TEST REPORT

Reference No.	:	WTU16S0960771E
FCC ID.....	:	2AARJ-WD50UC4300
Applicant	:	Avision Technology (changzhou)Co., Ltd.
Address	:	No. 28 Xinsi Road, Xinbei District, Changzhou, China.
Manufacturer	:	The same as above
Address	:	The same as above
Product Name	:	LED TV
Model No.	:	WD50UC4300
Standards.....	:	FCC CFR47 Part 15 C Section 15.247:2015
Date of Receipt sample.....	:	Sep. 14, 2016
Date of Test.....	:	Sep. 15 – 30, 2016
Date of Issue	:	Oct. 09, 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.

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3 Revision History

Test report No.	Date of Receipt sample	Date of Test	Date of Issue	Purpose	Comment	Approved
WTU16S0960771E	Sep. 14, 2016	Sep. 15 – 30, 2016	Oct. 09, 2016	original	-	Valid

4 General Information

4.1 General Description of E.U.T.

Product Name:	LED TV
Model No.:	WD50UC4300
Model Description:	N/A
Operation Frequency:	IEEE 802.11b/g/n(HT20):2412MHz ~ 2462MHz IEEE 802.11n(HT40):2422MHz~2452MHz
The Lowest Oscillator:	16MHz
Antenna Gain:	ANT 0 2.4GHz WIFI: 1.8 dBi ANT 1 2.4GHz WIFI: 1.8 dBi
Type of modulation:	IEEE 802.11b DSSS(CCK/QPSK/BPSK) IEEE 802.11g OFDM(BPSK/QPSK/16QAM/64QAM) IEEE 802.11n OFDM(BPSK/QPSK/16QAM/64QAM)
Number of transmitter chains:	WIFI:2*2 (MIMO)

The device supports MIMO 2*2, and the MIMO works with STBC(Space-Time Block Coding).The antenna is omnidirectional, does not support any directional gain in any modes.

TX power for MIMO rate, the wifi chip has a power/rate table that controls TX power from chipout, it's preset in nvram, FW don't need to calculate it again when MIMO rate is fixed. Of course the real radiation power is also related to antenna efficient.
Two transmitter signals are not correlated with each other.

4.2 Details of E.U.T.

Technical Data: AC 120V~60Hz, 120W

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

Test Mode Description:

During testing, Channel and Power Controlling Software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

Transmitting duty cycle is no less 98%.

The software is installed in operation system, named “RFTestTool.apk” ,Version 1,date 20160818.

Table 1 Tests Carried Out Under FCC part 15.247

Test Items	Mode	Data Rate	Channel	TX/RX
Maximum Peak 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
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

Table 2 Tests Carried Out Under FCC part 15.207

Test Item	Test Mode
Conduction Emission	transmitting
Radiated Emission	transmitting

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. 12,2016	Sep. 11,2017
2.	LISN	R&S	ENV216	101215	Sep. 12,2016	Sep. 11,2017
3.	Cable	Top	TYPE16(3.5M)	-	Sep. 12,2016	Sep. 11,2017
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. 12,2016	Sep. 11,2017
2.	LISN	SCHWARZBECK	NSLK 8128	8128-289	Sep. 12,2016	Sep. 11,2017
3.	Limiter	York	MTS-IMP-136	261115-001-0024	Sep. 12,2016	Sep. 11,2017
4.	Cable	LARGE	RF300	-	Sep. 12,2016	Sep. 11,2017
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. 12,2016	Sep. 11,2017
2	Active Loop Antenna	Beijing Dazhi	ZN30900A	-	Sep. 12,2016	Sep. 11,2017
3	Trilog Broadband Antenna	SCHWARZBECK	VULB9163	336	Sep. 12,2016	Sep. 11,2017
4	Coaxial Cable (below 1GHz)	Top	TYPE16(13M)	-	Sep. 12,2016	Sep. 11,2017
5	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9120 D	667	Sep. 12,2016	Sep. 11,2017
6	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9170	335	Sep. 12,2016	Sep. 11,2017
7	Broadband Preamplifier	COMPLIANCE DIRECTION	PAP-1G18	2004	Sep. 12,2016	Sep. 11,2017
8	Coaxial Cable (above 1GHz)	Top	1GHz-25GHz	EW02014-7	Sep. 12,2016	Sep. 11,2017
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. 12,2016	Sep. 11,2017
2	Trilog Broadband Antenna	SCHWARZBECK	VULB9160	9160-3325	Sep. 12,2016	Sep. 11,2017
3	Amplifier	Compliance pirection systems inc	PAP-0203	22024	Sep. 12,2016	Sep. 11,2017
4	Cable	HUBER+SUHNER	CBL2	525178	Sep. 12,2016	Sep. 11,2017
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. 12,2016	Sep. 11,2017
2.	Spectrum Analyzer (9k-6GHz)	R&S	FSL6	100959	Sep. 12,2016	Sep. 11,2017
3.	Signal Analyzer (9k~26.5GHz)	Agilent	N9010A	MY50520207	Sep. 12,2016	Sep. 11,2017

5.2 Description of Support Units

Equipment	Manufacturer	Model No.	Series No.
/	/	/	/

5.3 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 (30M~1000MHz)
	± 5.47 dB (1000M~25000MHz)
Conducted Spurious Emissions test	± 3.64 dB (AC mains 150KHz~30MHz)

5.4 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 Test Summary

Test Items	Test Requirement	Result
Conducted Emissions	15.207(a)	C
Radiated Emissions	15.247 15.205(a) 15.209(a)	C
Bandwidth	15.247(a)(2)	C
Maximum Peak Output Power	15.247(b)(3),(4)	C
Power Spectral Density	15.247(e)	C
Band Edge	15.247(d)	C
Antenna Requirement	15.203	C
Maximum Permissible Exposure (Exposure of Humans to RF Fields)	1.1307(b)(1)	C
Note: C=Compliance; NC=Not Compliance; NT=Not Tested; N/A=Not Applicable.		

7 Conducted Emission

Test Requirement:	FCC CFR 47 Part 15 Section 15.207
Test Method:	ANSI C63.10:2013&ANSI C63.4:2014
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)

7.1 E.U.T. Operation

Operating Environment **:**

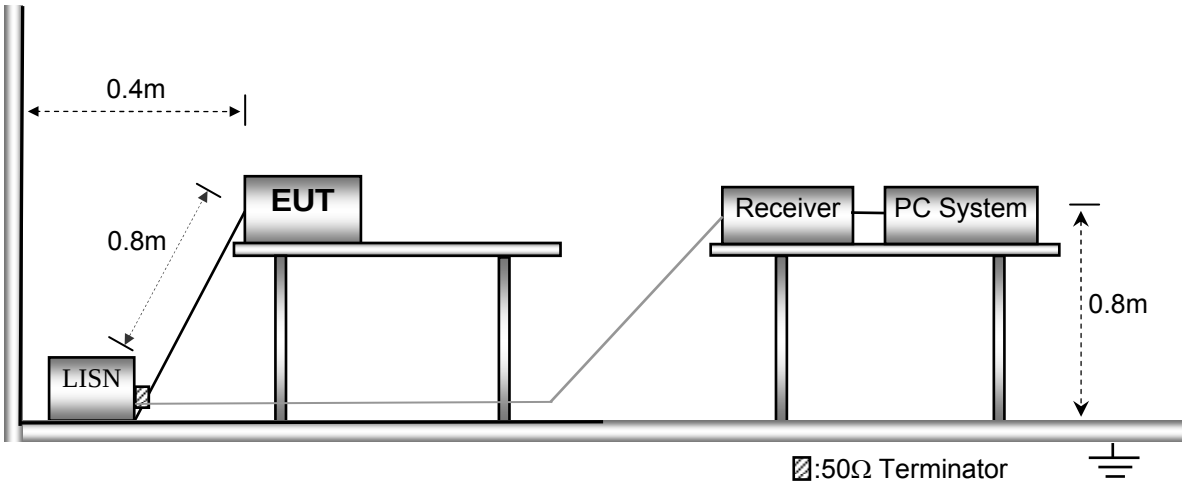
Temperature:	21.5 °C
Humidity:	51.9 % RH
Atmospheric Pressure:	101.2kPa

EUT Operation **:**

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

7.2 EUT Setup

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



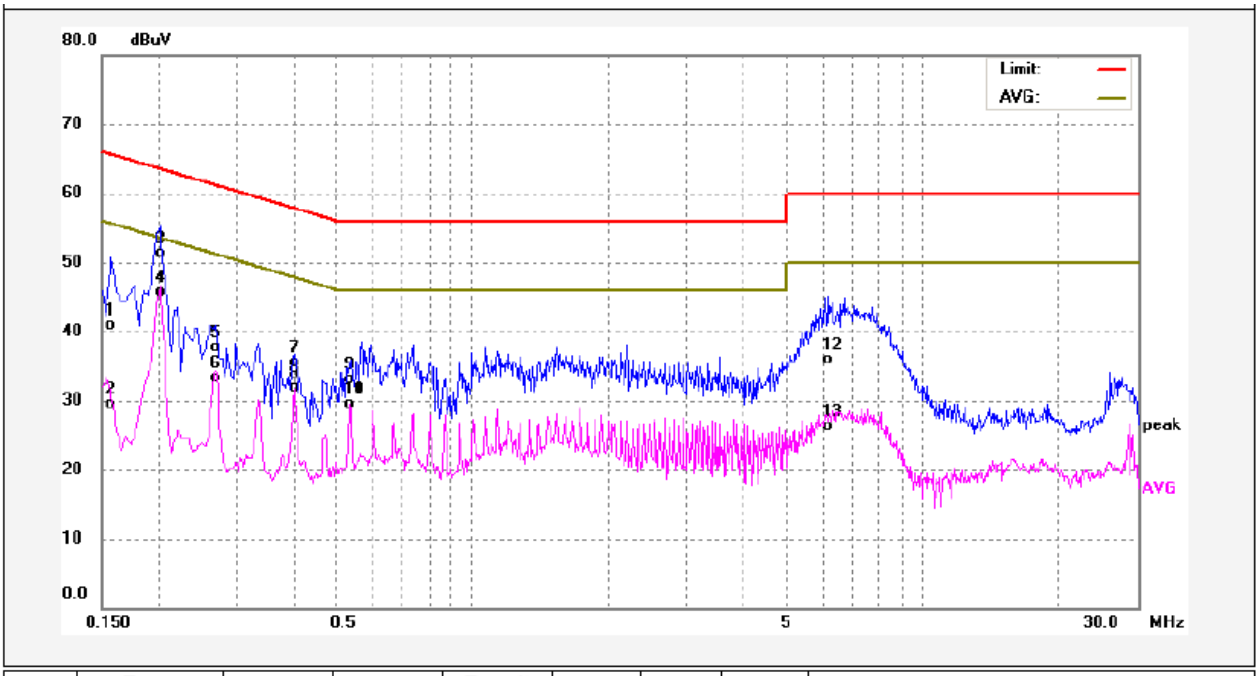
7.3 Measurement Description

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.

7.4 Conducted Emission Test Result

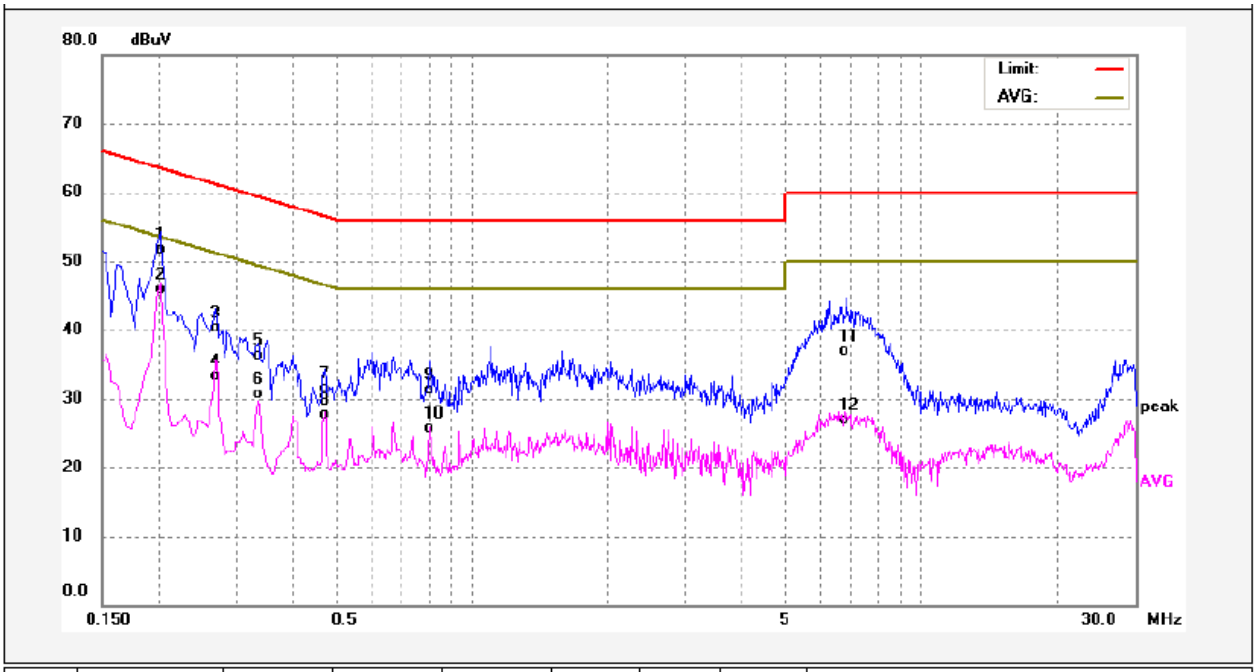
An initial pre-scan was performed on the live and neutral lines.

Live line:



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Margin (dB)	Detector	Remark
1	0.1580	30.54	10.28	40.82	65.56	-24.74	QP	
2	0.1580	19.15	10.28	29.43	55.56	-26.13	AVG	
3	0.2020	41.12	10.26	51.38	63.52	-12.14	QP	
4	0.2020	35.38	10.26	45.64	53.52	-7.88	AVG	
5	0.2700	27.49	10.27	37.76	61.12	-23.36	QP	
6	0.2700	23.13	10.27	33.40	51.12	-17.72	AVG	
7	0.4020	25.32	10.27	35.59	57.81	-22.22	QP	
8	0.4020	21.63	10.27	31.90	47.81	-15.91	AVG	
9	0.5340	22.74	10.27	33.01	56.00	-22.99	QP	
10	0.5340	19.28	10.27	29.55	46.00	-16.45	AVG	
11	0.5340	19.31	10.27	29.58	46.00	-16.42	AVG	
12	6.1779	25.29	10.60	35.89	60.00	-24.11	QP	
13	6.1779	15.65	10.60	26.25	50.00	-23.75	AVG	

Neutral line:



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Margin (dB)	Detector	Remark
1	0.2020	41.41	10.26	51.67	63.52	-11.85	QP	
2	0.2020	35.63	10.26	45.89	53.52	-7.63	AVG	
3	0.2700	30.00	10.27	40.27	61.12	-20.85	QP	
4	0.2700	22.99	10.27	33.26	51.12	-17.86	AVG	
5	0.3339	25.93	10.29	36.22	59.35	-23.13	QP	
6	0.3339	20.37	10.29	30.66	49.35	-18.69	AVG	
7	0.4700	21.17	10.26	31.43	56.51	-25.08	QP	
8	0.4700	17.40	10.26	27.66	46.51	-18.85	AVG	
9	0.8020	20.99	10.36	31.35	56.00	-24.65	QP	
10	0.8020	15.39	10.36	25.75	46.00	-20.25	AVG	
11	6.7660	26.19	10.64	36.83	60.00	-23.17	QP	
12	6.7660	16.28	10.64	26.92	50.00	-23.08	AVG	

8 Radiated Emissions

Test Requirement: FCC CFR47 Part 15 Section 15.209 & 15.247

Test Method: ANSI C63.10:2013&ANSI C63.4:2014

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	$20\log^{(500)}$

8.1 EUT Operation

Operating Environment **:**

Temperature: 23.5 °C

Humidity: 52.1 % RH

Atmospheric Pressure: 101.2kPa

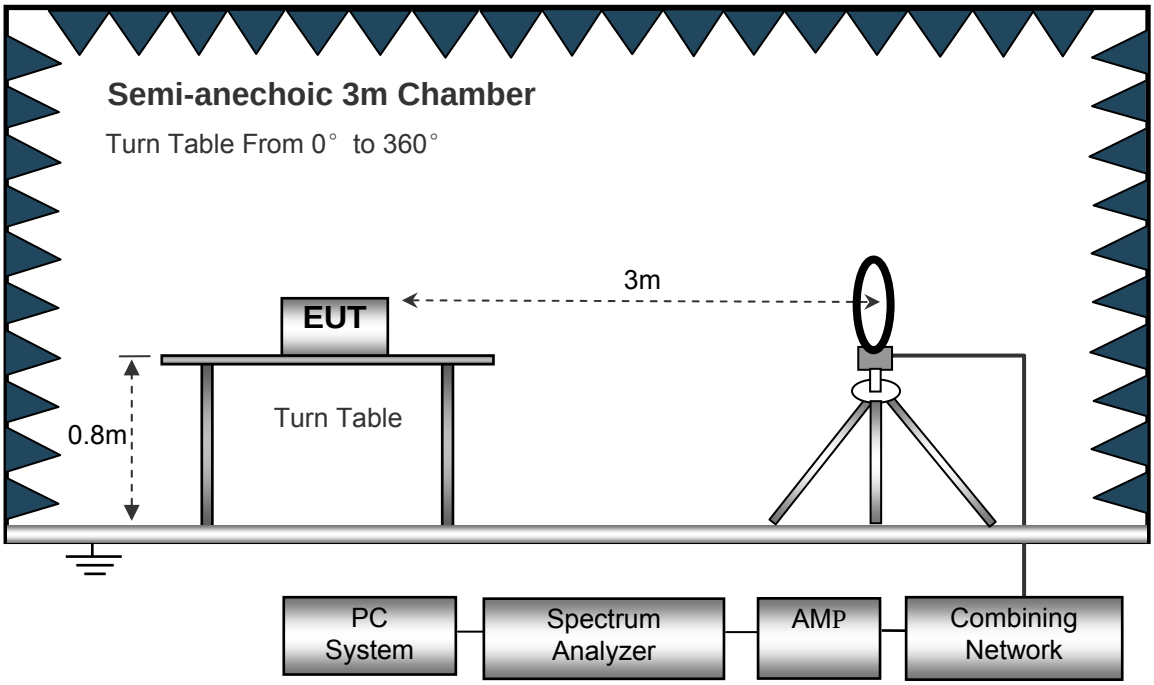
EUT Operation **:**

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

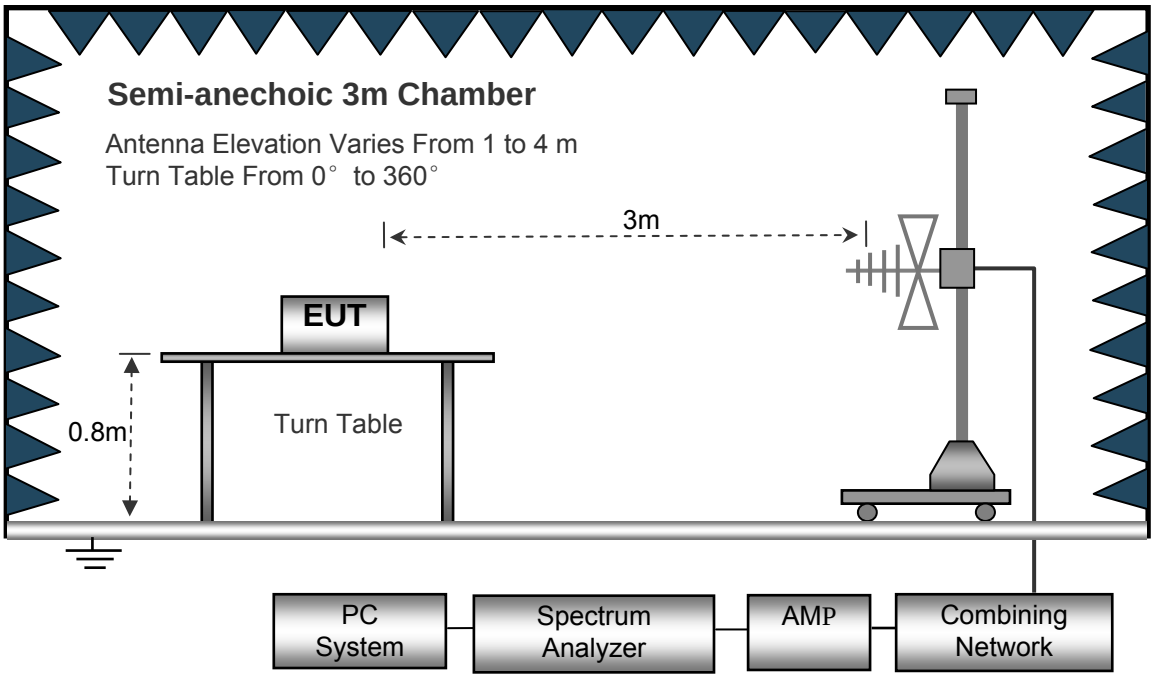
8.2 Test Setup

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

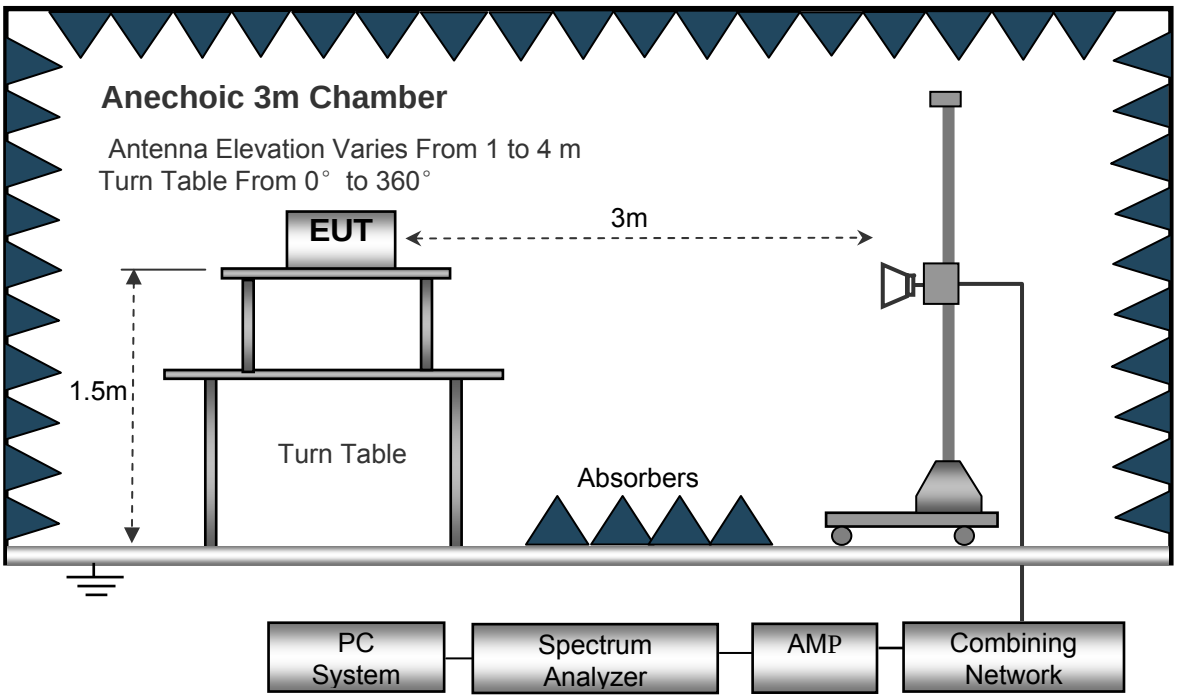
The test setup for emission measurement below 30MHz.



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



The test setup for emission measurement above 1 GHz.



8.3 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

8.4 Test Procedure

1. The EUT is placed on a turntable, which is 0.8m above ground plane for below 1GHz and 1.5m for above 1GHz.
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.
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 performed in X,Y and Z axis positioning(X denotes lying on the table, Y denotes side stand and Z denotes vertical stand),the worst condition was tested putting the eut in X axis,so the worst data were shown as follow.
8. A 2.4GHz high –pass filter is used druing radiated emissions above 1GHz measurement.

8.5 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

Corr. Ampl. = Indicated Reading + Antenna Factor + Cable Factor - Amplifier Gain

The “Margin” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7dB means the emission is 7dB below the maximum limit for Class B. The equation for margin calculation is as follows:

Margin = Corr. Ampl. – Limit

8.6 Summary of Test Results

Test Frequency: 16MHz~30MHz

Frequency (MHz)	Measurement results	Detector	Correct factor	Extrapolation factor	Measurement results (calculated)	FCC Part 15.247/209/205	
						Limit	Margin
	dBμV/m@3m	PK/QP	dB/m	dB	dBμV/m @30m	dBμV/m @30m	dB
26.824	26.26	QP	20.55	40.00	6.81	29.54	-22.73

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)
ANT0 11b: Low Channel 2412MHz									
223.45	41.05	QP	332.58	1.28	H	11.62	29.43	46.00	-16.57
223.45	39.25	QP	53.52	1.03	V	11.62	27.63	46.00	-18.37
4824.00	46.25	PK	61.67	1.94	V	1.06	45.19	74.00	-28.81
4824.00	44.25	Ave	61.67	1.94	V	1.06	43.19	54.00	-10.81
7236.00	41.07	PK	343.98	1.03	H	1.33	42.40	74.00	-31.60
7236.00	41.51	Ave	343.98	1.03	H	1.33	42.84	54.00	-11.16
2328.15	46.15	PK	147.47	1.52	V	13.19	32.96	74.00	-41.04
2328.15	37.94	Ave	147.47	1.52	V	13.19	24.75	54.00	-29.25
2351.18	44.22	PK	202.76	1.38	H	13.14	31.08	74.00	-42.92
2351.18	37.37	Ave	202.76	1.38	H	13.14	24.23	54.00	-29.77
2493.51	42.41	PK	320.38	1.27	V	13.08	29.33	74.00	-44.67
2493.51	38.04	Ave	320.38	1.27	V	13.08	24.96	54.00	-29.04

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)
ANT0 11b: Middle Channel 2437MHz									
223.45	40.89	QP	229.82	1.08	H	11.62	29.27	46.00	-16.73
223.45	39.27	QP	265.44	1.15	V	11.62	27.65	46.00	-18.35
4874.00	47.04	PK	133.55	1.12	V	0.62	46.42	74.00	-27.58
4874.00	43.90	Ave	133.55	1.12	V	0.62	43.28	54.00	-10.72
7311.00	42.38	PK	318.94	1.84	H	2.21	44.59	74.00	-29.41
7311.00	41.37	Ave	318.94	1.84	H	2.21	43.58	54.00	-10.42
2312.06	46.20	PK	51.58	1.90	V	13.19	33.01	74.00	-40.99
2312.06	38.26	Ave	51.58	1.90	V	13.19	25.07	54.00	-28.93
2369.90	44.88	PK	227.33	1.15	H	13.14	31.74	74.00	-42.26
2369.90	36.32	Ave	227.33	1.15	H	13.14	23.18	54.00	-30.82
2487.26	43.94	PK	250.77	1.70	V	13.08	30.86	74.00	-43.14
2487.26	37.04	Ave	250.77	1.70	V	13.08	23.96	54.00	-30.04

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)
ANT0 11b: High Channel 2462MHz									
223.45	41.70	QP	282.82	1.27	H	11.62	30.08	46.00	-15.92
223.45	38.48	QP	111.90	1.62	V	11.62	26.86	46.00	-19.14
4924.00	46.66	PK	1.84	1.88	V	0.24	46.42	74.00	-27.58
4924.00	43.39	Ave	1.84	1.88	V	0.24	43.15	54.00	-10.85
7386.00	42.41	PK	0.16	1.35	H	2.84	45.25	74.00	-28.75
7386.00	41.09	Ave	0.16	1.35	H	2.84	43.93	54.00	-10.07
2342.05	45.18	PK	355.24	1.78	V	13.19	31.99	74.00	-42.01
2342.05	39.71	Ave	355.24	1.78	V	13.19	26.52	54.00	-27.48
2381.08	43.52	PK	18.67	1.45	H	13.14	30.38	74.00	-43.62
2381.08	37.66	Ave	18.67	1.45	H	13.14	24.52	54.00	-29.48
2498.62	44.34	PK	282.76	1.79	V	13.08	31.26	74.00	-42.74
2498.62	38.89	Ave	282.76	1.79	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)
ANT1 11b: Low Channel 2412MHz									
223.45	42.02	QP	233.63	1.54	H	11.62	30.40	46.00	-15.60
223.45	40.34	QP	290.93	1.73	V	11.62	28.72	46.00	-17.28
4824.00	41.02	PK	3.46	1.54	V	1.06	39.96	74.00	-34.04
4824.00	43.79	Ave	3.46	1.54	V	1.06	42.73	54.00	-11.27
7236.00	41.34	PK	79.58	1.93	H	1.33	42.67	74.00	-31.33
7236.00	41.07	Ave	79.58	1.93	H	1.33	42.40	54.00	-11.60
2344.99	45.64	PK	344.16	1.19	V	13.19	32.45	74.00	-41.55
2344.99	38.95	Ave	344.16	1.19	V	13.19	25.76	54.00	-28.24
2360.95	42.07	PK	200.78	1.20	H	13.14	28.93	74.00	-45.07
2360.95	38.00	Ave	200.78	1.20	H	13.14	24.86	54.00	-29.14
2490.84	44.03	PK	330.41	1.36	V	13.08	30.95	74.00	-43.05
2490.84	36.91	Ave	330.41	1.36	V	13.08	23.83	54.00	-30.17

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)
ANT1 11b: Middle Channel 2437MHz									
223.45	40.57	QP	160.44	1.65	H	11.62	28.95	46.00	-17.05
223.45	39.61	QP	215.34	1.17	V	11.62	27.99	46.00	-18.01
4874.00	39.62	PK	132.17	1.40	V	0.62	39.00	74.00	-35.00
4874.00	43.20	Ave	132.17	1.40	V	0.62	42.58	54.00	-11.42
7311.00	42.67	PK	14.59	1.21	H	2.21	44.88	74.00	-29.12
7311.00	40.31	Ave	14.59	1.21	H	2.21	42.52	54.00	-11.48
2349.70	46.23	PK	195.11	1.55	V	13.19	33.04	74.00	-40.96
2349.70	39.28	Ave	195.11	1.55	V	13.19	26.09	54.00	-27.91
2386.27	44.42	PK	266.32	1.10	H	13.14	31.28	74.00	-42.72
2386.27	37.89	Ave	266.32	1.10	H	13.14	24.75	54.00	-29.25
2494.64	44.31	PK	260.68	1.88	V	13.08	31.23	74.00	-42.77
2494.64	36.84	Ave	260.68	1.88	V	13.08	23.76	54.00	-30.24

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)
ANT1 11b: High Channel 2462MHz									
223.45	40.56	QP	346.61	1.06	H	11.62	28.94	46.00	-17.06
223.45	38.82	QP	301.71	1.09	V	11.62	27.20	46.00	-18.80
4924.00	38.19	PK	304.55	1.20	V	0.24	37.95	74.00	-36.05
4924.00	43.78	Ave	304.55	1.20	V	0.24	43.54	54.00	-10.46
7386.00	42.34	PK	281.59	1.59	H	2.84	45.18	74.00	-28.82
7386.00	39.37	Ave	281.59	1.59	H	2.84	42.21	54.00	-11.79
2315.90	46.97	PK	238.68	1.31	V	13.19	33.78	74.00	-40.22
2315.90	37.63	Ave	238.68	1.31	V	13.19	24.44	54.00	-29.56
2353.50	42.84	PK	347.63	1.32	H	13.14	29.70	74.00	-44.30
2353.50	36.56	Ave	347.63	1.32	H	13.14	23.42	54.00	-30.58
2496.85	42.12	PK	1.35	1.63	V	13.08	29.04	74.00	-44.96
2496.85	38.10	Ave	1.35	1.63	V	13.08	25.02	54.00	-28.98

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)
ANT0 11g: Low Channel 2412MHz									
223.45	42.67	QP	281.05	1.36	H	11.62	31.05	46.00	-14.95
223.45	38.35	QP	128.36	1.20	V	11.62	26.73	46.00	-19.27
4824.00	47.81	PK	341.08	1.02	V	1.06	46.75	74.00	-27.25
4824.00	43.50	Ave	341.08	1.02	V	1.06	42.44	54.00	-11.56
7236.00	43.60	PK	235.04	1.05	H	1.33	44.93	74.00	-29.07
7236.00	40.69	Ave	235.04	1.05	H	1.33	42.02	54.00	-11.98
2335.98	46.23	PK	57.51	1.23	V	13.19	33.04	74.00	-40.96
2335.98	39.02	Ave	57.51	1.23	V	13.19	25.83	54.00	-28.17
2372.55	42.91	PK	129.20	1.08	H	13.14	29.77	74.00	-44.23
2372.55	37.94	Ave	129.20	1.08	H	13.14	24.80	54.00	-29.20
2489.34	43.41	PK	225.39	1.65	V	13.08	30.33	74.00	-43.67
2489.34	37.58	Ave	225.39	1.65	V	13.08	24.50	54.00	-29.50

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)
ANT0 11g: Middle Channel 2437MHz									
223.45	41.54	QP	101.74	1.09	H	11.62	29.92	46.00	-16.08
223.45	39.81	QP	230.31	1.29	V	11.62	28.19	46.00	-17.81
4874.00	48.52	PK	61.88	1.12	V	0.62	47.90	74.00	-26.10
4874.00	43.99	Ave	61.88	1.12	V	0.62	43.37	54.00	-10.63
7311.00	43.88	PK	199.90	1.78	H	2.21	46.09	74.00	-27.91
7311.00	39.83	Ave	199.90	1.78	H	2.21	42.04	54.00	-11.96
2310.56	45.02	PK	271.13	1.08	V	13.19	31.83	74.00	-42.17
2310.56	39.02	Ave	271.13	1.08	V	13.19	25.83	54.00	-28.17
2360.51	44.34	PK	87.68	1.62	H	13.14	31.20	74.00	-42.80
2360.51	37.23	Ave	87.68	1.62	H	13.14	24.09	54.00	-29.91
2486.79	42.23	PK	75.73	1.77	V	13.08	29.15	74.00	-44.85
2486.79	36.23	Ave	75.73	1.77	V	13.08	23.15	54.00	-30.85

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)
ANT0 11g: High Channel 2462MHz									
223.45	40.40	QP	53.92	1.97	H	11.62	28.78	46.00	-17.22
223.45	39.09	QP	251.17	1.95	V	11.62	27.47	46.00	-18.53
4924.00	48.59	PK	145.37	1.48	V	0.24	48.35	74.00	-25.65
4924.00	44.81	Ave	145.37	1.48	V	0.24	44.57	54.00	-9.43
7386.00	44.85	PK	339.92	1.12	H	2.84	47.69	74.00	-26.31
7386.00	38.38	Ave	339.92	1.12	H	2.84	41.22	54.00	-12.78
2340.67	46.78	PK	273.83	1.10	V	13.19	33.59	74.00	-40.41
2340.67	39.11	Ave	273.83	1.10	V	13.19	25.92	54.00	-28.08
2359.12	45.00	PK	199.37	1.11	H	13.14	31.86	74.00	-42.14
2359.12	37.39	Ave	199.37	1.11	H	13.14	24.25	54.00	-29.75
2490.23	44.39	PK	21.83	1.23	V	13.08	31.31	74.00	-42.69
2490.23	38.05	Ave	21.83	1.23	V	13.08	24.97	54.00	-29.03

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)
ANT1 11g: Low Channel 2412MHz									
223.45	41.97	QP	195.60	1.22	H	11.62	30.35	46.00	-15.65
223.45	39.86	QP	167.13	1.90	V	11.62	28.24	46.00	-17.76
4824.00	38.21	PK	251.08	1.88	V	1.06	37.15	74.00	-36.85
4824.00	45.27	Ave	251.08	1.88	V	1.06	44.21	54.00	-9.79
7236.00	41.62	PK	193.38	1.74	H	1.33	42.95	74.00	-31.05
7236.00	39.30	Ave	193.38	1.74	H	1.33	40.63	54.00	-13.37
2326.19	45.41	PK	58.10	1.63	V	13.19	32.22	74.00	-41.78
2326.19	38.93	Ave	58.10	1.63	V	13.19	25.74	54.00	-28.26
2361.68	43.78	PK	256.03	1.58	H	13.14	30.64	74.00	-43.36
2361.68	37.29	Ave	256.03	1.58	H	13.14	24.15	54.00	-29.85
2494.16	43.85	PK	128.32	1.18	V	13.08	30.77	74.00	-43.23
2494.16	37.46	Ave	128.32	1.18	V	13.08	24.38	54.00	-29.62

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)
ANT1 11g: Middle Channel 2437MHz									
223.45	41.14	QP	212.51	2.00	H	11.62	29.52	46.00	-16.48
223.45	39.50	QP	317.79	1.00	V	11.62	27.88	46.00	-18.12
4874.00	39.19	PK	41.51	1.81	V	0.62	38.57	74.00	-35.43
4874.00	44.79	Ave	41.51	1.81	V	0.62	44.17	54.00	-9.83
7311.00	42.39	PK	31.71	1.28	H	2.21	44.60	74.00	-29.40
7311.00	38.64	Ave	31.71	1.28	H	2.21	40.85	54.00	-13.15
2317.95	46.20	PK	66.88	1.36	V	13.19	33.01	74.00	-40.99
2317.95	39.40	Ave	66.88	1.36	V	13.19	26.21	54.00	-27.79
2376.25	43.17	PK	243.56	1.04	H	13.14	30.03	74.00	-43.97
2376.25	36.87	Ave	243.56	1.04	H	13.14	23.73	54.00	-30.27
2487.58	42.55	PK	278.21	1.95	V	13.08	29.47	74.00	-44.53
2487.58	38.02	Ave	278.21	1.95	V	13.08	24.94	54.00	-29.06

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)
ANT1 11g: High Channel 2462MHz									
223.45	40.50	QP	131.54	1.28	H	11.62	28.88	46.00	-17.12
223.45	39.69	QP	128.53	1.89	V	11.62	28.07	46.00	-17.93
4924.00	38.08	PK	115.44	1.82	V	0.24	37.84	74.00	-36.16
4924.00	44.81	Ave	115.44	1.82	V	0.24	44.57	54.00	-9.43
7386.00	42.05	PK	276.19	1.51	H	2.84	44.89	74.00	-29.11
7386.00	38.63	Ave	276.19	1.51	H	2.84	41.47	54.00	-12.53
2330.56	45.05	PK	254.82	1.52	V	13.19	31.86	74.00	-42.14
2330.56	37.44	Ave	254.82	1.52	V	13.19	24.25	54.00	-29.75
2382.26	43.59	PK	99.23	1.73	H	13.14	30.45	74.00	-43.55
2382.26	37.15	Ave	99.23	1.73	H	13.14	24.01	54.00	-29.99
2489.64	44.75	PK	65.56	1.54	V	13.08	31.67	74.00	-42.33
2489.64	36.74	Ave	65.56	1.54	V	13.08	23.66	54.00	-30.34

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)
ANT0+ANT1 n20: Low Channel 2412MHz									
223.45	40.61	QP	6.46	1.84	H	11.62	28.99	46.00	-17.01
223.45	38.96	QP	82.48	1.46	V	11.62	27.34	46.00	-18.66
4824.00	49.15	PK	8.40	1.28	V	1.06	48.09	74.00	-25.91
4824.00	45.07	Ave	8.40	1.28	V	1.06	44.01	54.00	-9.99
7236.00	46.11	PK	298.98	1.44	H	1.33	47.44	74.00	-26.56
7236.00	39.54	Ave	298.98	1.44	H	1.33	40.87	54.00	-13.13
2316.44	46.05	PK	85.17	1.60	V	13.19	32.86	74.00	-41.14
2316.44	37.52	Ave	85.17	1.60	V	13.19	24.33	54.00	-29.67
2370.91	43.46	PK	272.97	1.28	H	13.14	30.32	74.00	-43.68
2370.91	37.28	Ave	272.97	1.28	H	13.14	24.14	54.00	-29.86
2494.24	44.54	PK	18.64	1.43	V	13.08	31.46	74.00	-42.54
2494.24	38.36	Ave	18.64	1.43	V	13.08	25.28	54.00	-28.72

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)
ANT0+ANT1 n20: Middle Channel 2437MHz									
223.45	41.72	QP	8.63	1.82	H	11.62	30.10	46.00	-15.90
223.45	39.79	QP	243.80	1.65	V	11.62	28.17	46.00	-17.83
4874.00	49.09	PK	87.57	1.52	V	0.62	48.47	74.00	-25.53
4874.00	46.28	Ave	87.57	1.52	V	0.62	45.66	54.00	-8.34
7311.00	47.17	PK	215.44	1.80	H	2.21	49.38	74.00	-24.62
7311.00	38.68	Ave	215.44	1.80	H	2.21	40.89	54.00	-13.11
2336.82	45.30	PK	257.81	1.70	V	13.19	32.11	74.00	-41.89
2336.82	39.37	Ave	257.81	1.70	V	13.19	26.18	54.00	-27.82
2372.92	43.37	PK	158.41	1.95	H	13.14	30.23	74.00	-43.77
2372.92	38.25	Ave	158.41	1.95	H	13.14	25.11	54.00	-28.89
2496.87	42.49	PK	310.79	1.16	V	13.08	29.41	74.00	-44.59
2496.87	36.37	Ave	310.79	1.16	V	13.08	23.29	54.00	-30.71

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)
ANT0+ANT1 n20: High Channel 2462MHz									
223.45	40.91	QP	166.61	1.04	H	11.62	29.29	46.00	-16.71
223.45	40.18	QP	42.84	1.50	V	11.62	28.56	46.00	-17.44
4924.00	48.64	PK	20.00	1.72	V	0.24	48.40	74.00	-25.60
4924.00	45.40	Ave	20.00	1.72	V	0.24	45.16	54.00	-8.84
7386.00	47.74	PK	114.08	1.11	H	2.84	50.58	74.00	-23.42
7386.00	39.38	Ave	114.08	1.11	H	2.84	42.22	54.00	-11.78
2335.02	46.73	PK	75.18	1.64	V	13.19	33.54	74.00	-40.46
2335.02	38.48	Ave	75.18	1.64	V	13.19	25.29	54.00	-28.71
2380.65	44.82	PK	225.83	1.57	H	13.14	31.68	74.00	-42.32
2380.65	36.43	Ave	225.83	1.57	H	13.14	23.29	54.00	-30.71
2486.82	43.88	PK	148.23	1.89	V	13.08	30.80	74.00	-43.20
2486.82	38.08	Ave	148.23	1.89	V	13.08	25.00	54.00	-29.00

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)
ANT0+ANT1 n40: Low Channel 2422MHz									
223.45	41.26	QP	294.52	1.69	H	11.62	29.64	46.00	-16.36
223.45	39.91	QP	295.50	1.43	V	11.62	28.29	46.00	-17.71
4844.00	46.26	PK	342.45	1.96	V	1.06	45.20	74.00	-28.80
4844.00	42.72	Ave	342.45	1.96	V	1.06	41.66	54.00	-12.34
7266.00	46.31	PK	27.90	1.81	H	1.33	47.64	74.00	-26.36
7266.00	37.14	Ave	27.90	1.81	H	1.33	38.47	54.00	-15.53
2338.63	46.70	PK	260.74	1.28	V	13.19	33.51	74.00	-40.49
2338.63	37.23	Ave	260.74	1.28	V	13.19	24.04	54.00	-29.96
2384.85	42.06	PK	182.30	1.20	H	13.14	28.92	74.00	-45.08
2384.85	36.95	Ave	182.30	1.20	H	13.14	23.81	54.00	-30.19
2484.14	43.31	PK	77.50	1.61	V	13.08	30.23	74.00	-43.77
2484.14	36.21	Ave	77.50	1.61	V	13.08	23.13	54.00	-30.87

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)
ANT0+ANT1 n40: Middle Channel 2437MHz									
223.45	41.48	QP	133.49	1.35	H	11.62	29.86	46.00	-16.14
223.45	40.68	QP	303.89	1.83	V	11.62	29.06	46.00	-16.94
4874.00	46.79	PK	138.98	1.74	V	0.62	46.17	74.00	-27.83
4874.00	42.53	Ave	138.98	1.74	V	0.62	41.91	54.00	-12.09
7311.00	45.55	PK	278.51	1.65	H	2.21	47.76	74.00	-26.24
7311.00	36.22	Ave	278.51	1.65	H	2.21	38.43	54.00	-15.57
2342.12	45.98	PK	247.24	1.97	V	13.19	32.79	74.00	-41.21
2342.12	37.15	Ave	247.24	1.97	V	13.19	23.96	54.00	-30.04
2363.37	44.35	PK	356.89	1.08	H	13.14	31.21	74.00	-42.79
2363.37	37.49	Ave	356.89	1.08	H	13.14	24.35	54.00	-29.65
2493.72	42.36	PK	171.48	1.98	V	13.08	29.28	74.00	-44.72
2493.72	37.32	Ave	171.48	1.98	V	13.08	24.24	54.00	-29.76

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)
ANT0+ANT1 n40: High Channel 2452MHz									
223.45	41.29	QP	93.28	1.22	H	11.62	29.67	46.00	-16.33
223.45	41.31	QP	283.59	1.12	V	11.62	29.69	46.00	-16.31
4904.00	47.01	PK	237.81	1.64	V	0.24	46.77	74.00	-27.23
4904.00	42.34	Ave	237.81	1.64	V	0.24	42.10	54.00	-11.90
7356.00	45.68	PK	36.44	1.36	H	2.84	48.52	74.00	-25.48
7356.00	35.50	Ave	36.44	1.36	H	2.84	38.34	54.00	-15.66
2329.16	45.26	PK	37.62	1.95	V	13.19	32.07	74.00	-41.93
2329.16	39.79	Ave	37.62	1.95	V	13.19	26.60	54.00	-27.40
2377.82	44.75	PK	45.02	1.73	H	13.14	31.61	74.00	-42.39
2377.82	37.77	Ave	45.02	1.73	H	13.14	24.63	54.00	-29.37
2499.20	44.31	PK	98.46	1.66	V	13.08	31.23	74.00	-42.77
2499.20	37.67	Ave	98.46	1.66	V	13.08	24.59	54.00	-29.41

Test Frequency: 18GHz~25GHz

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

9 Band Edge Measurement

Test Requirement:	FCC CFR47 Part 15 Section 15.247
Test Method:	KDB558074 D01 DTS Meas Guidance v03r05
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

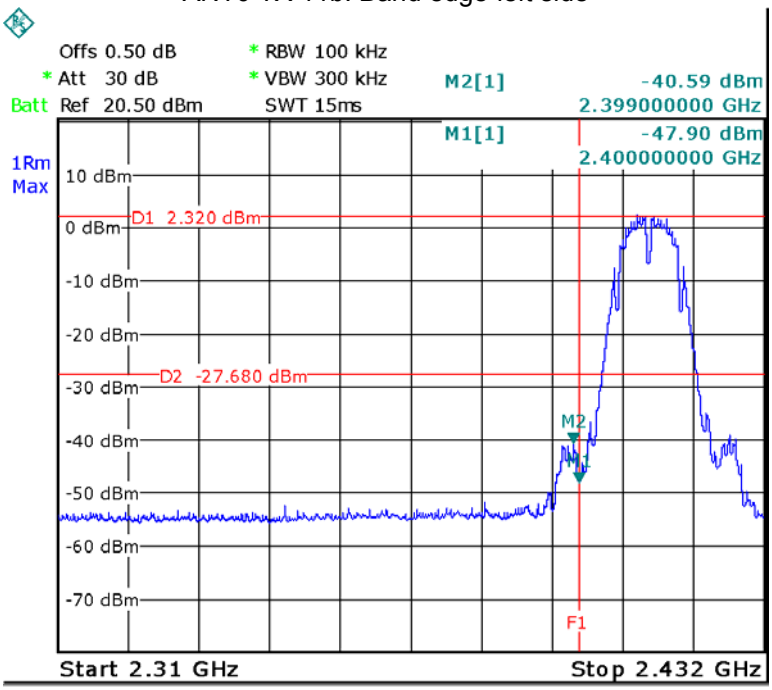
9.1 Test Produce

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.

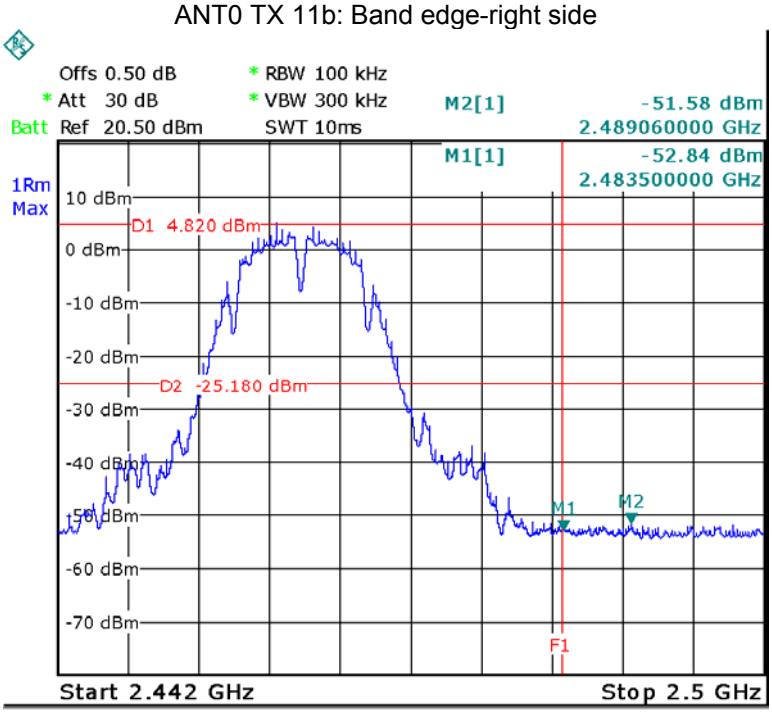
9.2 Test Result

Test result plots shown as follows:

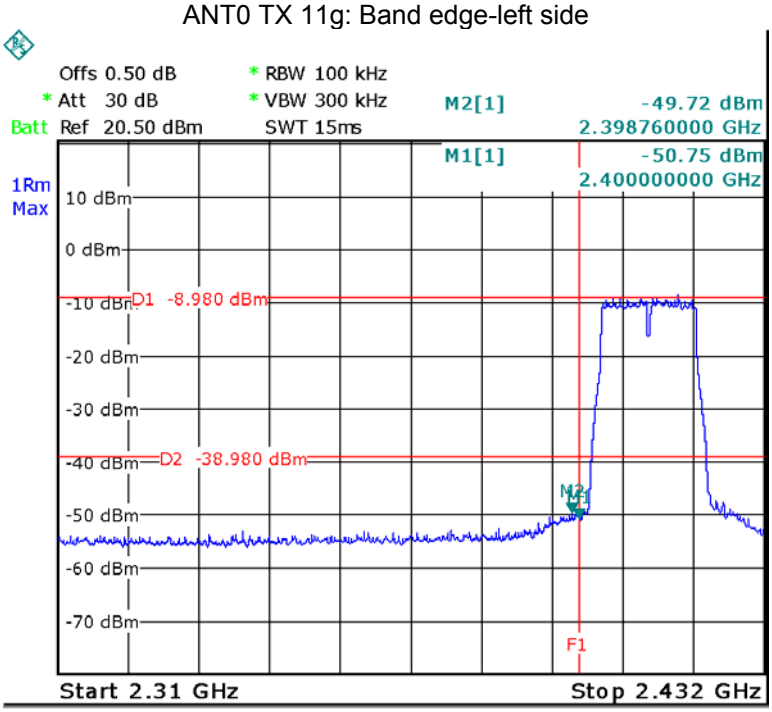
ANT0 TX 11b: Band edge-left side



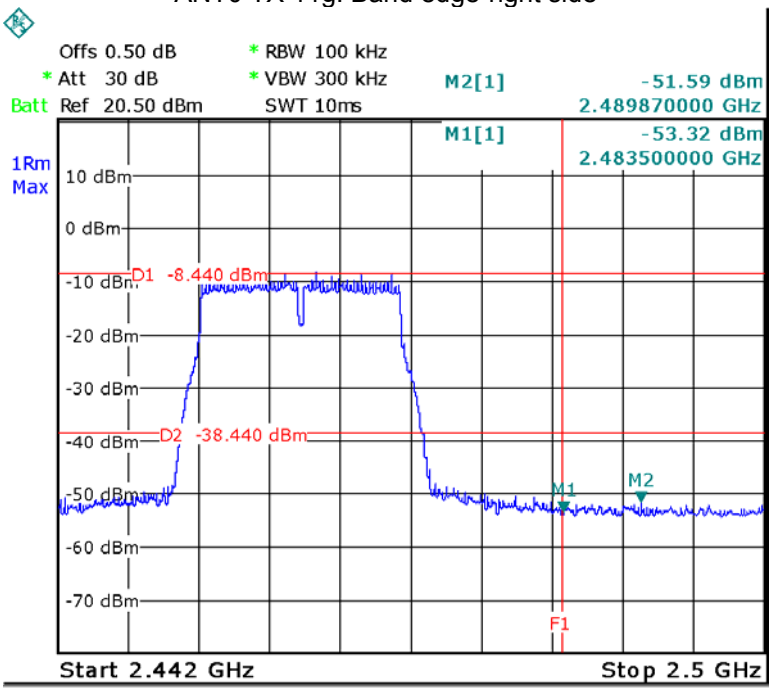
ANT0 TX 11b: Band edge-right side



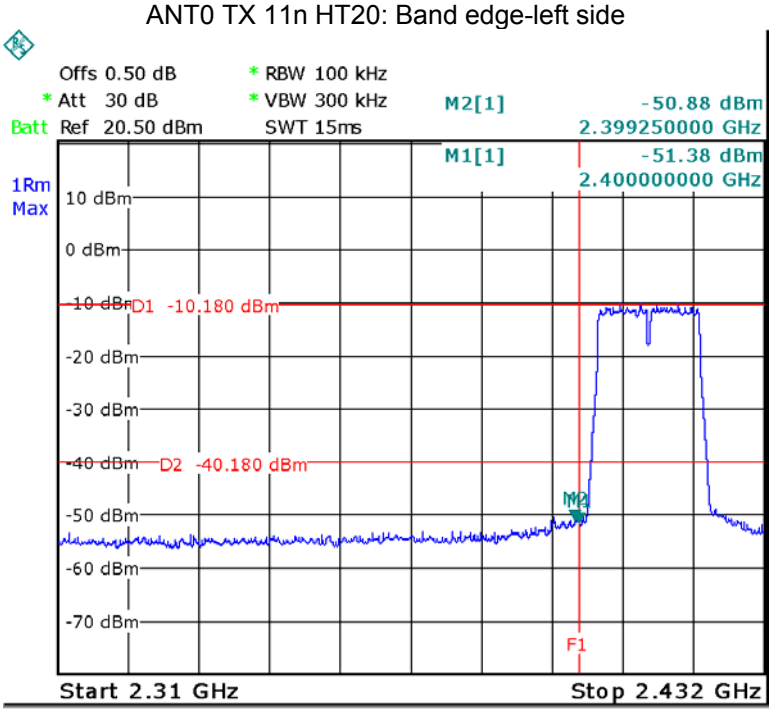
ANT0 TX 11g: Band edge-left side



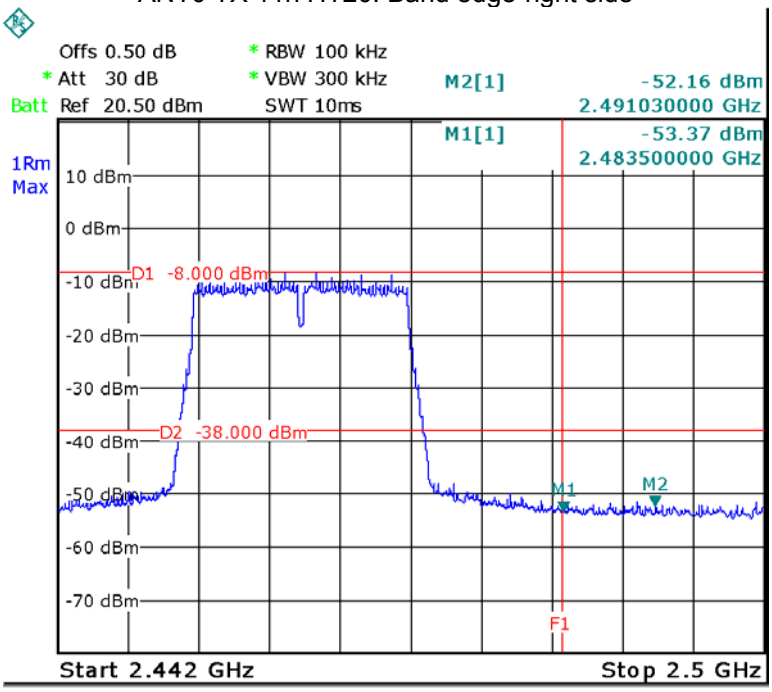
ANT0 TX 11g: Band edge-right side



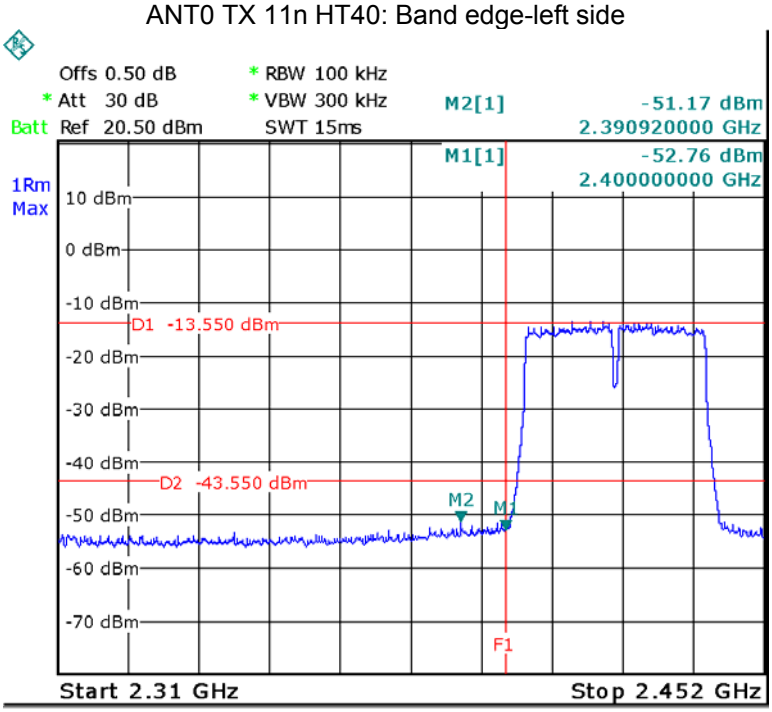
ANT0 TX 11n HT20: Band edge-left side



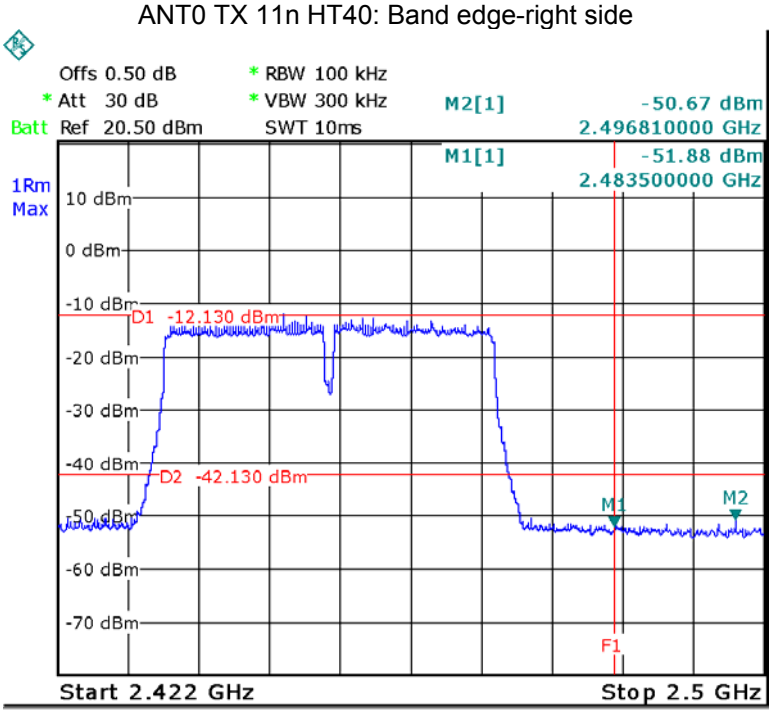
ANT0 TX 11n HT20: Band edge-right side



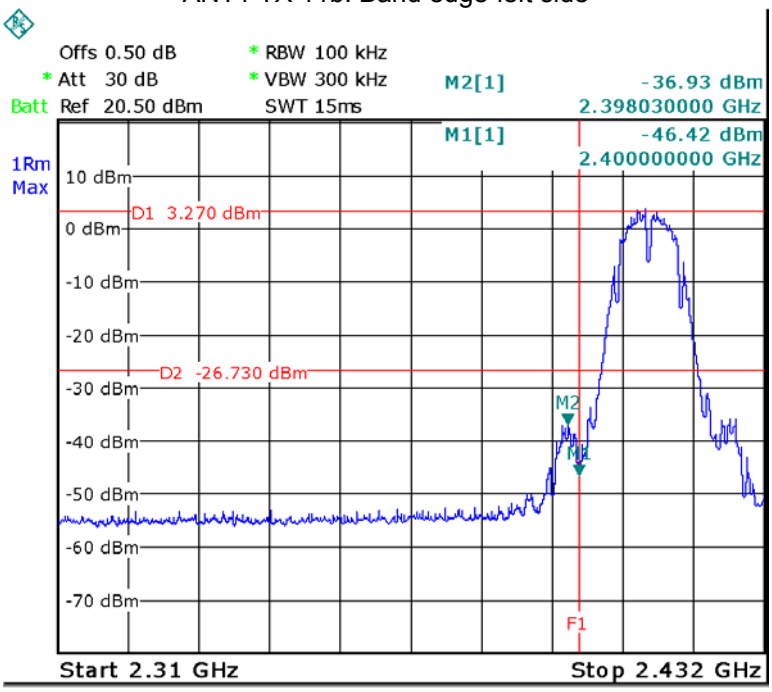
ANT0 TX 11n HT40: Band edge-left side



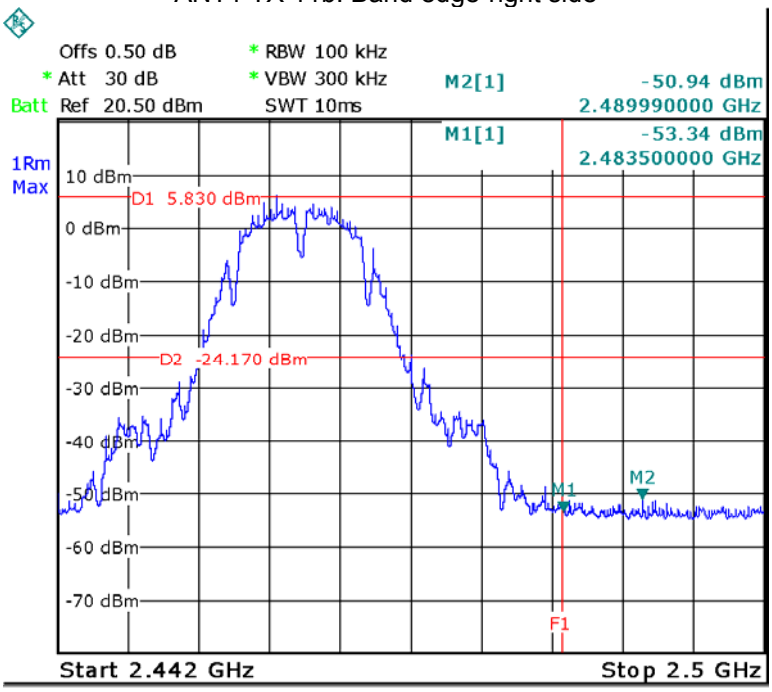
ANT0 TX 11n HT40: Band edge-right side



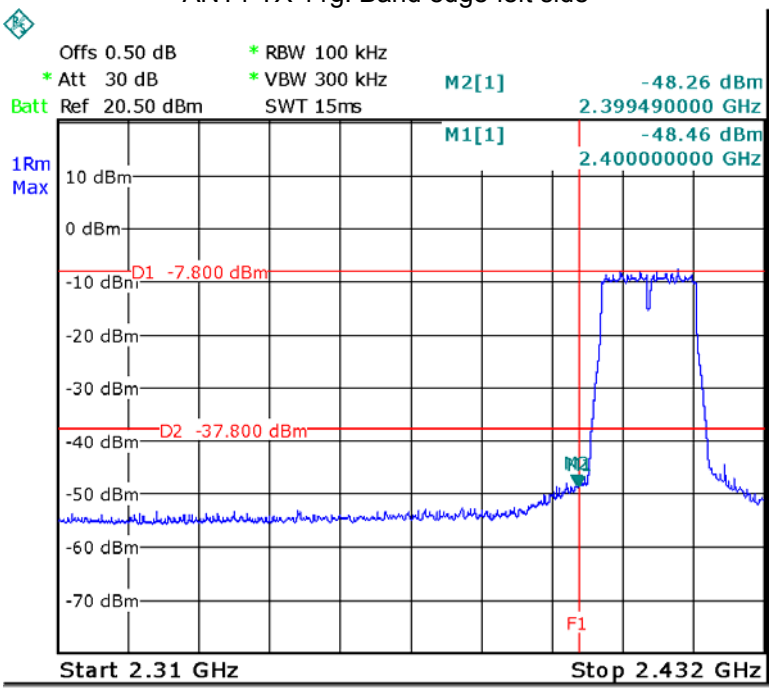
ANT1 TX 11b: Band edge-left side



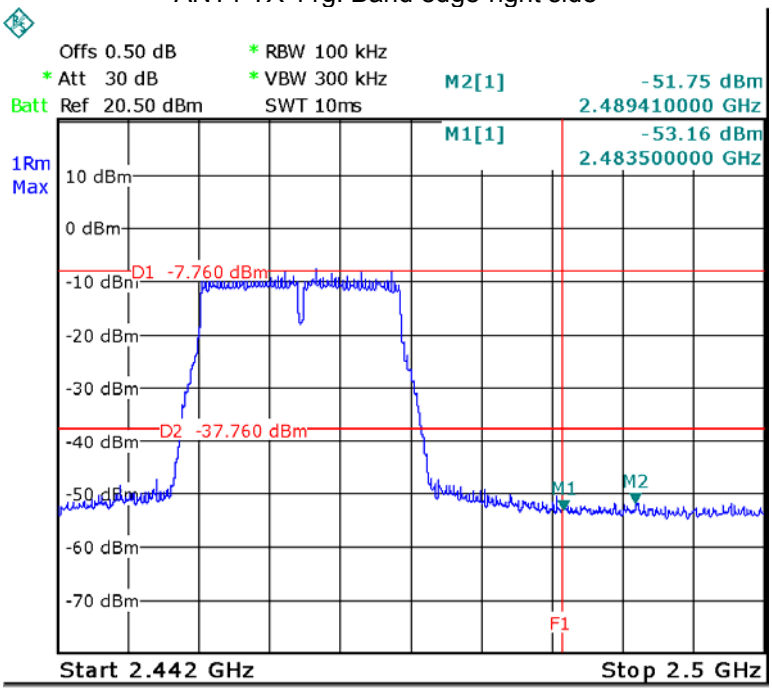
ANT1 TX 11b: Band edge-right side



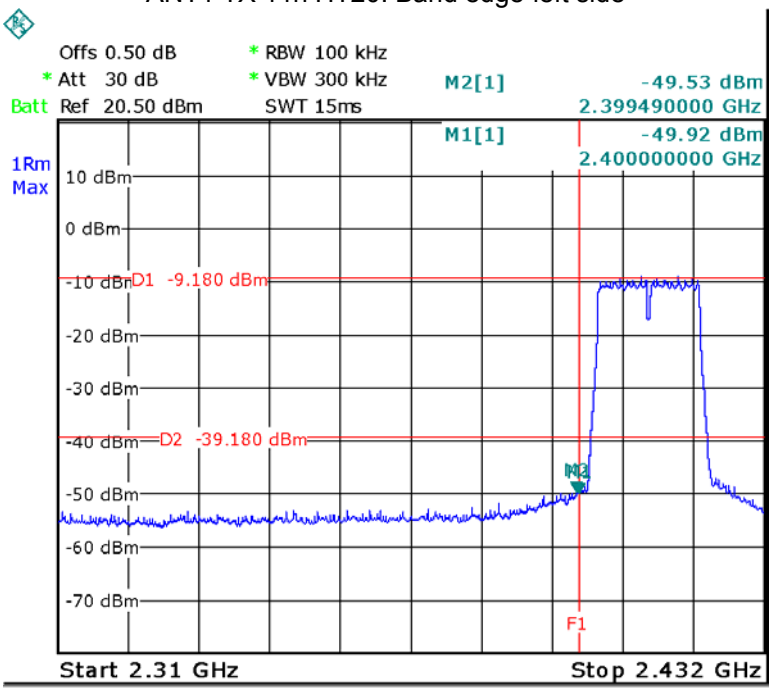
ANT1 TX 11g: Band edge-left side



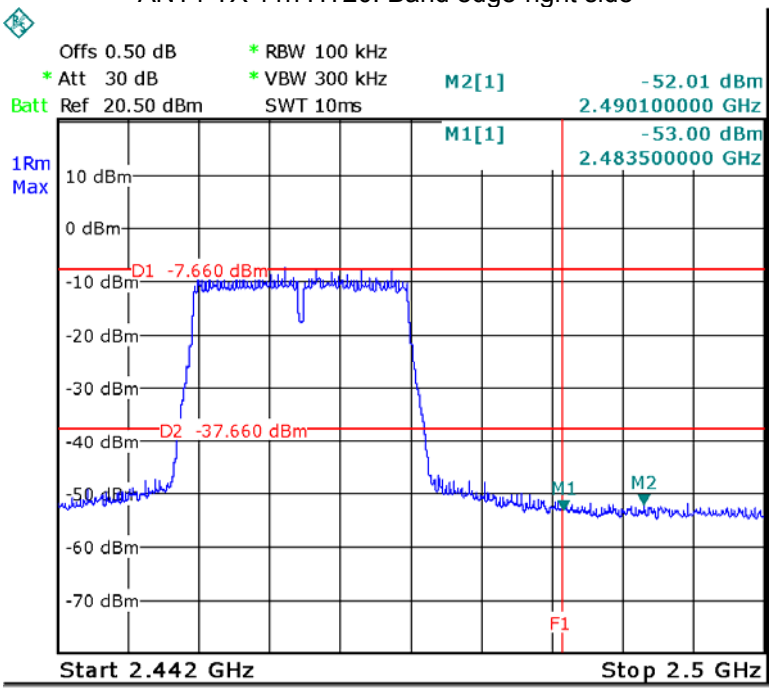
ANT1 TX 11g: Band edge-right side



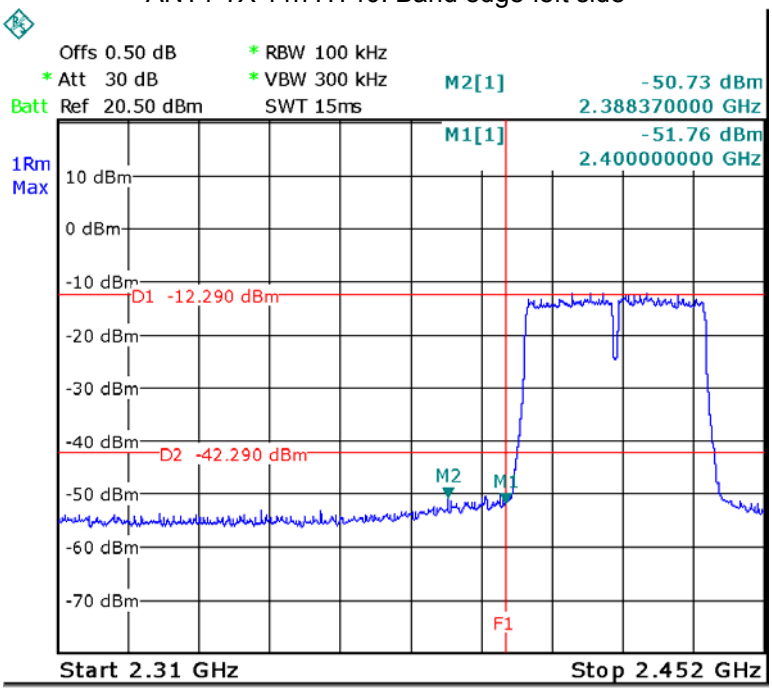
ANT1 TX 11n HT20: Band edge-left side



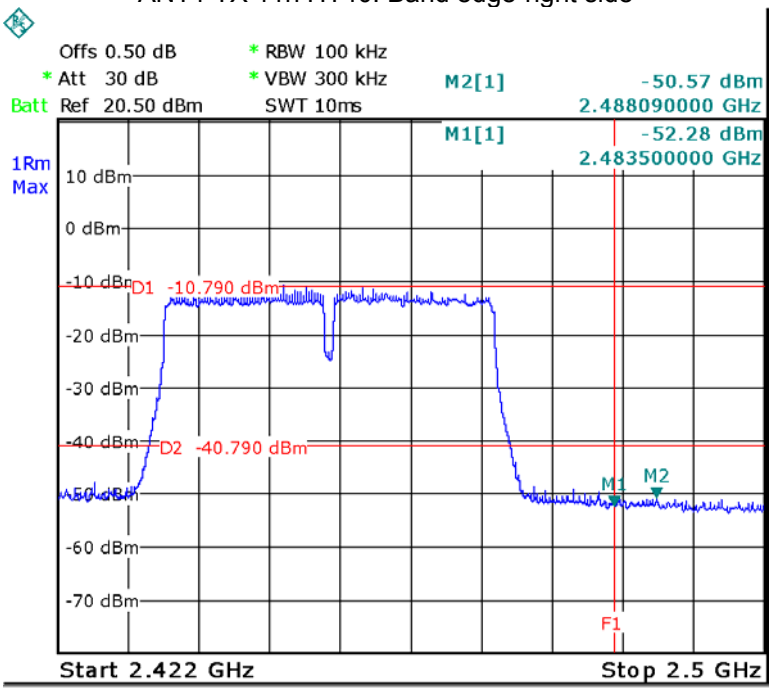
ANT1 TX 11n HT20: Band edge-right side



ANT1 TX 11n HT40: Band edge-left side



ANT1 TX 11n HT40: Band edge-right side



10 Bandwidth Measurement

Test Requirement: FCC CFR47 Part 15 Section 15.247

Test Method: KDB558074 D01 DTS Meas Guidance v03r05

10.1 Test Procedure:

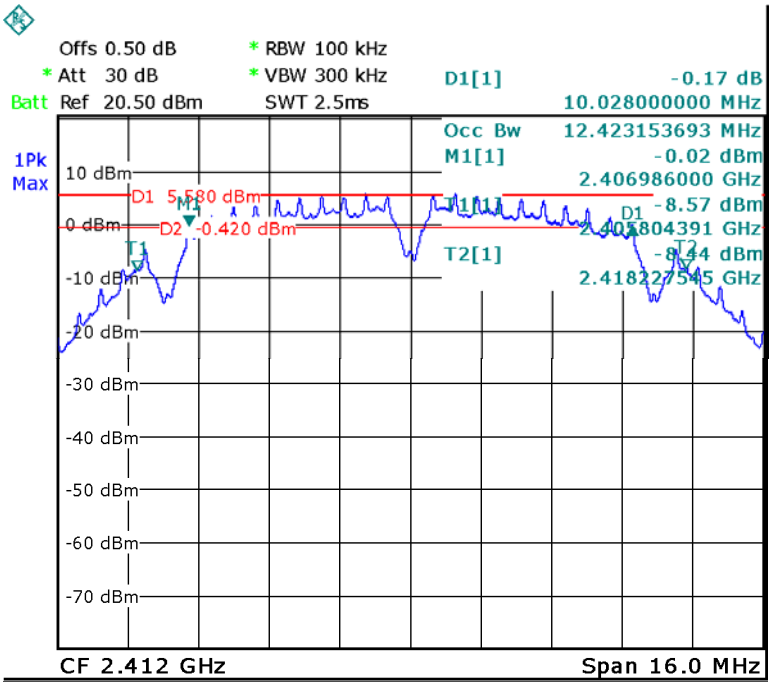
1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum;

2. Set the spectrum analyzer: RBW = 100kHz, VBW = 300kHz

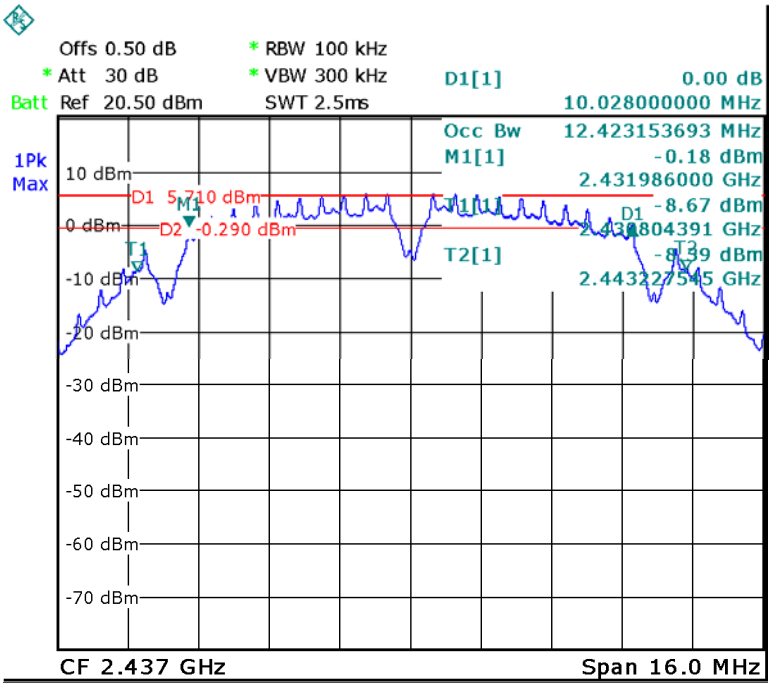
10.2 Test Result:

ANT	Operation mode	6dB Bandwidth (MHz)		
		Low	Middle	High
ANT0	11b	10.028	10.028	10.028
	11g	16.417	16.417	16.417
	11n HT20	17.623	17.623	17.623
	11n HT40	36.230	36.230	36.230
ANT1	11b	10.028	10.028	10.028
	11g	16.417	16.417	16.417
	11n HT20	17.623	17.623	17.623
	11n HT40	36.230	36.230	36.230

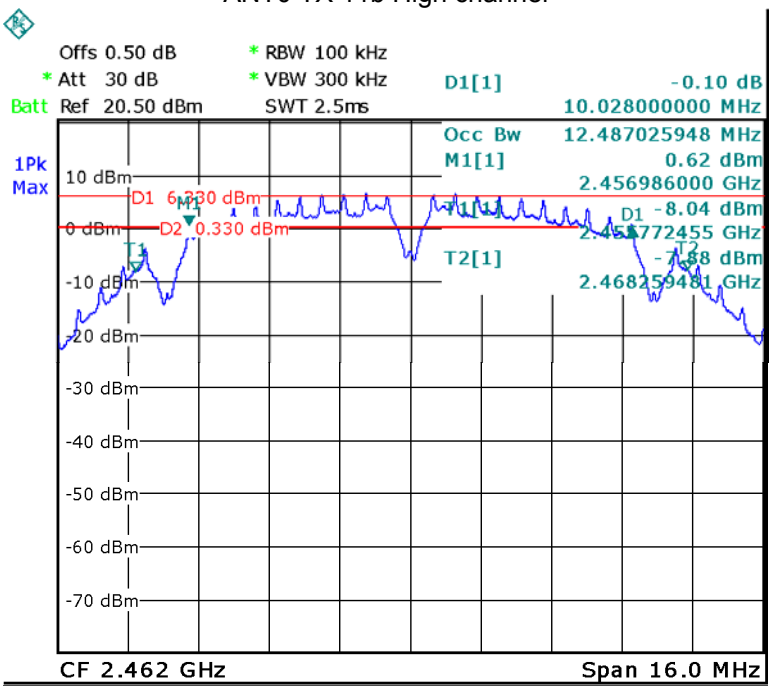
ANT0 TX 11b Low channel



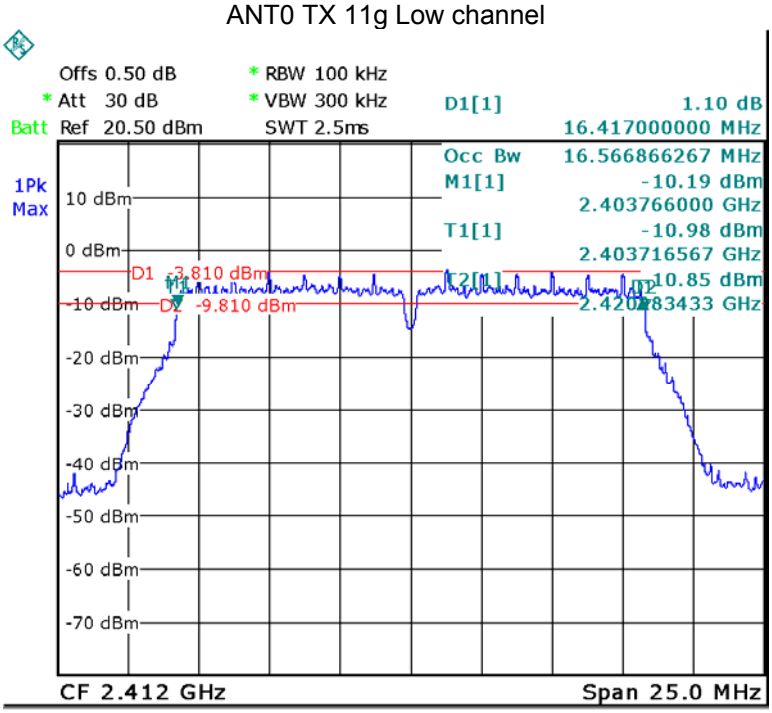
ANT0 TX 11b Middle channel



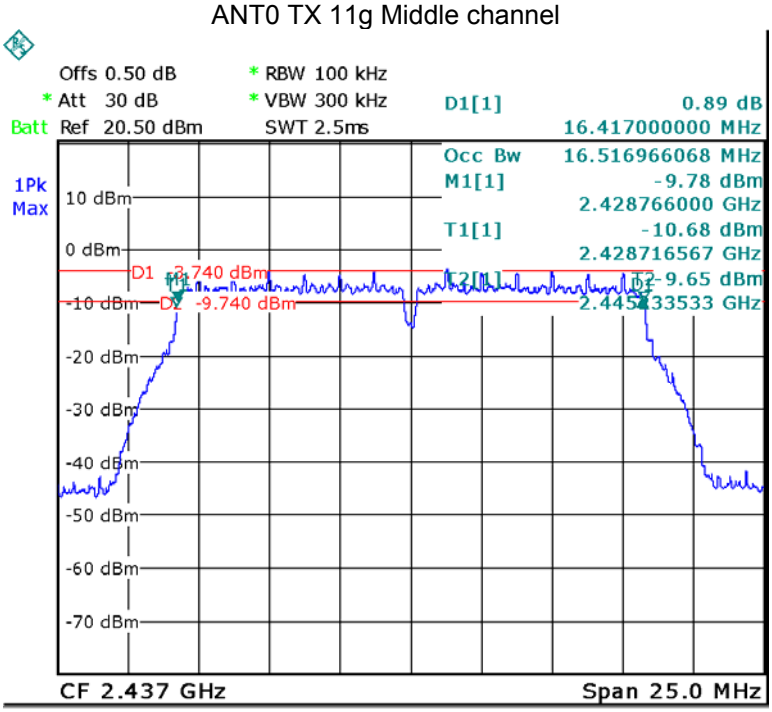
ANT0 TX 11b High channel



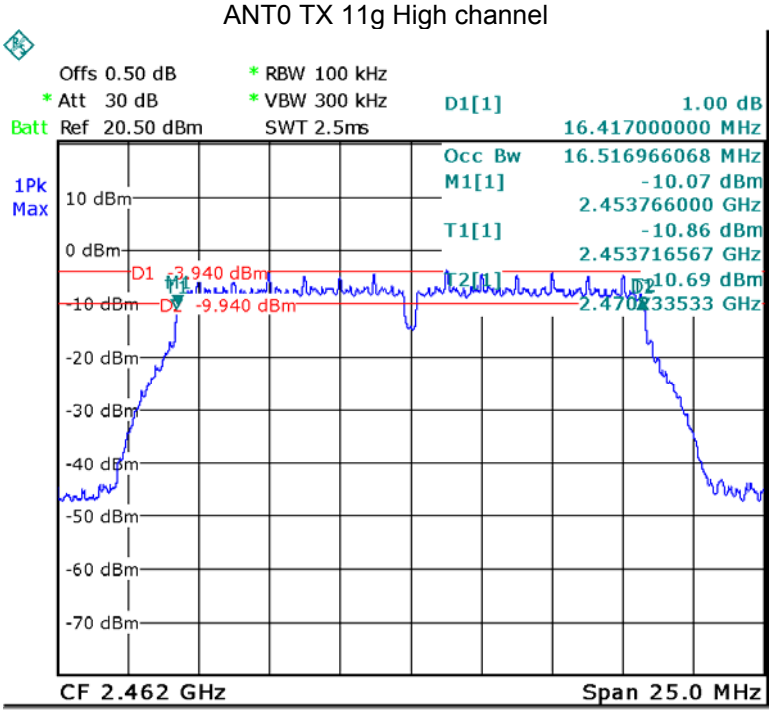
ANT0 TX 11g Low channel



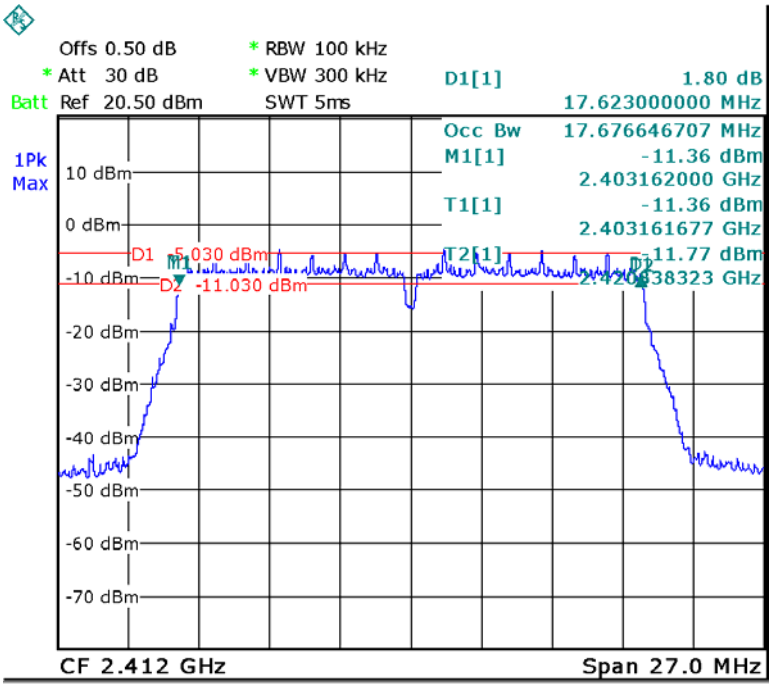
ANT0 TX 11g Middle channel



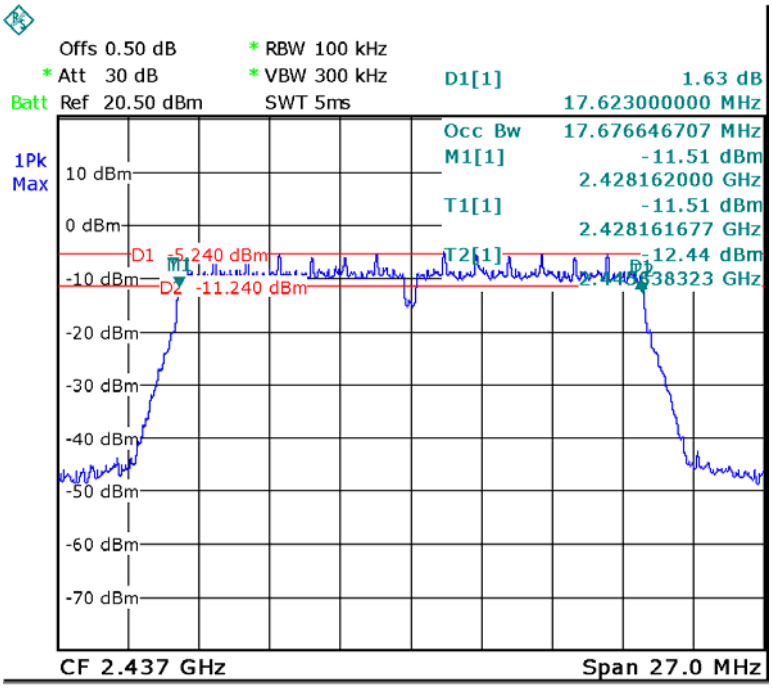
ANT0 TX 11g High channel



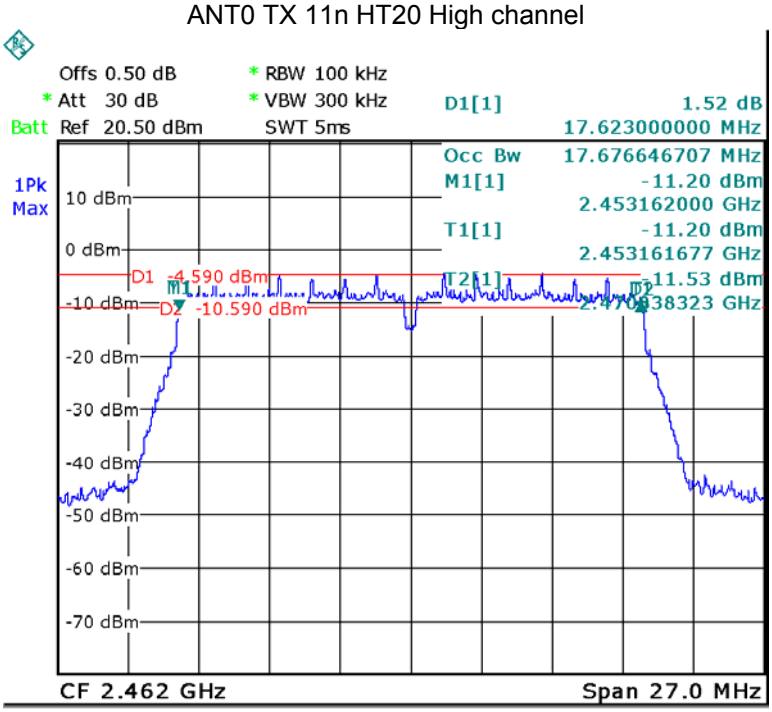
ANT0 TX 11n HT20 Low channel



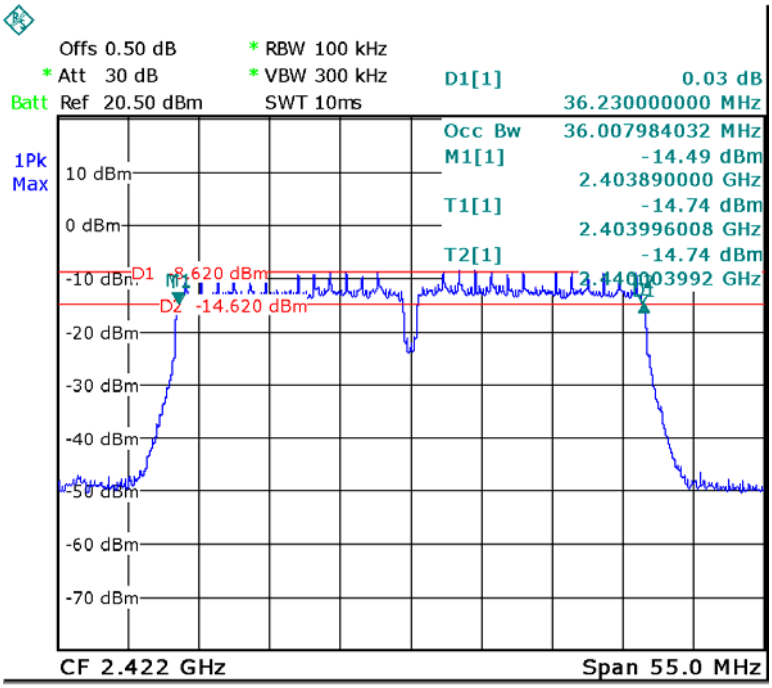
ANT0 TX 11n HT20 Middle channel



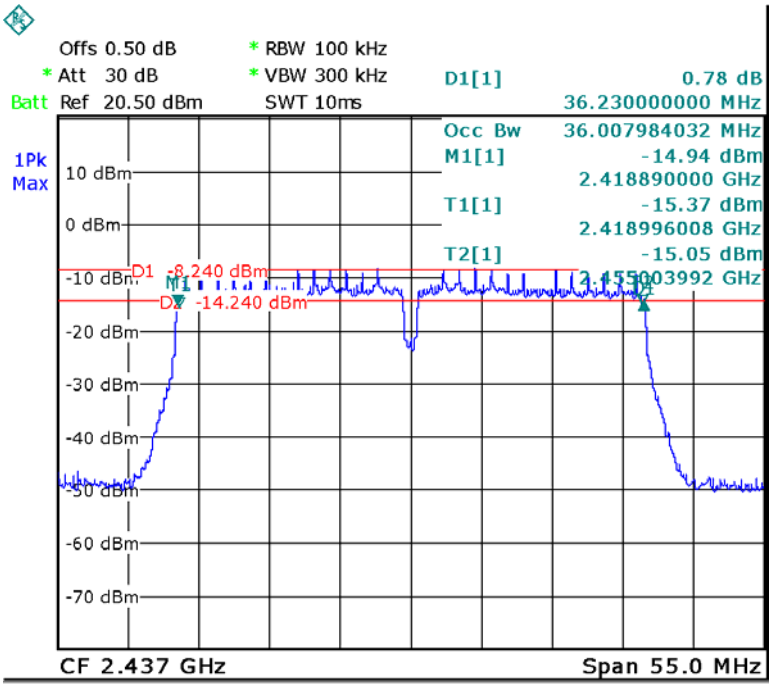
ANT0 TX 11n HT20 High channel



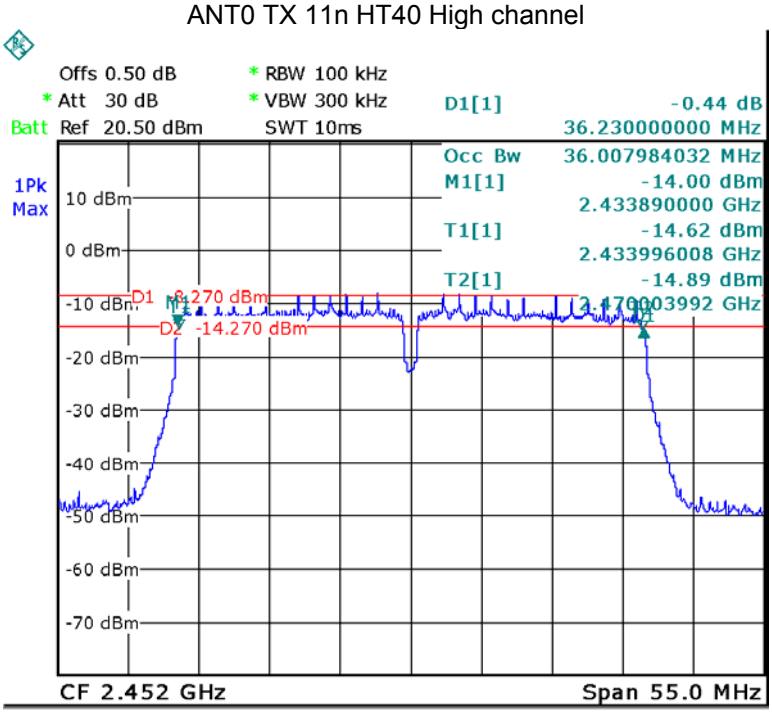
ANT0 TX 11n HT40 Low channel



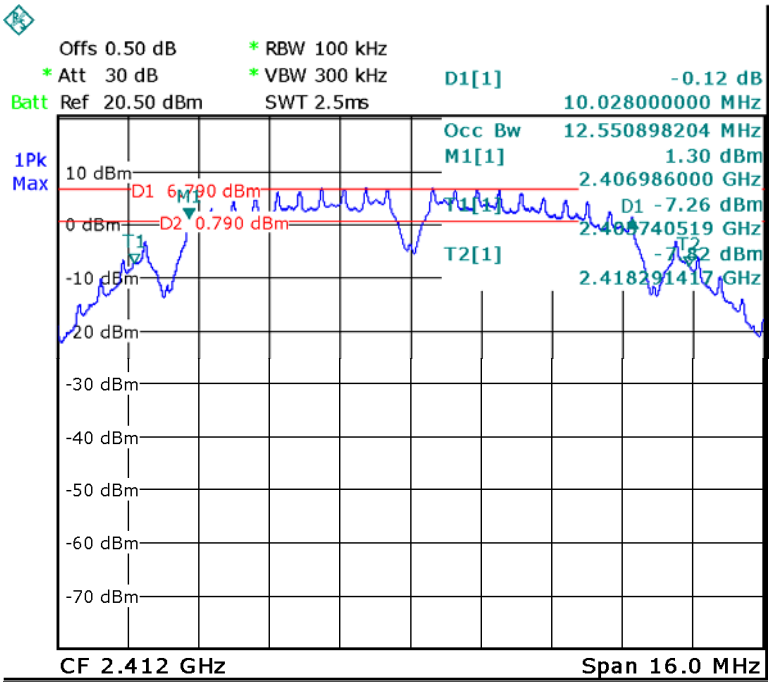
ANT0 TX 11n HT40 Middle channel



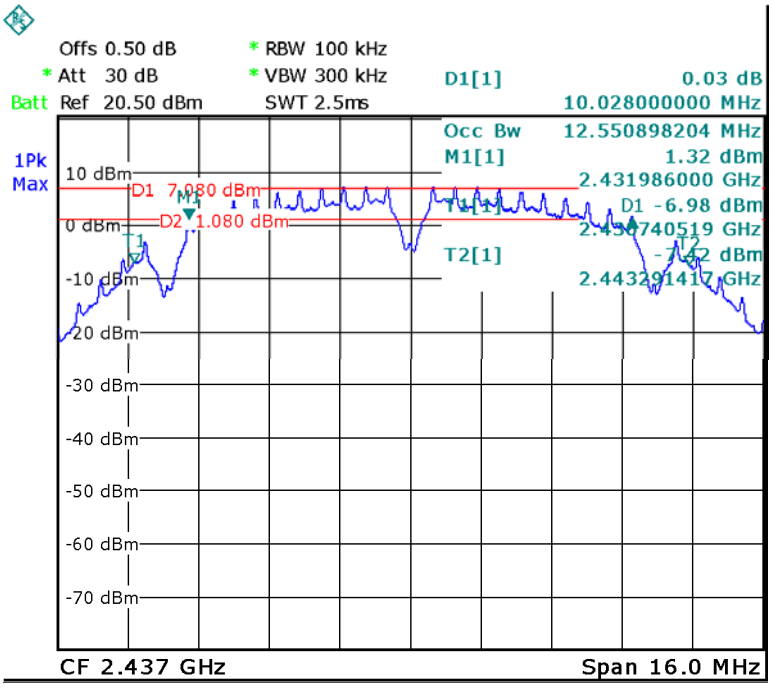
ANT0 TX 11n HT40 High channel



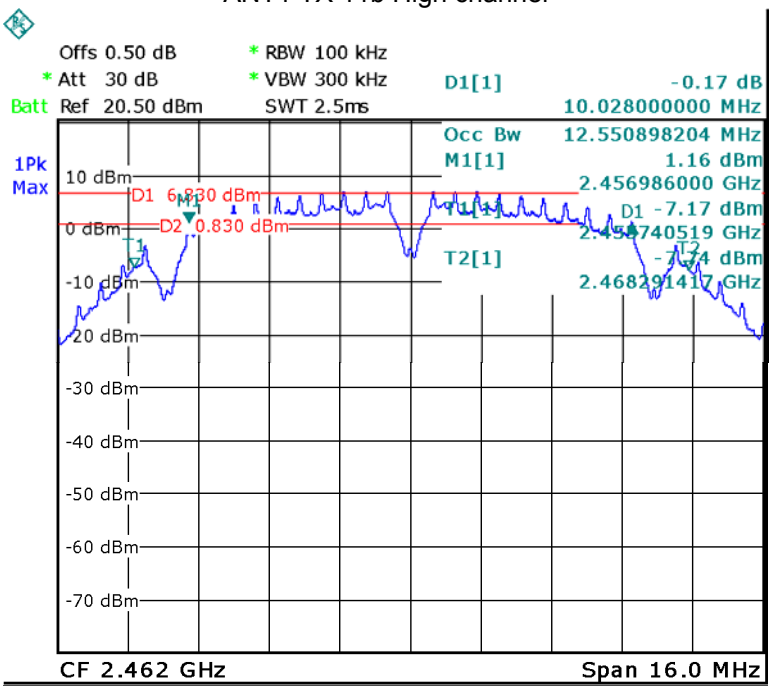
ANT1 TX 11b Low channel



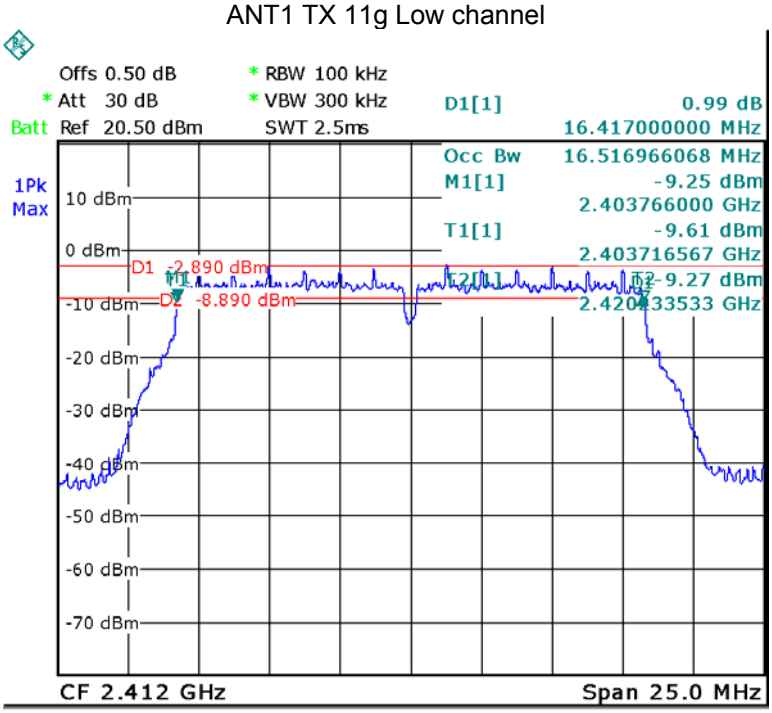
ANT1 TX 11b Middle channel



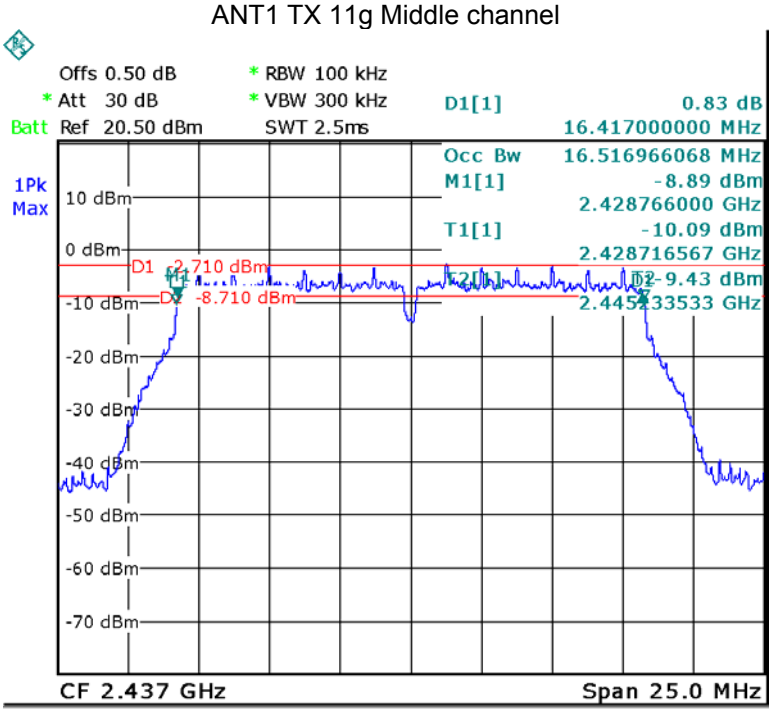
ANT1 TX 11b High channel



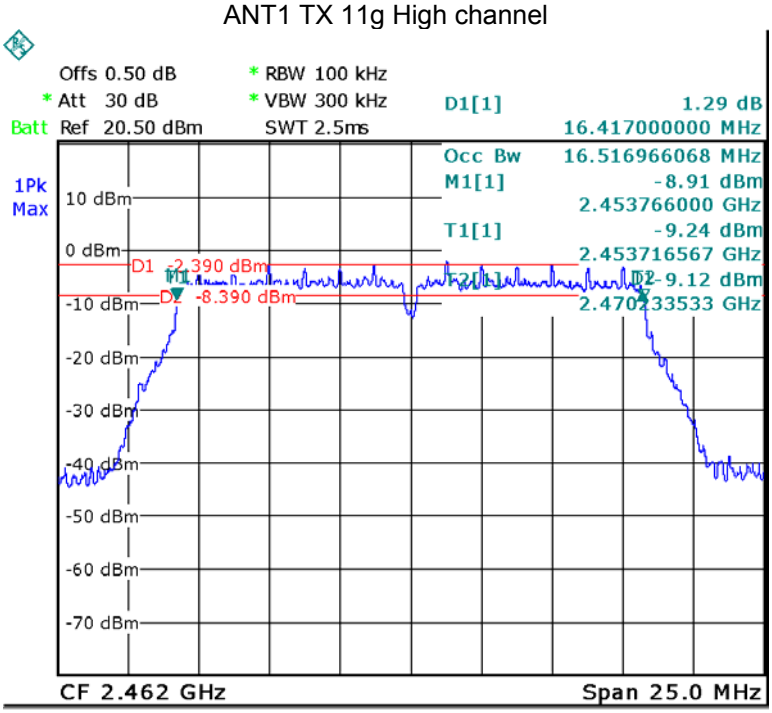
ANT1 TX 11g Low channel



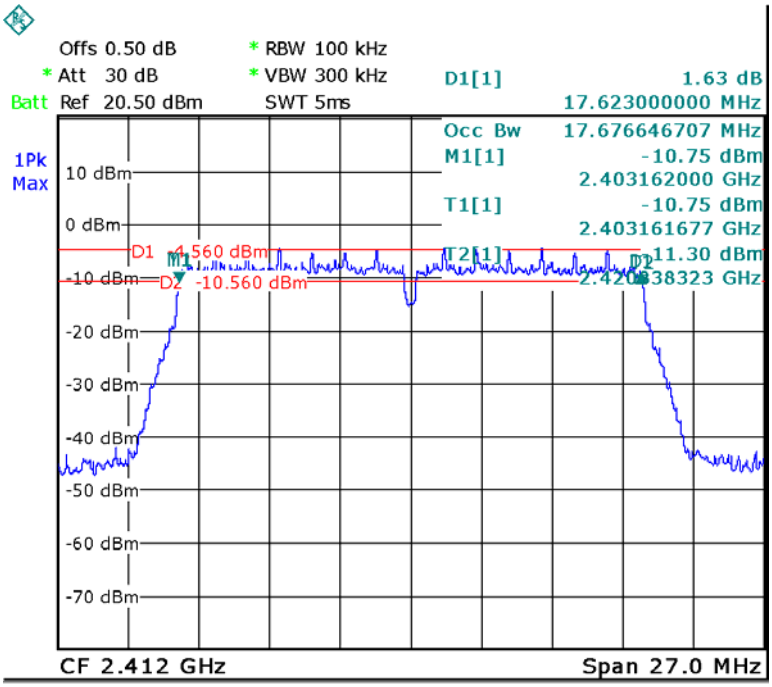
ANT1 TX 11g Middle channel



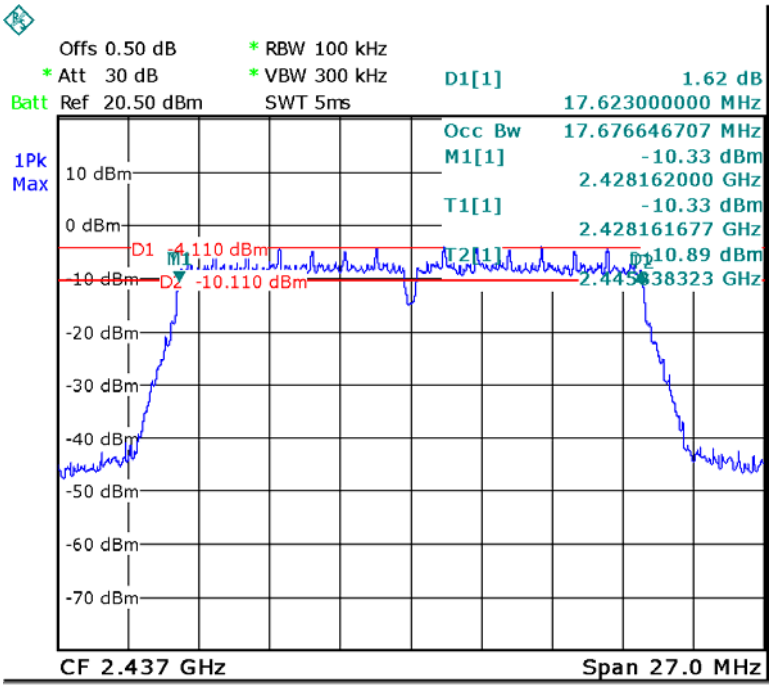
ANT1 TX 11g High channel



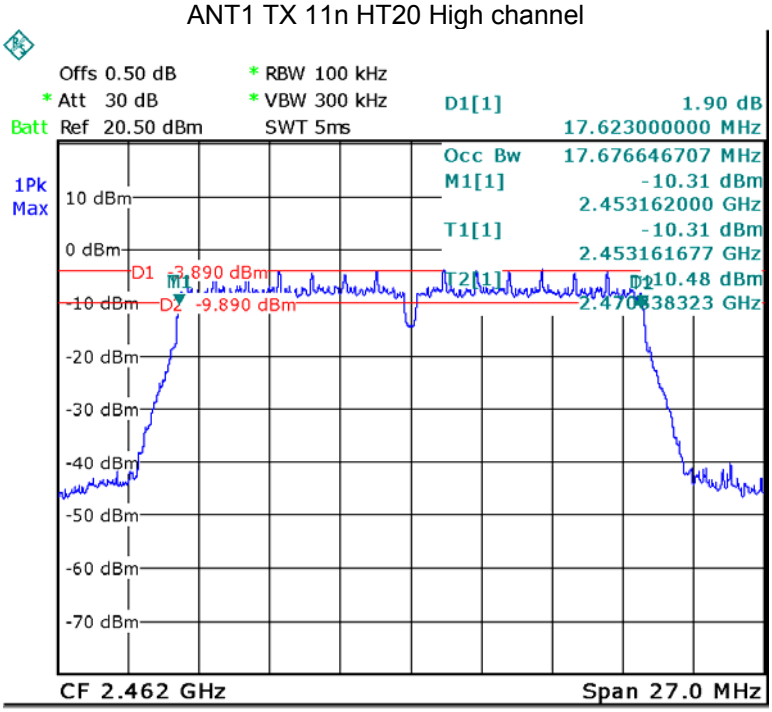
ANT1 TX 11n HT20 Low channel



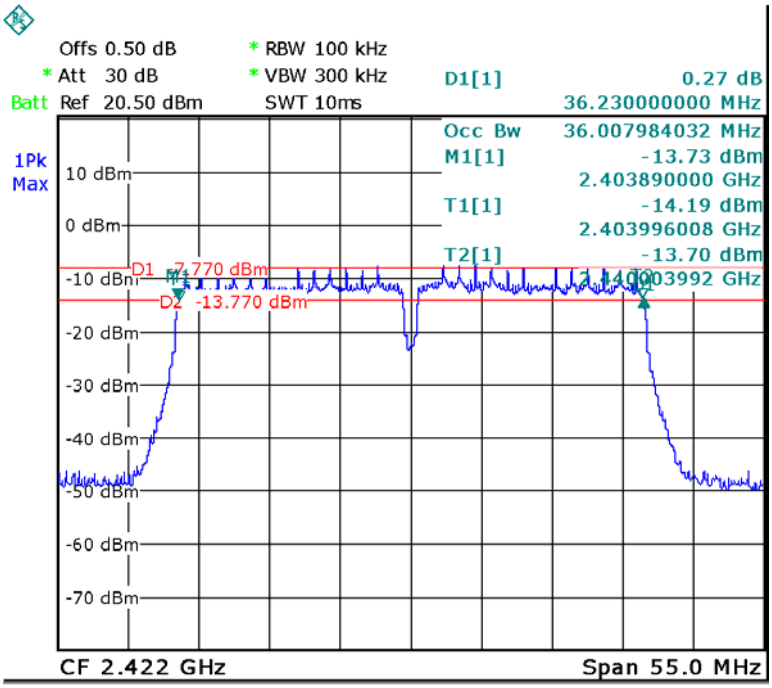
ANT1 TX 11n HT20 Middle channel



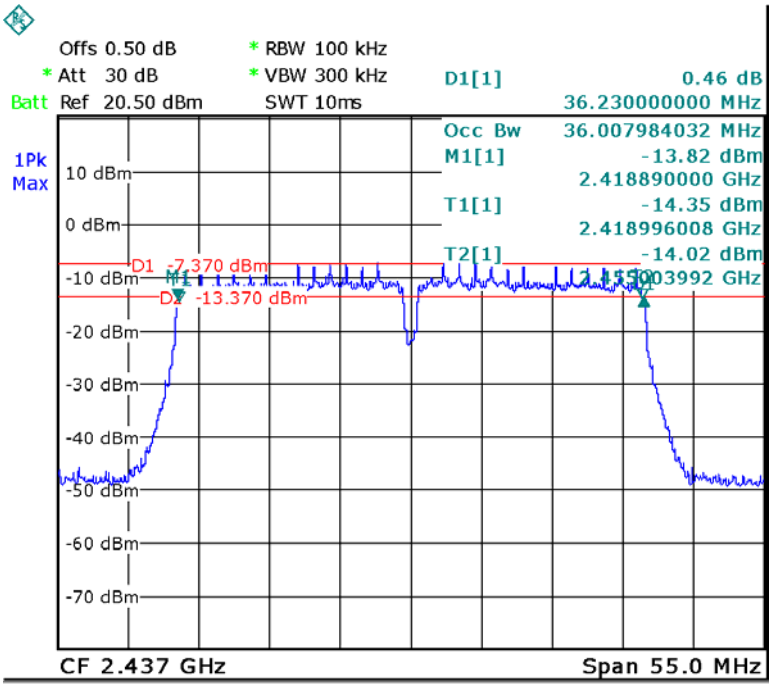
ANT1 TX 11n HT20 High channel



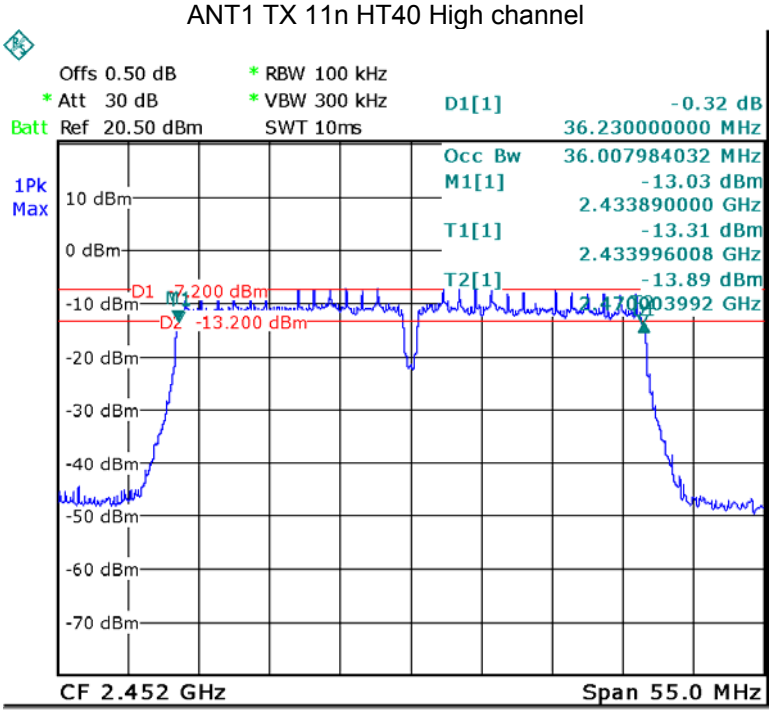
ANT1 TX 11n HT40 Low channel



ANT1 TX 11n HT40 Middle channel



ANT1 TX 11n HT40 High channel



11 Maximum Peak Output Power

Test Requirement: FCC CFR47 Part 15 Section 15.247

Test Method: KDB558074 D01 DTS Meas Guidance v03r05

11.1 Test Procedure:

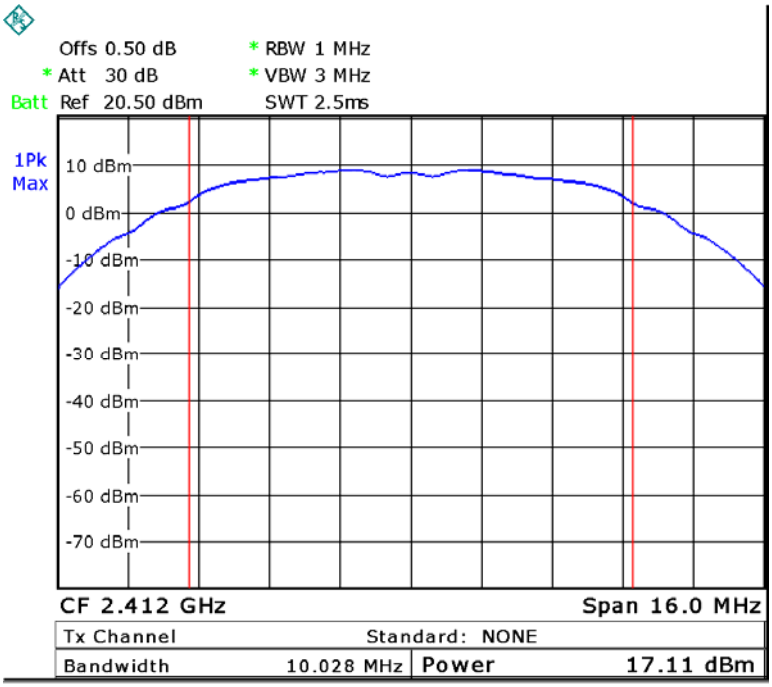
KDB558074 D01 DTS Meas Guidance v03r05 section 9.1.2

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 = 1 MHz. VBW = 3 MHz. Sweep = auto; Detector Function = Peak, Set the span to fully encompass the DTS bandwidth.
3. Keep the EUT in transmitting at lowest, medium and highest channel individually. Record the max value.

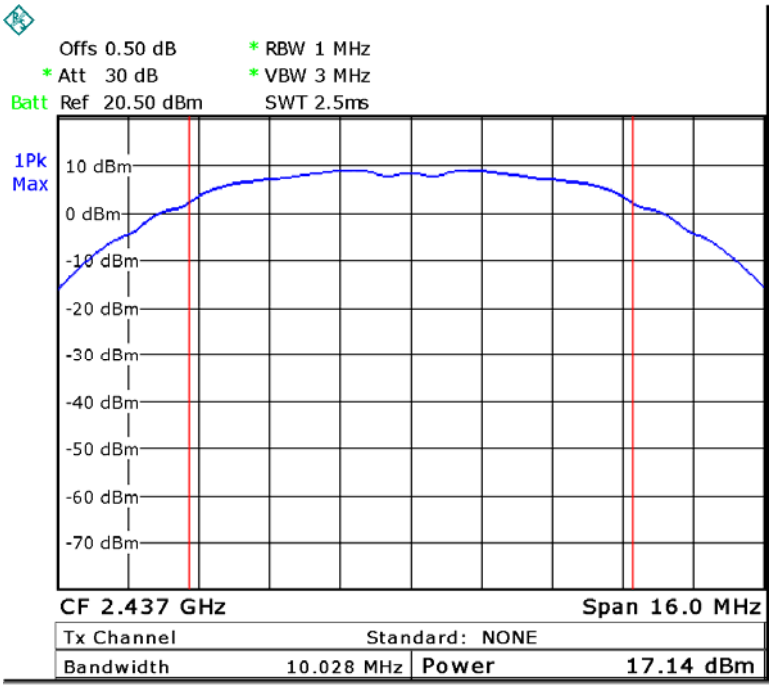
11.2 Test Result:

Operation mode	ANT	Maximum Peak Output Power (dBm)		
		Low	Middle	High
11b	ANT0	17.11	17.14	17.57
	ANT1	18.43	18.37	18.35
11g	ANT0	15.26	15.36	15.17
	ANT1	16.07	16.46	16.67
11n HT20	ANT0	14.48	14.38	14.63
	ANT1	15.45	15.63	15.47
	ANT0+ANT1	18.00	18.06	18.08
11n HT40	ANT0	14.31	14.11	14.55
	ANT1	15.15	15.14	15.34
	ANT0+ANT1	17.76	17.67	17.97
Limit				
1W/30dBm				

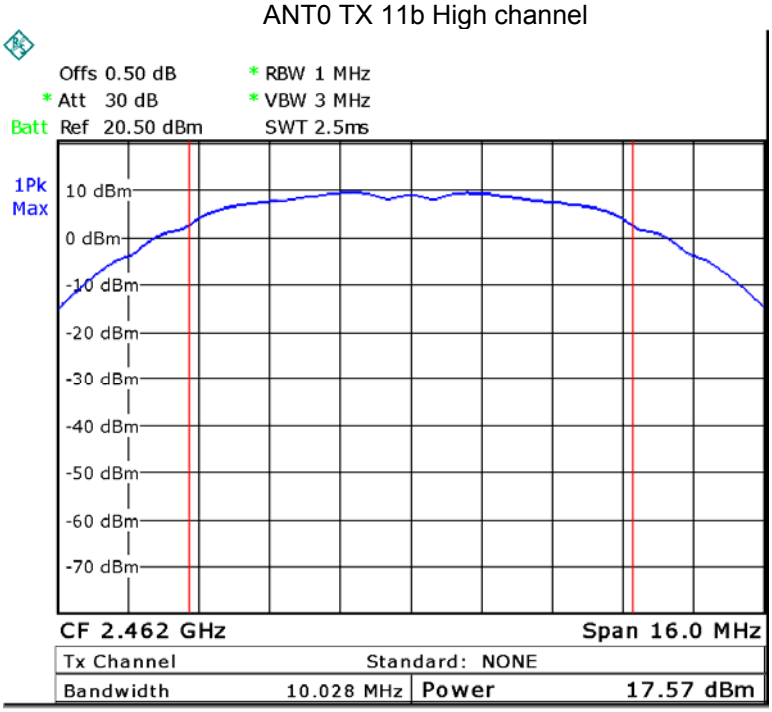
ANT0 TX 11b Low channel



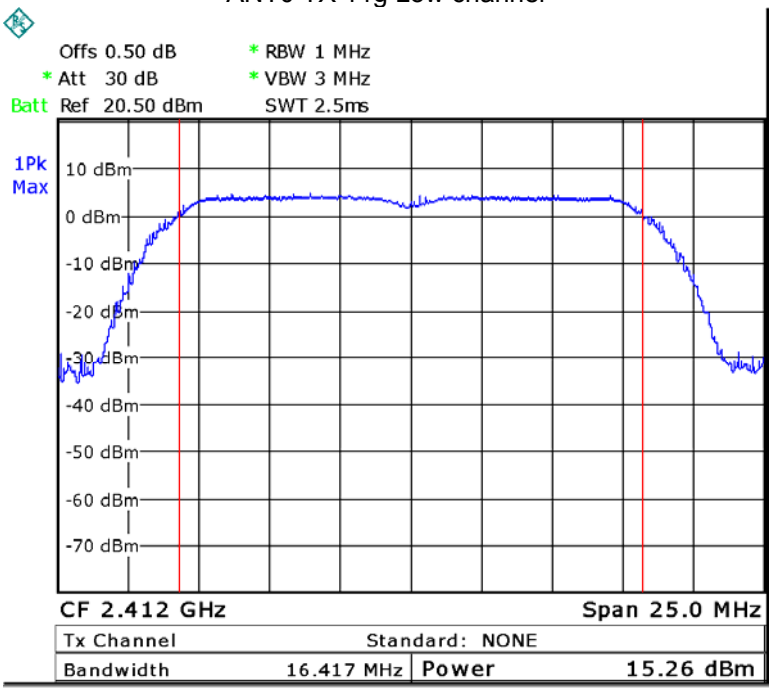
ANT0 TX 11b Middle channel



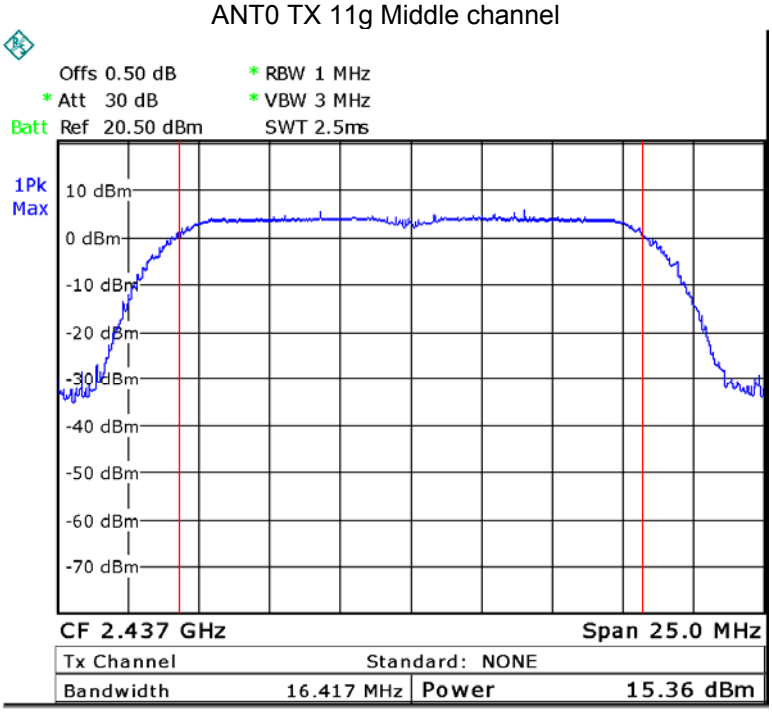
ANT0 TX 11b High channel



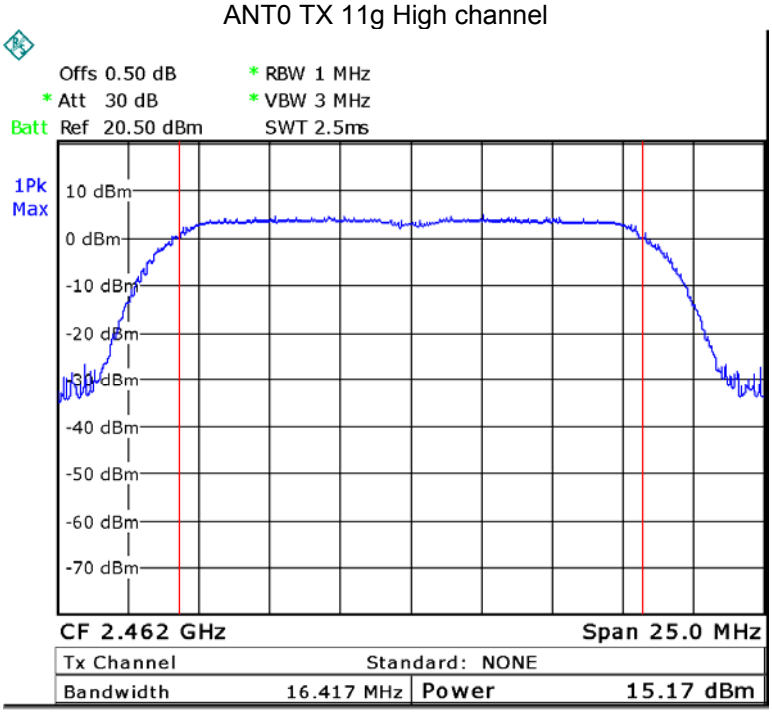
ANT0 TX 11g Low channel



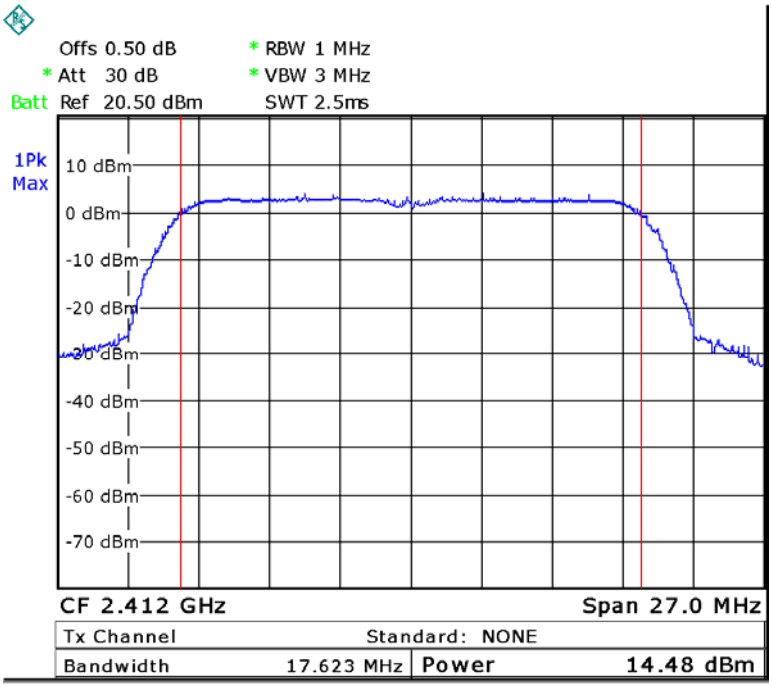
ANT0 TX 11g Middle channel



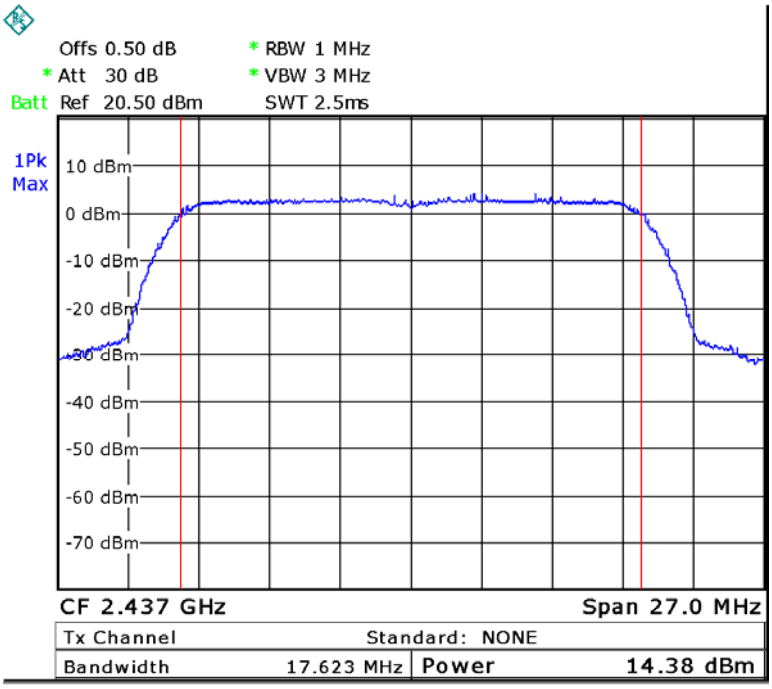
ANT0 TX 11g High channel



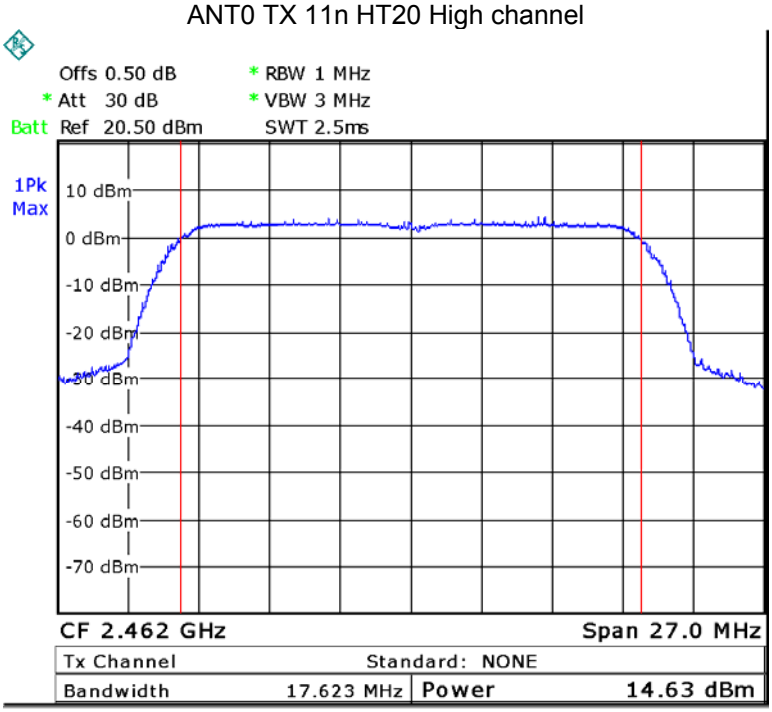
ANT0 TX 11n HT20 Low channel



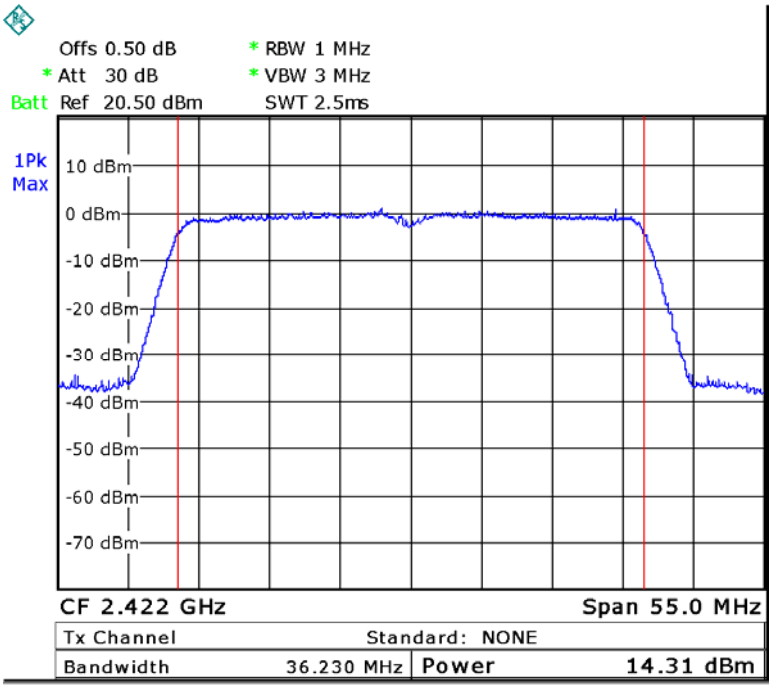
ANT0 TX 11n HT20 Middle channel



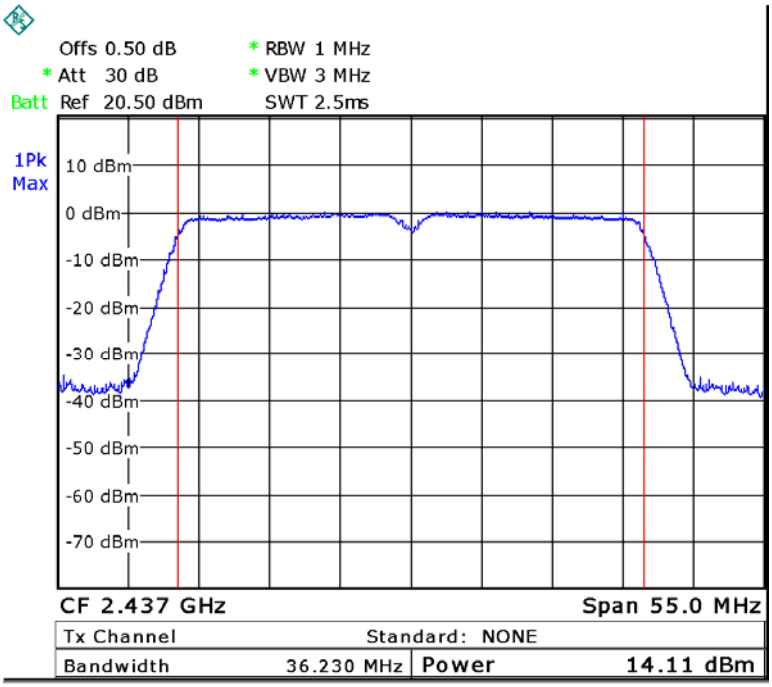
ANT0 TX 11n HT20 High channel



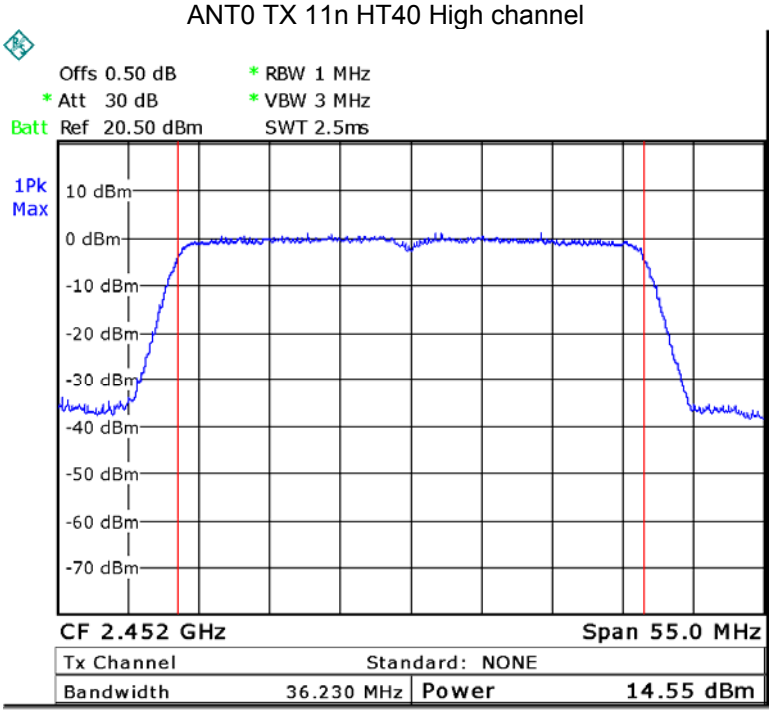
ANT0 TX 11n HT40 Low channel



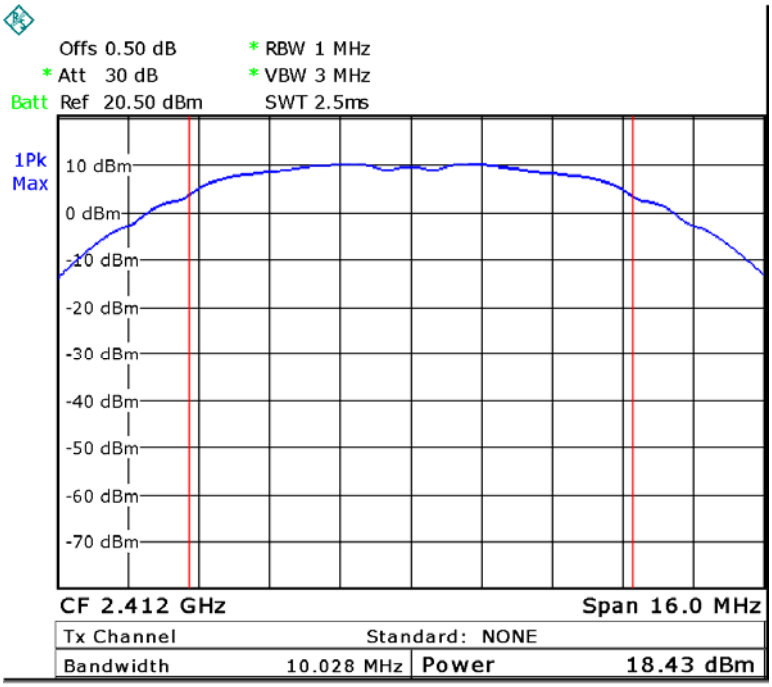
ANT0 TX 11n HT40 Middle channel



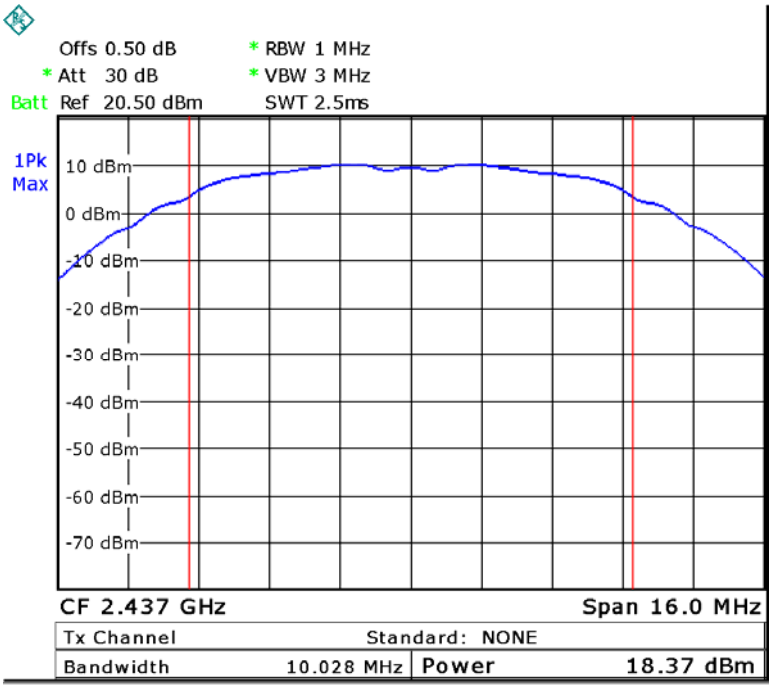
ANT0 TX 11n HT40 High channel



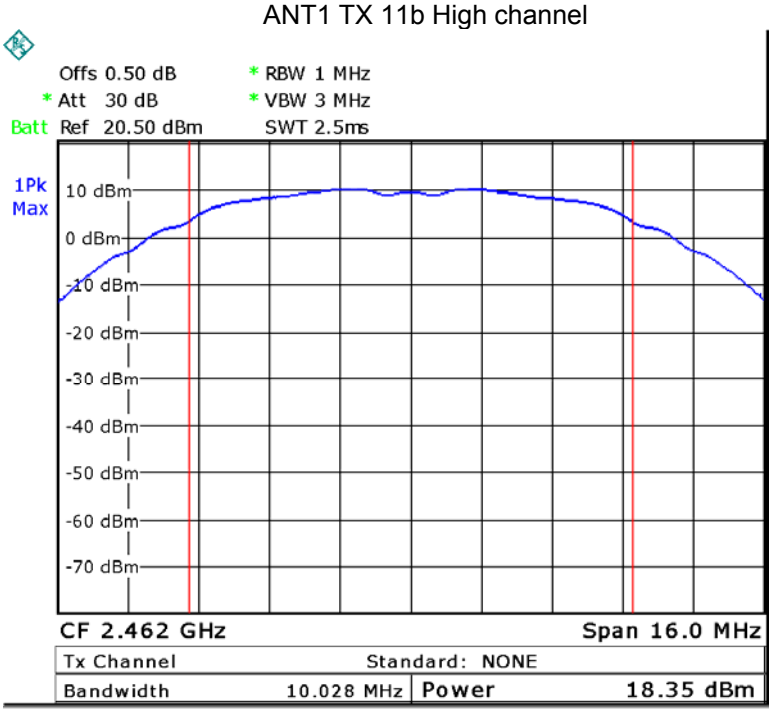
ANT1 TX 11b Low channel



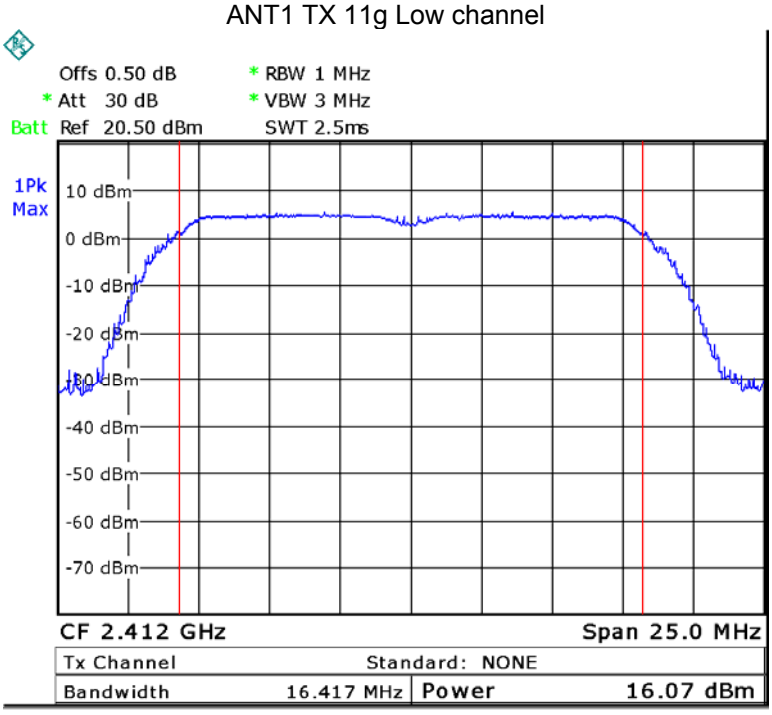
ANT1 TX 11b Middle channel



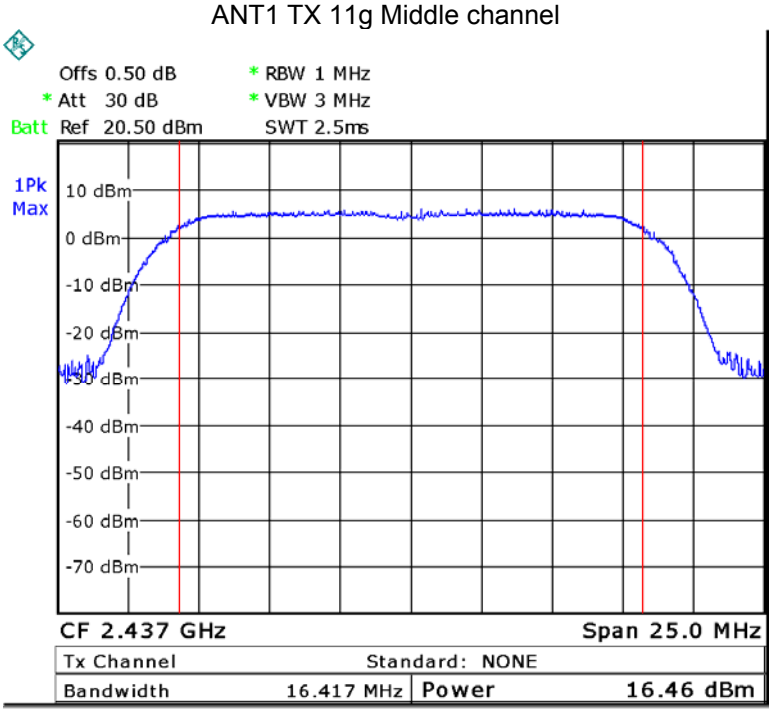
ANT1 TX 11b High channel



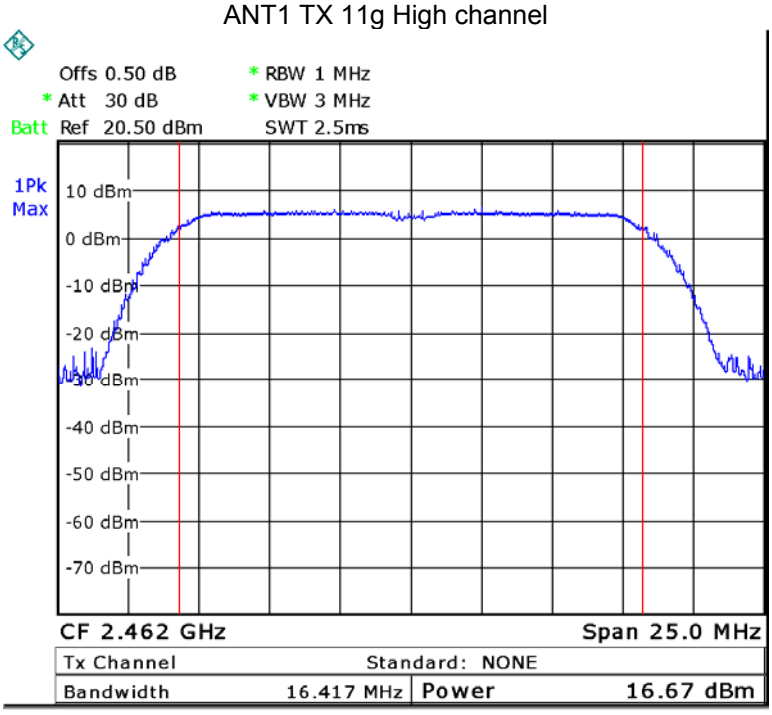
ANT1 TX 11g Low channel



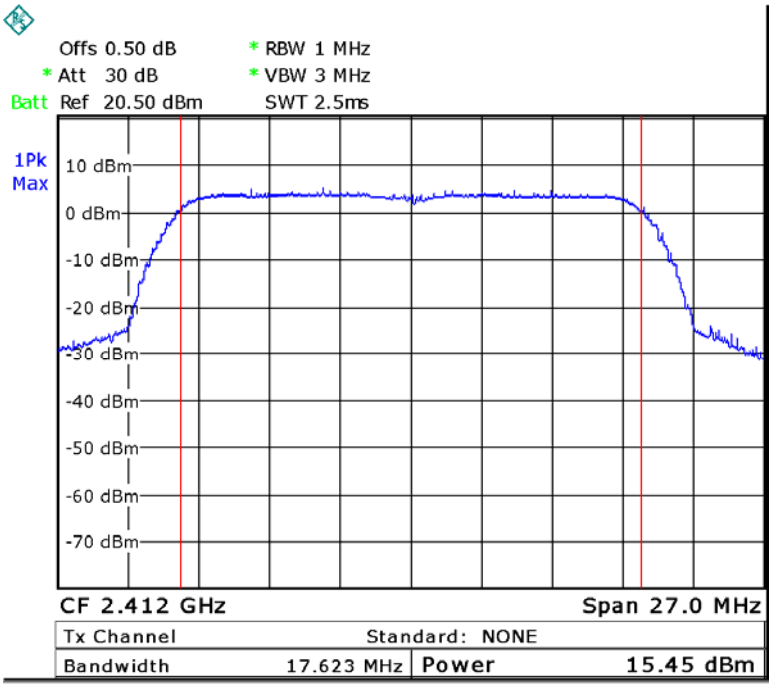
ANT1 TX 11g Middle channel



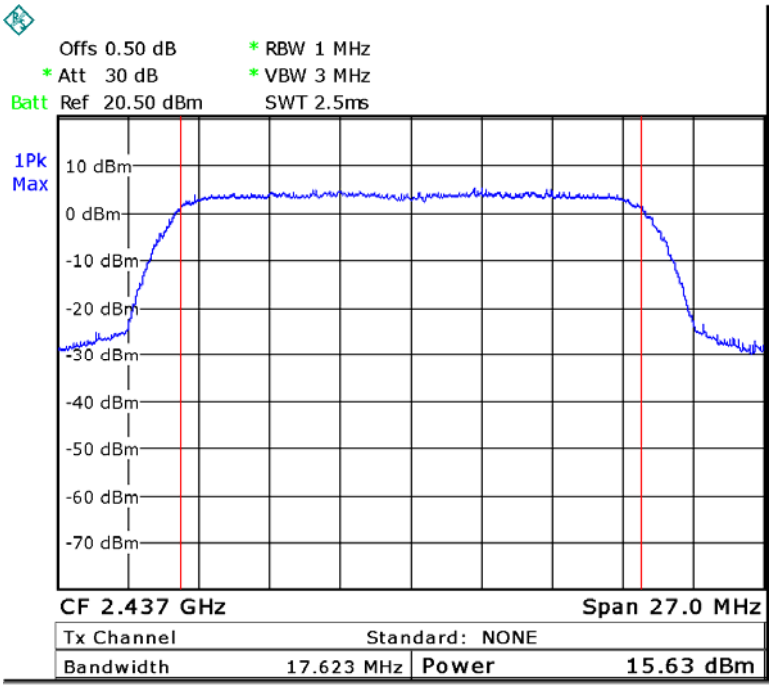
ANT1 TX 11g High channel



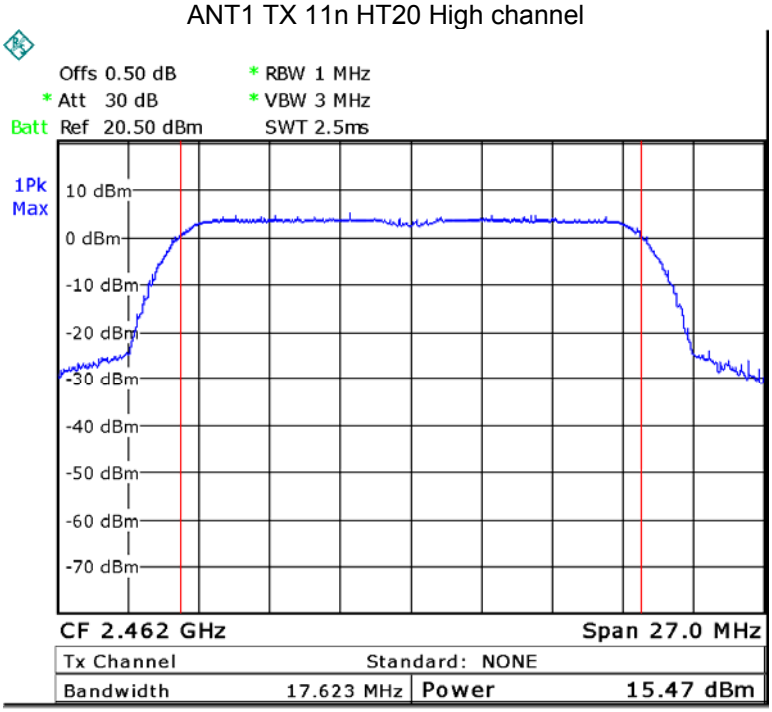
ANT1 TX 11n HT20 Low channel



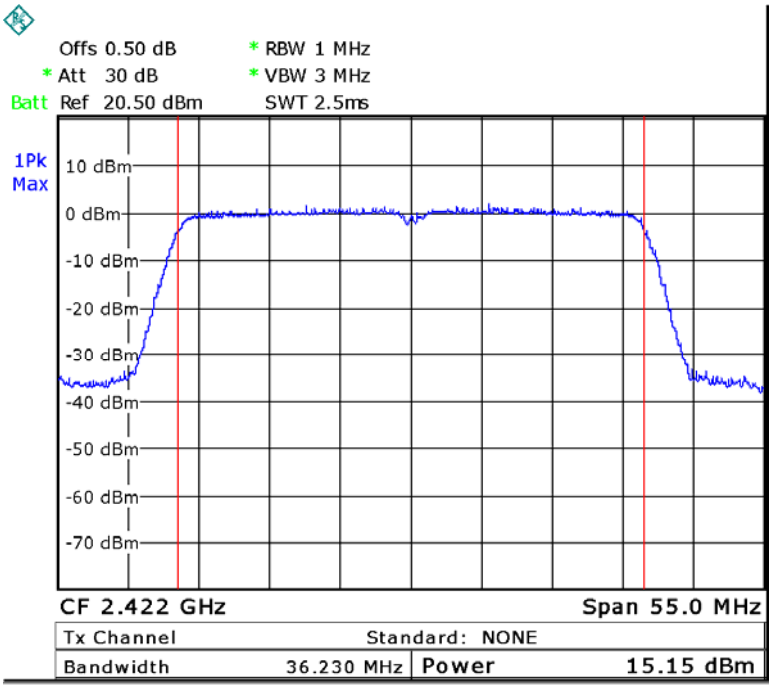
ANT1 TX 11n HT20 Middle channel



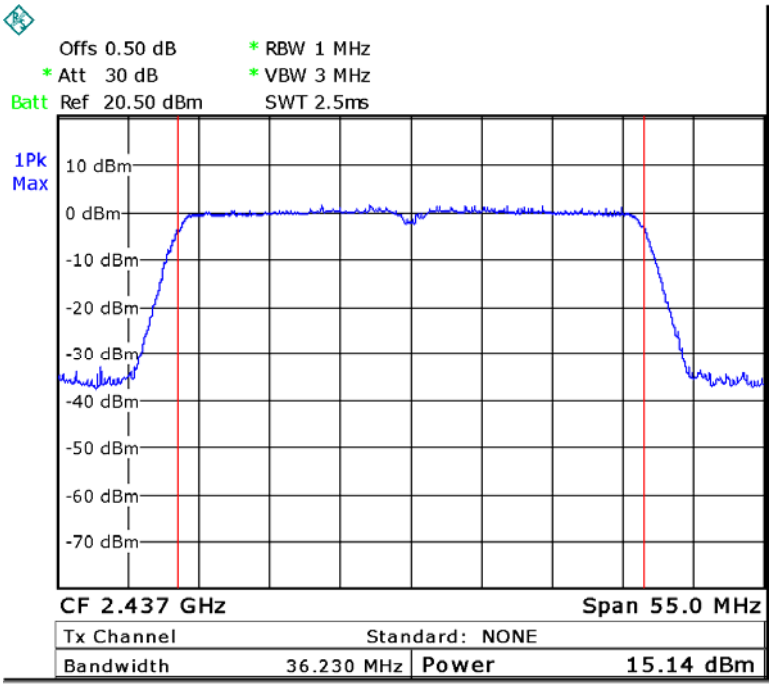
ANT1 TX 11n HT20 High channel



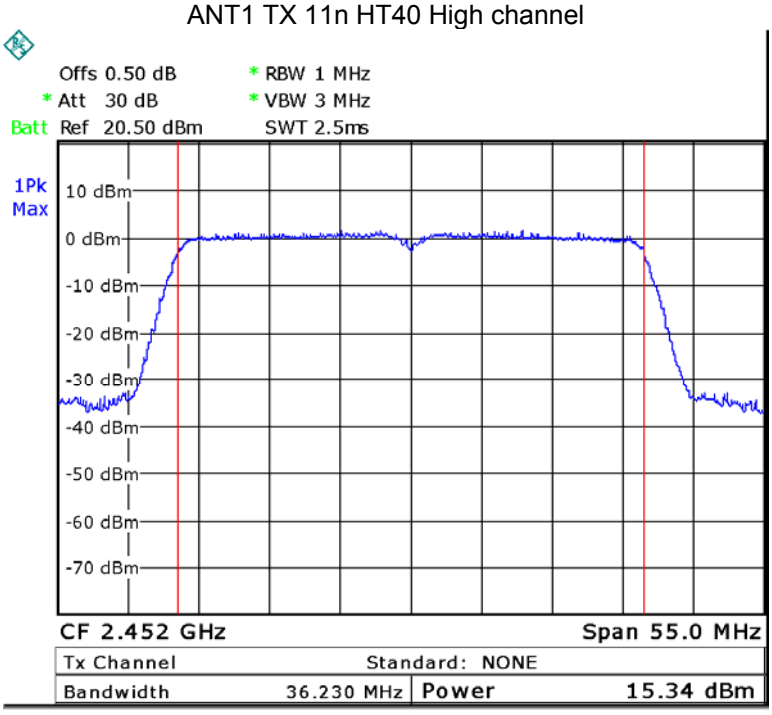
ANT1 TX 11n HT40 Low channel



ANT1 TX 11n HT40 Middle channel



ANT1 TX 11n HT40 High channel



12 Power Spectral density

Test Requirement: FCC CFR47 Part 15 Section 15.247

Test Method: KDB558074 D01 DTS Meas Guidance v03r05

12.1 Test Procedure:

KDB558074 D01 DTS Meas Guidance v03r05 section 10.2

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

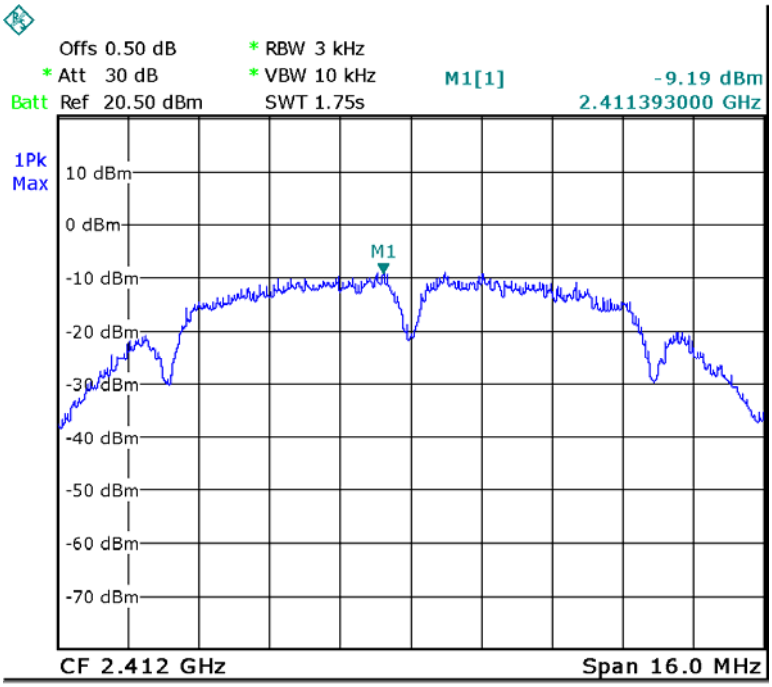
2. Set the spectrum analyzer: RBW = 3kHz. VBW = 10kHz , Span = 1.5 times the DTS channel bandwidth(6 dB bandwidth). Sweep = auto; Detector Function = Peak. Trace = Max hold.

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.

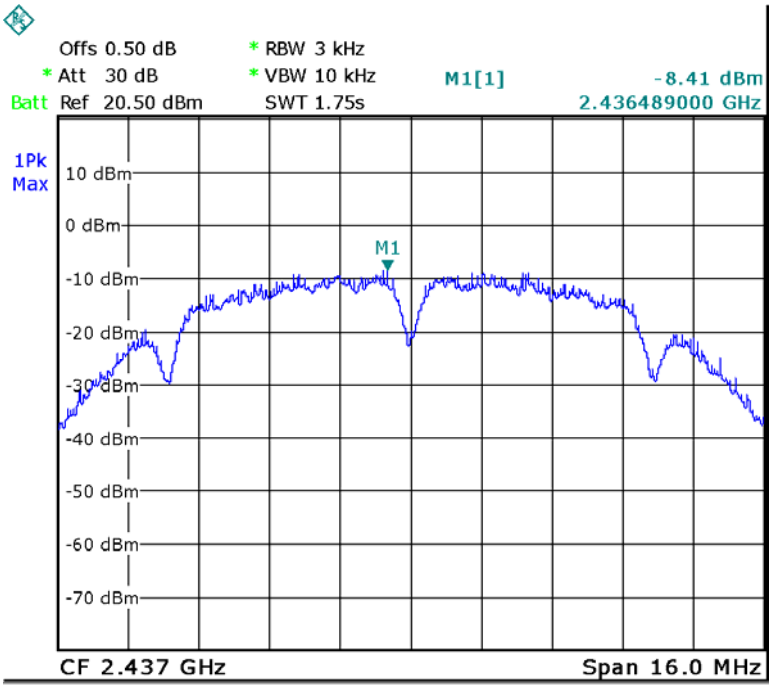
12.2 Test Result:

Operation mode	ANT	Maximum Peak Output Power (dBm per 3kHz)		
		Low	Middle	High
11b	ANT0	-9.19	-8.41	-7.22
	ANT1	-8.19	-8.31	-4.75
11g	ANT0	-18.04	-18.7	-17.66
	ANT1	-16.77	-18.08	-17.6
11n HT20	ANT0	-17.69	-20.57	-18.8
	ANT1	-18.44	-19.25	-17.9
	ANT0+ANT1	-15.04	-16.85	-15.32
11n HT40	ANT0	-22.7	-23.27	-22.15
	ANT1	-21.88	-21.11	-21.64
	ANT0+ANT1	-19.26	-19.05	-18.88
Limit				
(8 dBm per 3kHz)				

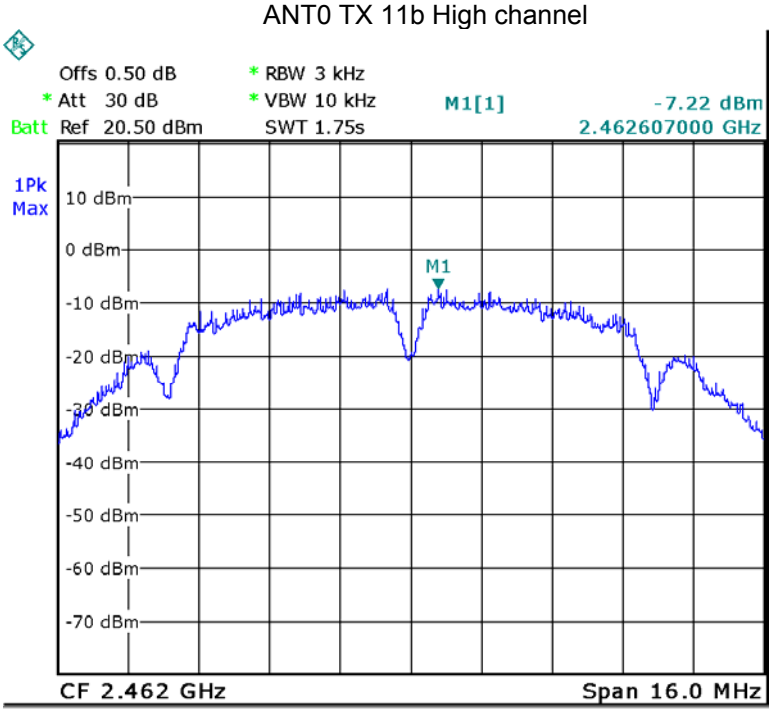
ANT0 TX 11b Low channel



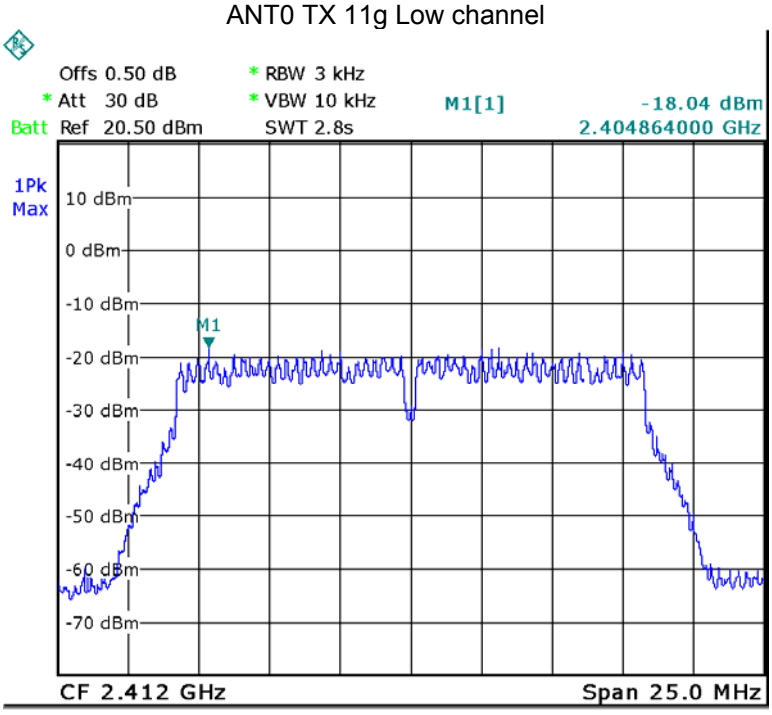
ANT0 TX 11b Middle channel



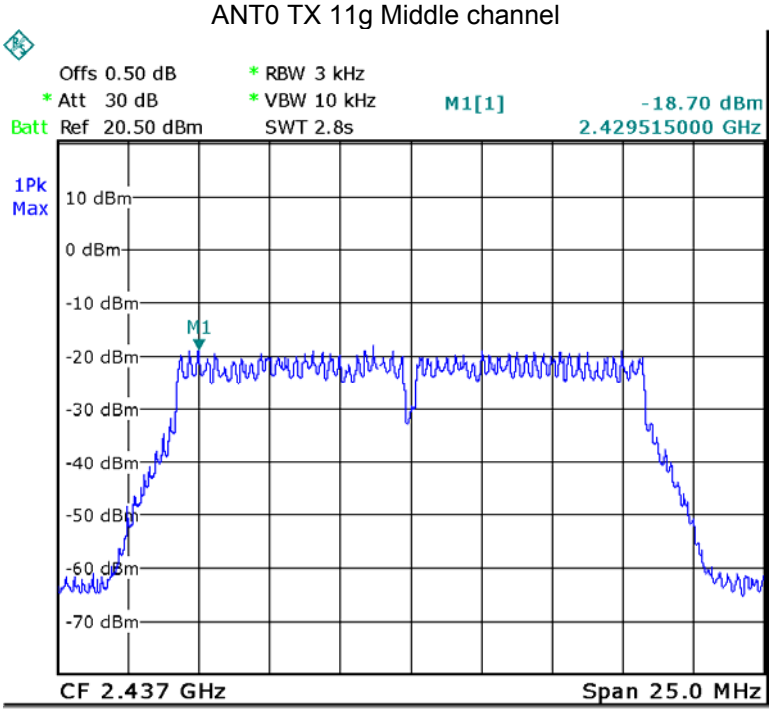
ANT0 TX 11b High channel



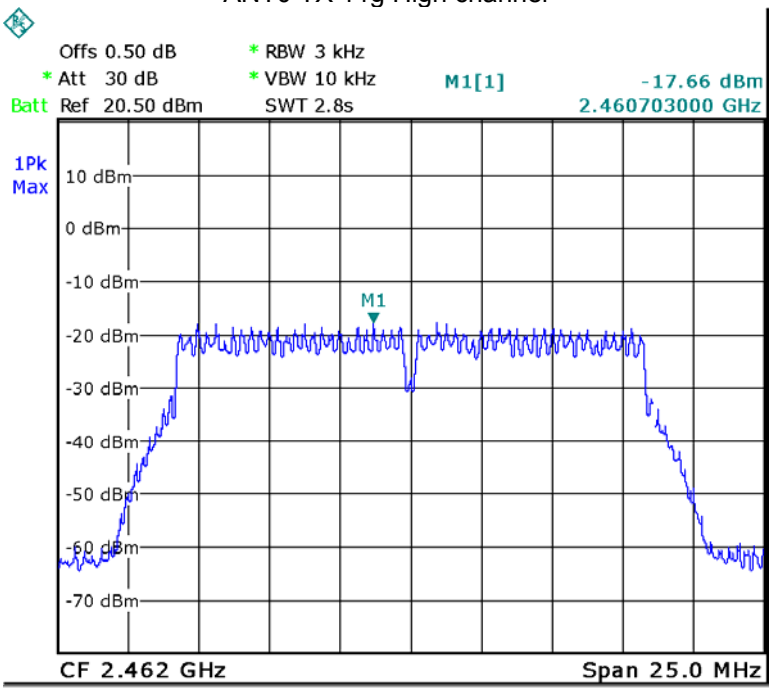
ANT0 TX 11g Low channel



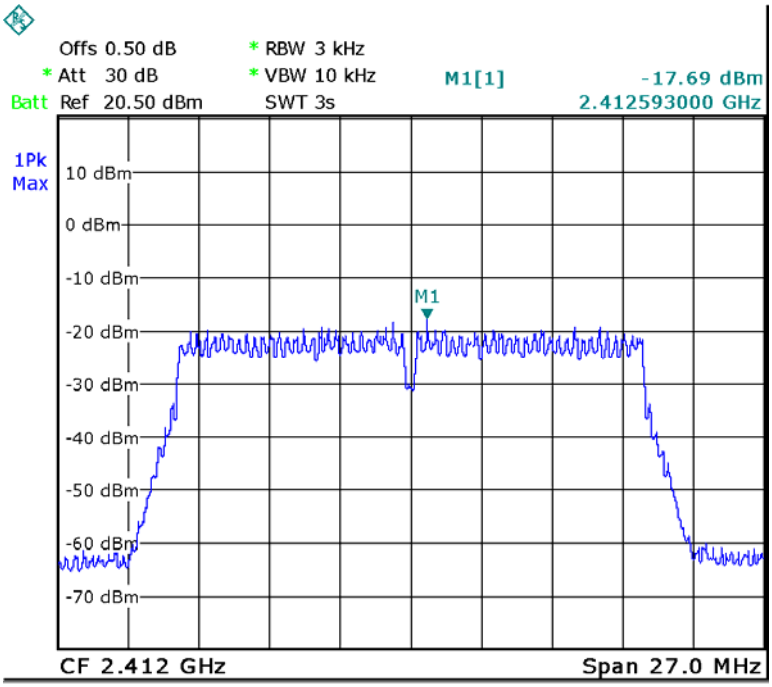
ANT0 TX 11g Middle channel



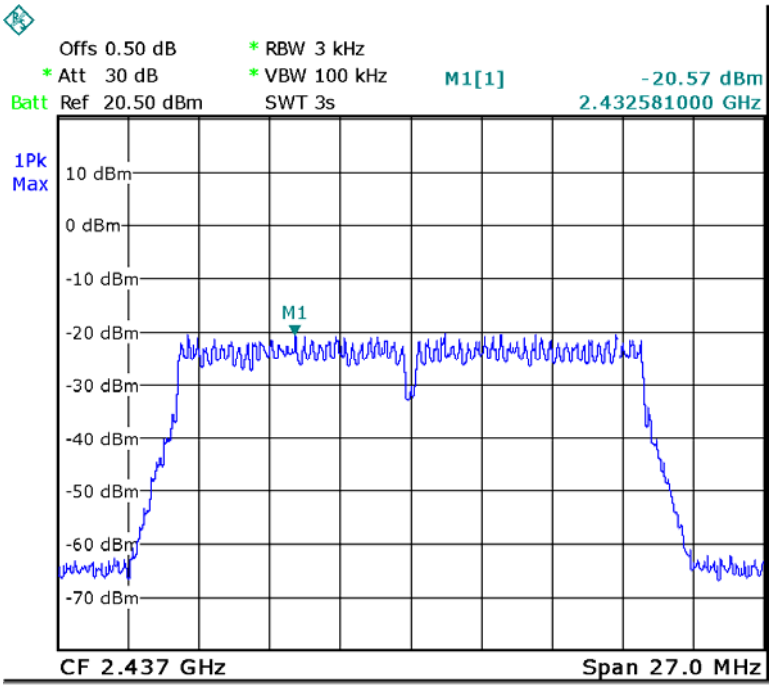
ANT0 TX 11g High channel



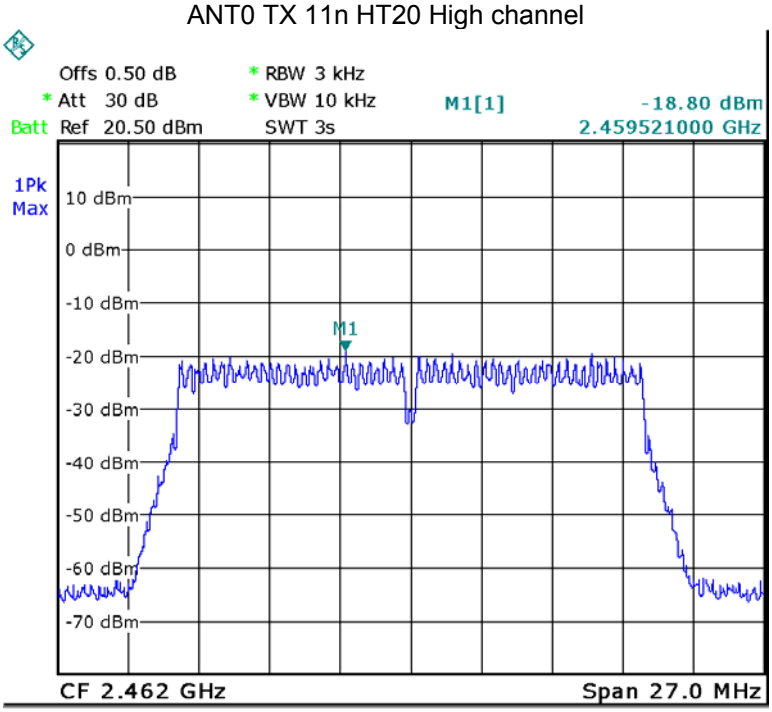
ANT0 TX 11n HT20 Low channel



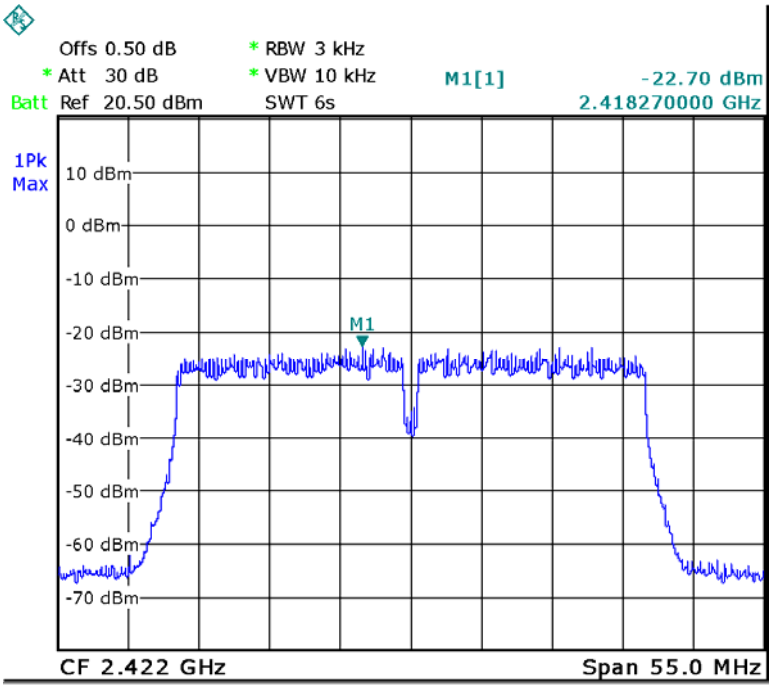
ANT0 TX 11n HT20 Middle channel



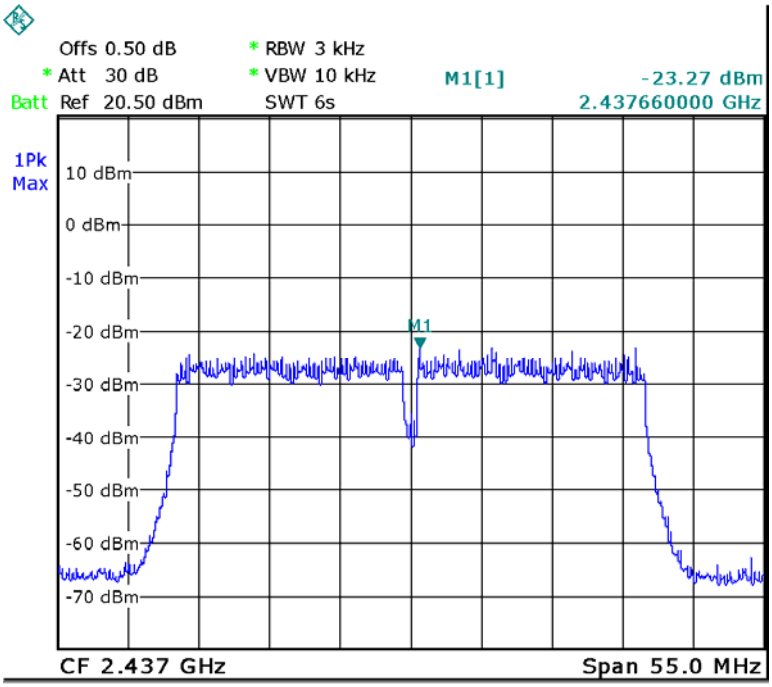
ANT0 TX 11n HT20 High channel



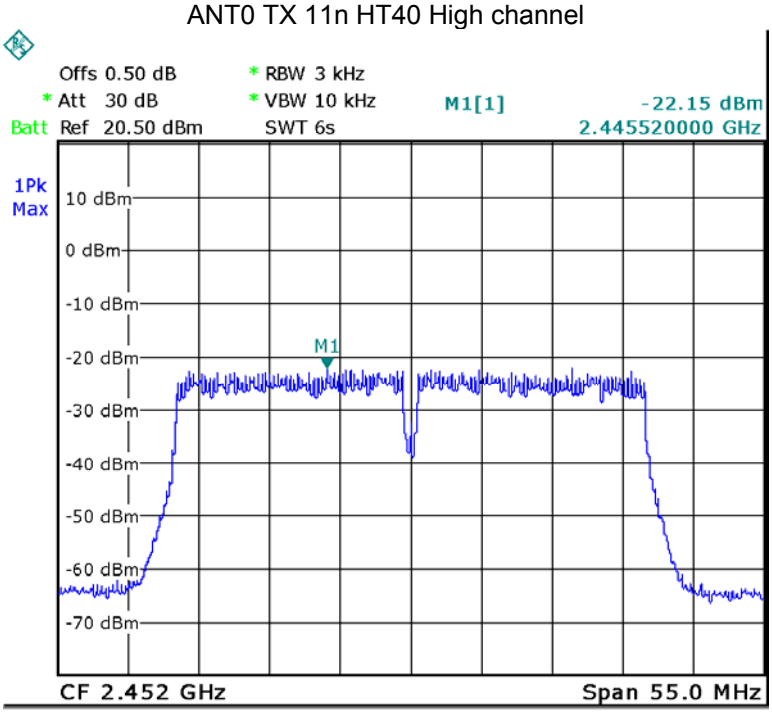
ANT0 TX 11n HT40 Low channel



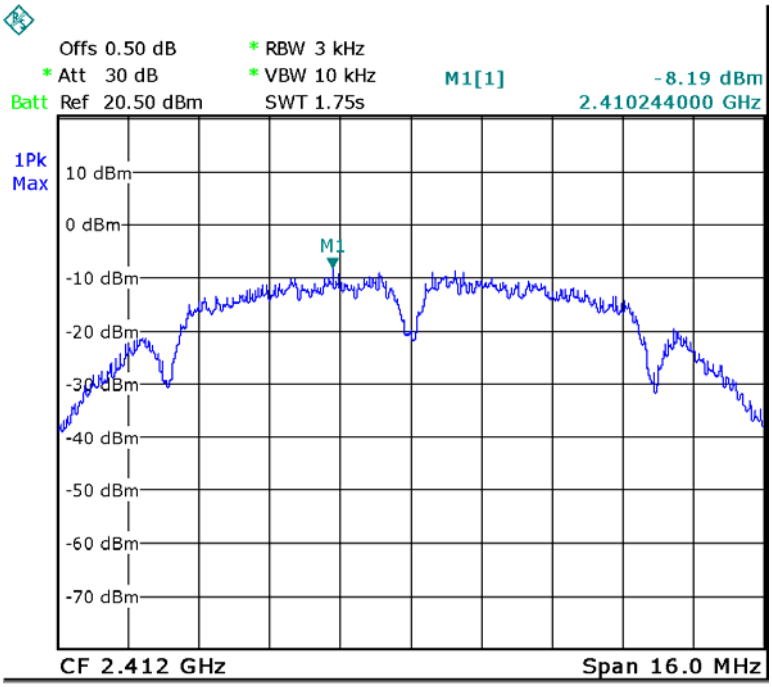
ANT0 TX 11n HT40 Middle channel



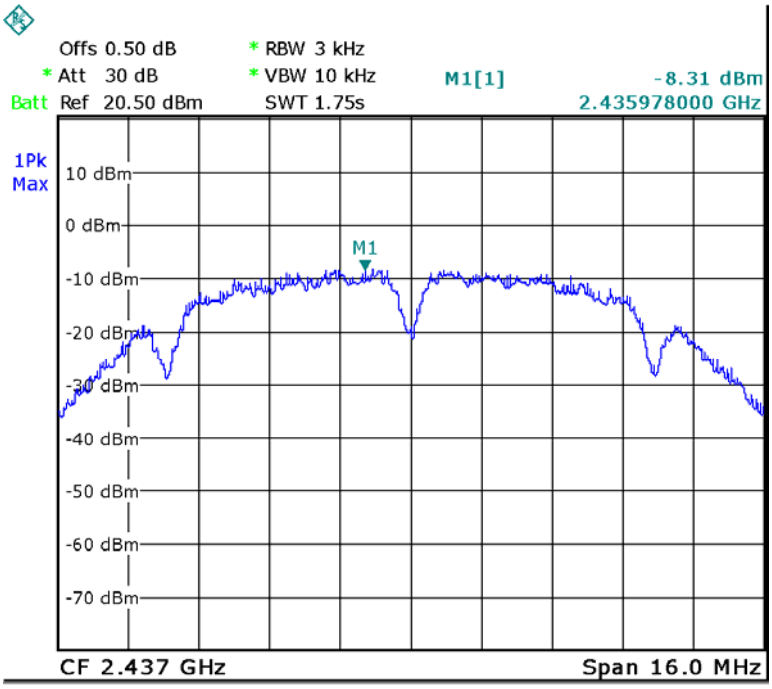
ANT0 TX 11n HT40 High channel



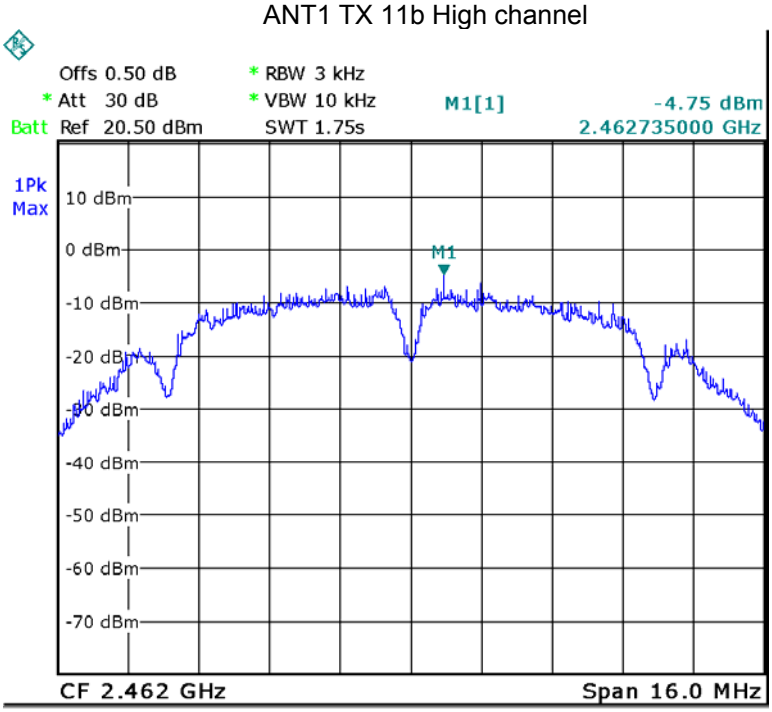
ANT1 TX 11b Low channel



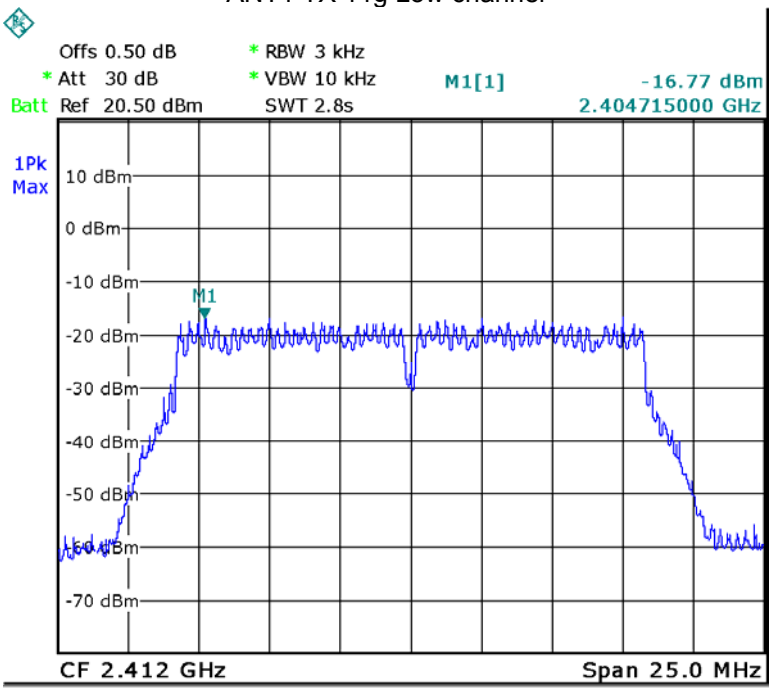
ANT1 TX 11b Middle channel



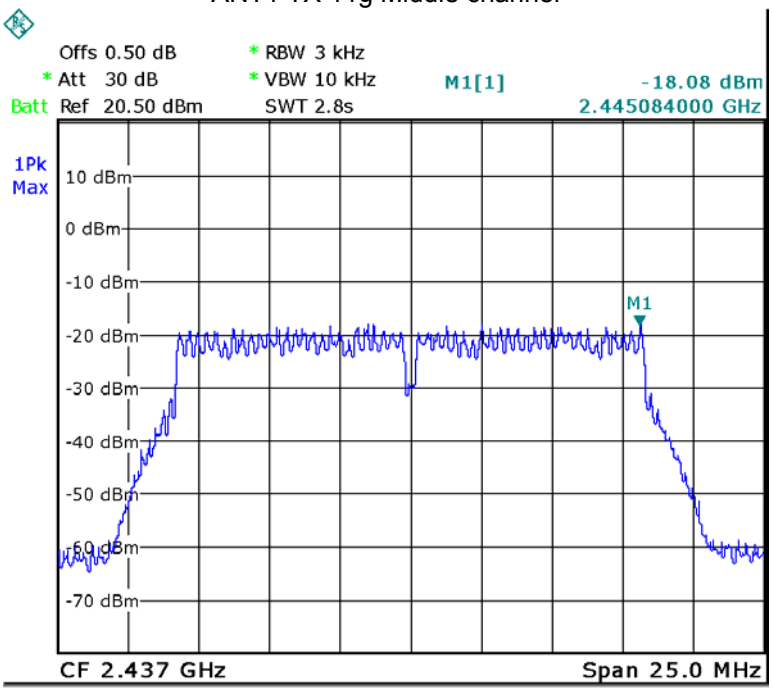
ANT1 TX 11b High channel



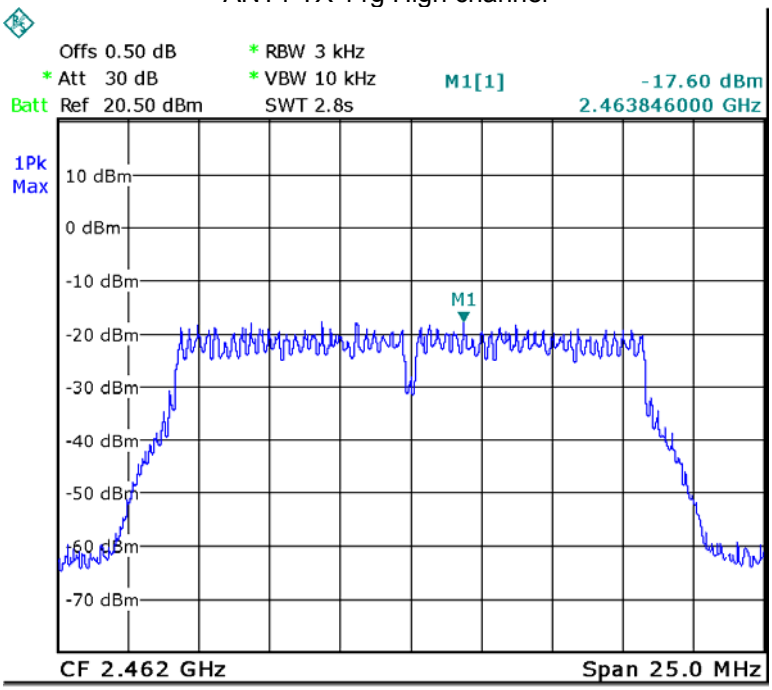
ANT1 TX 11g Low channel



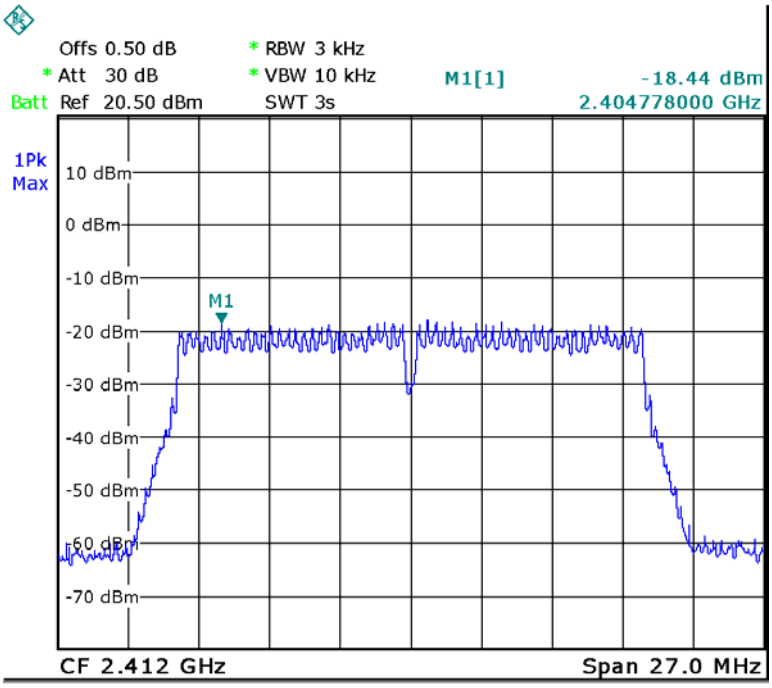
ANT1 TX 11g Middle channel



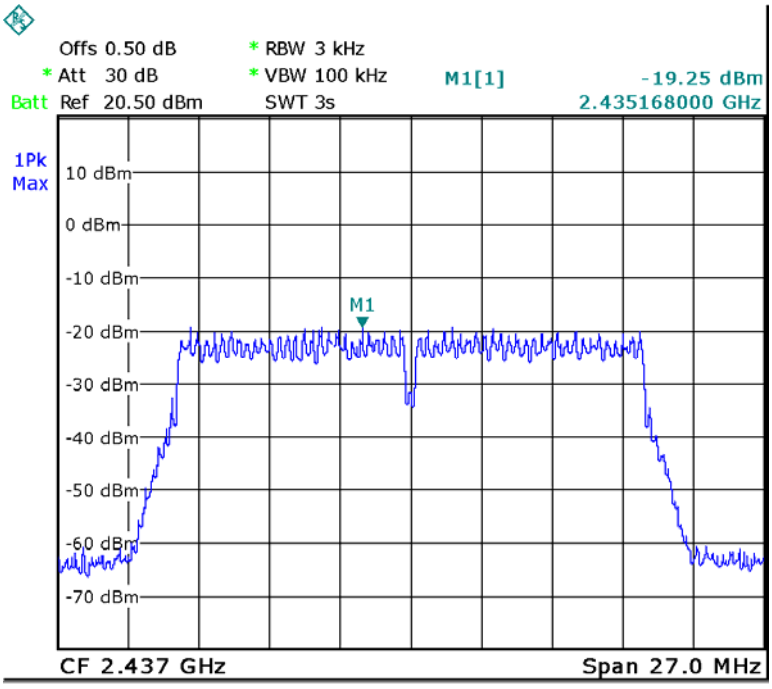
ANT1 TX 11g High channel



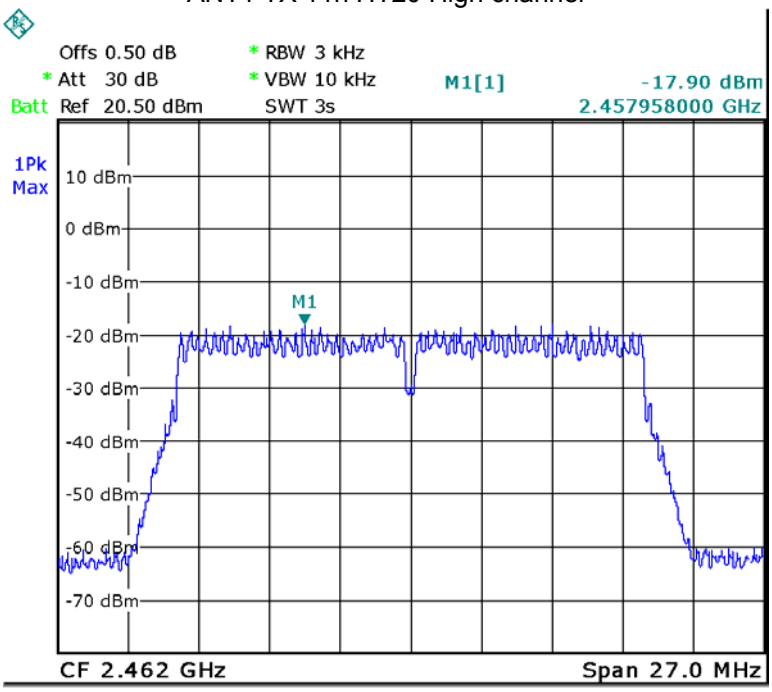
ANT1 TX 11n HT20 Low channel



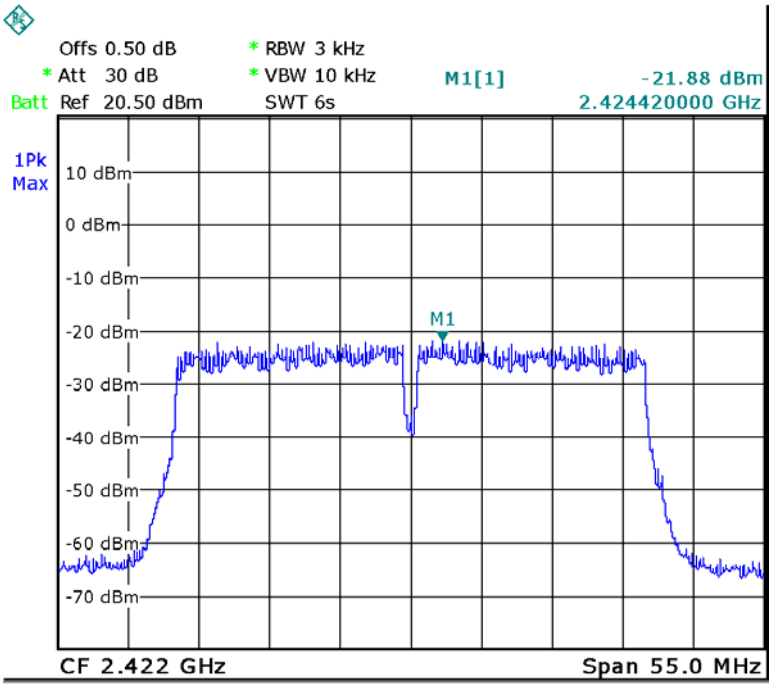
ANT1 TX 11n HT20 Middle channel



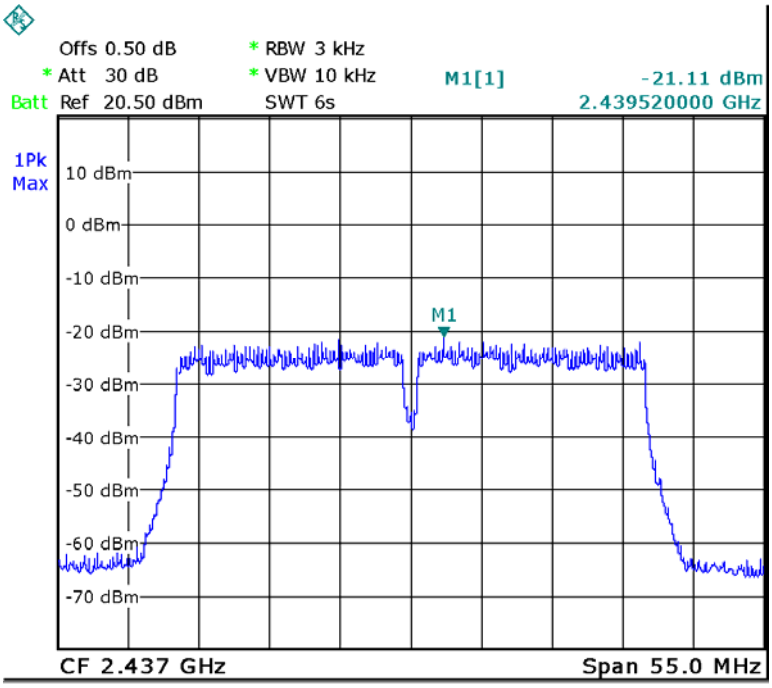
ANT1 TX 11n HT20 High channel



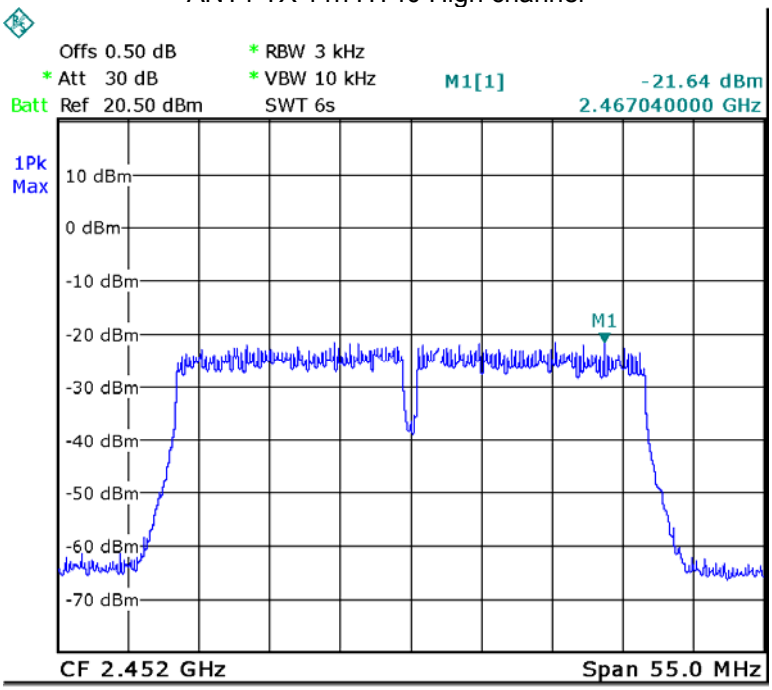
ANT1 TX 11n HT40 Low channel



ANT1 TX 11n HT40 Middle channel



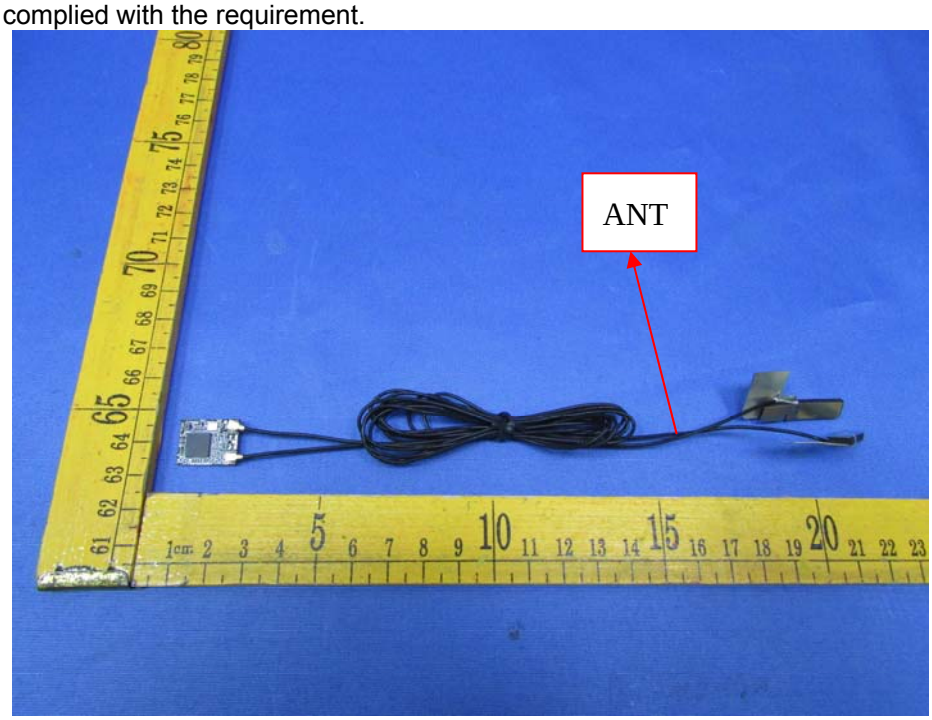
ANT1 TX 11n HT40 High channel



13 Antenna Requirement

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 shall be considered sufficient to comply with the provisions of this section. 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. This requirement does not apply to carrier current devices or to devices operated under the provisions of §15.211, §15.213, §15.217, §15.219, or §15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

This device uses of two antennas that uses a specified coupling to the intentional radiator. Antenna connectors complied with the requirement.



14 RF Exposure

Test Requirement: FCC Part 1.1307

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

14.1 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.

14.2 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

14.3 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

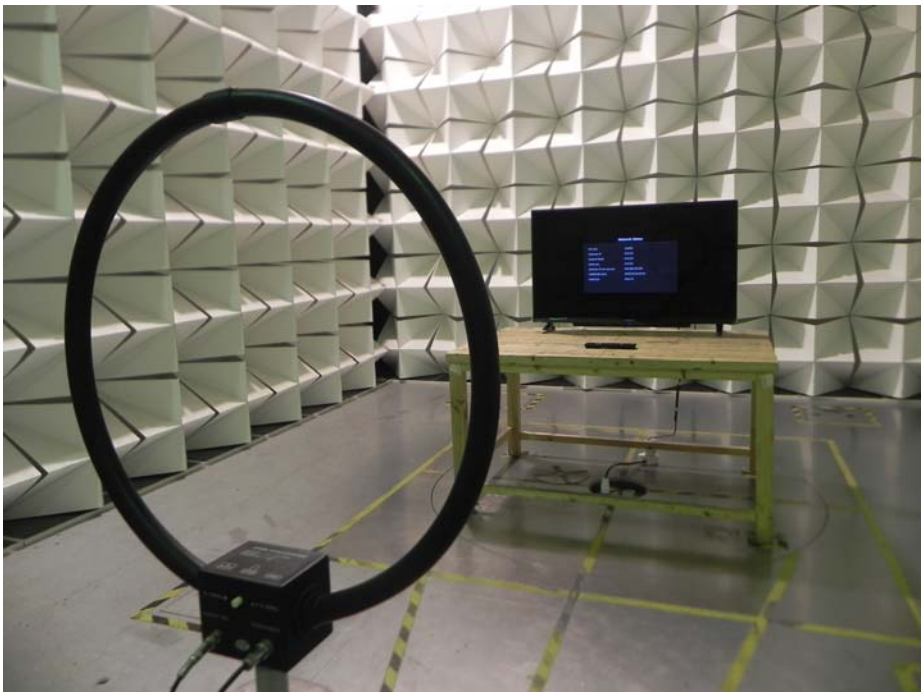
Directional gain (dBi)	Directional gain (numeric)	Max. Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (mW/cm2)	Limit of Power Density (mW/cm2)
1.8	1.514	18.08	64.27	0.0194	1

*Directional gain = Directional gain = 10 log[(10G1 /10 + 10G2 /10 + … + 10GN /10)/NANT] dBi = 1.8 dBi

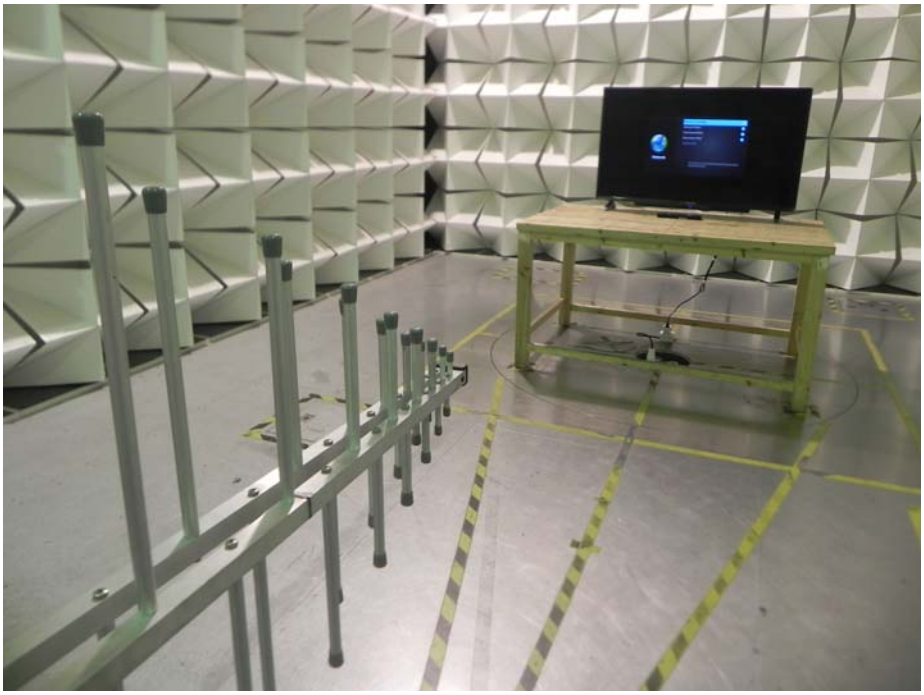
15 Photographs – Model WD50UC4300 Test Setup

15.1 Radiated Emission

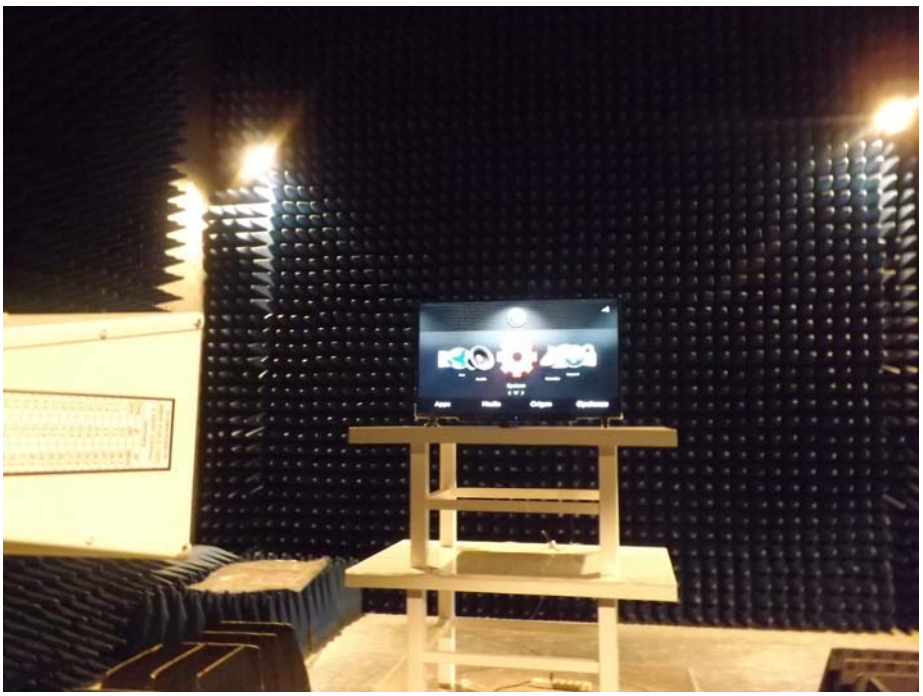
Test frequency 16MHz to 30MHz at Test Site 2#

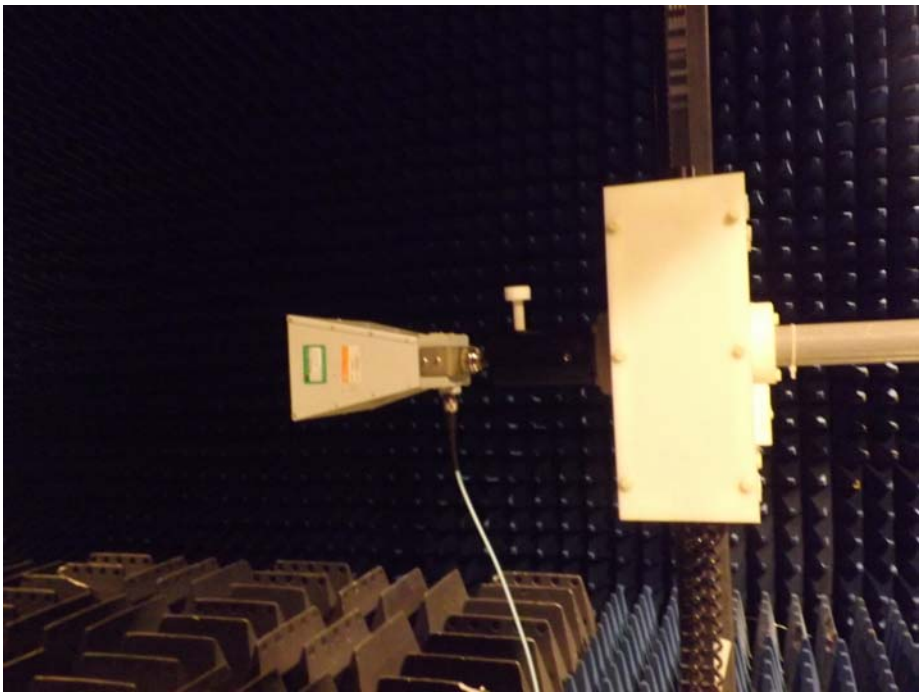


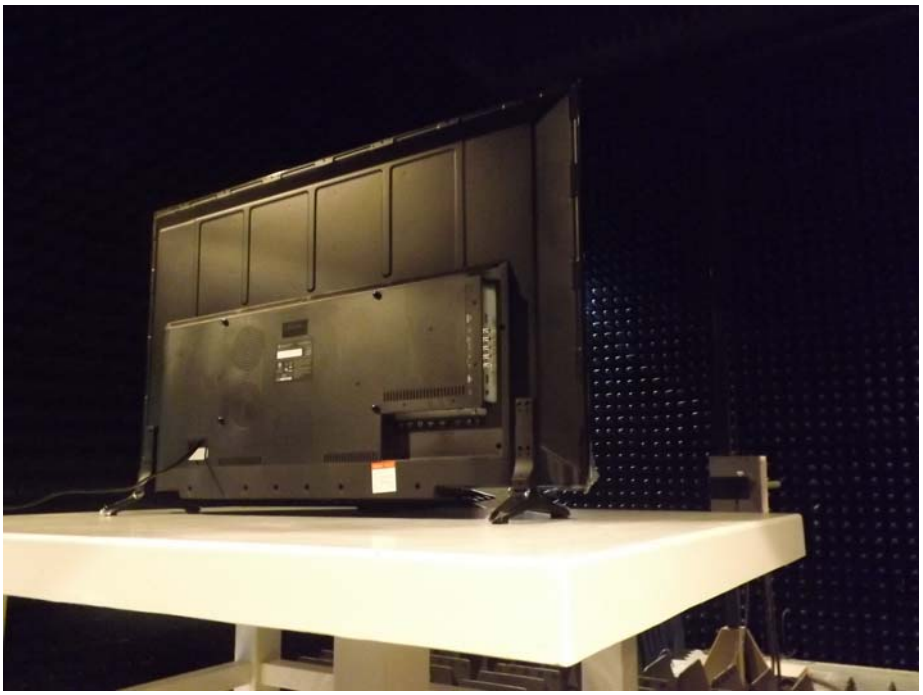
Test frequency from 30MHz to 1GHz at Test Site 2#



Test frequency above 1GHz at Test Site 1#



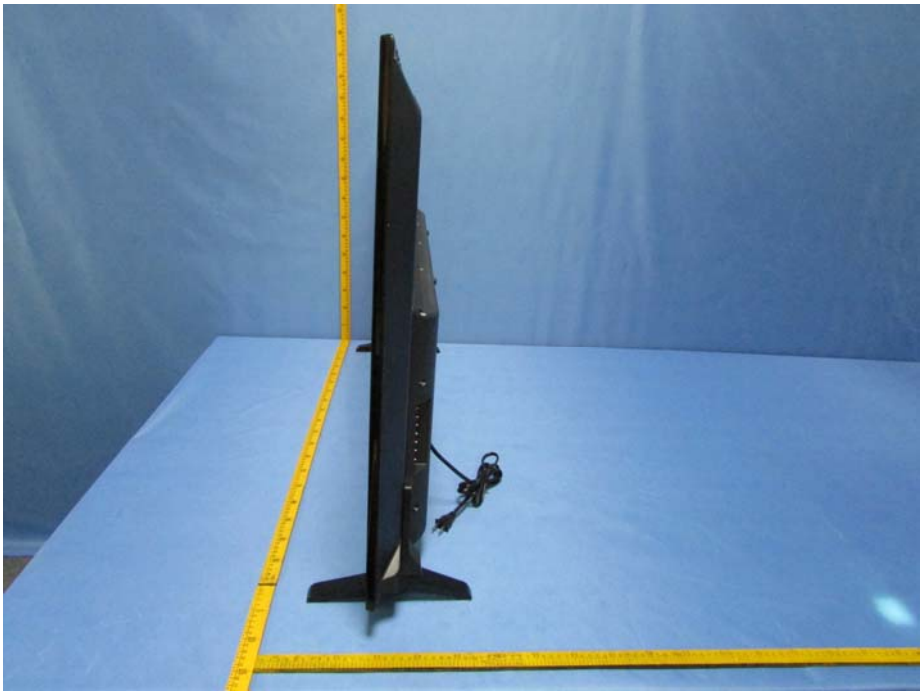


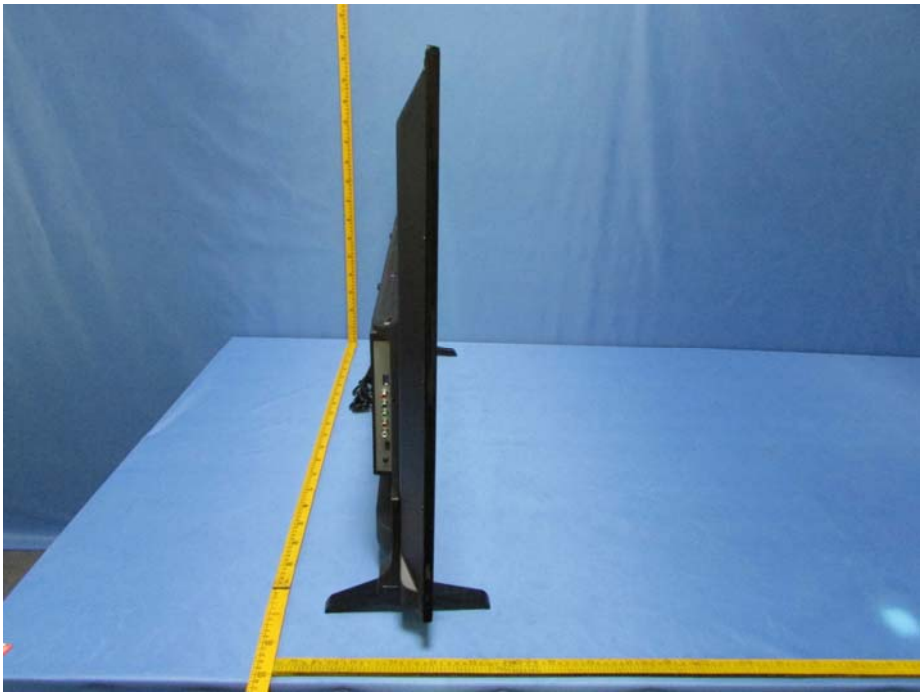


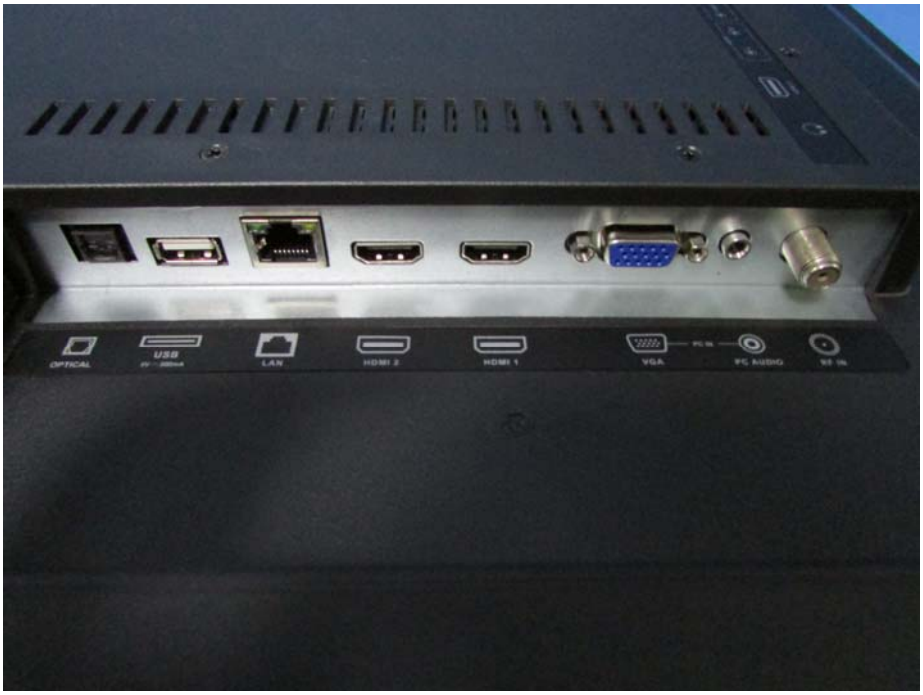
15.2 Conducted Emission at Test Site 2#

16 Photographs - Constructional Details

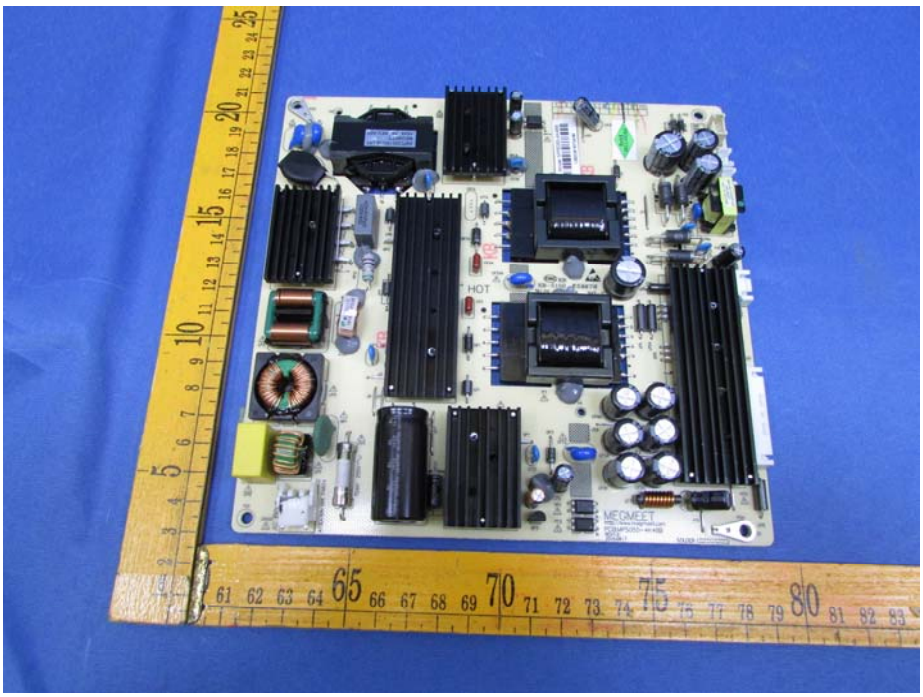
16.1 Model WD50UC4300–External Photos

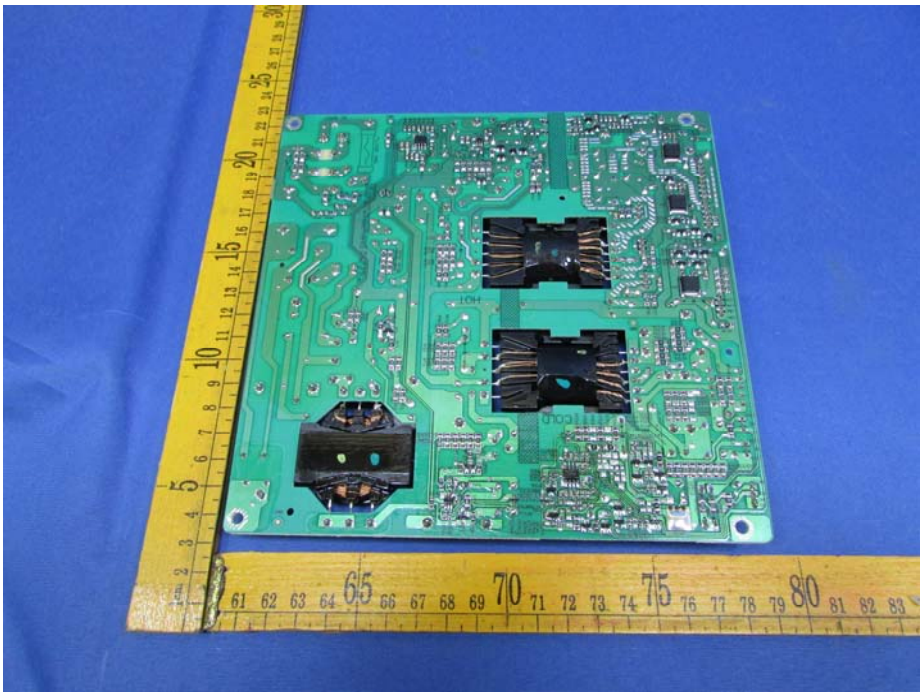


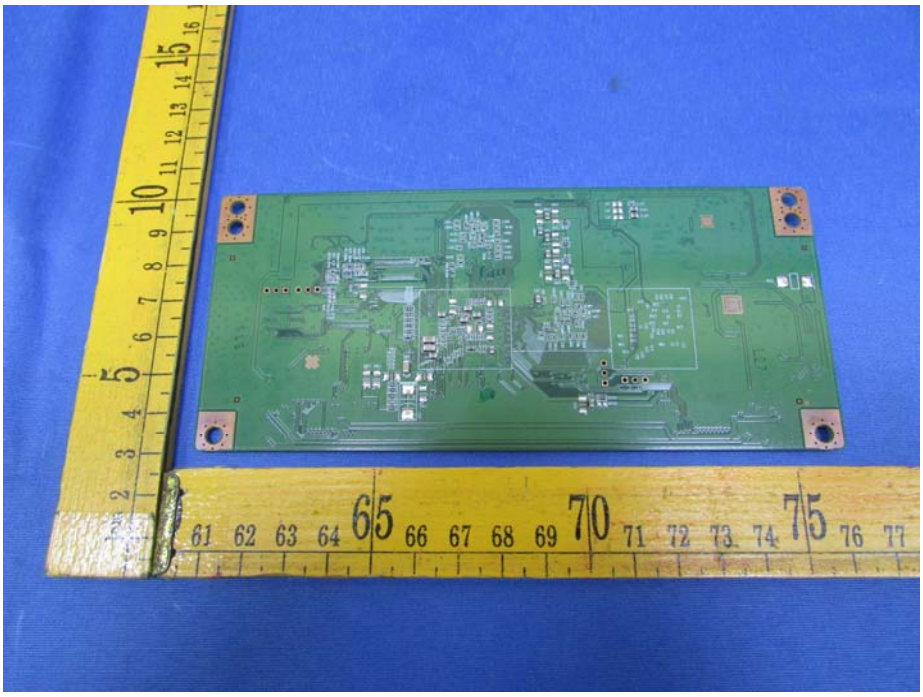


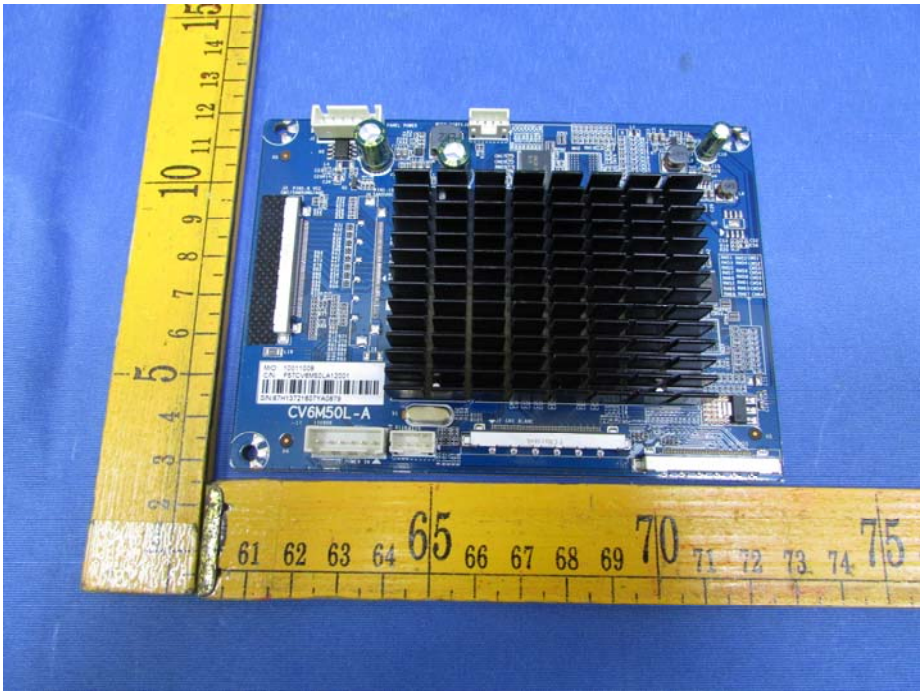

OPTICAL
USB
LAN
HDMI 2
HDMI 1
VGA
PC AUDIO

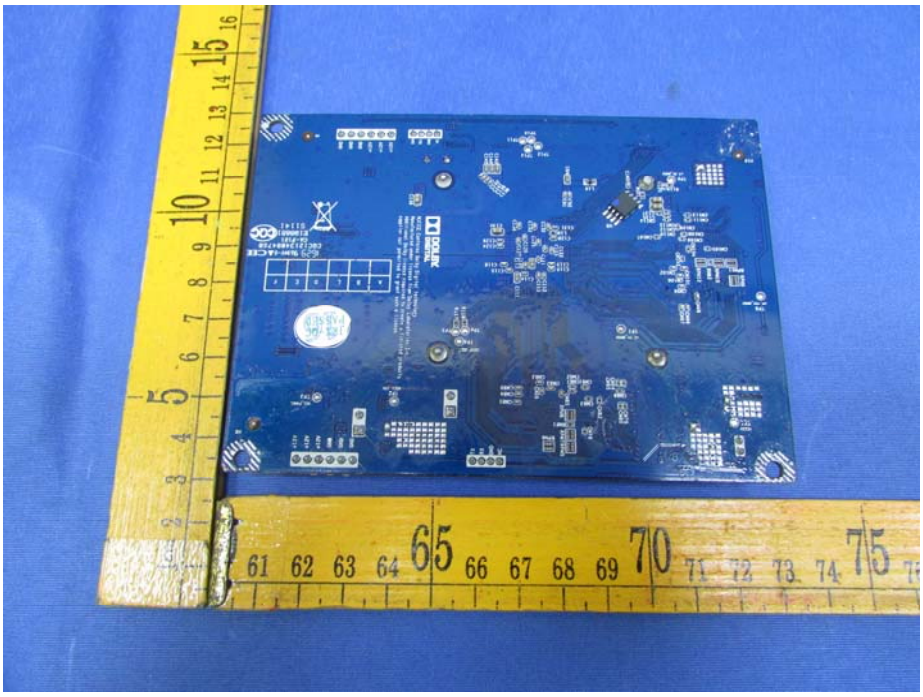
16.2 Model WD50UC4300– Internal Photos

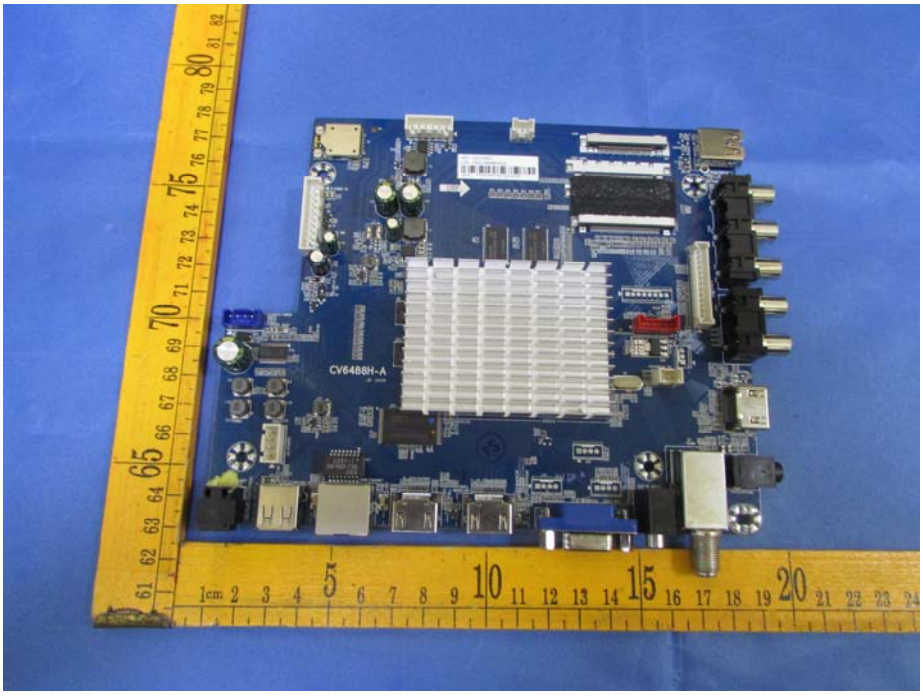


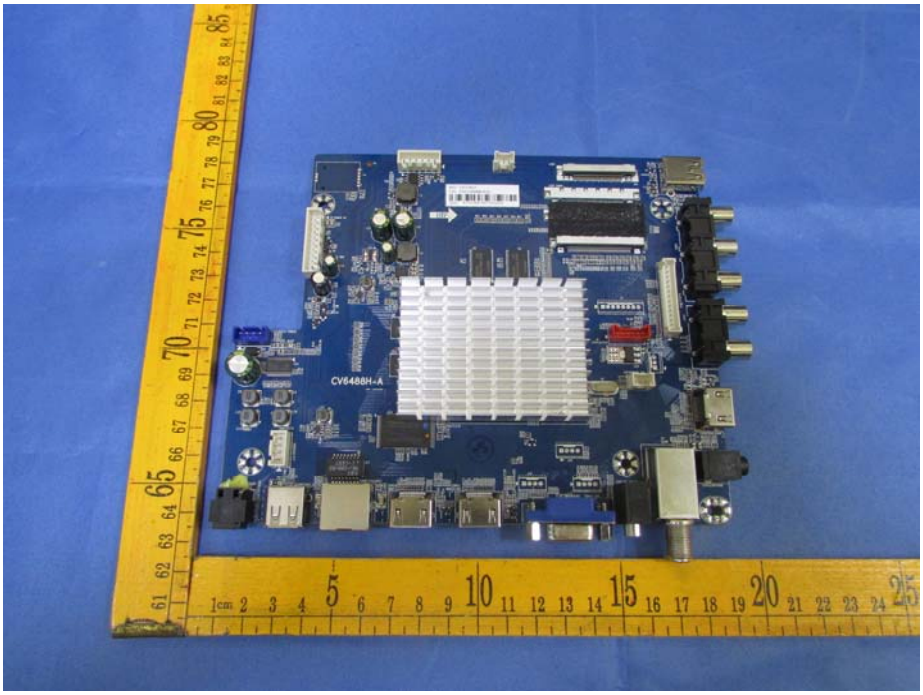


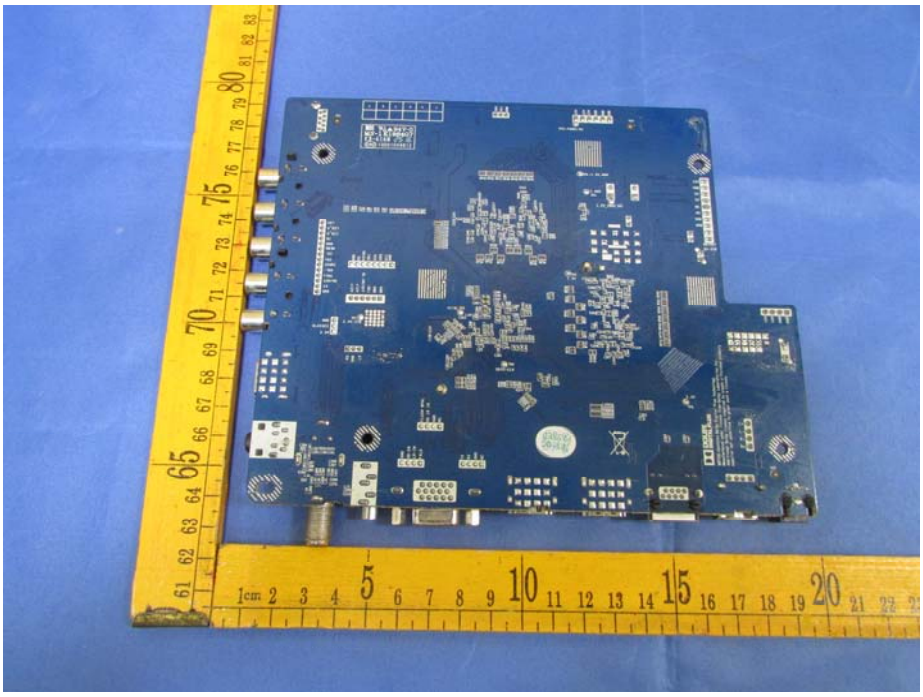


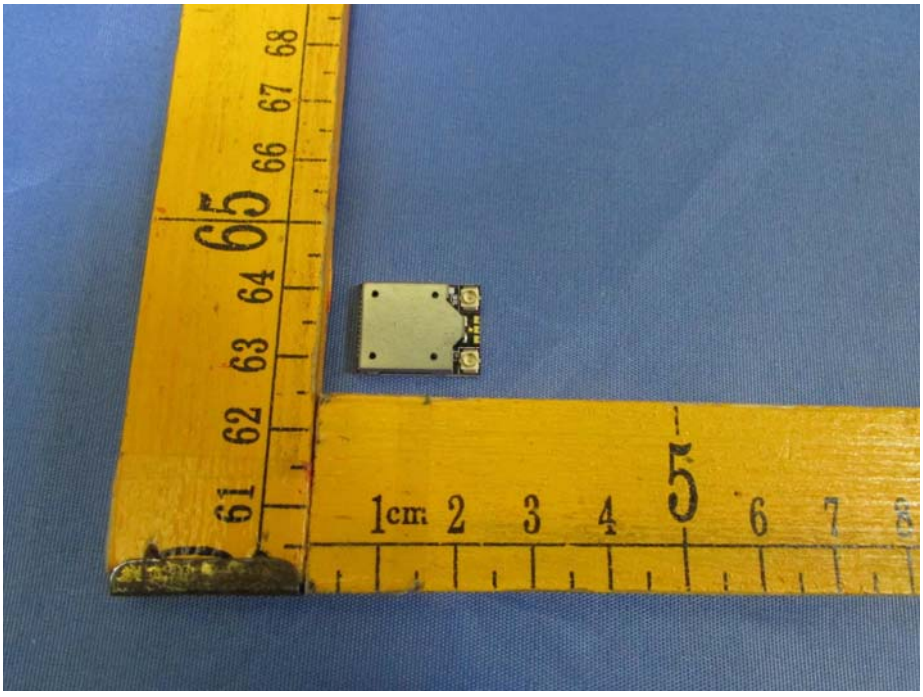

CV6M50L-A

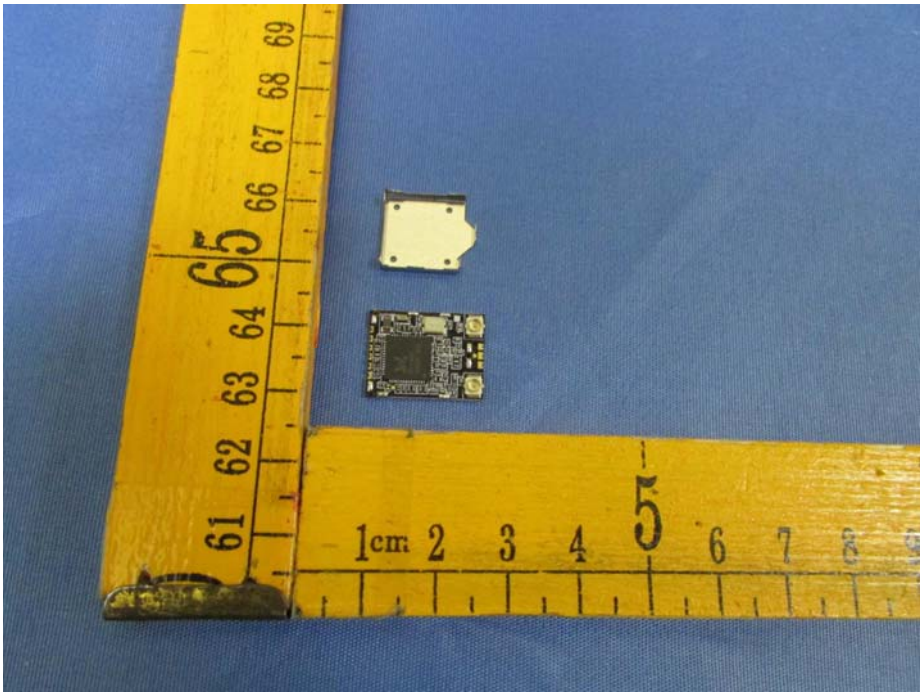


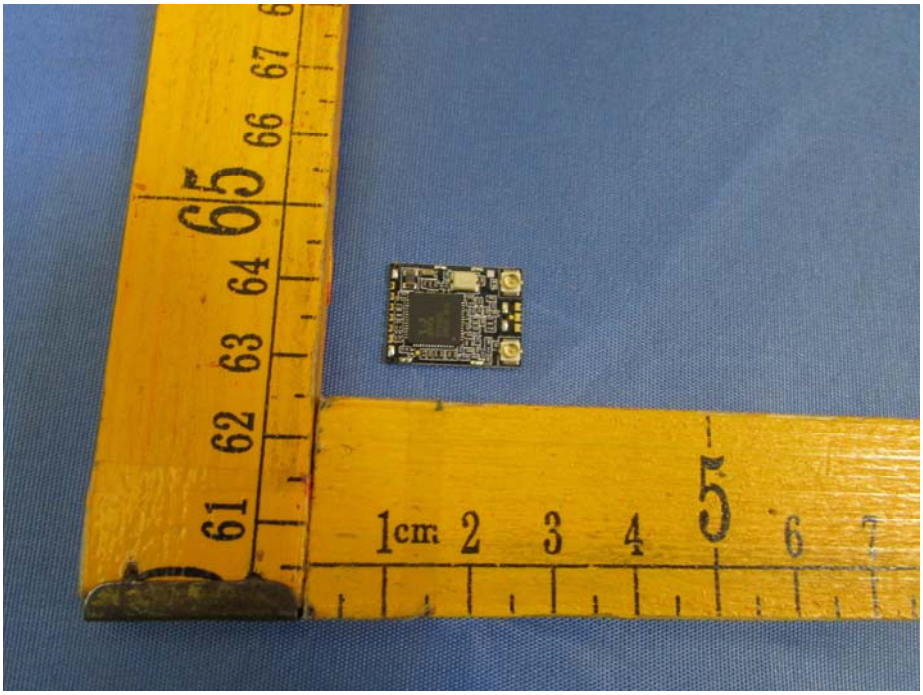

CV6488H-A

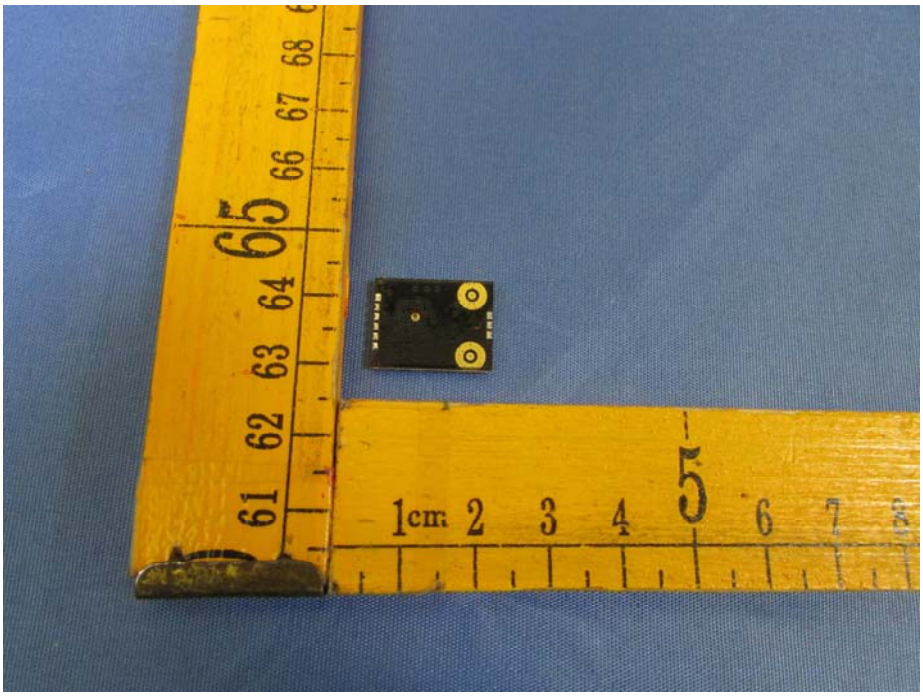


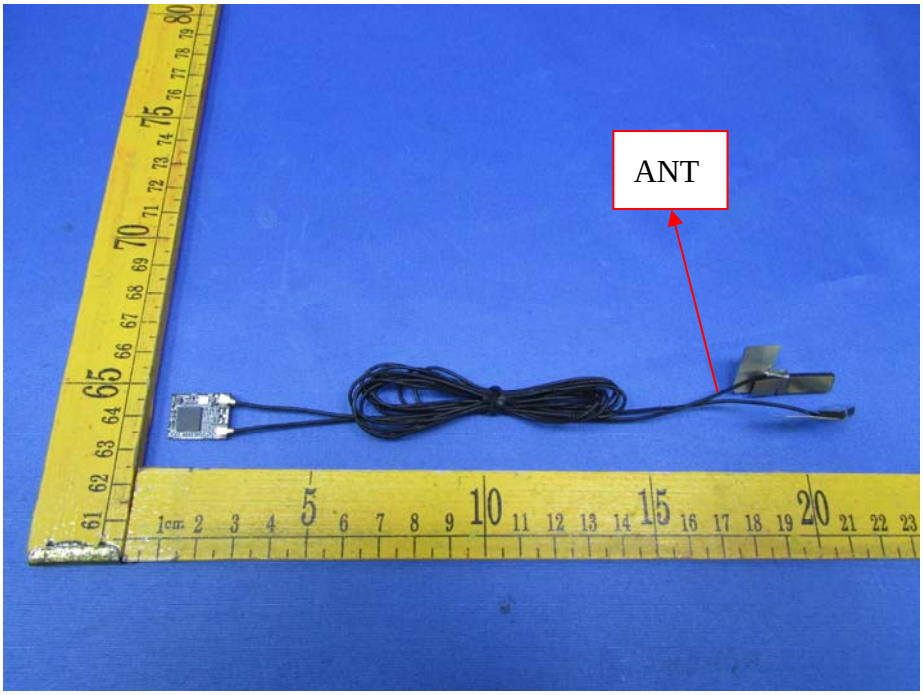





1cm 2 3 4 5 6 7 8
61 62 63 64 65 66 67 68 69


1cm 2 3 4 5 6 7
61 62 63 64 65 66 67





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