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Report No.: FCC12-RTE082101  
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# FCC REPORT

**Applicant:** Seco Larm USA Inc

**Address of Applicant:** 16842 Millikan Avenue, Irvine, California, United States

## Equipment Under Test (EUT)

**Product Name:** Wireless HDMI

**Model No.:** MVE-WH010Q/R

**FCC ID:** ERYMVE-WH010QR

**Applicable standards:** FCC CFR Title 47 Part 15 Subpart C Section 15.247:2010

**Date of sample receipt:** June 28, 2012

**Date of Test:** July 3 ~ August 10, 2012

**Date of report issue:** August 21, 2012

**Test Result :** PASS \*

\* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:



Kavin Yu  
Laboratory Manager

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product and does not permit the use of the EBO product certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of EBO International Electrical Approvals or testing done by EBO International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by EBO International Electrical Approvals in writing.

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### 3 Test Summary

Test Item	Section in CFR 47	Result
Antenna requirement	15.203	PASS
Conducted emission	15.207	PASS
Conducted Peak Output Power	15.247 (b)(3)	PASS
6dB Occupied Bandwidth	15.247 (a)(2)	PASS
Power Spectral Density	15.247 (e)	PASS
RF antenna conducted spurious emissions	15.247(d)	PASS
Radiated Emission	15.205/15.209	PASS

*Remark:*

*Pass: The EUT complies with the essential requirements in the standard.*

*Fail: The EUT does not comply with the essential requirements in the standard.*

## 4 General Information

### 4.1 Client Information

Applicant:	Seco Larm USA Inc
Address of Applicant:	16842 Millikan Avenue, Irvine, California, United States
Manufacturer/ Factory:	HANK Electronics Ltd.
Address of Manufacturer/ Factory:	2nd floor, Block B9 & 8th floor Block B20, Hengfeng Industrial City, Xixiang Town Baoan District, Shenzhen, China

### 4.2 General Description of E.U.T.

Product Name:	Wireless HDMI
Model No.:	MVE-WH010Q/R
Operation Frequency:	5190MHz, 5230MHz; 5755MHz, 5795MHz
Channel numbers:	4
Channel separation:	40MHz
Modulation technology:	OFDM
Antenna Type:	PCB Antenna (Transmit antenna: 1pcs; receive antenna: 4pcs)
Antenna gain:	2dBi
Power supply:	Adapter Trade mark:GOSPELL Adapter Model:GP005U-050-200 Adapter Input:100-240VAC, 50/60Hz, 0.5A Adapter Output:5VDC, 2.0A 10VA max

### 4.3 Test mode

Transmitting mode	Keep the EUT in transmitting mode with modulation.
-------------------	----------------------------------------------------

## 4.4 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

● **FCC —Registration No.: 600491**

Global United Technology Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in files. Registration 600491, July 20, 2010.

● **Industry Canada (IC)**

The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 9079A-1.

## 4.5 Test Location

All tests were performed at:

Global United Technology Services Co., Ltd.

Address: 2nd Floor, Block No.2, Laodong Industrial Zone, Xixiang Road Baoan District, Shenzhen, China

Tel: 0755-27798480

Fax: 0755-27798960

## 4.6 Other Information Requested by the Customer

None.

## 4.7 Test Instruments list

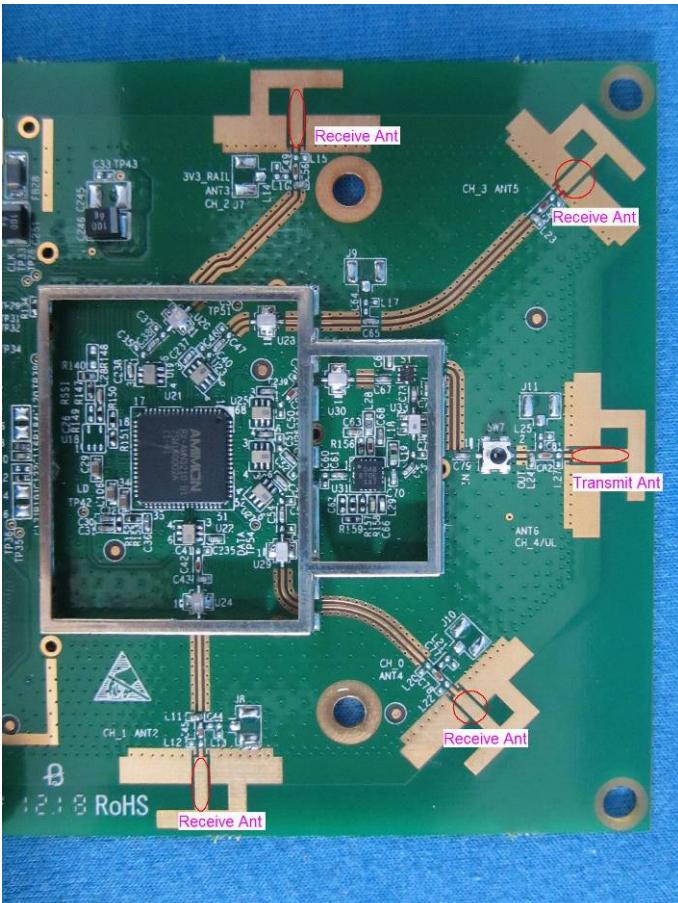
Radiated Emission:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (dd-mm-yy)	Cal.Due date (dd-mm-yy)
1	3m Semi-Anechoic Chamber	ZhongYu Electron	9.2(L)*6.2(W)* 6.4(H)	GTS201	Mar. 30 2011	Mar. 29 2013
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS202	N/A	N/A
3	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	Jul. 03 2012	Jul. 02 2013
4	Spectrum analyzer	Rohde & Schwarz	FSP40	GTS203	Sep. 8 2012	Sep. 7 2013
5	8-WAY Power Divider	JFW	50PD-647	GTS203	Sep. 8 2012	Sep. 7 2013
6	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	GTS204	Feb. 25 2012	Feb. 24 2013
7	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	9120D-829	GTS205	June 29 2012	June 28 2013
8	Horn Antenna	SCHWARZBECK MESS-ELEKTRONIK	9170	GTS205	Mar. 30 2011	Mar. 29 2013
9	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
10	Coaxial Cable	GTS	N/A	GTS400	Mar. 31 2012	Mar. 30 2013
11	Coaxial Cable	GTS	N/A	GTS401	Mar. 31 2012	Mar. 30 2013
12	Coaxial cable	GTS	N/A	GTS402	Mar. 31 2012	Mar. 30 2013
13	Coaxial Cable	GTS	N/A	GTS407	Mar. 31 2012	Mar. 30 2013
14	Coaxial Cable	GTS	N/A	GTS408	Mar. 31 2012	Mar. 30 2013
15	Amplifier	Sonoma Instrument	305-1052	GTS210	Jul. 03 2012	Jul. 02 2013
16	Amplifier	HP	8349B	GTS231	Jul. 03 2012	Jul. 02 2013

Conducted Emission:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (dd-mm-yy)	Cal.Due date (dd-mm-yy)
1	Shielding Room	ZhongYu Electron	7.0(L)x3.0(W)x3.0(H)	GTS206	Jul. 03 2012	Jul. 02 2013
2	EMI Test Receiver	Rohde & Schwarz	ESCS30	GTS208	Jul. 03 2012	Jul. 02 2013
3	10dB Pulse Limita	Rohde & Schwarz	N/A	GTS209	Jul. 03 2012	Jul. 02 2013
4	LISN	SCHWARZBECK MESS-ELEKTRONIK	NSLK 8127	GTS207	Jul. 03 2012	Jul. 02 2013
5	Coaxial Cable	GTS	N/A	GTS406	Mar. 31 2012	Mar. 30 2013
6	EMI Test Software	AUDIX	E3	N/A	N/A	N/A

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## 5 Test results and Measurement Data

### 5.1 Antenna requirement:

Standard requirement:	FCC Part15 C Section 15.203
15.203 requirement:	<p><i>An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.</i></p>
E.U.T Antenna:	<p><i>The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is 2dBi.</i></p> 

## 5.2 Conducted Emissions

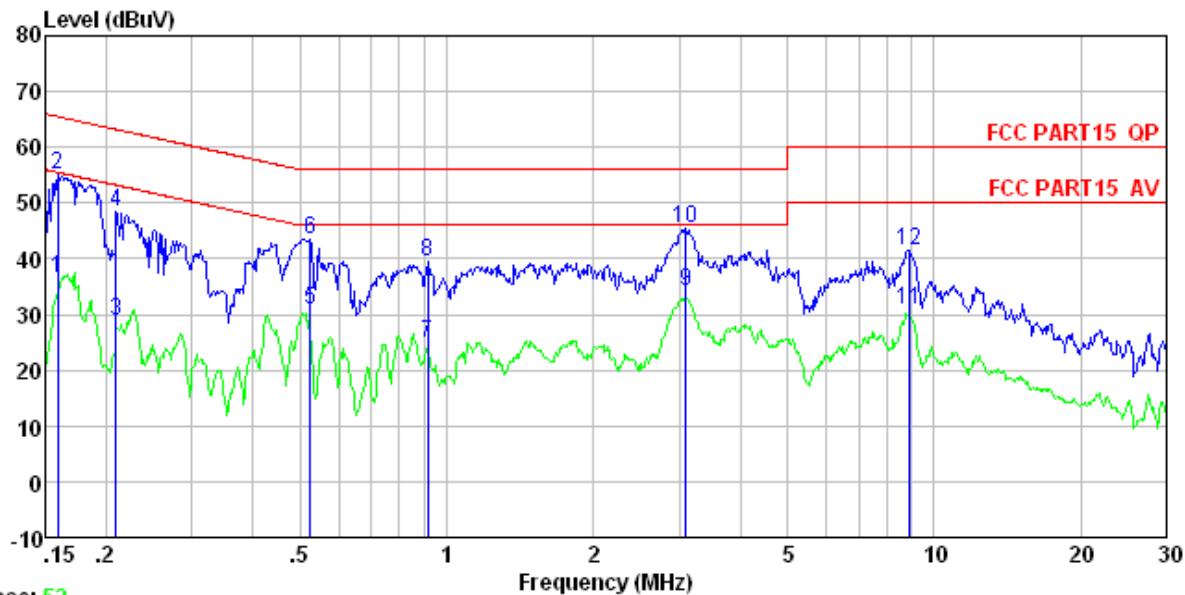
Test Requirement:	FCC Part15 C Section 15.207																
Test Method:	ANSI C63.4: 2003																
Test Frequency Range:	150KHz to 30MHz																
Class / Severity:	Class B																
Receiver setup:	RBW=9KHz, VBW=30KHz																
Limit:	<table border="1"> <thead> <tr> <th rowspan="2">Frequency range (MHz)</th> <th colspan="2">Limit (dBuV)</th> </tr> <tr> <th>Quasi-peak</th> <th>Average</th> </tr> </thead> <tbody> <tr> <td>0.15-0.5</td> <td>66 to 56*</td> <td>56 to 46*</td> </tr> <tr> <td>0.5-5</td> <td>56</td> <td>46</td> </tr> <tr> <td>5-30</td> <td>60</td> <td>50</td> </tr> </tbody> </table>			Frequency range (MHz)	Limit (dBuV)		Quasi-peak	Average	0.15-0.5	66 to 56*	56 to 46*	0.5-5	56	46	5-30	60	50
Frequency range (MHz)	Limit (dBuV)																
	Quasi-peak	Average															
0.15-0.5	66 to 56*	56 to 46*															
0.5-5	56	46															
5-30	60	50															
	* Decreases with the logarithm of the frequency.																
Test procedure	<p>The E.U.T and simulators are connected to the main power through a line impedance stabilization network(L.I.S.N.). The provide a 50ohm/50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs). Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 2003 on conducted measurement.</p>																
Test setup:	<p><i>Remark:</i> E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.8m</p>																
Test Instruments:	Refer to section 4.7 for details																
Test mode:	Refer to section 4.3 for details																
Test results:	Pass																

### Measurement Data

An initial pre-scan was performed on the live and neutral lines with peak detector. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.

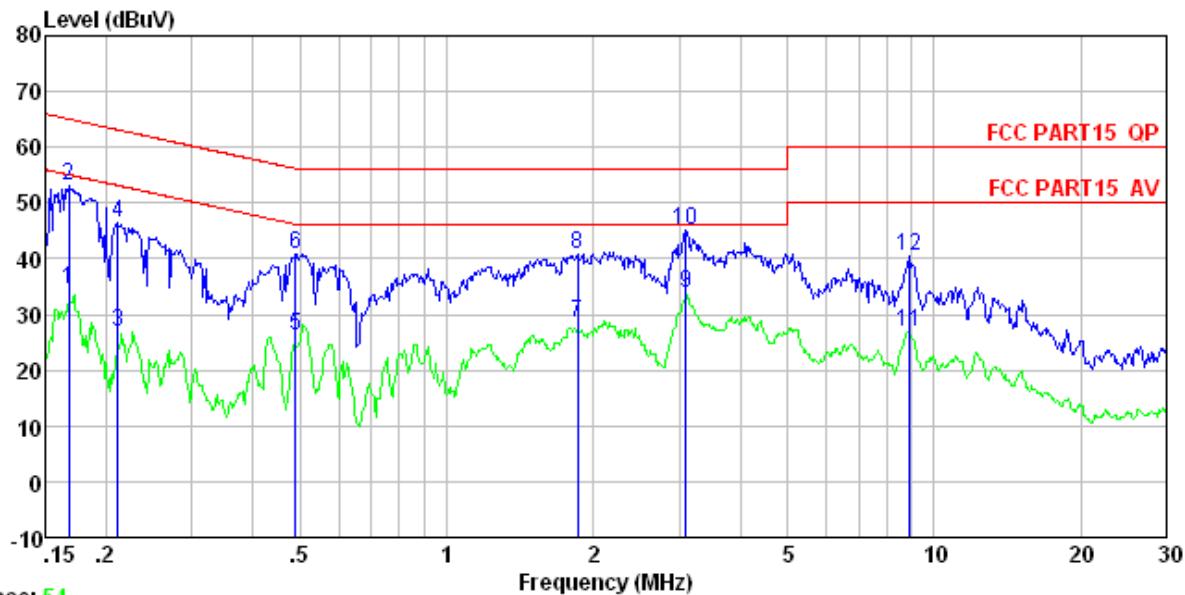
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## Line:



Site : Shielded room  
 Condition : FCC PART15 QP LISN(2011) LINE  
 Job No. : 705RF  
 Test Mode : Operation  
 Test Engineer: HuXiaohe  
 Remark : Receiver

Freq	Read	LISN	Cable	Limit	Over	Remark
	Level	Factor	Loss	Level	Line	
1	0.159	35.60	0.68	0.10	36.38	55.52 -19.14 Average
2	0.159	54.15	0.68	0.10	54.93	65.52 -10.59 QP
3	0.209	28.10	0.65	0.10	28.85	53.23 -24.38 Average
4	0.209	47.67	0.65	0.10	48.42	63.23 -14.81 QP
5	0.524	30.30	0.55	0.10	30.95	46.00 -15.05 Average
6	0.524	42.98	0.55	0.10	43.63	56.00 -12.37 QP
7	0.914	24.40	0.49	0.10	24.99	46.00 -21.01 Average
8	0.914	38.77	0.49	0.10	39.36	56.00 -16.64 QP
9	3.090	33.60	0.35	0.10	34.05	46.00 -11.95 Average
10	3.090	45.06	0.35	0.10	45.51	56.00 -10.49 QP
11	8.869	30.50	0.24	0.19	30.93	50.00 -19.07 Average
12	8.869	40.97	0.24	0.19	41.40	60.00 -18.60 QP

**Neutral:**

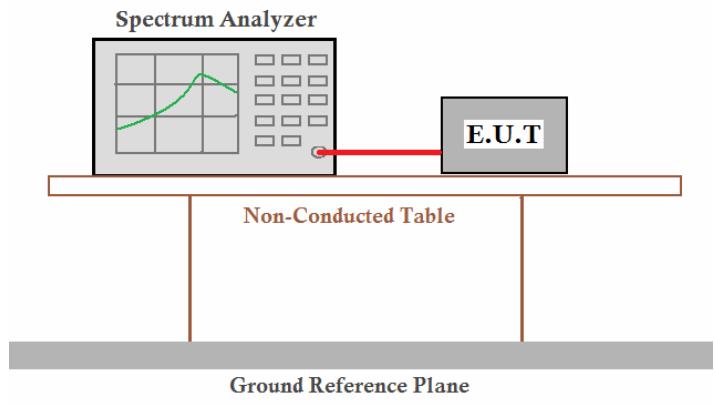
Site : Shielded room  
 Condition : FCC PART15 QP LISN(2011) LINE  
 Job No. : 705RF  
 Test Mode : Operation  
 Test Engineer: HuXiaohe  
 Remark : Receiver

Freq	Read	LISN	Cable	Limit	Over	Remark
	Level	Factor	Loss	Level	Line	
1	0.168	33.70	0.68	0.10	34.48	55.08 -20.60 Average
2	0.168	52.18	0.68	0.10	52.96	65.08 -12.12 QP
3	0.212	26.20	0.65	0.10	26.95	53.14 -26.19 Average
4	0.212	45.64	0.65	0.10	46.39	63.14 -16.75 QP
5	0.489	25.54	0.56	0.10	26.20	46.19 -19.99 Average
6	0.489	40.20	0.56	0.10	40.86	56.19 -15.33 QP
7	1.858	28.06	0.41	0.10	28.57	46.00 -17.43 Average
8	1.858	40.42	0.41	0.10	40.93	56.00 -15.07 QP
9	3.090	33.36	0.35	0.10	33.81	46.00 -12.19 Average
10	3.090	44.78	0.35	0.10	45.23	56.00 -10.77 QP
11	8.869	26.56	0.24	0.19	26.99	50.00 -23.01 Average
12	8.869	39.94	0.24	0.19	40.37	60.00 -19.63 QP

**Notes:**

1. The following Quasi-Peak and Average measurements were performed on the EUT:
2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.

### 5.3 Conducted Peak Output Power

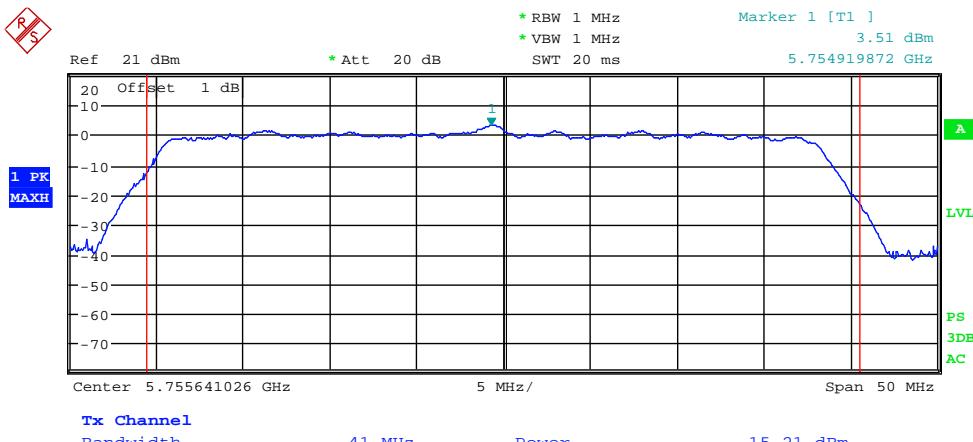
Test Requirement:	FCC Part15 C Section 15.247 (b)(3)
Test Method:	ANSI C63.4:2003 and KDB558074 D01
Limit:	30dBm
Test setup:	
Test Instruments:	Refer to section 4.7 for details
Test mode:	Refer to section 4.3 for details
Test results:	Pass

#### Measurement Data

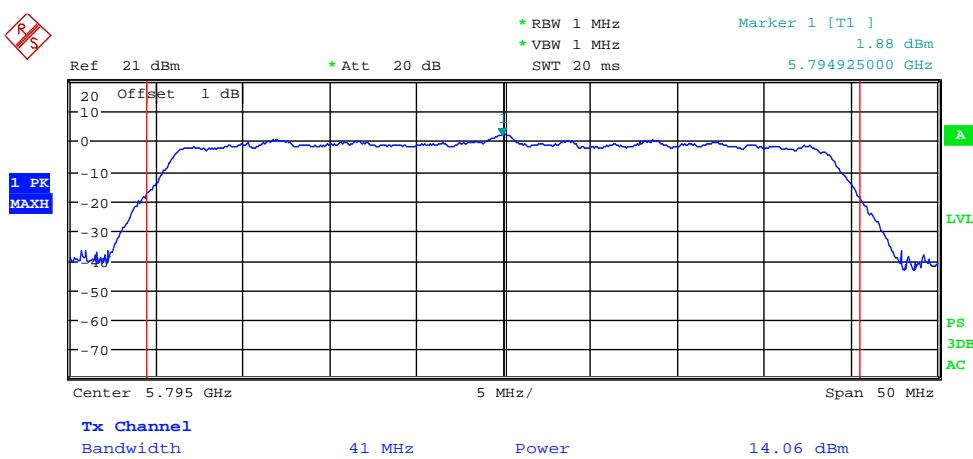
Test channel	Frequency (MHz)	Peak Output Power (dBm)	Limit (dBm)	Result
Low	5755	15.21	30.00	Pass
High	5795	14.06	30.00	Pass

#### Test plot as follows:

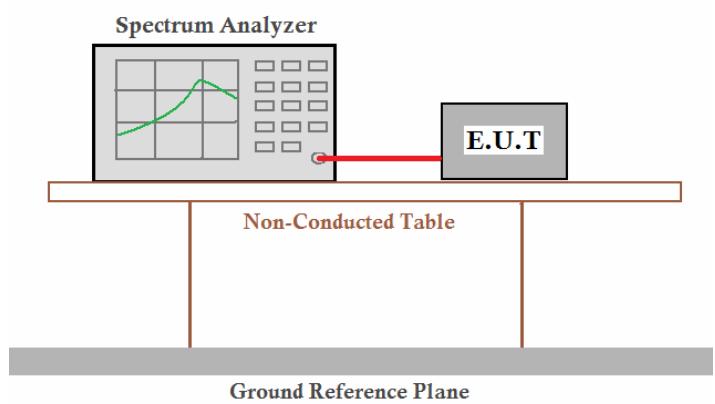
Test channel: Low



Test channel: High



## 5.4 6dB Occupy Bandwidth

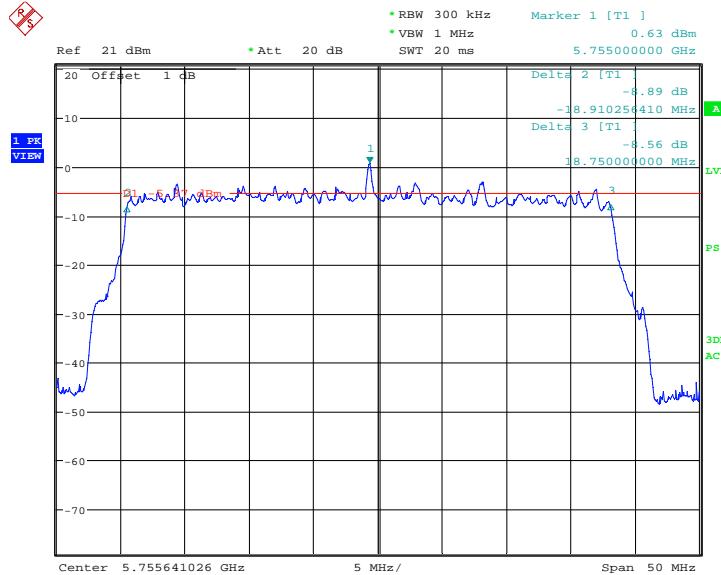
Test Requirement:	FCC Part15 C Section 15.247 (a)(2)
Test Method:	ANSI C63.4:2003 and KDB558074 D01
Limit:	>500KHz
Test setup:	
Test Instruments:	Refer to section 4.7 for details
Test mode:	Refer to section 4.3 for details
Test results:	Pass

### Measurement Data

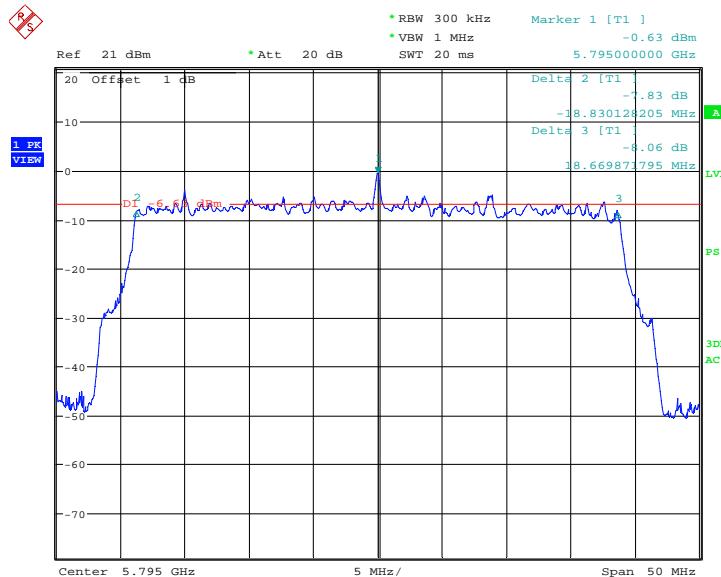
Test channel	Frequency (MHz)	6dB Occupy Bandwidth (MHz)	Limit (KHz)	Result
Low	5755	37.60	>500	Pass
High	5795	37.50	>500	Pass

### Test plot as follows:

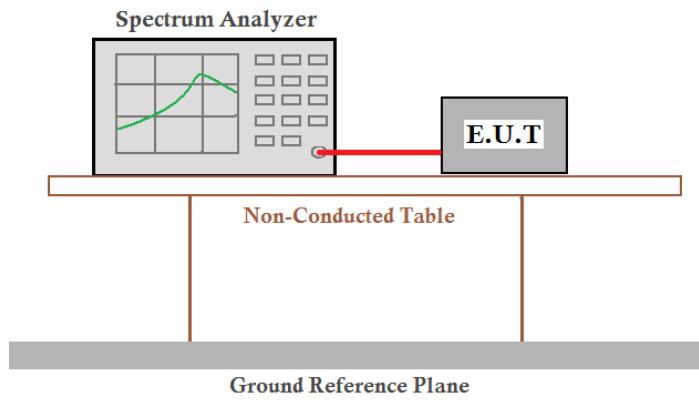
Test channel:	Low
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Test channel:	High
---------------	------



## 5.5 Power Spectral Density

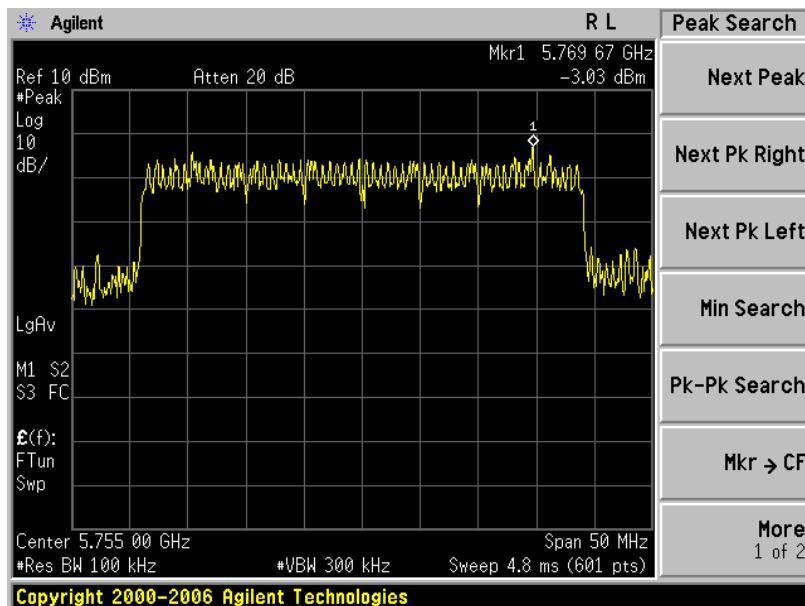
Test Requirement:	FCC Part15 C Section 15.247 (e)
Test Method:	ANSI C63.4:2003 and KDB558074 D01
Limit:	8dBm
Test setup:	
Test Instruments:	Refer to section 4.7 for details
Test mode:	Refer to section 4.3 for details
Test results:	Pass

### Measurement Data

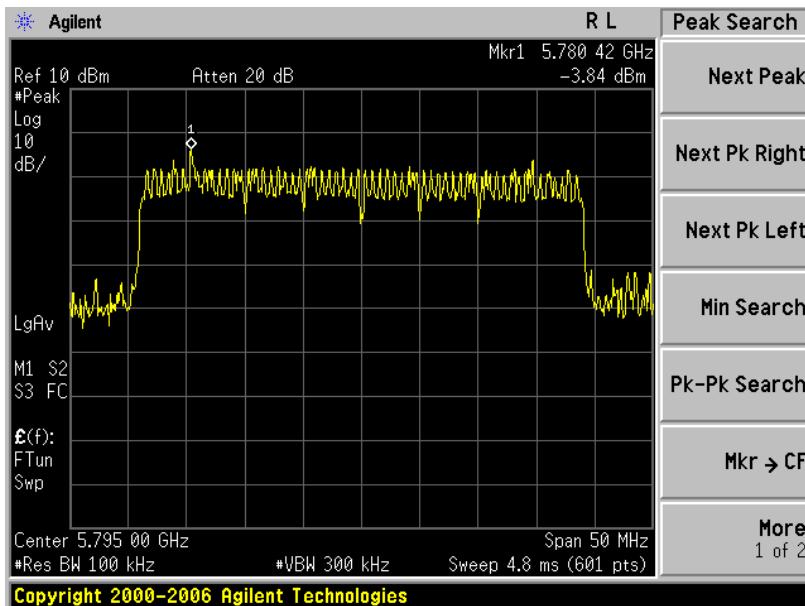
Test CH	Power Spectral Density (dBm/100KHz)	BWCF	Power Spectral Density (dBm/3KHz)	Limit (dBm/3KHz )	Result
Low	-3.03	-15.20	-18.23	8.00	Pass
High	-3.84	-15.20	-19.04		
Remark: BWCF = $10\log(3 \text{ kHz}/100 \text{ kHz}) = -15.20 \text{ dB}$					

**Test plot as follows:**

Test channel: Low

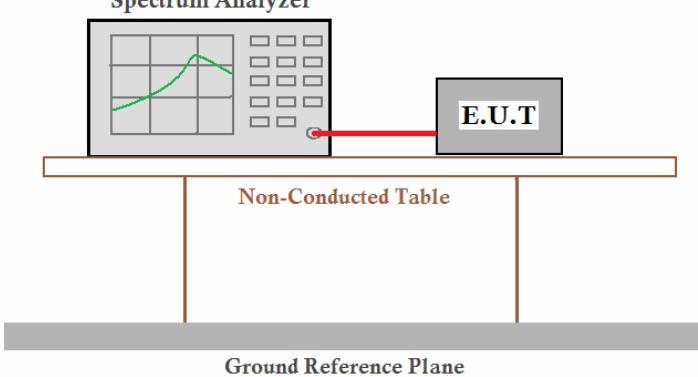


Test channel: High

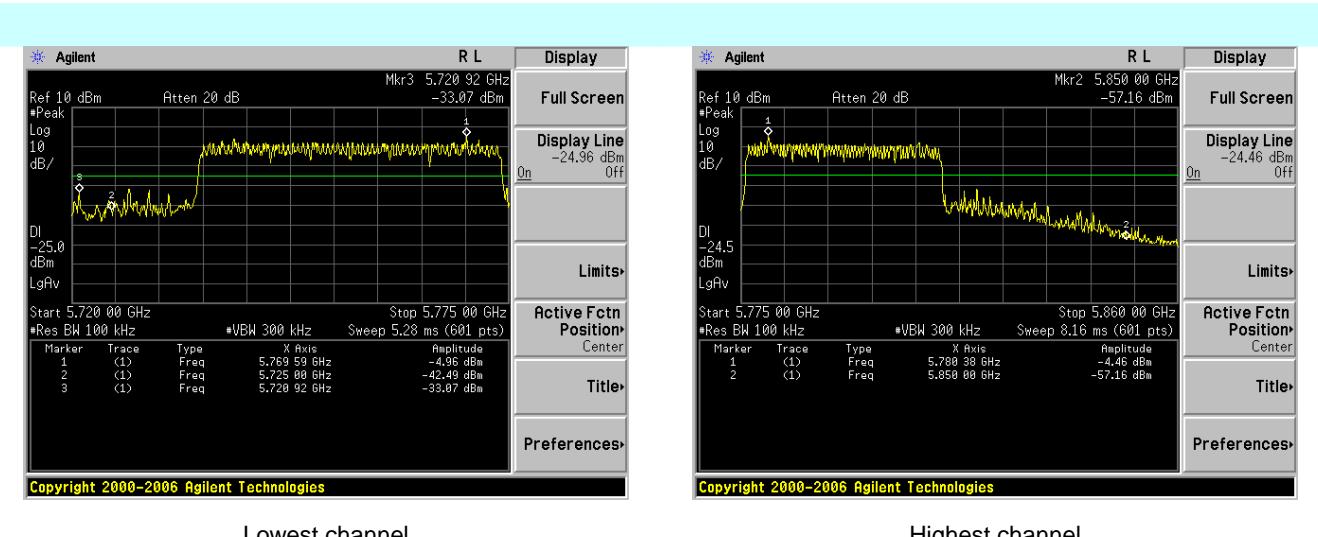


## 5.6 Band Edge

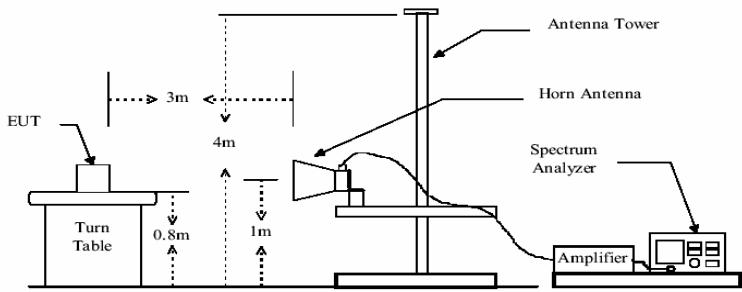
### 5.6.1 Conducted Emission Method

Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	ANSI C63.4:2003 and KDB558074 D01 Meas Guidance
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.
Test setup:	<p style="text-align: center;"><b>Spectrum Analyzer</b></p>  <p style="text-align: center;">Non-Conducted Table</p> <p style="text-align: center;">Ground Reference Plane</p>
Test Instruments:	Refer to section 4.7 for details
Test mode:	Refer to section 4.3 for details
Test results:	Pass

**Test plot as follows:**



### 5.6.2 Radiated Emission Method

Test Requirement:	FCC Part15 C Section 15.209 and 15.205								
Test Method:	ANSI C63.4: 2003								
Test Frequency Range:	30MHz to 40GHz, only worse case is reported								
Test site:	Measurement Distance: 3m								
Receiver setup:	Frequency	Detector	RBW	VBW	Remark				
	Above 1GHz	Peak	1MHz	3MHz	Peak Value				
		AV	1MHz	10Hz	Average Value				
Limit:	Frequency	Limit (dBuV/m @3m)		Remark					
	Above 1GHz	54.00		Average Value					
		74.00		Peak Value					
Test setup:									
Test Procedure:	<ol style="list-style-type: none"> <li>The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.</li> <li>The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.</li> <li>The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.</li> <li>For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.</li> <li>The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</li> <li>If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.</li> </ol>								
Test Instruments:	Refer to section 4.7 for details								
Test mode:	Refer to section 4.3 for details								
Test results:	Pass								

**Measurement data:**

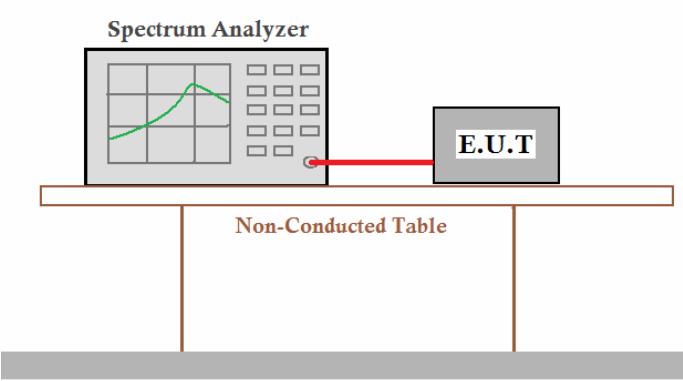
Test Channel:		5755MHz		Remark:			Peak	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5725.00	42.22	33.62	5.84	32.83	48.85	74.00	-25.15	Horizontal
5725.00	44.23	33.62	5.84	32.83	50.86	74.00	-23.14	Vertical

Test Channel:		5755MHz		Remark:			Average	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5725.00	32.98	33.62	5.84	32.83	39.61	54.00	-14.39	Horizontal
5725.00	34.20	33.62	5.84	32.83	40.83	54.00	-13.17	Vertical

Test Channel:		5795MHz		Remark:			Peak	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5850.00	43.55	34.17	5.96	33.26	50.42	74.00	-23.58	Horizontal
5850.00	44.46	34.17	5.96	33.26	51.33	74.00	-22.67	Vertical

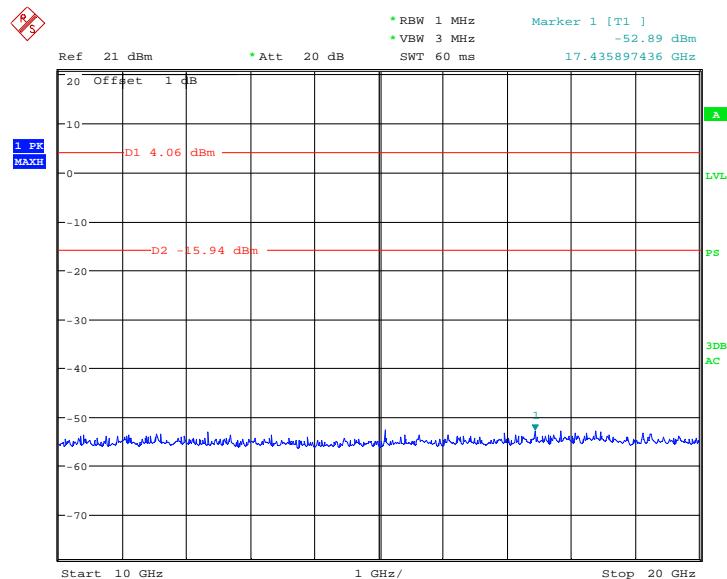
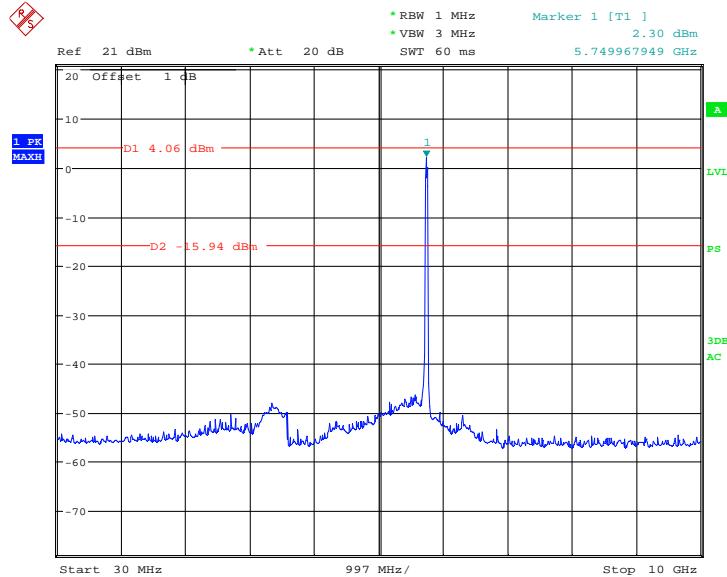
Test Channel:		5795MHz		Remark:			Average	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5850.00	31.21	34.17	5.96	33.26	38.08	54.00	-15.92	Horizontal
5850.00	33.18	34.17	5.96	33.26	40.05	54.00	-13.95	Vertical

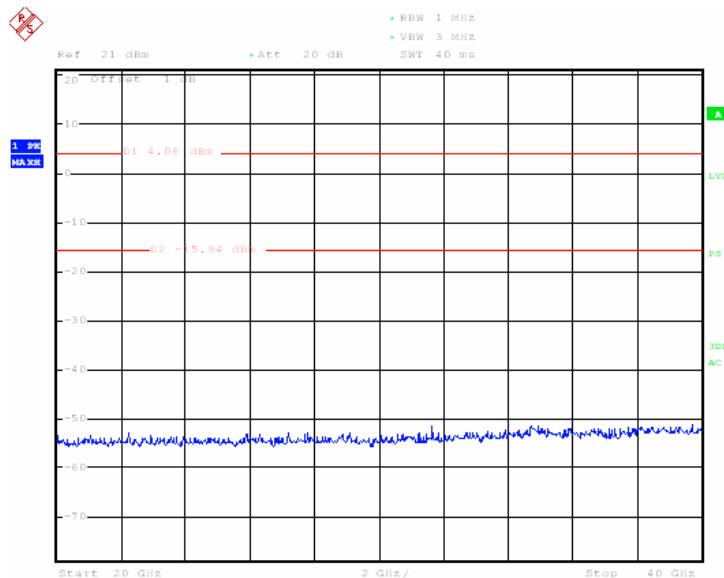
## 5.7 RF Antenna Conducted spurious emissions

Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	ANSI C63.4:2003 and KDB558074 D01
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.
Test setup:	
Test Instruments:	Refer to section 4.7 for details
Test mode:	Refer to section 4.3 for details
Test results:	Pass

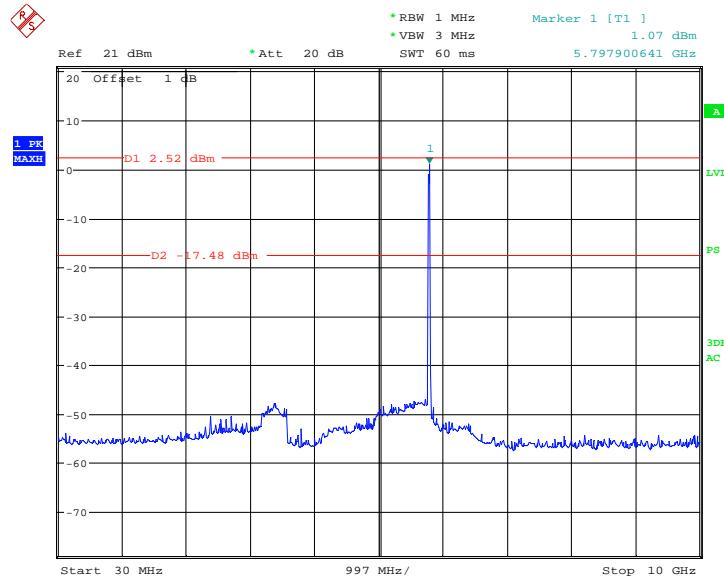
**Test plot as follows:**

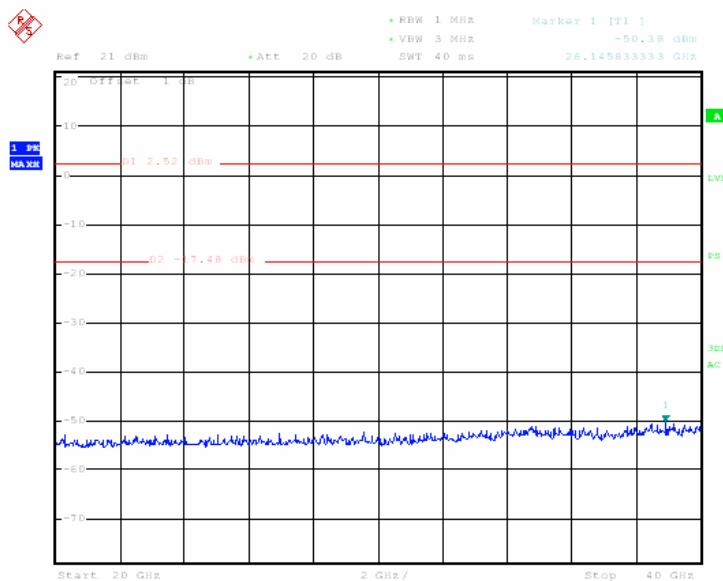
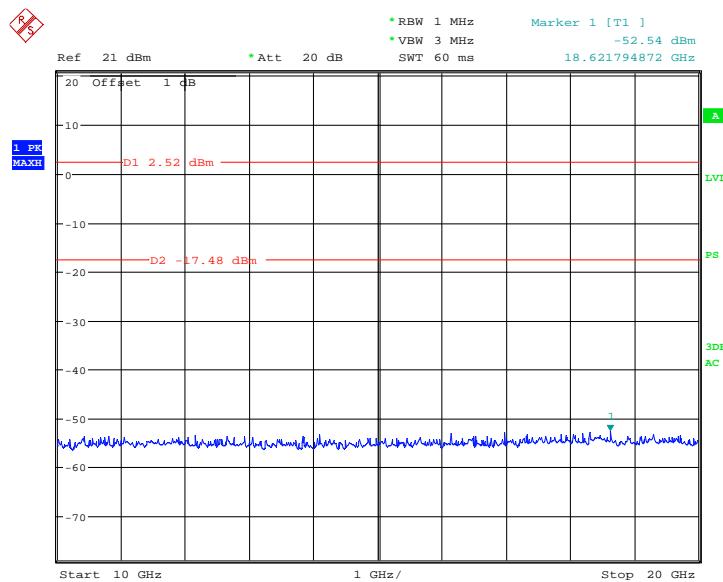
Test channel:	Low
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Test channel:	High
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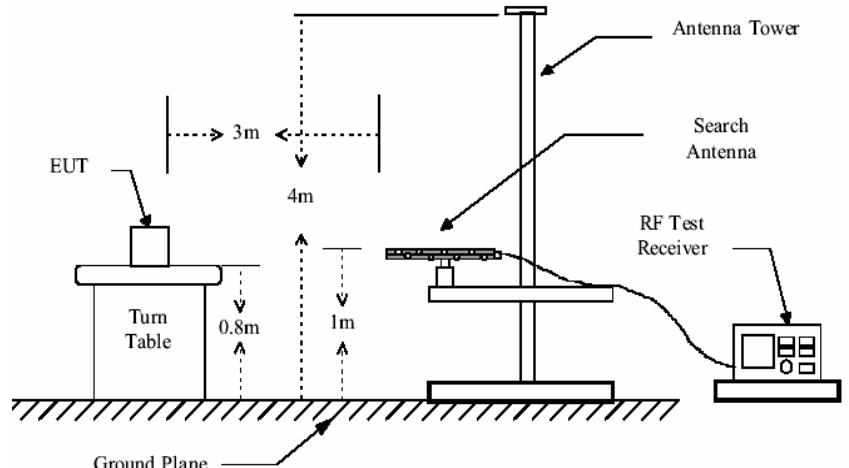
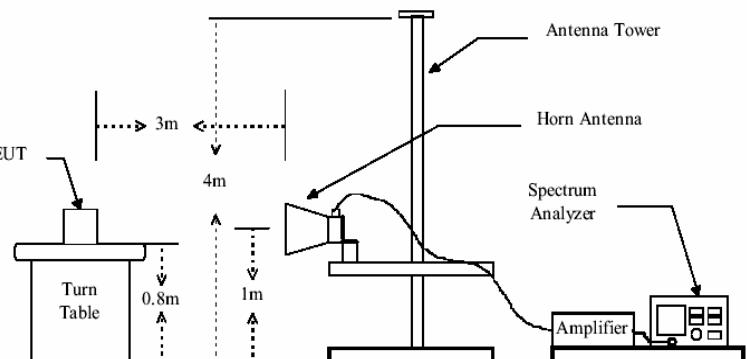






## 5.8 Radiated Emission

Test Requirement:	FCC Part15 C Section 15.209 and 15.205																								
Test Method:	ANSI C63.4: 2003																								
Test Frequency Range:	30MHz to 40GHz																								
Test site:	Measurement Distance: 3m (Semi-Anechoic Chamber)																								
Receiver setup:	<table border="1"> <thead> <tr> <th>Frequency</th> <th>Detector</th> <th>RBW</th> <th>VBW</th> <th>Remark</th> </tr> </thead> <tbody> <tr> <td>30MHz-1GHz</td> <td>Quasi-peak</td> <td>100KHz</td> <td>300KHz</td> <td>Quasi-peak Value</td> </tr> <tr> <td rowspan="2">Above 1GHz</td><td>Peak</td> <td>1MHz</td> <td>3MHz</td> <td>Peak Value</td> </tr> <tr> <td>AV</td> <td>1MHz</td> <td>10Hz</td> <td>Average Value</td> </tr> </tbody> </table>					Frequency	Detector	RBW	VBW	Remark	30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak Value	Above 1GHz	Peak	1MHz	3MHz	Peak Value	AV	1MHz	10Hz	Average Value	
Frequency	Detector	RBW	VBW	Remark																					
30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak Value																					
Above 1GHz	Peak	1MHz	3MHz	Peak Value																					
	AV	1MHz	10Hz	Average Value																					
Limit:	<table border="1"> <thead> <tr> <th>Frequency</th> <th>Limit (dBuV/m @ 3m)</th> <th>Remark</th> </tr> </thead> <tbody> <tr> <td>30MHz-88MHz</td> <td>40.0</td> <td>Quasi-peak Value</td> </tr> <tr> <td>88MHz-216MHz</td> <td>43.5</td> <td>Quasi-peak Value</td> </tr> <tr> <td>216MHz-960MHz</td> <td>46.0</td> <td>Quasi-peak Value</td> </tr> <tr> <td>960MHz-1GHz</td> <td>54.0</td> <td>Quasi-peak Value</td> </tr> <tr> <td rowspan="2">Above 1GHz</td><td>54.0</td> <td>Average Value</td> </tr> <tr> <td>74.0</td> <td>Peak Value</td> </tr> </tbody> </table>					Frequency	Limit (dBuV/m @ 3m)	Remark	30MHz-88MHz	40.0	Quasi-peak Value	88MHz-216MHz	43.5	Quasi-peak Value	216MHz-960MHz	46.0	Quasi-peak Value	960MHz-1GHz	54.0	Quasi-peak Value	Above 1GHz	54.0	Average Value	74.0	Peak Value
Frequency	Limit (dBuV/m @ 3m)	Remark																							
30MHz-88MHz	40.0	Quasi-peak Value																							
88MHz-216MHz	43.5	Quasi-peak Value																							
216MHz-960MHz	46.0	Quasi-peak Value																							
960MHz-1GHz	54.0	Quasi-peak Value																							
Above 1GHz	54.0	Average Value																							
	74.0	Peak Value																							
Test Procedure:	<ul style="list-style-type: none"> <li>g. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.</li> <li>h. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.</li> <li>i. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.</li> <li>j. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.</li> <li>k. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</li> <li>l. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.</li> </ul>																								

Test setup:	<p>Below 1GHz</p>  <p>Above 1GHz</p> 
Test Instruments:	Refer to section 4.7 for details
Test mode:	Refer to section 4.3 for details
Test results:	Pass

**Note:**

The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

$$\text{Final Test Level} = \text{Receiver Reading} + \text{Antenna Factor} + \text{Cable Factor} - \text{Preamplifier Factor}$$

### 5.8.1 Radiated emission below 1GHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
32.07	52.40	15.73	0.57	32.06	36.64	40.00	-3.36	Vertical
49.19	49.62	16.41	0.76	31.97	34.82	40.00	-5.18	Vertical
135.03	58.14	11.72	1.47	31.92	39.41	43.50	-4.09	Vertical
297.22	54.48	16.03	2.35	32.18	40.68	46.00	-5.32	Vertical
406.09	55.20	17.22	2.88	31.87	43.43	46.00	-2.57	Vertical
675.21	47.61	21.46	4.00	31.16	41.91	46.00	-4.09	Vertical
135.03	49.66	11.72	1.47	31.92	30.93	43.50	-12.57	Horizontal
243.38	55.07	15.09	2.09	32.16	40.09	46.00	-5.91	Horizontal
297.22	55.71	16.03	2.35	32.18	41.91	46.00	-4.09	Horizontal
406.09	53.66	17.22	2.88	31.87	41.89	46.00	-4.11	Horizontal
704.23	47.15	21.86	4.10	31.20	41.91	46.00	-4.09	Horizontal
810.27	44.68	23.15	4.49	31.30	41.02	46.00	-4.98	Horizontal

## 5.8.2 Transmitter emission above 1GHz

Test channel:	Lowest	Remark:	Peak
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Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11670	37.04	39.85	10.16	38.15	48.90	74.00	-25.10	Horizontal
17505	31.27	40.51	14.60	36.15	50.23	74.00	-23.77	Horizontal
23020	*	*	*	*	*	74.00	*	Horizontal
28775	*	*	*	*	*	74.00	*	Horizontal
34530	*	*	*	*	*	74.00	*	Horizontal
11670	35.70	39.85	10.16	38.15	47.56	74.00	-26.44	Vertical
17505	29.56	40.51	14.60	36.15	48.52	74.00	-25.48	Vertical
23020	*	*	*	*	*	74.00	*	Vertical
28775	*	*	*	*	*	74.00	*	Vertical
34530	*	*	*	*	*	74.00	*	Vertical

Test channel:	Lowest	Remark:	Average
---------------	--------	---------	---------

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11670	24.89	39.85	10.16	38.15	36.75	54.00	-17.25	Horizontal
17505	19.75	40.51	14.60	36.15	38.71	54.00	-15.29	Horizontal
23020	*	*	*	*	*	54.00	*	Horizontal
28775	*	*	*	*	*	54.00	*	Horizontal
34530	*	*	*	*	*	54.00	*	Horizontal
11670	22.56	39.85	10.16	38.15	34.42	54.00	-19.58	Vertical
17505	17.19	40.51	14.60	36.15	36.15	54.00	-17.85	Vertical
23020	*	*	*	*	*	54.00	*	Vertical
28775	*	*	*	*	*	54.00	*	Vertical
34530	*	*	*	*	*	54.00	*	Vertical

## Remark:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “\*”, means this data is the too weak instrument of signal is unable to test.
5. Level = Reading Level + Antenna factor+ Cable loss – Preamp Factor
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Test channel:	High	Remark:	Peak
---------------	------	---------	------

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11590	37.54	39.71	10.20	38.10	49.35	74.00	-24.65	Horizontal
17385	31.59	40.29	14.65	36.07	50.46	74.00	-23.54	Horizontal
23180	*	*	*	*	*	74.00	*	Horizontal
28975	*	*	*	*	*	74.00	*	Horizontal
34770	*	*	*	*	*	74.00	*	Horizontal
11590	36.04	39.71	10.20	38.10	47.85	74.00	-26.15	Vertical
17385	29.62	40.29	14.65	36.07	48.49	74.00	-25.51	Vertical
23180	*	*	*	*	*	74.00	*	Vertical
28975	*	*	*	*	*	74.00	*	Vertical
34770	*	*	*	*	*	74.00	*	Vertical

Test channel:	High	Remark:	Average
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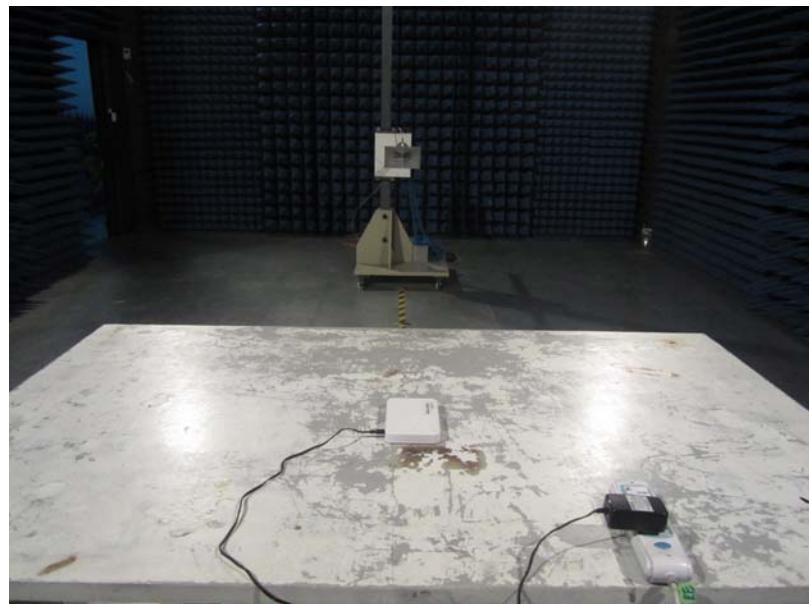
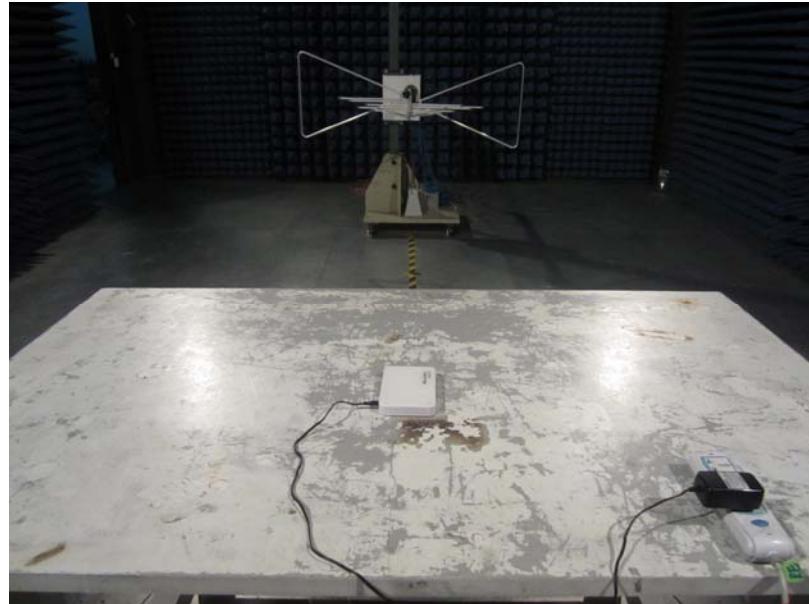
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11590	25.68	39.71	10.20	38.10	37.49	54.00	-16.51	Horizontal
17385	20.86	40.29	14.65	36.07	39.73	54.00	-14.27	Horizontal
23180	*	*	*	*	*	54.00	*	Horizontal
28975	*	*	*	*	*	54.00	*	Horizontal
34770	*	*	*	*	*	54.00	*	Horizontal
11590	24.36	39.71	10.20	38.10	36.17	54.00	-17.83	Vertical
17385	19.28	40.29	14.65	36.07	38.15	54.00	-15.85	Vertical
23180	*	*	*	*	*	54.00	*	Vertical
28975	*	*	*	*	*	54.00	*	Vertical
34770	*	*	*	*	*	54.00	*	Vertical

## Remark:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the too weak instrument of signal is unable to test.
5. Level = Reading Level + Antenna factor+ Cable loss – Preamp Factor
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

## 6 Test Setup Photo

Radiated Emission



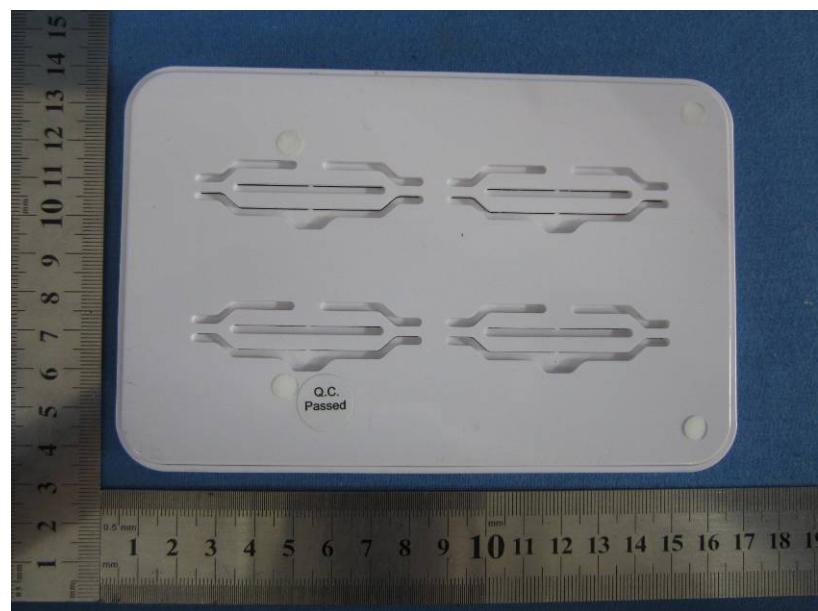
## Conducted Emissions



## 7 EUT Constructional Details



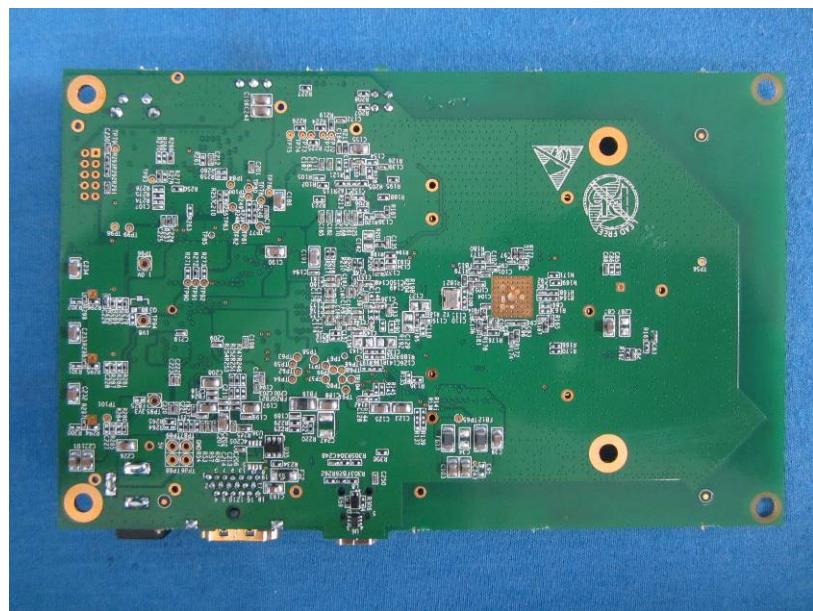
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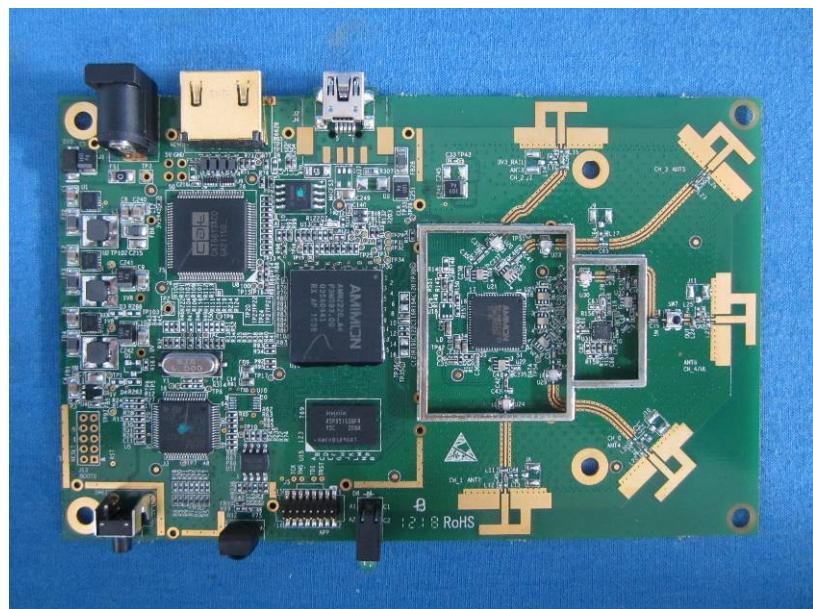
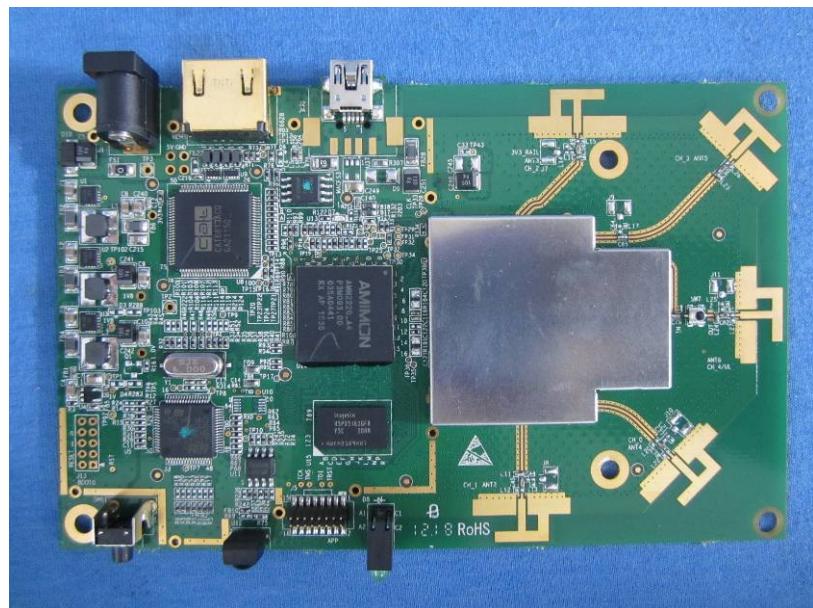
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