	Nov. 22, 2013	Radiation (03CH01-KS)
Bluetooth Base Station	R&S	CBT	100783	N/A	Aug. 17, 2012	Jan. 17, 2013~ Feb. 16, 2013	Aug. 16, 2013	-

7. Uncertainty Evaluation

Uncertainty of Radiated Emission Evaluation (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**3.16**

Uncertainty of Radiated Emission Evaluation (1GHz ~ 40GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.72**

Appendix A. Photographs of EUT

Please refer to Sporton report number EP2D1707 as below.

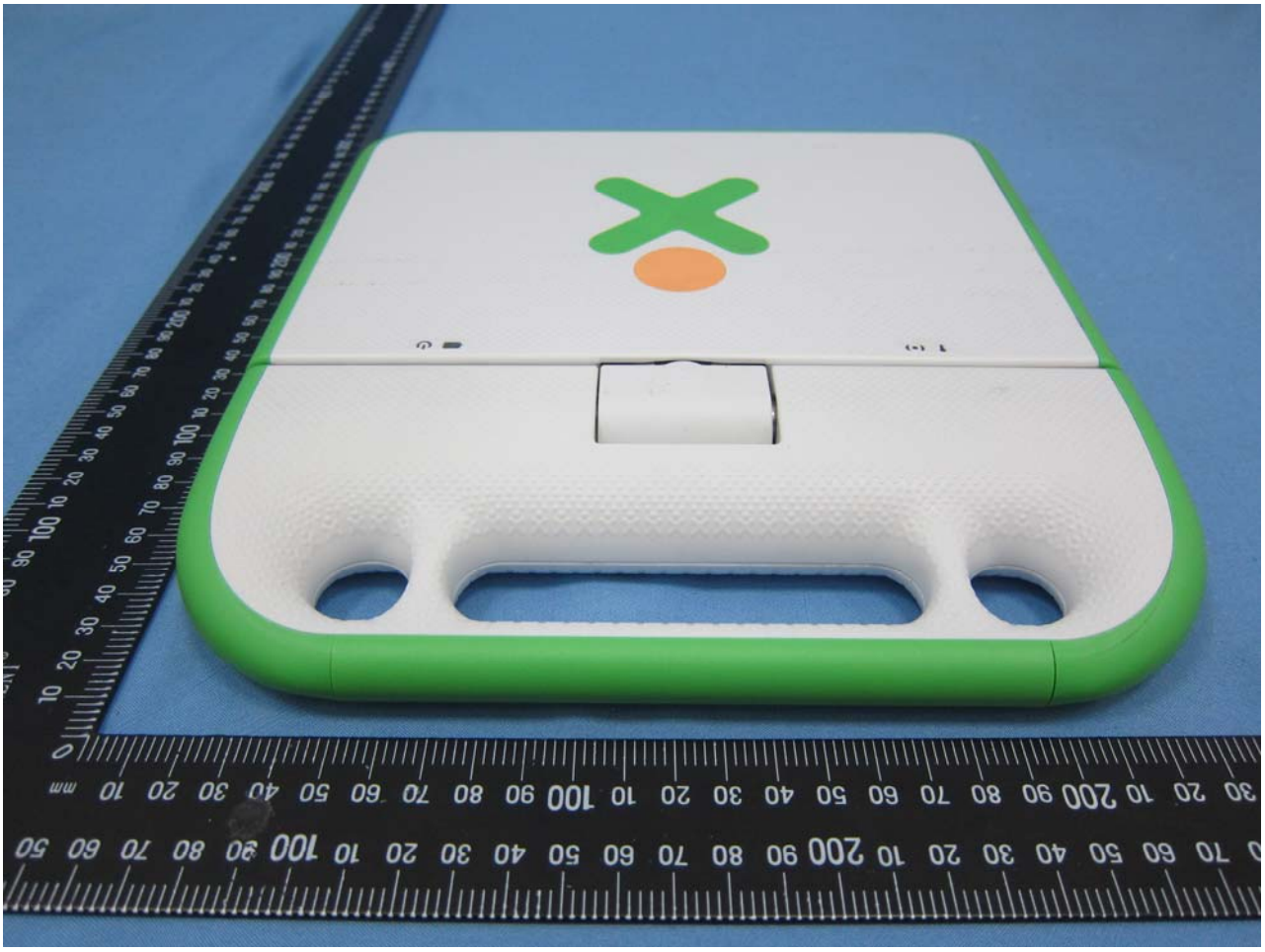
1. External Photograph of EUT

Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

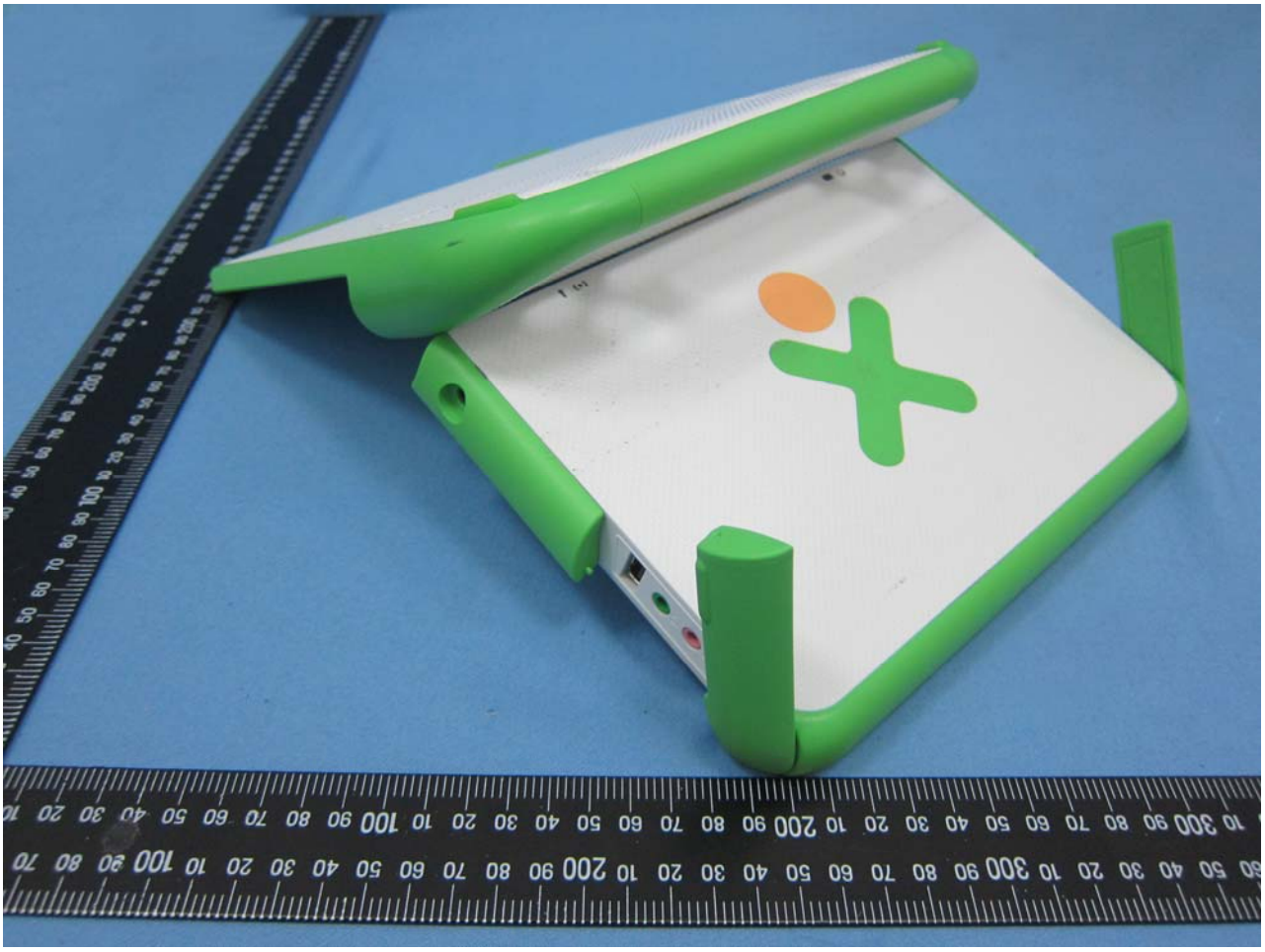


Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

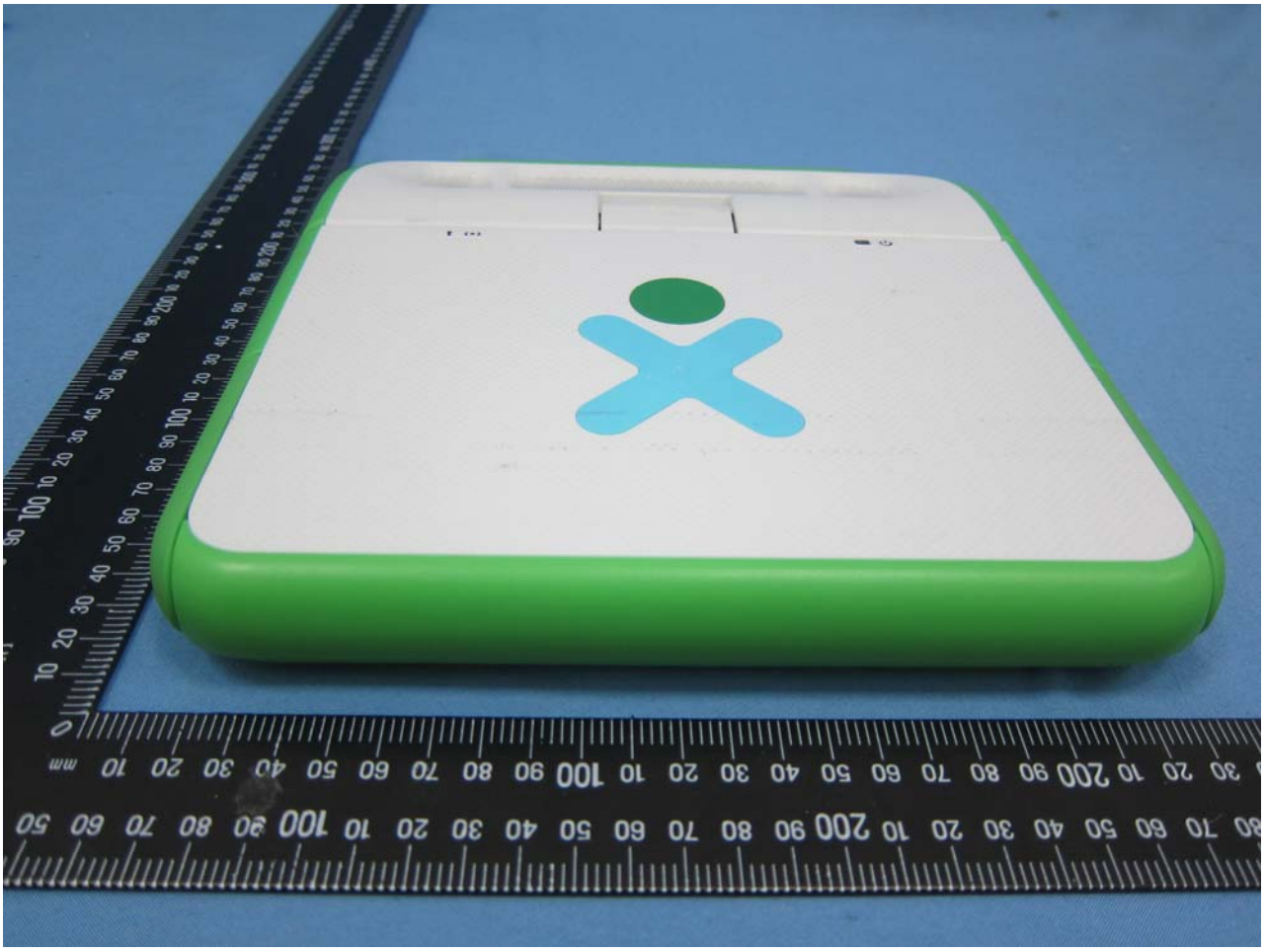
Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

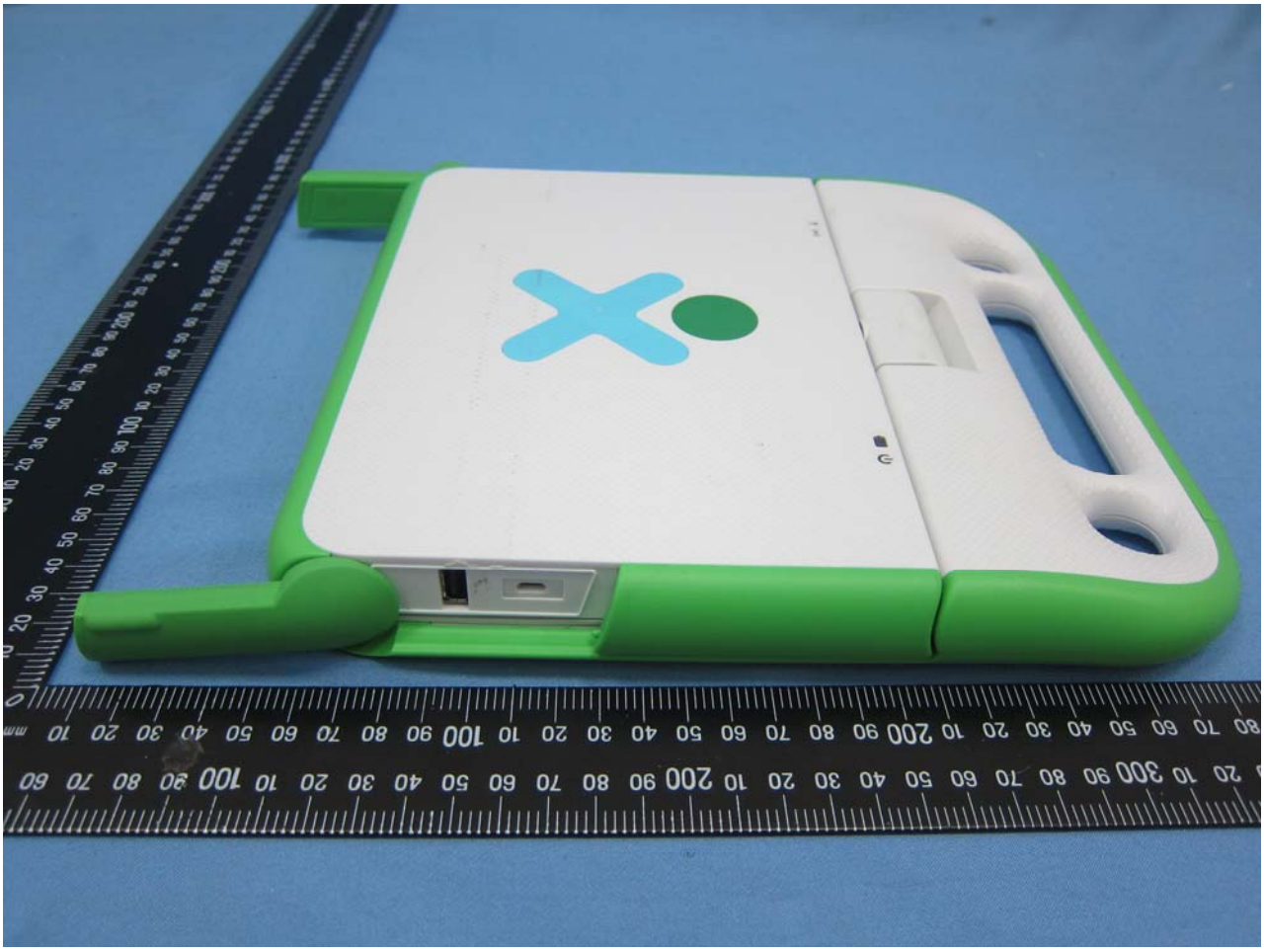


Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

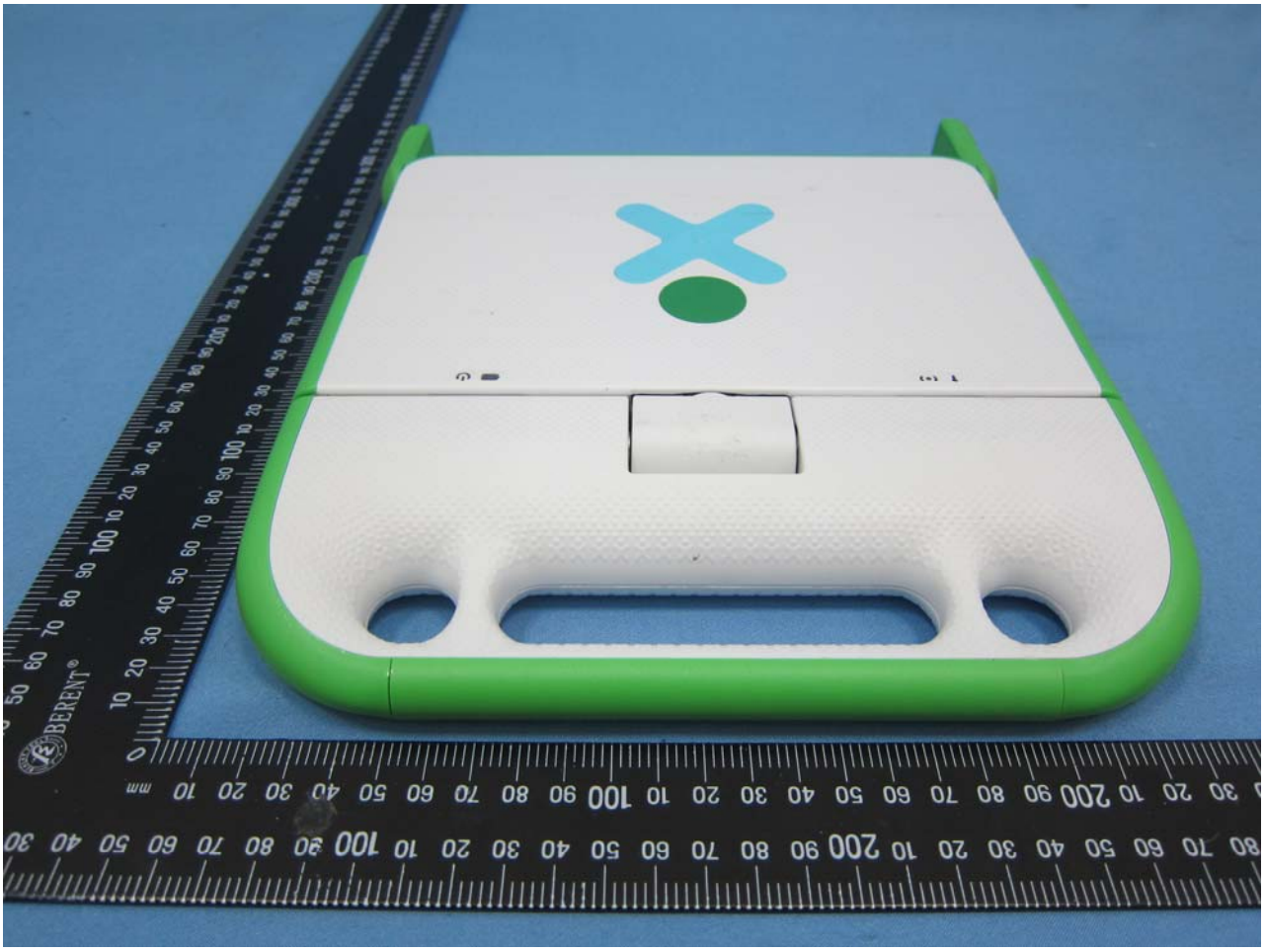
Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS



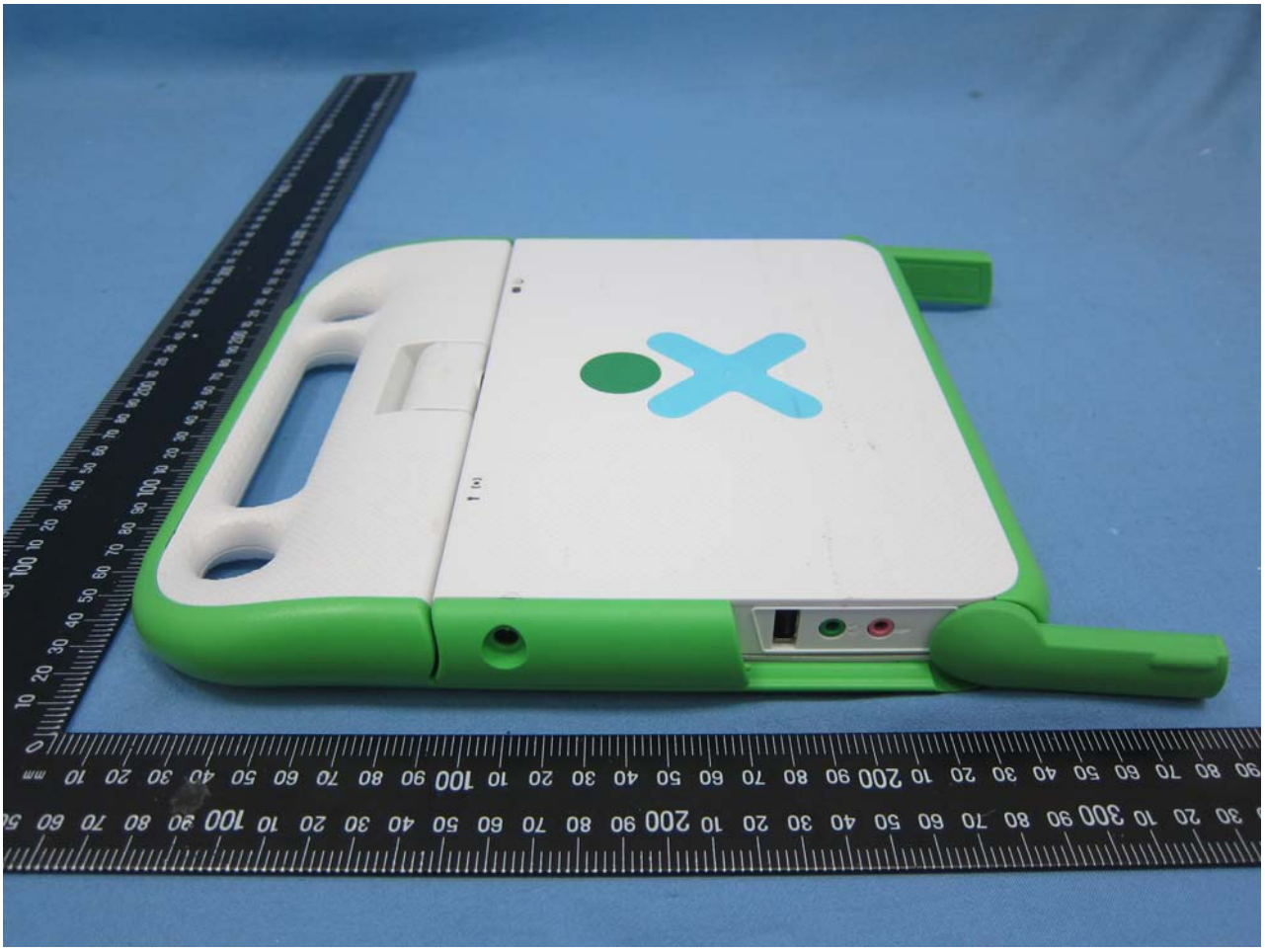
Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS



Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS



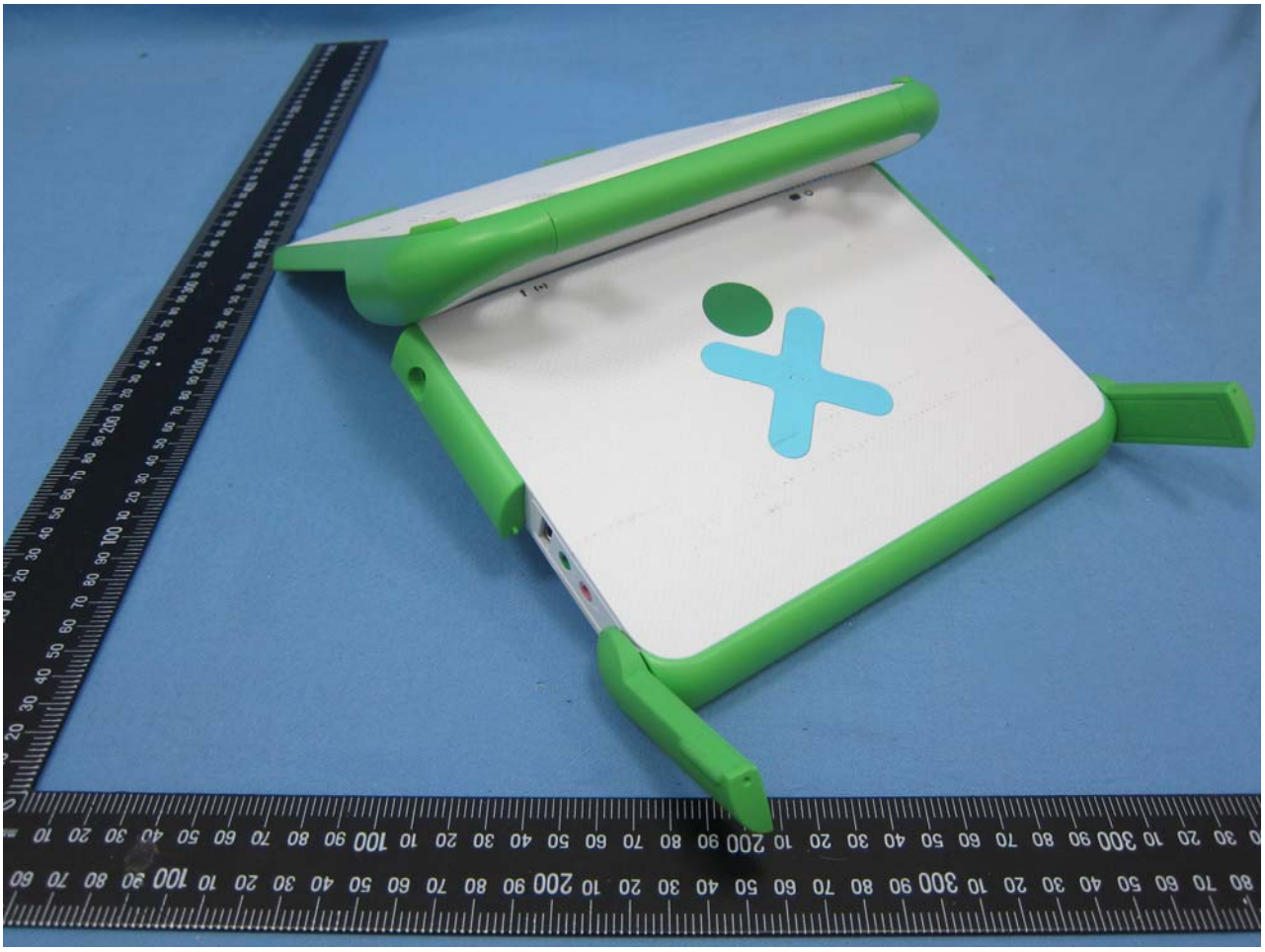
Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS



Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

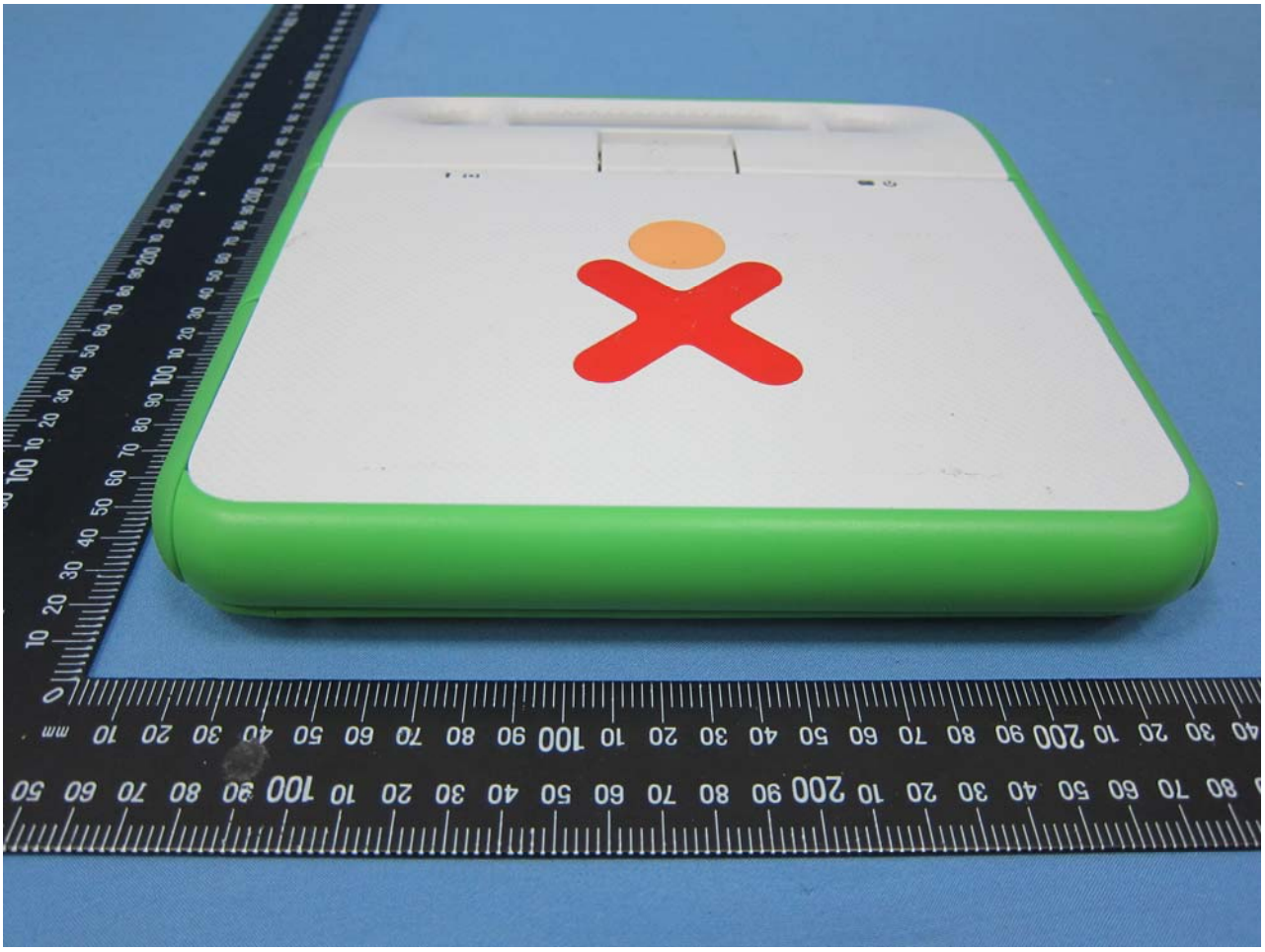
Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS



Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

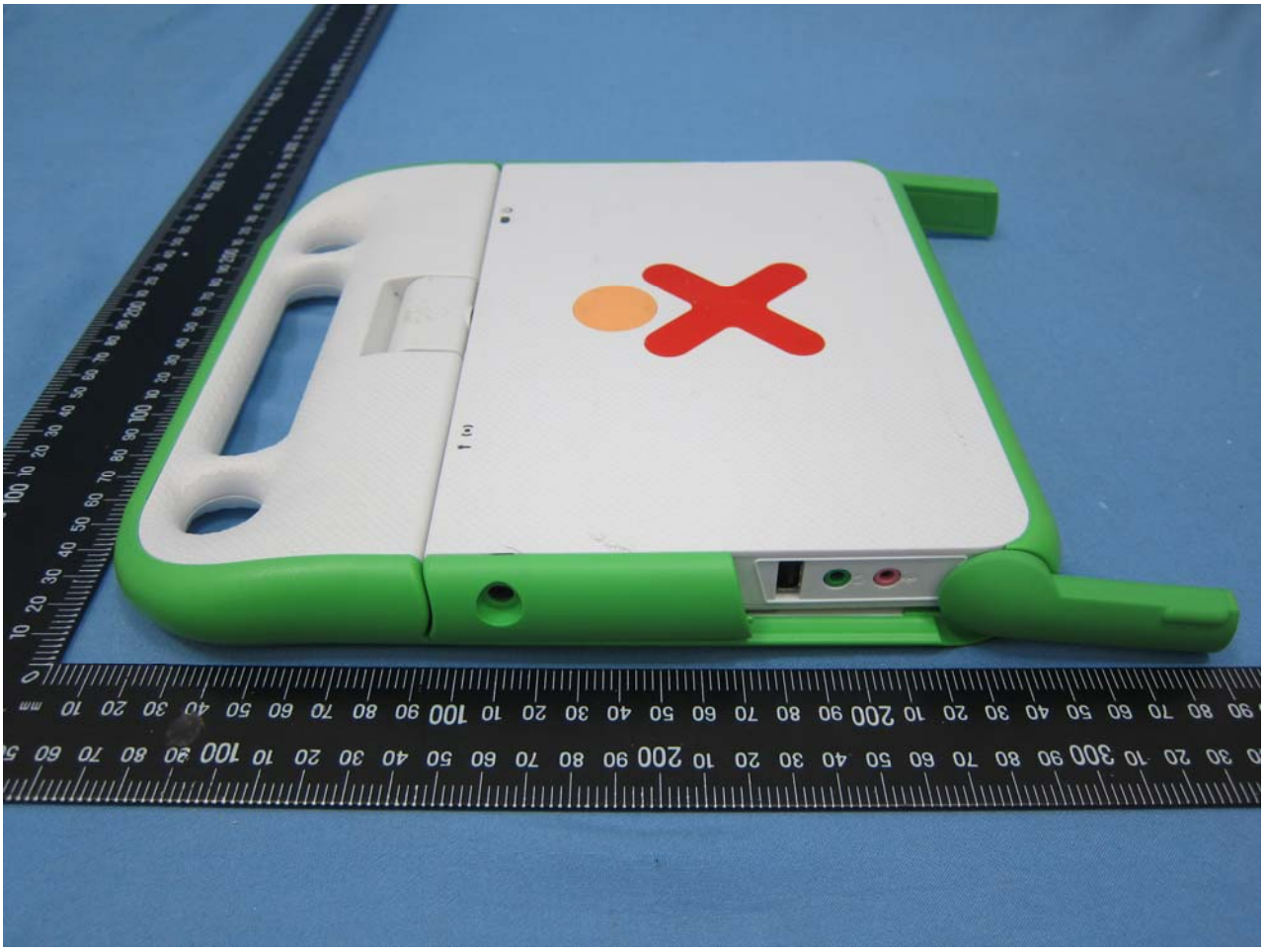
Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS



Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

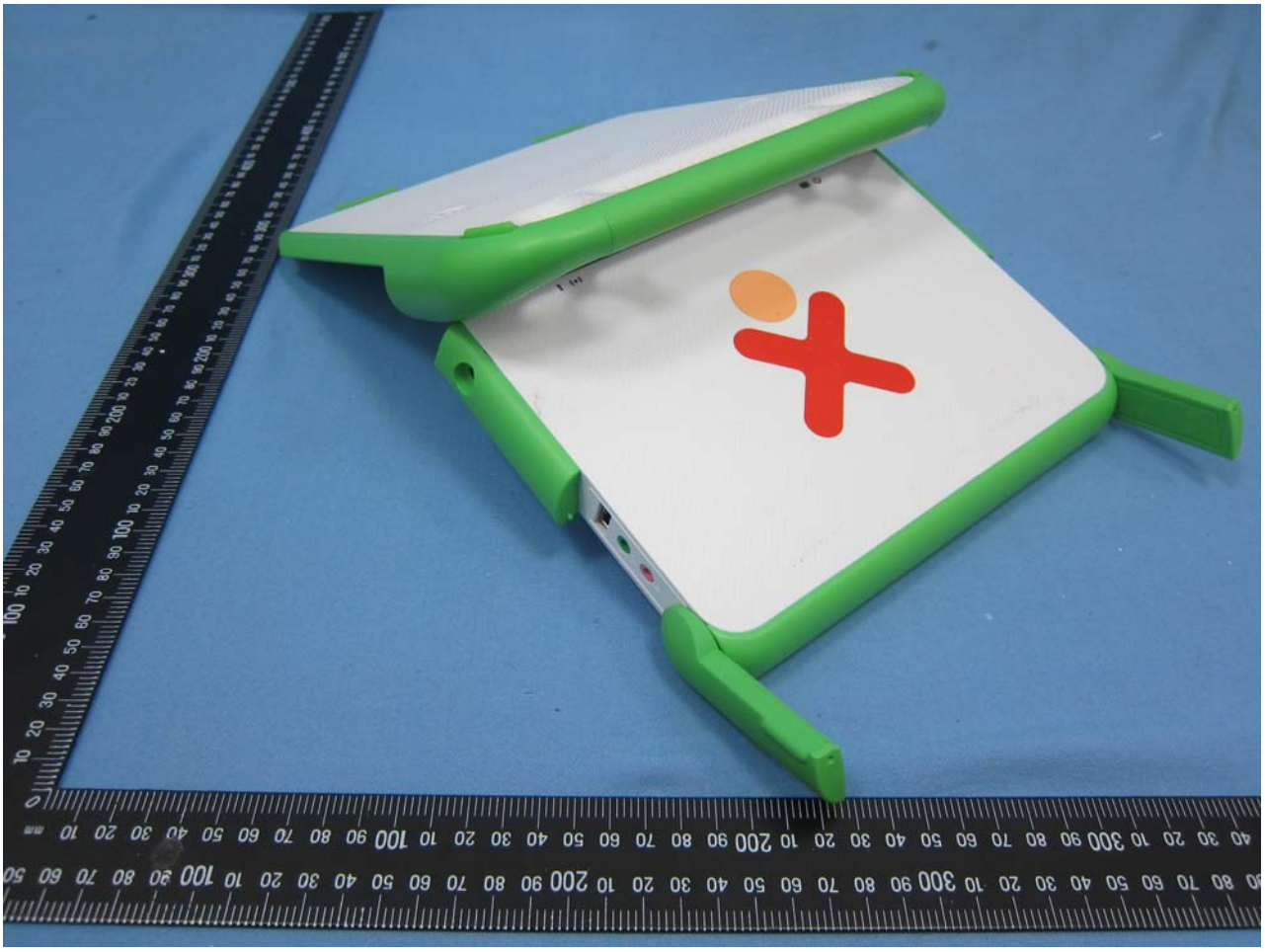
Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS



Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

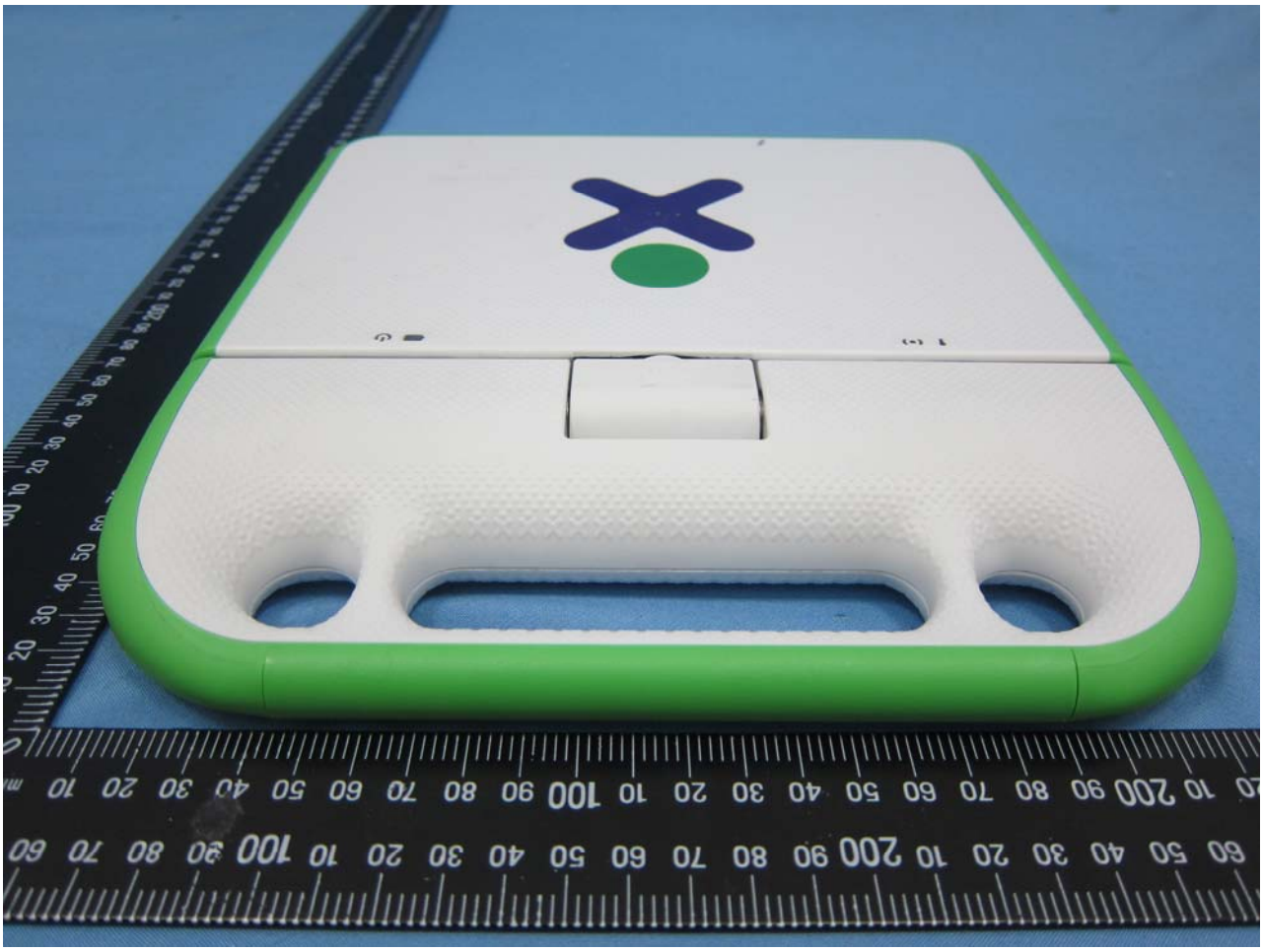


Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

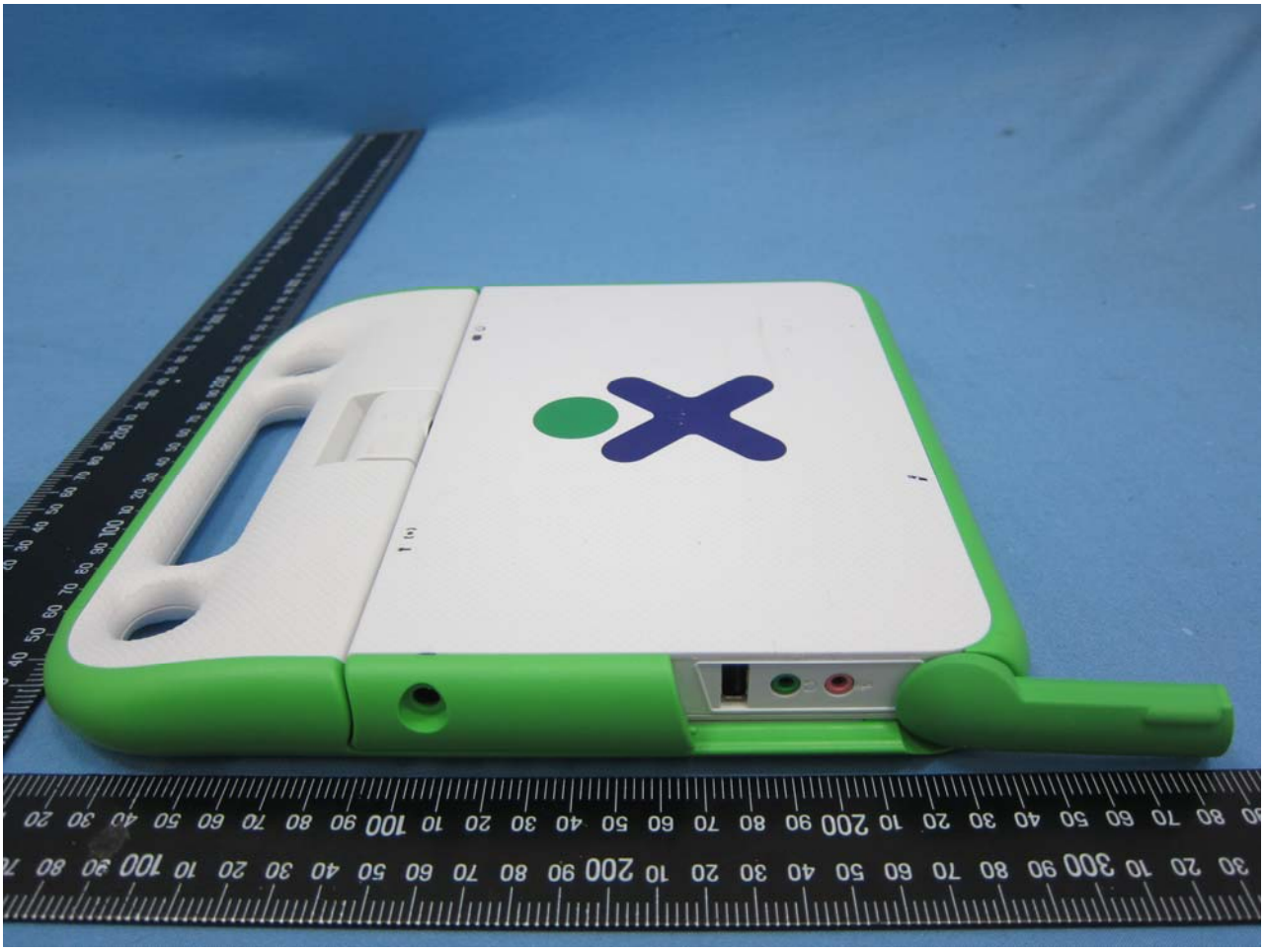
Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS



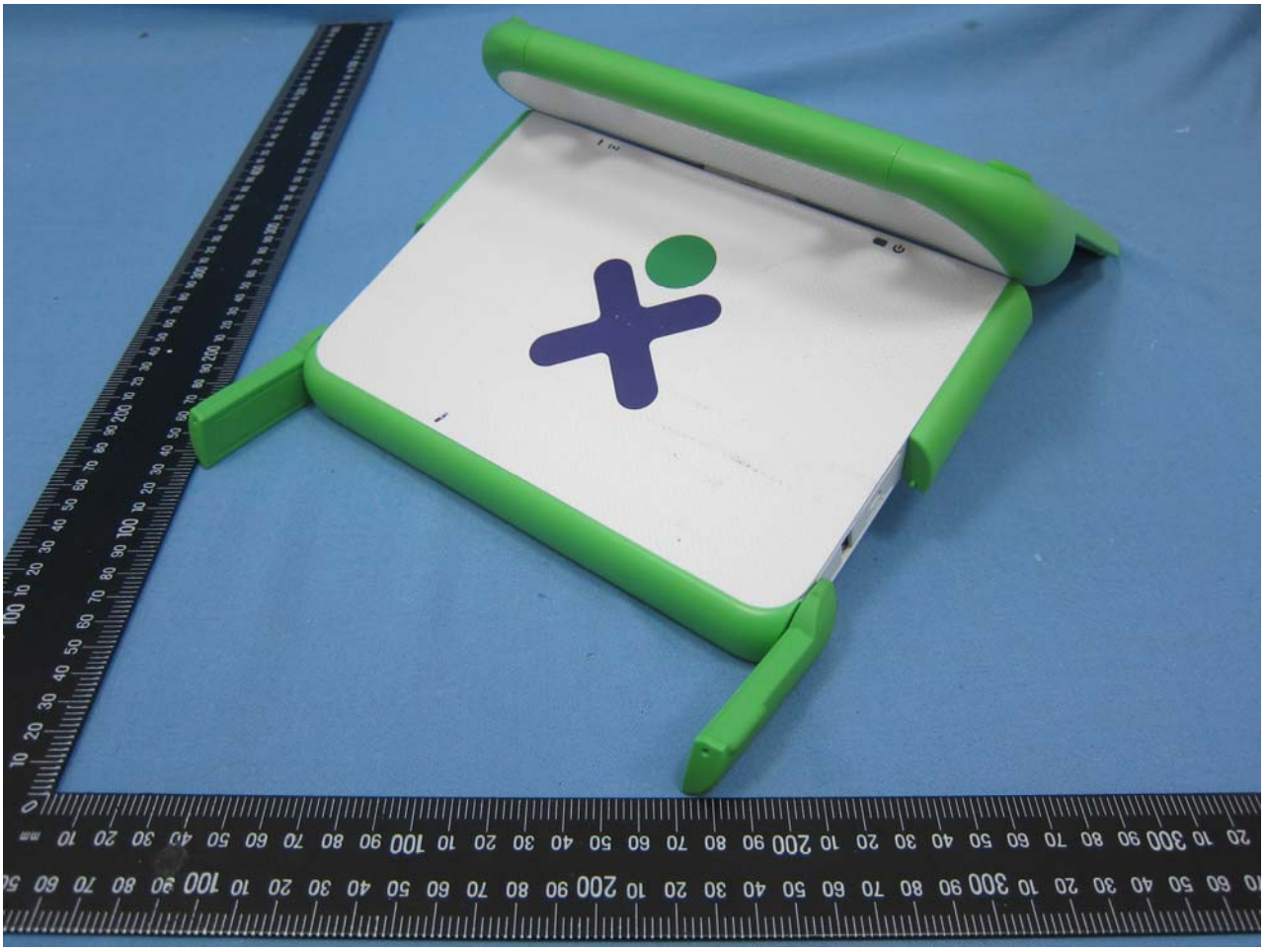
Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS



Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS



2. Photograph of Accessory

Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

List of Accessory:

Specification of Accessory		
AC Adapter 1	**Brand Name**	DARFON
	Model Name	BB0J-C
AC Adapter 2	**Brand Name**	Bestec
	Model Name	NA0241WAA
AC Adapter 3	**Brand Name**	DARFON
	Model Name	BX24-1203(X=U or P)
AC Adapter 4	**Brand Name**	Bestec
	Model Name	BT-AG250SDF
Battery	**Brand Name**	OLPC
	Model Name	CL1

Remark: For accessories equipped with this EUT, please refer to the following photos.

Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

AC Adapter 1

Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

AC Adapter 2

Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

AC Adapter 3

Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

AC Adapter 4

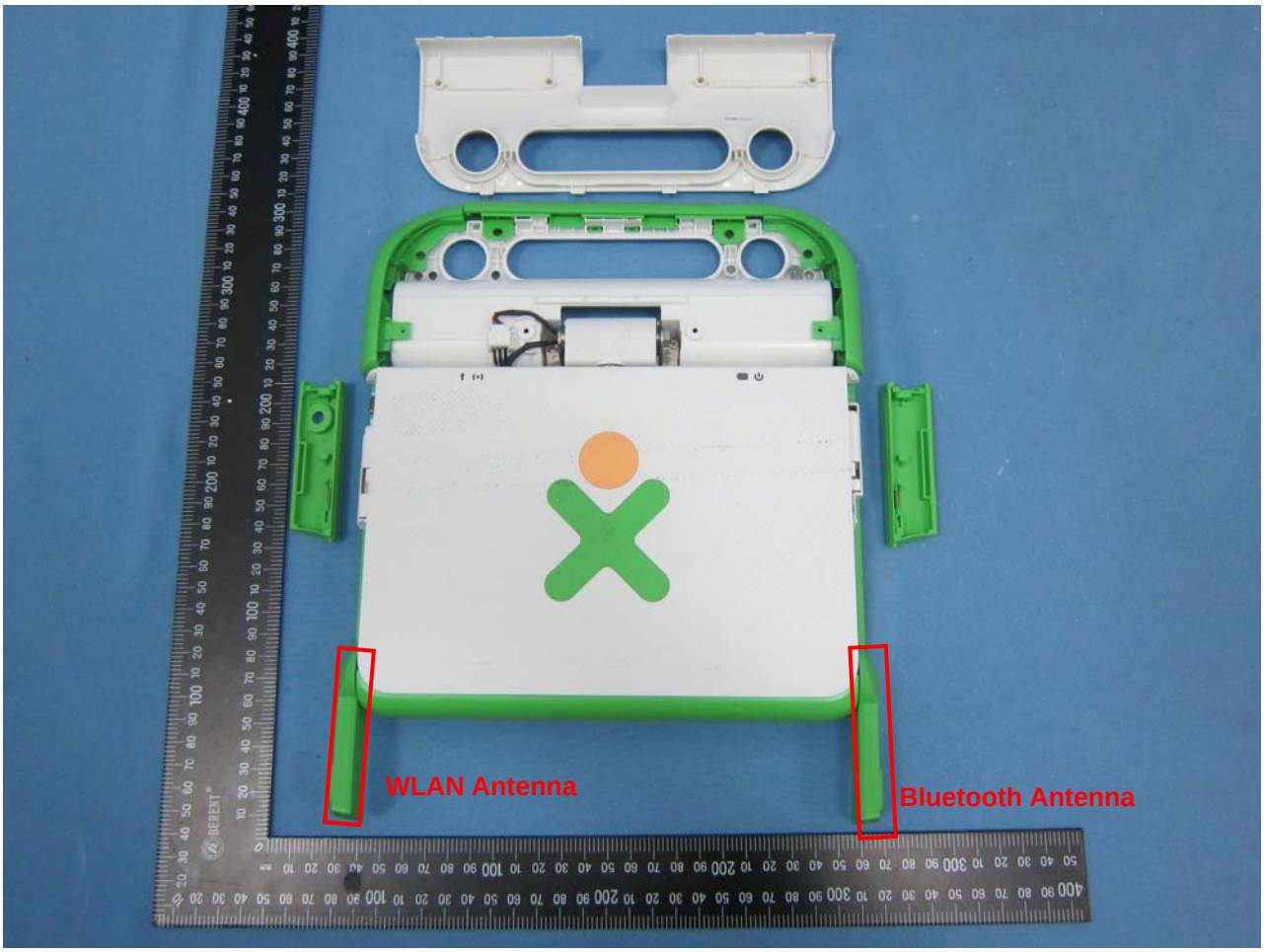
Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

3. Internal Photograph of EUT

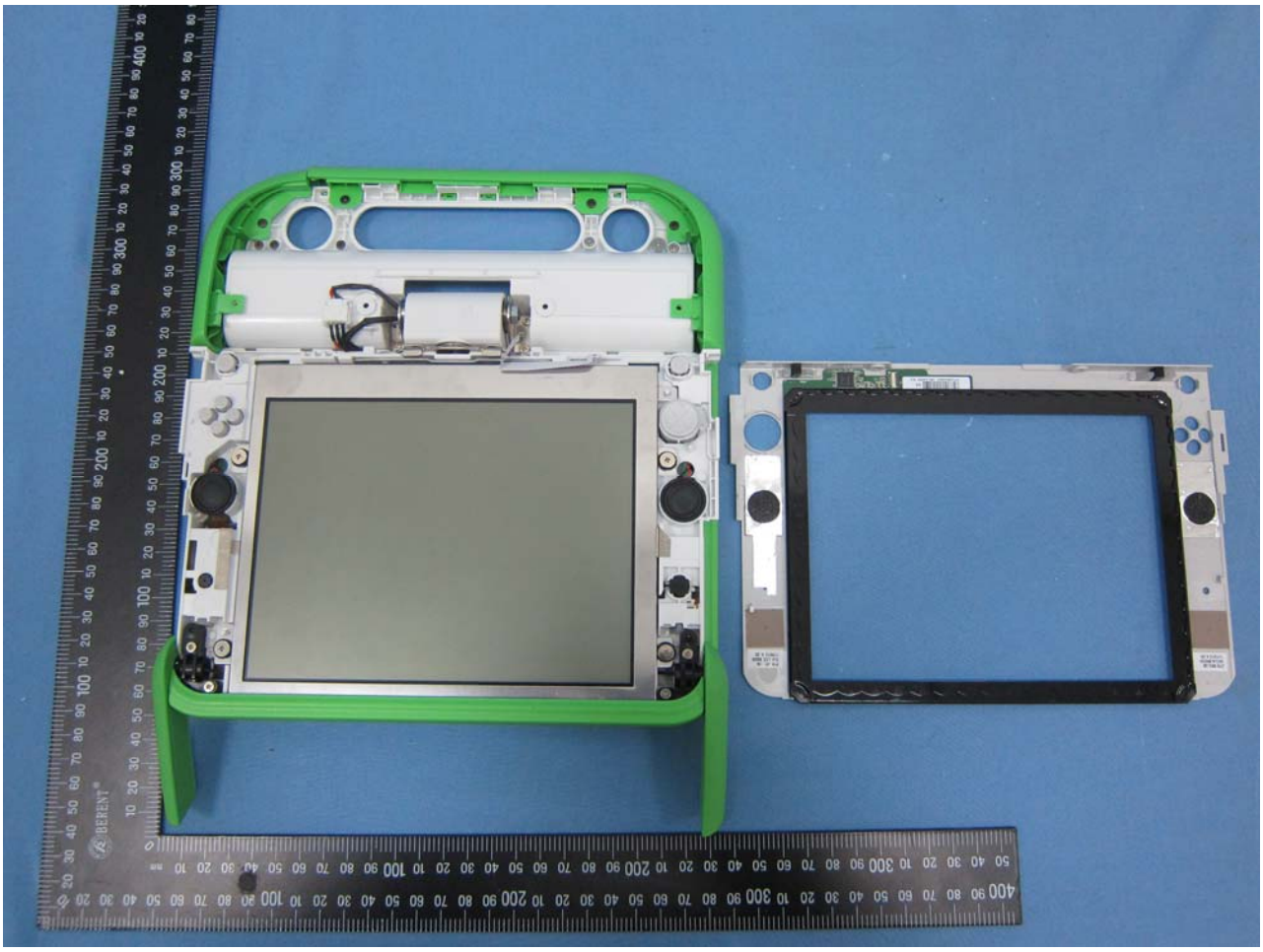
Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

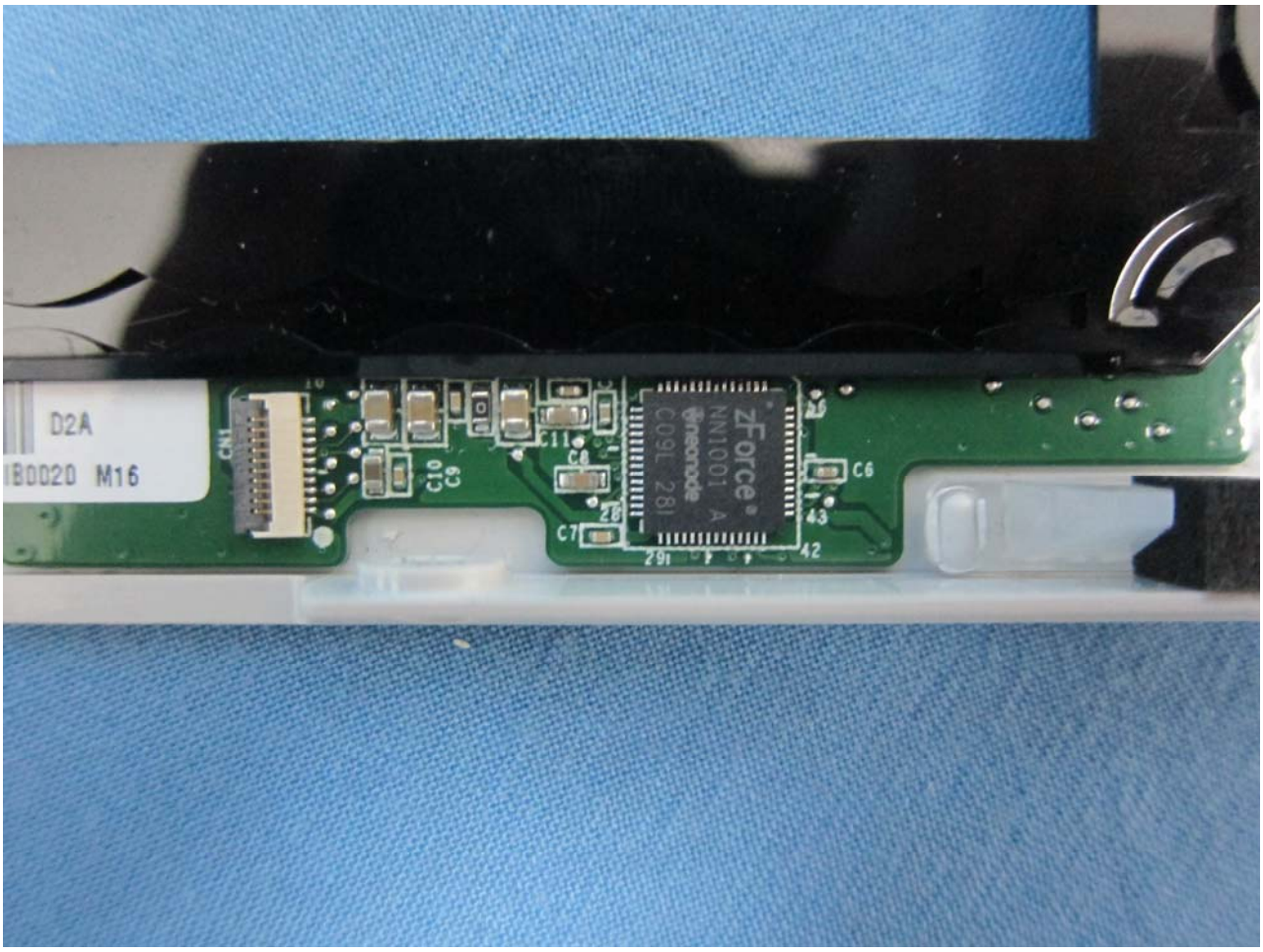
Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS



Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

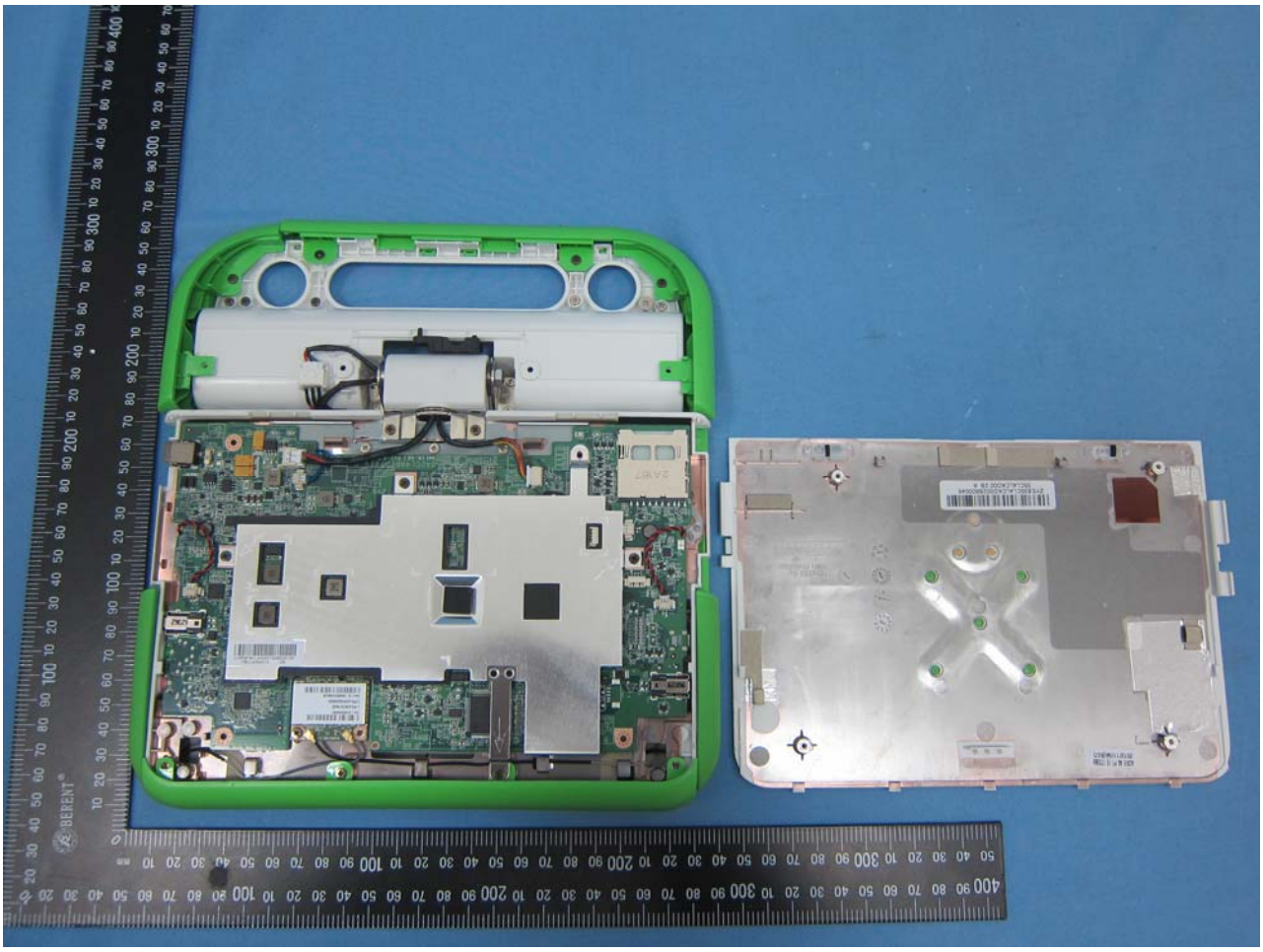


Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

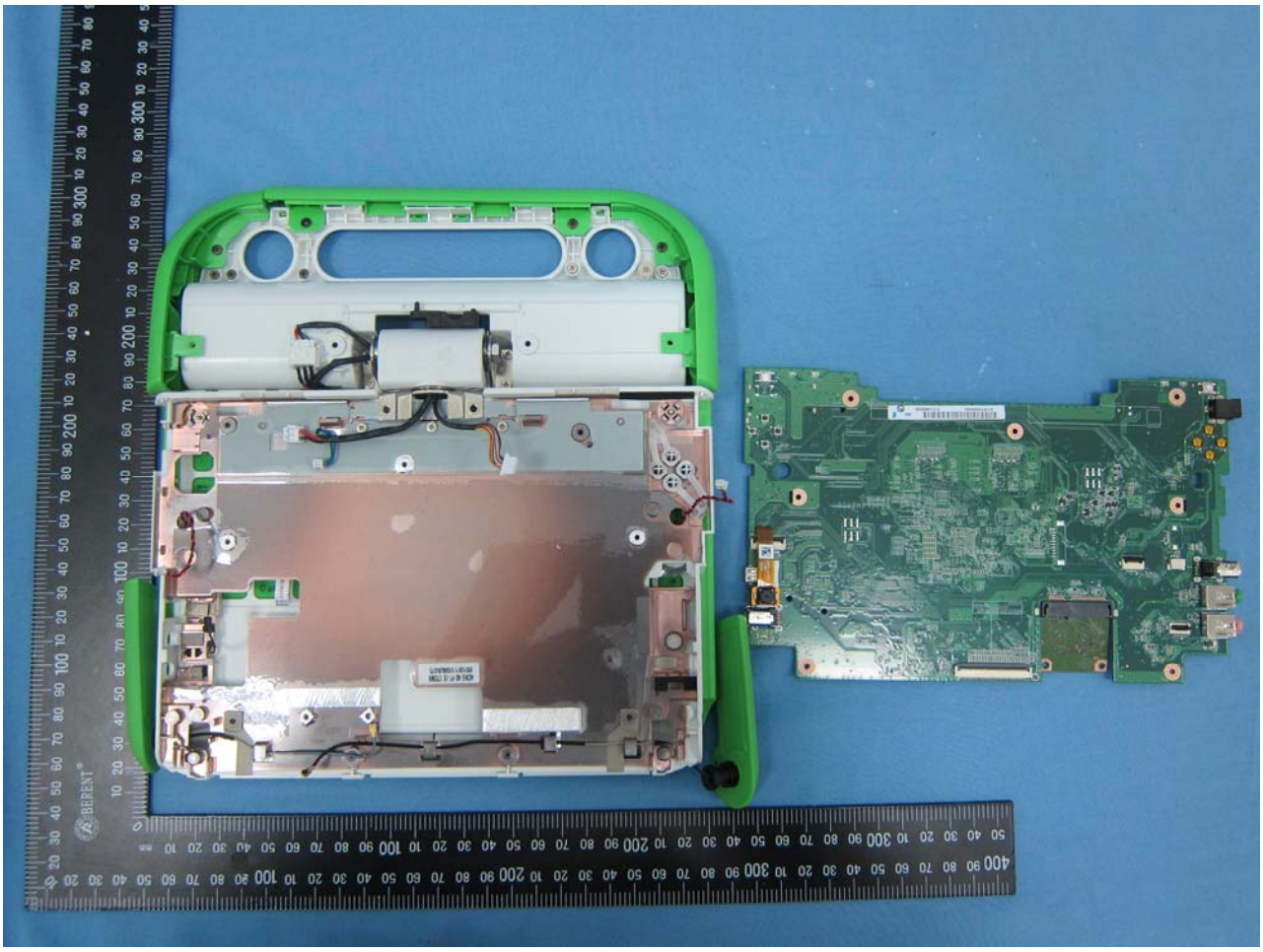


Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

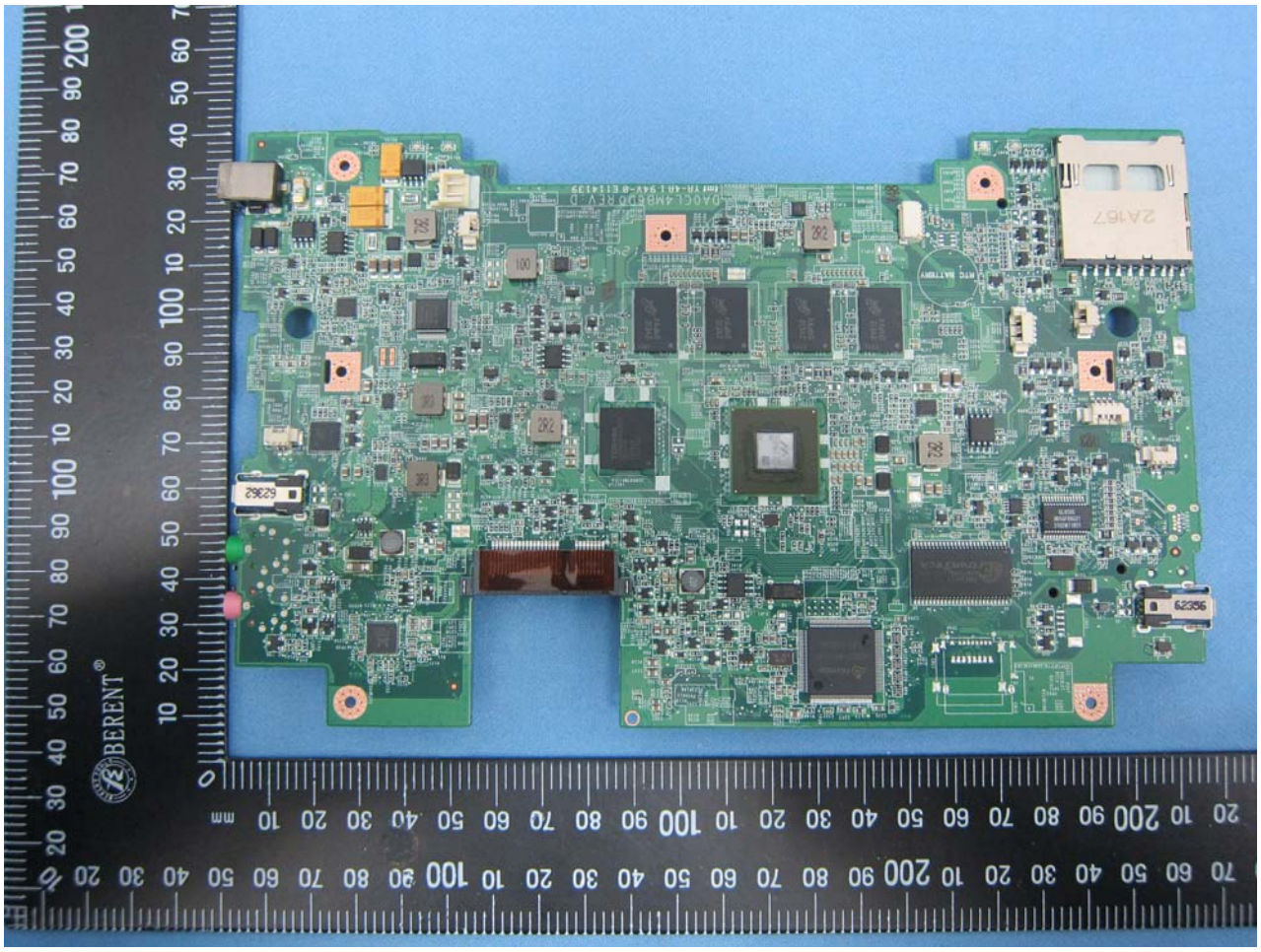
Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS



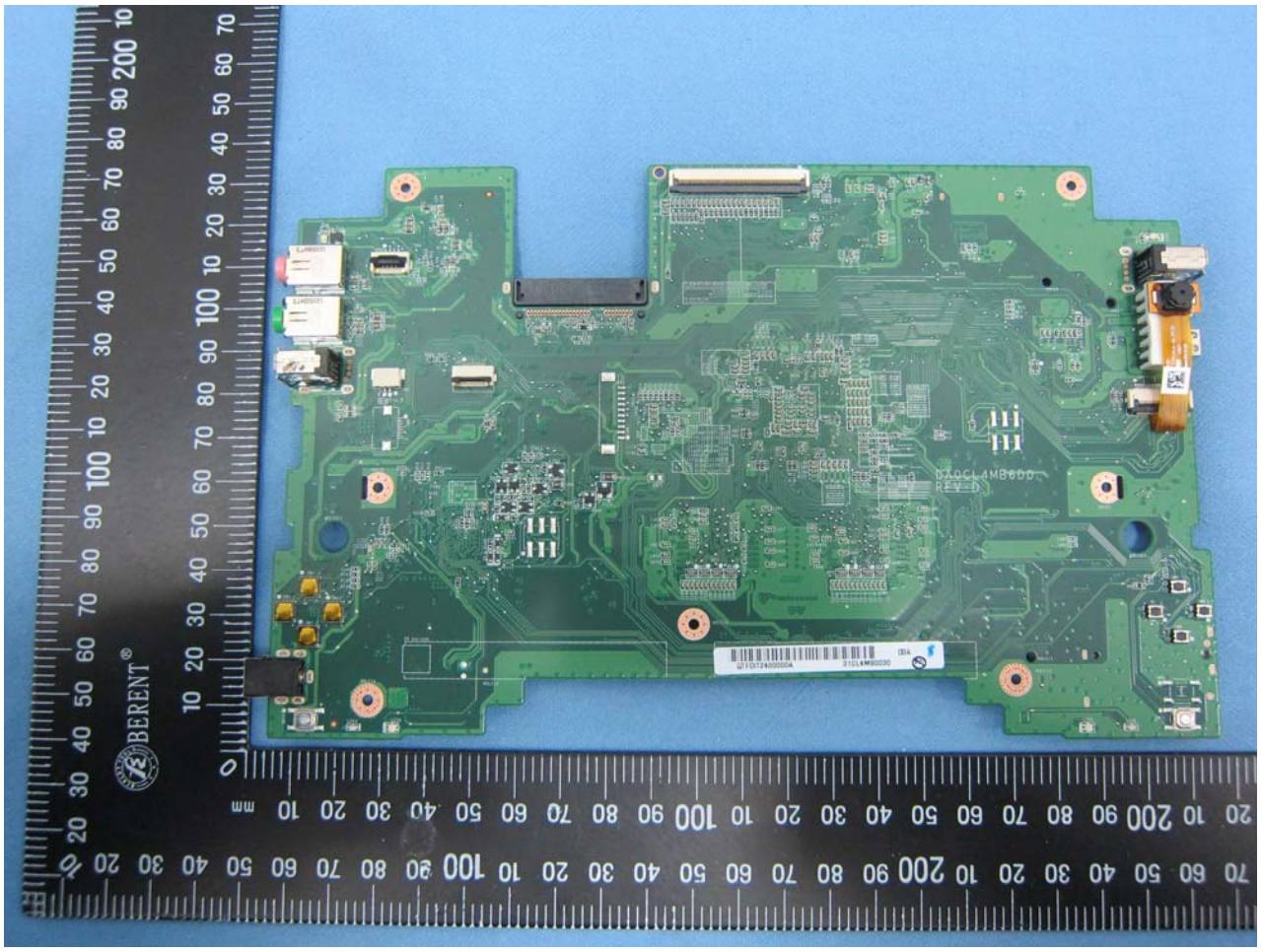
Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS



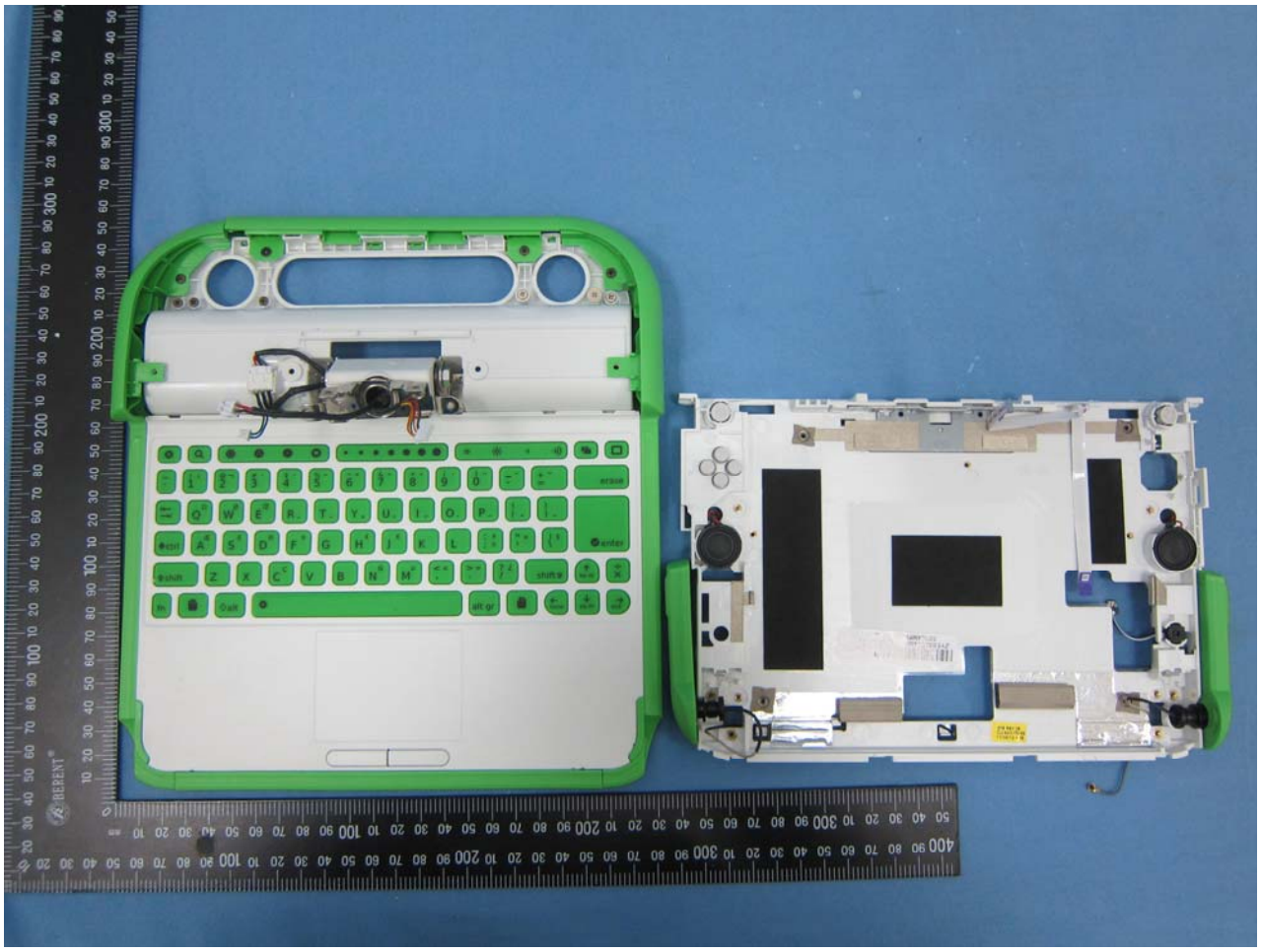
Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS



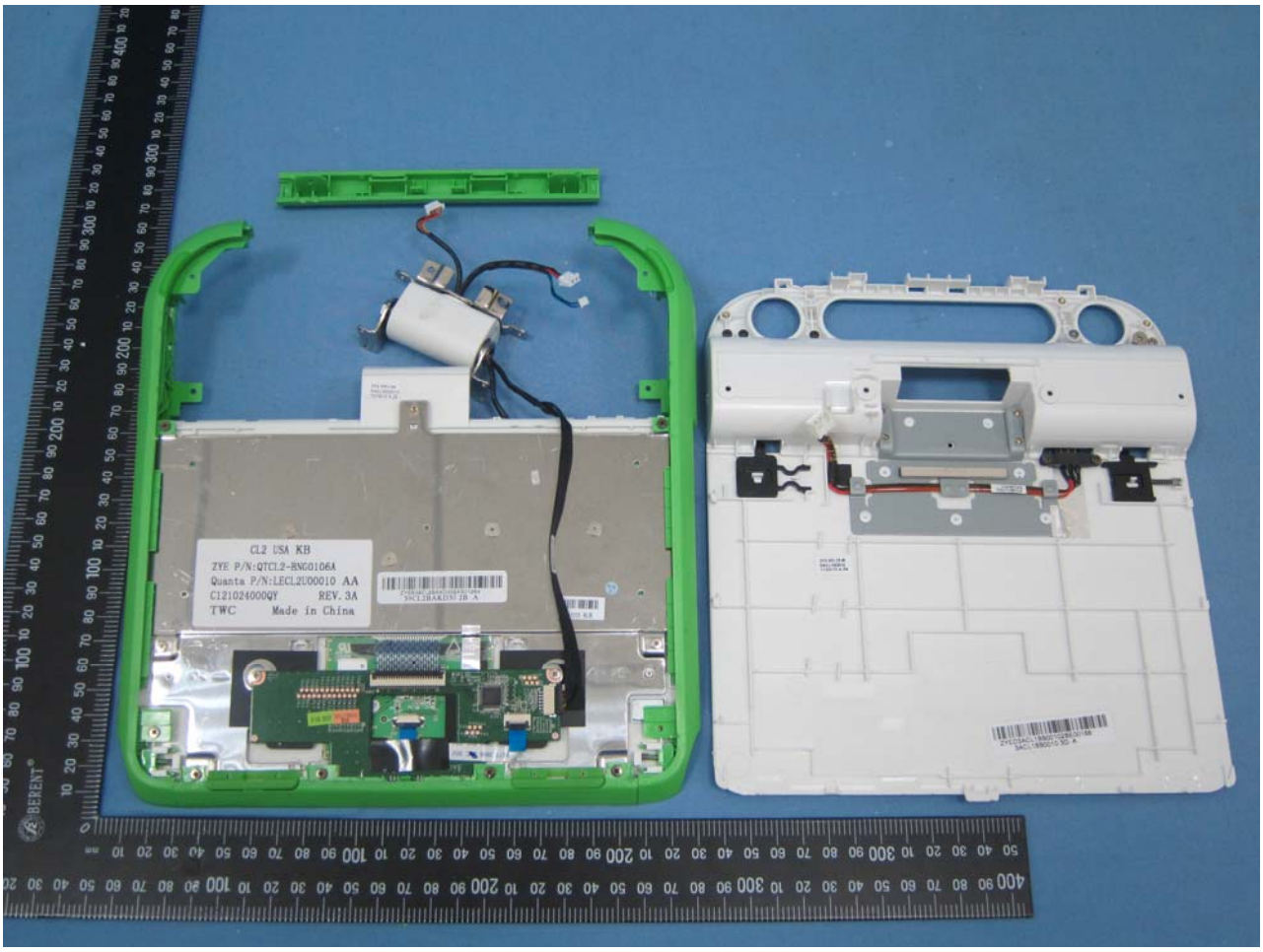
Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS



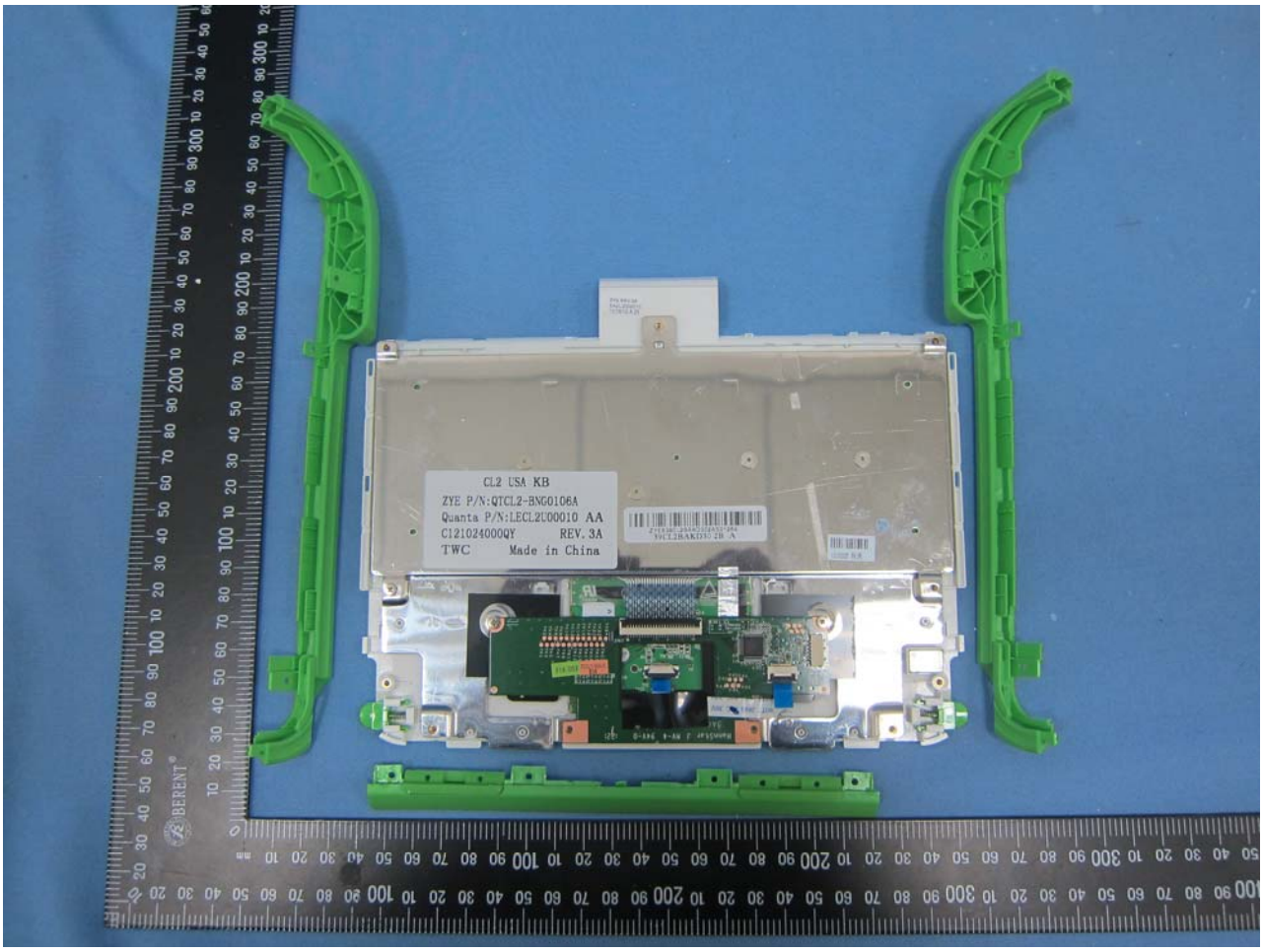
Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS



Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

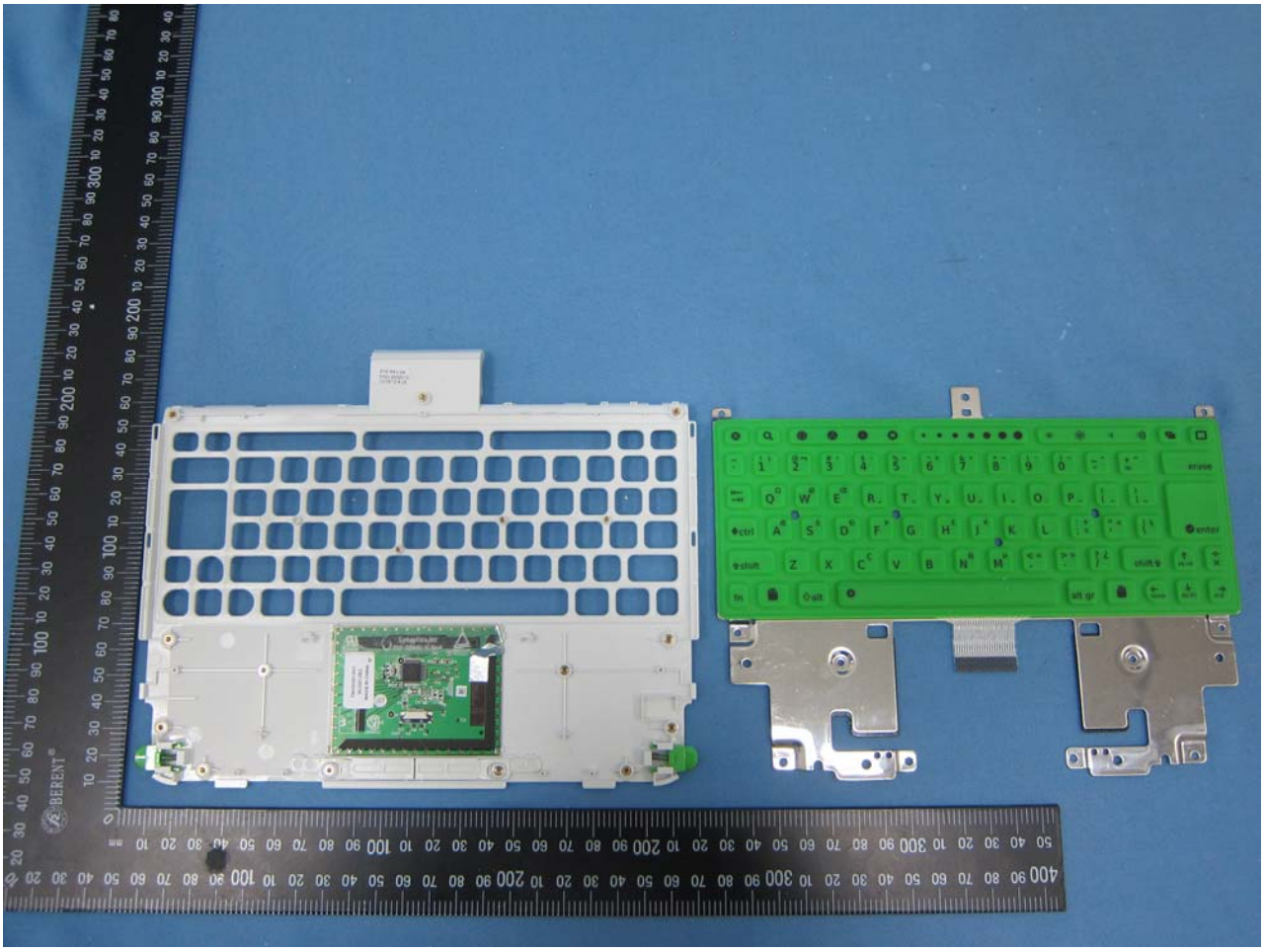


Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

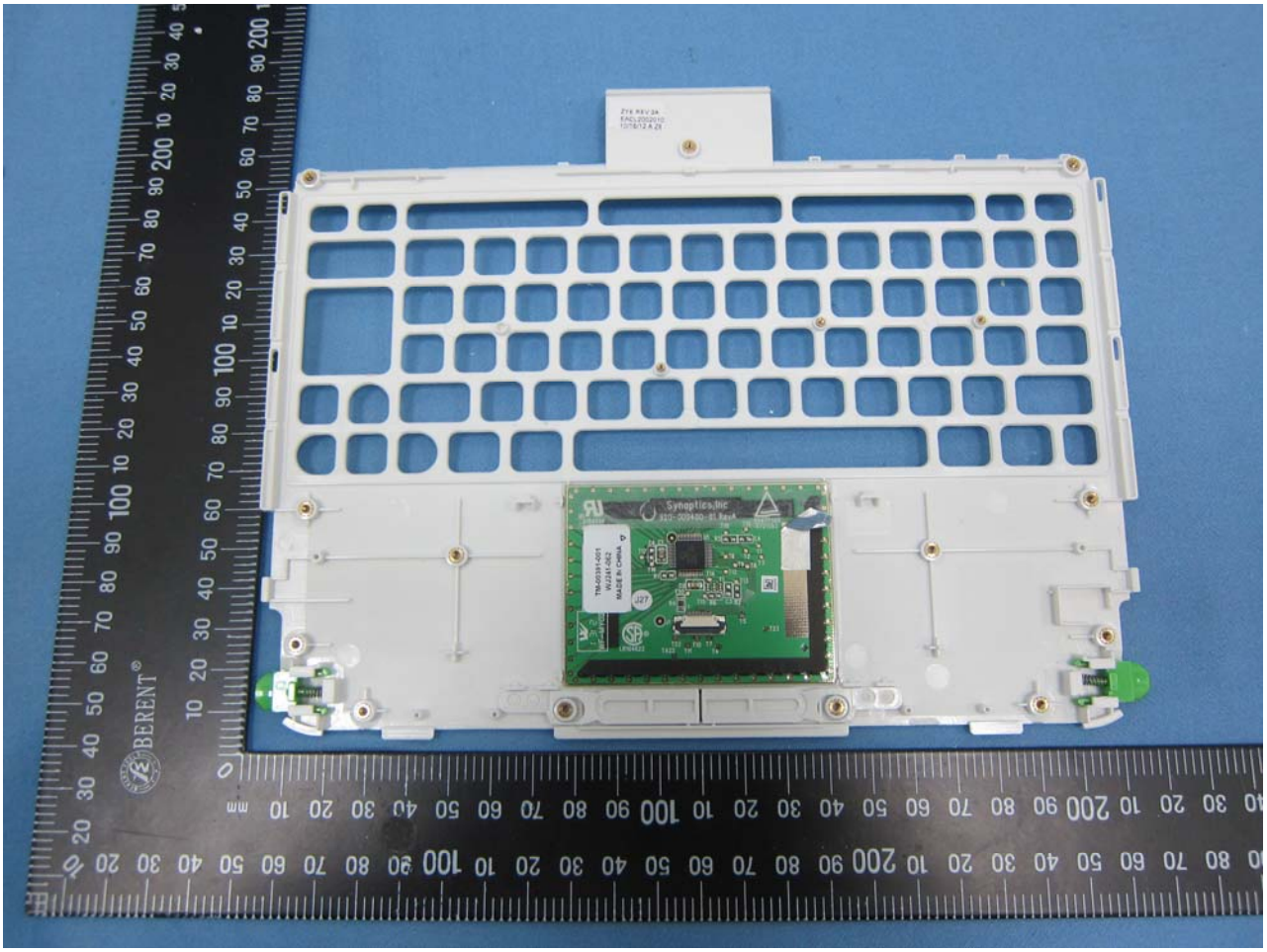


Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

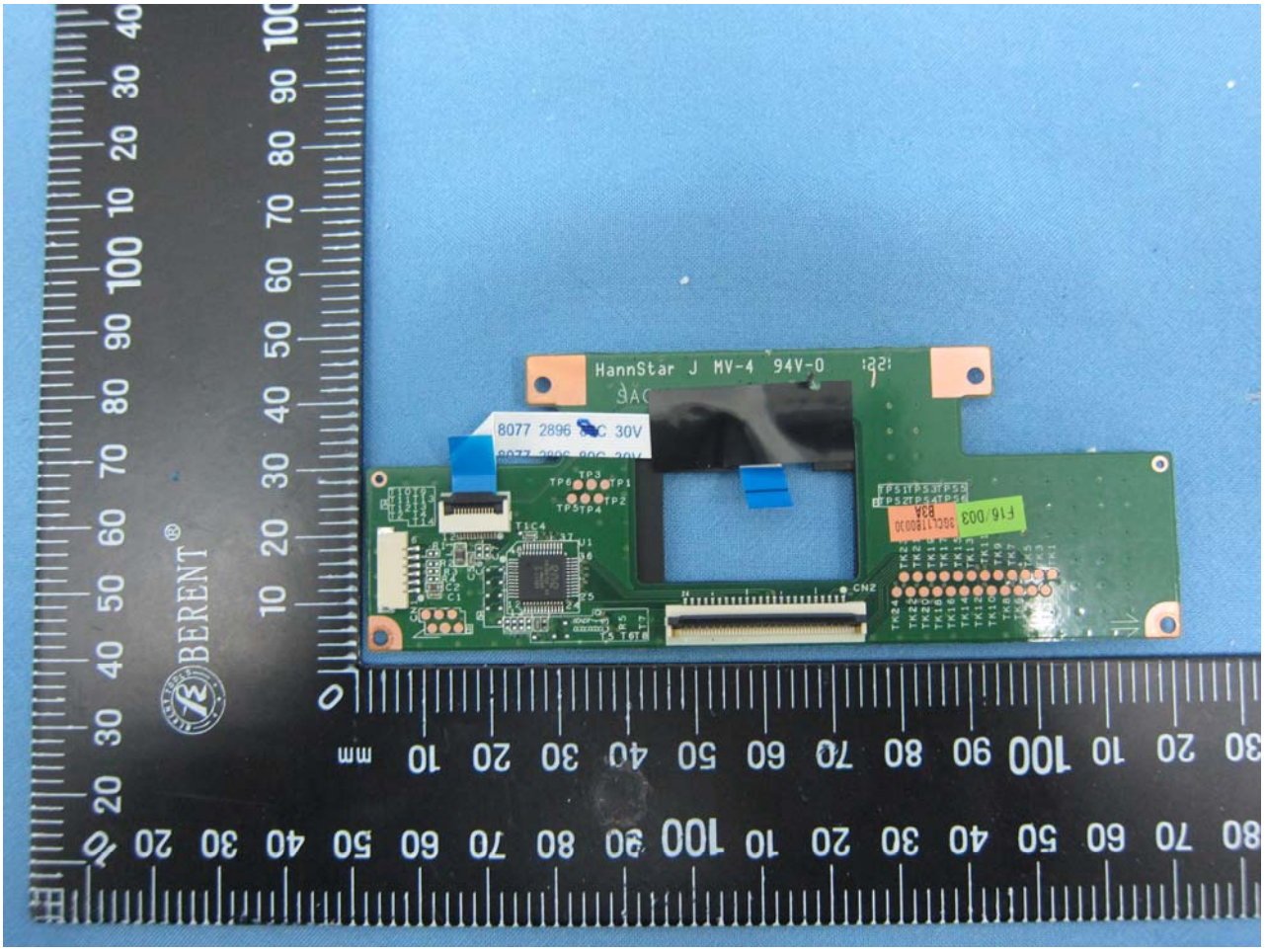
Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS



Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS



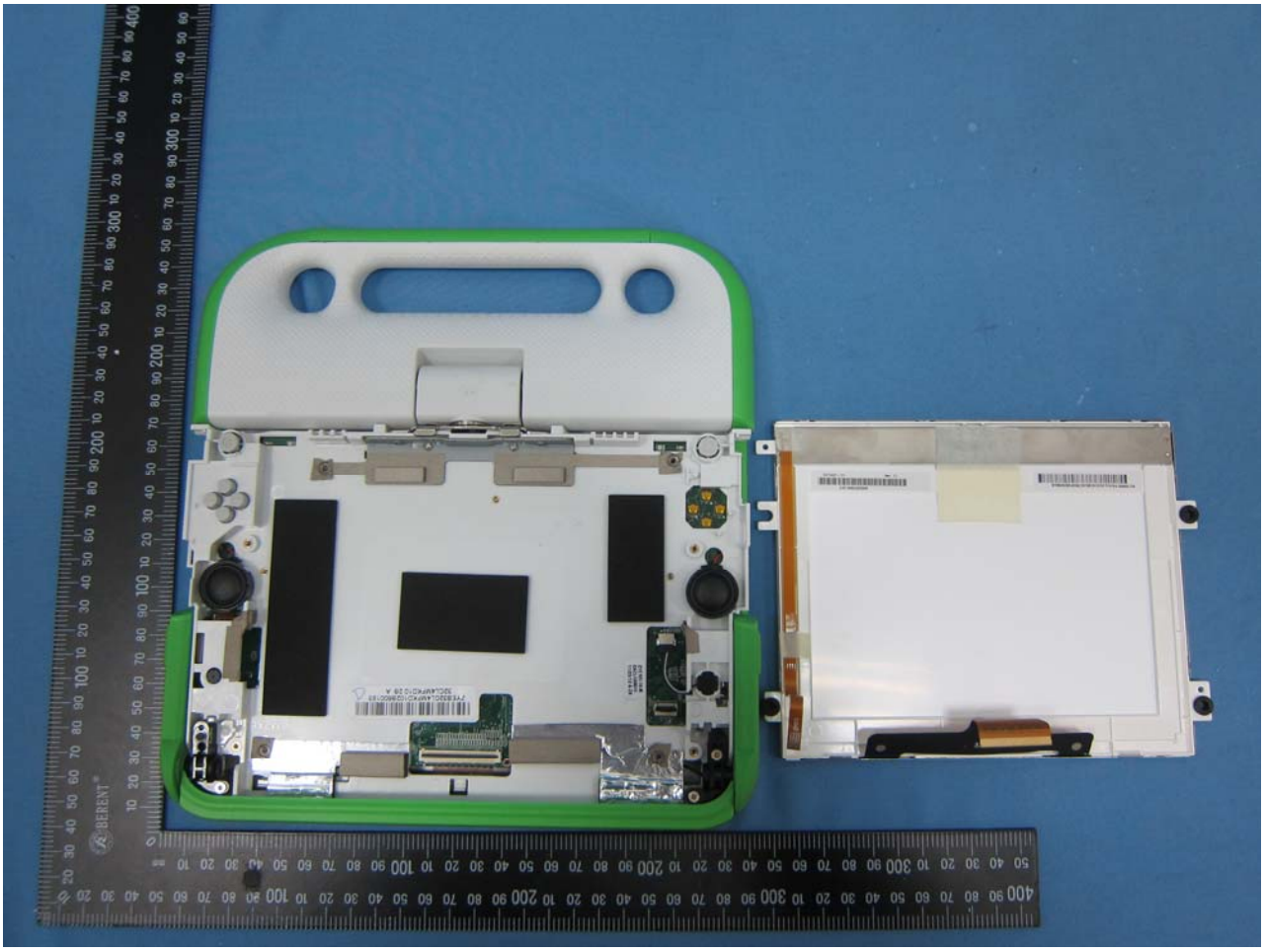
Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS



Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

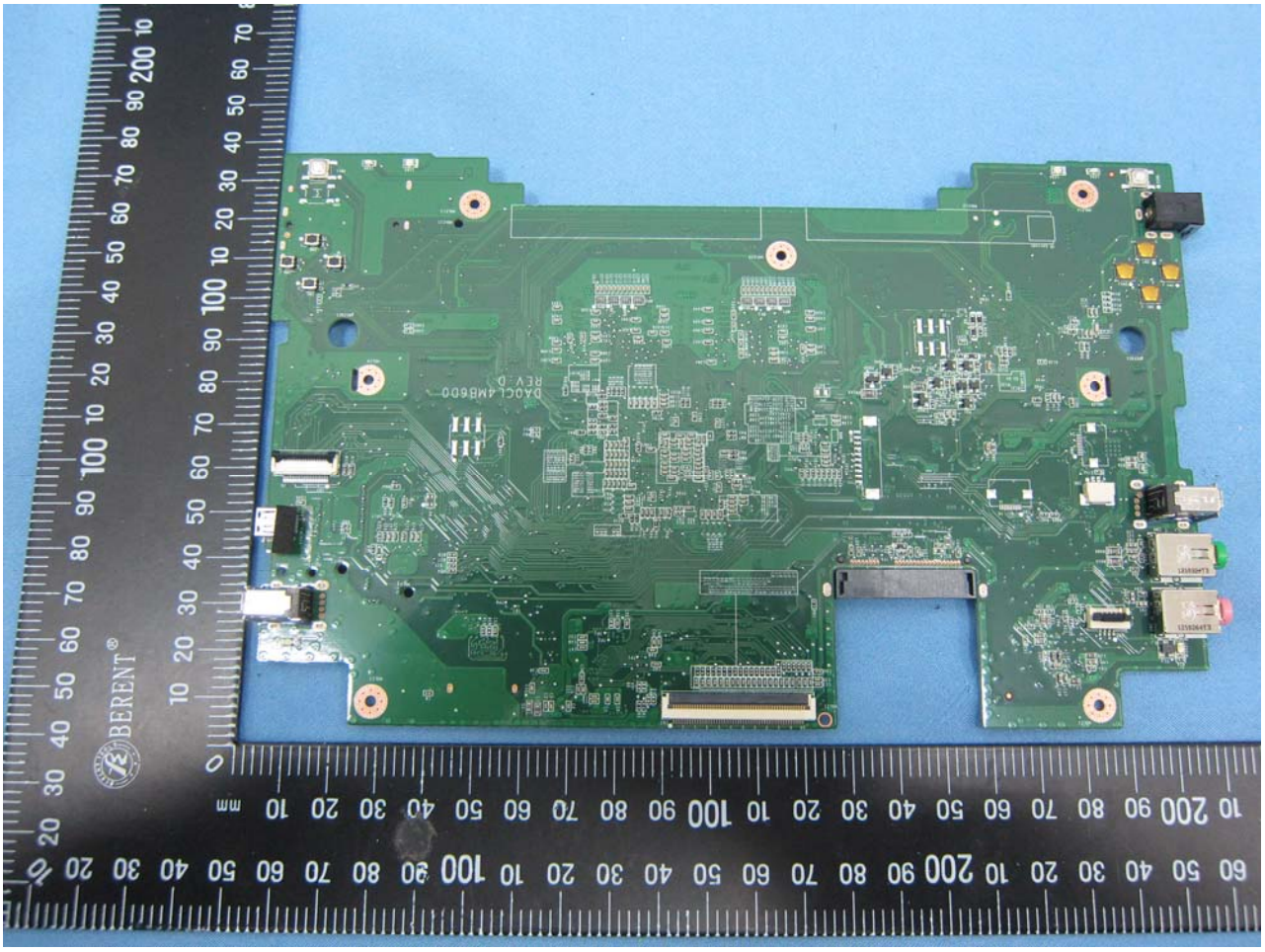
Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS



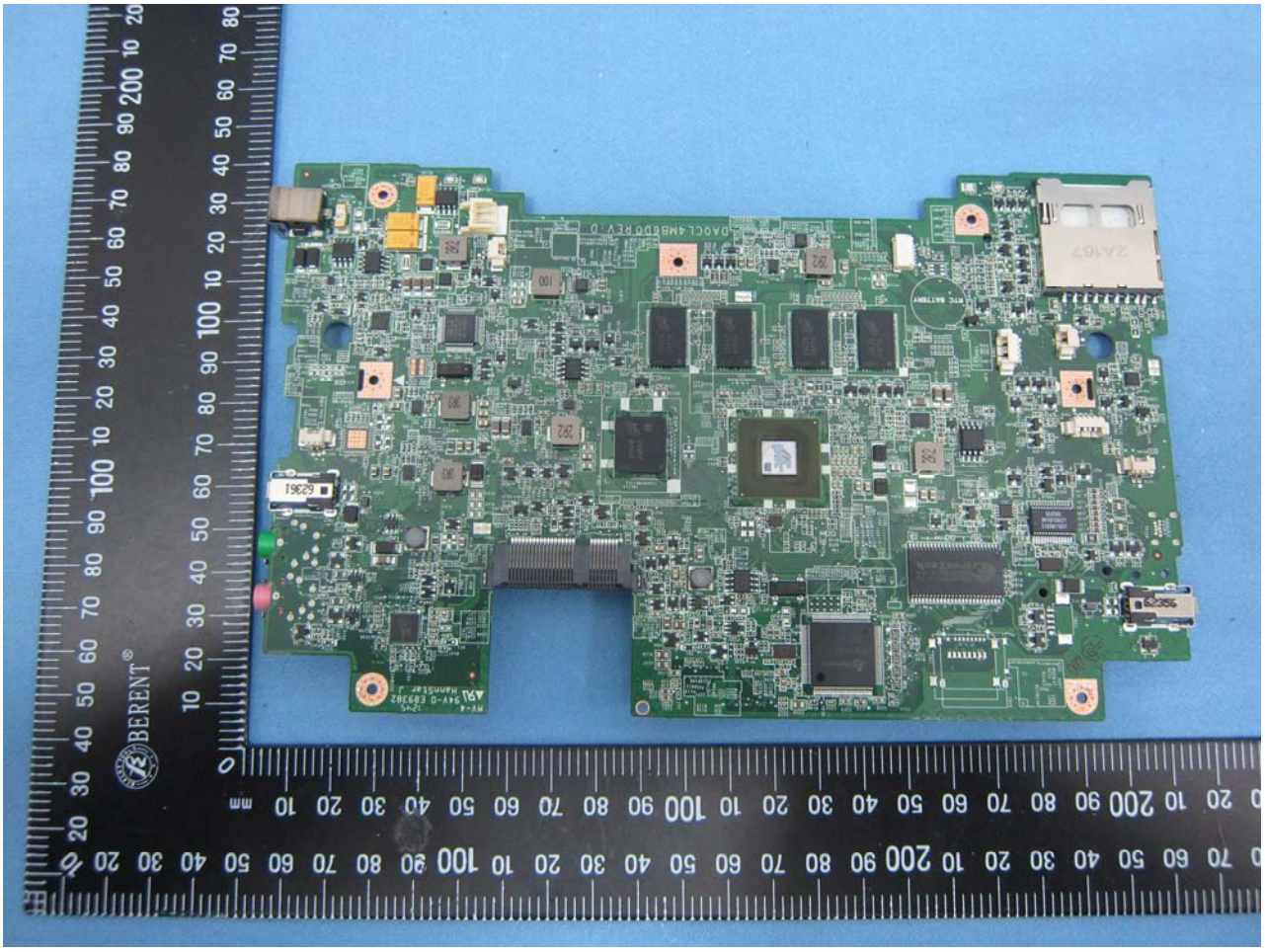
Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

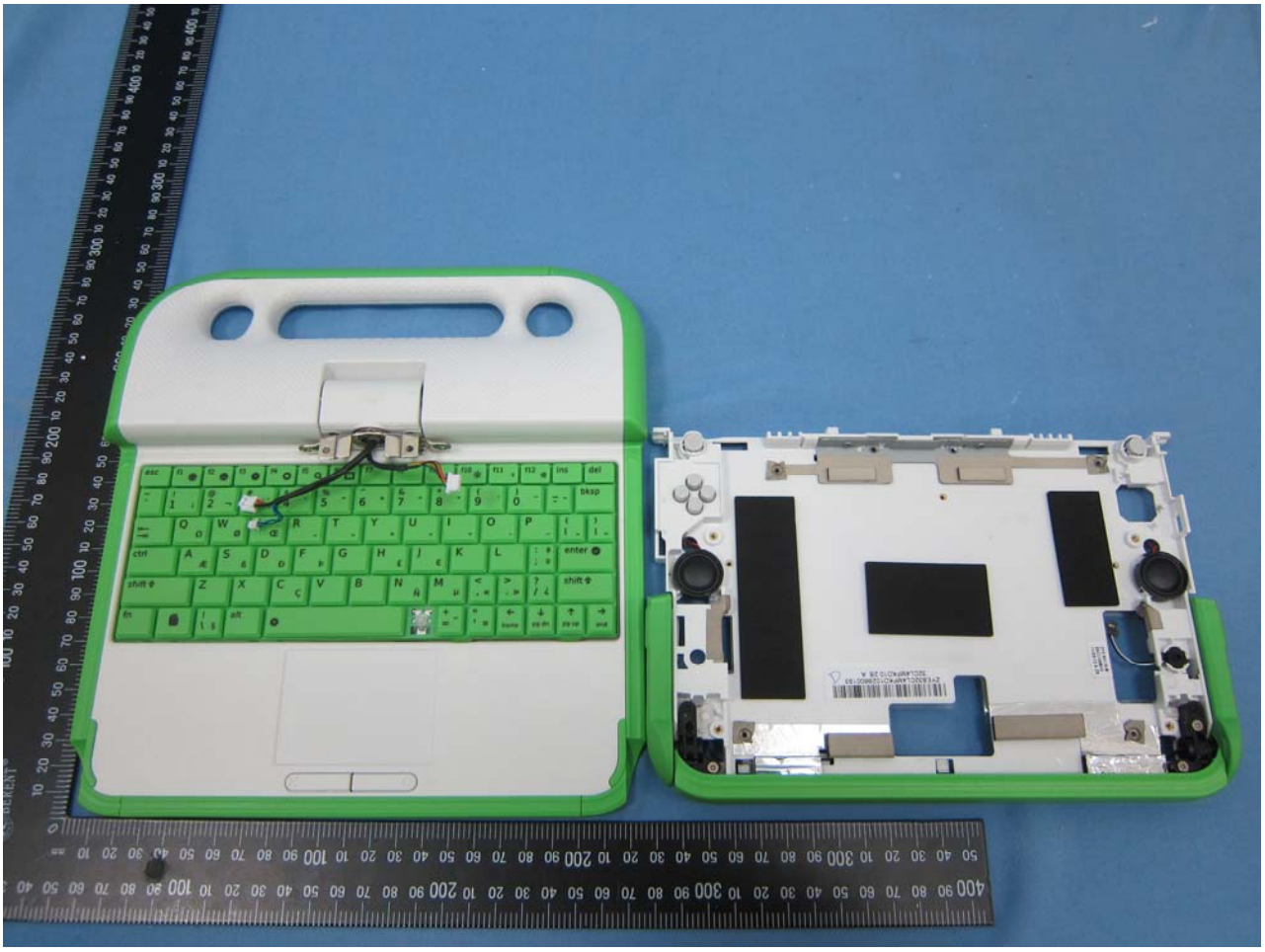
Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS



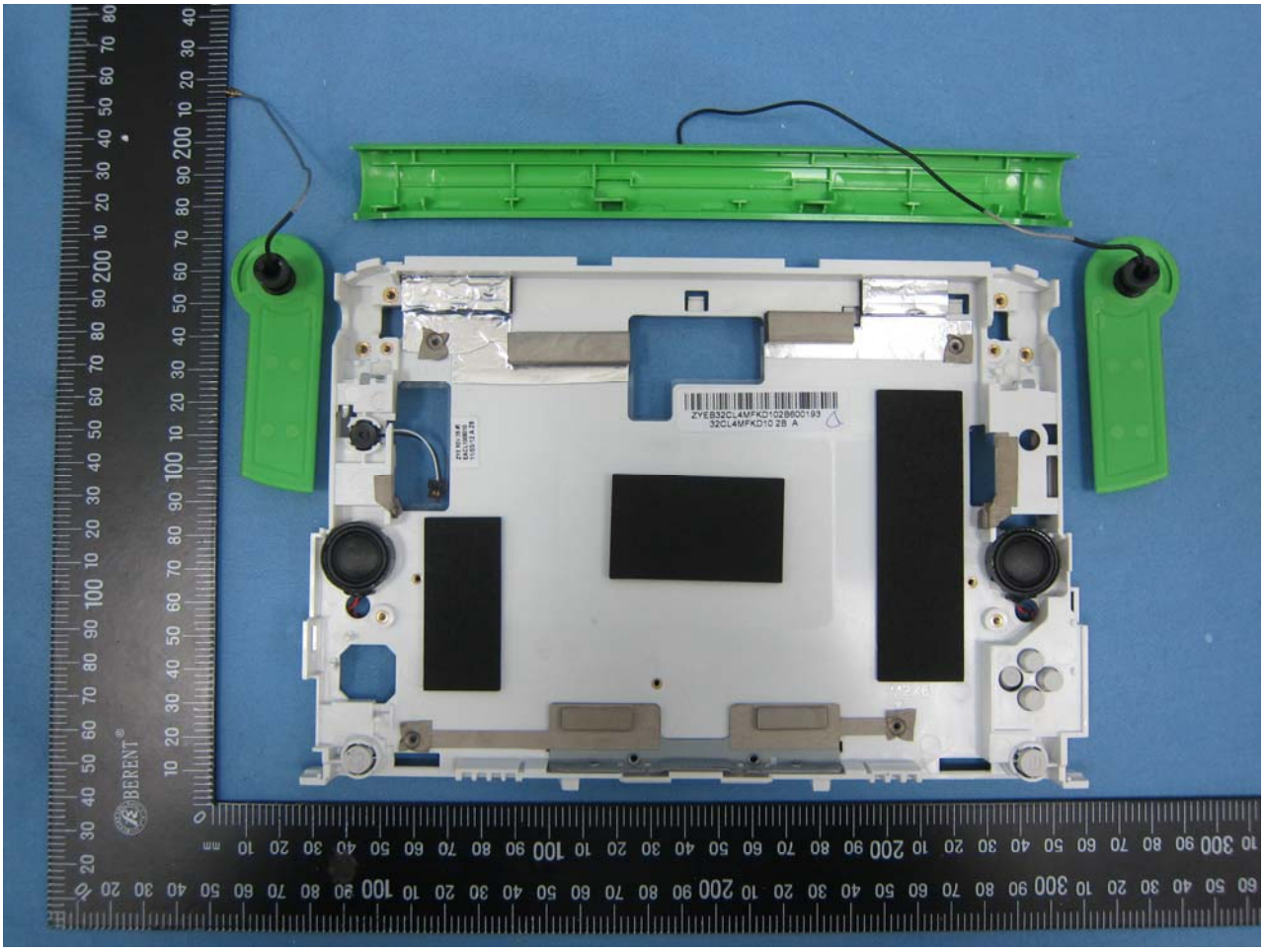
Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS



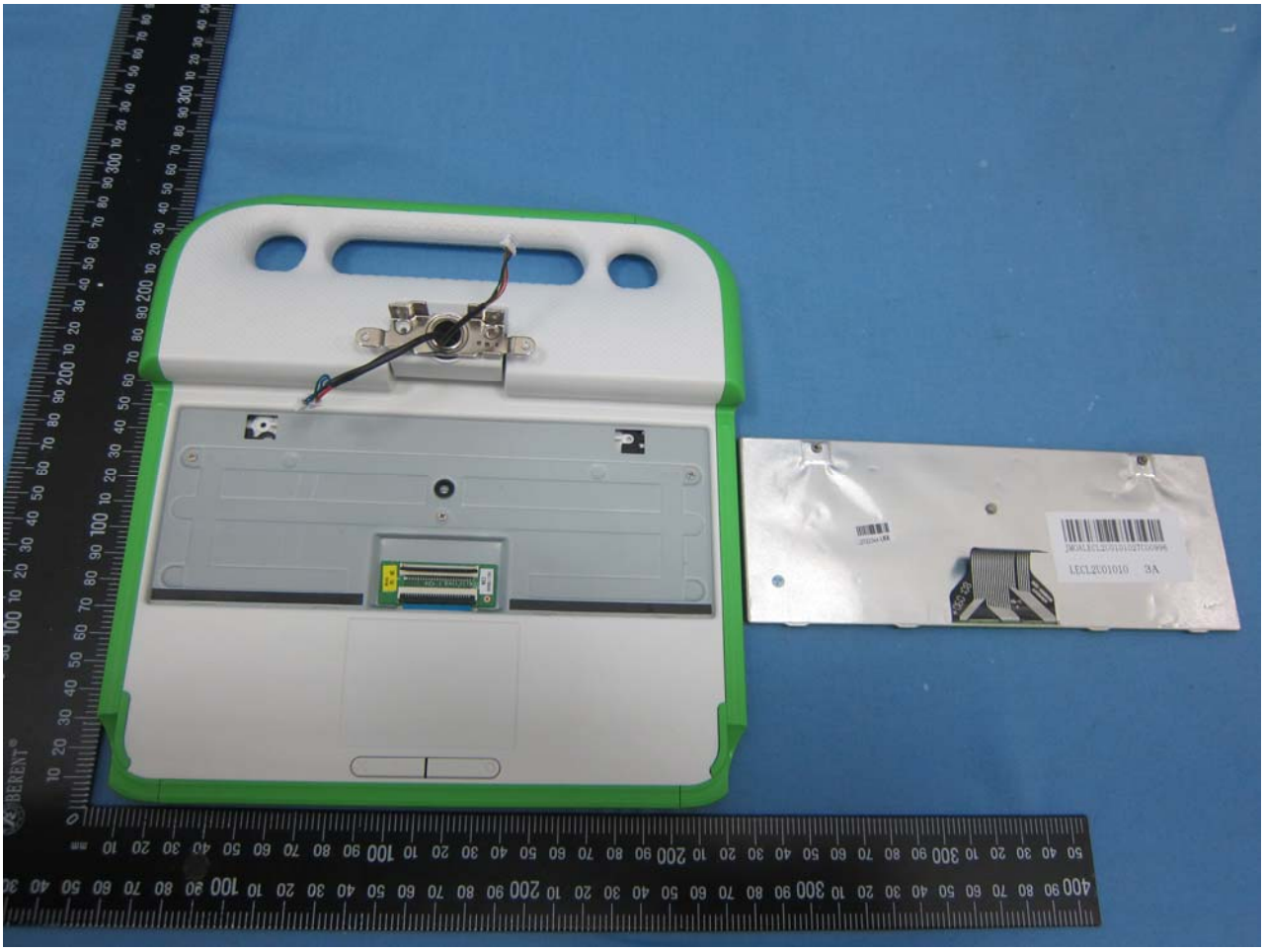
Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS



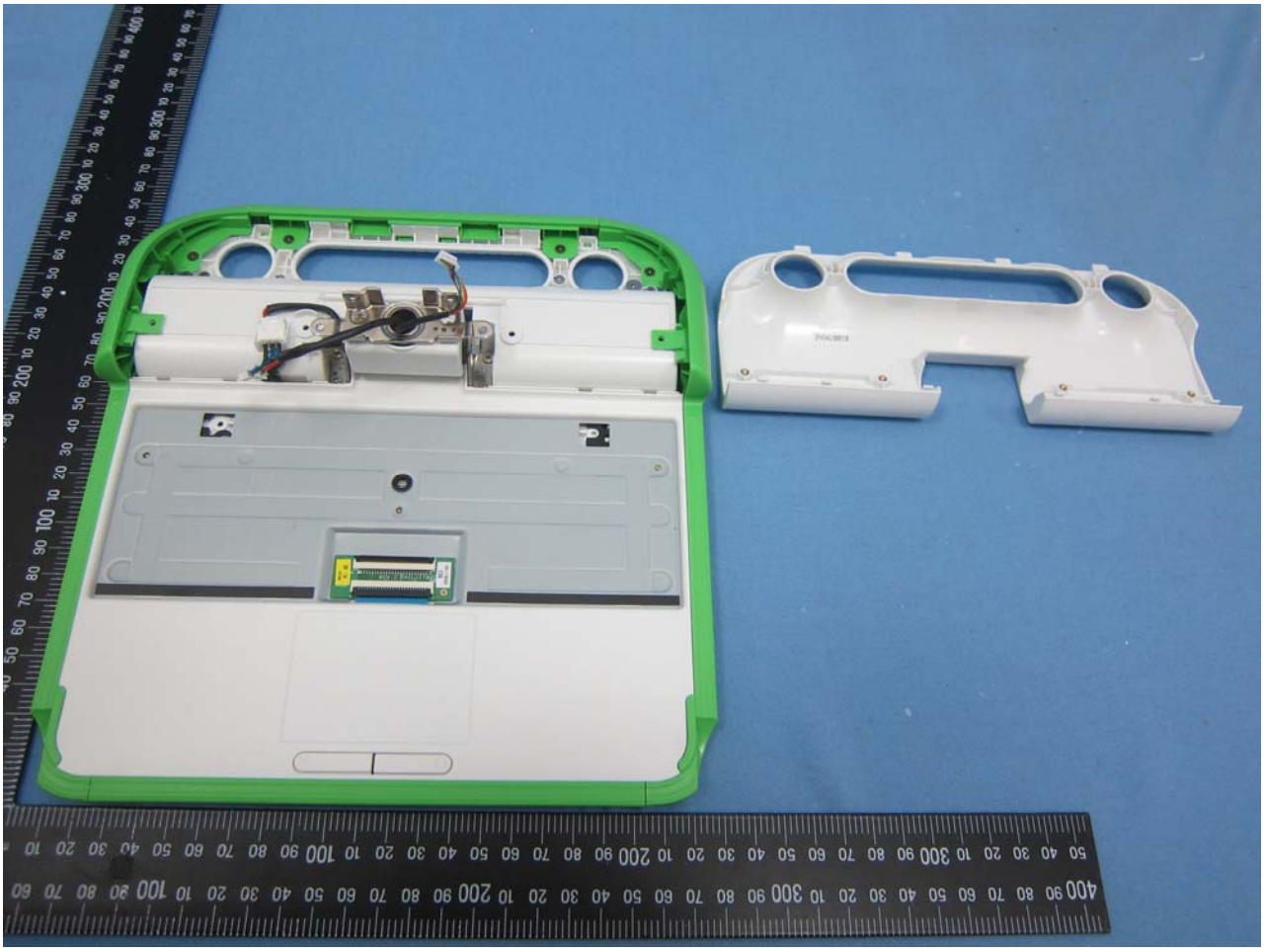
Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS



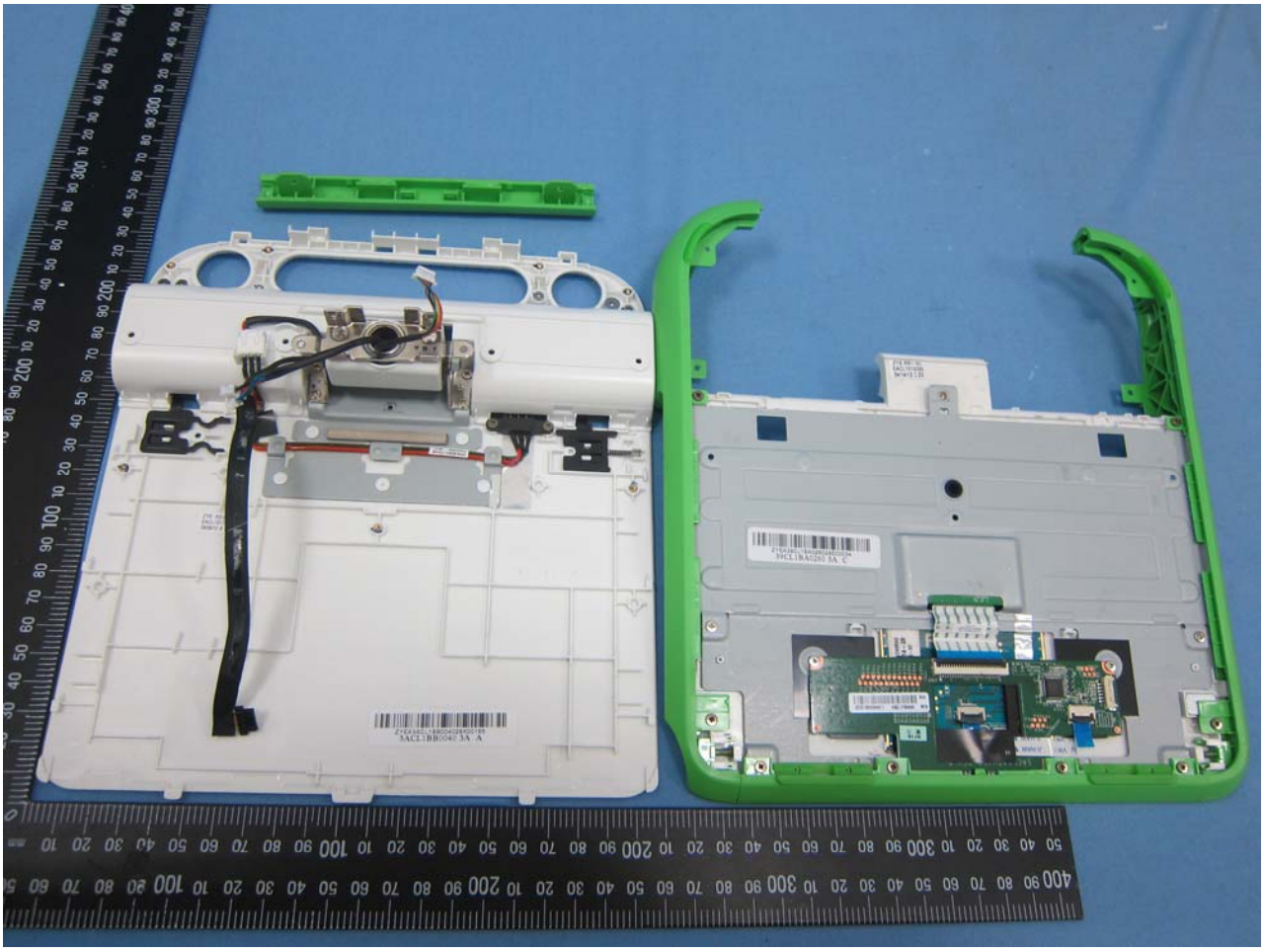
Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS



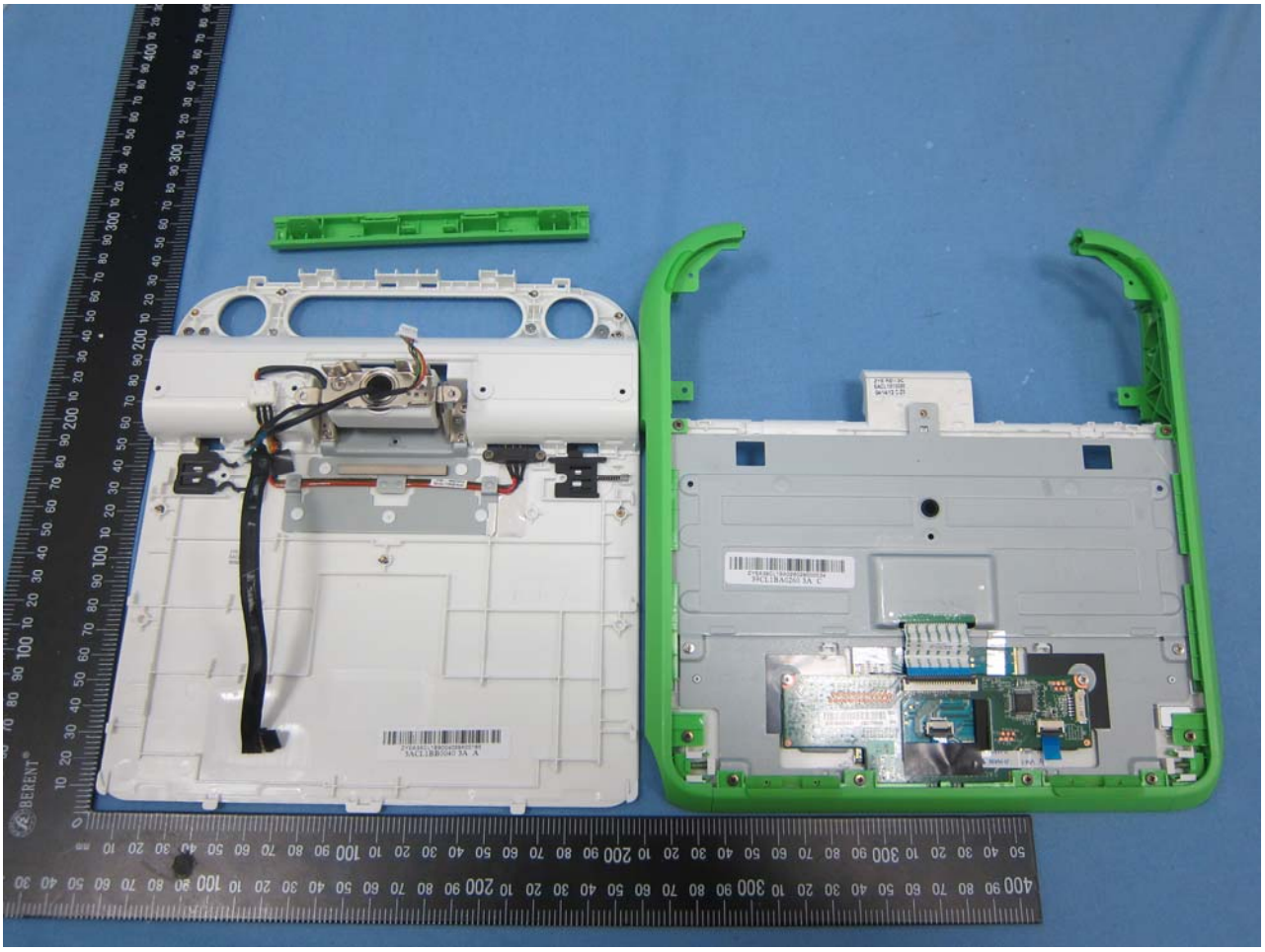
Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS



Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

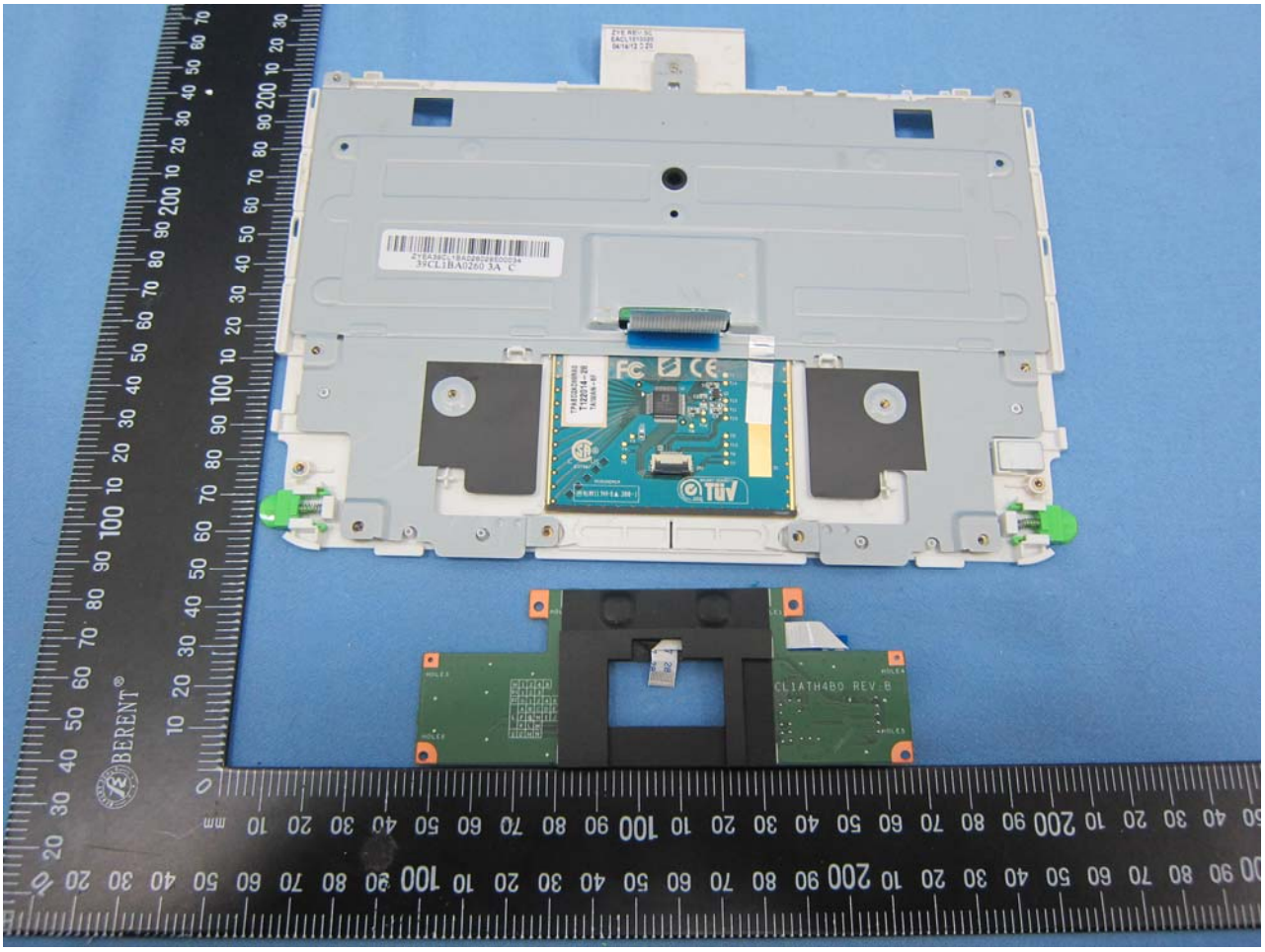


Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS



Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

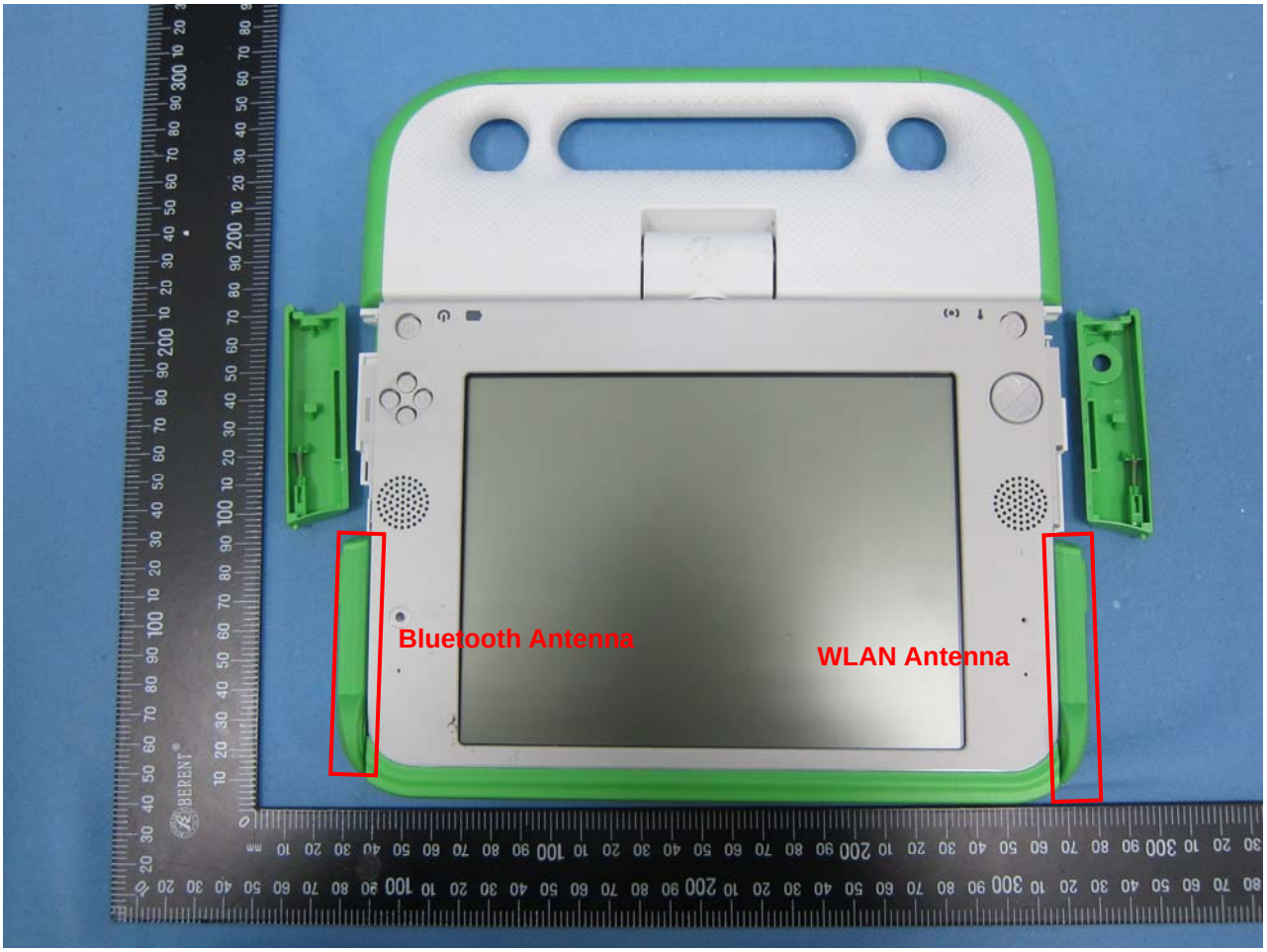
Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS



Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

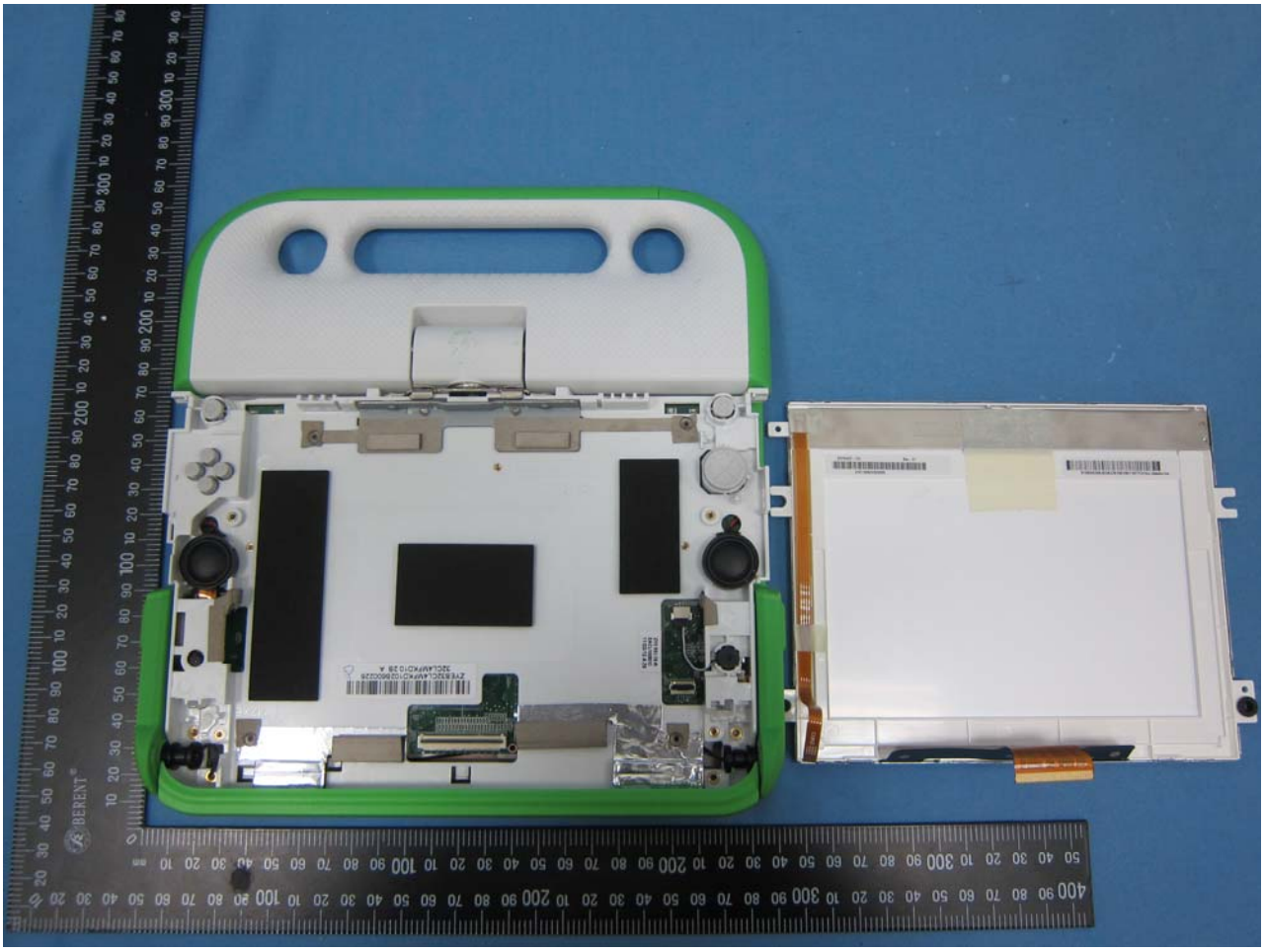
Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS



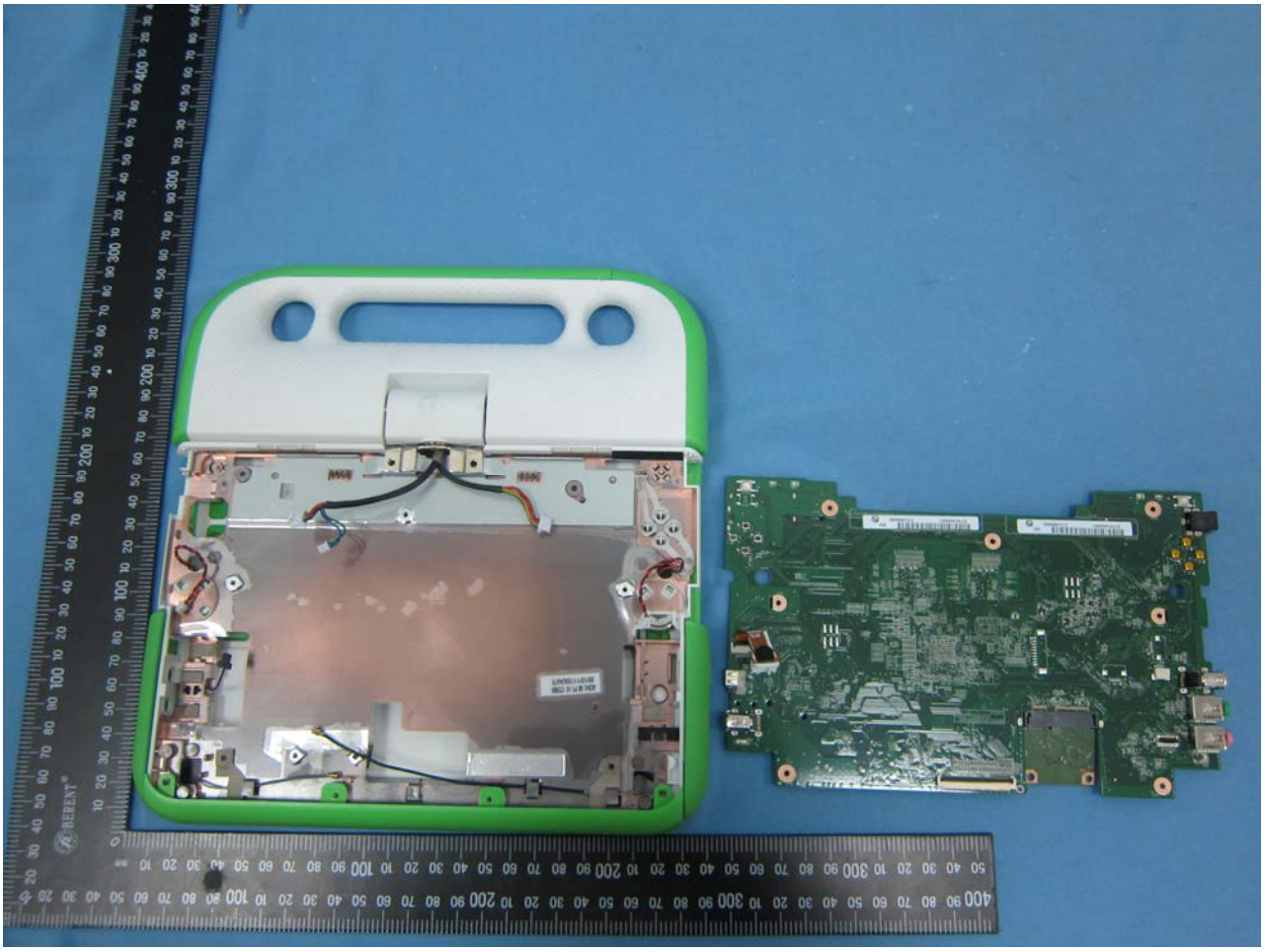
Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

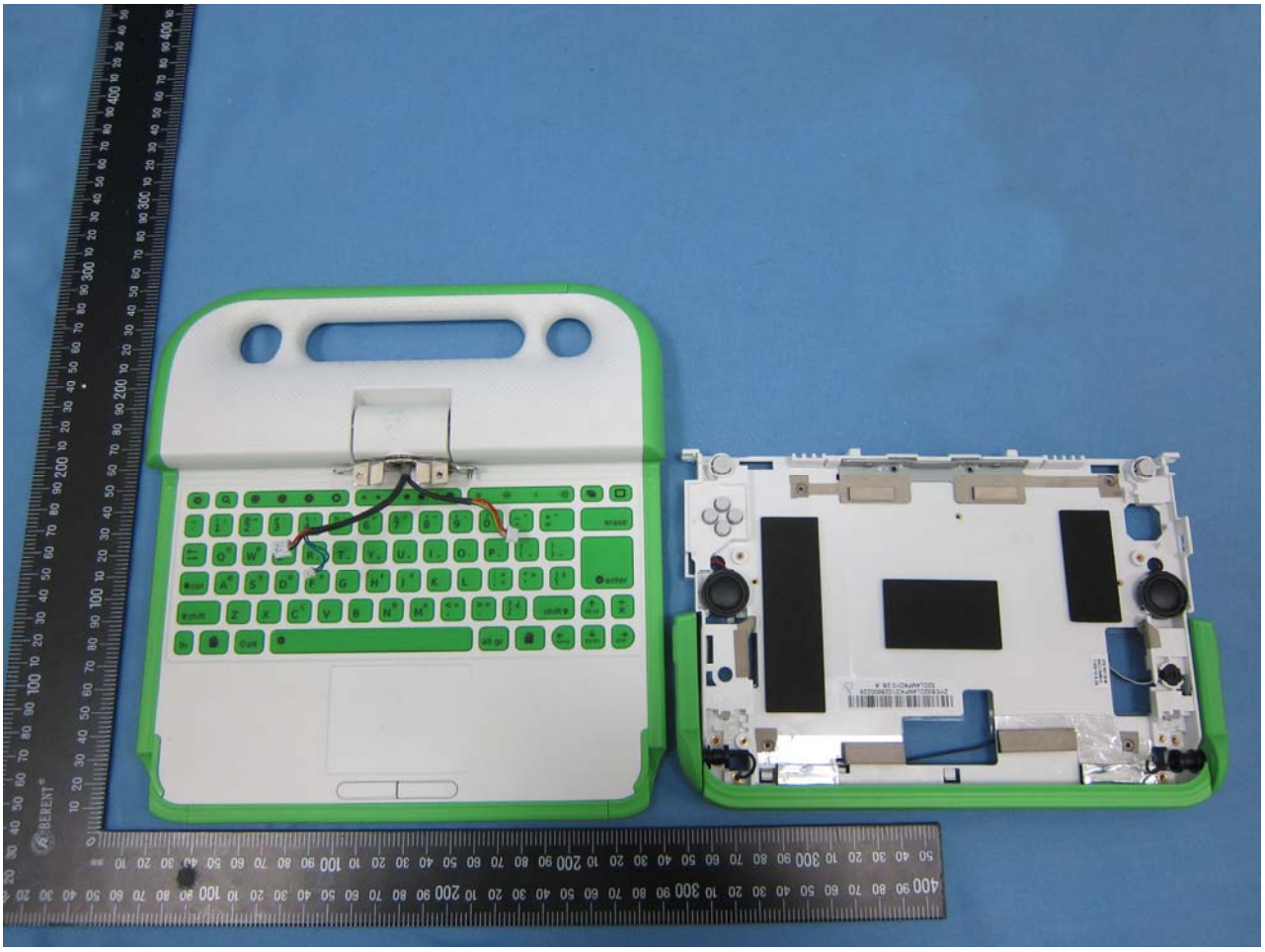


Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

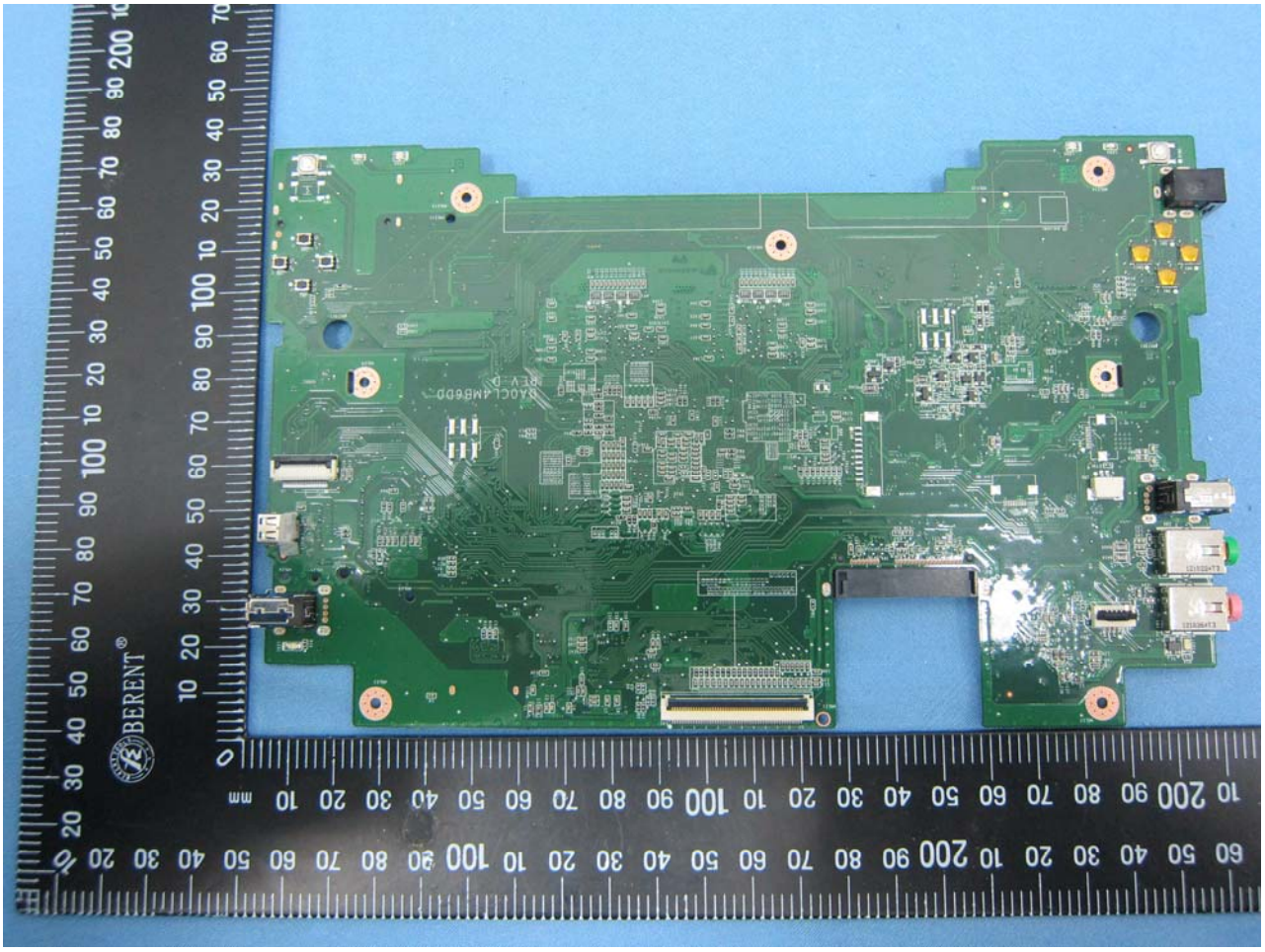
Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS



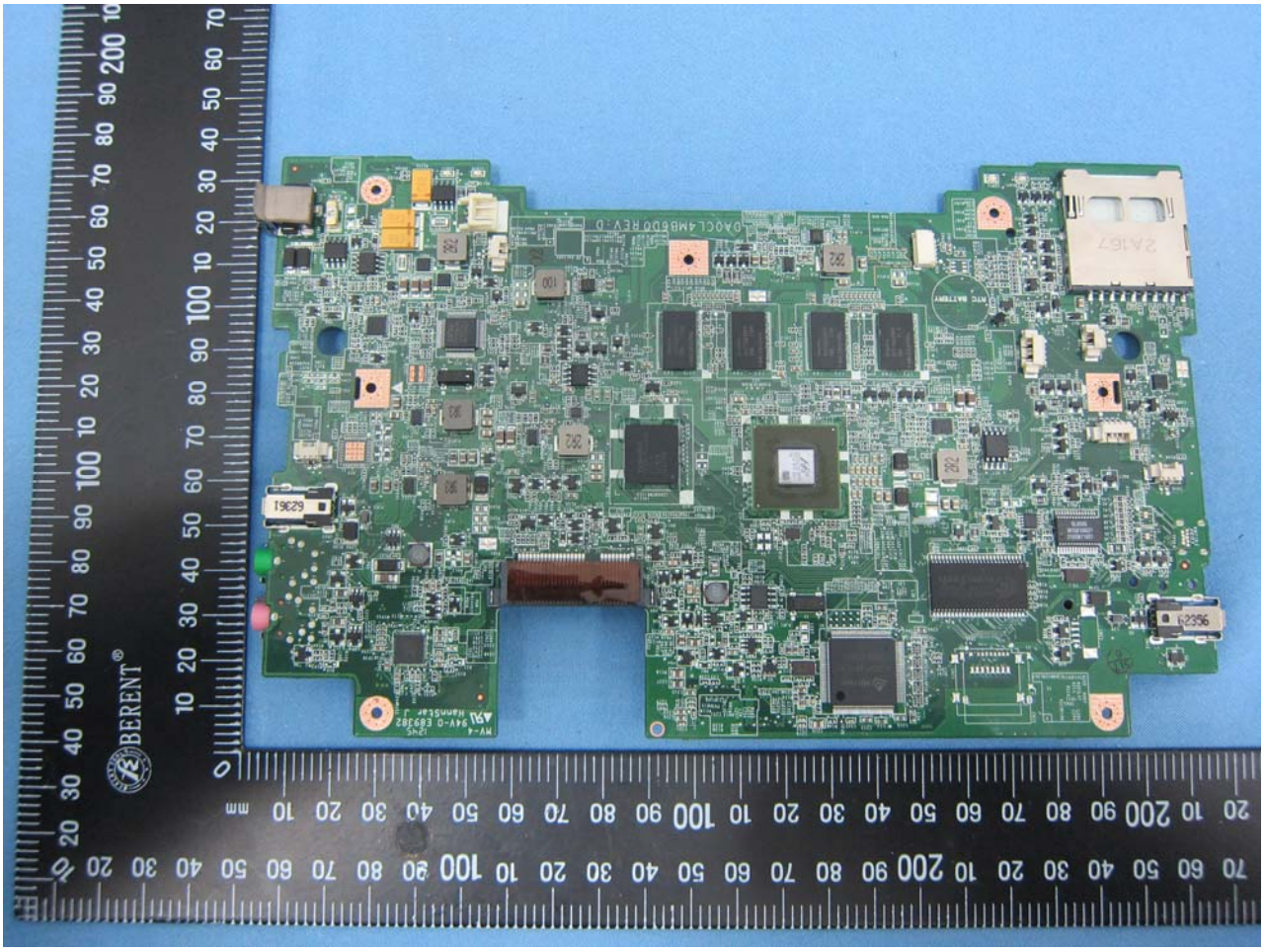
Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS



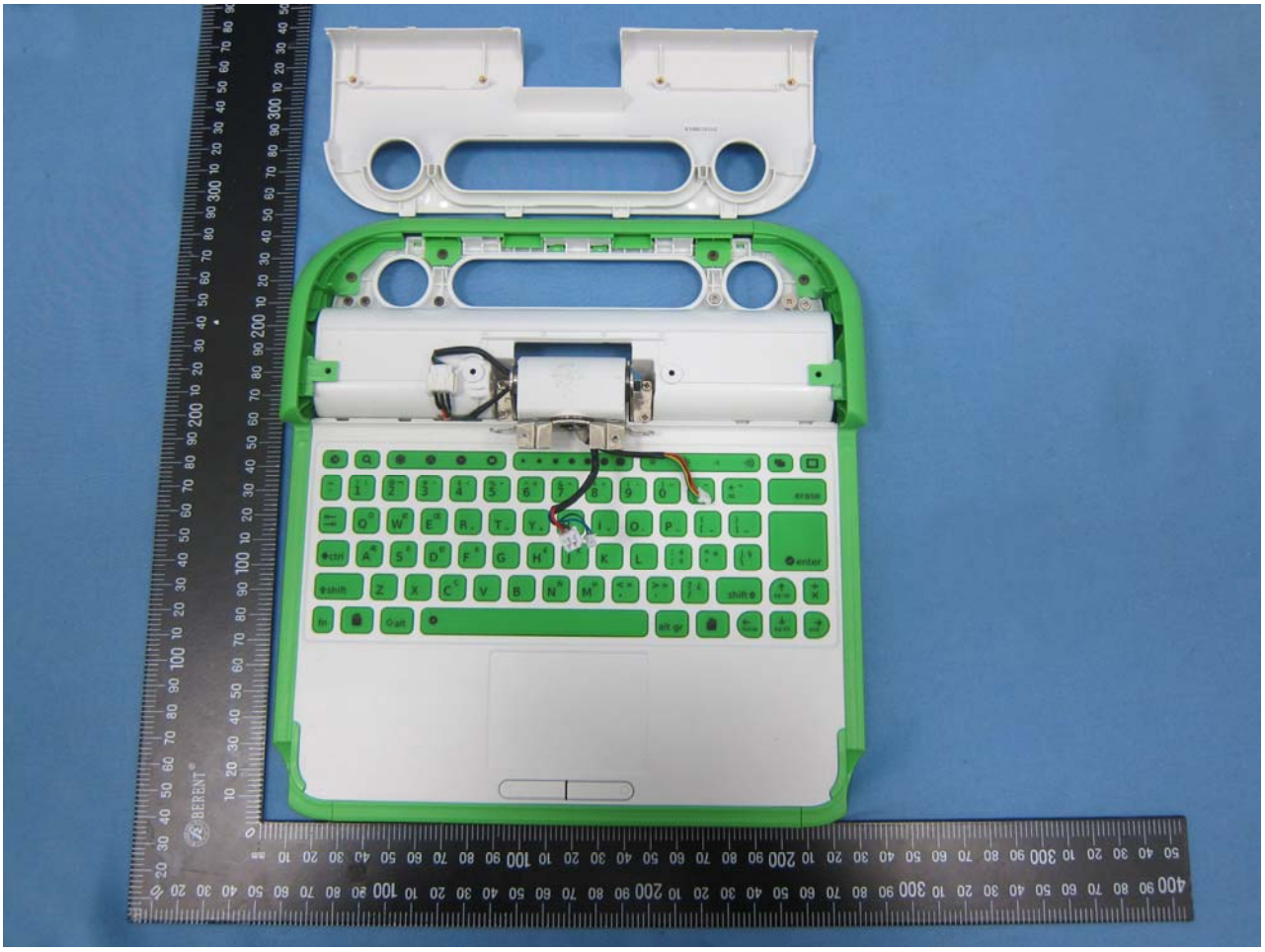
Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS



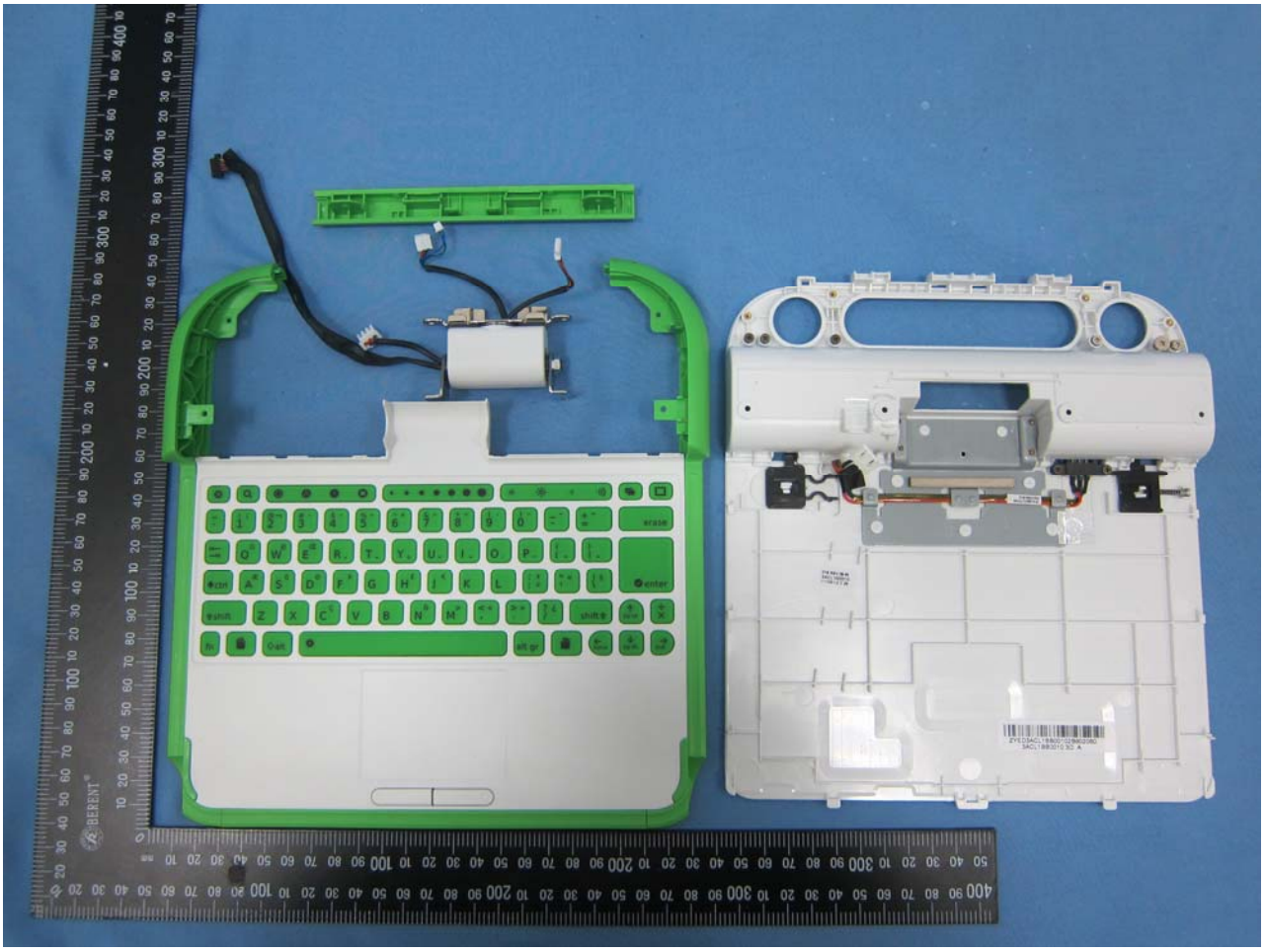
Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS



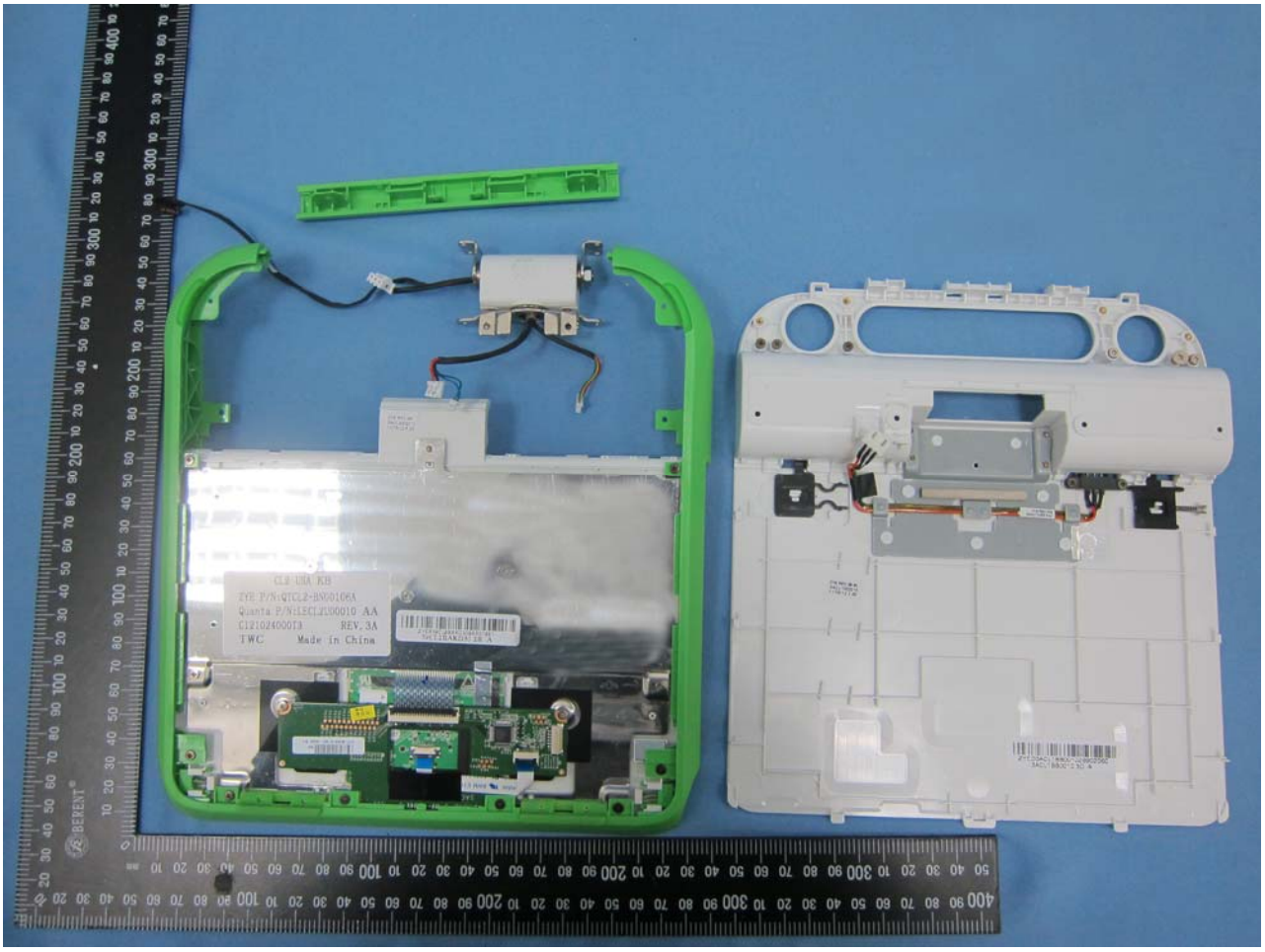
Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS



Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

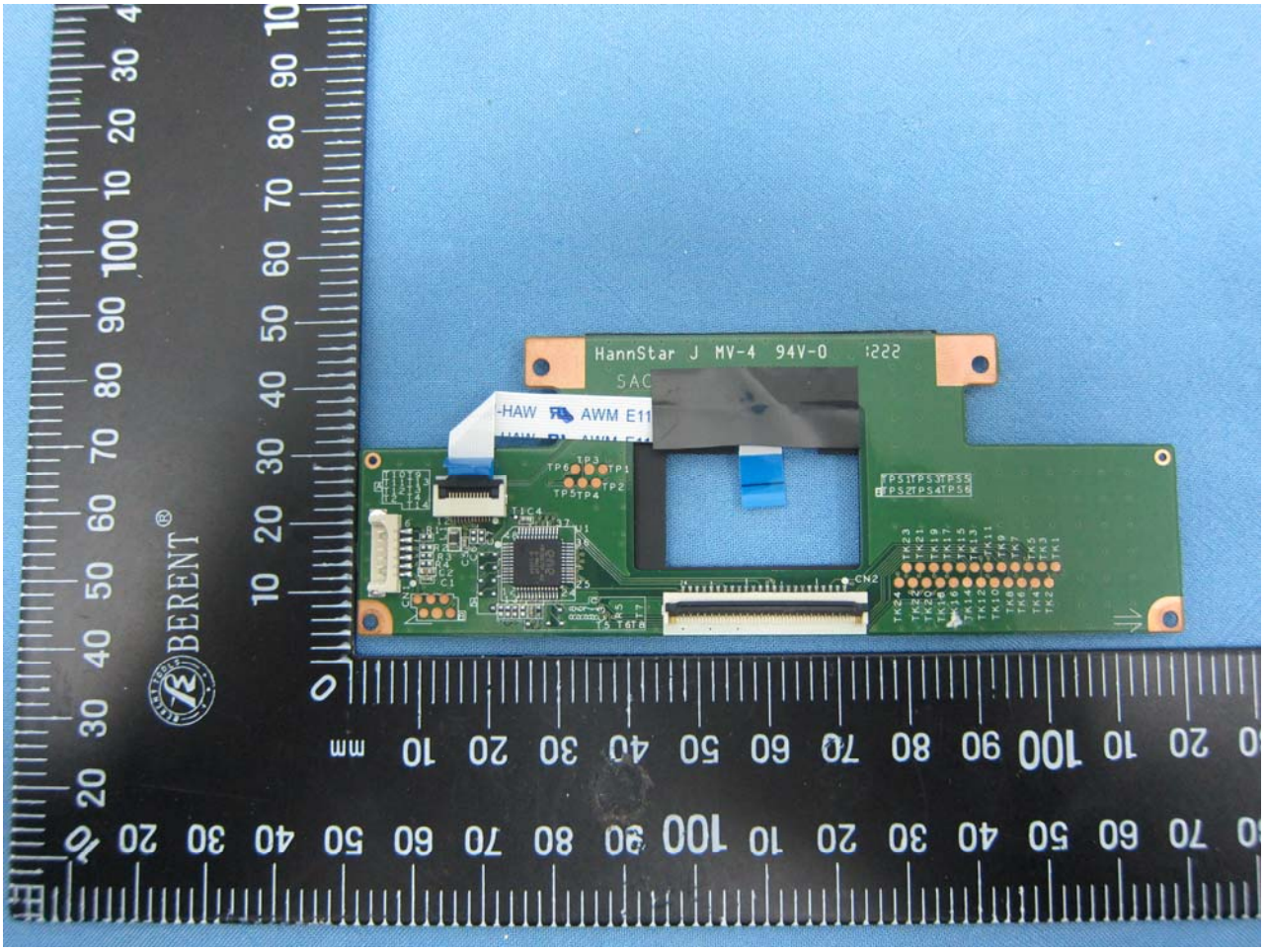


Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS



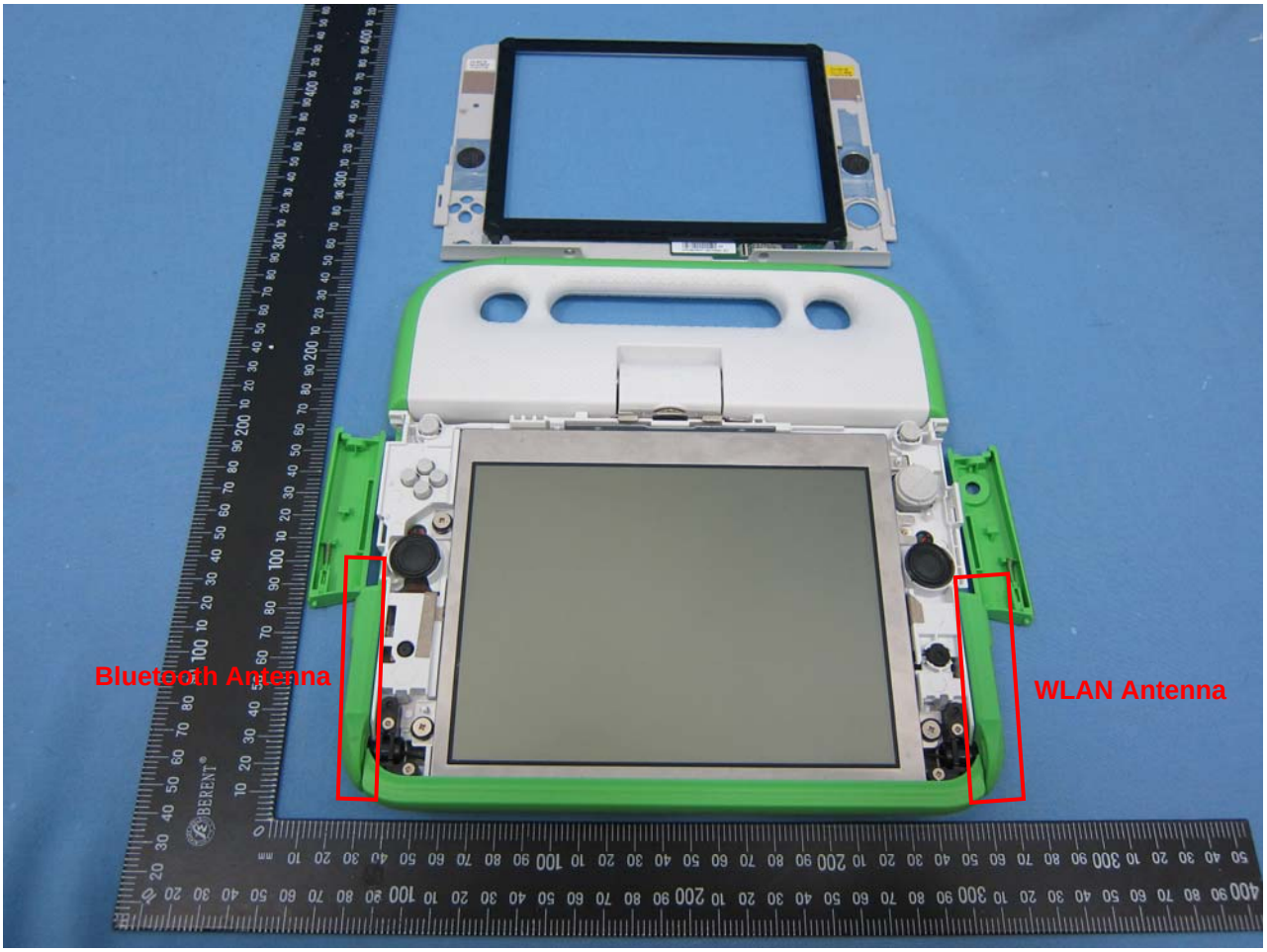
Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS



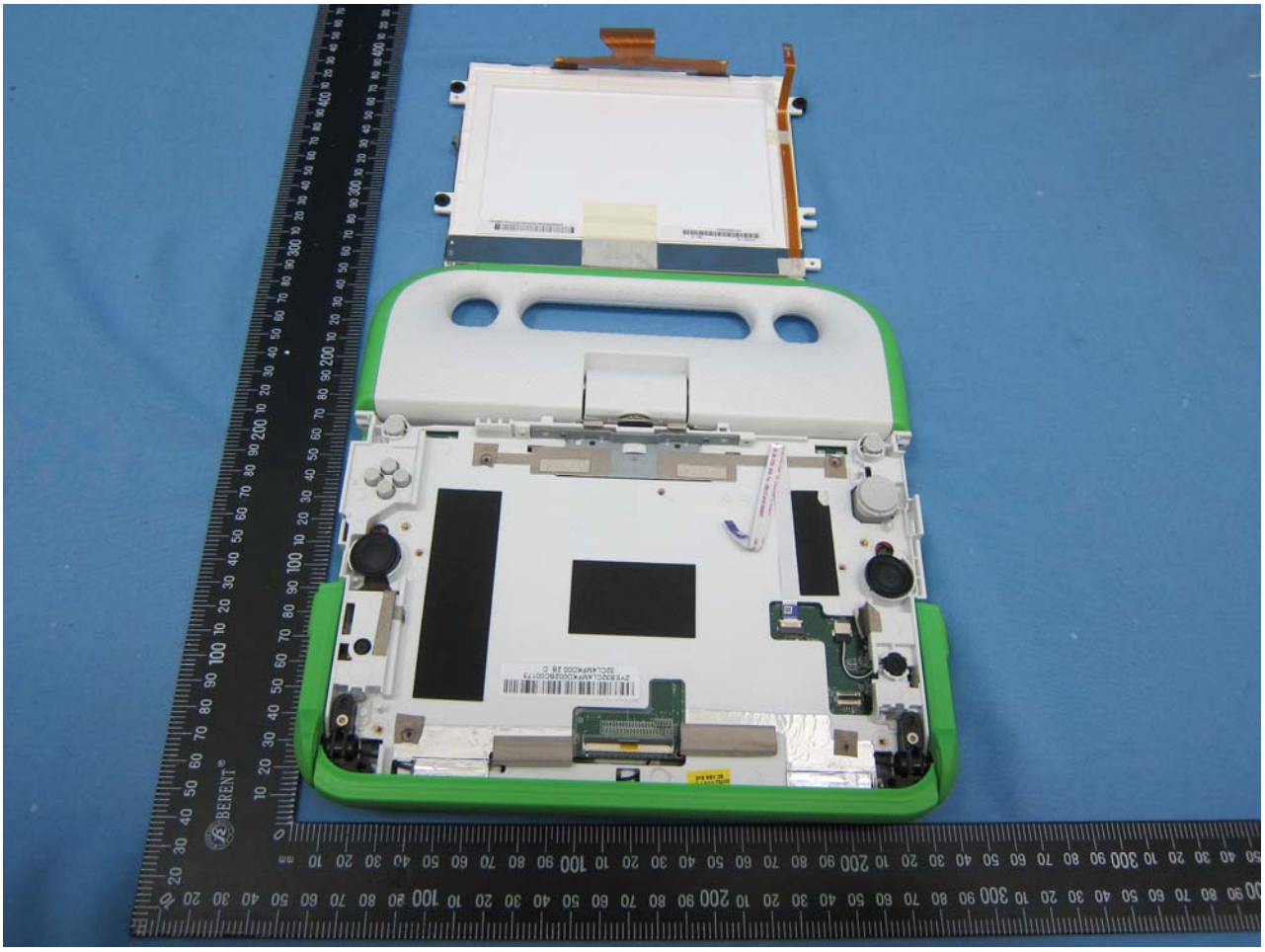
Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS



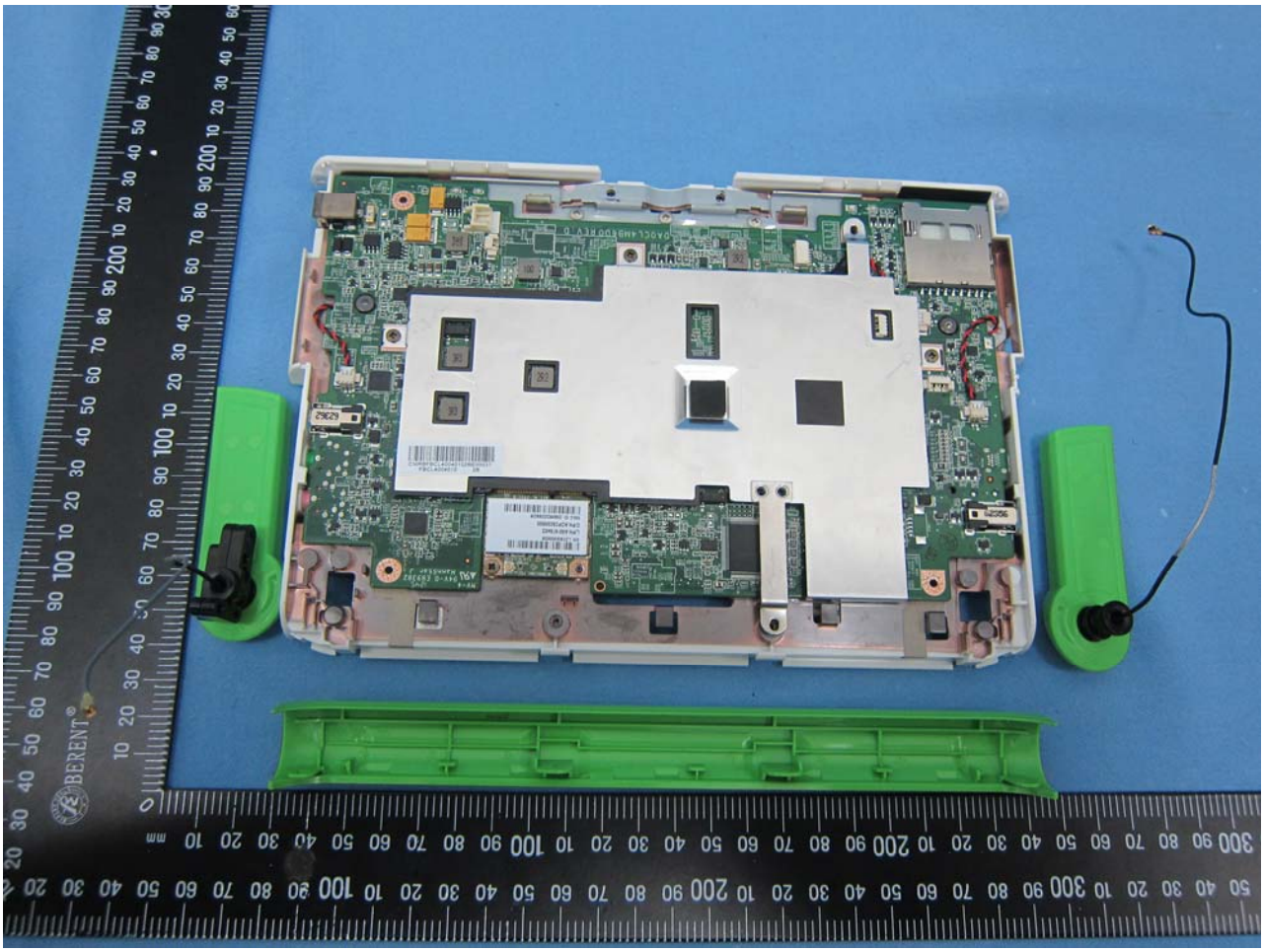
Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

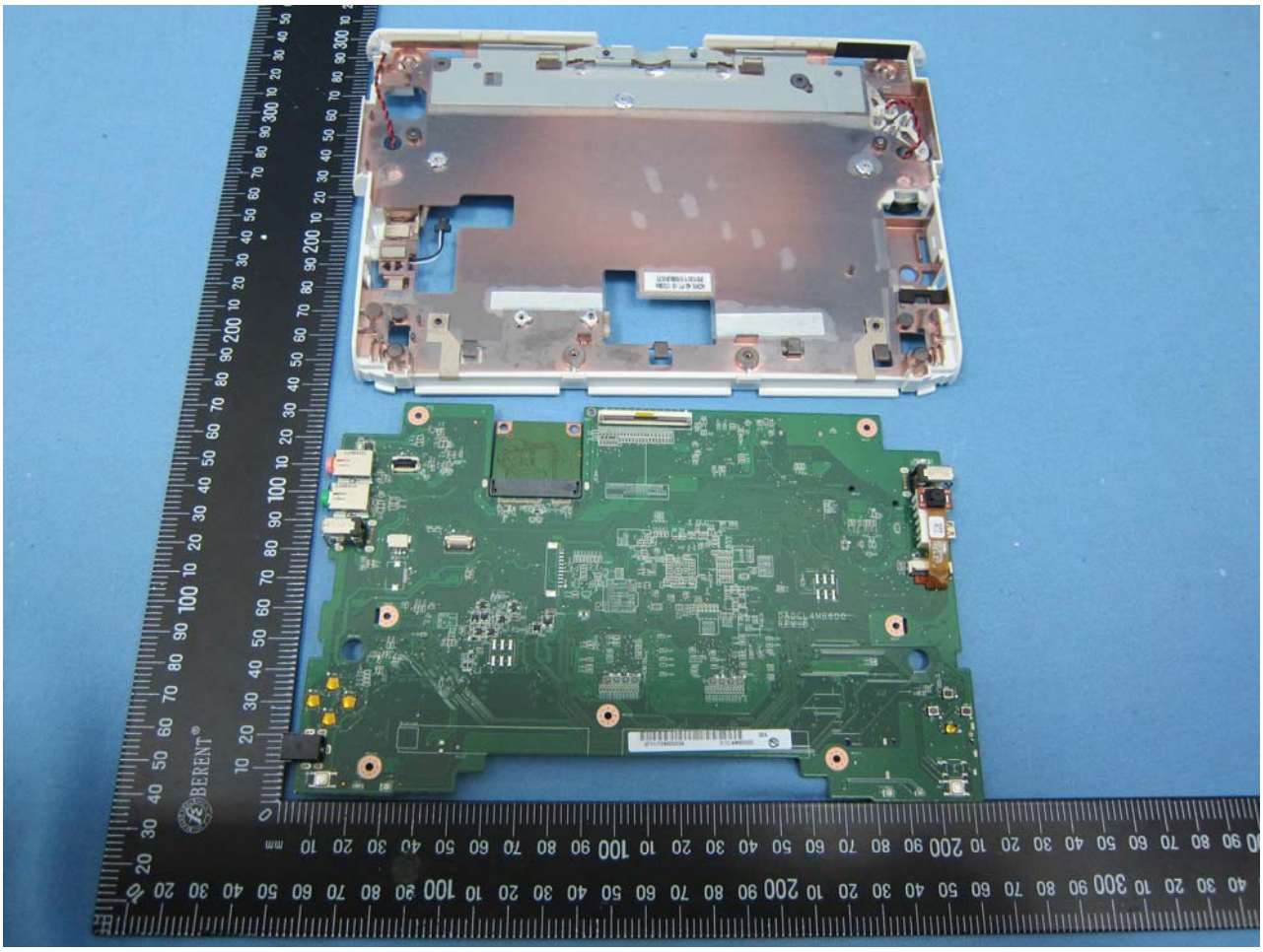


Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

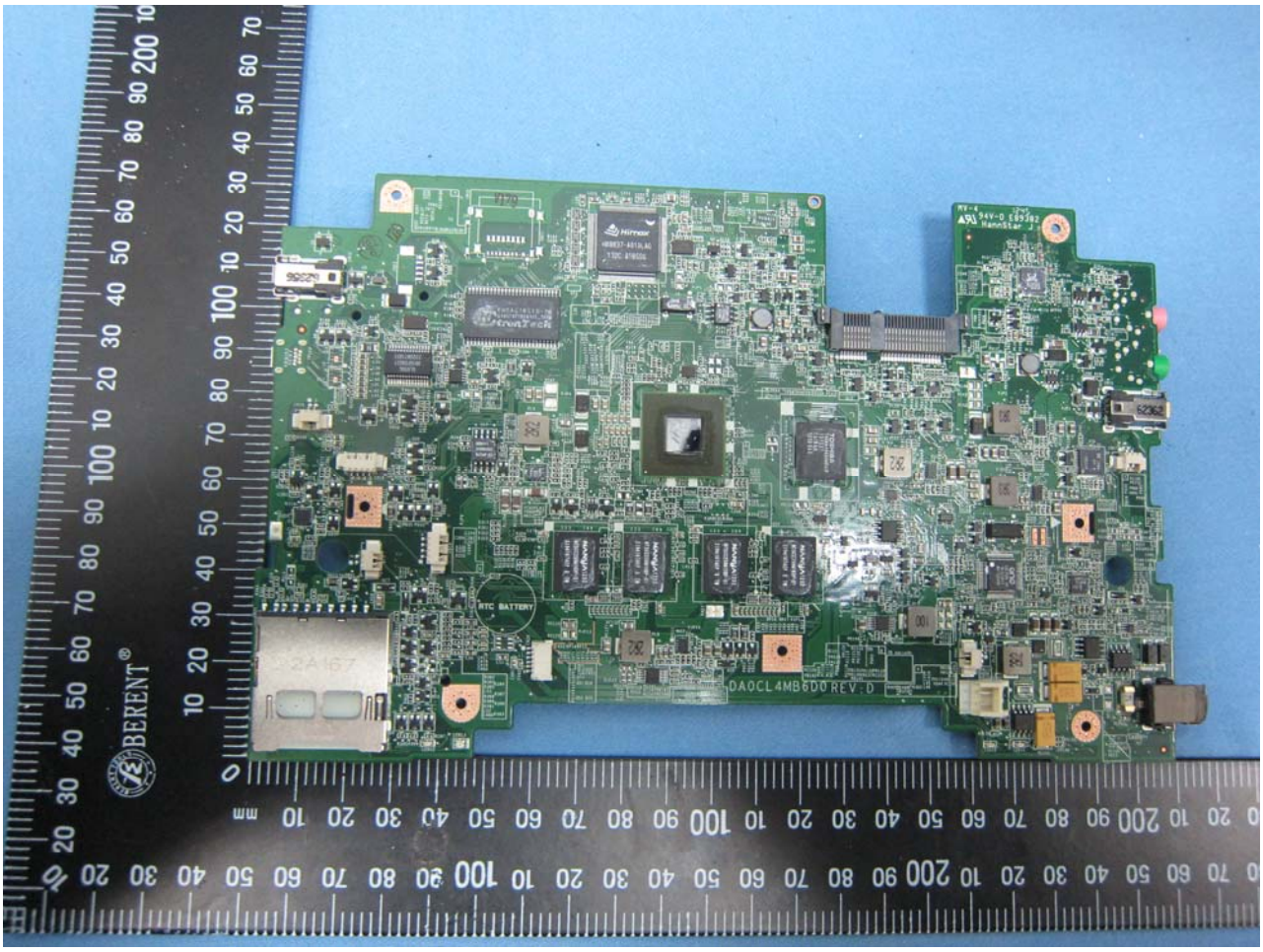
Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS



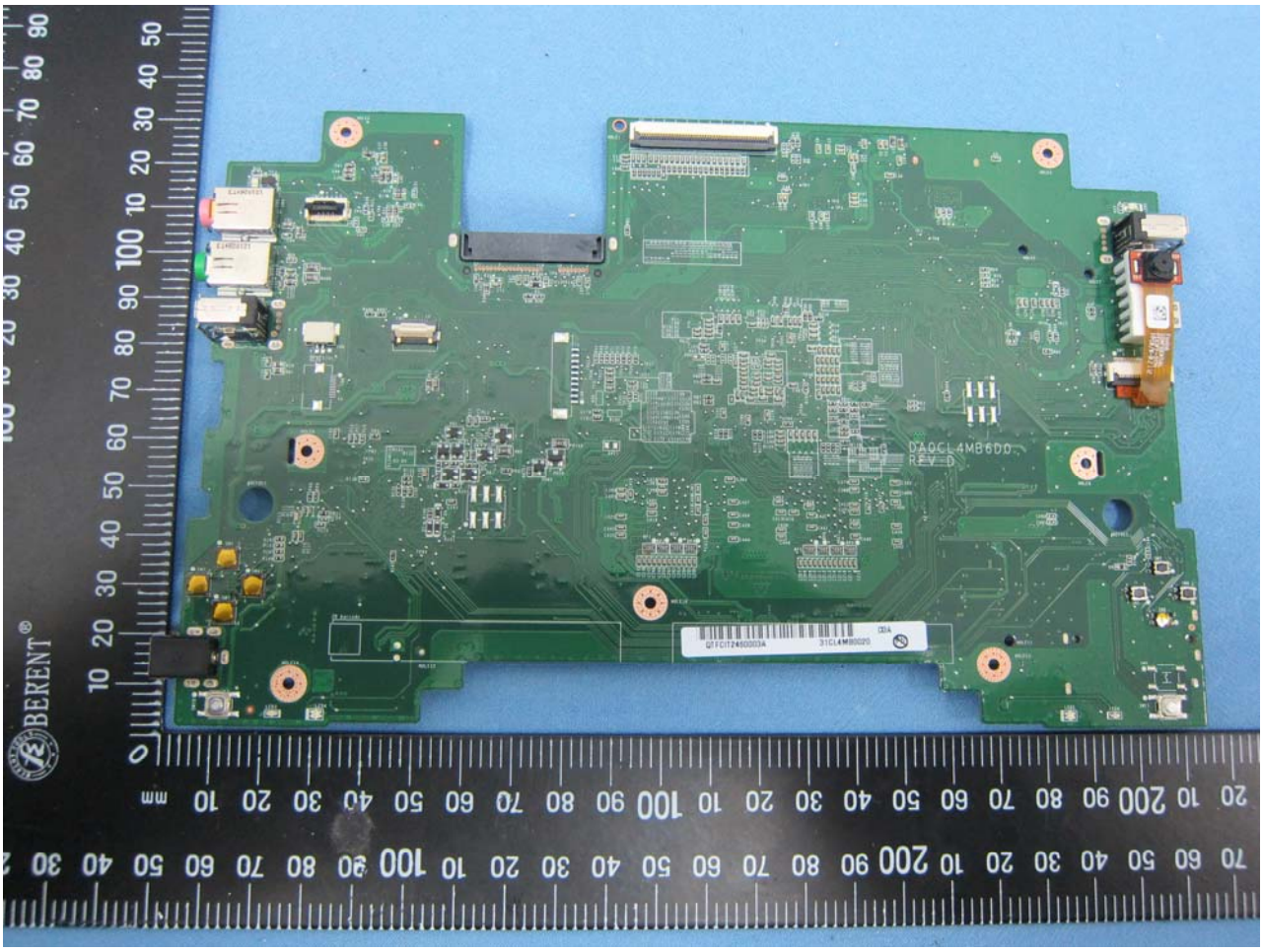
Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS



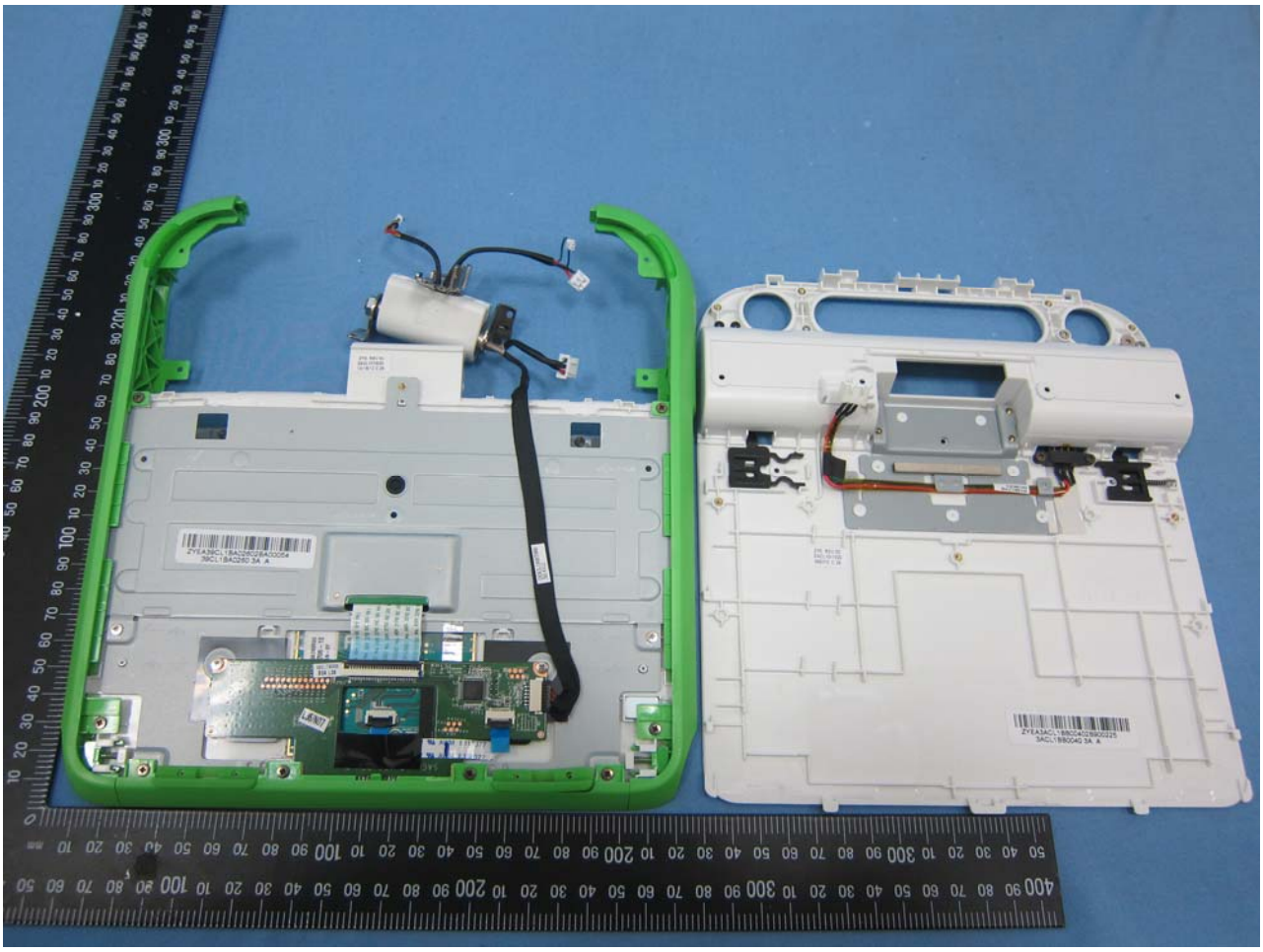
Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS



Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS



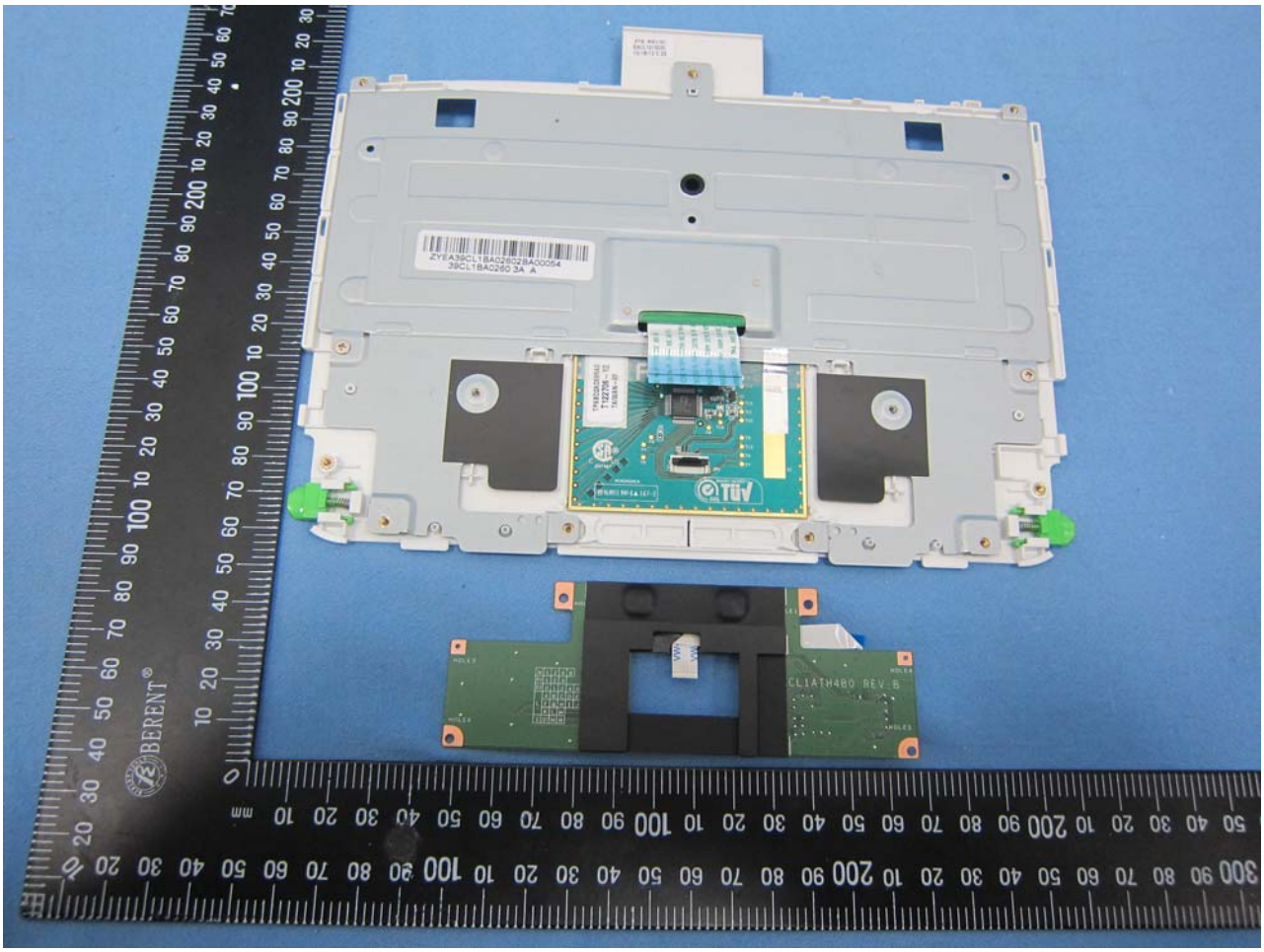
Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS



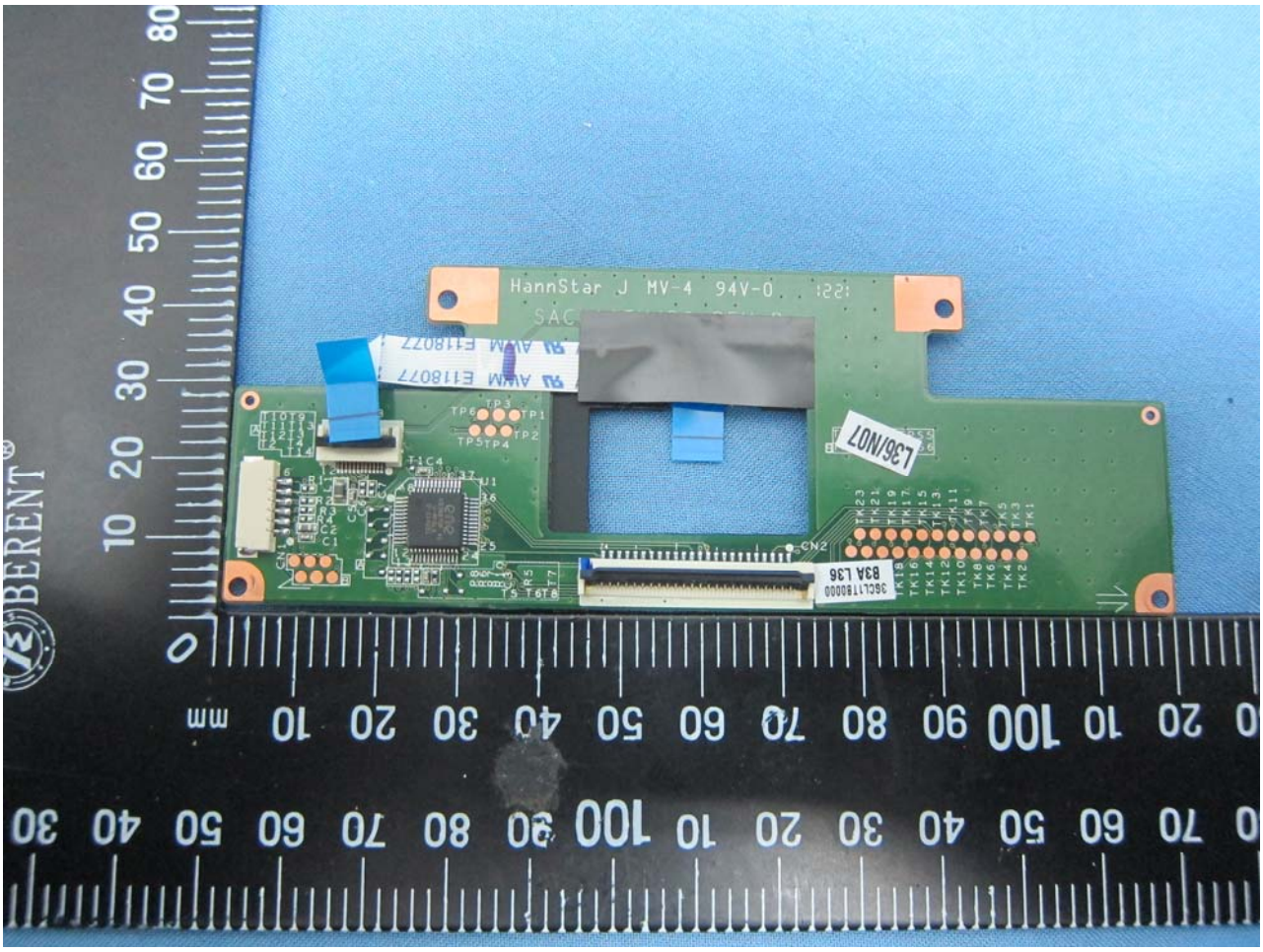
Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

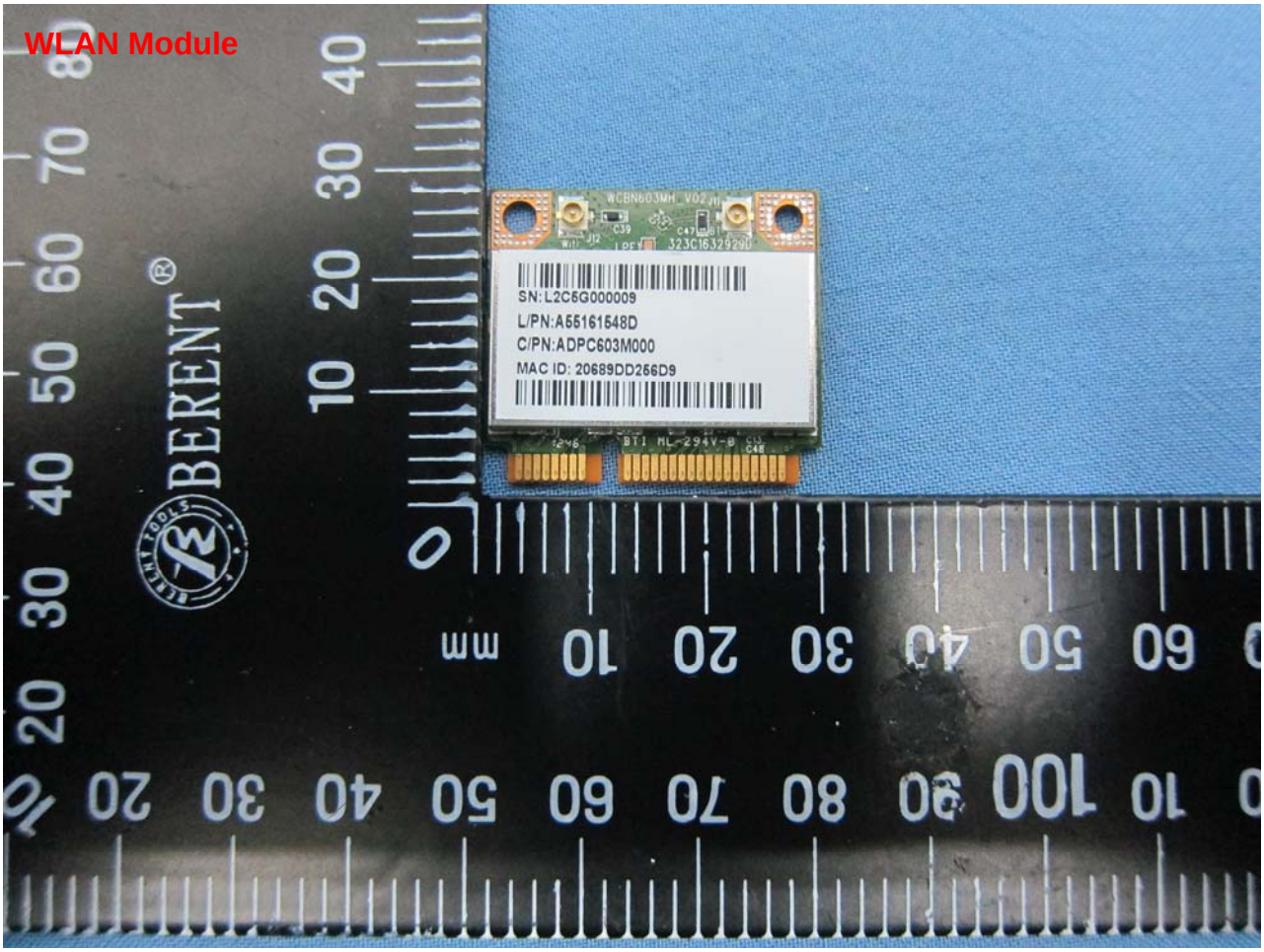
Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS



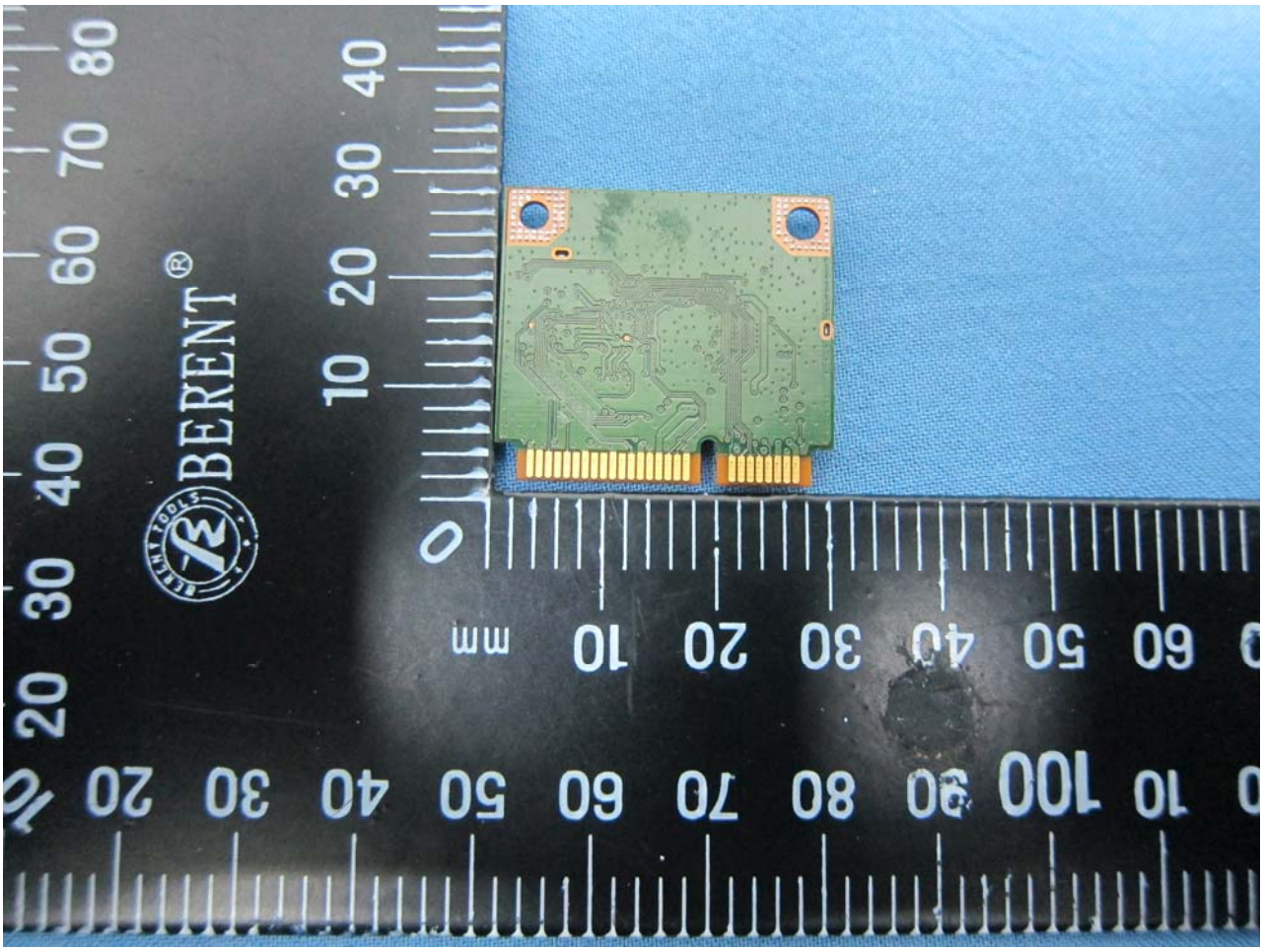
Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS



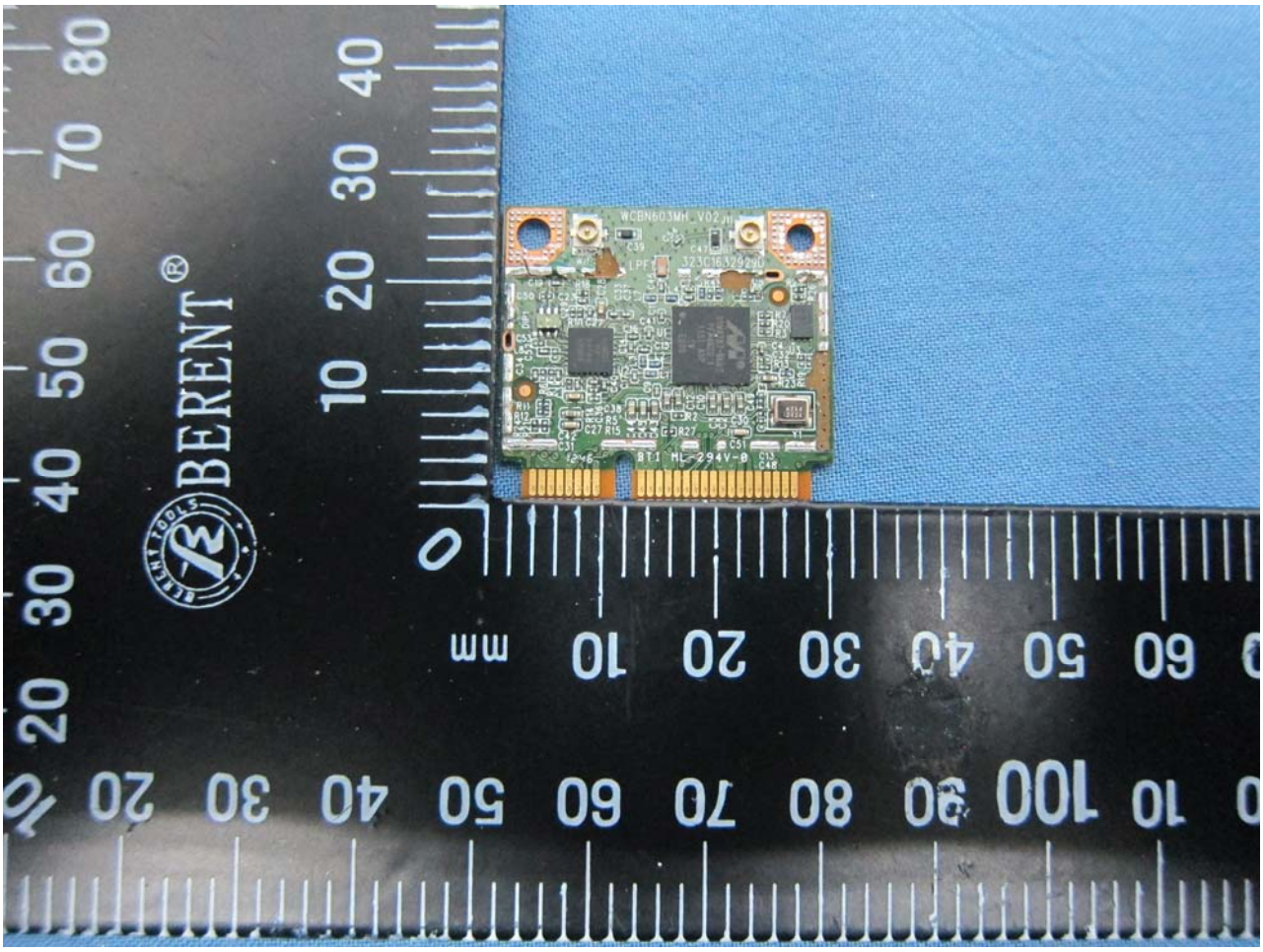
Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS



Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS



Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS



Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS

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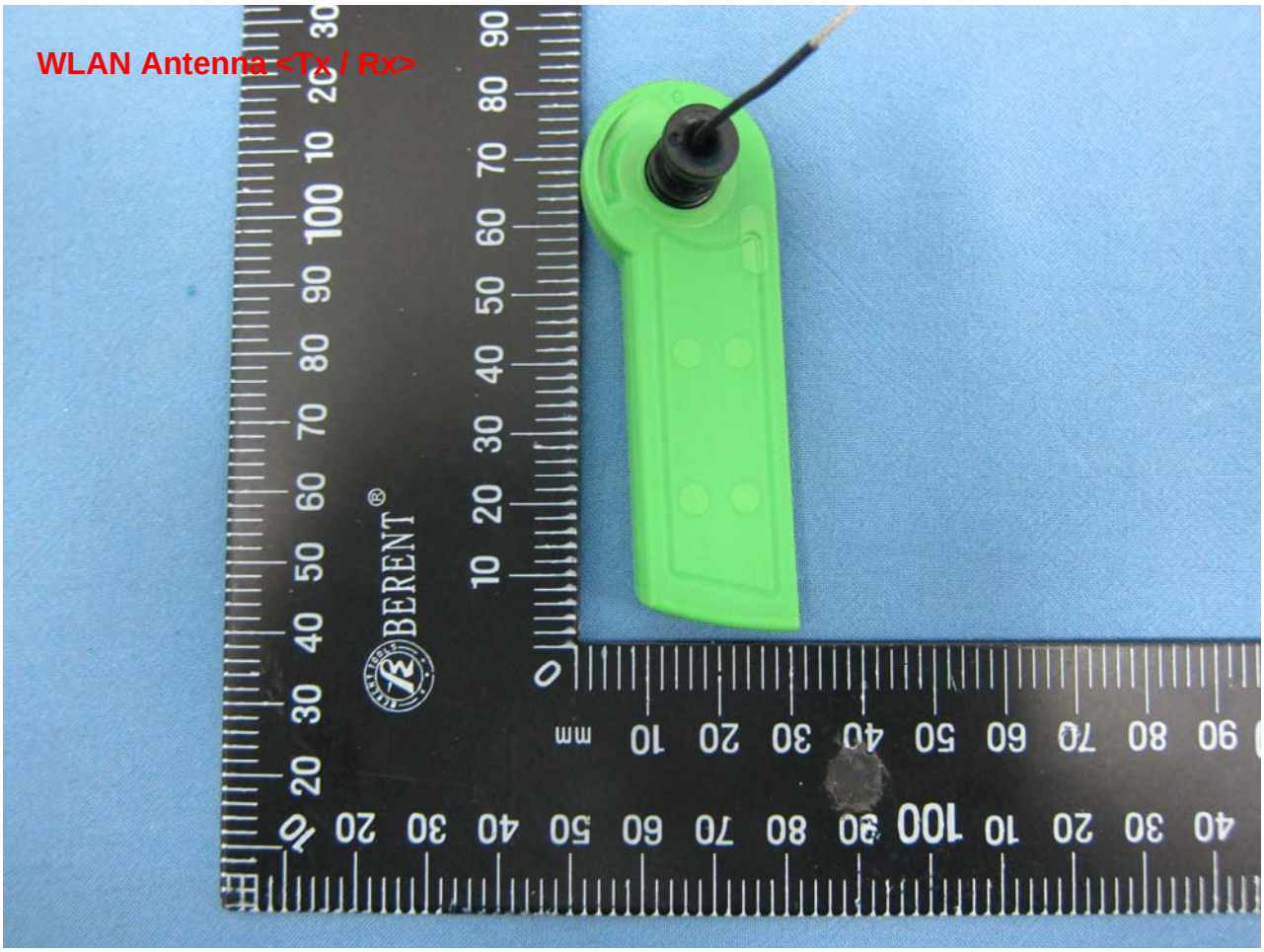

Brand Name: OLPC; Model Name: XO-4 Touch, XO-4 HS Touch, XO-4, XO-4 HS