TEST REPORT

Reference No......	:	WTS16S0549404E
FCC ID.....	:	2AGKBKIM9
Applicant.....	:	Videostrong Technology Co.,Ltd
Address.....	:	402A, Buliding B, Donglian Industrial 23rd District Bao an, Shenzhen, China
Manufacturer	:	The same as above
Address.....	:	The same as above
Product Name.....	:	Android TV BOX
Model No.....	:	KI PLUS DVB, K1 PLUS, KII, KIII, KB1, MXV 4K, M8S+, M8S+ 4K, M9, KI, KS1, KS2, K6, KII PRO, KIII PRO, RK8, M8S PRO
Standards.....	:	FCC CFR47 Part 15 Section 15.247:2015
Date of Receipt sample.....	:	May 03, 2016
Date of Test.....	:	May 05–31, 2016
Date of Issue.....	:	Jun. 15, 2016
Test Result.....	:	**Pass ***

*Remarks:
The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

Prepared By:
Waltek Services (Shenzhen) Co., Ltd.
Address: 1/F., Fukangtai Building, West Baima Road, Songgang Street, Baoan District, Shenzhen, Guangdong, China
Tel :+86-755-83551033
Fax:+86-755-83552400

Compiled by:

Zero Zhou / Test Engineer

Approved by:

Philo Zhong / Manager

2 Test Summary

Test Items	Test Requirement	Result
Radiated Emissions	15.205(a) 15.209(a)	PASS
Conducted Emissions	15.207(a)	PASS
Bandwidth	15.247(a)(2)	PASS
Maximum Peak Output Power	15.247(b)(3),(4)	PASS
Power Spectral Density	15.247(e)	PASS
Band Edge	15.247(d)	PASS
Antenna Requirement	15.203	PASS
Maximum Permissible Exposure (Exposure of Humans to RF Fields)	1.1307(b)(1)	PASS

3 Contents

Page

4 General Information

4.1 General Description of E.U.T.

Product Name:	Android TV BOX
Model No.:	KI PLUS DVB, K1 PLUS, KII, KIII, KB1, MXV 4K, M8S+, M8S+ 4K, M9, KI, KS1, KS2, K6, KII PRO, KIII PRO, RK8, M8S PRO
Model Difference:	K1 PLUS DVB comes with DVB function more than K1 PLUS,K1 PLUS, KII, KIII, KB1, MXV 4K, M8S+, M8S+ 4K, M9, KI, KS1, KS2, K6, KII PRO, KIII PRO, RK8, M8S PRO are same in PCB circuit, PCB Layout, components and internal structure, only the model name and appearance shape are different.
Operation Frequency:	2412-2462MHz for 802.11b/g/n-HT20 2422-2452MHz for 802.11n-HT40
The lowest oscillator:	32.768KHz
Antenna Gain:	2dBi
Type of modulation:	IEEE 802.11b (CCK/QPSK/BPSK,11Mbps max.) IEEE 802.11g (BPSK/QPSK/16QAM/64QAM,54Mbps max.) IEEE 802.11n (BPSK/QPSK/16QAM/64QAM,HT20:108Mbps max., HT40:150Mbps max.)

4.2 Details of E.U.T.

Technical Data:	DC 12V, 1000mA by adapter (Adapter Input: 100-240VAC 50/60Hz, 0.35A,Output: DC 12V, 1000mA, Model: KA1602-1201000USS by SHENZHEN KEYU POWER SUPPLY ECHNOLOGY CO., LTD)

4.3 Channel List

Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
1	2412	2	2417	3	2422	4	2427
5	2432	6	2437	7	2442	8	2447
9	2452	10	2457	11	2462	12	-

4.4 Test Mode

Table 1 Tests Carried Out Under FCC part 15.247

Test Items	Mode	Data Rate	Channel	TX/RX
Maximum conducted (average) output power	802.11b	11 Mbps	1/6/11	TX
	802.11g	54 Mbps	1/6/11	TX
	802.11n HT20	108 Mbps	1/6/11	TX
	802.11n HT40	150 Mbps	3/6/9	TX
Power Spectral Density	802.11b	11 Mbps	1/6/11	TX
	802.11g	54 Mbps	1/6/11	TX
	802.11n HT20	108 Mbps	1/6/11	TX

	802.11n HT40	150 Mbps	3/6/9	TX
Band Edge	802.11b	11 Mbps	1/11	TX
	802.11g	54 Mbps	1/11	TX
	802.11n HT20	108 Mbps	1/11	TX
	802.11n HT40	150 Mbps	3/9	TX
Bandwidth	802.11b	11 Mbps	1/6/11	TX
	802.11g	54 Mbps	1/6/11	TX
	802.11n HT20	108 Mbps	1/6/11	TX
	802.11n HT40	150 Mbps	3/6/9	TX
Transmitter Spurious Emissions	802.11b	11 Mbps	1/6/11	TX
	802.11g	54 Mbps	1/6/11	TX
	802.11n HT20	108 Mbps	1/6/11	TX
	802.11n HT40	150 Mbps	3/6/9	TX

Note :Parameters set by test software during channel & power tests, the software provided by the customer was used to set the operating channels as well as the output power level. The RF output power set is the power expected by the manufacturer and is going to be fixed on the firmware of the final product .

4.5 Test Facility

The test facility has a test site registered with the following organizations:

- **IC – Registration No.: 7760A-1**

  Waltek Services(Shenzhen) Co., Ltd. Has been registered and fully described in a report filed with the Industry Canada. The acceptance letter from the Industry Canada is maintained in our files. Registration number 7760A-1, October 15, 2015.

- **FCC Test Site 1#– Registration No.: 880581**

  Waltek Services(Shenzhen) Co., Ltd. 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 our files. Registration 880581, April 29, 2014.

- **FCC Test Site 2#– Registration No.: 328995**

  Waltek Services(Shenzhen) Co., Ltd. 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 our files. Registration 328995, December 3, 2014.

5 Equipment Used during Test

5.1 Equipments List

Conducted Emissions Test Site 1#						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Calibration Due Date**
1.	EMI Test Receiver	R&S	ESCI	100947	Sep.15,2015	Sep.14,2016
2.	LISN	R&S	ENV216	101215	Sep.15,2015	Sep.14,2016
3.	Cable	Top	TYPE16(3.5M)	-	Sep.15,2015	Sep.14,2016
Conducted Emissions Test Site 2#						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Calibration Due Date**
1.	EMI Test Receiver	R&S	ESCI	101155	Sep.15,2015	Sep.14,2016
2.	LISN	SCHWARZBECK	NSLK 8128	8128-289	Sep.15,2015	Sep.14,2016
3.	Limiter	York	MTS-IMP-136	261115-001-0024	Sep.15,2015	Sep.14,2016
4.	Cable	LARGE	RF300	-	Sep.15,2015	Sep.14,2016
3m Semi-anechoic Chamber for Radiation Emissions Test site 1#						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Calibration Due Date**
1	EMC Analyzer	Agilent	E7405A	MY45114943	Sep.15,2015	Sep.14,2016
2	Active Loop Antenna	Beijing Dazhi	ZN30900A	-	Sep.15,2015	Sep.14,2016
3	Trilog Broadband Antenna	SCHWARZBECK	VULB9163	336	Sep.15,2015	Sep.14,2016
4	Coaxial Cable (below 1GHz)	Top	TYPE16(13M)	-	Sep.15,2015	Sep.14,2016
5	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9120 D	667	Apr.19,2016	Apr.18,2017
6	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9170	335	Apr.19,2016	Apr.18,2017
7	Broadband Preamplifier	COMPLIANCE DIRECTION	PAP-1G18	2004	Sep.15,2015	Sep.14,2016
8	Coaxial Cable (above 1GHz)	Top	1GHz-25GHz	EW02014-7	Sep.15,2015	Sep.14,2016
3m Semi-anechoic Chamber for Radiation Emissions Test site 2#						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No**	**Last Calibration Date**	**Calibration Due Date**
1	Test Receiver	R&S	ESCI	101296	Sep.15,2015	Sep.14,2016
2	Trilog Broadband Antenna	SCHWARZBECK	VULB9160	9160-3325	Sep.15,2015	Sep.14,2016
3	Amplifier	Compliance pirection systems inc	PAP-0203	22024	Sep.15,2015	Sep.14,2016
4	Cable	HUBER+SUHNER	CBL2	525178	Sep.15,2015	Sep.14,2016

RF Conducted Testing						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Calibration Due Date**
1.	EMC Analyzer (9k~26.5GHz)	Agilent	E7405A	MY45114943	Sep.15,2015	Sep.14,2016
2.	Spectrum Analyzer (9k-6GHz)	R&S	FSL6	100959	Sep.15,2015	Sep.14,2016
3.	Signal Analyzer (9k~26.5GHz)	Agilent	N9010A	MY50520207	Sep.15,2015	Sep.14,2016

5.2 Measurement Uncertainty

Parameter	**Uncertainty**
Radio Frequency	± 1 x 10^{-6}
RF Power	± 1.0 dB
RF Power Density	± 2.2 dB
Radiated Spurious Emissions test	± 5.03 dB (Bilog antenna 30M~1000MHz)
	± 4.74 dB (Horn antenna 1000M~25000MHz)
Conducted Spurious Emissions test	± 3.64 dB (AC mains 150KHz~30MHz)

5.3 Test Equipment Calibration

All the test equipments used are valid and calibrated by CEPREI Certification Body that address is No.110 Dongguan Zhuang RD. Guangzhou, P.R.China.

6 Conducted Emission

Test Requirement:	FCC CFR 47 Part 15 Section 15.207
Test Method:	ANSI C63.10:2013
Test Result:	PASS
Frequency Range:	150kHz to 30MHz
Class/Severity:	Class B
Limit:	66-56 dBμV between 0.15MHz & 0.5MHz
	56 dBμV between 0.5MHz & 5MHz
	60 dBμV between 5MHz & 30MHz
Detector:	Peak for pre-scan (9kHz Resolution Bandwidth)

6.1 E.U.T. Operation

Operating Environment **:**

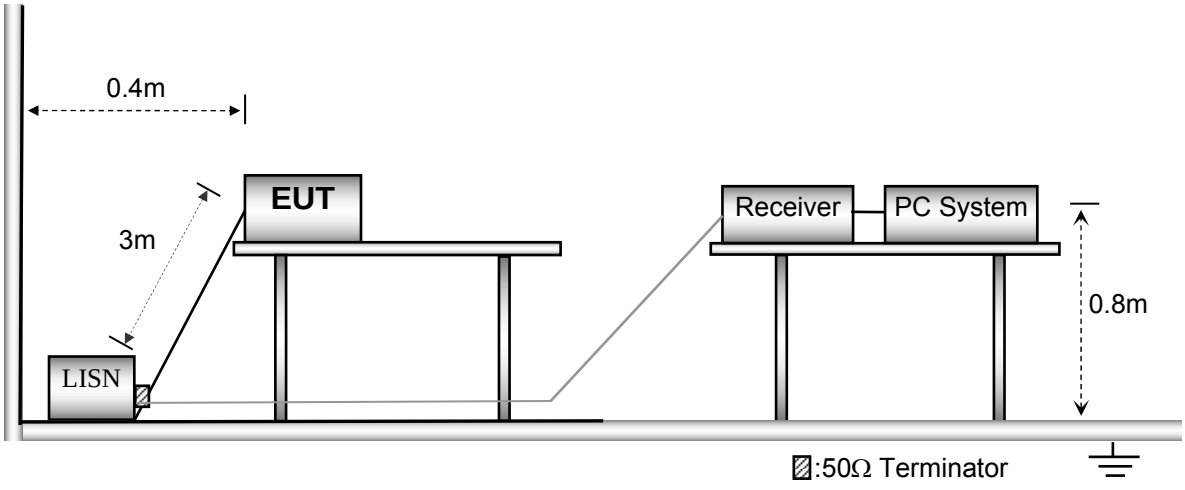
Temperature:	25.5 °C
Humidity:	51 % RH
Atmospheric Pressure:	101.2kPa

EUT Operation **:**

The test was performed in Transmitting mode, the test data were shown in the report.

6.2 EUT Setup

The conducted emission tests were performed using the setup accordance with the ANSI C63.10:2013.

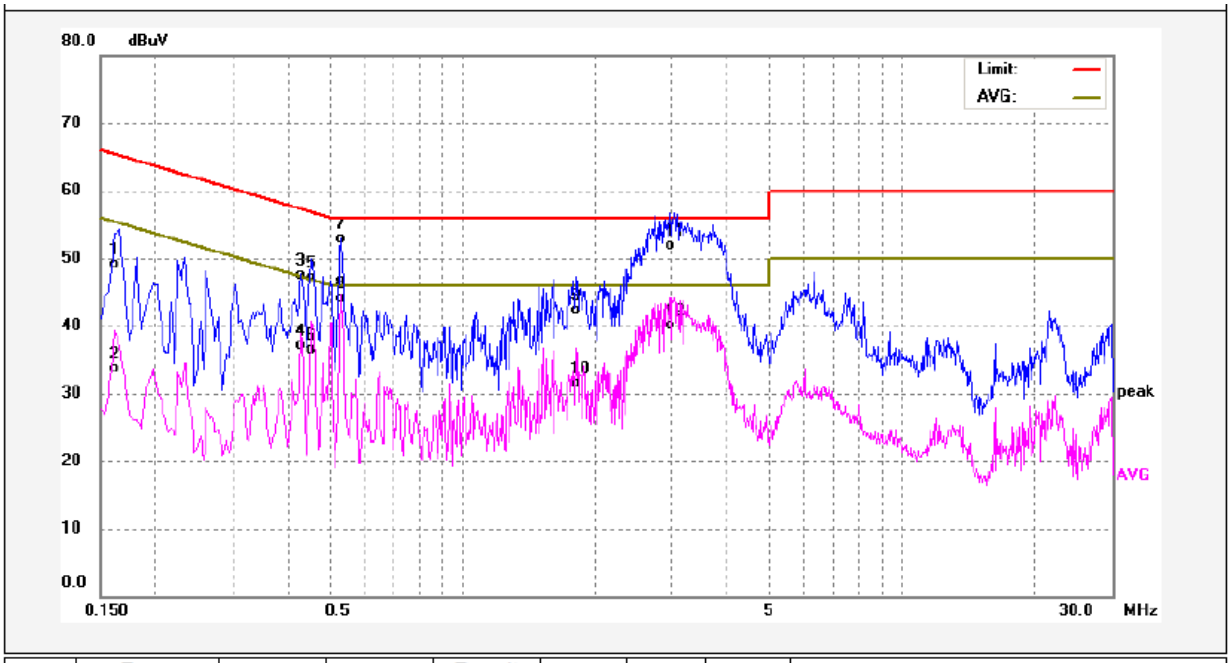


6.3 Measurement Description

The maximised peak emissions from the EUT was scanned and measured for both the Live and Neutral Lines. Quasi-peak & average measurements were performed if peak emissions were within 6dB of the average limit line.

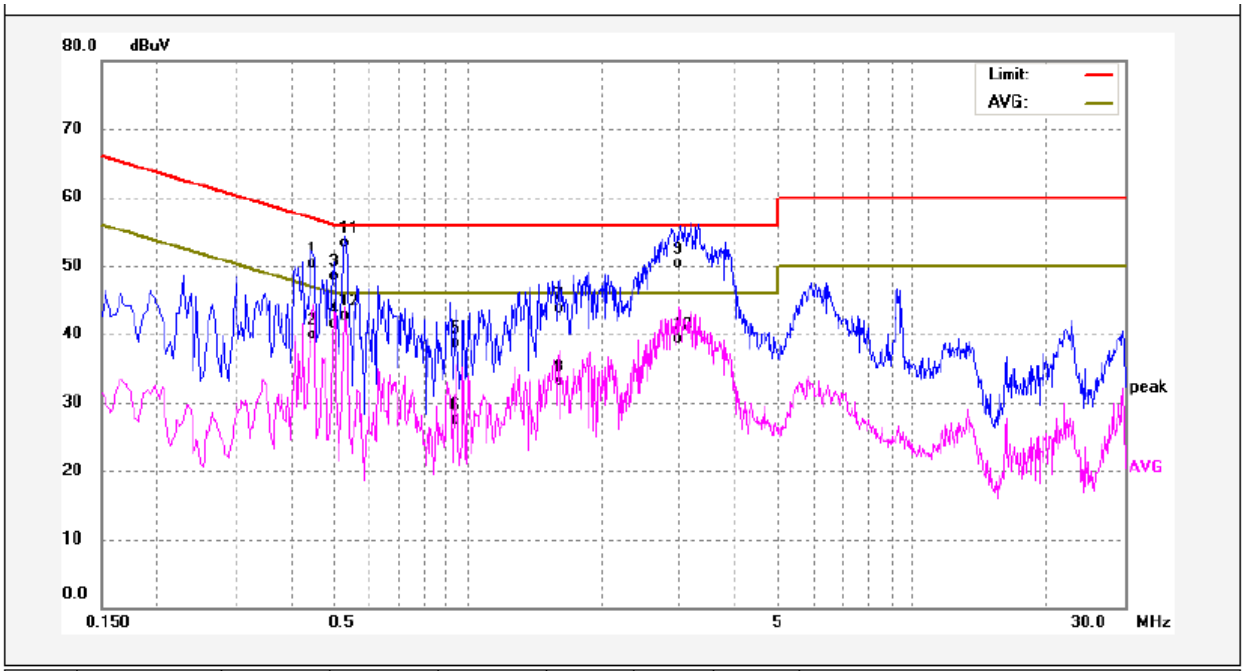
6.4 Conducted Emission Test Result

Live line:



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Margin (dB)	Detector	Remark
1	0.1620	38.90	10.28	49.18	65.36	-16.18	QP	
2	0.1620	23.50	10.28	33.78	55.36	-21.58	AVG	
3	0.4300	37.27	10.26	47.53	57.25	-9.72	QP	
4	0.4300	26.79	10.26	37.05	47.25	-10.20	AVG	
5	0.4540	36.81	10.26	47.07	56.80	-9.73	QP	
6	0.4540	26.33	10.26	36.59	46.80	-10.21	AVG	
7	0.5299	42.56	10.26	52.82	56.00	-3.18	QP	
8	0.5299	33.81	10.26	44.07	46.00	-1.93	AVG	
9	1.8180	31.90	10.46	42.36	56.00	-13.64	QP	
10	1.8180	21.00	10.46	31.46	46.00	-14.54	AVG	
11	2.9660	41.40	10.50	51.90	56.00	-4.10	QP	
12	2.9660	29.59	10.50	40.09	46.00	-5.91	AVG	

Neutral line:



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Margin (dB)	Detector	Remark
1	0.4500	39.95	10.26	50.21	56.87	-6.66	QP	
2	0.4500	29.74	10.26	40.00	46.87	-6.87	AVG	
3	0.5020	38.30	10.25	48.55	56.00	-7.45	QP	
4	0.5020	31.23	10.25	41.48	46.00	-4.52	AVG	
5	0.9420	28.25	10.38	38.63	56.00	-17.37	QP	
6	0.9420	17.19	10.38	27.57	46.00	-18.43	AVG	
7	1.6060	33.24	10.44	43.68	56.00	-12.32	QP	
8	1.6060	22.58	10.44	33.02	46.00	-12.98	AVG	
9	2.9860	39.89	10.50	50.39	56.00	-5.61	QP	
10	2.9860	28.72	10.50	39.22	46.00	-6.78	AVG	
11	0.5299	43.04	10.26	53.30	56.00	-2.70	QP	
12	0.5299	32.41	10.26	42.67	46.00	-3.33	AVG	

7 Radiated Emissions

Test Requirement: FCC CFR47 Part 15 Section 15.209 & 15.247

Test Method: 558074 D01 DTS Meas Guidance v03r05 & ANSI C63.10:2013

Test Result: PASS

Measurement Distance: 3m

Limit:

Frequency (MHz)	Field Strength		Field Strength Limit at 3m Measurement Dist	
	uV/m	Distance (m)	uV/m	dBuV/m
0.009 ~ 0.490	2400/F(kHz)	300	10000 * 2400/F(kHz)	$20\log^{(2400/F(kHz))} + 80$
0.490 ~ 1.705	24000/F(kHz)	30	100 * 24000/F(kHz)	$20\log^{(24000/F(kHz))} + 40$
1.705 ~ 30	30	30	100 * 30	$20\log^{(30)} + 40$
30 ~ 88	100	3	100	$20\log^{(100)}$
88 ~ 216	150	3	150	$20\log^{(150)}$
216 ~ 960	200	3	200	$20\log^{(200)}$
Above 960	500	3	500	$20\log^{(500)}$

7.1 EUT Operation

Operating Environment:

Temperature: 25.5 °C

Humidity: 51 % RH

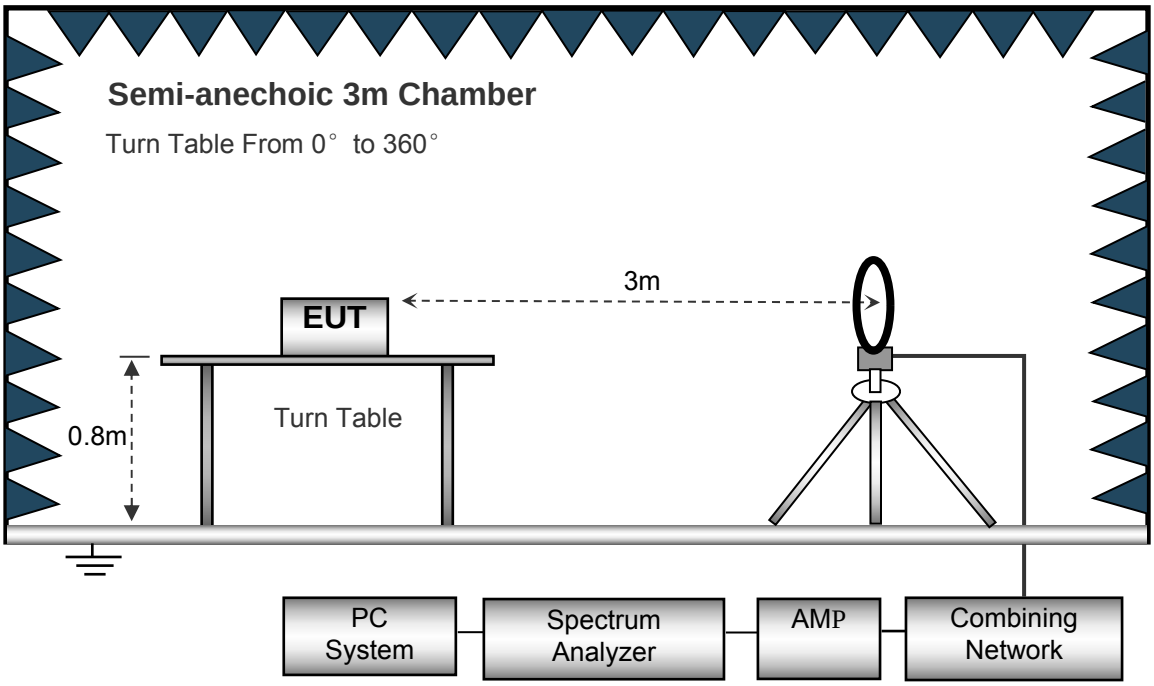
Atmospheric Pressure: 1016 mbar

EUT Operation:

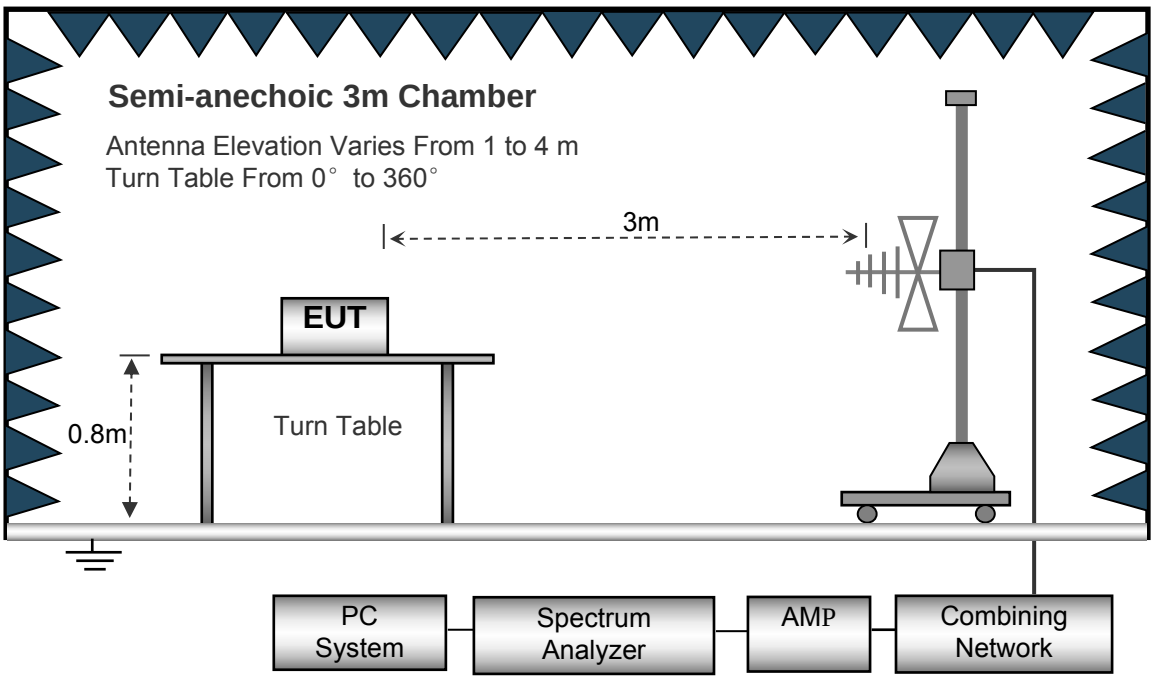
The test was performed in transmitting mode, the test data were shown in the report.

7.2 Test Setup

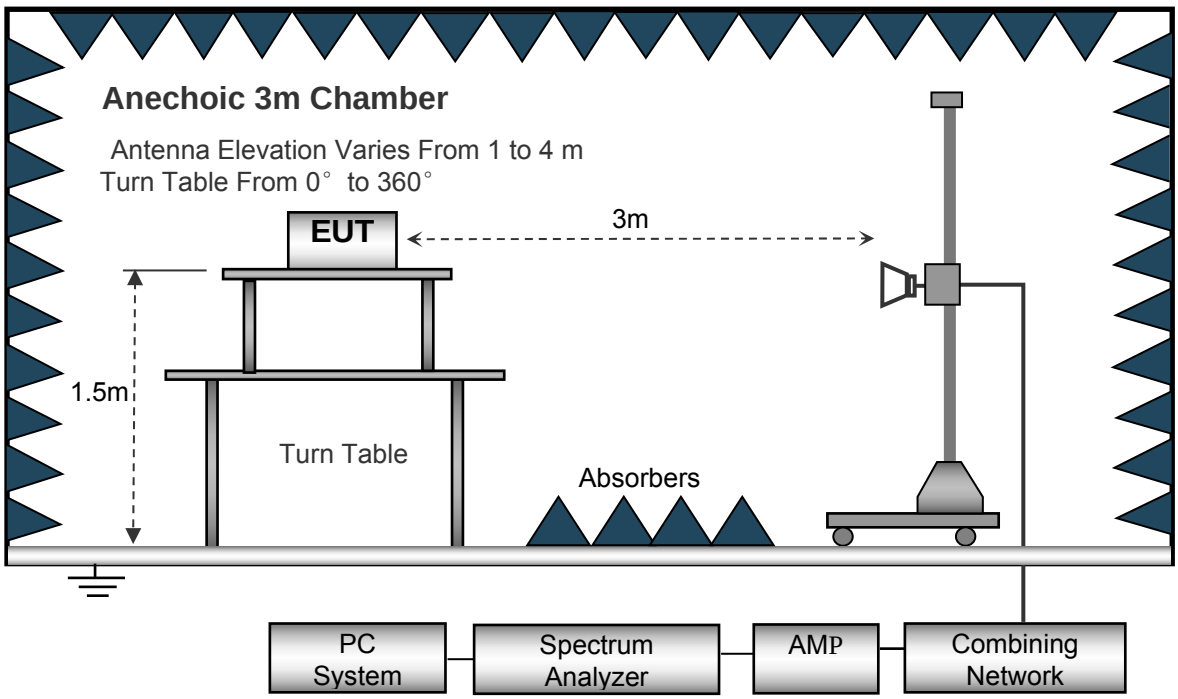
The radiated emission tests were performed in the 3m Semi- Anechoic Chamber test site, using the setup accordance with the ANSI C63.10: 2013.
The test setup for emission measurement below 30MHz.



The test setup for emission measurement from 30 MHz to 1 GHz.



The test setup for emission measurement above 1 GHz.



7.3 Spectrum Analyzer Setup

Below 30MHz

Sweep Speed..... Auto
IF Bandwidth.....10kHz
Video Bandwidth..... 10kHz

Resolution Bandwidth..... 10kHz

30MHz ~ 1GHz

Sweep Speed..... Auto
Detector..... PK
Resolution Bandwidth.....100kHz
Video Bandwidth..... 300kHz

Above 1GHz

Sweep Speed..... Auto
Detector..... PK
Resolution Bandwidth.....1MHz
Video Bandwidth..... 3MHz
Detector..... Ave.
Resolution Bandwidth.....1MHz
Video Bandwidth..... 10Hz

7.4 Test Procedure

1. The EUT is placed on a turntable. For below 1GHz, the EUT is 0.8m above ground plane;
For above1GHz, the EUT is 1.5m above ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is moved from 1m to 4m to find out the maximum emissions. The spectrum was investigated from the lowest radio frequency signal generated in the device, without going below 9 kHz, up to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Repeat above procedures until the measurements for all frequencies are complete.
7. The radiation measurements are tested under 3-axes(X,Y,Z) position(X denotes lying on the table, Y denotes side stand and Z denotes vertical stand), After pre-test, It was found that the worse radiation emission was get at the X position. So the data shown was the X position only.

7.5 Summary of Test Results

Test Frequency: 32.768KHz~ 30MHz

The measurements were more than 20 dB below the limit and not reported.

Test Frequency: 30MHz ~ 18GHz

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.247/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
11b: Low Channel 2412MHz									
221.14	42.08	QP	23	1.2	H	-11.62	30.46	46.00	-15.54
221.14	37.26	QP	282	1.8	V	-11.62	25.64	46.00	-20.36
4824.00	49.11	PK	245	1.8	V	-1.06	48.05	74.00	-25.95
4824.00	45.75	Ave	245	1.8	V	-1.06	44.69	54.00	-9.31
7236.00	42.27	PK	71	1.3	H	1.33	43.60	74.00	-30.40
7236.00	43.49	Ave	71	1.3	H	1.33	44.82	54.00	-9.18
2330.06	46.96	PK	297	1.2	V	-13.19	33.77	74.00	-40.23
2330.06	38.02	Ave	297	1.2	V	-13.19	24.83	54.00	-29.17
2381.81	43.72	PK	319	1.7	H	-13.14	30.58	74.00	-43.42
2381.81	37.63	Ave	319	1.7	H	-13.14	24.49	54.00	-29.51
2497.70	44.91	PK	327	1.3	V	-13.08	31.83	74.00	-42.17
2497.70	36.15	Ave	327	1.3	V	-13.08	23.07	54.00	-30.93

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.247/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
11b: Middle Channel 2437MHz									
221.14	42.50	QP	229	1.3	H	-11.62	30.88	46.00	-15.12
221.14	37.29	QP	323	2.0	V	-11.62	25.67	46.00	-20.33
4874.00	50.09	PK	153	1.5	V	-0.62	49.47	74.00	-24.53
4874.00	44.92	Ave	153	1.5	V	-0.62	44.30	54.00	-9.70
7311.00	43.00	PK	188	1.5	H	2.21	45.21	74.00	-28.79
7311.00	44.71	Ave	188	1.5	H	2.21	46.92	54.00	-7.08
2325.03	46.83	PK	143	1.1	V	-13.19	33.64	74.00	-40.36
2325.03	39.19	Ave	143	1.1	V	-13.19	26.00	54.00	-28.00
2382.56	42.22	PK	62	1.7	H	-13.14	29.08	74.00	-44.92
2382.56	38.09	Ave	62	1.7	H	-13.14	24.95	54.00	-29.05
2494.50	42.49	PK	290	1.1	V	-13.08	29.41	74.00	-44.59
2494.50	37.82	Ave	290	1.1	V	-13.08	24.74	54.00	-29.26

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.247/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
11b: High Channel 2462MHz									
221.14	42.51	QP	45	1.1	H	-11.62	30.89	46.00	-15.11
221.14	38.61	QP	205	1.6	V	-11.62	26.99	46.00	-19.01
4924.00	49.58	PK	258	1.5	V	-0.24	49.34	74.00	-24.66
4924.00	45.45	Ave	258	1.5	V	-0.24	45.21	54.00	-8.79
7386.00	42.45	PK	357	1.8	H	2.84	45.29	74.00	-28.71
7386.00	43.47	Ave	357	1.8	H	2.84	46.31	54.00	-7.69
2342.96	45.77	PK	38	1.5	V	-13.19	32.58	74.00	-41.42
2342.96	39.67	Ave	38	1.5	V	-13.19	26.48	54.00	-27.52
2375.49	42.58	PK	90	1.2	H	-13.14	29.44	74.00	-44.56
2375.49	37.62	Ave	90	1.2	H	-13.14	24.48	54.00	-29.52
2495.63	43.24	PK	251	1.5	V	-13.08	30.16	74.00	-43.84
2495.63	37.64	Ave	251	1.5	V	-13.08	24.56	54.00	-29.44

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.247/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
11g: Low Channel 2412MHz									
221.14	43.81	QP	77	1.5	H	-11.62	32.19	46.00	-13.81
221.14	37.80	QP	297	1.4	V	-11.62	26.18	46.00	-19.82
4824.00	49.47	PK	254	1.7	V	-1.06	48.41	74.00	-25.59
4824.00	44.30	Ave	254	1.7	V	-1.06	43.24	54.00	-10.76
7236.00	41.16	PK	199	2.0	H	1.33	42.49	74.00	-31.51
7236.00	42.66	Ave	199	2.0	H	1.33	43.99	54.00	-10.01
2339.28	45.02	PK	230	2.0	V	-13.19	31.83	74.00	-42.17
2339.28	37.38	Ave	230	2.0	V	-13.19	24.19	54.00	-29.81
2350.54	44.15	PK	208	1.6	H	-13.14	31.01	74.00	-42.99
2350.54	38.96	Ave	208	1.6	H	-13.14	25.82	54.00	-28.18
2498.88	42.11	PK	267	1.7	V	-13.08	29.03	74.00	-44.97
2498.88	38.89	Ave	267	1.7	V	-13.08	25.81	54.00	-28.19

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.247/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
11g: Middle Channel 2437MHz									
221.14	44.18	QP	285	1.5	H	-11.62	32.56	46.00	-13.44
221.14	38.01	QP	155	1.6	V	-11.62	26.39	46.00	-19.61
4874.00	49.25	PK	63	1.0	V	-0.62	48.63	74.00	-25.37
4874.00	44.14	Ave	63	1.0	V	-0.62	43.52	54.00	-10.48
7311.00	41.59	PK	61	1.8	H	2.21	43.80	74.00	-30.20
7311.00	44.08	Ave	61	1.8	H	2.21	46.29	54.00	-7.71
2314.11	45.20	PK	244	1.5	V	-13.19	32.01	74.00	-41.99
2314.11	37.62	Ave	244	1.5	V	-13.19	24.43	54.00	-29.57
2380.97	43.06	PK	74	2.0	H	-13.14	29.92	74.00	-44.08
2380.97	37.10	Ave	74	2.0	H	-13.14	23.96	54.00	-30.04
2484.69	44.07	PK	311	1.1	V	-13.08	30.99	74.00	-43.01
2484.69	37.14	Ave	311	1.1	V	-13.08	24.06	54.00	-29.94

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.247/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
11g: High Channel 2462MHz									
221.14	43.73	QP	289	1.7	H	-11.62	32.11	46.00	-13.89
221.14	39.09	QP	69	1.8	V	-11.62	27.47	46.00	-18.53
4924.00	48.83	PK	321	1.1	V	-0.24	48.59	74.00	-25.41
4924.00	44.72	Ave	321	1.1	V	-0.24	44.48	54.00	-9.52
7386.00	42.11	PK	342	1.3	H	2.84	44.95	74.00	-29.05
7386.00	42.61	Ave	342	1.3	H	2.84	45.45	54.00	-8.55
2348.48	46.48	PK	200	1.4	V	-13.19	33.29	74.00	-40.71
2348.48	37.54	Ave	200	1.4	V	-13.19	24.35	54.00	-29.65
2383.95	44.07	PK	284	1.9	H	-13.14	30.93	74.00	-43.07
2383.95	36.35	Ave	284	1.9	H	-13.14	23.21	54.00	-30.79
2498.39	44.78	PK	337	1.4	V	-13.08	31.70	74.00	-42.30
2498.39	37.86	Ave	337	1.4	V	-13.08	24.78	54.00	-29.22

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.247/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
11 n20: Low Channel 2412MHz									
221.14	42.60	QP	145	1.8	H	-11.62	30.98	46.00	-15.02
221.14	38.63	QP	213	1.4	V	-11.62	27.01	46.00	-18.99
4824.00	48.29	PK	39	1.2	V	-1.06	47.23	74.00	-26.77
4824.00	44.34	Ave	39	1.2	V	-1.06	43.28	54.00	-10.72
7236.00	43.26	PK	104	1.4	H	1.33	44.59	74.00	-29.41
7236.00	41.30	Ave	104	1.4	H	1.33	42.63	54.00	-11.37
2335.19	46.46	PK	142	1.2	V	-13.19	33.27	74.00	-40.73
2335.19	37.94	Ave	142	1.2	V	-13.19	24.75	54.00	-29.25
2388.07	44.84	PK	199	1.3	H	-13.14	31.70	74.00	-42.30
2388.07	36.63	Ave	199	1.3	H	-13.14	23.49	54.00	-30.51
2493.05	42.60	PK	322	1.7	V	-13.08	29.52	74.00	-44.48
2493.05	36.48	Ave	322	1.7	V	-13.08	23.40	54.00	-30.60

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.247/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
11 n20: Middle Channel 2437MHz									
221.14	42.49	QP	35	1.1	H	-11.62	30.87	46.00	-15.13
221.14	37.45	QP	123	1.8	V	-11.62	25.83	46.00	-20.17
4874.00	49.60	PK	162	1.2	V	-0.62	48.98	74.00	-25.02
4874.00	44.36	Ave	162	1.2	V	-0.62	43.74	54.00	-10.26
7311.00	43.28	PK	48	1.4	H	2.21	45.49	74.00	-28.51
7311.00	39.97	Ave	48	1.4	H	2.21	42.18	54.00	-11.82
2343.84	45.28	PK	15	1.6	V	-13.19	32.09	74.00	-41.91
2343.84	38.33	Ave	15	1.6	V	-13.19	25.14	54.00	-28.86
2365.07	43.71	PK	293	1.3	H	-13.14	30.57	74.00	-43.43
2365.07	36.24	Ave	293	1.3	H	-13.14	23.10	54.00	-30.90
2499.06	42.46	PK	175	1.2	V	-13.08	29.38	74.00	-44.62
2499.06	37.35	Ave	175	1.2	V	-13.08	24.27	54.00	-29.73

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.247/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
11 n20: High Channel 2462MHz									
221.14	41.70	QP	57	1.6	H	-11.62	30.08	46.00	-15.92
221.14	38.70	QP	298	1.4	V	-11.62	27.08	46.00	-18.92
4924.00	50.26	PK	28	1.2	V	-0.24	50.02	74.00	-23.98
4924.00	45.36	Ave	28	1.2	V	-0.24	45.12	54.00	-8.88
7386.00	44.20	PK	267	1.8	H	2.84	47.04	74.00	-26.96
7386.00	40.68	Ave	267	1.8	H	2.84	43.52	54.00	-10.48
2325.90	47.00	PK	285	1.9	V	-13.19	33.81	74.00	-40.19
2325.90	38.09	Ave	285	1.9	V	-13.19	24.90	54.00	-29.10
2364.98	42.11	PK	15	1.9	H	-13.14	28.97	74.00	-45.03
2364.98	37.98	Ave	15	1.9	H	-13.14	24.84	54.00	-29.16
2493.99	44.22	PK	331	1.4	V	-13.08	31.14	74.00	-42.86
2493.99	36.00	Ave	331	1.4	V	-13.08	22.92	54.00	-31.08

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.247/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
11 N40: Low Channel 2422MHz									
221.14	40.96	QP	254	1.9	H	-11.62	29.34	46.00	-16.66
221.14	39.64	QP	115	1.9	V	-11.62	28.02	46.00	-17.98
4844.00	48.61	PK	354	1.1	V	-1.06	47.55	74.00	-26.45
4844.00	43.71	Ave	354	1.1	V	-1.06	42.65	54.00	-11.35
7266.00	42.79	PK	0	1.5	H	1.33	44.12	74.00	-29.88
7266.00	38.13	Ave	0	1.5	H	1.33	39.46	54.00	-14.54
2331.17	45.83	PK	349	1.0	V	-13.19	32.64	74.00	-41.36
2331.17	39.27	Ave	349	1.0	V	-13.19	26.08	54.00	-27.92
2355.35	44.14	PK	30	1.8	H	-13.14	31.00	74.00	-43.00
2355.35	37.62	Ave	30	1.8	H	-13.14	24.48	54.00	-29.52
2498.71	43.02	PK	21	1.0	V	-13.08	29.94	74.00	-44.06
2498.71	38.92	Ave	21	1.0	V	-13.08	25.84	54.00	-28.16

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.247/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
11 N40: Middle Channel 2437MHz									
221.14	41.71	QP	243	1.4	H	-11.62	30.09	46.00	-15.91
221.14	39.12	QP	298	1.7	V	-11.62	27.50	46.00	-18.50
4874.00	48.02	PK	75	1.3	V	-0.62	47.40	74.00	-26.60
4874.00	44.51	Ave	75	1.3	V	-0.62	43.89	54.00	-10.11
7311.00	42.24	PK	76	1.8	H	2.21	44.45	74.00	-29.55
7311.00	38.93	Ave	76	1.8	H	2.21	41.14	54.00	-12.86
2338.03	45.21	PK	353	1.9	V	-13.19	32.02	74.00	-41.98
2338.03	37.60	Ave	353	1.9	V	-13.19	24.41	54.00	-29.59
2359.41	42.43	PK	46	1.1	H	-13.14	29.29	74.00	-44.71
2359.41	38.11	Ave	46	1.1	H	-13.14	24.97	54.00	-29.03
2483.89	44.54	PK	29	1.5	V	-13.08	31.46	74.00	-42.54
2483.89	37.29	Ave	29	1.5	V	-13.08	24.21	54.00	-29.79

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.247/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
11 N40: High Channel 2452MHz									
221.14	41.07	QP	218	1.5	H	-11.62	29.45	46.00	-16.55
221.14	38.57	QP	23	1.6	V	-11.62	26.95	46.00	-19.05
4904.00	48.18	PK	38	1.9	V	-0.24	47.94	74.00	-26.06
4904.00	43.69	Ave	38	1.9	V	-0.24	43.45	54.00	-10.55
7356.00	42.78	PK	148	1.2	H	2.84	45.62	74.00	-28.38
7356.00	39.53	Ave	148	1.2	H	2.84	42.37	54.00	-11.63
2341.88	45.68	PK	158	1.4	V	-13.19	32.49	74.00	-41.51
2341.88	40.00	Ave	158	1.4	V	-13.19	26.81	54.00	-27.19
2357.21	43.55	PK	162	1.5	H	-13.14	30.41	74.00	-43.59
2357.21	38.86	Ave	162	1.5	H	-13.14	25.72	54.00	-28.28
2496.25	44.88	PK	170	1.8	V	-13.08	31.80	74.00	-42.20
2496.25	36.68	Ave	170	1.8	V	-13.08	23.60	54.00	-30.40

Test Frequency: 18GHz~25GHz

The measurements were more than 20 dB below the limit and not reported

8 Band Edge Measurement

Test Requirement:	FCC CFR47 Part 15 Section 15.247
Test Method:	558074 D01 DTS Meas Guidance v03r05 April 08, 2016
Test Limit:	Regulation 15.247 (d),In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated 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, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).
Test Mode:	Transmitting

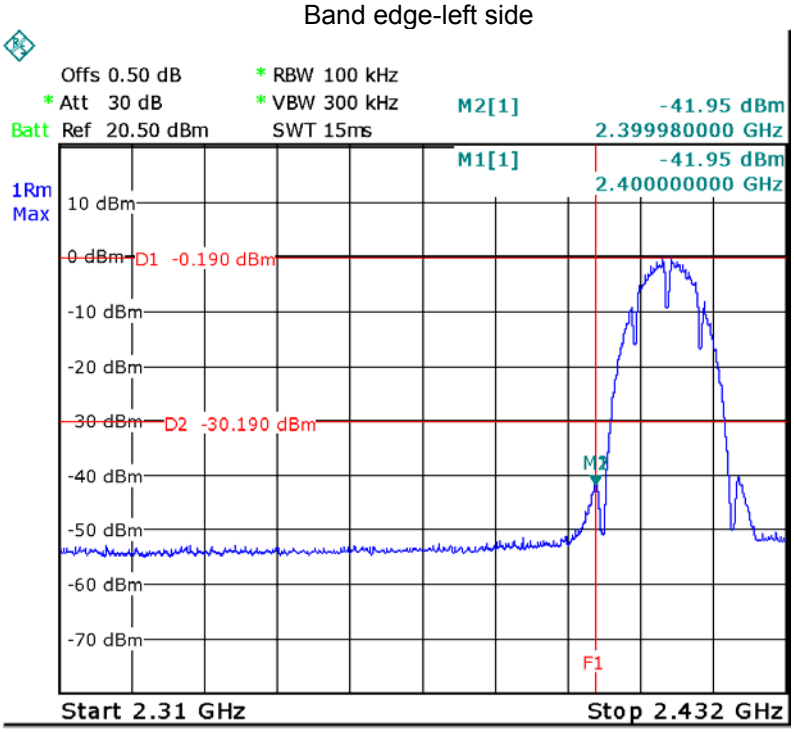
8.1 Test Produce

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set RBW to 100 kHz and VBW of spectrum analyzer to 300 kHz with a convenient frequency span including 100 kHz bandwidth from band edge.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.

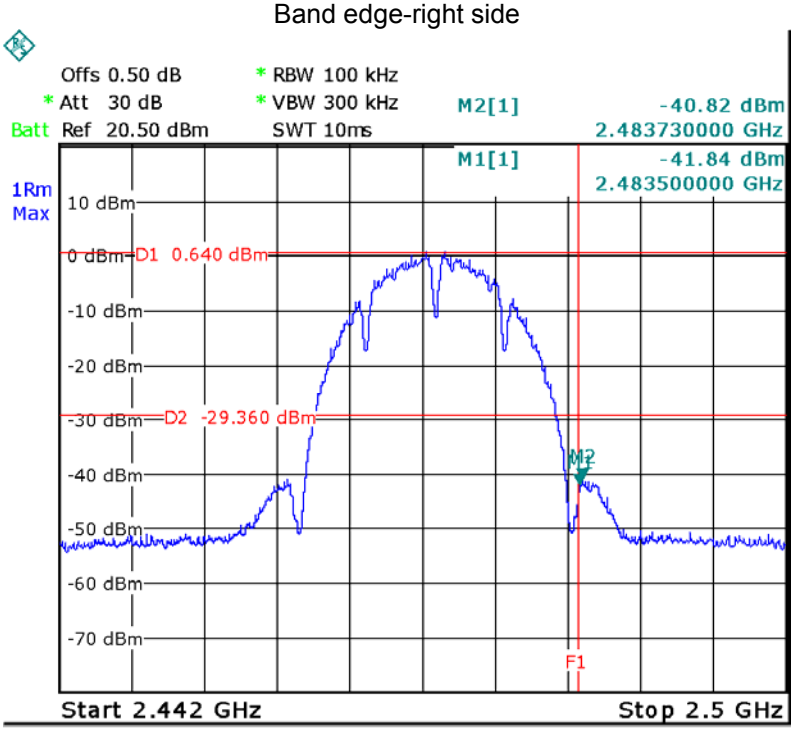
8.2 Test Result

11b

Band edge-left side

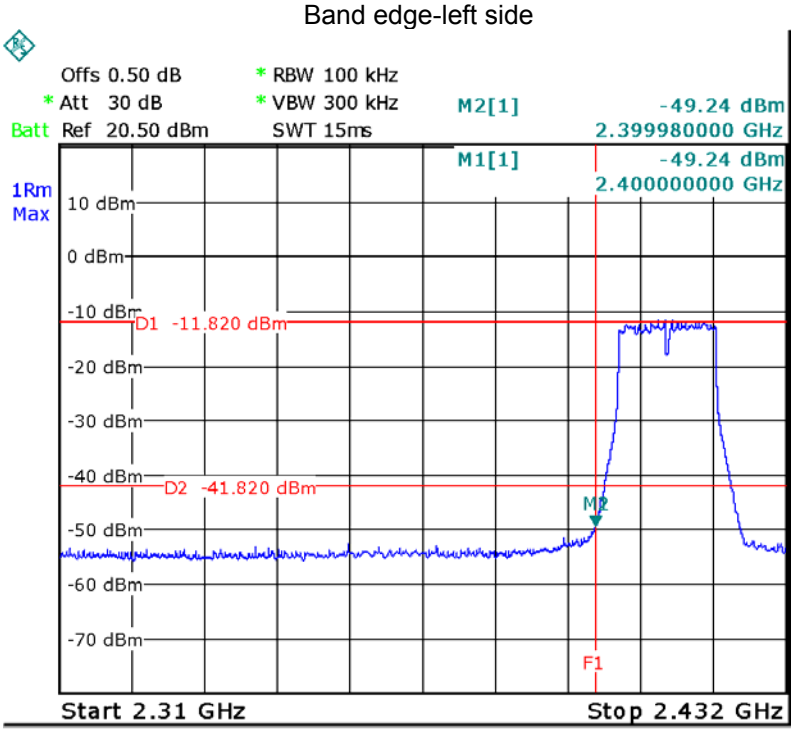


Band edge-right side

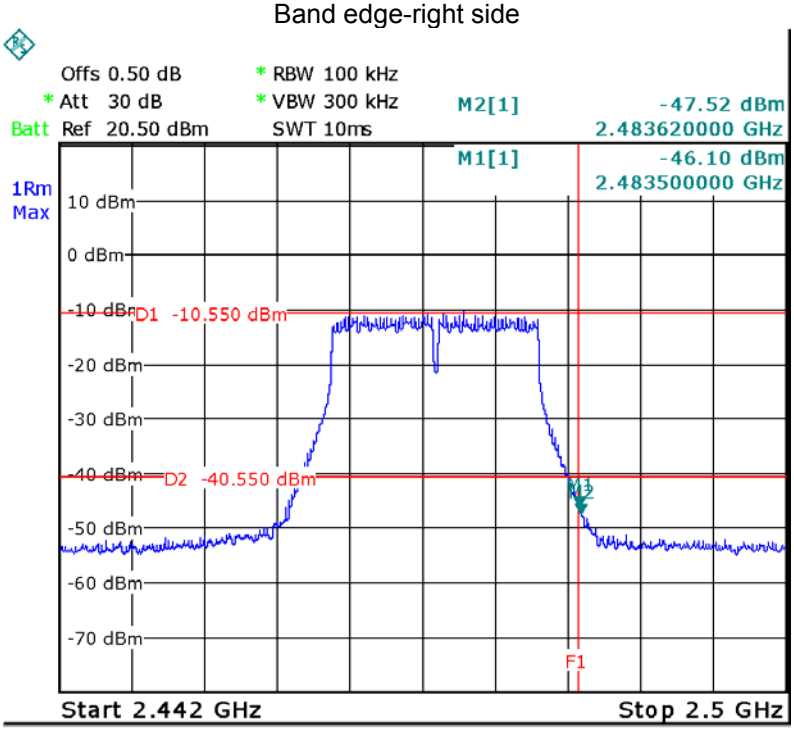


11g

Band edge-left side

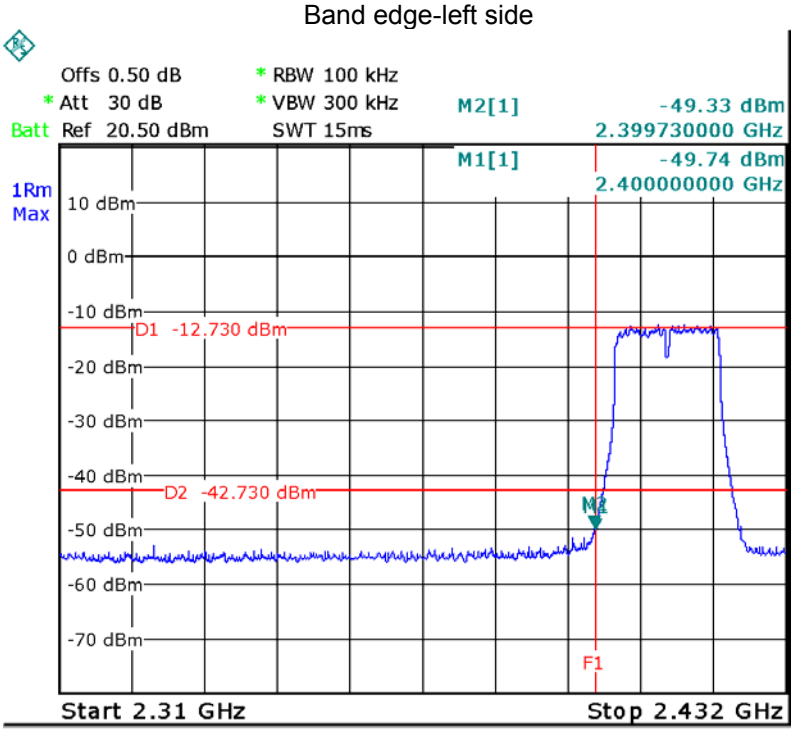


Band edge-right side

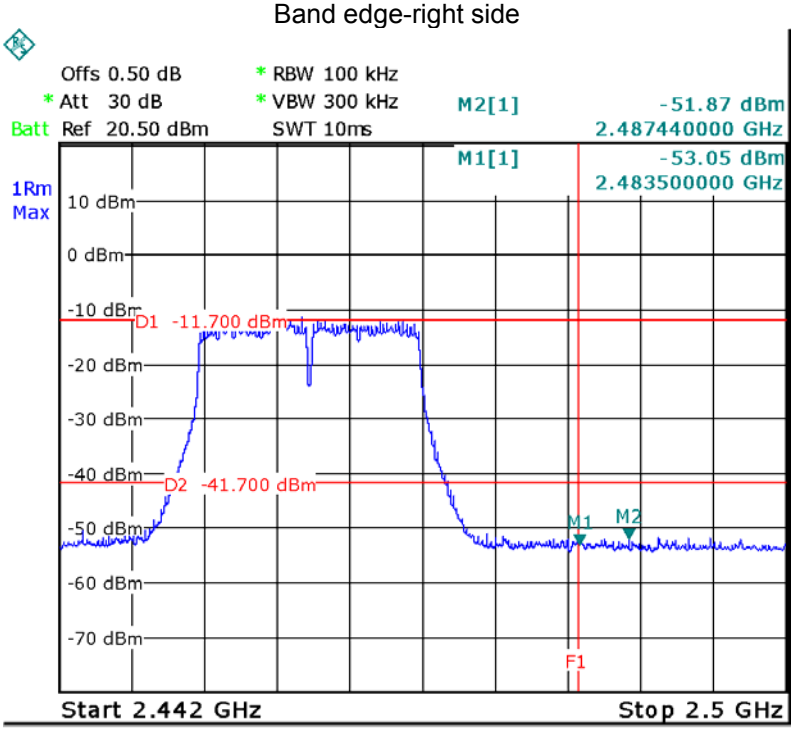


11 N20

Band edge-left side

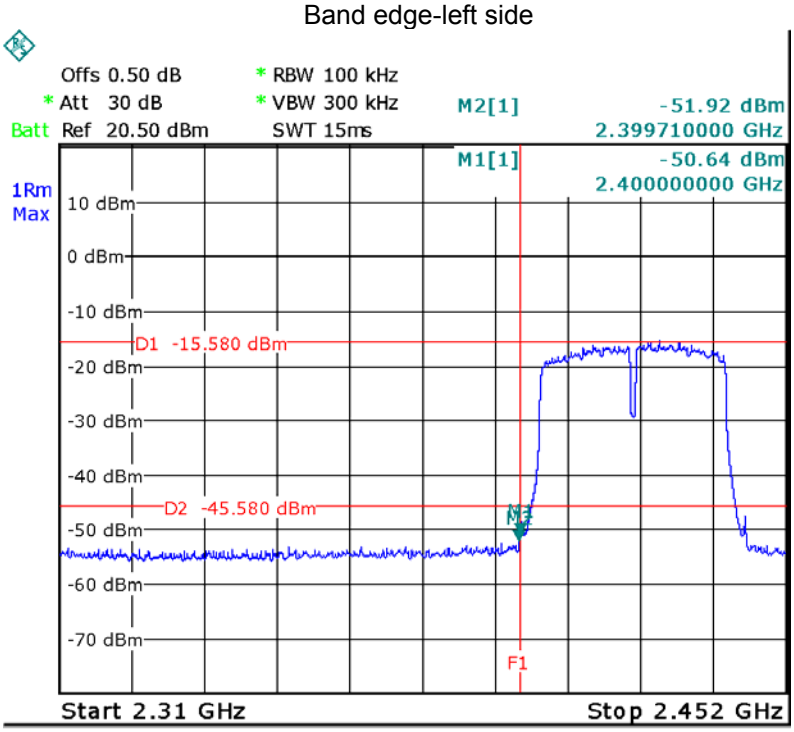


Band edge-right side

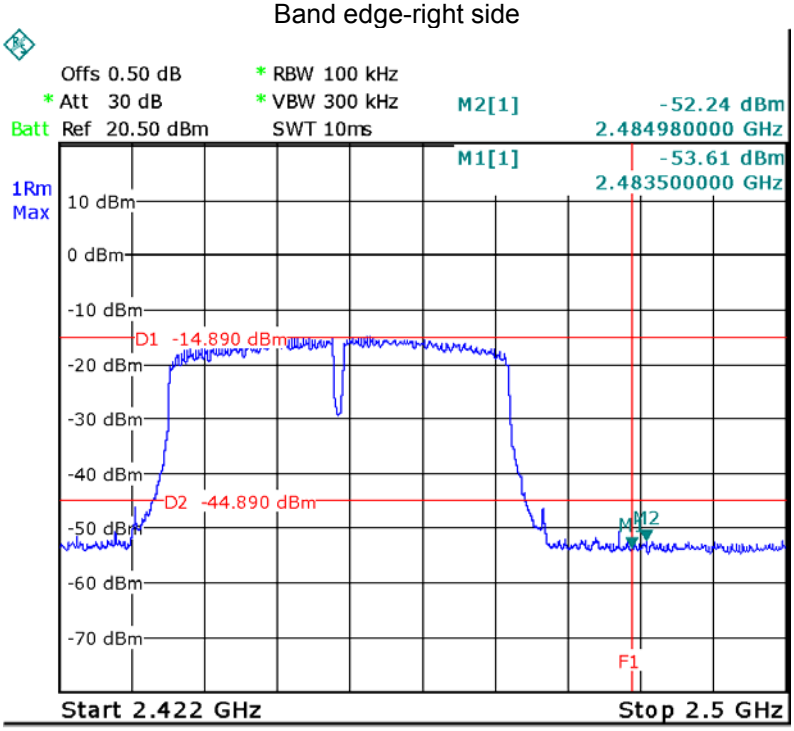


11 N40

Band edge-left side



Band edge-right side



9 Bandwidth Measurement

Test Requirement: FCC CFR47 Part 15 Section 15.247

Test Method: 558074 D01 DTS Meas Guidance v03r05 April 08, 2016

9.1 Test Procedure

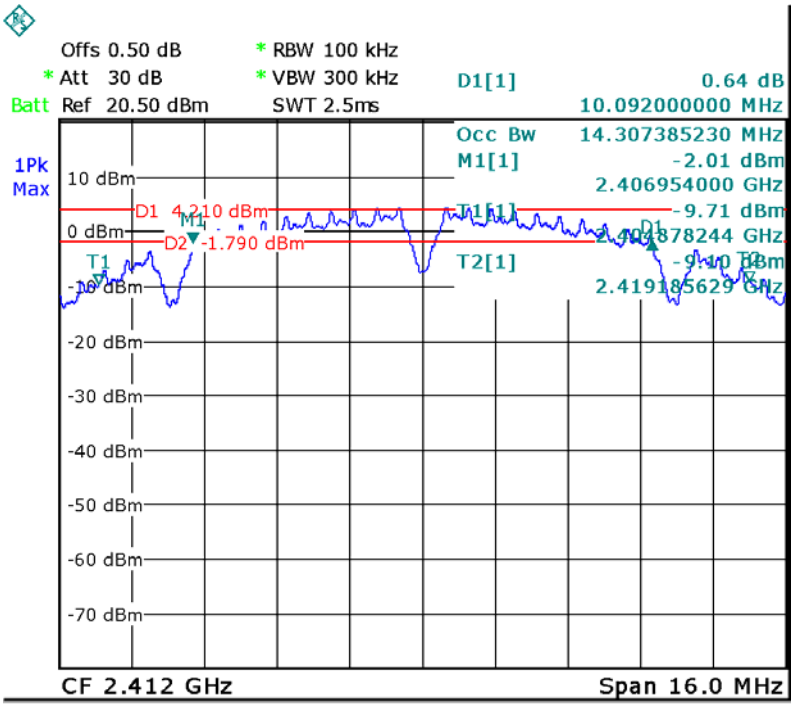
1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum;
2. Set the spectrum analyzer: RBW = 100kHz, VBW = 300kHz

9.2 Test Result:

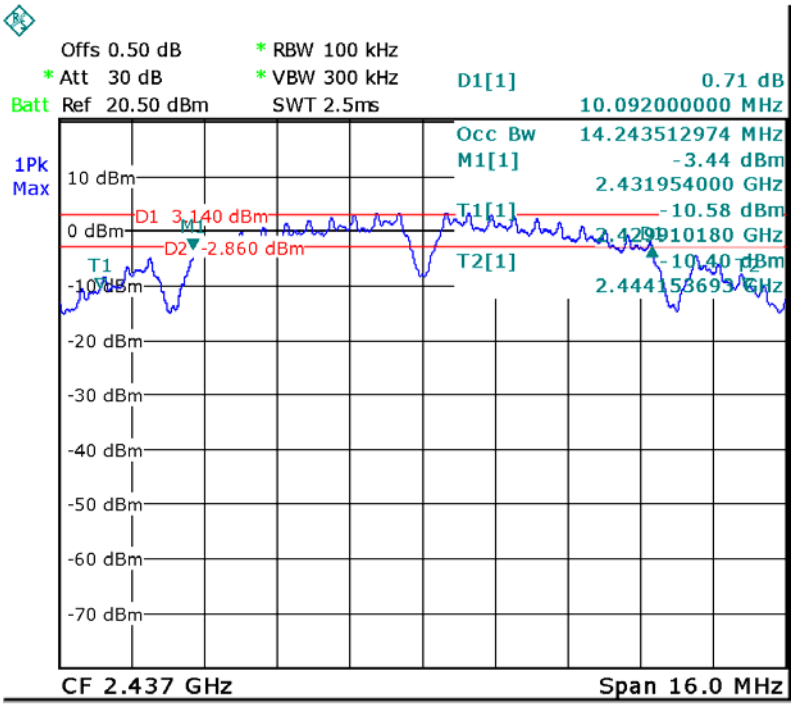
Operation mode	6dB Bandwidth (MHz)		
TX 11b	Channel 1	Channel 6	Channel 11
	10.092	10.092	10.092
TX 11g	Channel 1	Channel 6	Channel 11
	16.567	16.567	16.567
TX 11n HT20	Channel 1	Channel 6	Channel 11
	17.784	17.784	17.784
TX 11n HT40	Channel 3	Channel 6	Channel 9
	36.450	36.450	36.450

Test result plot as follows:

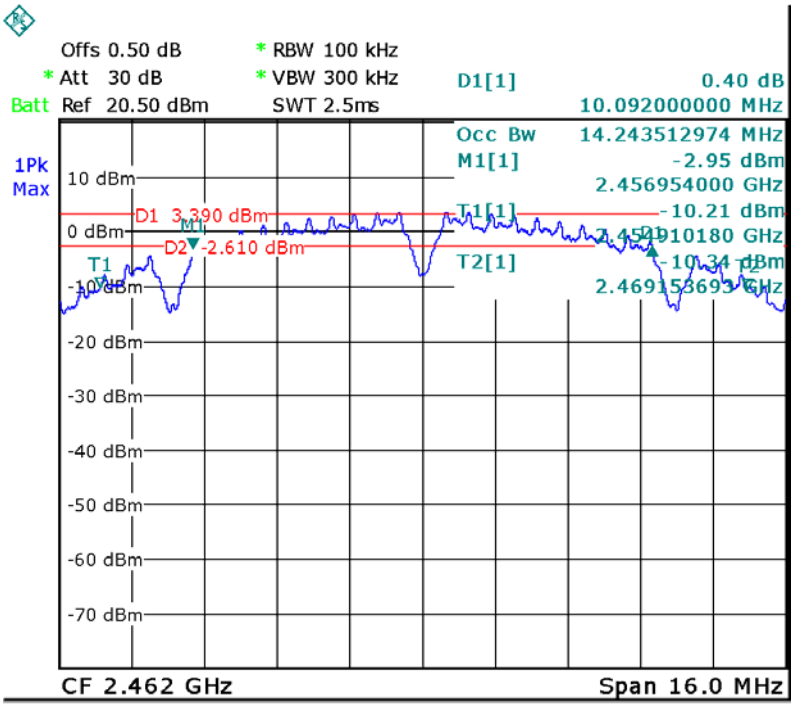
Mode: TX 11b channel 1



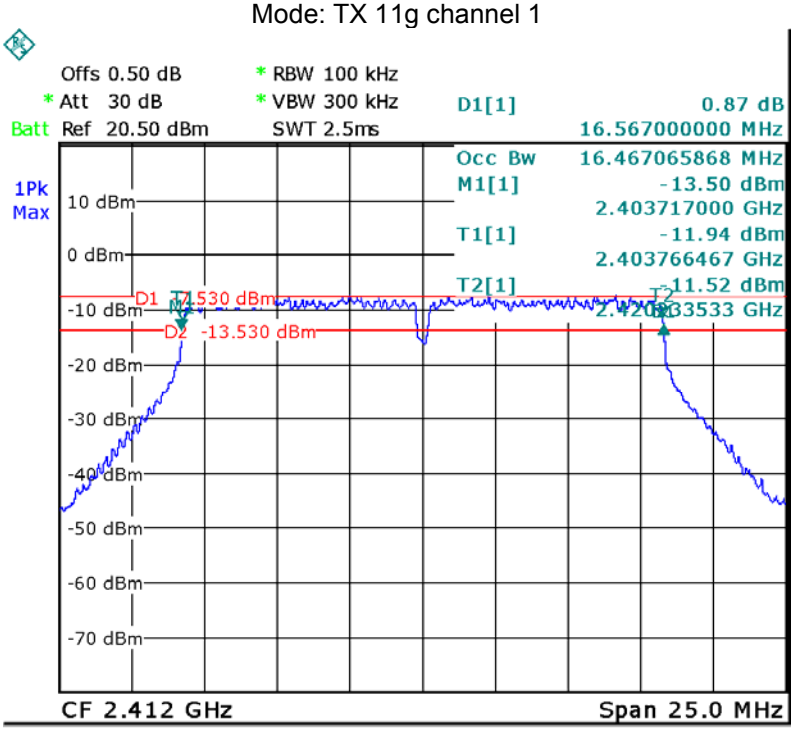
Mode: TX 11b channel 6



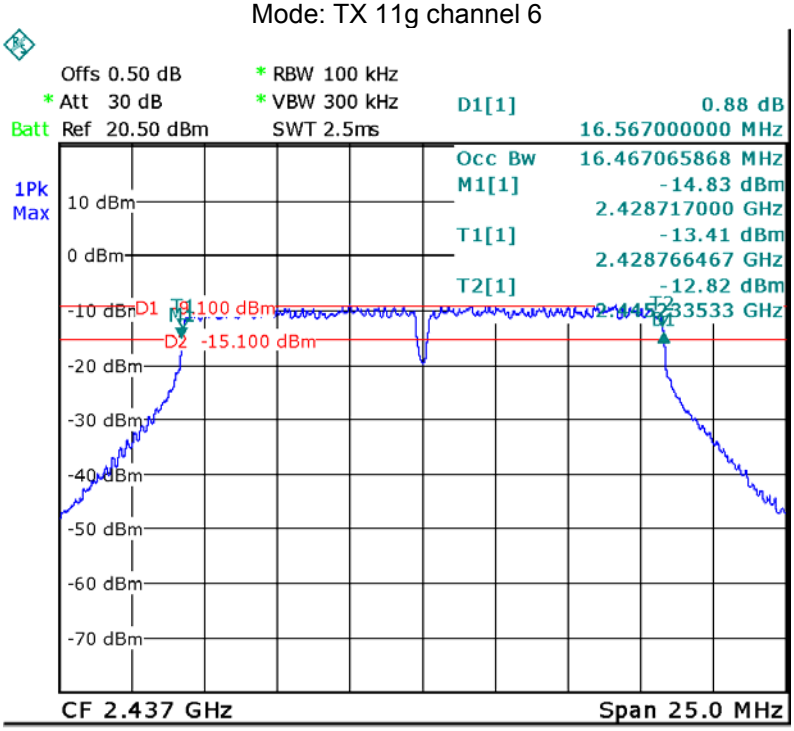
Mode: TX 11b channel 11



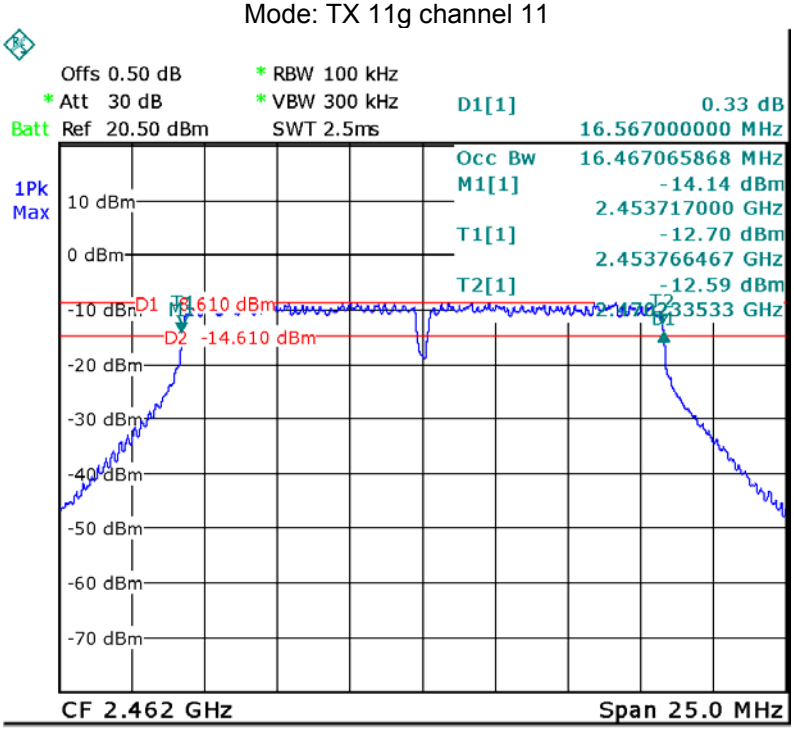
Mode: TX 11g channel 1



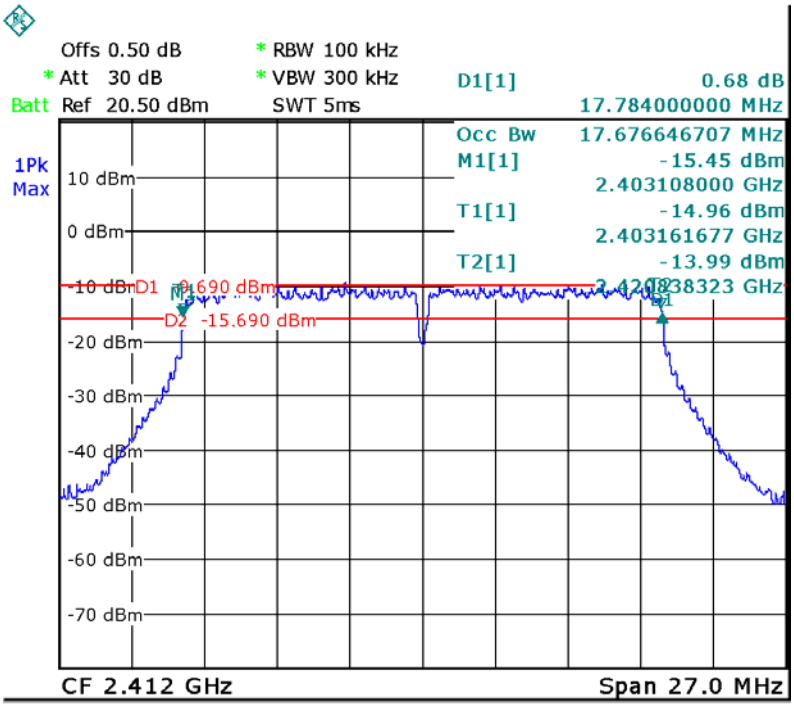
Mode: TX 11g channel 6



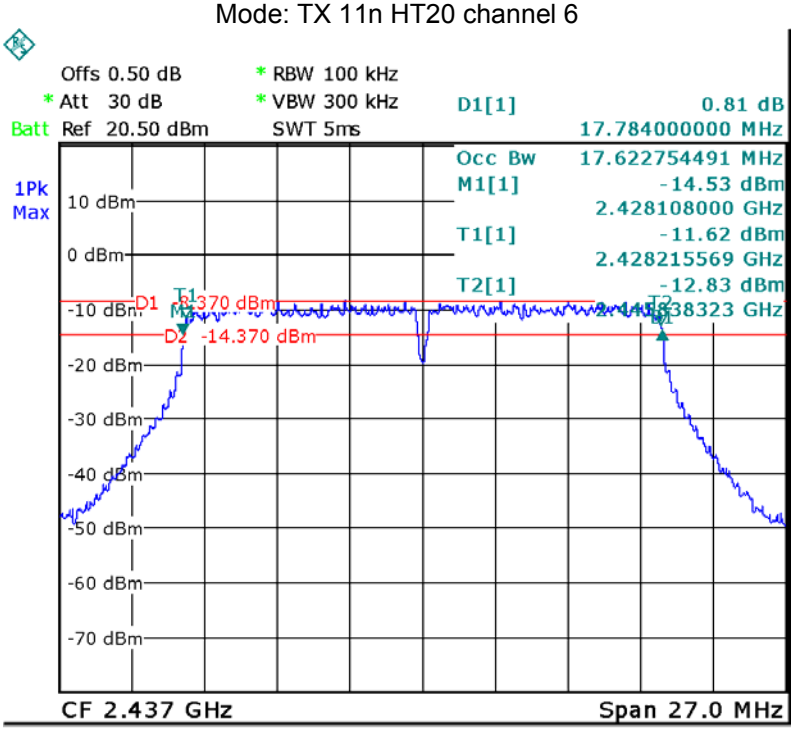
Mode: TX 11g channel 11



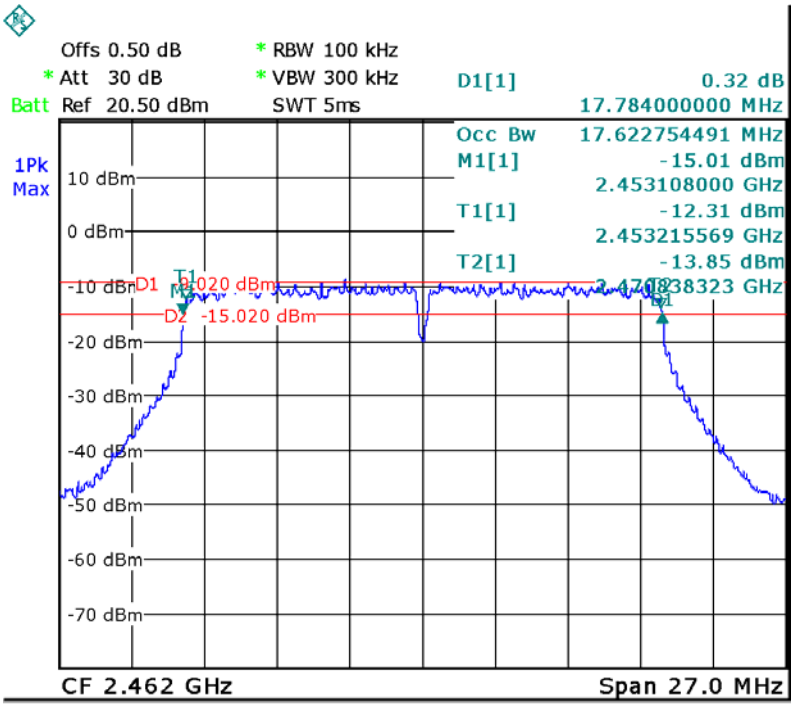
Mode: TX 11n HT20 channel 1



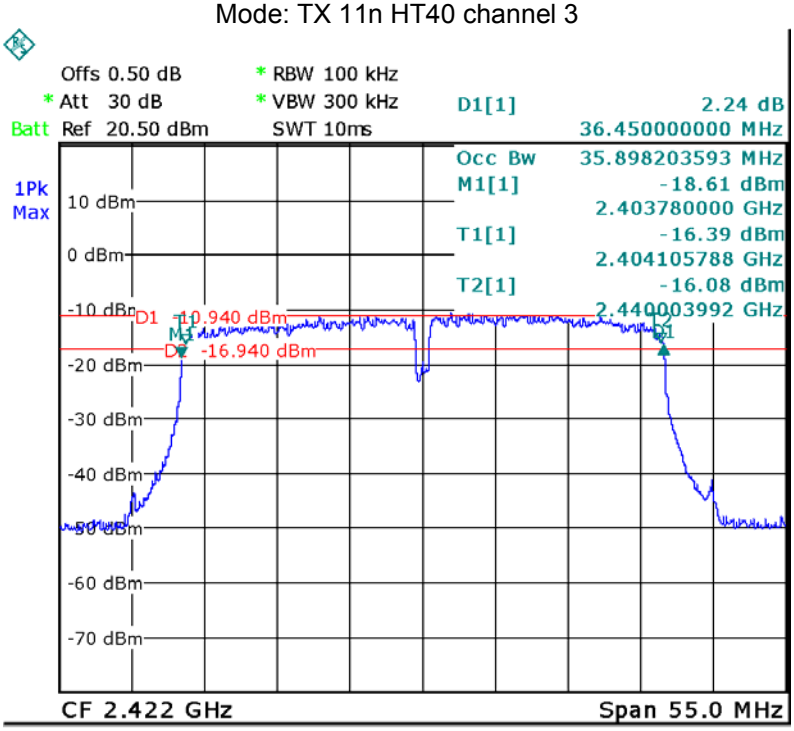
Mode: TX 11n HT20 channel 6



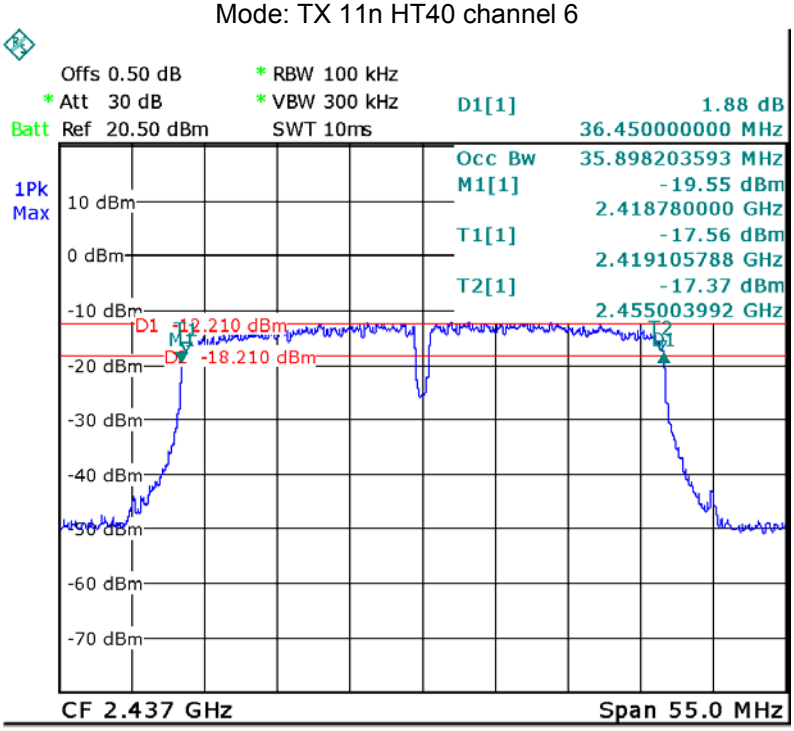
Mode: TX 11n HT20 channel 11



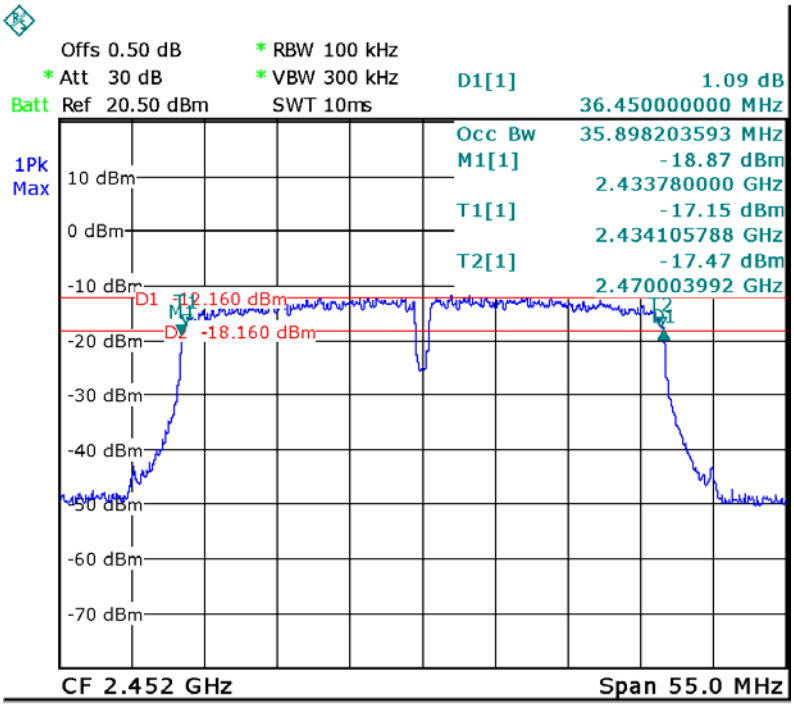
Mode: TX 11n HT40 channel 3



Mode: TX 11n HT40 channel 6



Mode: TX 11n HT40 channel 9



10 Maximum conducted (average) output power

Test Requirement: FCC CFR47 Part 15 Section 15.247

Test Method: 558074 D01 DTS Meas Guidance v03r05 April 08, 2016

10.1 Test Procedure

558074 D01 DTS Meas Guidance v03r05 April 08, 2016 section 9.2.2

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum.

2. Set the spectrum analyzer: RBW = 1MHz. VBW = 3MHz. Sweep = auto; Detector Function =RMS, Set the span to at least 1.5 times the 6 dB bandwidth.

3. Keep the EUT in transmitting at lowest, Middle and highest channel individually. Record the max value.

10.2 Test Result

Test mode :TX 11b		
Maximum conducted(average) output power (dBm)		
2412MHz	2437MHz	2462MHz
16.50	16.65	16.27
Limit: 1W/30dBm		

Test mode :TX 11g		
Maximum conducted(average) output power (dBm)		
2412MHz	2437MHz	2462MHz
13.07	13.02	13.41
Limit: 1W/30dBm		

Test mode :TX 11n HT20		
Maximum conducted(average) output power (dBm)		
2412MHz	2437MHz	2462MHz
12.72	12.14	12.71
Limit: 1W/30dBm		

Test mode :TX 11n HT40		
Maximum conducted(average) output power (dBm)		
2422MHz	2437MHz	2452MHz
12.02	12.03	12.52
Limit: 1W/30dBm		

11 Power Spectral density

Test Requirement: FCC CFR47 Part 15 Section 15.247

Test Method: 558074 D01 DTS Meas Guidance v03r05 April 08, 2016

11.1 Test Procedure

558074 D01 DTS Meas Guidance v03r05 April 08, 2016 section 10.2

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum.

2. Set the spectrum analyzer: RBW = 3kHz. VBW = 10kHz , Span = 1.5 times the DTS channel bandwidth(6 dB bandwidth). Sweep = auto; Detector Function = Peak. Trace = Max hold.

3. Allow the trace to stabilize. Use the marker-delta function to determine the separation between the peaks of the adjacent channels. The limit is specified in one of the subparagraphs of this Section Submit this plot.

11.2 Test Result

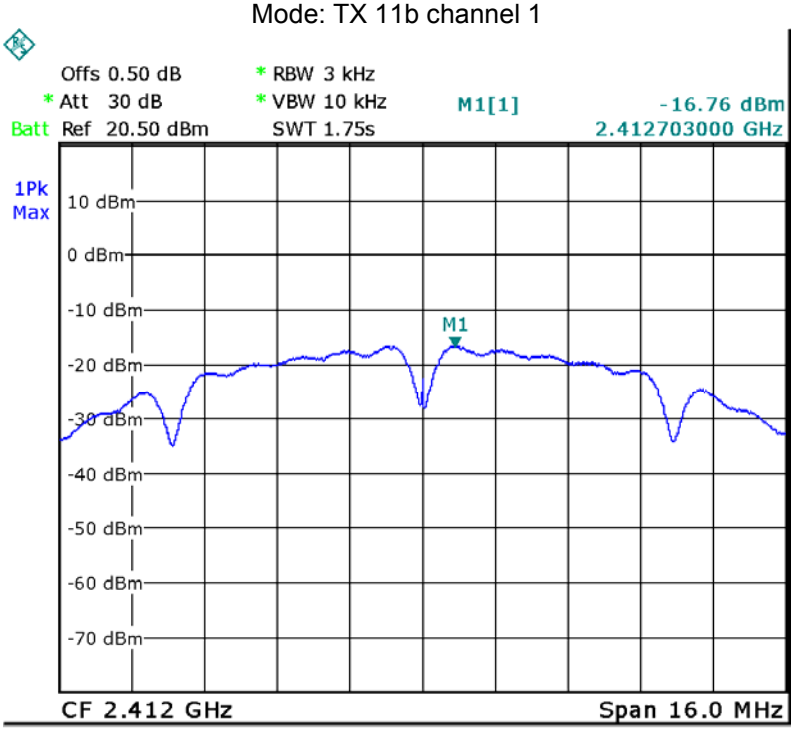
Test mode :TX 11b		
Power Spectral density		
2412MHz	2437MHz	2462MHz
-16.76	-16.96	-16.78
Limit: 8dBm per 3kHz		

Test mode :TX 11g		
Power Spectral density		
2412MHz	2437MHz	2462MHz
-23.20	-23.55	-22.97
Limit: 8dBm per 3kHz		

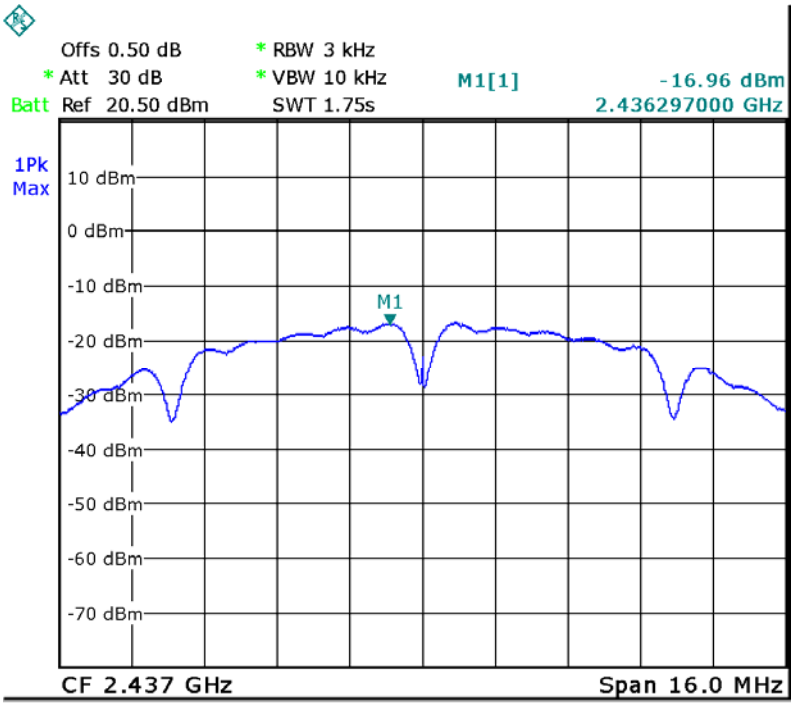
Test mode :TX 11n HT20		
Power Spectral density		
2412MHz	2437MHz	2462MHz
-23.33	-24.77	-23.56
Limit: 8dBm per 3kHz		

Test mode :TX 11n HT40		
Power Spectral density		
2422MHz	2437MHz	2452MHz
-26.33	-26.33	-26.17
Limit: 8dBm per 3kHz		

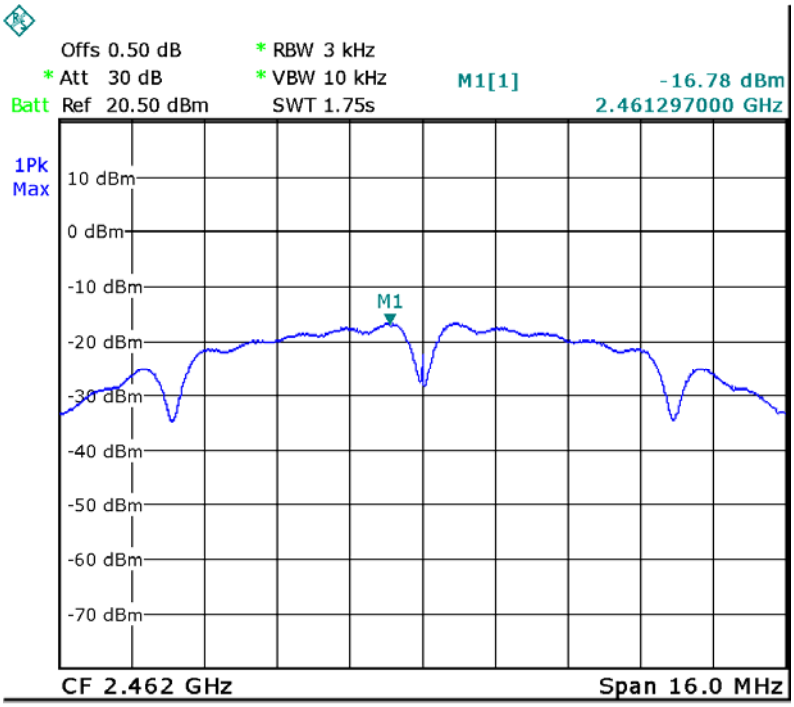
Mode: TX 11b channel 1



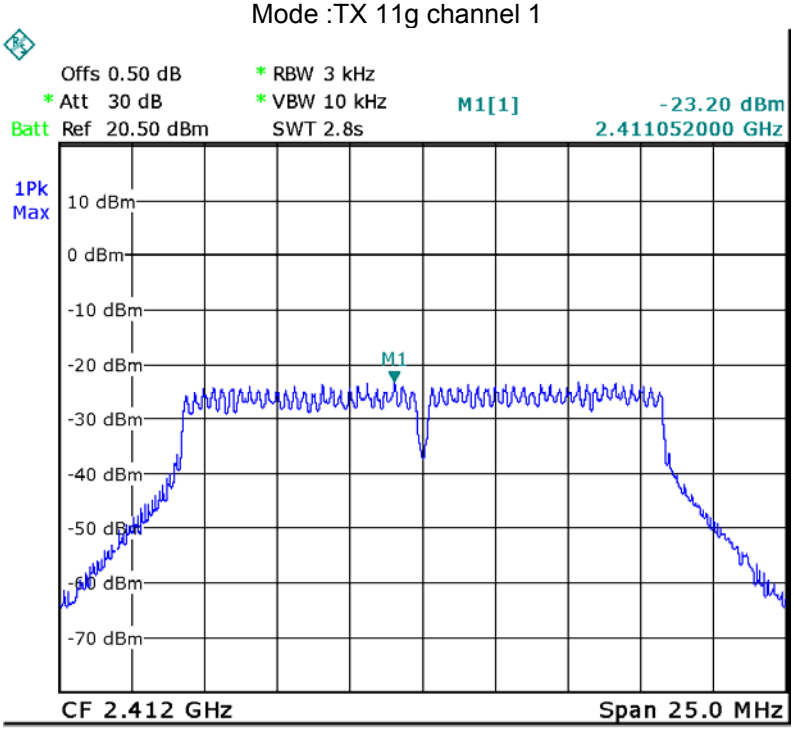
Mode: TX 11b channel 6



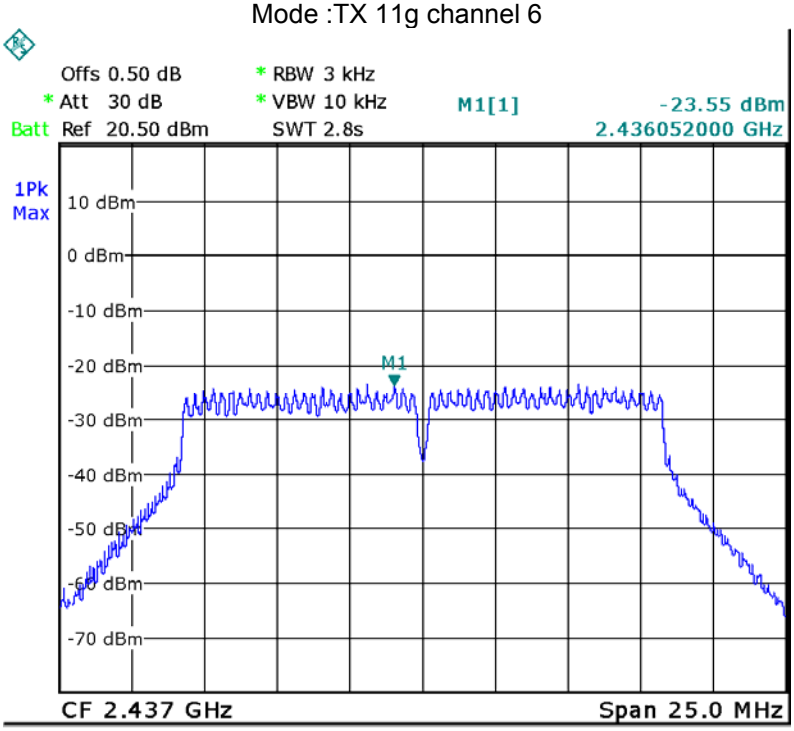
Mode: TX 11b channel 11



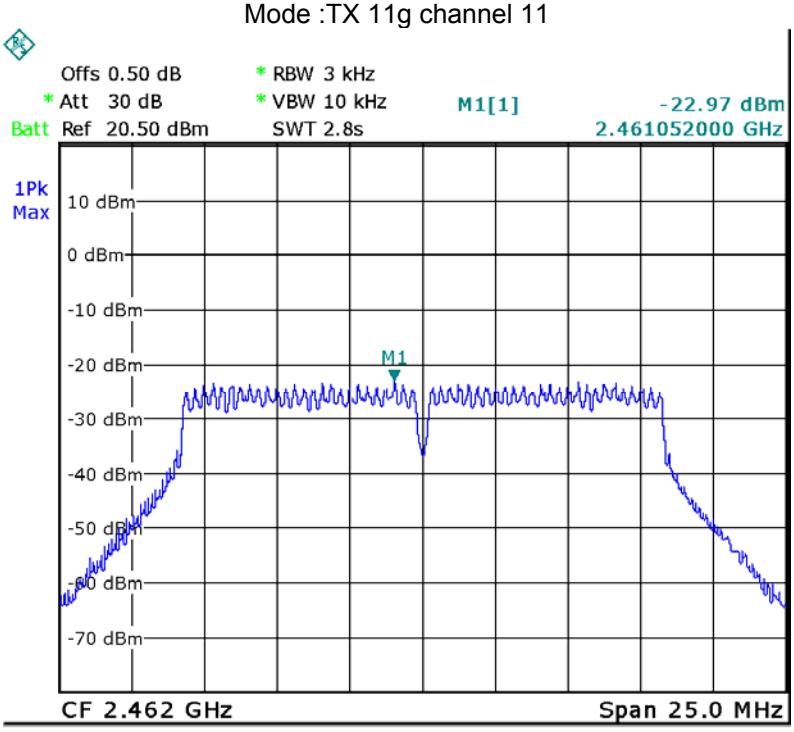
Mode :TX 11g channel 1



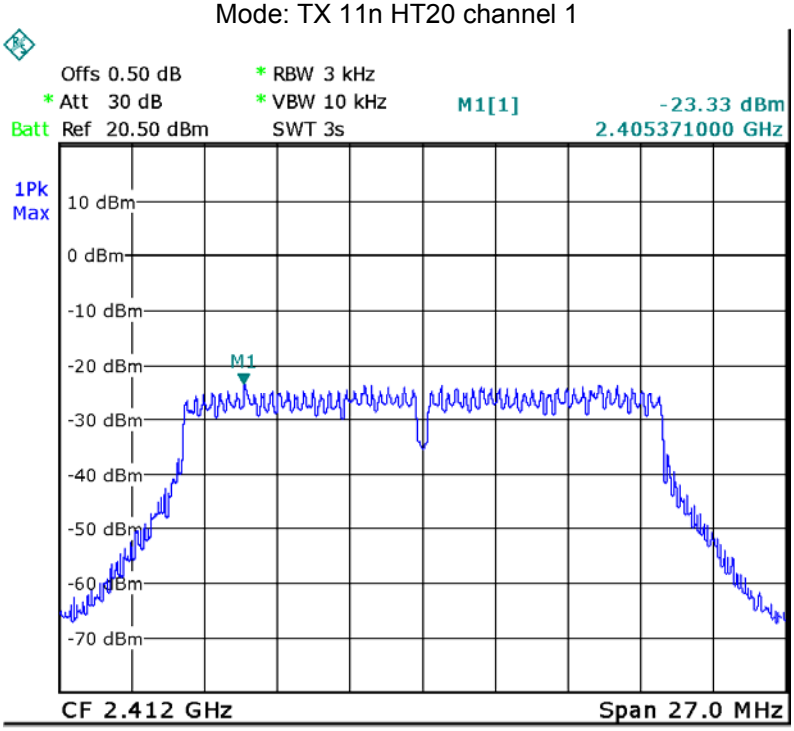
Mode :TX 11g channel 6



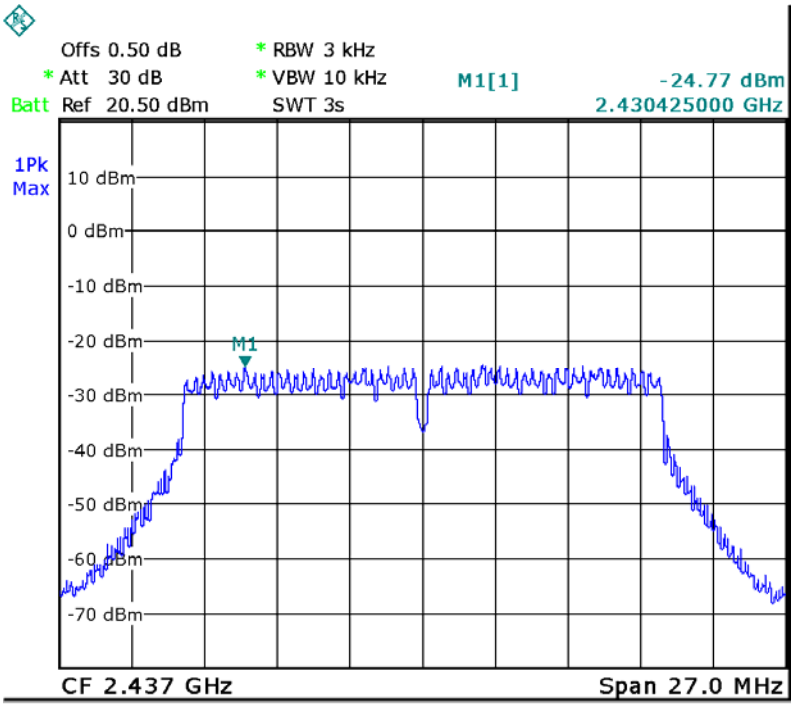
Mode :TX 11g channel 11



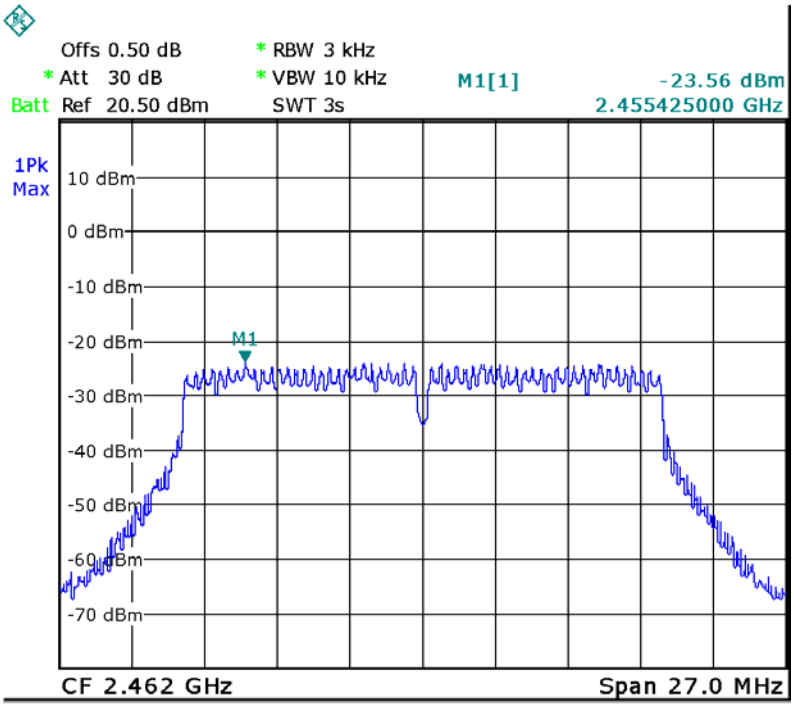
Mode: TX 11n HT20 channel 1



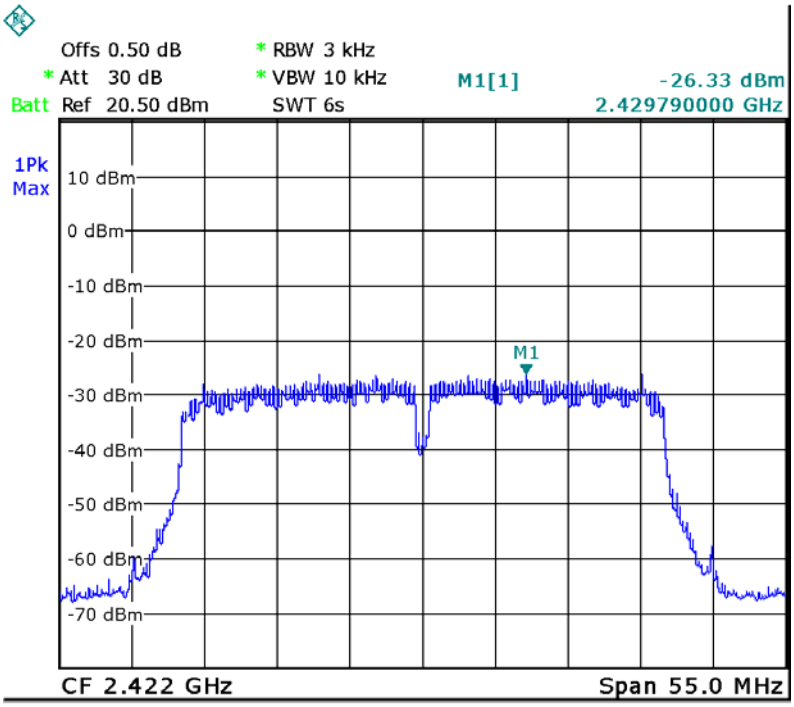
Mode: TX 11n HT20 channel 6



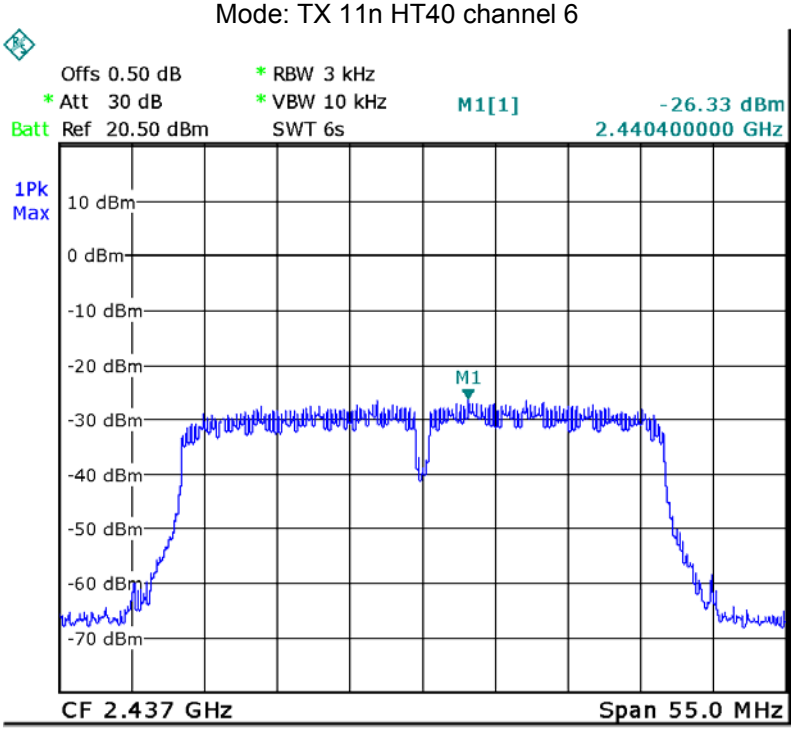
Mode: TX 11n HT20 channel 11



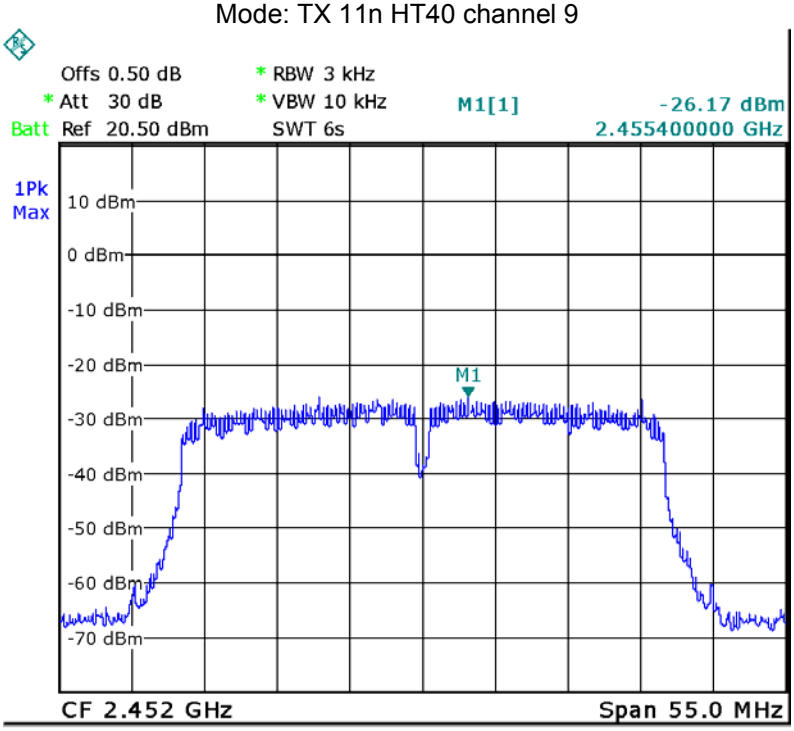
Mode: TX 11n HT40 channel 3



Mode: TX 11n HT40 channel 6



Mode: TX 11n HT40 channel 9



12 Antenna Requirement

According to the FCC Part 15 Paragraph 15.203, 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.This product has a internal permanently attached antenna, fulfill the requirement of this section.

13 RF Exposure

Test Requirement: FCC Part 1.1307

Evaluation Method: FCC Part 2.1091 & KDB 447498 D01 General RF Exposure Guidance v06

13.1 Requirements

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2 m normally can be maintained between the user and the device.

13.2 The procedures / limit

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm^2)	Averaging Time $\|E\|^2$,$\|H\|^2$or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100,000			5	6

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm^2)	Averaging Time $\|E\|^2$,$\|H\|^2$ or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

Note: f = frequency in MHz ; *Plane-wave equivalent power density

13.3 MPE Calculation Method

$$S = \frac{P \times G}{4 \times \pi \times R^2}$$

S = power density (in appropriate units, e.g. mW/cm^2)
P = output power to the antenna (in appropriate units, e.g., mW).
G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain.
R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

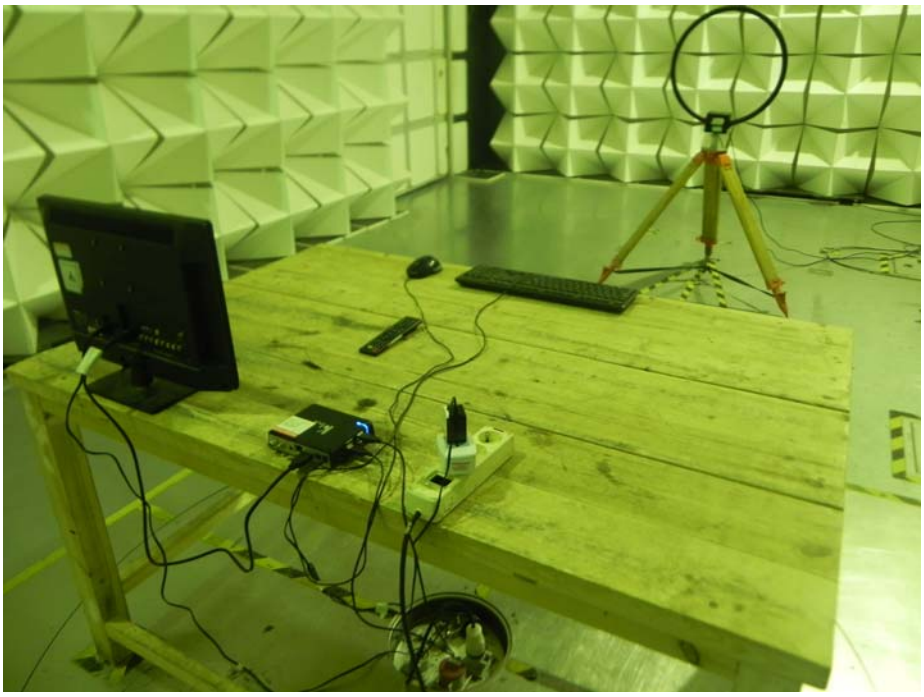
From the peak EUT RF output power, the minimum mobile separation distance, R=20cm, as well as the gain of the used antenna, the RF power density can be obtained

Antenna Gain (dBi)	Antenna Gain (numeric)	Maximum conducted Output Power (dBm)	Maximum conducted Output Power (mW)	Power Density (mW/cm2)	Limit of Power Density (mW/cm2)
2	1.585	16.65	46.238	0.01458	1

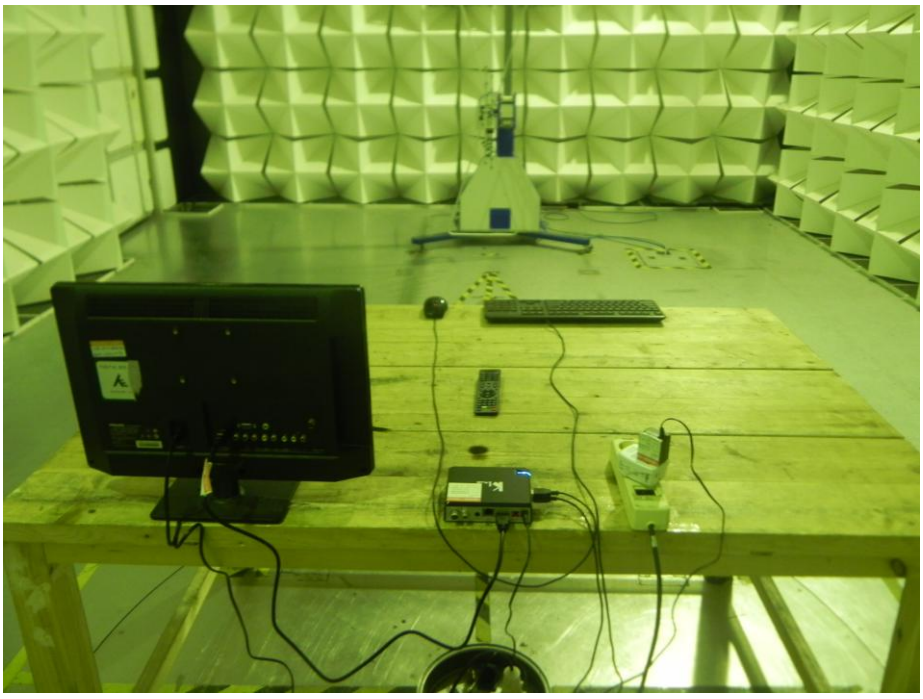
14 Photographs –Model KI PLUS DVB Test Setup Photos

14.1 Photograph – Radiated Emission

Test frequency 32.768KHz to 30MHz Test Site 2#



Test frequency from 30MHz to 1GHz Test Site 2#



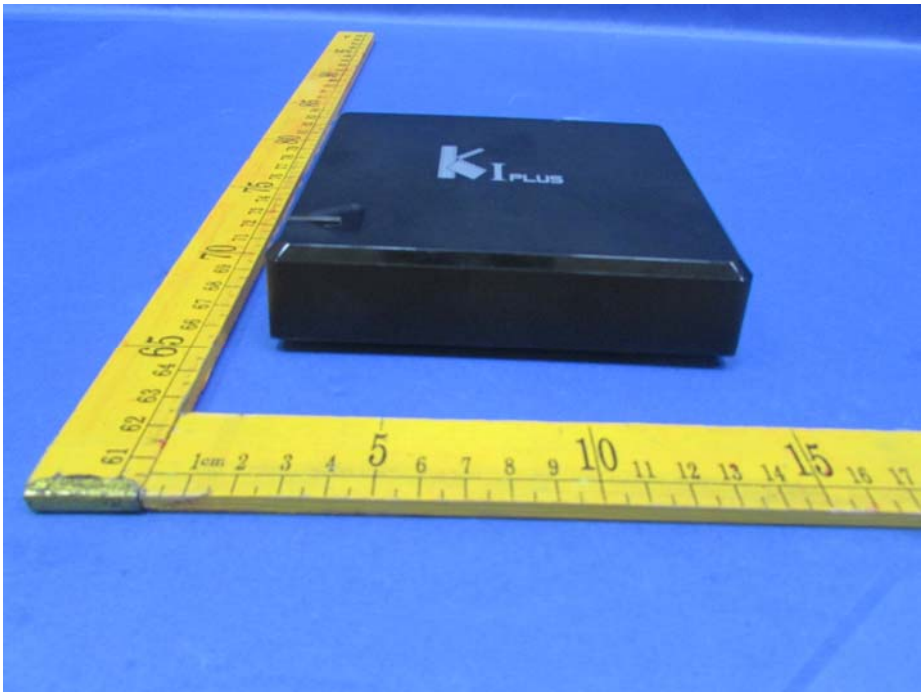
Test frequency above 1GHz Test Site 1#

14.2 Photograph – Conducted Emission Test Setup at Test Site 2#

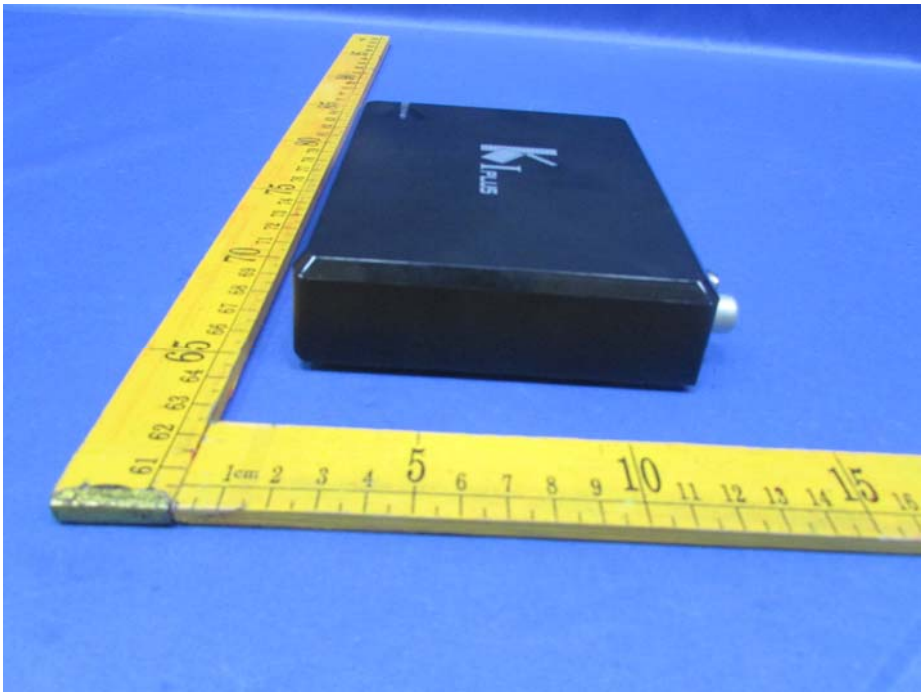
15 Photographs - Constructional Details

15.1 Model K1 PLUS DVB - External Photos

Model: K1 PLUS DVB


K1 PLUS

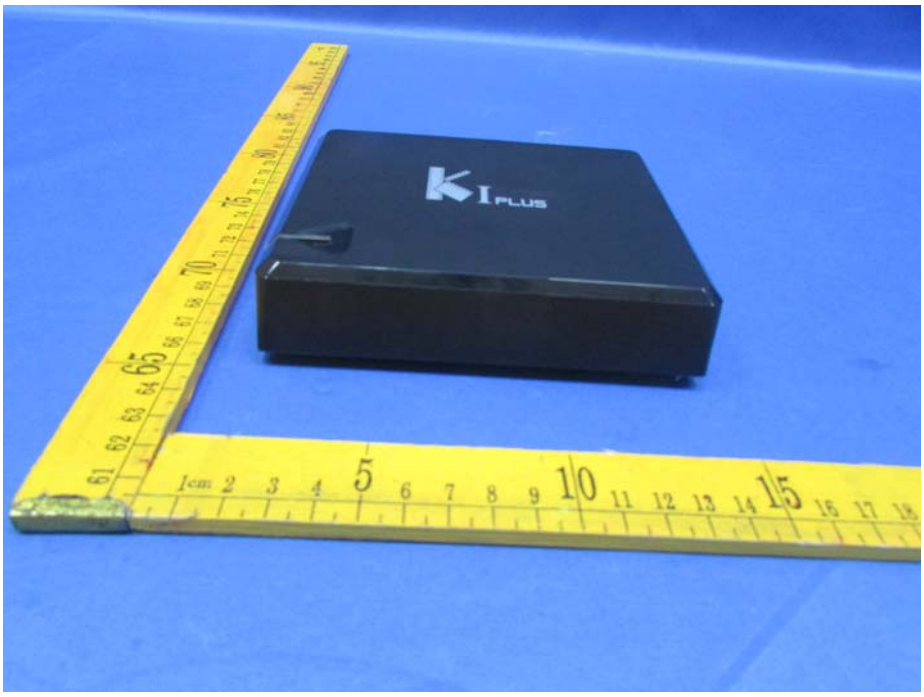

K1 PLUS
CVBS/LIN
LAN
HDTV
OPTICAL
POWER



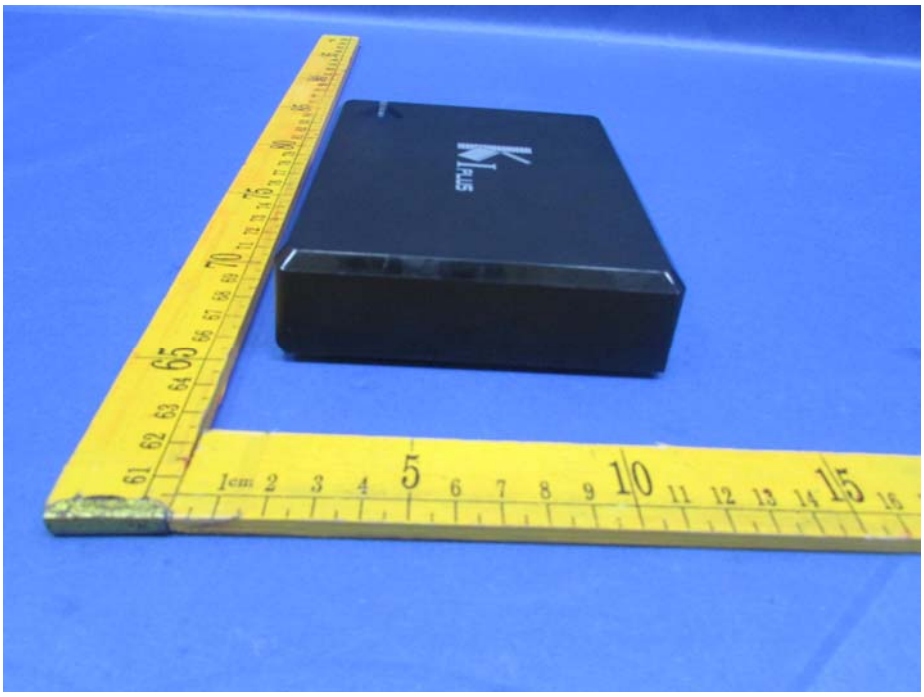

TF
USB
USB

Model: K1 PLUS


PLUS


PLUS


Android TV BOX
LAN
HDTV
OPTICAL
POWER



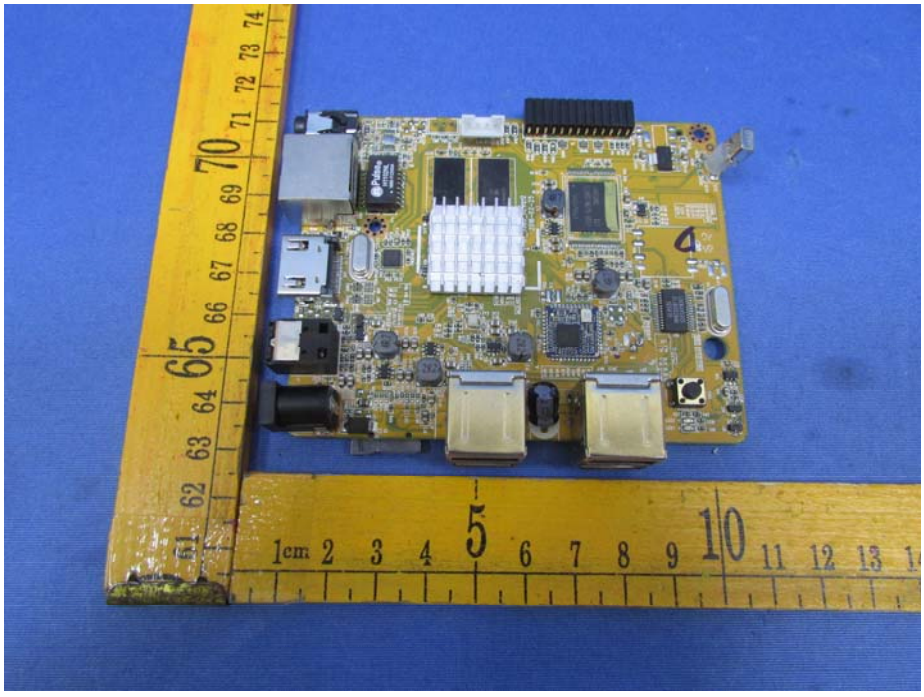

TF
USB
USB

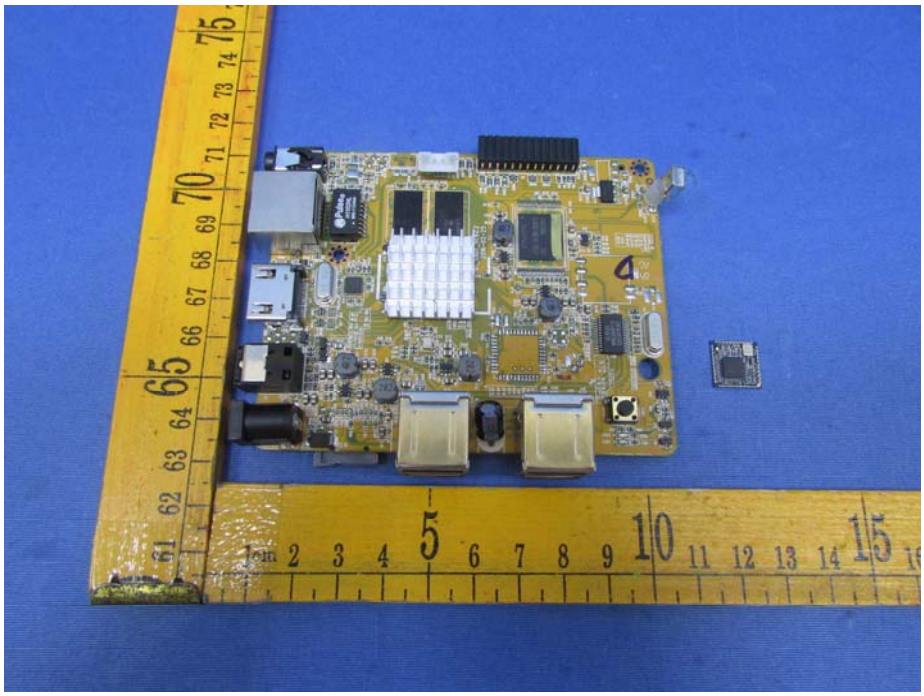

MAC: D0:76:58:04:36:D2

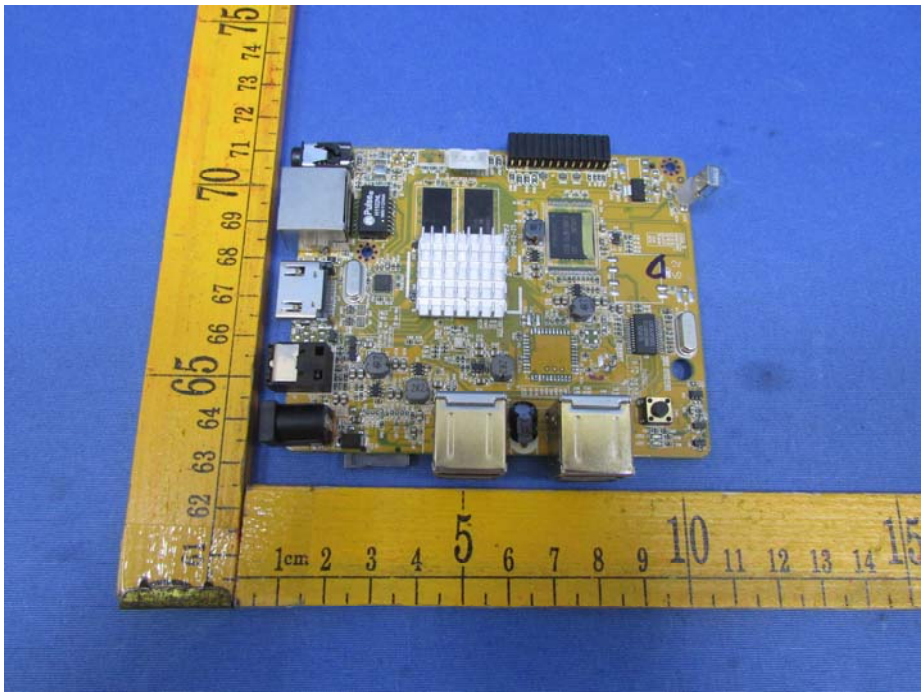

AC/DC ADAPTER
MODEL:KA1602-1201000USS
INPUT:100-240VAC 50/60Hz 0.35A
OUTPUT:12V 1000mA
SHENZHEN KEYU POWER SUPPLY TECHNOLOGY CO., LTD
MADE IN CHINA

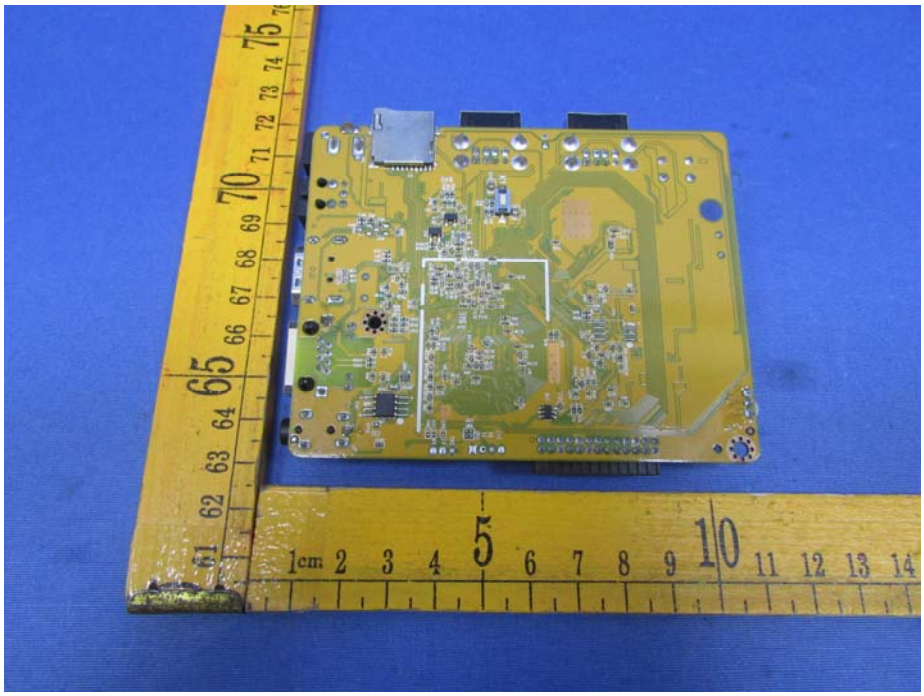
15.2 Model K1 PLUS DVB - Internal Photos

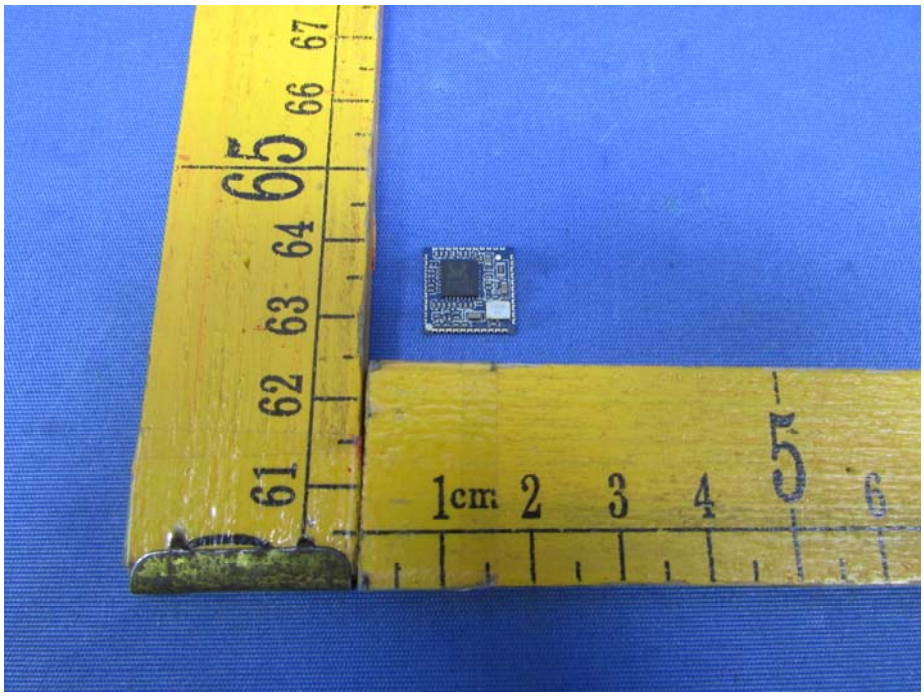
Model: K1 PLUS DVB

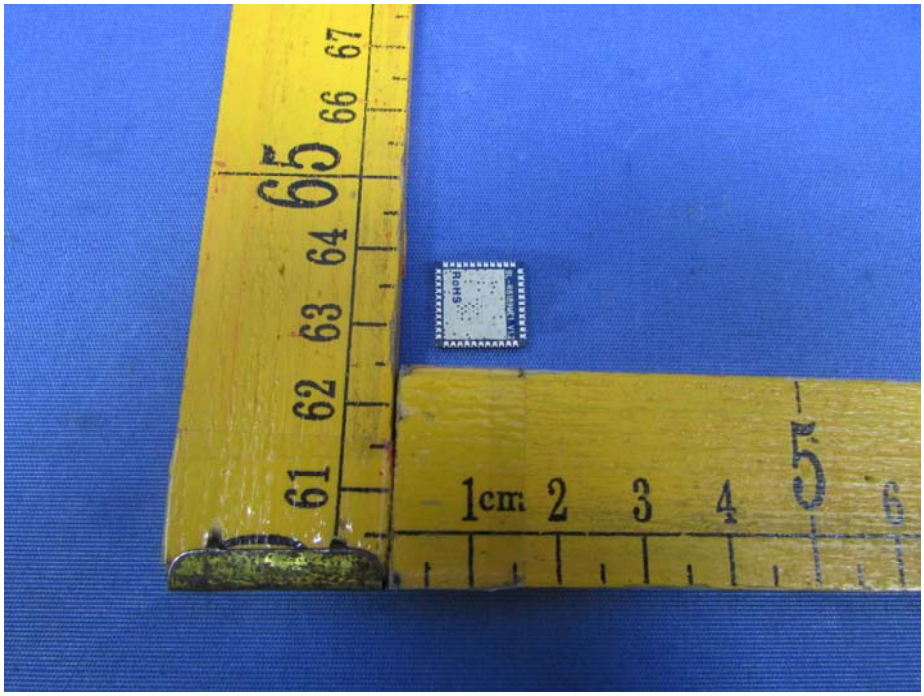


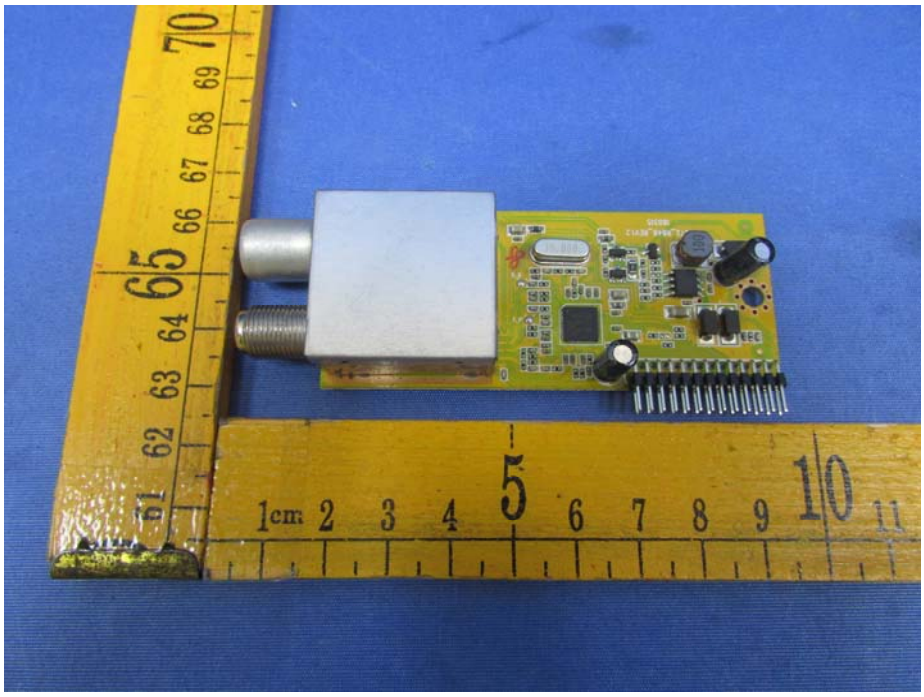


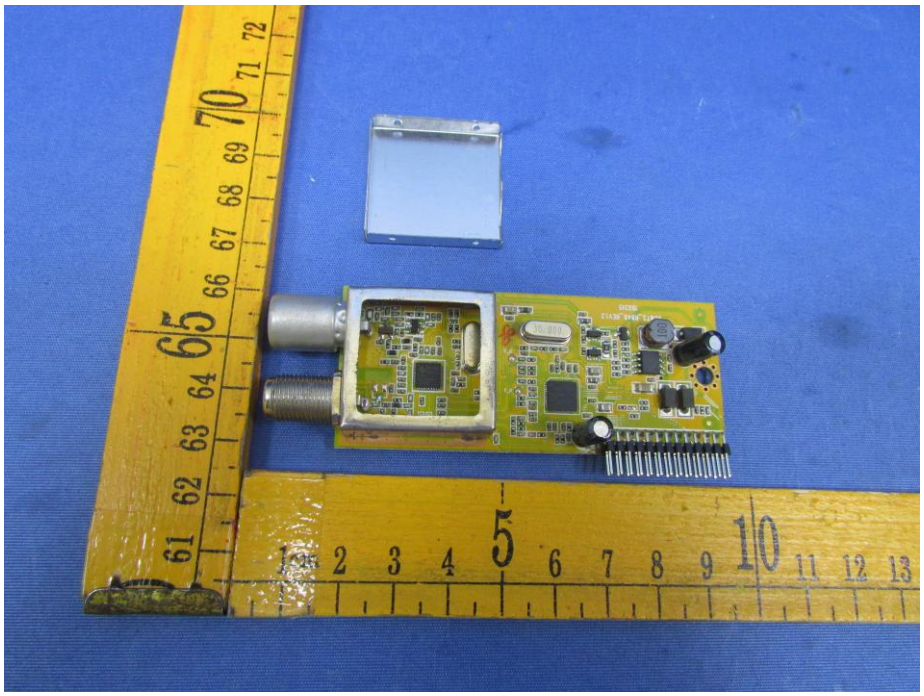


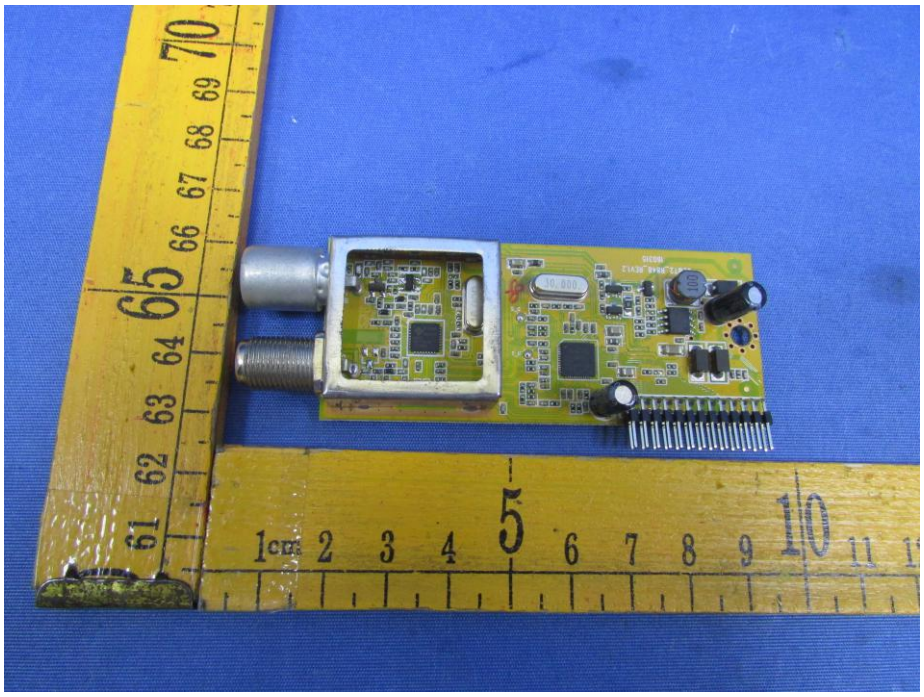

1cm 2 3 4 5 6 7 8 9 10 11 12 13 14

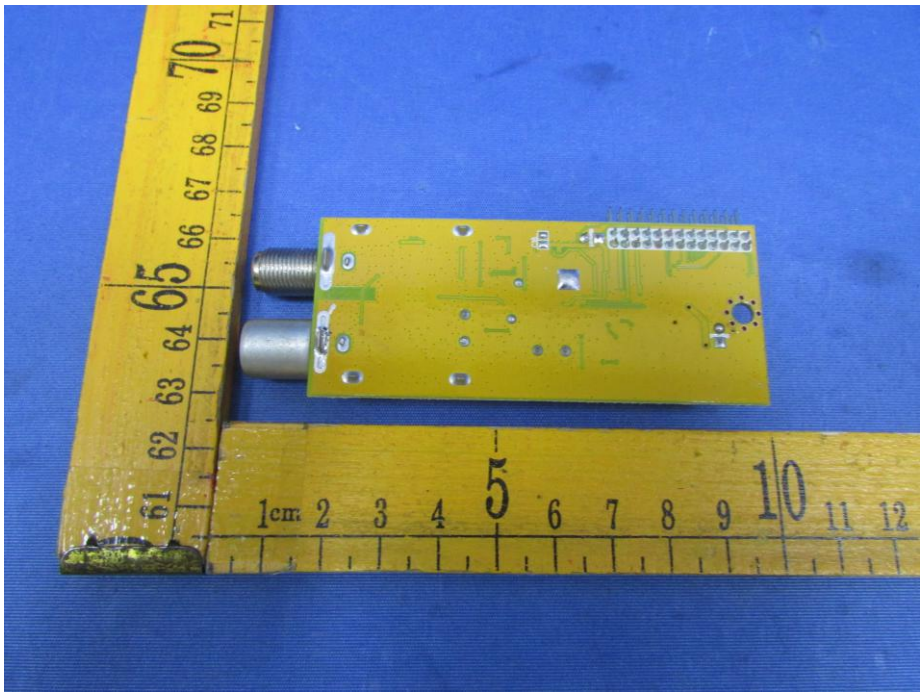

1cm 2 3 4 5

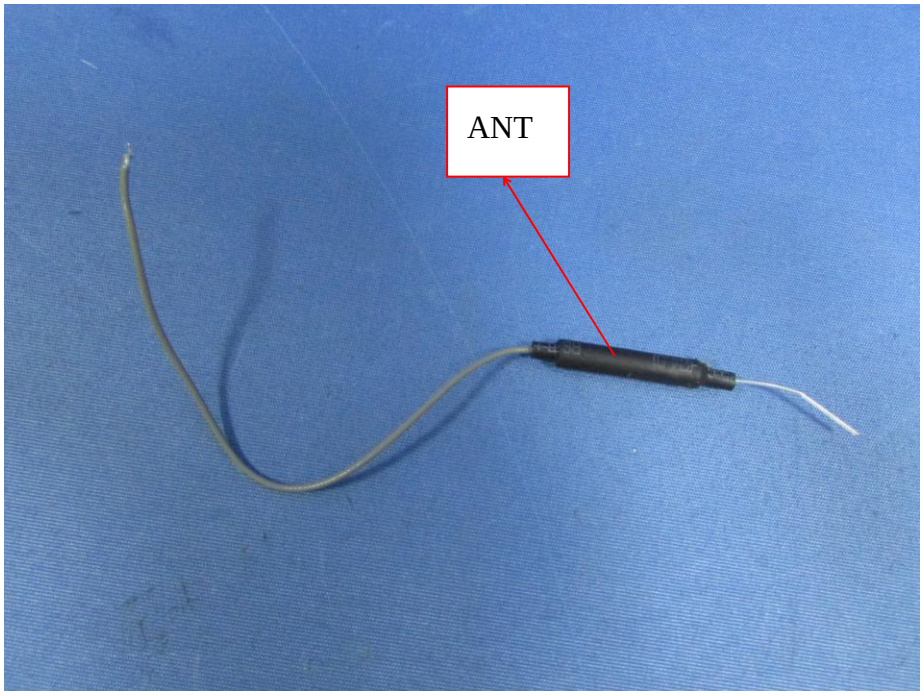




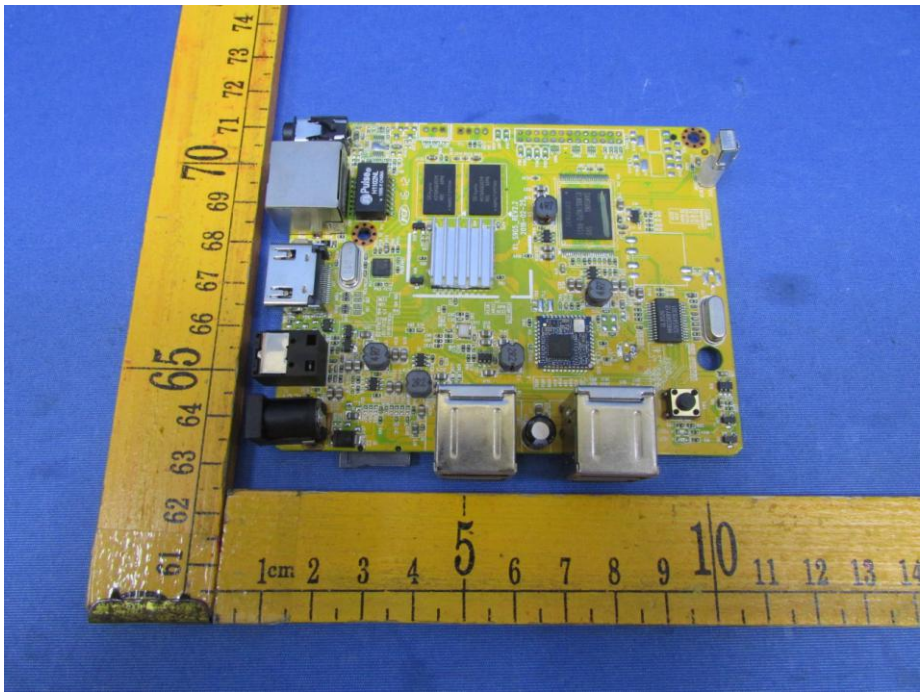


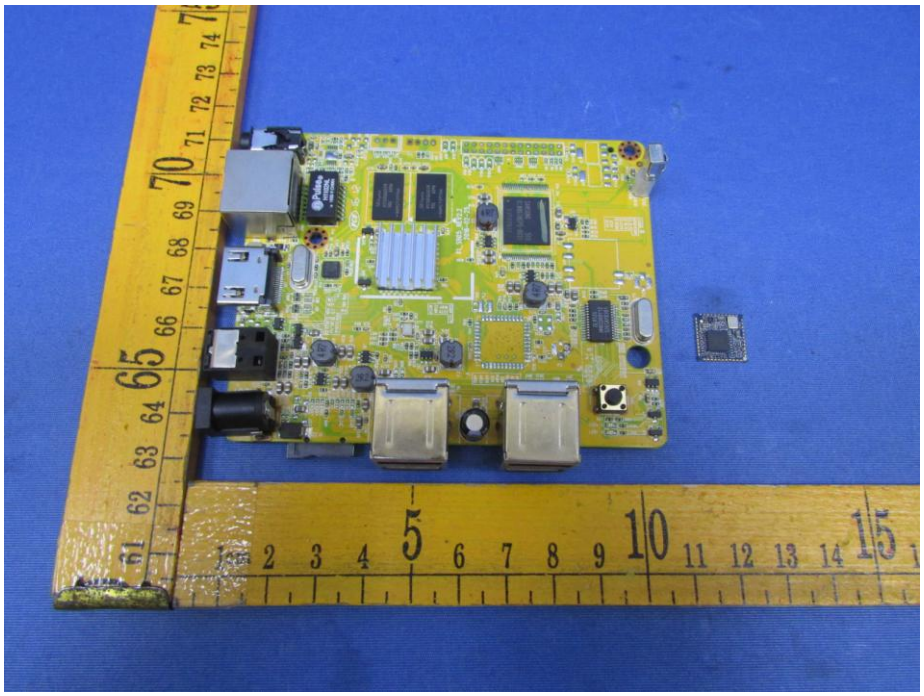


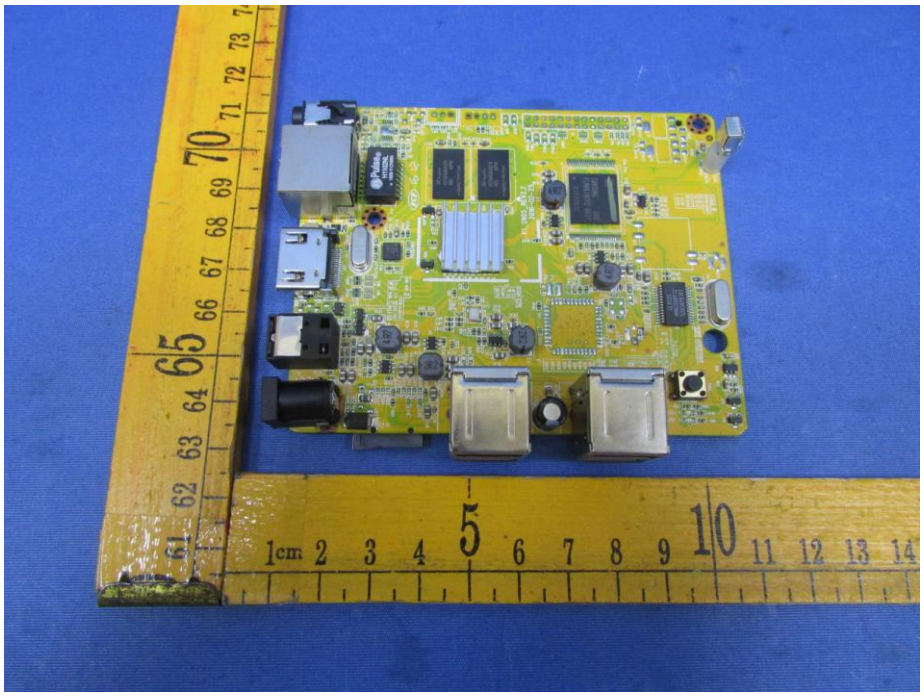


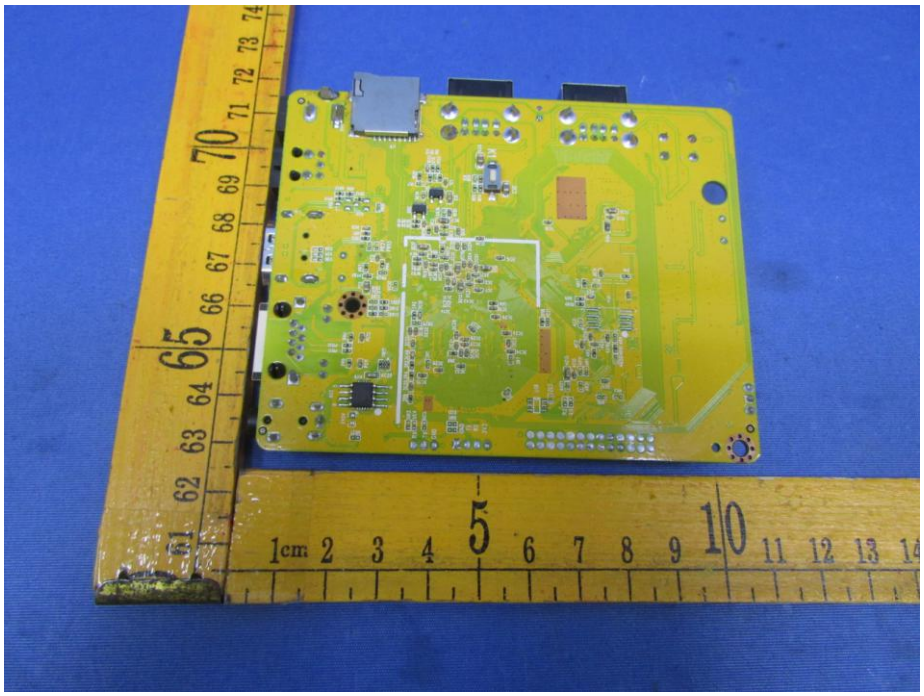

ANT

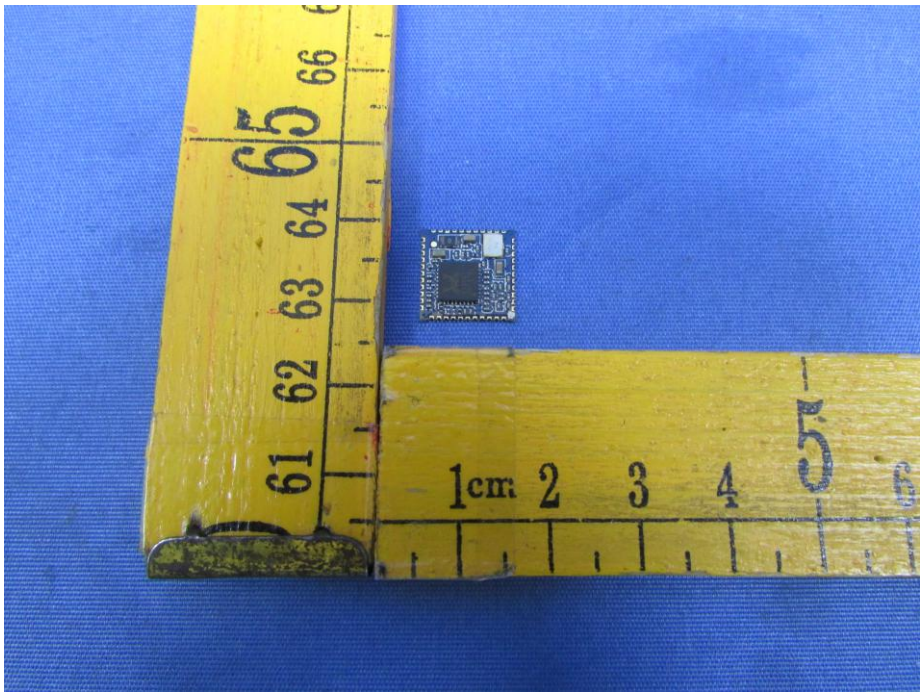
Model: K1 PLUS

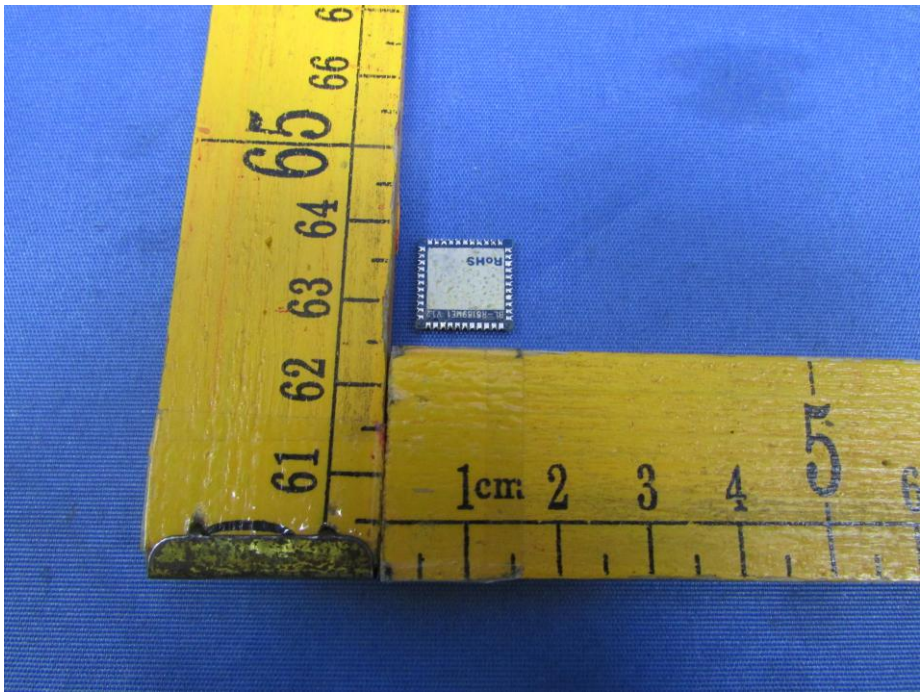


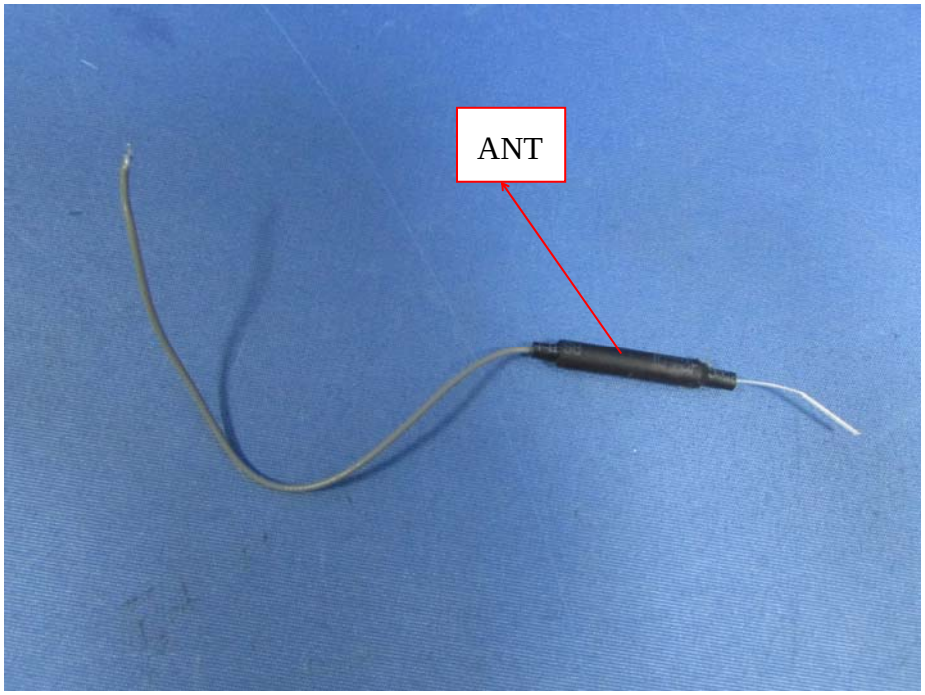












======End of Report======