TEST REPORT

Reference No.	:	WTU16S0960141E
FCC ID.....	:	2AHCK-E4ST4316H
Applicant	:	ANHUI KONKA ELECTRONIC CO., LTD
Address	:	NO.999, ZhongDu Road, Chu Zhou, An Hui China
Manufacturer	:	ANHUI KONKA ELECTRONIC CO., LTD
Address	:	NO.999, ZhongDu Road, Chu Zhou, An Hui China
Product Name	:	LCD TV
Model No.	:	E4ST4316H
Standards.....	:	FCC CFR47 Part 15 C Section 15.247:2016
Date of Receipt sample.....	:	Sep. 06, 2016
Date of Test.....	:	Nov. 20 – Dec. 25, 2016
Date of Issue	:	Dec. 26, 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:
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Approved by:

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3 Revision History

Test report No.	Date of Receipt sample	Date of Test	Date of Issue	Purpose	Comment	Approved
WTU16S0960141E	Sep. 06, 2016	Nov. 20 – Dec. 25, 2016	Dec. 26, 2016	original	-	Valid

4 General Information

4.1 General Description of E.U.T.

Product Name:	LCD TV
Model No.:	E4ST4316H
Model Difference:	N/A
Operation Frequency:	2412MHz ~ 2462MHz for Wi-Fi
The Lowest Oscillator:	24MHz
Antenna Type:	Internal Intergrated Antenna
Antenna Gain:	ANT 0 2.4GHz WIFI: 2 dBi ANT 1 2.4GHz WIFI: 2 dBi
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,HT20:72Mbps max., HT40:150Mbps max.)

4.2 Details of E.U.T.

Technical Data: AC 120V, 50/60Hz, 85W

4.3 Channel List

Wi-Fi mode

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 Wi-Fi Test Mode

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
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
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	3/6/9	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

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.15,2016	Sep.14,2017
2	Active Loop Antenna	Beijing Dazhi	ZN30900A	0703	Oct.17, 2016	Oct.16, 2017
3	Trilog Broadband Antenna	SCHWARZBECK	VULB9163	336	Apr.09, 2016	Apr.08, 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	Apr.09, 2016	Apr.08, 2017
6	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9170	335	Apr.09, 2016	Apr.08, 2017
7	Broadband Preamplifier	COMPLIANCE DIRECTION	PAP-1G18	2004	Apr.13, 2016	Apr.12, 2017
8	Coaxial Cable (above 1GHz)	Top	1GHz-18GHz	EW02014-7	Apr.13, 2016	Apr.12, 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 2#						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No**	**Last Calibration Date**	**Calibration Due Date**
1	Test Receiver	R&S	ESCI	101296	Apr.13, 2016	Apr.12, 2017
2	Trilog Broadband Antenna	SCHWARZBECK	VULB9160	9160-3325	Apr.09, 2016	Apr.08, 2017
3	Amplifier	Compliance pirection systems inc	PAP-0203	22024	Apr.13, 2016	Apr.12, 2017
4	Cable	HUBER+SUHNER	CBL2	525178	Apr.13, 2016	Apr.12, 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.15,2016	Sep.14,2017
2.	Spectrum Analyzer (9k-6GHz)	R&S	FSL6	100959	Sep.15,2016	Sep.14,2017
3.	Signal Analyzer (9k~26.5GHz)	Agilent	N9010A	MY50520207	Sep.15,2016	Sep.14,2017

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 (30M~1000MHz)
	± 5.47 dB (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 Test Summary

Test Items	Test Requirement	Result
Radiated Emissions	15.247 15.205(a) 15.209(a)	C
Conducted Emissions	15.207(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

Test Result: PASS

Frequency Range: 150kHz to 30MHz

Class/Severity: Class B

Limit:

Frequency (MHz)	Limit (dBμV)	
	Quasi-peak	Average
0.15 to 0.5	66 to 56*	56 to 46*
0.5 to 5	56	60
5 to 30	60	50

7.1 E.U.T. Operation

Operating Environment **:**

Temperature: 21.5 °C

Humidity: 51.9 % RH

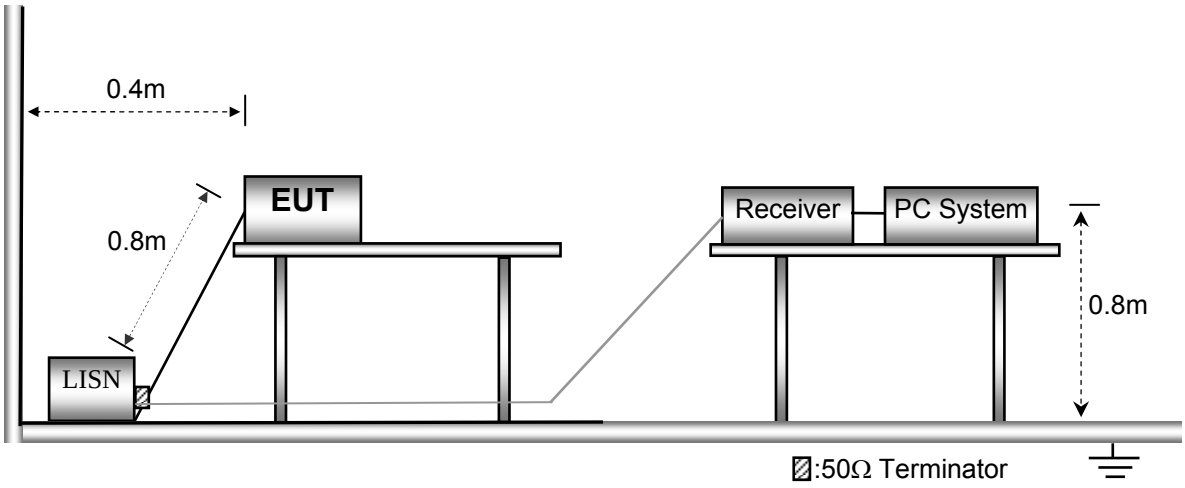
Atmospheric Pressure: 101.2kPa

EUT Operation **:**

The test was performed in transmitting mode, the worst 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.



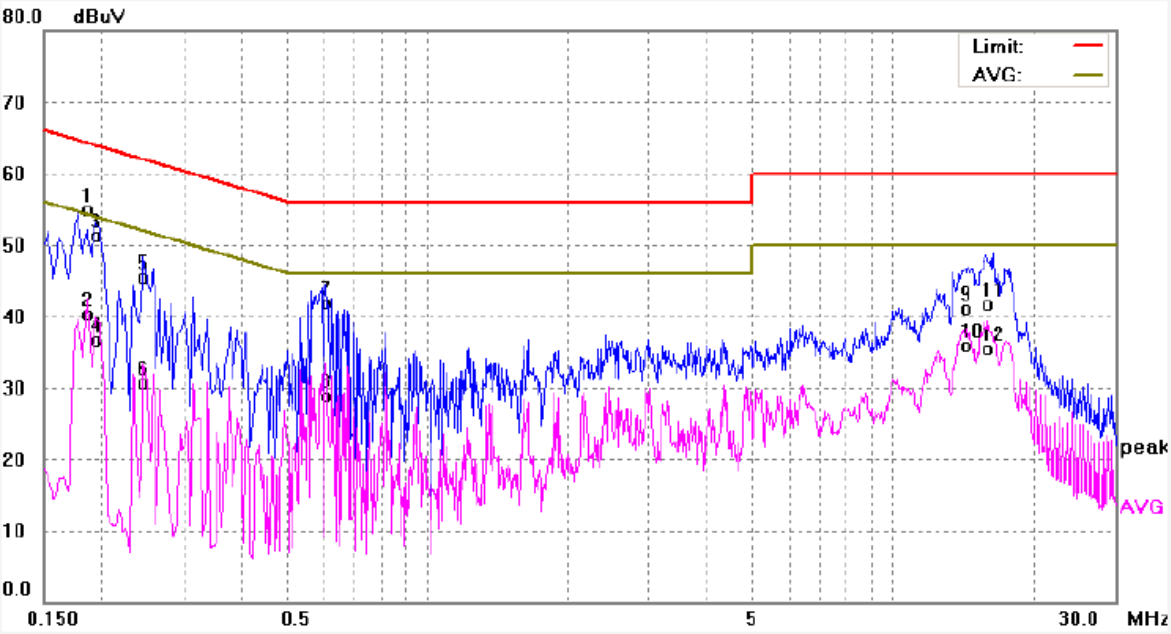
7.3 Measurement Description

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

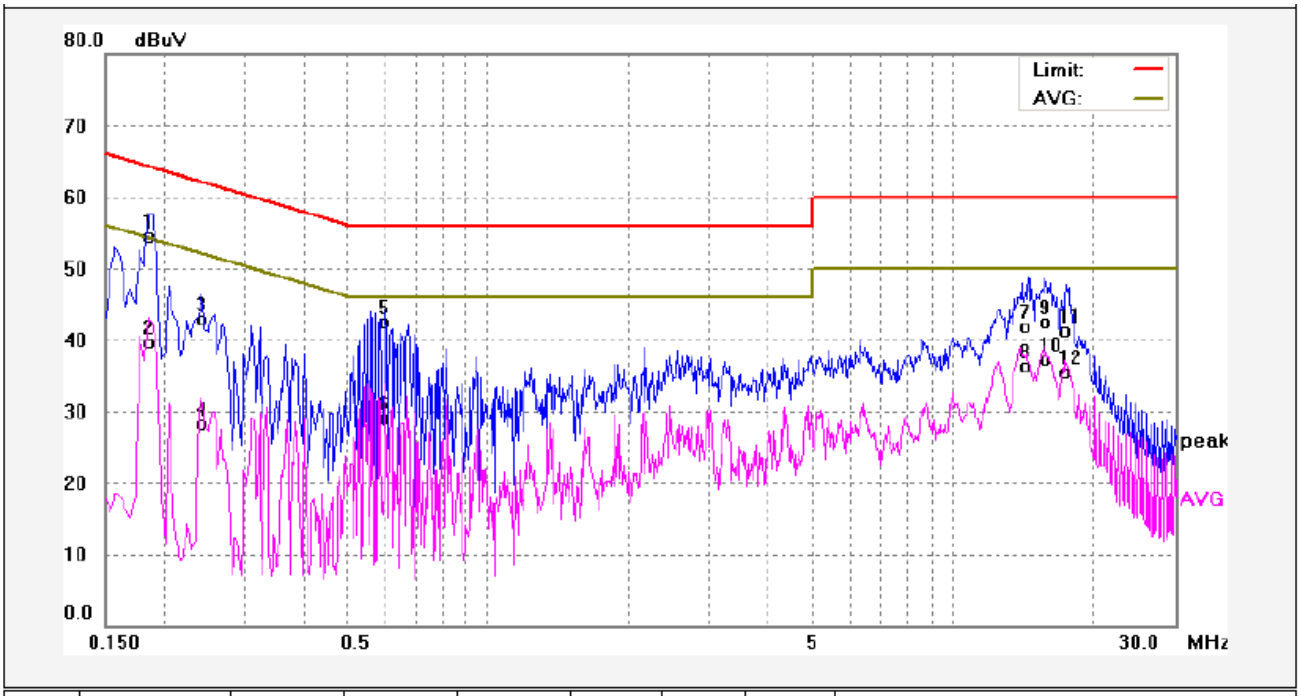
An initial pre-scan was performed on the live and neutral lines.

Live line:



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Margin (dB)	Detector	Remark
1	0.1860	45.37	9.63	55.00	64.21	-9.21	QP	
2	0.1860	30.72	9.63	40.35	54.21	-13.86	AVG	
3	0.1940	41.59	9.62	51.21	63.86	-12.65	QP	
4	0.1940	27.01	9.62	36.63	53.86	-17.23	AVG	
5	0.2460	35.80	9.64	45.44	61.89	-16.45	QP	
6	0.2460	21.11	9.64	30.75	51.89	-21.14	AVG	
7	0.6060	32.20	9.72	41.92	56.00	-14.08	QP	
8	0.6060	19.23	9.72	28.95	46.00	-17.05	AVG	
9	14.4180	30.83	10.23	41.06	60.00	-18.94	QP	
10	14.4180	25.61	10.23	35.84	50.00	-14.16	AVG	
11	16.0300	31.54	10.26	41.80	60.00	-18.20	QP	
12	16.0300	25.28	10.26	35.54	50.00	-14.46	AVG	

Neutral line:



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Margin (dB)	Detector	Remark
1	0.1860	44.84	9.63	54.47	64.21	-9.74	QP	
2	0.1860	30.12	9.63	39.75	54.21	-14.46	AVG	
3	0.2420	33.24	9.64	42.88	62.02	-19.14	QP	
4	0.2420	18.71	9.64	28.35	52.02	-23.67	AVG	
5	0.5980	32.74	9.72	42.46	56.00	-13.54	QP	
6	0.5980	19.29	9.72	29.01	46.00	-16.99	AVG	
7	14.4660	31.68	10.23	41.91	60.00	-18.09	QP	
8	14.4660	25.99	10.23	36.22	50.00	-13.78	AVG	
9	15.7220	32.20	10.25	42.45	60.00	-17.55	QP	
10	15.7220	26.97	10.25	37.22	50.00	-12.78	AVG	
11	17.5020	31.00	10.29	41.29	60.00	-18.71	QP	
12	17.5020	25.18	10.29	35.47	50.00	-14.53	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

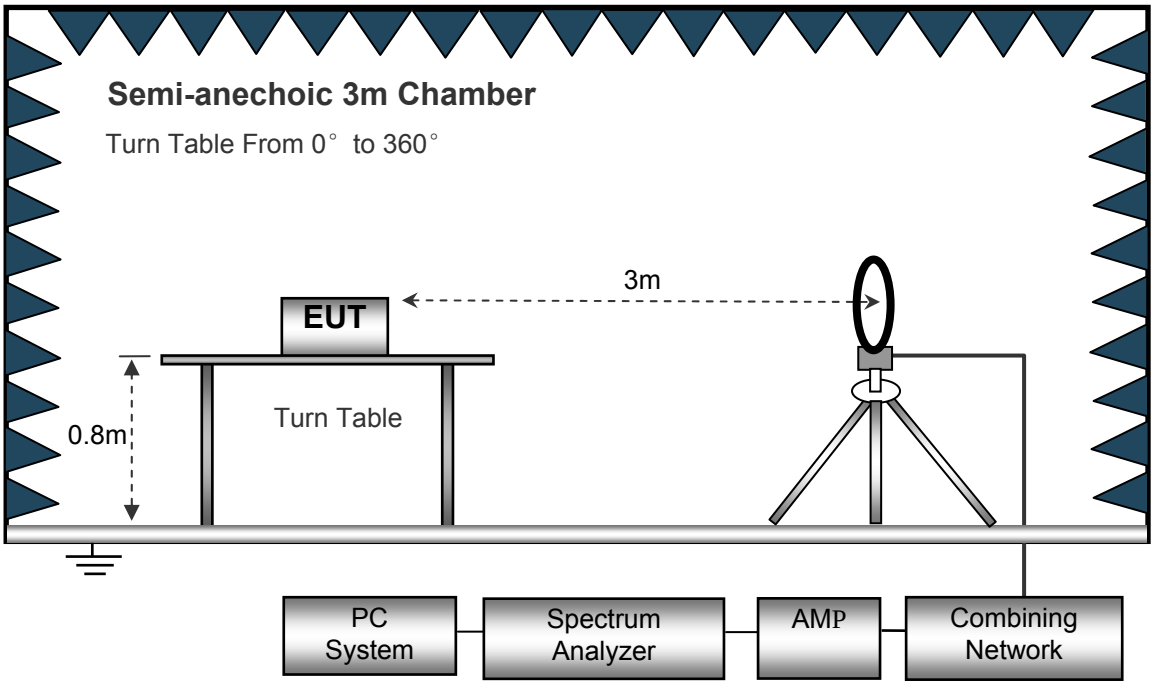
EUT Operation **:**

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

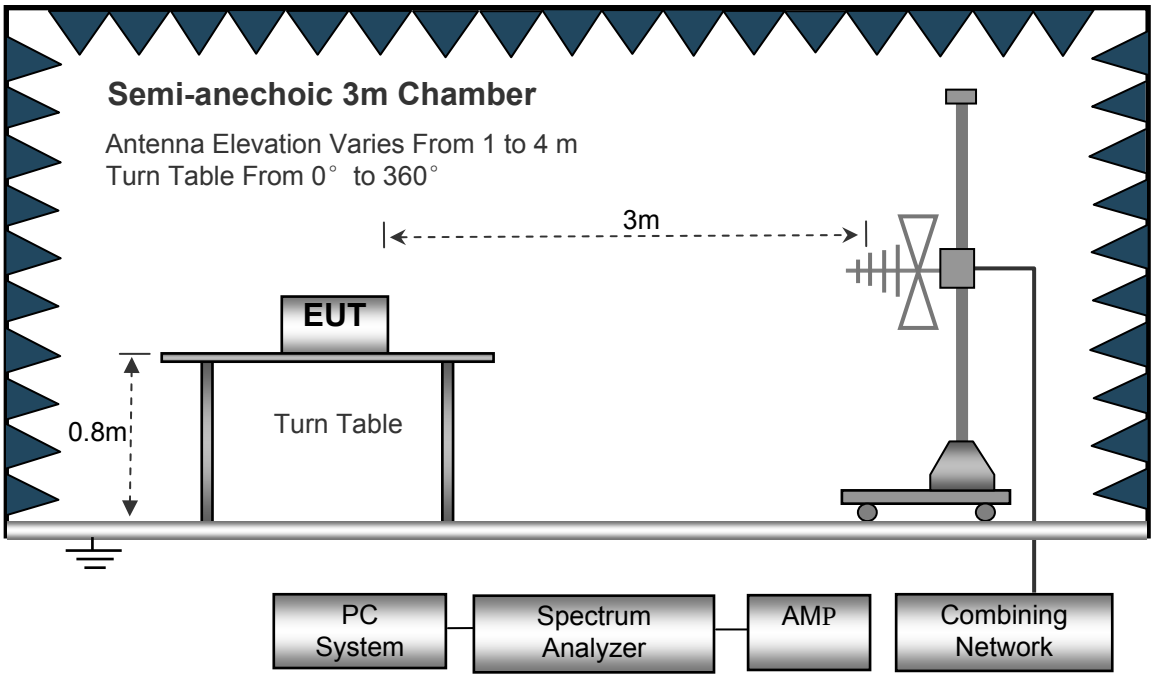
8.2 Test Setup

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

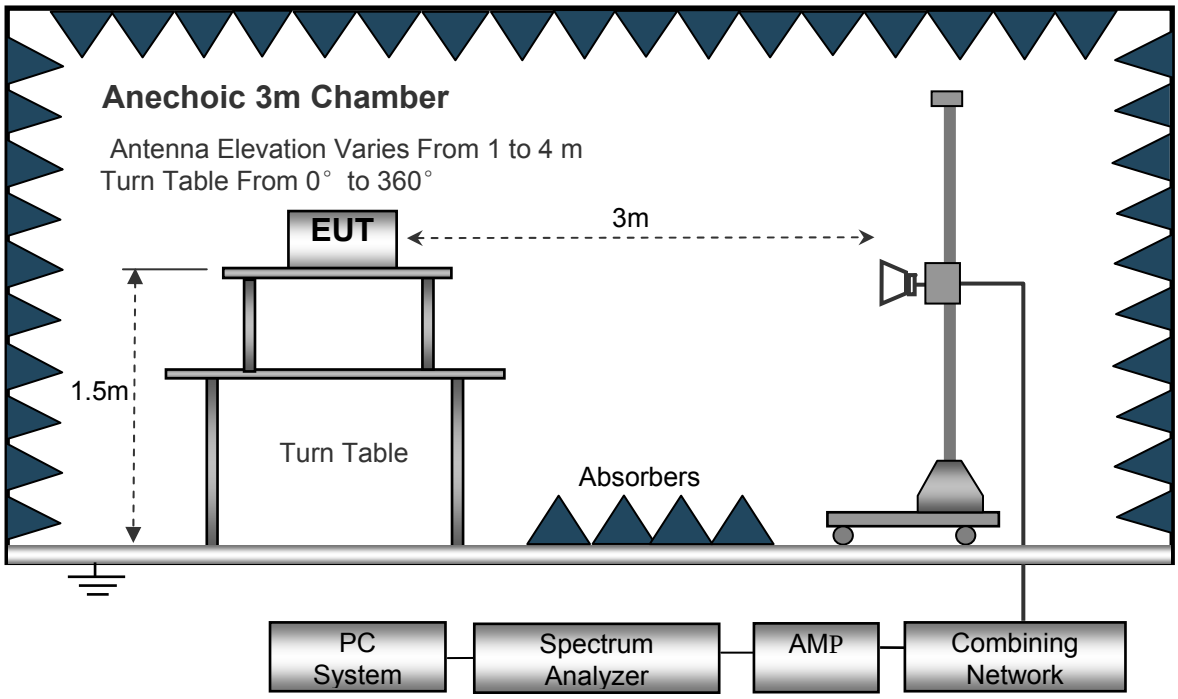
The test setup for emission measurement below 30MHz.



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. 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.

8.5 Summary of Test Results

Test Frequency: 9KHz to 30MHz

Frequency (MHz)	Measurement results	Detector	Correct factor	Extrapolation factor	Measurement results (calculated)	Limits	Margin
	dBµV @3m	PK/QP	dB/m	dB	dBµV/m @300m	dBµV/m @300m	dB
6.154	24.15	QP	21.84	40.00	5.99	29.54	-23.55

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									
245.67	42.15	QP	116.94	1.56	H	-11.62	30.53	46.00	-15.47
245.67	36.72	QP	351.30	1.76	V	-11.62	25.10	46.00	-20.90
4824.00	50.14	PK	206.37	1.31	V	-1.06	49.08	74.00	-24.92
4824.00	46.29	Ave	206.37	1.31	V	-1.06	45.23	54.00	-8.77
7236.00	41.26	PK	48.93	1.67	H	1.33	42.59	74.00	-31.41
7236.00	41.82	Ave	48.93	1.67	H	1.33	43.15	54.00	-10.85
2315.18	46.54	PK	326.26	1.19	V	-13.19	33.35	74.00	-40.65
2315.18	39.04	Ave	326.26	1.19	V	-13.19	25.85	54.00	-28.15
2389.13	42.48	PK	191.64	1.99	H	-13.14	29.34	74.00	-44.66
2389.13	38.11	Ave	191.64	1.99	H	-13.14	24.97	54.00	-29.03
2496.95	42.88	PK	225.58	1.87	V	-13.08	29.80	74.00	-44.20
2496.95	38.62	Ave	225.58	1.87	V	-13.08	25.54	54.00	-28.46

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									
245.67	40.79	QP	16.57	1.96	H	-11.62	29.17	46.00	-16.83
245.67	37.20	QP	105.83	1.25	V	-11.62	25.58	46.00	-20.42
4874.00	49.56	PK	235.62	1.43	V	-0.62	48.94	74.00	-25.06
4874.00	46.39	Ave	235.62	1.43	V	-0.62	45.77	54.00	-8.23
7311.00	42.01	PK	167.76	1.13	H	2.21	44.22	74.00	-29.78
7311.00	42.71	Ave	167.76	1.13	H	2.21	44.92	54.00	-9.08
2335.85	46.05	PK	286.17	1.27	V	-13.19	32.86	74.00	-41.14
2335.85	38.24	Ave	286.17	1.27	V	-13.19	25.05	54.00	-28.95
2360.30	42.55	PK	43.98	1.86	H	-13.14	29.41	74.00	-44.59
2360.30	38.66	Ave	43.98	1.86	H	-13.14	25.52	54.00	-28.48
2499.99	43.13	PK	266.77	1.48	V	-13.08	30.05	74.00	-43.95
2499.99	38.42	Ave	266.77	1.48	V	-13.08	25.34	54.00	-28.66

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									
245.67	41.72	QP	358.89	1.68	H	-11.62	30.10	46.00	-15.90
245.67	38.54	QP	56.31	1.85	V	-11.62	26.92	46.00	-19.08
4924.00	49.91	PK	343.65	1.14	V	-0.24	49.67	74.00	-24.33
4924.00	45.53	Ave	343.65	1.14	V	-0.24	45.29	54.00	-8.71
7386.00	41.97	PK	257.19	1.12	H	2.84	44.81	74.00	-29.19
7386.00	41.43	Ave	257.19	1.12	H	2.84	44.27	54.00	-9.73
2342.46	45.87	PK	356.05	1.59	V	-13.19	32.68	74.00	-41.32
2342.46	39.26	Ave	356.05	1.59	V	-13.19	26.07	54.00	-27.93
2380.44	43.11	PK	154.57	1.40	H	-13.14	29.97	74.00	-44.03
2380.44	36.04	Ave	154.57	1.40	H	-13.14	22.90	54.00	-31.10
2485.70	44.54	PK	38.75	1.94	V	-13.08	31.46	74.00	-42.54
2485.70	38.66	Ave	38.75	1.94	V	-13.08	25.58	54.00	-28.42

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									
245.67	43.25	QP	4.09	1.20	H	-11.62	31.63	46.00	-14.37
245.67	38.94	QP	31.78	1.90	V	-11.62	27.32	46.00	-18.68
4824.00	47.52	PK	294.33	1.85	V	-1.06	46.46	74.00	-27.54
4824.00	44.25	Ave	294.33	1.85	V	-1.06	43.19	54.00	-10.81
7236.00	42.34	PK	265.17	1.48	H	1.33	43.67	74.00	-30.33
7236.00	41.79	Ave	265.17	1.48	H	1.33	43.12	54.00	-10.88
2323.22	45.55	PK	16.75	1.86	V	-13.19	32.36	74.00	-41.64
2323.22	38.89	Ave	16.75	1.86	V	-13.19	25.70	54.00	-28.30
2389.81	42.98	PK	326.44	1.75	H	-13.14	29.84	74.00	-44.16
2389.81	38.50	Ave	326.44	1.75	H	-13.14	25.36	54.00	-28.64
2485.71	43.22	PK	1.40	1.08	V	-13.08	30.14	74.00	-43.86
2485.71	36.79	Ave	1.40	1.08	V	-13.08	23.71	54.00	-30.29

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									
245.67	44.12	QP	247.52	1.43	H	-11.62	32.50	46.00	-13.50
245.67	38.81	QP	160.63	1.16	V	-11.62	27.19	46.00	-18.81
4874.00	48.12	PK	154.45	1.31	V	-0.62	47.50	74.00	-26.50
4874.00	45.07	Ave	154.45	1.31	V	-0.62	44.45	54.00	-9.55
7311.00	42.13	PK	94.51	1.27	H	2.21	44.34	74.00	-29.66
7311.00	43.19	Ave	94.51	1.27	H	2.21	45.40	54.00	-8.60
2319.19	45.59	PK	256.49	1.32	V	-13.19	32.40	74.00	-41.60
2319.19	38.28	Ave	256.49	1.32	V	-13.19	25.09	54.00	-28.91
2363.07	44.01	PK	339.89	1.59	H	-13.14	30.87	74.00	-43.13
2363.07	36.60	Ave	339.89	1.59	H	-13.14	23.46	54.00	-30.54
2492.97	44.74	PK	237.93	1.86	V	-13.08	31.66	74.00	-42.34
2492.97	37.97	Ave	237.93	1.86	V	-13.08	24.89	54.00	-29.11

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									
245.67	43.84	QP	166.76	1.12	H	-11.62	32.22	46.00	-13.78
245.67	37.77	QP	349.33	1.52	V	-11.62	26.15	46.00	-19.85
4924.00	48.79	PK	48.23	1.54	V	-0.24	48.55	74.00	-25.45
4924.00	45.32	Ave	48.23	1.54	V	-0.24	45.08	54.00	-8.92
7386.00	40.89	PK	183.54	1.12	H	2.84	43.73	74.00	-30.27
7386.00	44.04	Ave	183.54	1.12	H	2.84	46.88	54.00	-7.12
2337.12	45.83	PK	64.49	1.25	V	-13.19	32.64	74.00	-41.36
2337.12	37.68	Ave	64.49	1.25	V	-13.19	24.49	54.00	-29.51
2358.96	42.81	PK	187.22	1.34	H	-13.14	29.67	74.00	-44.33
2358.96	38.23	Ave	187.22	1.34	H	-13.14	25.09	54.00	-28.91
2488.25	43.23	PK	109.01	1.95	V	-13.08	30.15	74.00	-43.85
2488.25	37.18	Ave	109.01	1.95	V	-13.08	24.10	54.00	-29.90

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									
245.67	42.47	QP	280.77	1.20	H	-11.62	30.85	46.00	-15.15
245.67	38.69	QP	116.08	1.09	V	-11.62	27.07	46.00	-18.93
4824.00	49.90	PK	209.56	1.17	V	-1.06	48.84	74.00	-25.16
4824.00	45.63	Ave	209.56	1.17	V	-1.06	44.57	54.00	-9.43
7236.00	41.89	PK	356.04	1.21	H	1.33	43.22	74.00	-30.78
7236.00	42.62	Ave	356.04	1.21	H	1.33	43.95	54.00	-10.05
2319.96	46.05	PK	283.06	1.90	V	-13.19	32.86	74.00	-41.14
2319.96	37.48	Ave	283.06	1.90	V	-13.19	24.29	54.00	-29.71
2379.93	43.63	PK	329.66	1.19	H	-13.14	30.49	74.00	-43.51
2379.93	37.39	Ave	329.66	1.19	H	-13.14	24.25	54.00	-29.75
2495.00	42.97	PK	149.44	1.83	V	-13.08	29.89	74.00	-44.11
2495.00	37.75	Ave	149.44	1.83	V	-13.08	24.67	54.00	-29.33

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									
245.67	43.96	QP	227.59	1.61	H	-11.62	32.34	46.00	-13.66
245.67	40.12	QP	47.90	1.74	V	-11.62	28.50	46.00	-17.50
4874.00	49.60	PK	53.58	1.85	V	-0.62	48.98	74.00	-25.02
4874.00	46.86	Ave	53.58	1.85	V	-0.62	46.24	54.00	-7.76
7311.00	42.20	PK	29.79	1.94	H	2.21	44.41	74.00	-29.59
7311.00	44.05	Ave	29.79	1.94	H	2.21	46.26	54.00	-7.74
2314.65	45.19	PK	359.61	1.03	V	-13.19	32.00	74.00	-42.00
2314.65	37.20	Ave	359.61	1.03	V	-13.19	24.01	54.00	-29.99
2354.23	43.52	PK	281.92	1.50	H	-13.14	30.38	74.00	-43.62
2354.23	36.73	Ave	281.92	1.50	H	-13.14	23.59	54.00	-30.41
2486.03	42.45	PK	269.62	1.66	V	-13.08	29.37	74.00	-44.63
2486.03	36.10	Ave	269.62	1.66	V	-13.08	23.02	54.00	-30.98

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: High Channel 2462MHz									
245.67	43.22	QP	299.96	1.71	H	-11.62	31.60	46.00	-14.40
245.67	40.90	QP	135.71	1.02	V	-11.62	29.28	46.00	-16.72
4924.00	50.28	PK	158.81	1.16	V	-0.24	50.04	74.00	-23.96
4924.00	47.37	Ave	158.81	1.16	V	-0.24	47.13	54.00	-6.87
7386.00	42.22	PK	138.45	1.06	H	2.84	45.06	74.00	-28.94
7386.00	43.62	Ave	138.45	1.06	H	2.84	46.46	54.00	-7.54
2339.84	45.56	PK	18.40	1.81	V	-13.19	32.37	74.00	-41.63
2339.84	37.06	Ave	18.40	1.81	V	-13.19	23.87	54.00	-30.13
2383.22	44.18	PK	303.04	1.89	H	-13.14	31.04	74.00	-42.96
2383.22	37.72	Ave	303.04	1.89	H	-13.14	24.58	54.00	-29.42
2485.22	42.19	PK	57.53	1.35	V	-13.08	29.11	74.00	-44.89
2485.22	36.94	Ave	57.53	1.35	V	-13.08	23.86	54.00	-30.14

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									
245.67	45.09	QP	27.53	1.99	H	-11.62	33.47	46.00	-12.53
245.67	36.58	QP	107.62	1.16	V	-11.62	24.96	46.00	-21.04
4824.00	48.67	PK	303.83	1.32	V	-1.06	47.61	74.00	-26.39
4824.00	46.10	Ave	303.83	1.32	V	-1.06	45.04	54.00	-8.96
7236.00	40.94	PK	303.34	1.81	H	1.33	42.27	74.00	-31.73
7236.00	43.79	Ave	303.34	1.81	H	1.33	45.12	54.00	-8.88
2323.16	46.46	PK	122.75	1.34	V	-13.19	33.27	74.00	-40.73
2323.16	38.62	Ave	122.75	1.34	V	-13.19	25.43	54.00	-28.57
2365.83	43.26	PK	113.28	1.94	H	-13.14	30.12	74.00	-43.88
2365.83	38.26	Ave	113.28	1.94	H	-13.14	25.12	54.00	-28.88
2494.26	42.49	PK	157.68	1.09	V	-13.08	29.41	74.00	-44.59
2494.26	37.80	Ave	157.68	1.09	V	-13.08	24.72	54.00	-29.28

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									
245.67	44.73	QP	335.95	1.23	H	-11.62	33.11	46.00	-12.89
245.67	38.07	QP	35.40	1.79	V	-11.62	26.45	46.00	-19.55
4874.00	50.13	PK	75.72	1.72	V	-0.62	49.51	74.00	-24.49
4874.00	45.31	Ave	75.72	1.72	V	-0.62	44.69	54.00	-9.31
7311.00	40.27	PK	318.13	1.06	H	2.21	42.48	74.00	-31.52
7311.00	43.89	Ave	318.13	1.06	H	2.21	46.10	54.00	-7.90
2341.32	45.24	PK	254.73	1.19	V	-13.19	32.05	74.00	-41.95
2341.32	38.97	Ave	254.73	1.19	V	-13.19	25.78	54.00	-28.22
2381.22	42.13	PK	326.69	1.49	H	-13.14	28.99	74.00	-45.01
2381.22	36.86	Ave	326.69	1.49	H	-13.14	23.72	54.00	-30.28
2494.90	44.49	PK	112.94	1.73	V	-13.08	31.41	74.00	-42.59
2494.90	36.44	Ave	112.94	1.73	V	-13.08	23.36	54.00	-30.64

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									
245.67	44.82	QP	331.01	1.04	H	-11.62	33.20	46.00	-12.80
245.67	38.03	QP	87.72	1.73	V	-11.62	26.41	46.00	-19.59
4924.00	51.25	PK	282.78	1.04	V	-0.24	51.01	74.00	-22.99
4924.00	45.80	Ave	282.78	1.04	V	-0.24	45.56	54.00	-8.44
7386.00	41.63	PK	349.81	1.24	H	2.84	44.47	74.00	-29.53
7386.00	43.09	Ave	349.81	1.24	H	2.84	45.93	54.00	-8.07
2322.16	45.68	PK	18.57	1.46	V	-13.19	32.49	74.00	-41.51
2322.16	37.69	Ave	18.57	1.46	V	-13.19	24.50	54.00	-29.50
2355.42	43.36	PK	318.83	1.23	H	-13.14	30.22	74.00	-43.78
2355.42	36.06	Ave	318.83	1.23	H	-13.14	22.92	54.00	-31.08
2486.98	42.99	PK	317.08	1.08	V	-13.08	29.91	74.00	-44.09
2486.98	38.60	Ave	317.08	1.08	V	-13.08	25.52	54.00	-28.48

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									
245.67	42.68	QP	178.52	1.26	H	-11.62	31.06	46.00	-14.94
245.67	41.58	QP	191.81	1.58	V	-11.62	29.96	46.00	-16.04
4824.00	51.50	PK	46.49	1.66	V	-1.06	50.44	74.00	-23.56
4824.00	47.45	Ave	46.49	1.66	V	-1.06	46.39	54.00	-7.61
7236.00	42.55	PK	278.03	1.93	H	1.33	43.88	74.00	-30.12
7236.00	42.36	Ave	278.03	1.93	H	1.33	43.69	54.00	-10.31
2316.94	46.89	PK	211.92	1.36	V	-13.19	33.70	74.00	-40.30
2316.94	38.08	Ave	211.92	1.36	V	-13.19	24.89	54.00	-29.11
2382.47	42.46	PK	178.99	1.87	H	-13.14	29.32	74.00	-44.68
2382.47	36.90	Ave	178.99	1.87	H	-13.14	23.76	54.00	-30.24
2496.29	42.63	PK	332.05	1.47	V	-13.08	29.55	74.00	-44.45
2496.29	37.27	Ave	332.05	1.47	V	-13.08	24.19	54.00	-29.81

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									
245.67	42.68	QP	178.52	1.26	H	-11.62	31.06	46.00	-14.94
245.67	41.58	QP	191.81	1.58	V	-11.62	29.96	46.00	-16.04
4824.00	51.50	PK	46.49	1.66	V	-1.06	50.44	74.00	-23.56
4824.00	47.45	Ave	46.49	1.66	V	-1.06	46.39	54.00	-7.61
7236.00	42.55	PK	278.03	1.93	H	1.33	43.88	74.00	-30.12
7236.00	42.36	Ave	278.03	1.93	H	1.33	43.69	54.00	-10.31
2316.94	46.89	PK	211.92	1.36	V	-13.19	33.70	74.00	-40.30
2316.94	38.08	Ave	211.92	1.36	V	-13.19	24.89	54.00	-29.11
2382.47	42.46	PK	178.99	1.87	H	-13.14	29.32	74.00	-44.68
2382.47	36.90	Ave	178.99	1.87	H	-13.14	23.76	54.00	-30.24
2496.29	42.63	PK	332.05	1.47	V	-13.08	29.55	74.00	-44.45
2496.29	37.27	Ave	332.05	1.47	V	-13.08	24.19	54.00	-29.81

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									
245.67	40.35	QP	167.92	1.22	H	-11.62	28.73	46.00	-17.27
245.67	42.54	QP	239.51	1.28	V	-11.62	30.92	46.00	-15.08
4924.00	51.60	PK	104.20	1.32	V	-0.24	51.36	74.00	-22.64
4924.00	48.55	Ave	104.20	1.32	V	-0.24	48.31	54.00	-5.69
7386.00	40.03	PK	77.34	1.45	H	2.84	42.87	74.00	-31.13
7386.00	44.16	Ave	77.34	1.45	H	2.84	47.00	54.00	-7.00
2327.78	46.99	PK	103.85	1.93	V	-13.19	33.80	74.00	-40.20
2327.78	39.13	Ave	103.85	1.93	V	-13.19	25.94	54.00	-28.06
2388.17	44.08	PK	227.78	1.29	H	-13.14	30.94	74.00	-43.06
2388.17	38.34	Ave	227.78	1.29	H	-13.14	25.20	54.00	-28.80
2495.39	42.51	PK	255.27	1.47	V	-13.08	29.43	74.00	-44.57
2495.39	38.45	Ave	255.27	1.47	V	-13.08	25.37	54.00	-28.63

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									
245.67	41.58	QP	31.74	1.40	H	-11.62	29.96	46.00	-16.04
245.67	41.94	QP	129.80	1.13	V	-11.62	30.32	46.00	-15.68
4844.00	48.90	PK	161.43	1.44	V	-1.06	47.84	74.00	-26.16
4844.00	46.04	Ave	161.43	1.44	V	-1.06	44.98	54.00	-9.02
7266.00	37.82	PK	91.79	1.56	H	1.33	39.15	74.00	-34.85
7266.00	41.25	Ave	91.79	1.56	H	1.33	42.58	54.00	-11.42
2344.93	45.16	PK	1.05	1.19	V	-13.19	31.97	74.00	-42.03
2344.93	38.61	Ave	1.05	1.19	V	-13.19	25.42	54.00	-28.58
2360.63	44.85	PK	62.52	1.26	H	-13.14	31.71	74.00	-42.29
2360.63	37.92	Ave	62.52	1.26	H	-13.14	24.78	54.00	-29.22
2488.51	44.64	PK	209.10	1.86	V	-13.08	31.56	74.00	-42.44
2488.51	38.47	Ave	209.10	1.86	V	-13.08	25.39	54.00	-28.61

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									
245.67	41.67	QP	117.56	1.93	H	-11.62	30.05	46.00	-15.95
245.67	41.65	QP	273.70	1.87	V	-11.62	30.03	46.00	-15.97
4874.00	49.14	PK	187.28	1.05	V	-0.62	48.52	74.00	-25.48
4874.00	45.59	Ave	187.28	1.05	V	-0.62	44.97	54.00	-9.03
7311.00	38.37	PK	252.66	1.80	H	2.21	40.58	74.00	-33.42
7311.00	41.30	Ave	252.66	1.80	H	2.21	43.51	54.00	-10.49
2348.79	46.04	PK	318.41	1.24	V	-13.19	32.85	74.00	-41.15
2348.79	38.54	Ave	318.41	1.24	V	-13.19	25.35	54.00	-28.65
2359.82	44.59	PK	10.94	1.09	H	-13.14	31.45	74.00	-42.55
2359.82	36.00	Ave	10.94	1.09	H	-13.14	22.86	54.00	-31.14
2487.28	42.90	PK	334.73	1.62	V	-13.08	29.82	74.00	-44.18
2487.28	36.98	Ave	334.73	1.62	V	-13.08	23.90	54.00	-30.10

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									
245.67	41.84	QP	119.13	1.94	H	-11.62	30.22	46.00	-15.78
245.67	41.84	QP	1.18	1.19	V	-11.62	30.22	46.00	-15.78
4904.00	49.72	PK	126.71	1.90	V	-0.24	49.48	74.00	-24.52
4904.00	45.12	Ave	126.71	1.90	V	-0.24	44.88	54.00	-9.12
7356.00	37.48	PK	225.95	1.88	H	2.84	40.32	74.00	-33.68
7356.00	40.97	Ave	225.95	1.88	H	2.84	43.81	54.00	-10.19
2338.97	45.93	PK	150.45	1.92	V	-13.19	32.74	74.00	-41.26
2338.97	37.85	Ave	150.45	1.92	V	-13.19	24.66	54.00	-29.34
2369.31	42.05	PK	172.75	1.88	H	-13.14	28.91	74.00	-45.09
2369.31	37.89	Ave	172.75	1.88	H	-13.14	24.75	54.00	-29.25
2485.45	44.70	PK	84.53	1.30	V	-13.08	31.62	74.00	-42.38
2485.45	37.93	Ave	84.53	1.30	V	-13.08	24.85	54.00	-29.15

Test Frequency: 18GHz to 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:	558074 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

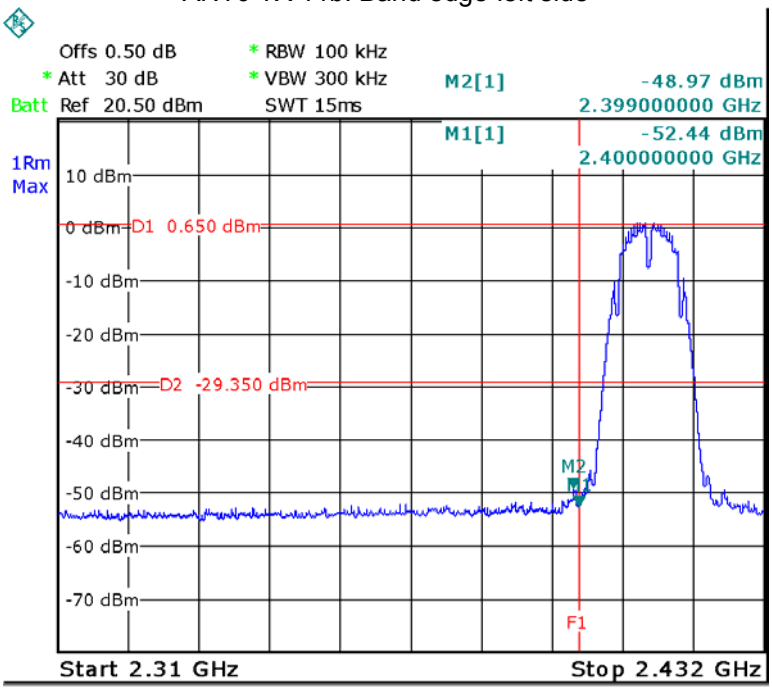
9.1 Test Produce

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.

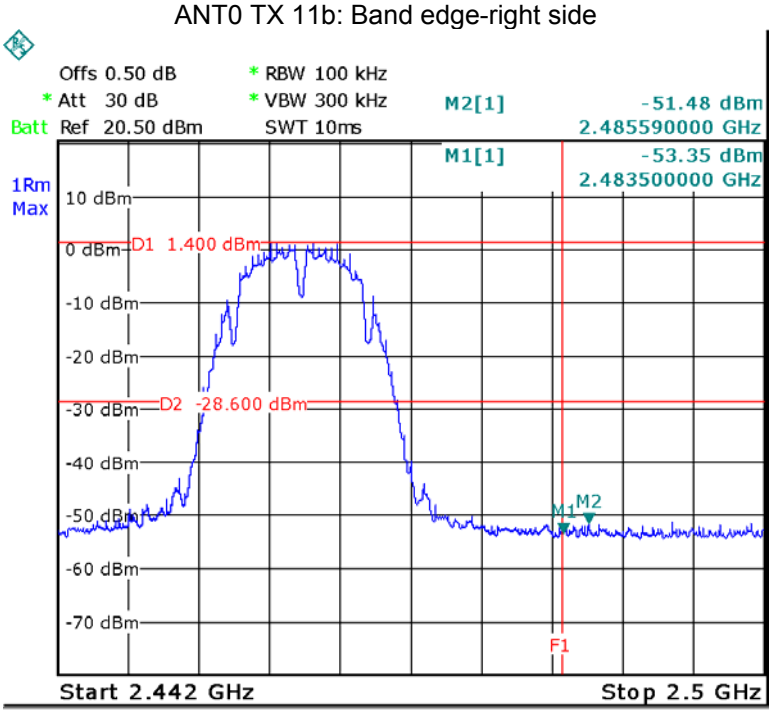
9.2 Test Result

Test result plots shown as follows:

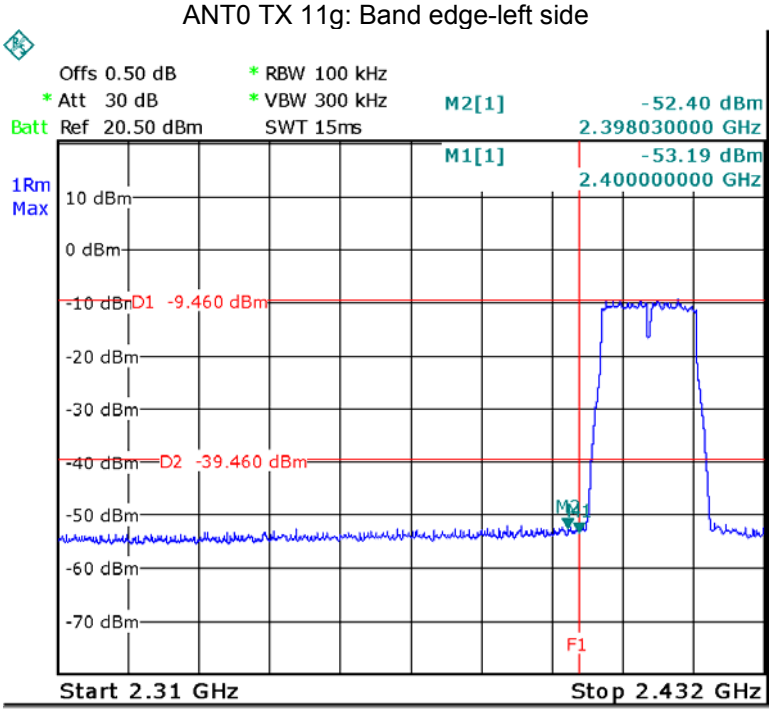
ANT0 TX 11b: Band edge-left side



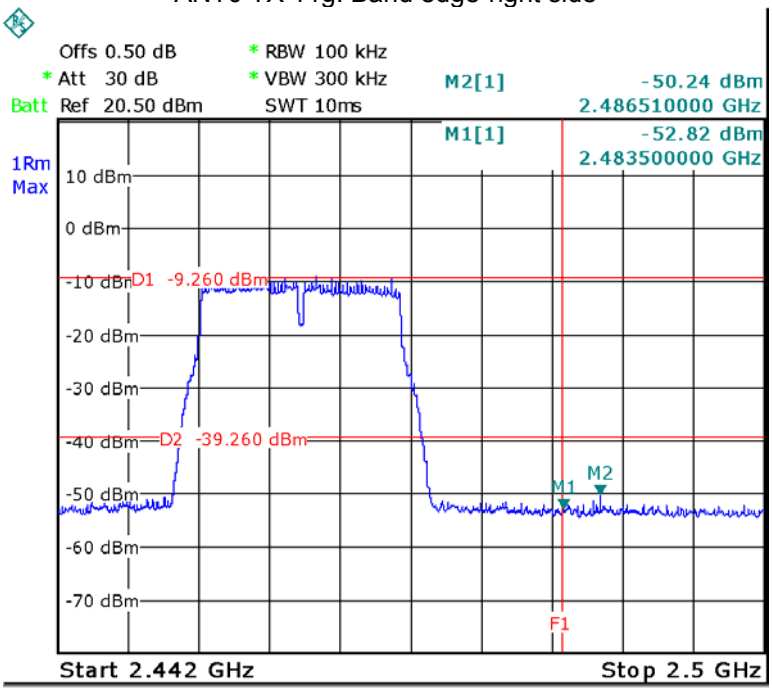
ANT0 TX 11b: Band edge-right side



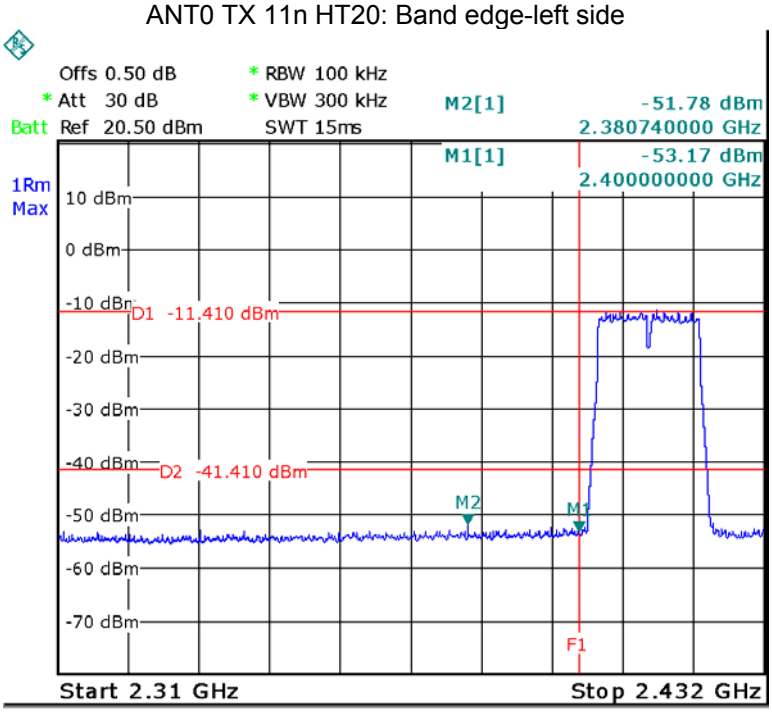
ANT0 TX 11g: Band edge-left side



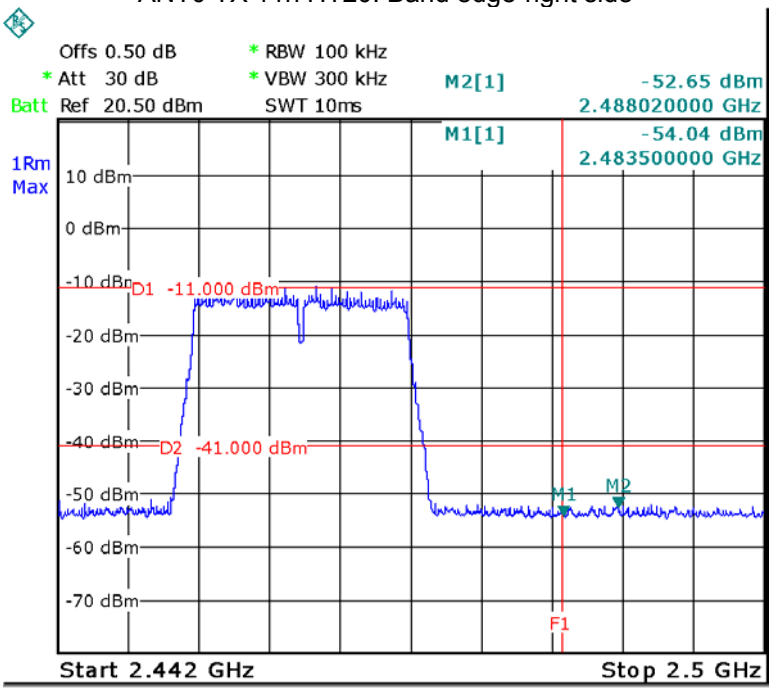
ANT0 TX 11g: Band edge-right side



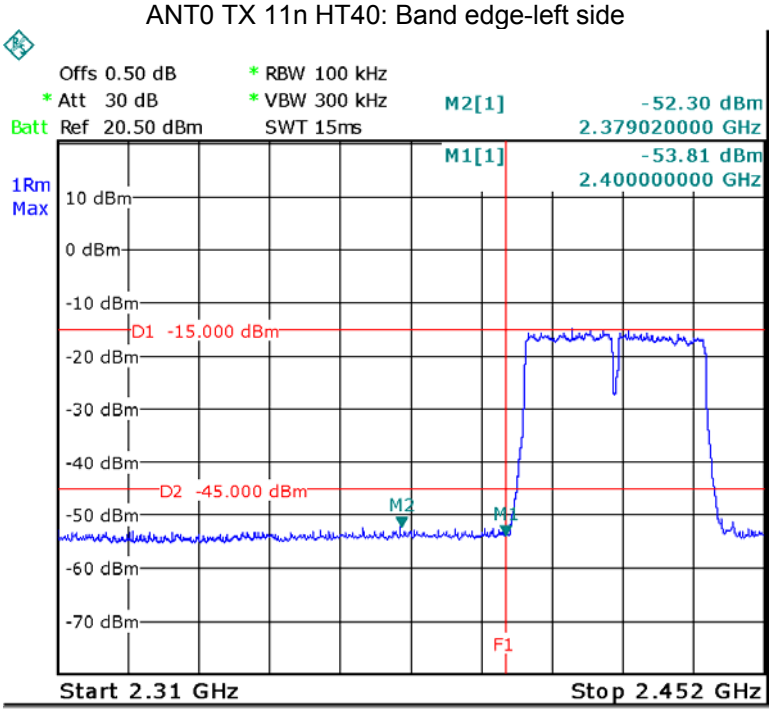
ANT0 TX 11n HT20: Band edge-left side



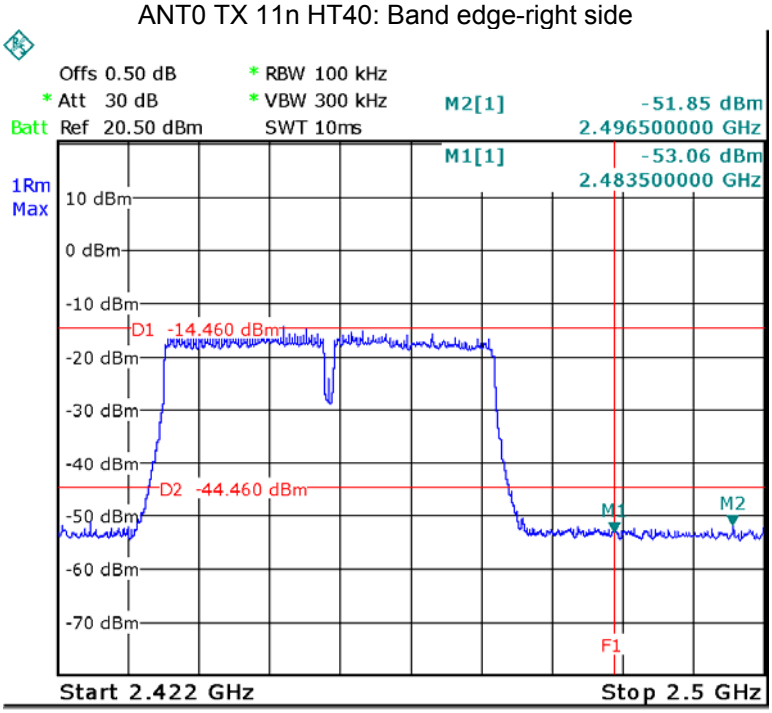
ANT0 TX 11n HT20: Band edge-right side



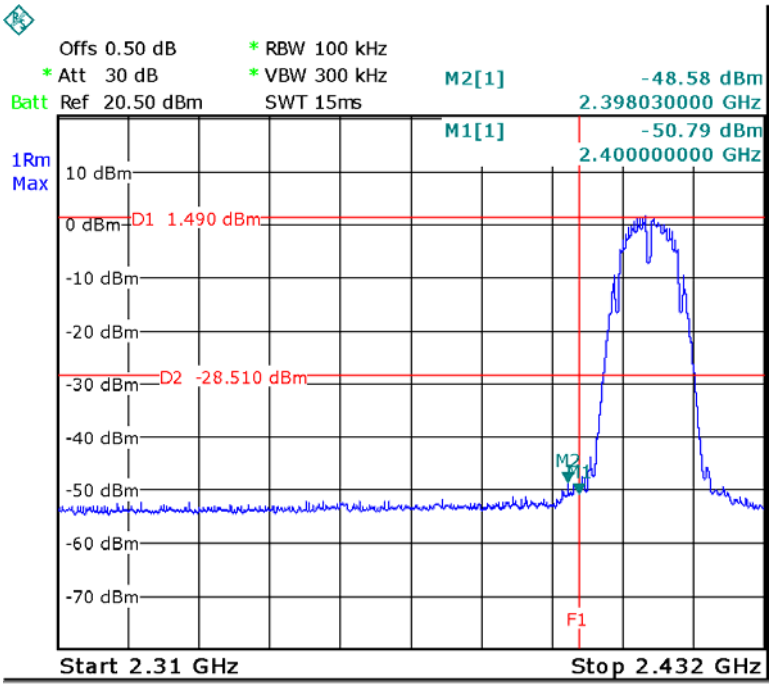
ANT0 TX 11n HT40: Band edge-left side



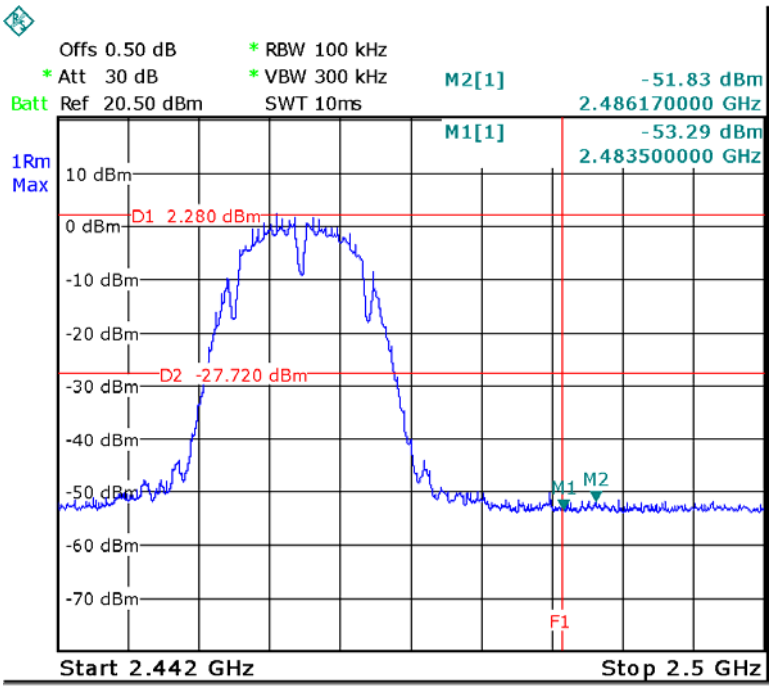
ANT0 TX 11n HT40: Band edge-right side



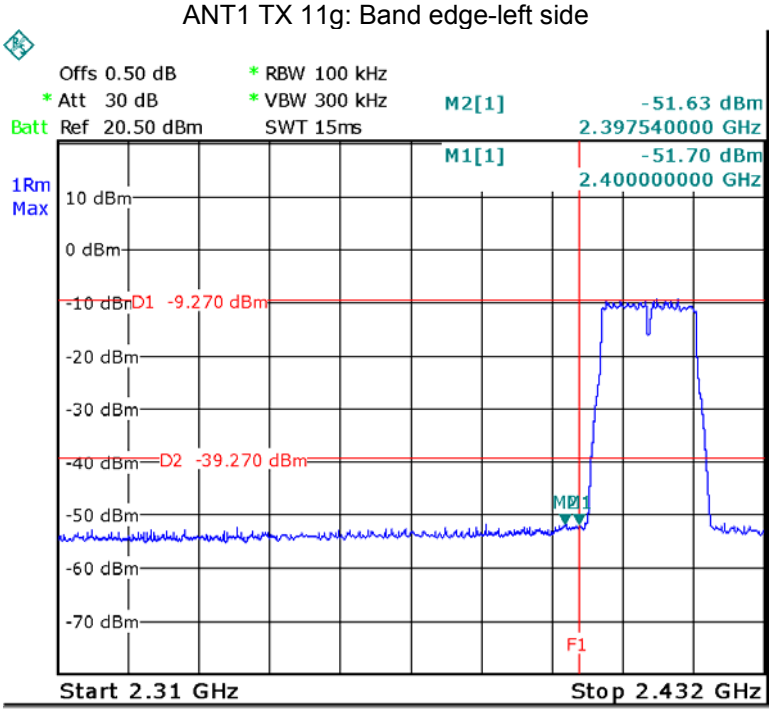
ANT1 TX 11b: Band edge-left side



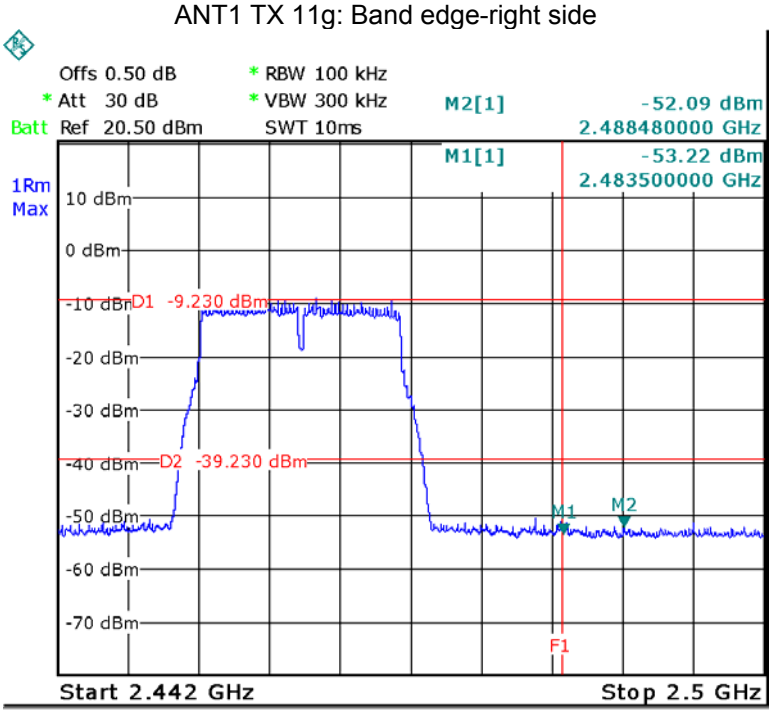
ANT1 TX 11b: Band edge-right side



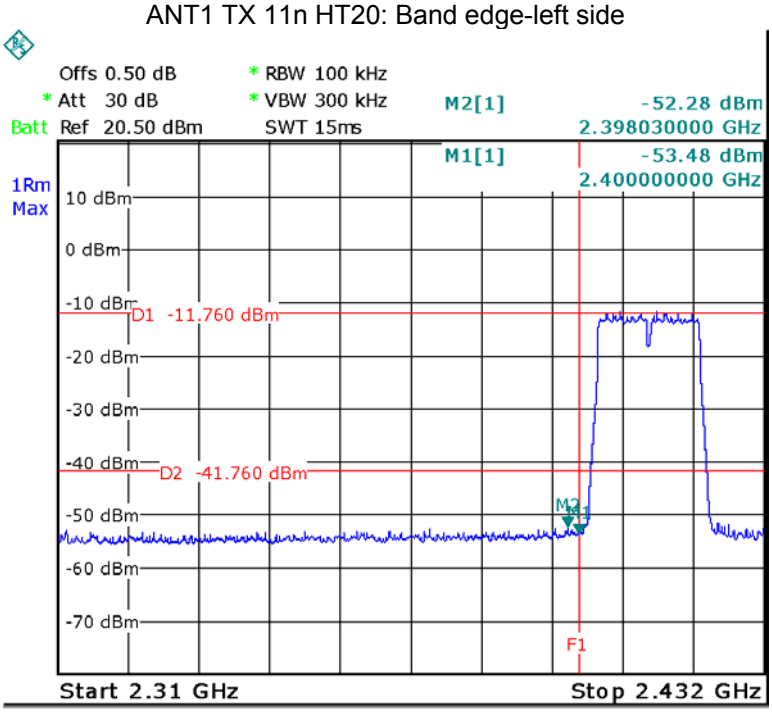
ANT1 TX 11g: Band edge-left side



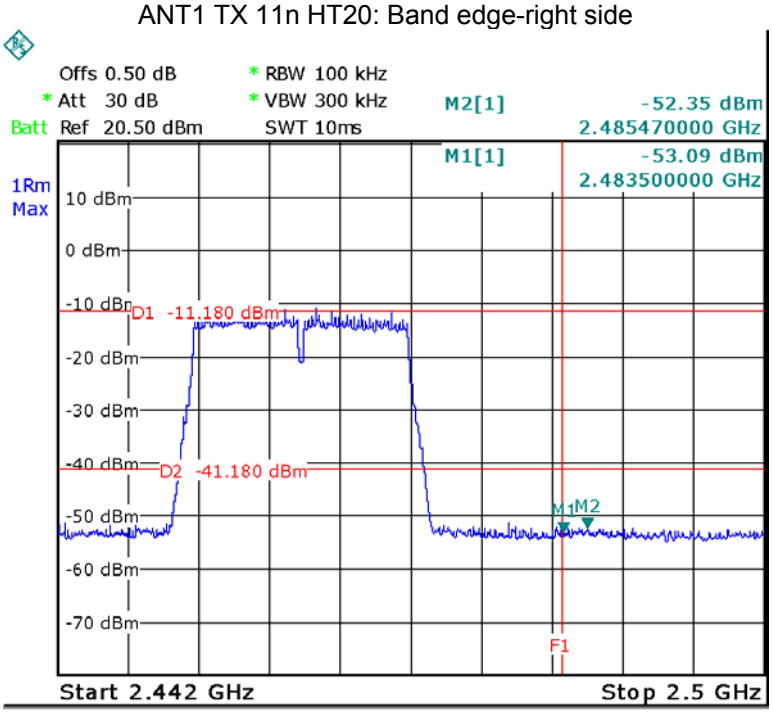
ANT1 TX 11g: Band edge-right side



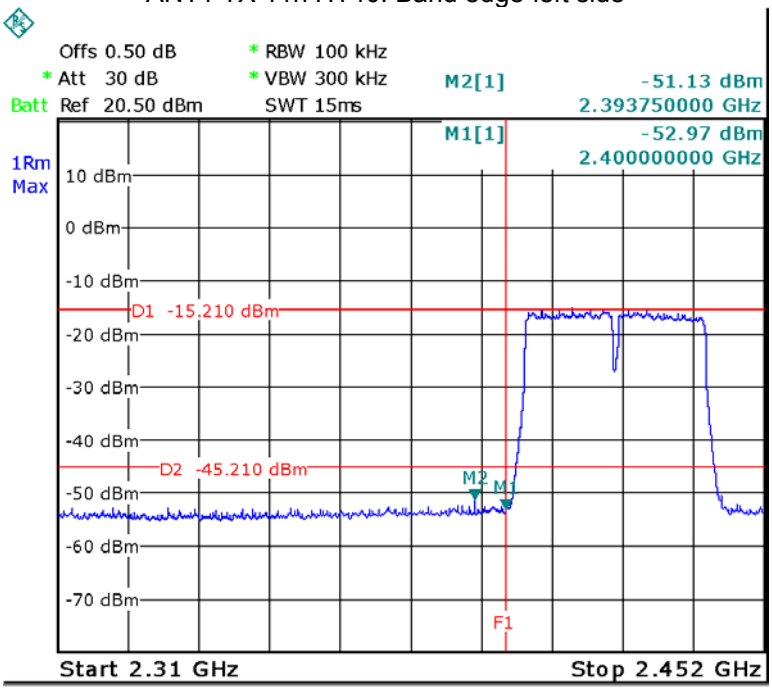
ANT1 TX 11n HT20: Band edge-left side



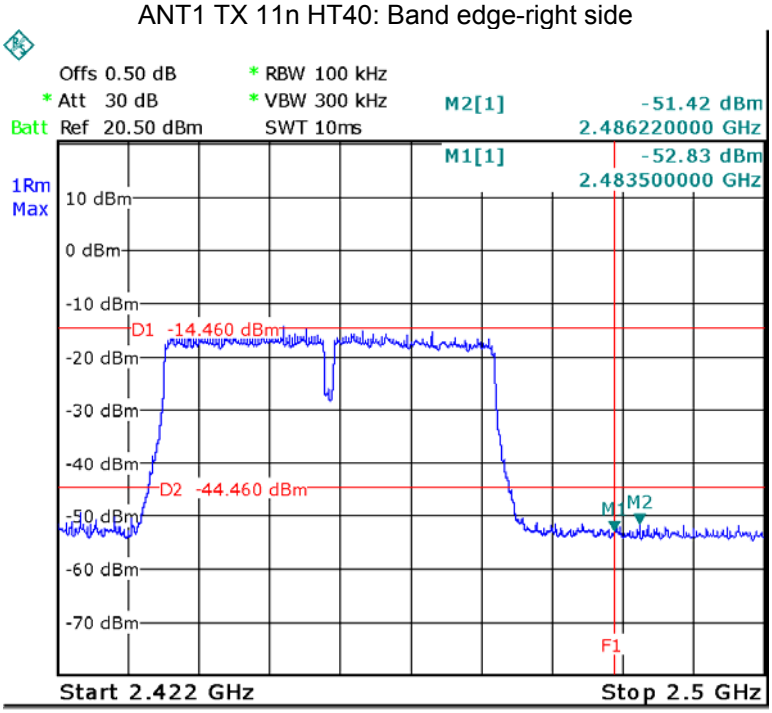
ANT1 TX 11n HT20: Band edge-right side



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: 558074 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;

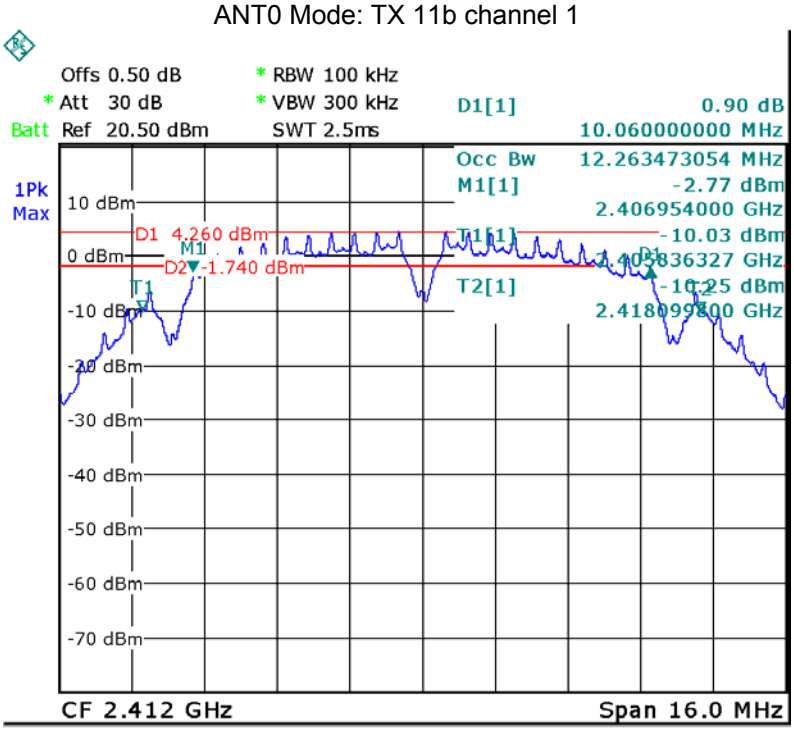
2. Set the spectrum analyzer: RBW = 100kHz, VBW = 300kHz

10.2 Test Result:

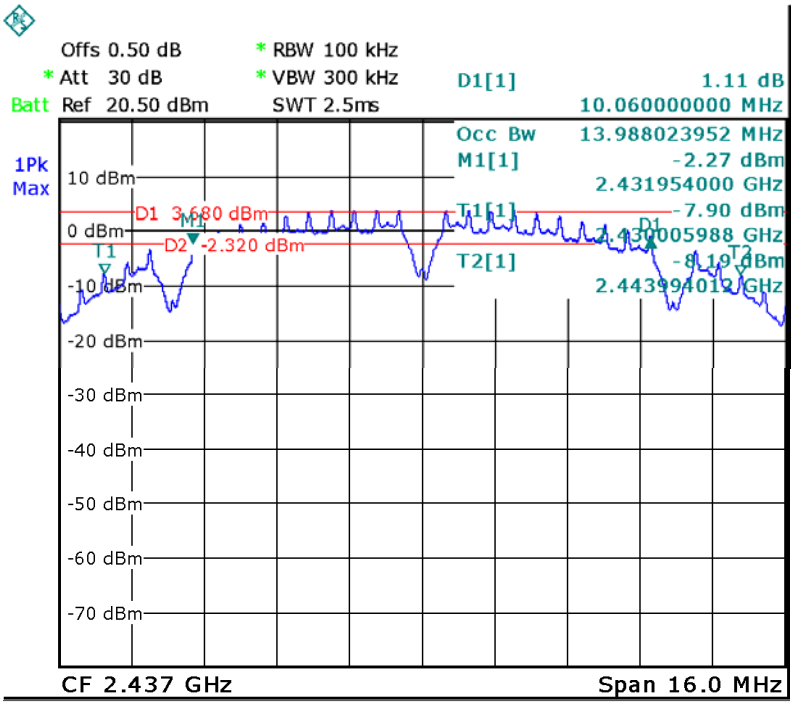
ANT	Operation mode	Bandwidth (MHz)		
		Low	Middle	High
ANT0	11b	10.060	10.060	10.060
	11g	16.467	16.467	16.467
	11n HT20	17.677	17.677	17.677
	11n HT40	36.120	36.120	36.120
ANT1	11b	10.060	10.060	10.060
	11g	16.467	16.467	16.467
	11n HT20	17.677	17.677	17.677
	11n HT40	36.120	36.120	36.120

Test result plot as follows:

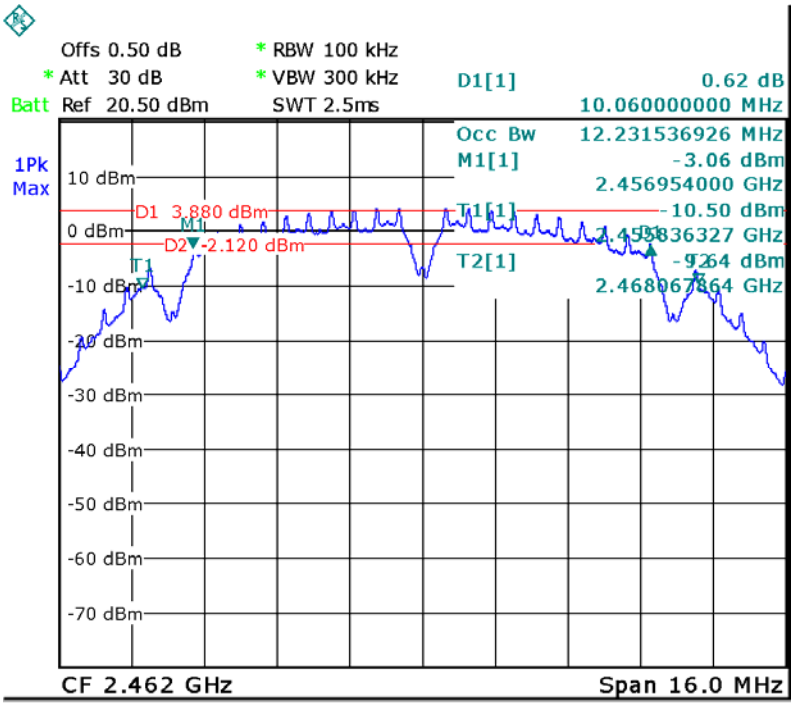
ANT0 Mode: TX 11b channel 1



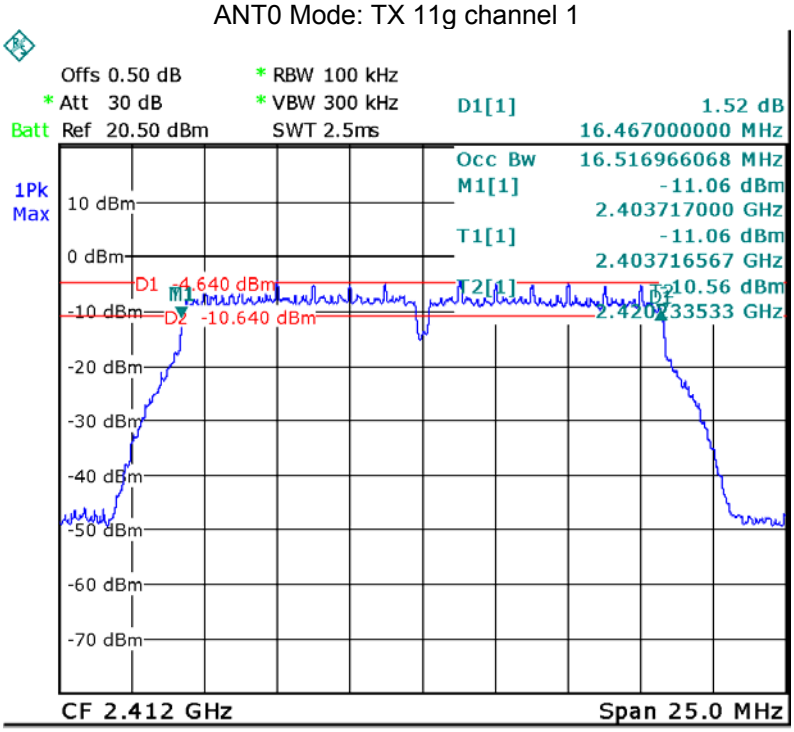
ANT0 Mode: TX 11b channel 6



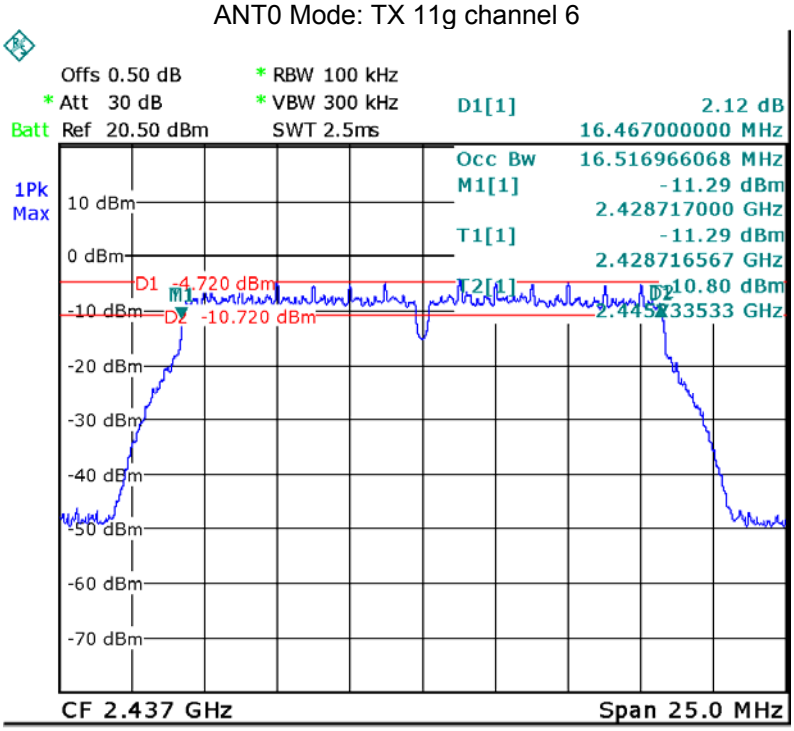
ANT0 Mode: TX 11b channel 11



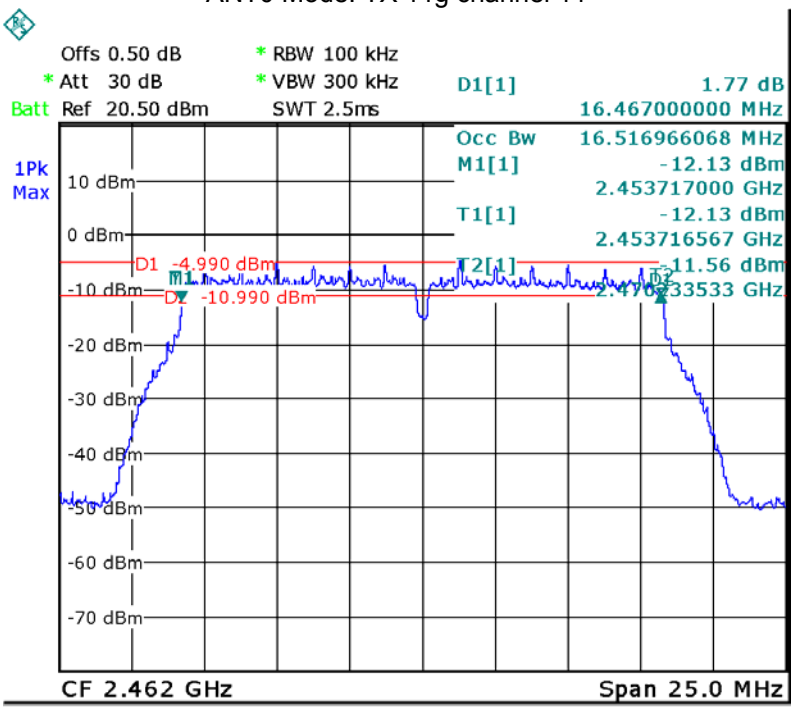
ANT0 Mode: TX 11g channel 1



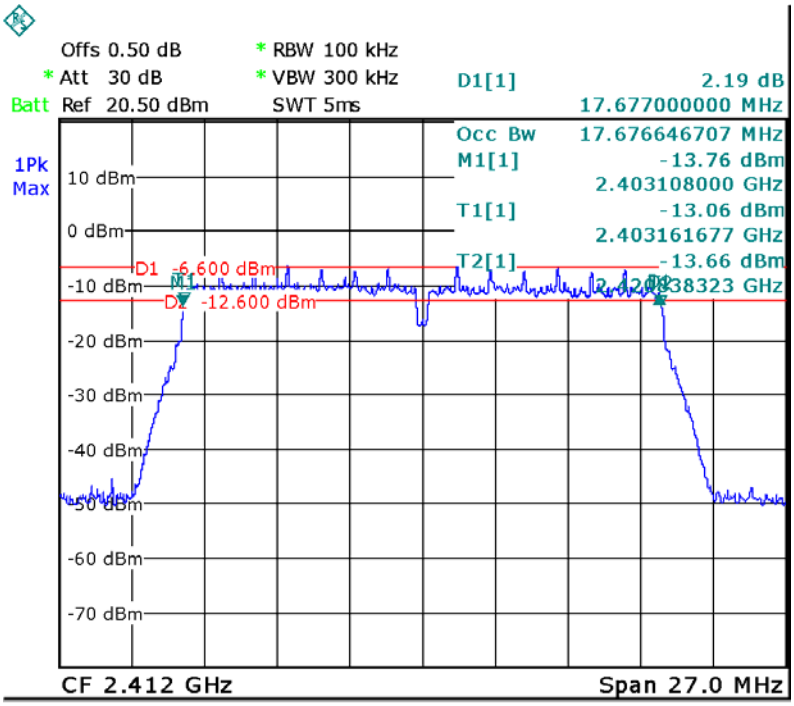
ANT0 Mode: TX 11g channel 6



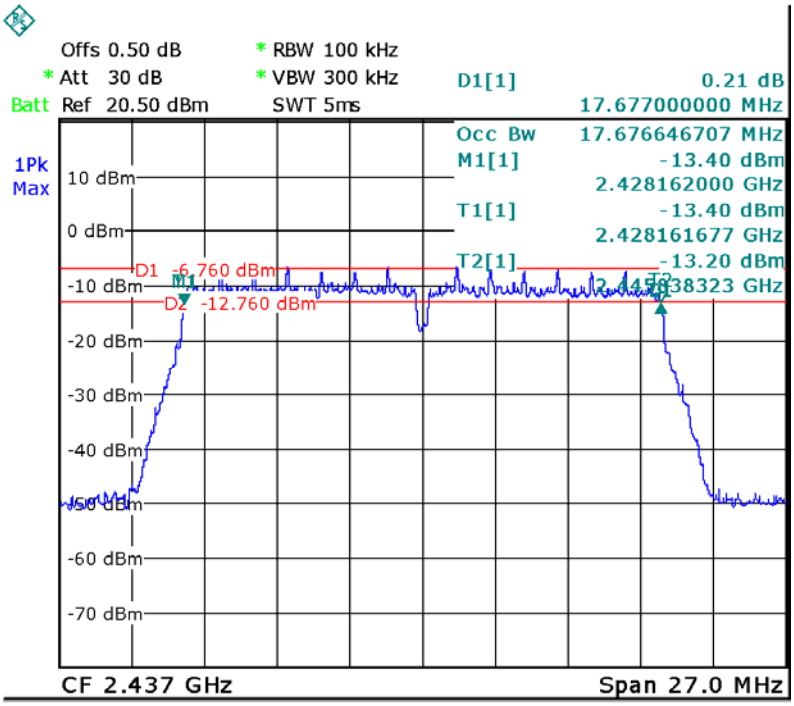
ANT0 Mode: TX 11g channel 11



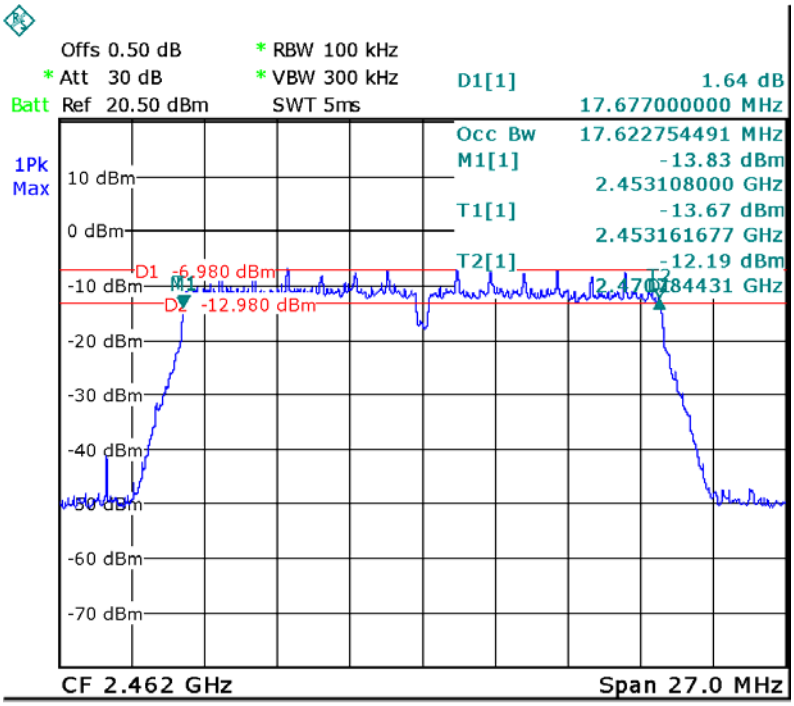
ANT0 Mode: TX 11n HT20 channel 1



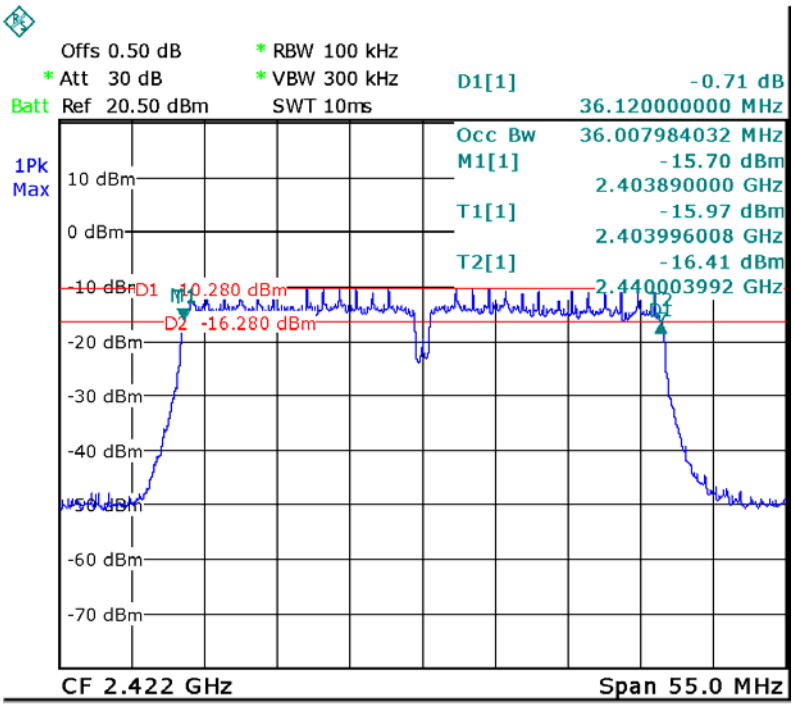
ANT0 Mode: TX 11n HT20 channel 6



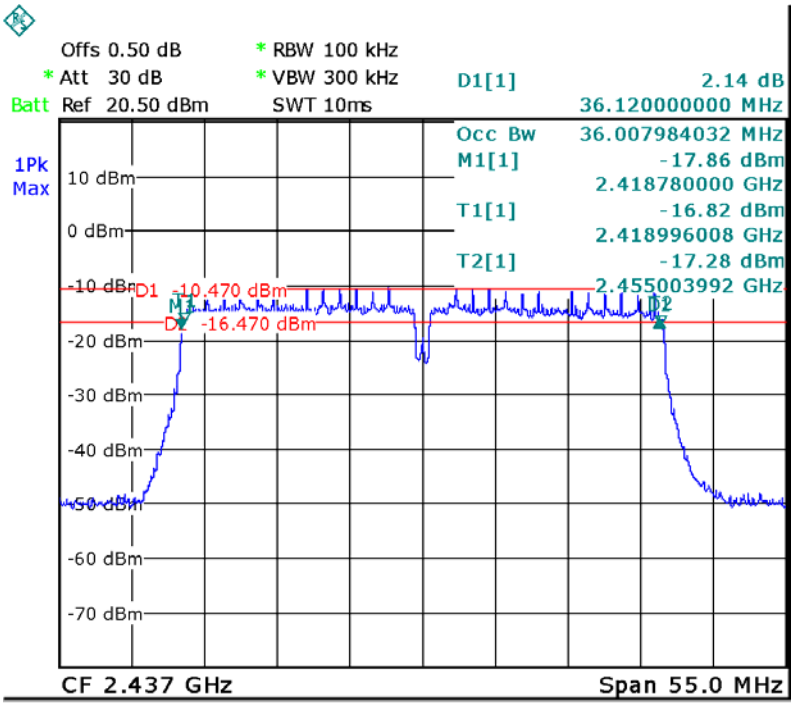
ANT0 Mode: TX 11n HT20 channel 11



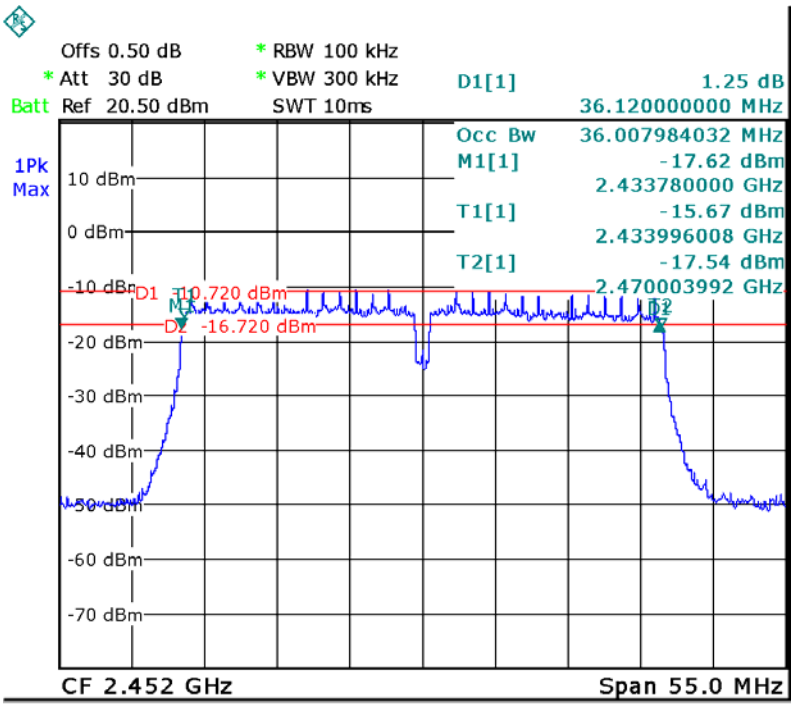
ANT0 Mode: TX 11n HT40 channel 3



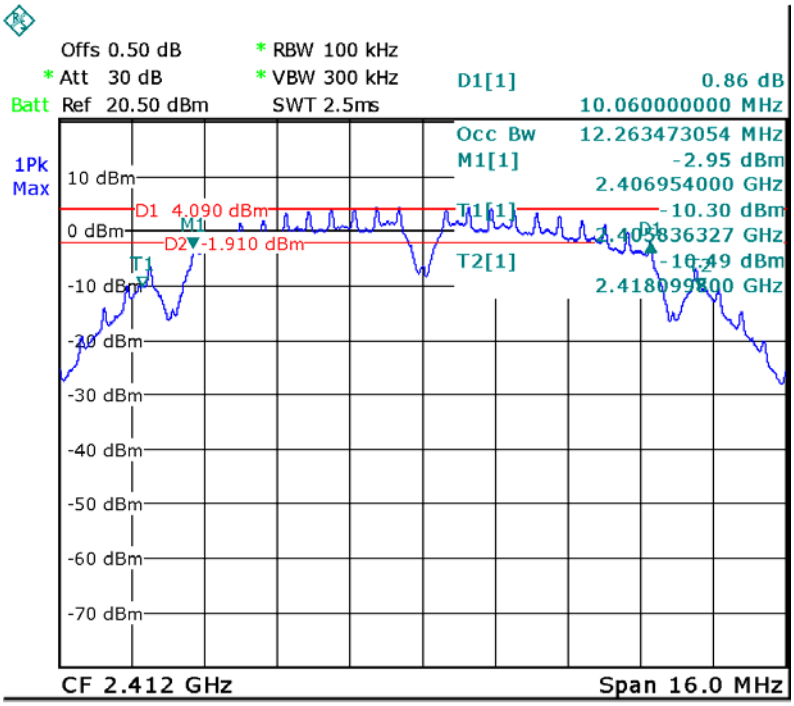
ANT0 Mode: TX 11n HT40 channel 6



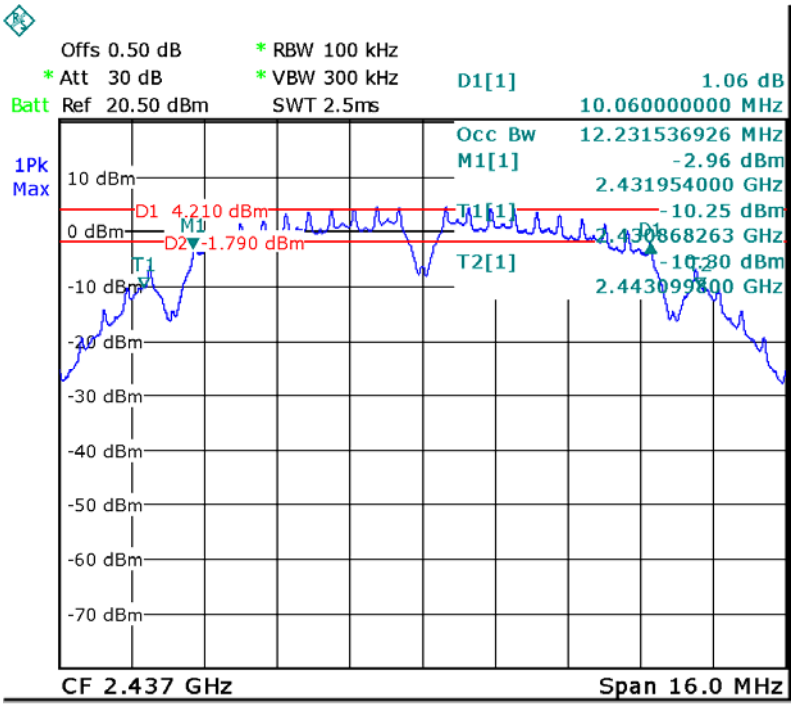
ANT0 Mode: TX 11n HT40 channel 9



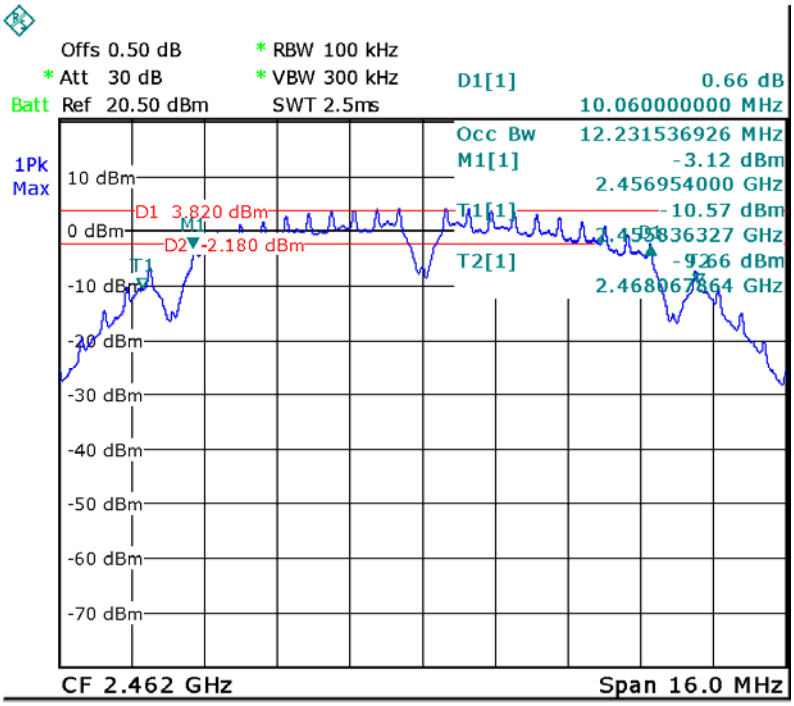
ANT1 Mode: TX 11b channel 1



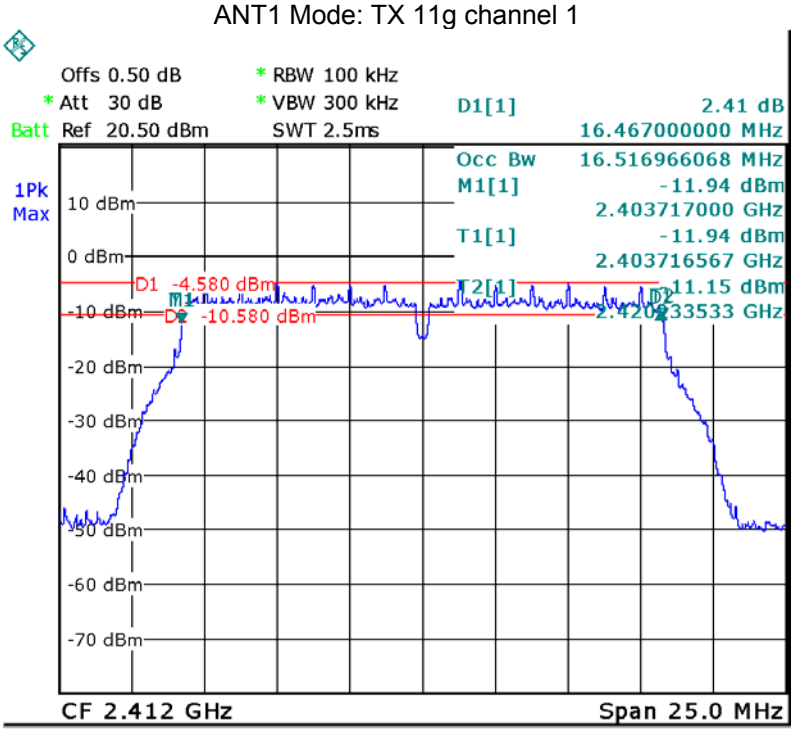
ANT1 Mode: TX 11b channel 6



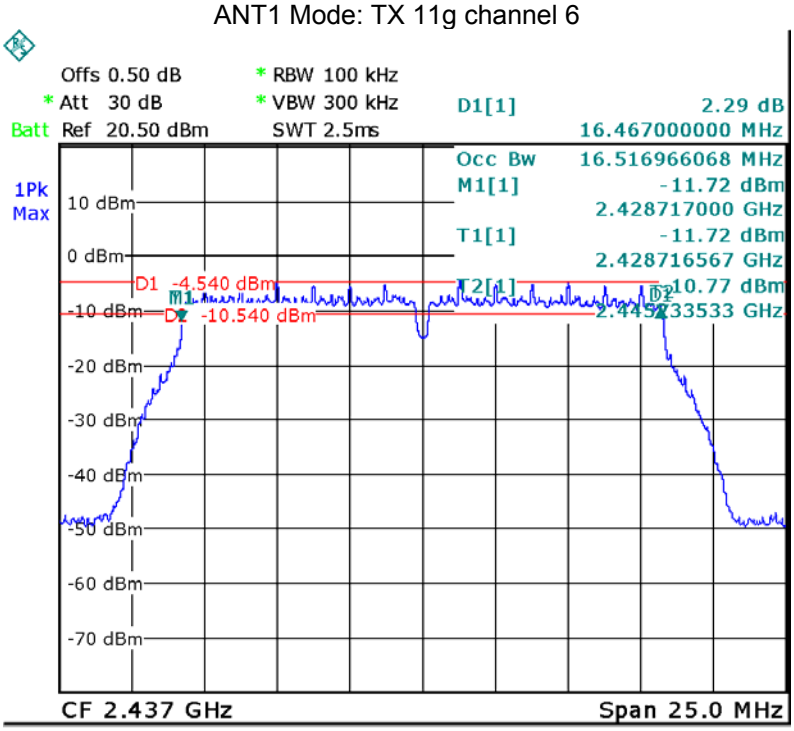
ANT1 Mode: TX 11b channel 11



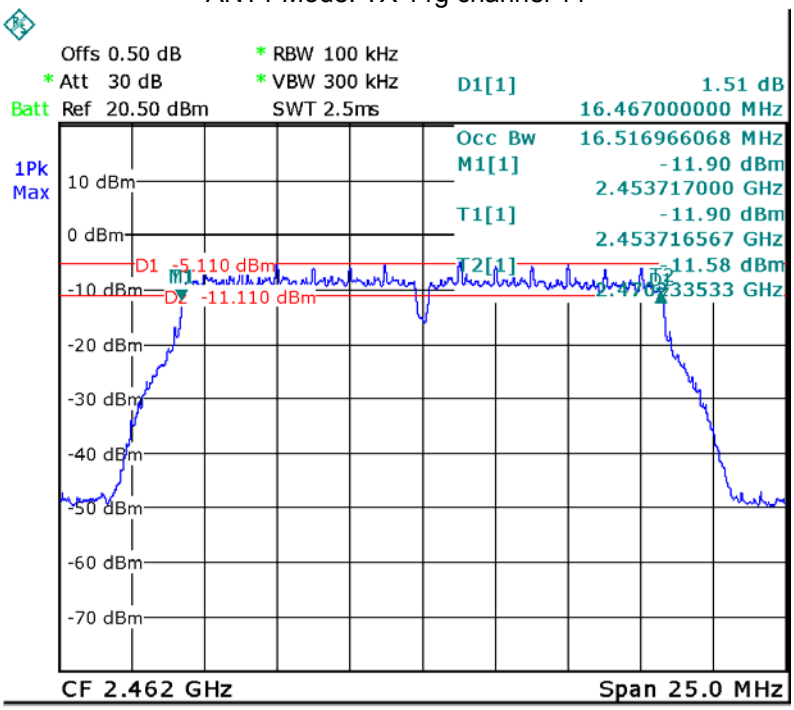
ANT1 Mode: TX 11g channel 1



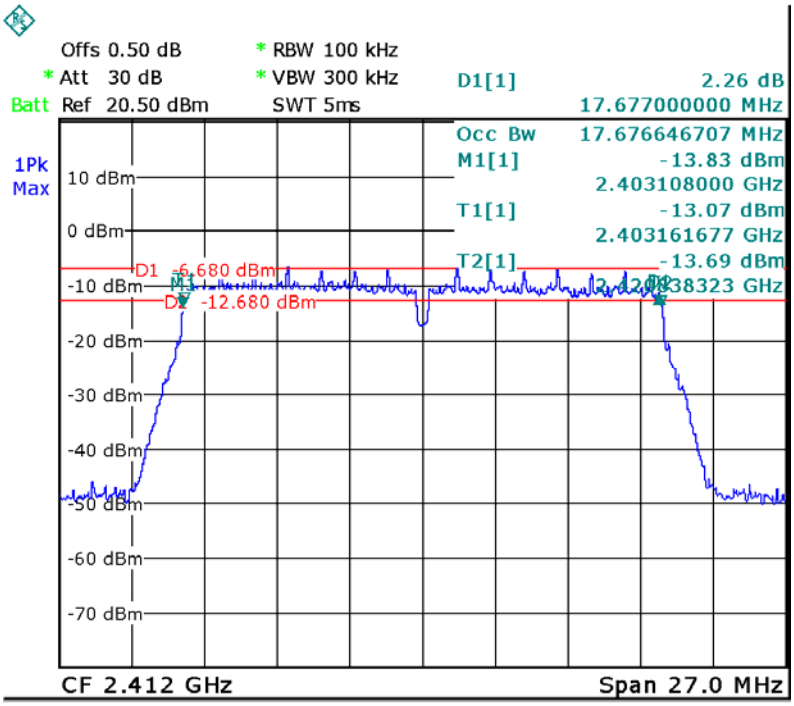
ANT1 Mode: TX 11g channel 6



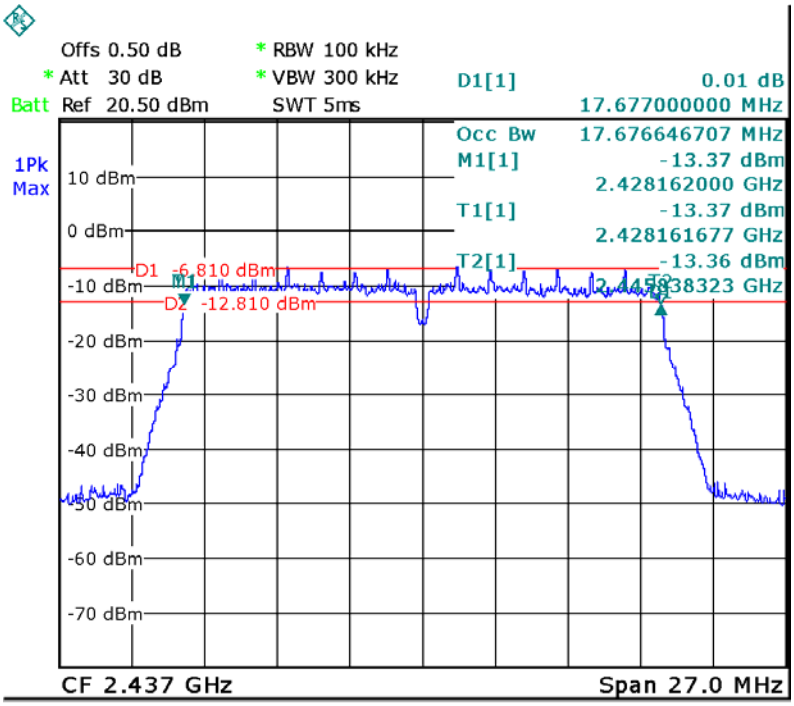
ANT1 Mode: TX 11g channel 11



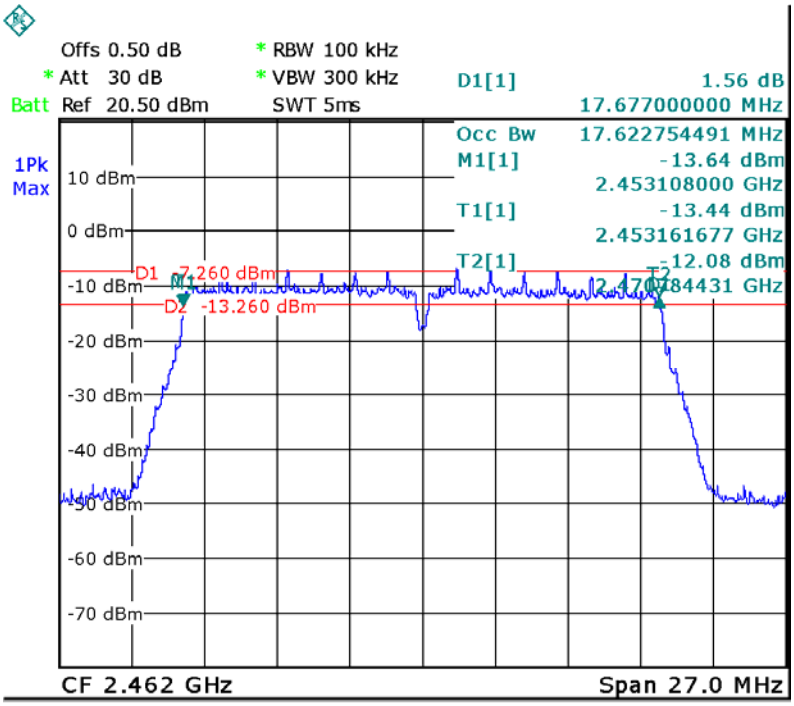
ANT1 Mode: TX 11n HT20 channel 1



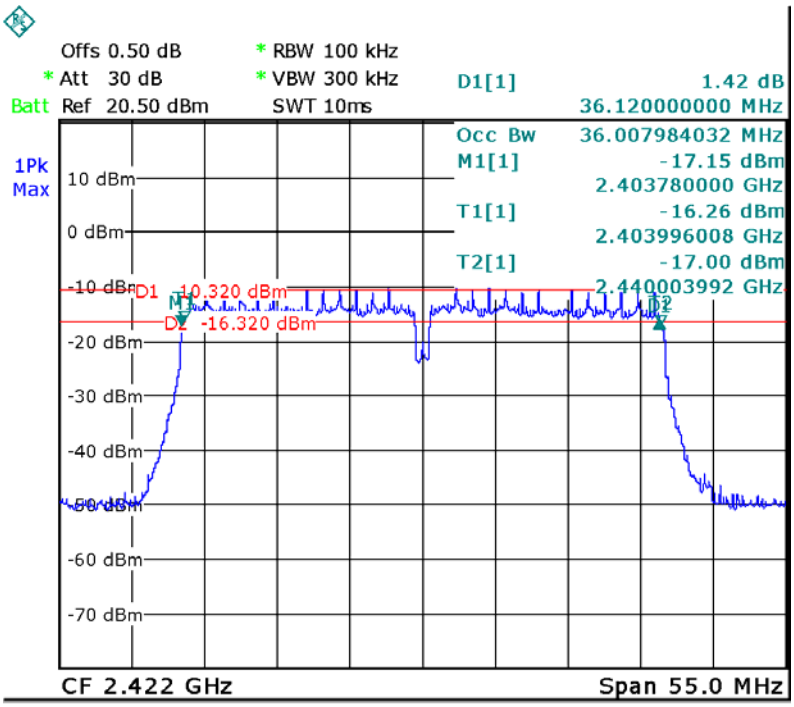
ANT1 Mode: TX 11n HT20 channel 6



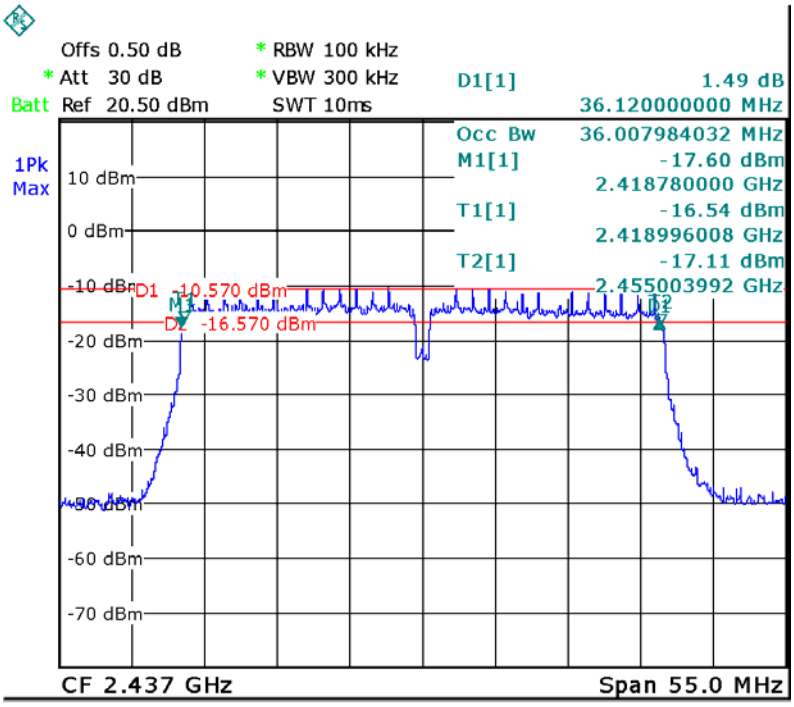
ANT1 Mode: TX 11n HT20 channel 11



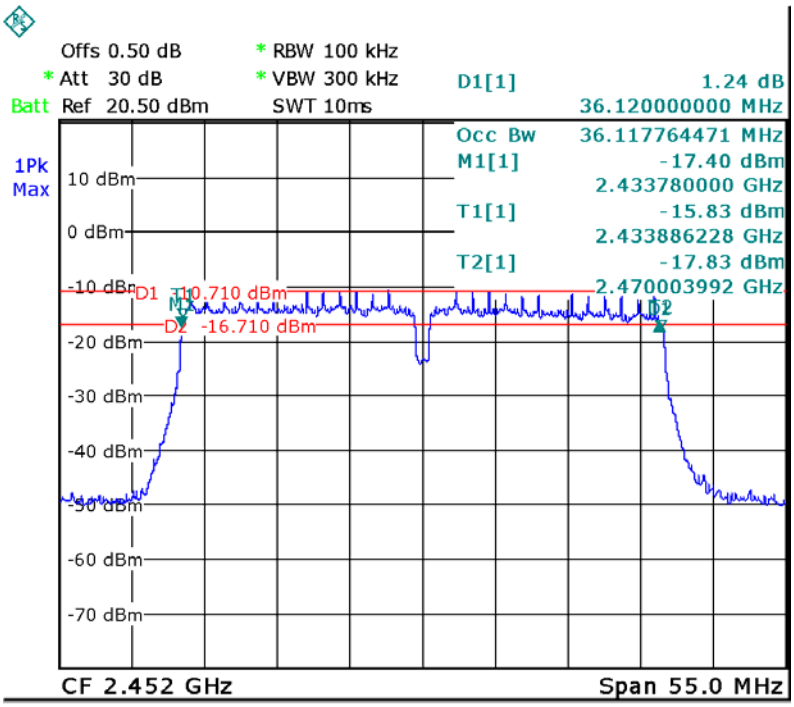
ANT1 Mode: TX 11n HT40 channel 3



ANT1 Mode: TX 11n HT40 channel 6



ANT1 Mode: TX 11n HT40 channel 9



11 Maximum Peak Output Power

Test Requirement: FCC CFR47 Part 15 Section 15.247

Test Method: 558074 D01 DTS Meas Guidance v03r05

11.1 Test Procedure:

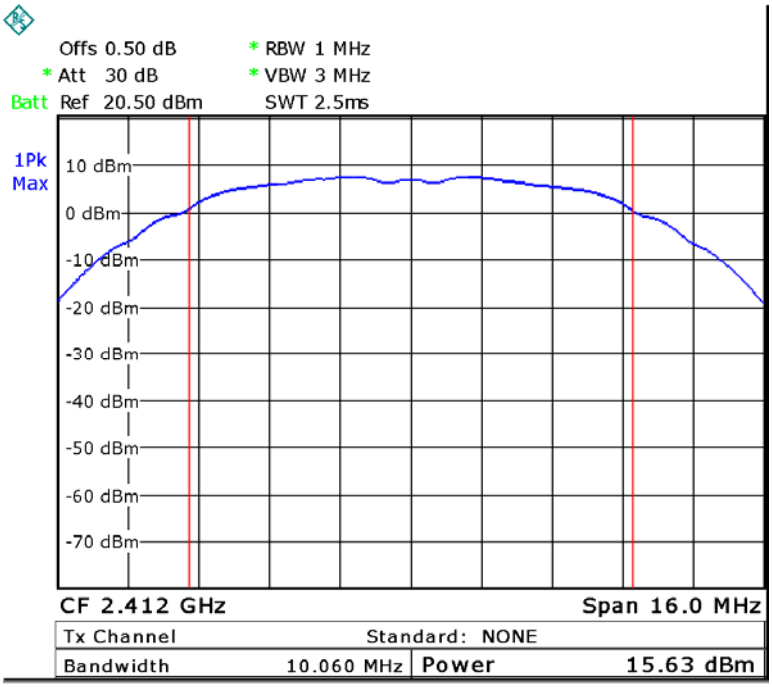
KDB558074 D01 v03r05

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.

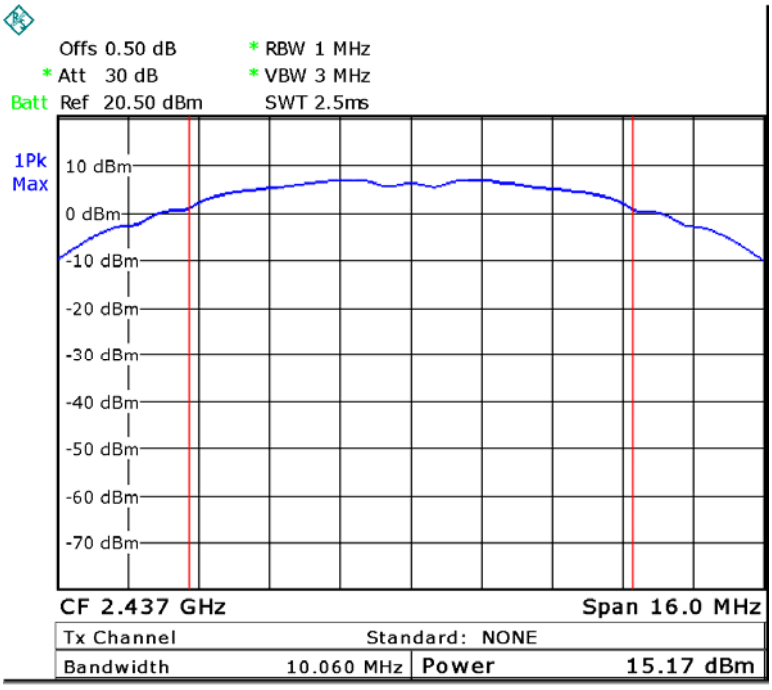
11.2 Test Result:

Operation mode	ANT	Maximum Peak Output Power (dBm)		
		Low	Middle	High
11b	ANT0	15.63	15.17	15.36
	ANT1	15.74	15.74	15.31
11g	ANT0	14.71	14.76	14.42
	ANT1	14.67	14.85	14.47
11n HT20	ANT0	12.9	12.86	12.48
	ANT1	12.77	12.9	12.32
	ANT0+ANT1	15.85	15.89	15.41
11n HT40	ANT0	12.59	12.39	12.17
	ANT1	12.62	12.58	12.2
	ANT0+ANT1	15.62	15.50	15.20
Limit				
1W/30dBm				

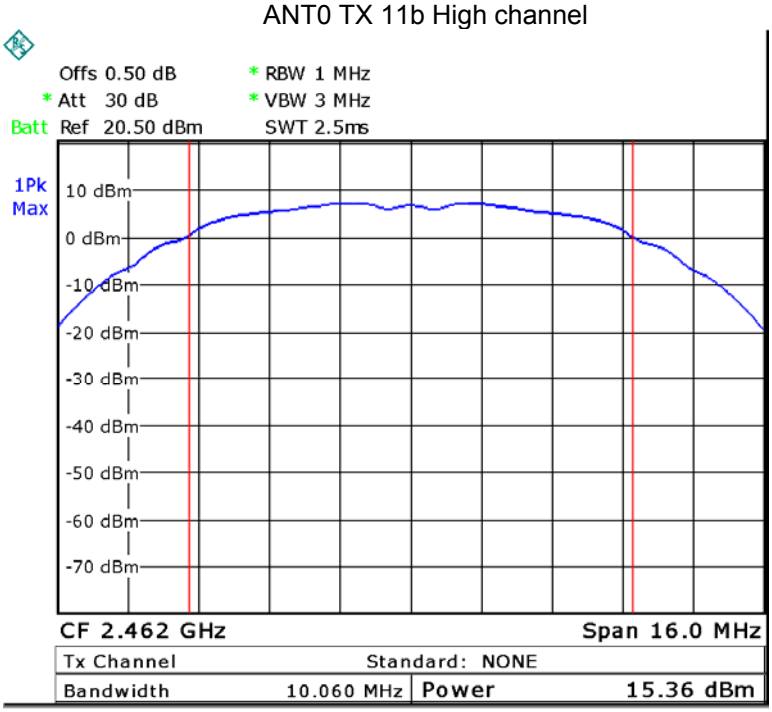
ANT0 TX 11b Low channel



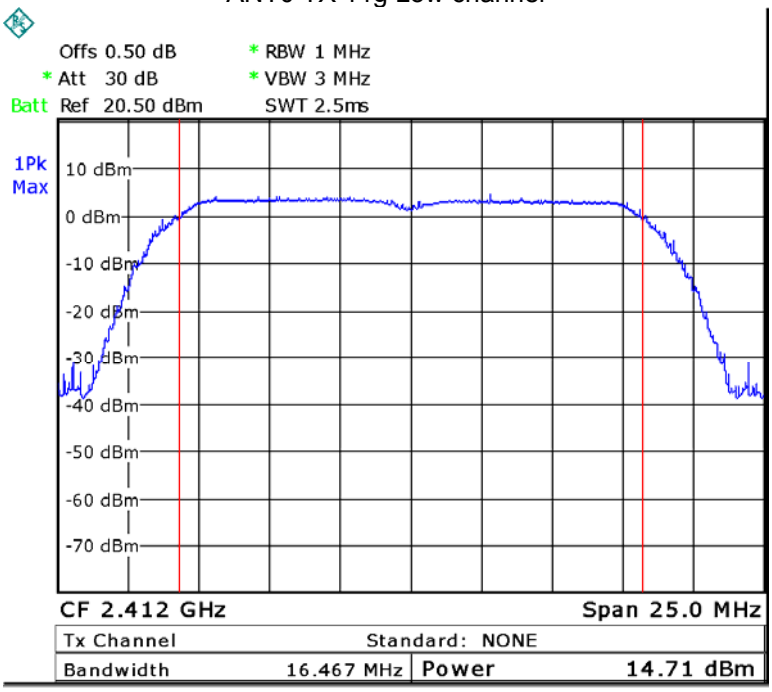
ANT0 TX 11b Middle channel



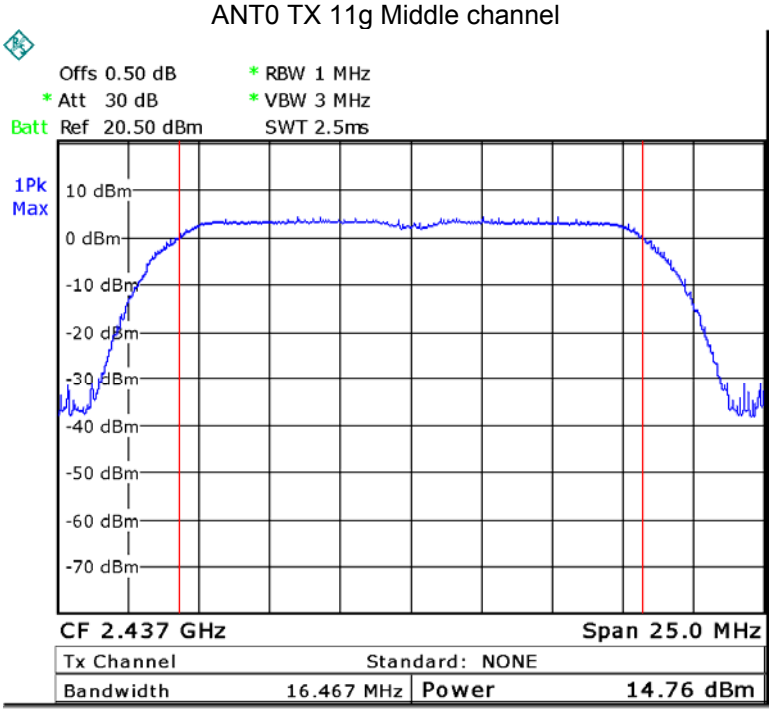
ANT0 TX 11b High channel



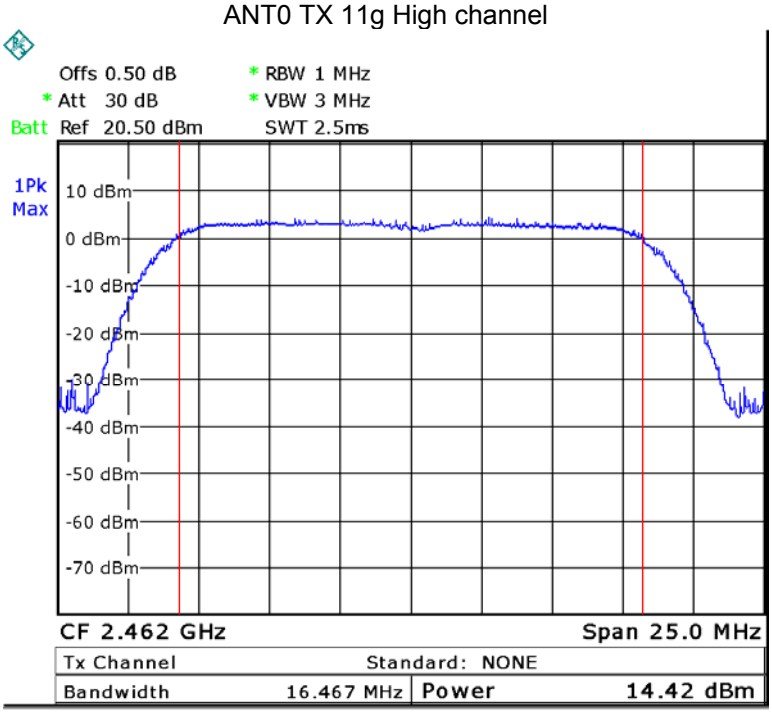
ANT0 TX 11g Low channel



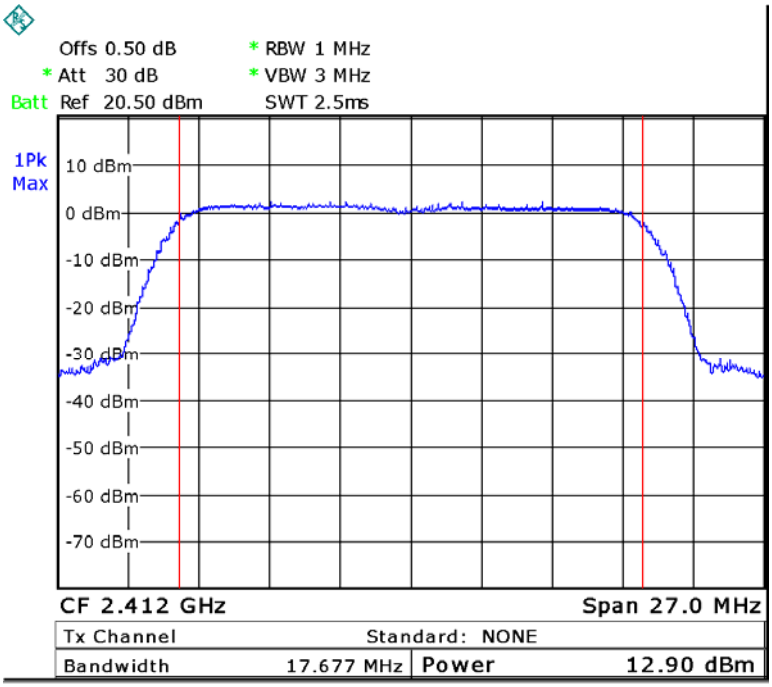
ANT0 TX 11g Middle channel



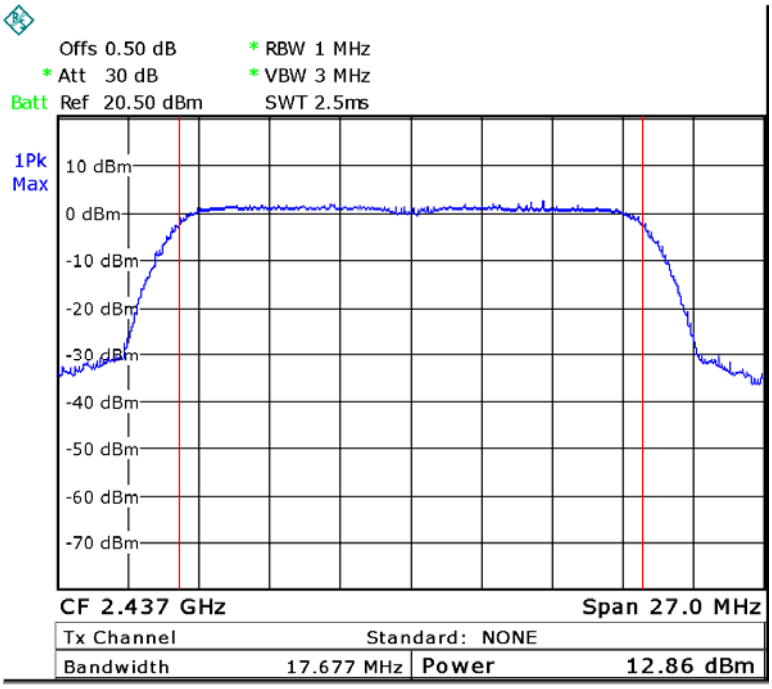
ANT0 TX 11g High channel



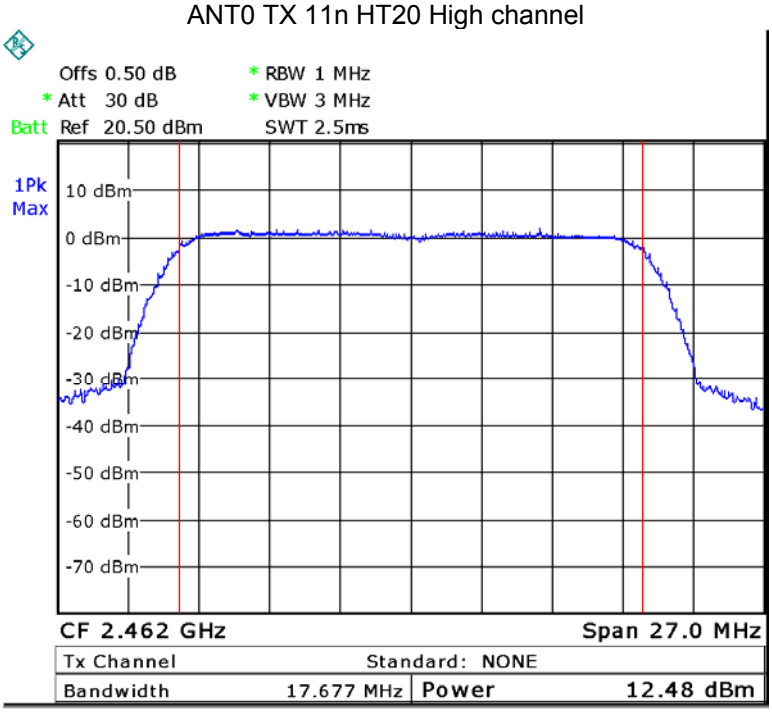
ANT0 TX 11n HT20 Low channel



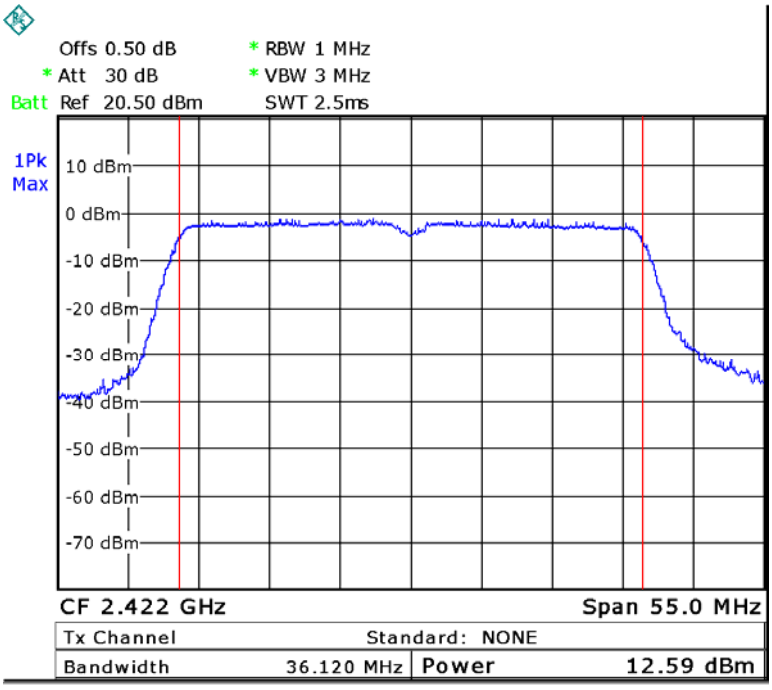
ANT0 TX 11n HT20 Middle channel



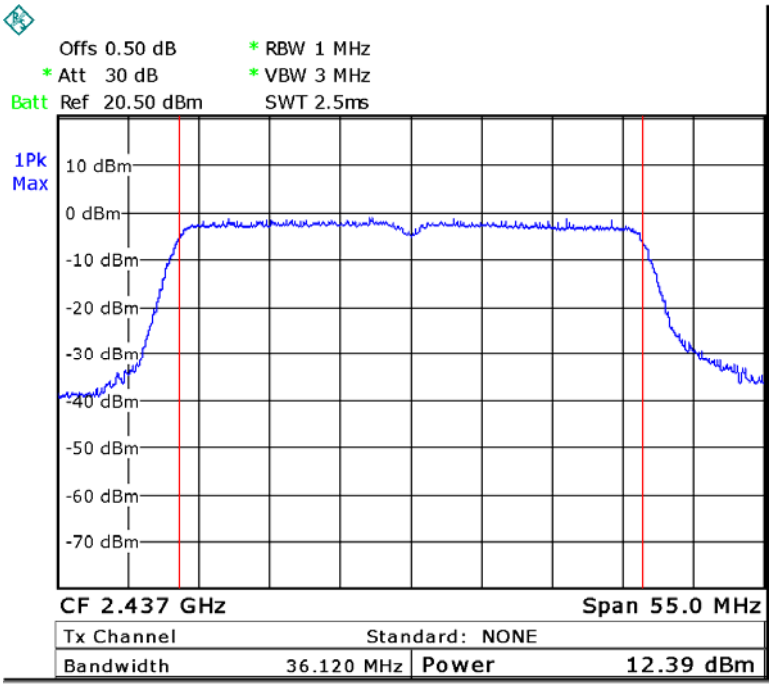
ANT0 TX 11n HT20 High channel



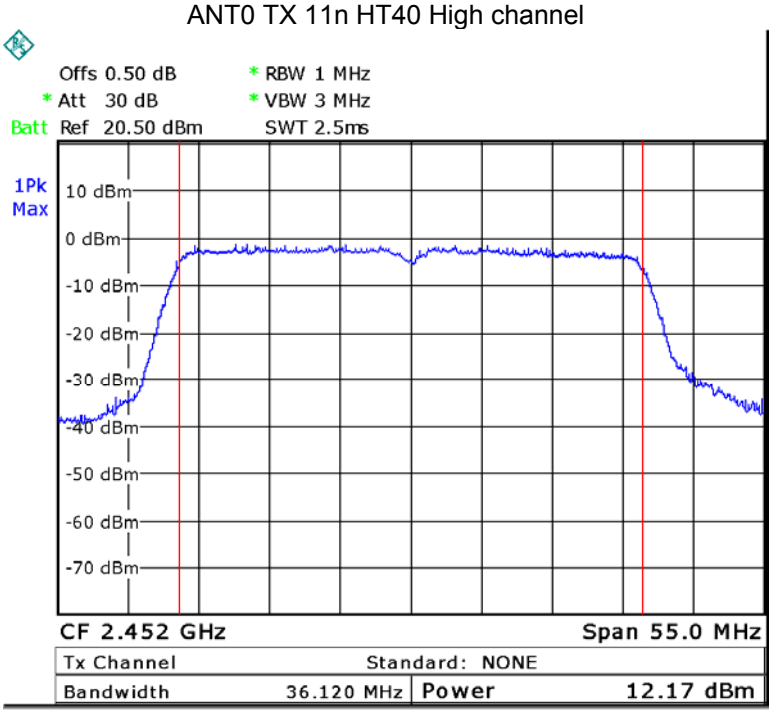
ANT0 TX 11n HT40 Low channel



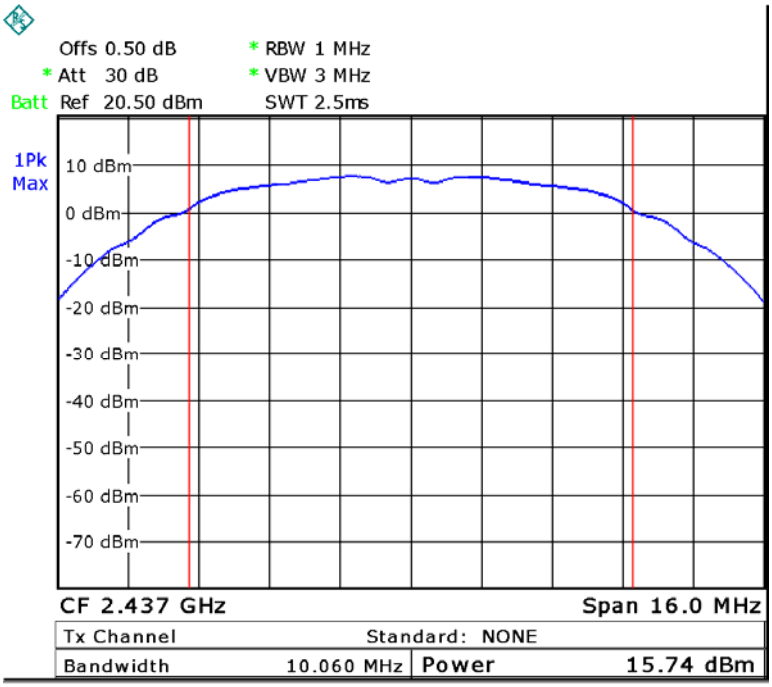
ANT0 TX 11n HT40 Middle channel



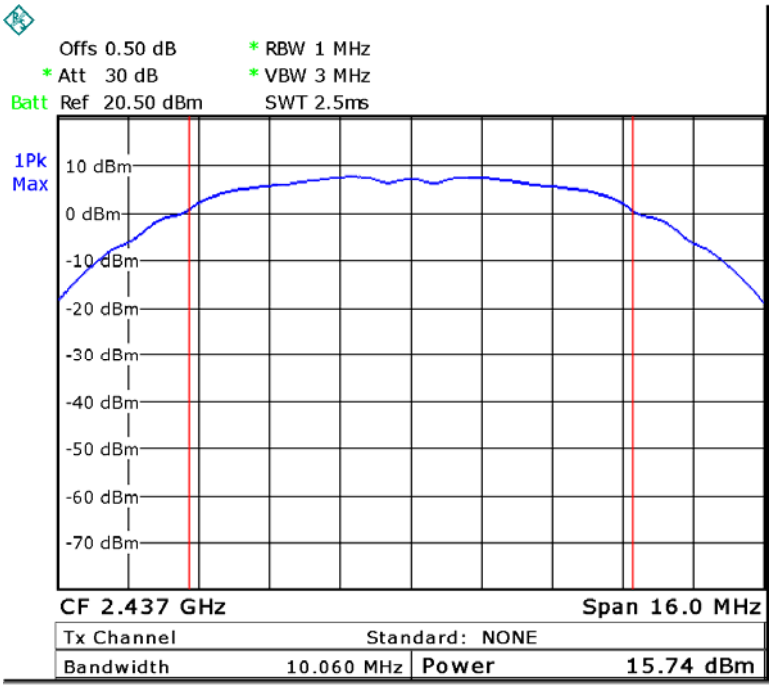
ANT0 TX 11n HT40 High channel



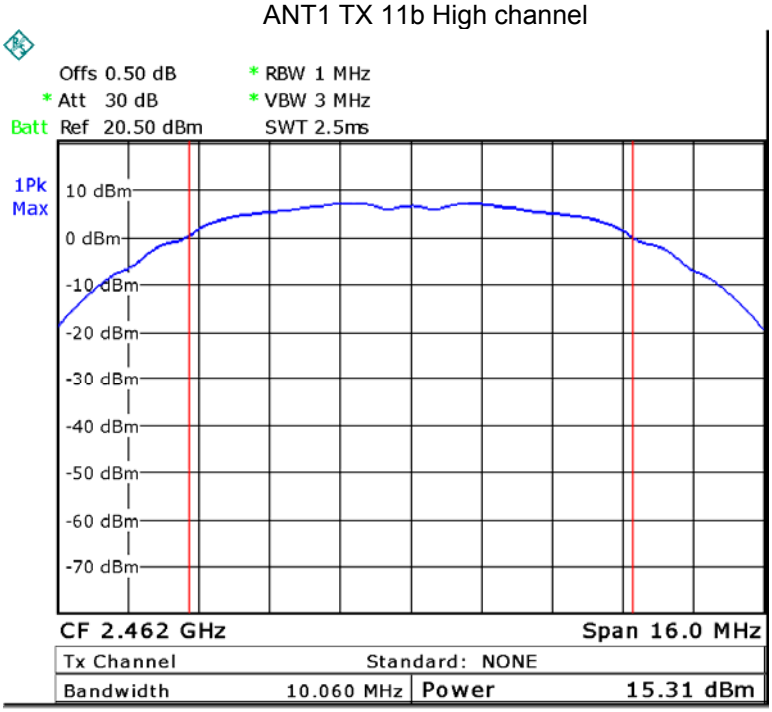
ANT1 TX 11b Low channel



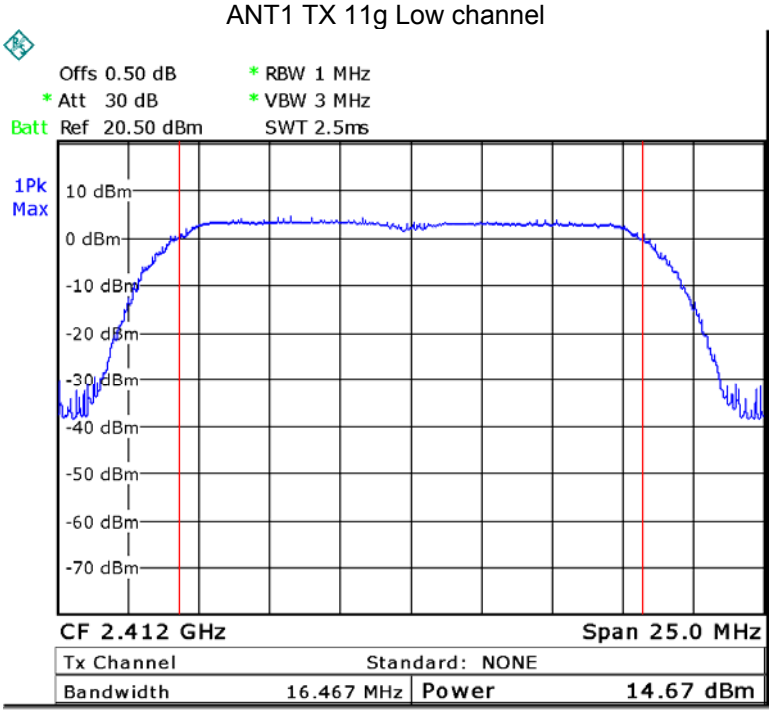
ANT1 TX 11b Middle channel



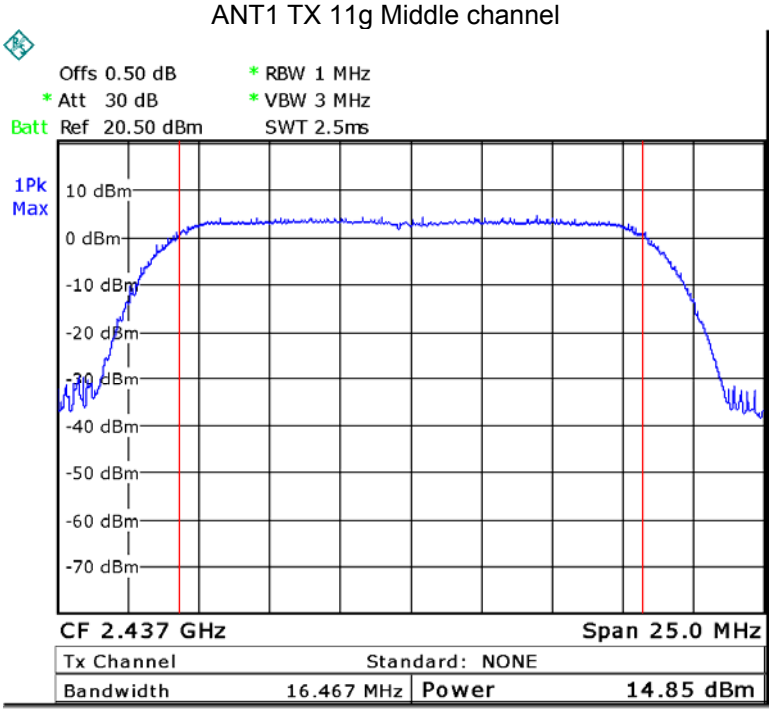
ANT1 TX 11b High channel



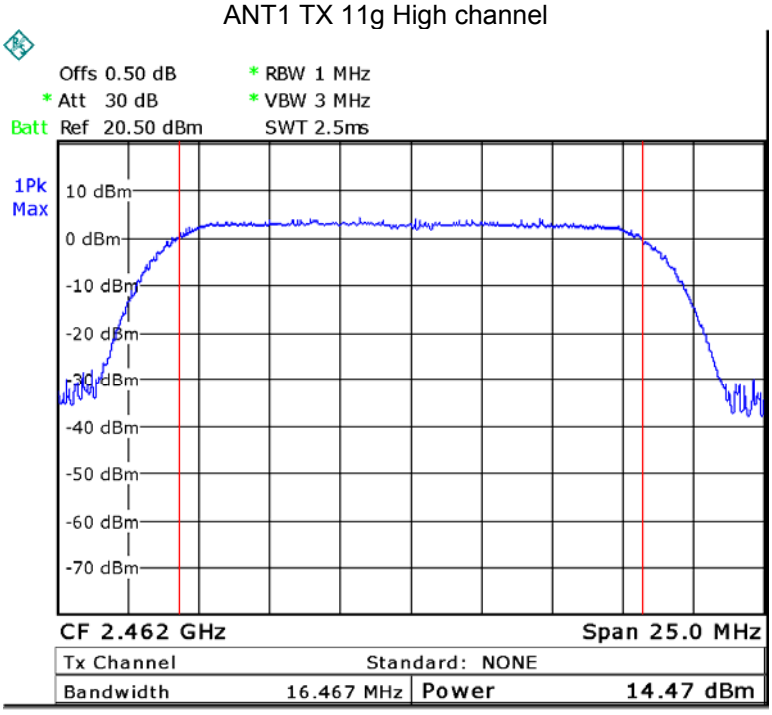
ANT1 TX 11g Low channel



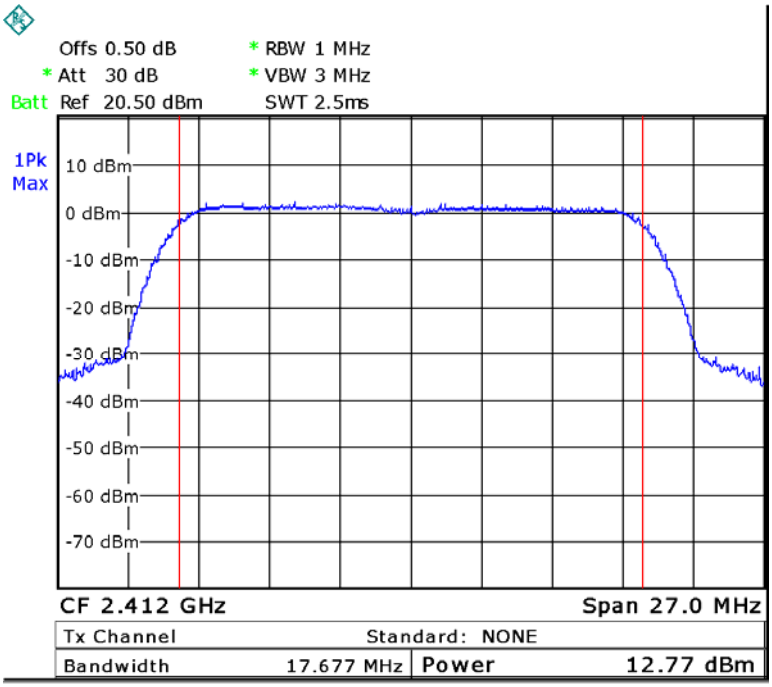
ANT1 TX 11g Middle channel



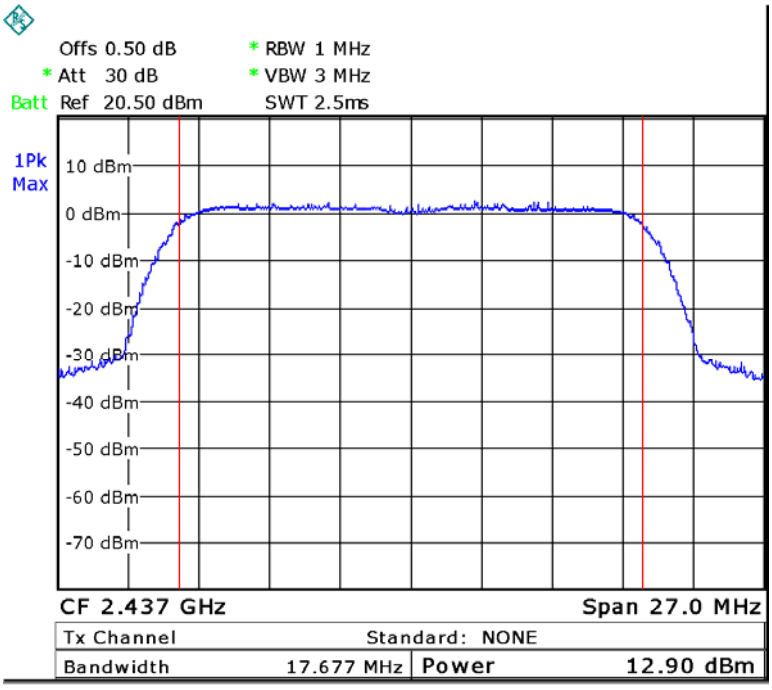
ANT1 TX 11g High channel



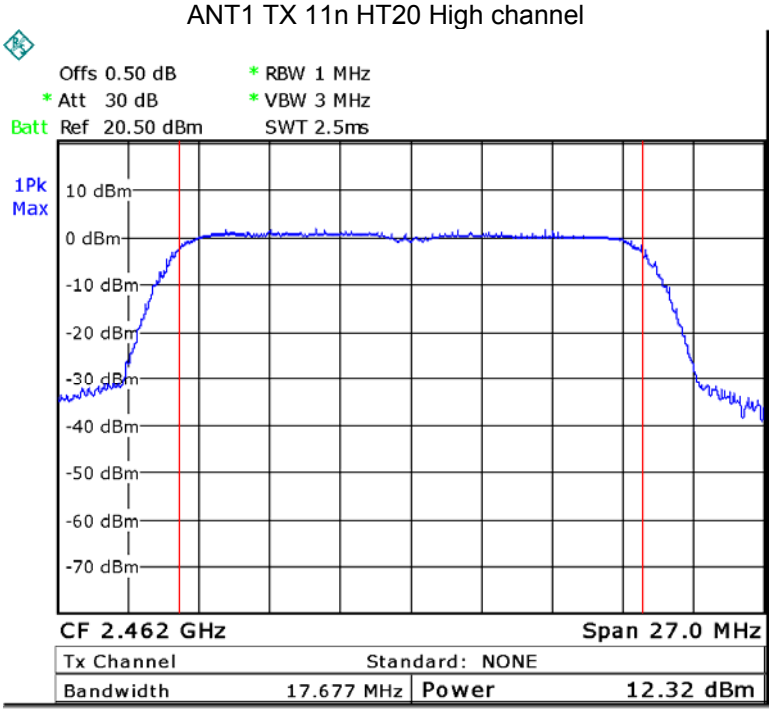
ANT1 TX 11n HT20 Low channel



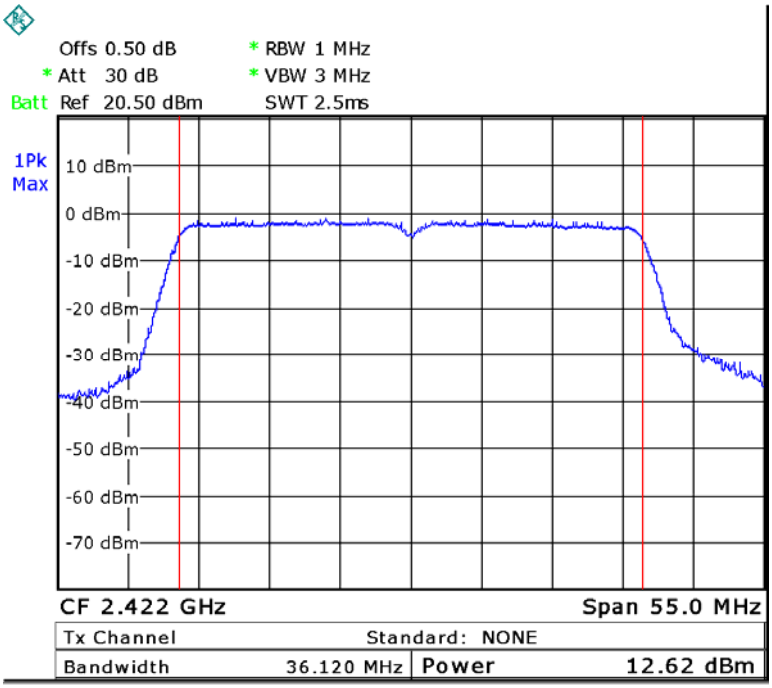
ANT1 TX 11n HT20 Middle channel



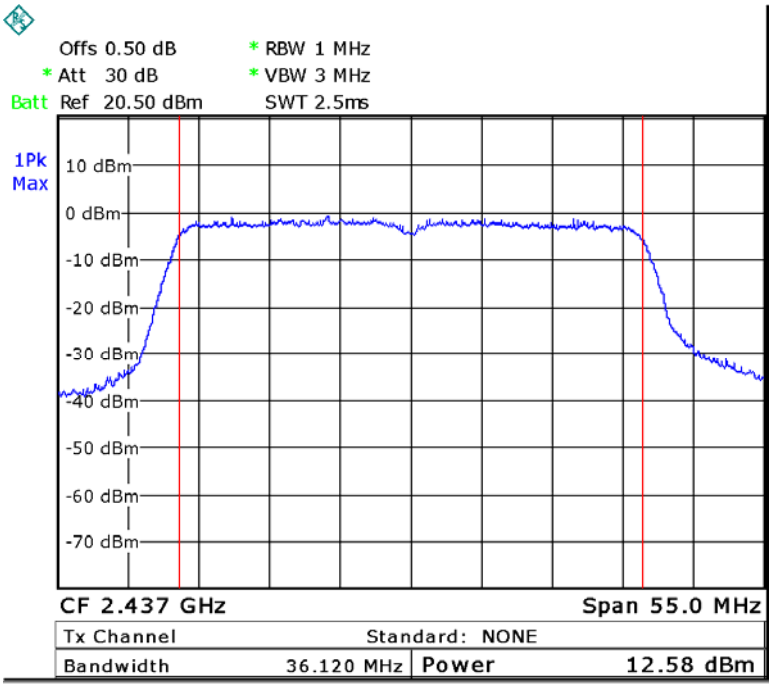
ANT1 TX 11n HT20 High channel



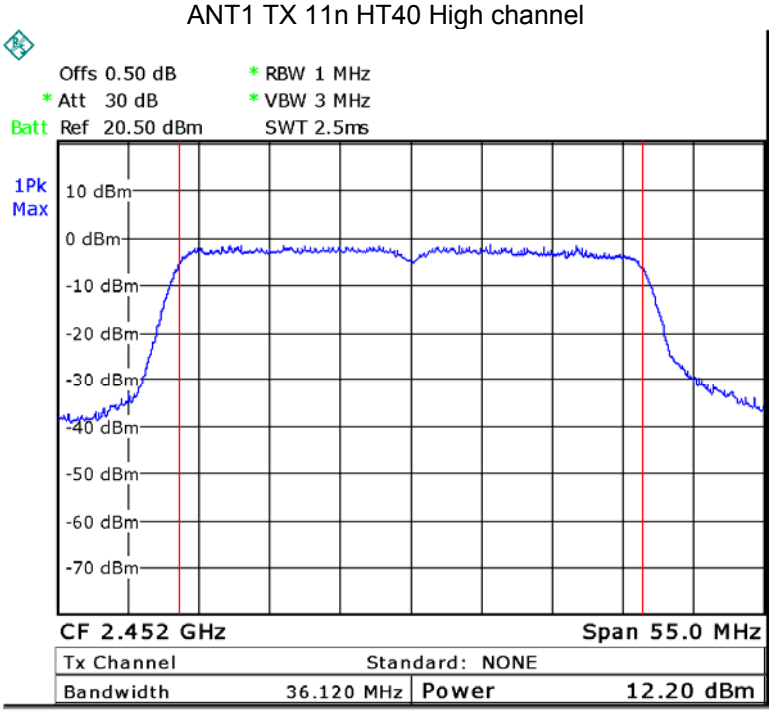
ANT1 TX 11n HT40 Low channel



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: 558074 D01 DTS Meas Guidance v03r05

12.1 Test Procedure:

KDB558074 D01 v03r05

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

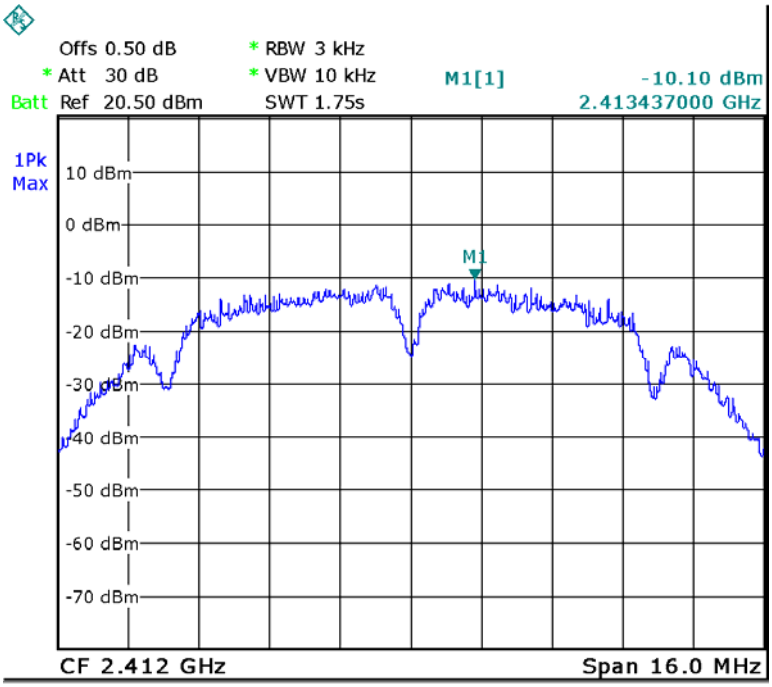
2. Set the spectrum analyzer: RBW = 3kHz. VBW = 10kHz , Span = 1.5 times the DTS channel bandwidth(6 dB bandwidth). Sweep = auto; Detector Function = Peak. Trace = Max hold.

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.

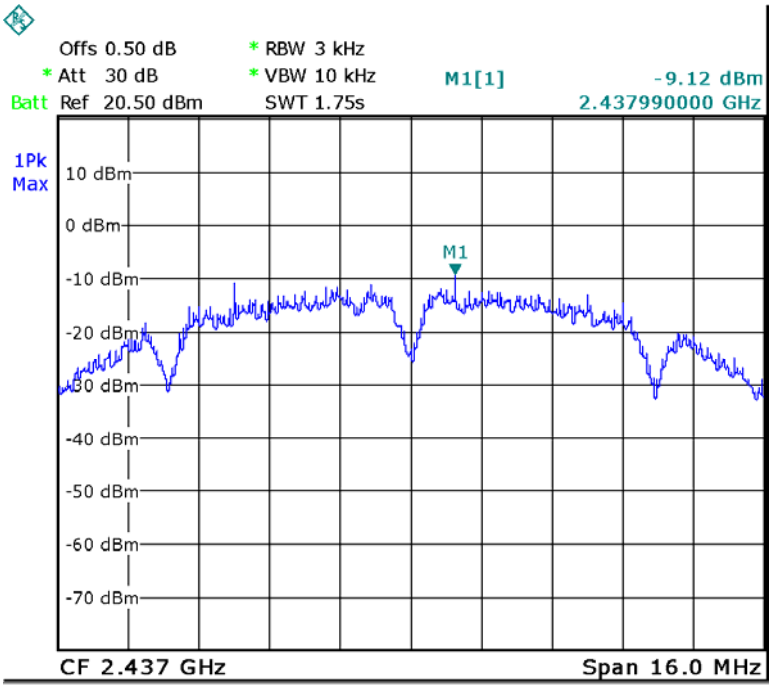
12.2 Test Result:

Operation mode	ANT	Maximum Peak Output Power (dBm per 3kHz)		
		Low	Middle	High
11b	ANT0	-10.1	-9.12	-9.55
	ANT1	-9.18	-9.84	-10.97
11g	ANT0	-18.54	-18.46	-19.68
	ANT1	-18.03	-17.04	-19.22
11n HT20	ANT0	-21.97	-20.81	-22.04
	ANT1	-19.65	-21.39	-20.63
	ANT0+ANT1	-17.65	-18.08	-18.27
11n HT40	ANT0	-23.09	-25.5	-25.1
	ANT1	-25.00	-24.33	-24.5
	ANT0+ANT1	-20.93	-21.87	-21.78
Limit				
(8 dBm per 3kHz)				

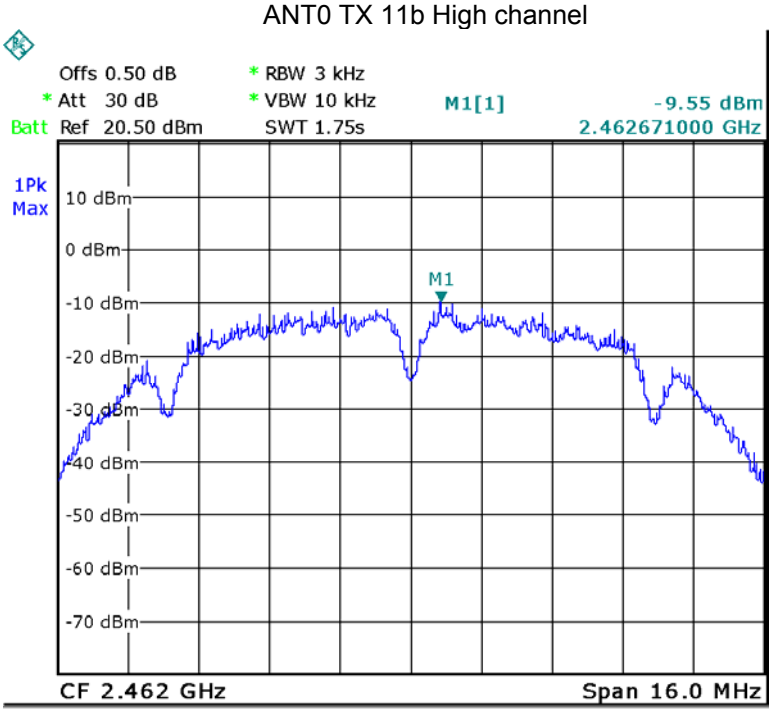
ANT0 TX 11b Low channel



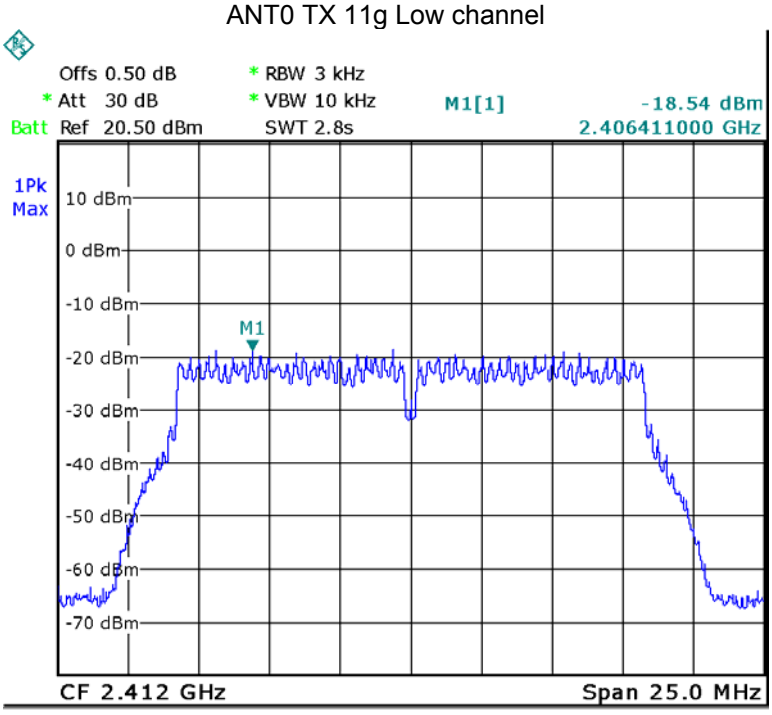
ANT0 TX 11b Middle channel



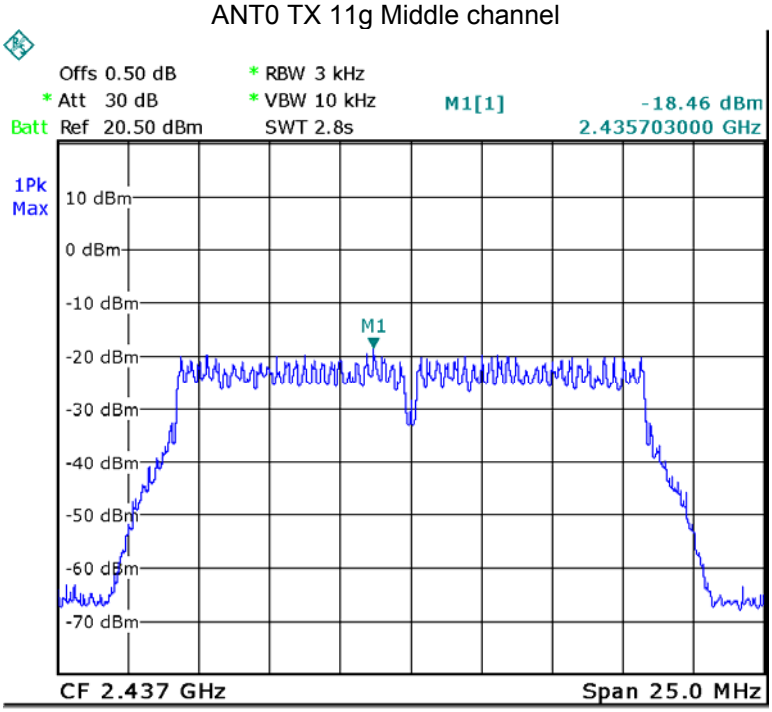
ANT0 TX 11b High channel



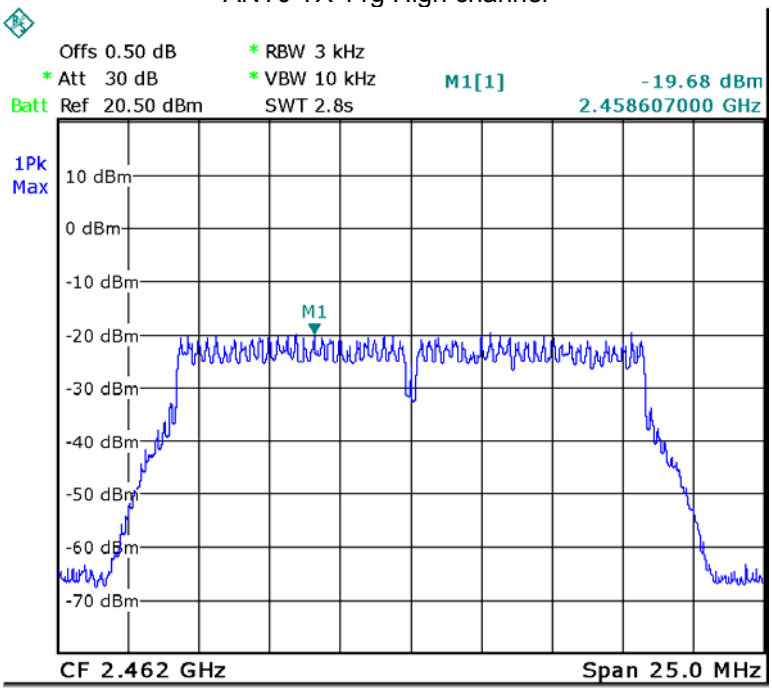
ANT0 TX 11g Low channel



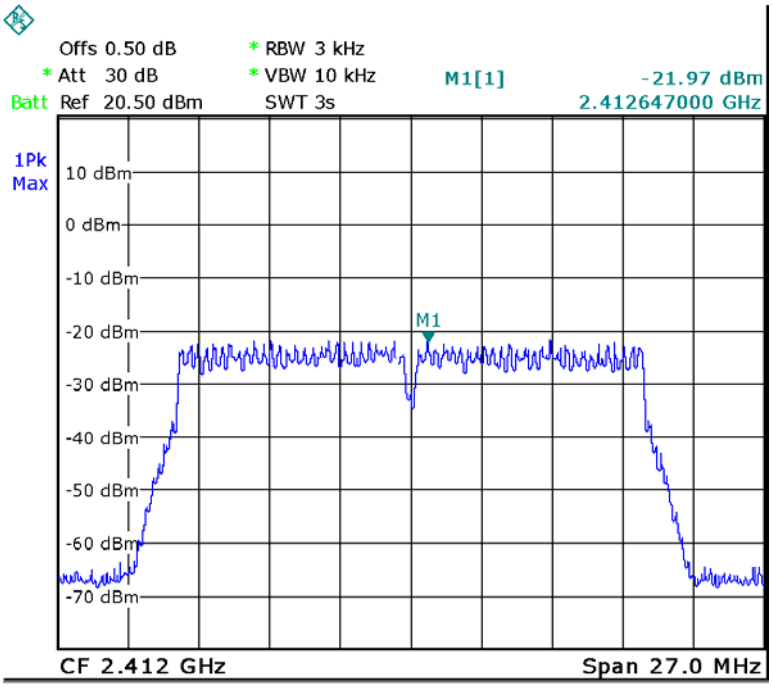
ANT0 TX 11g Middle channel



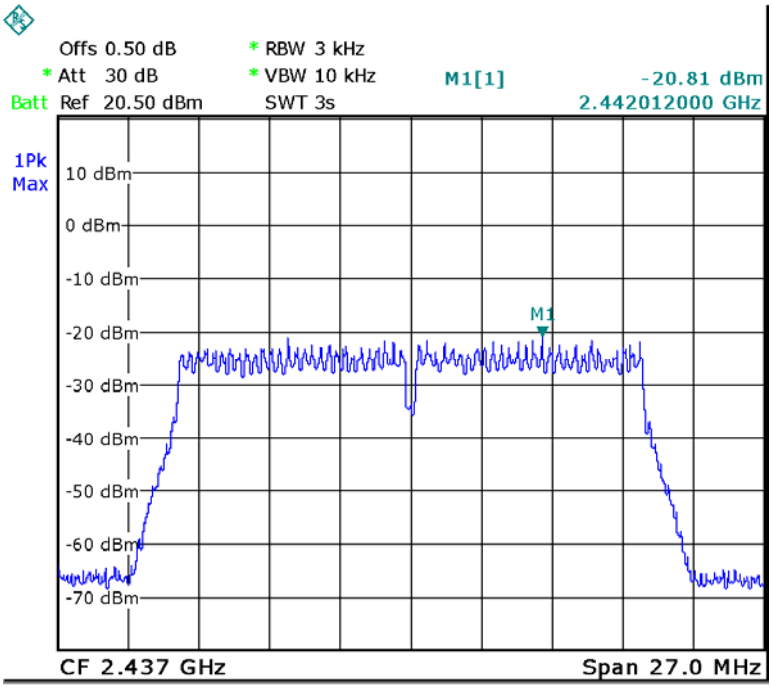
ANT0 TX 11g High channel



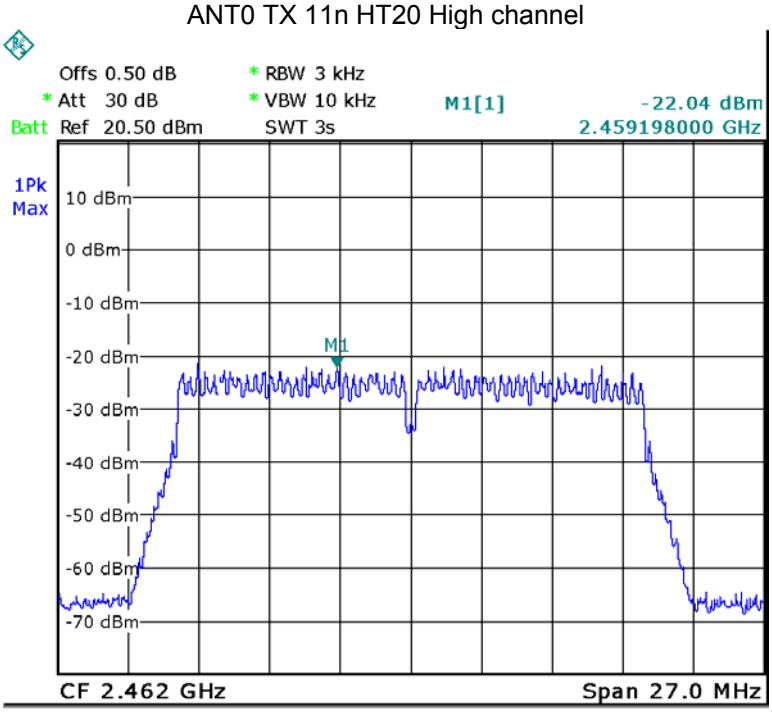
ANT0 TX 11n HT20 Low channel



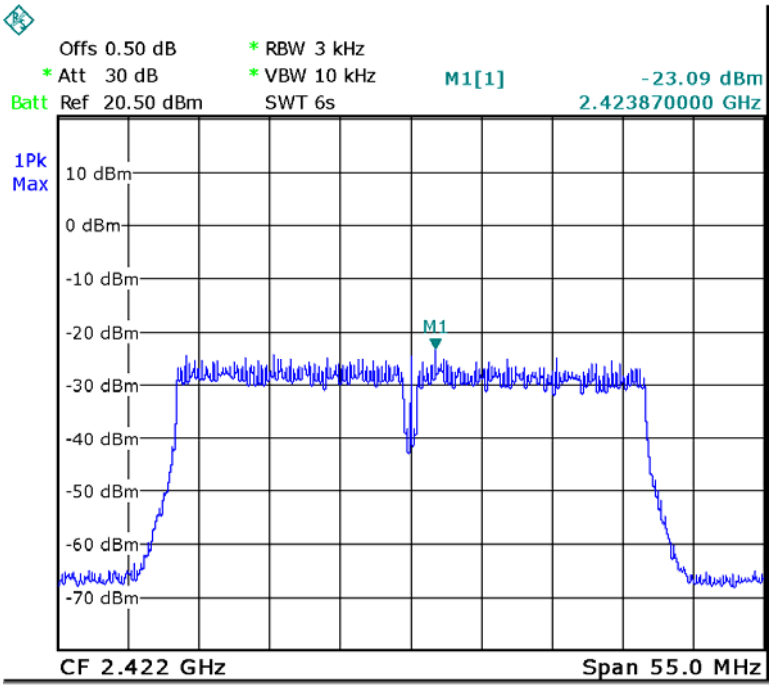
ANT0 TX 11n HT20 Middle channel



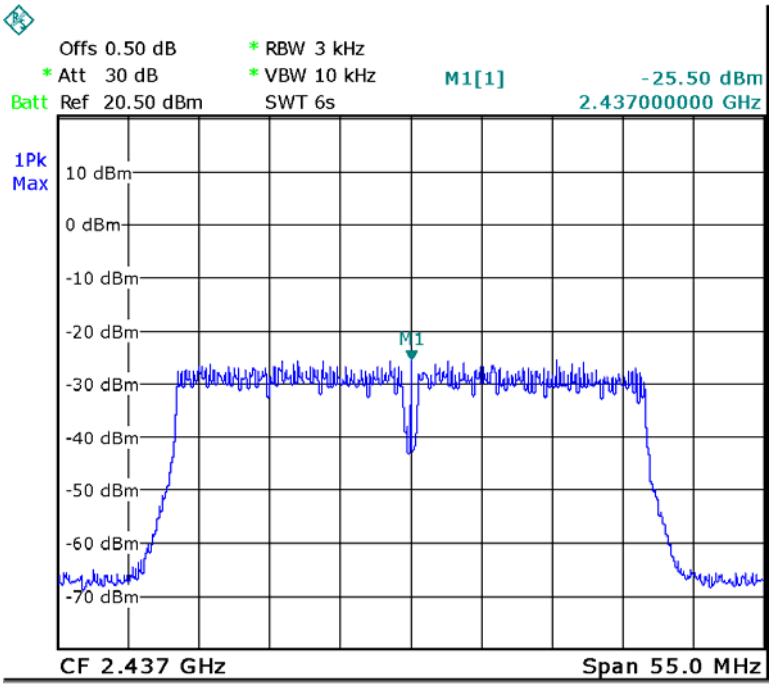
ANT0 TX 11n HT20 High channel



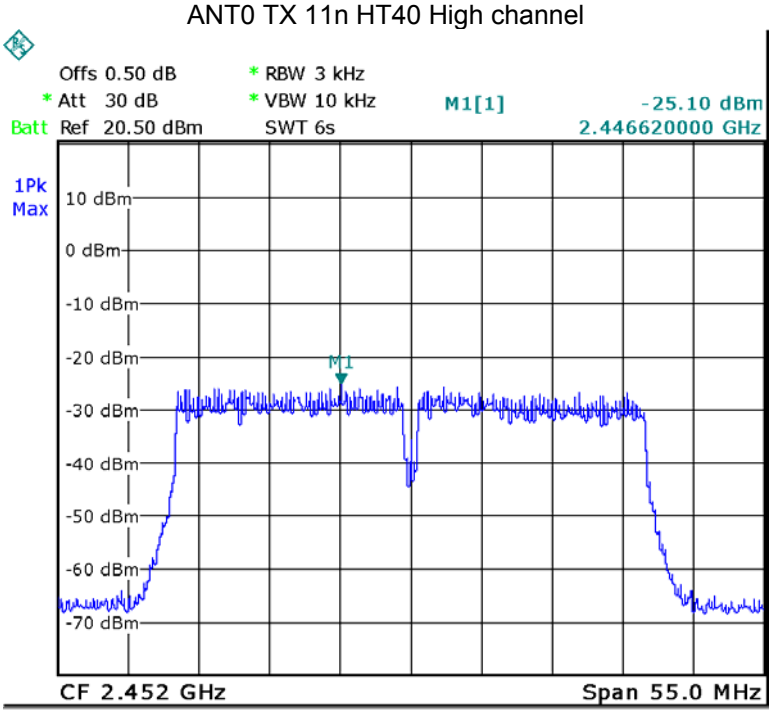
ANT0 TX 11n HT40 Low channel



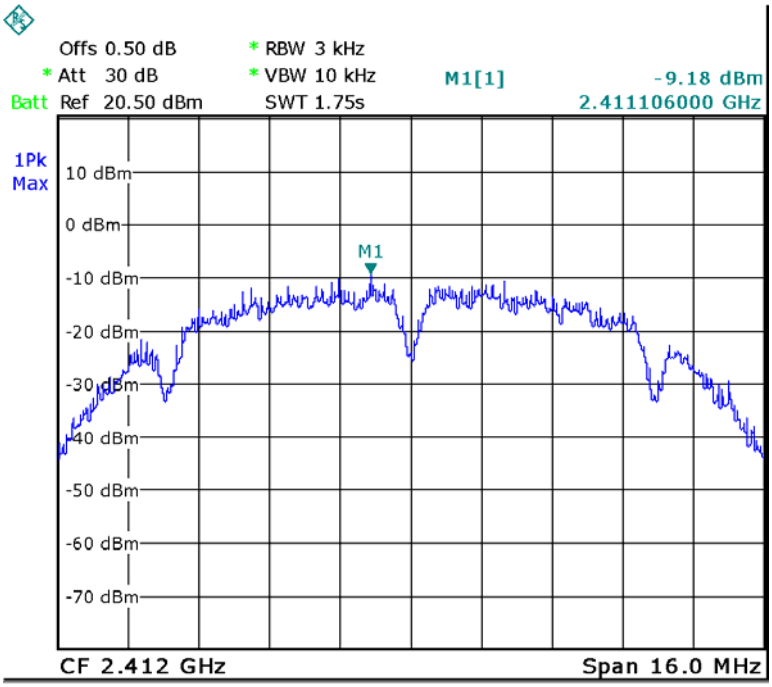
ANT0 TX 11n HT40 Middle channel



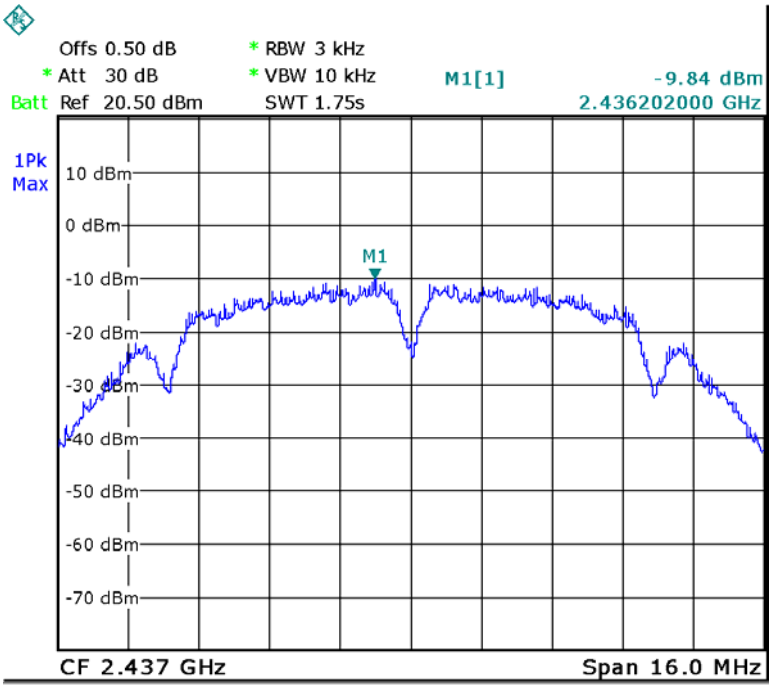
ANT0 TX 11n HT40 High channel



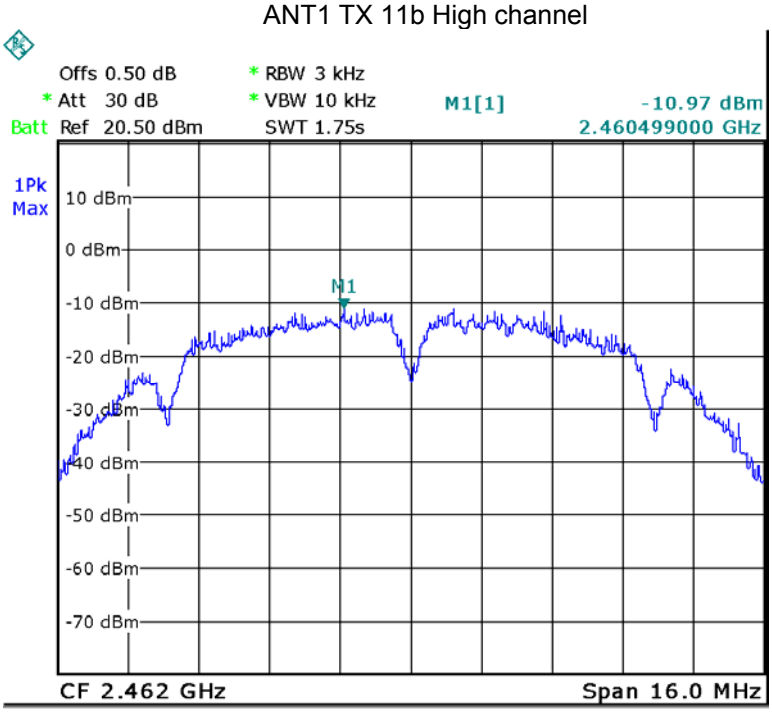
ANT1 TX 11b Low channel



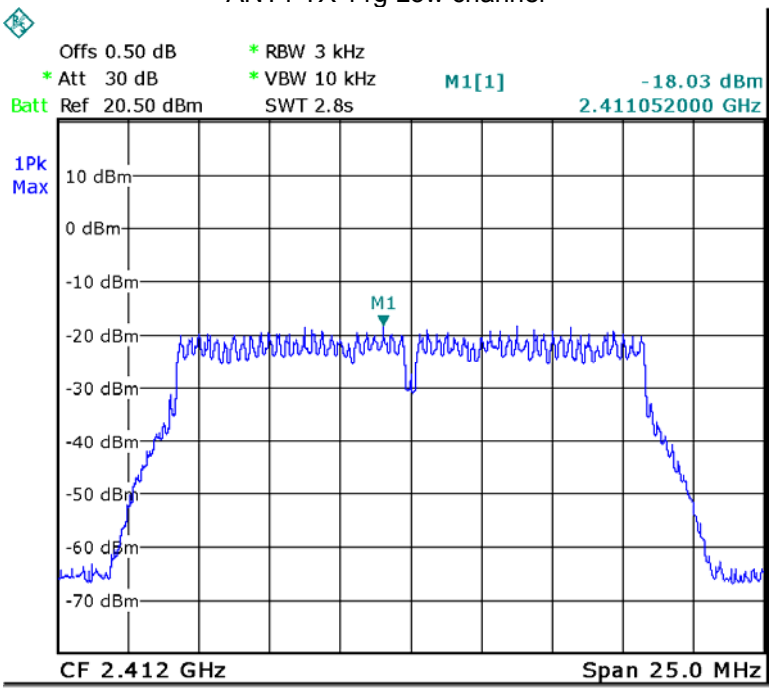
ANT1 TX 11b Middle channel



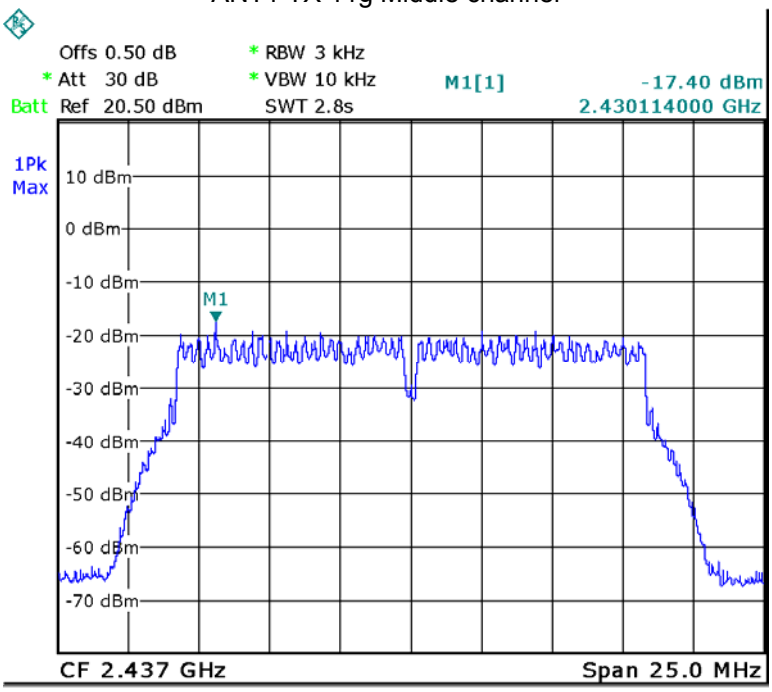
ANT1 TX 11b High channel



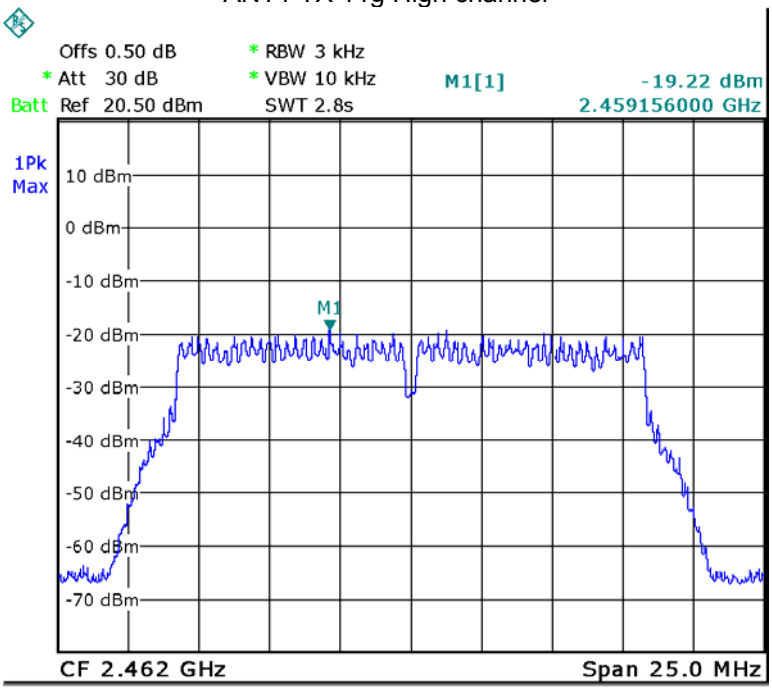
ANT1 TX 11g Low channel



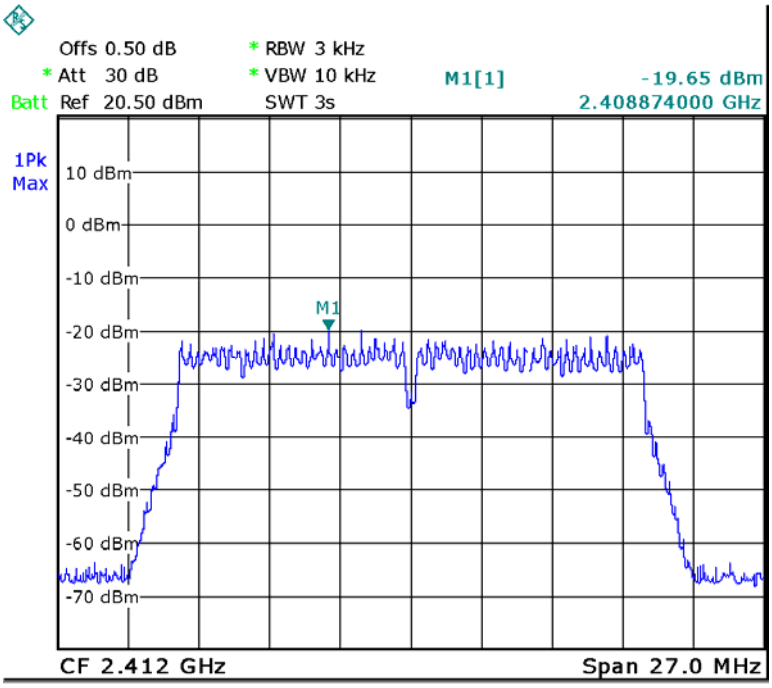
ANT1 TX 11g Middle channel



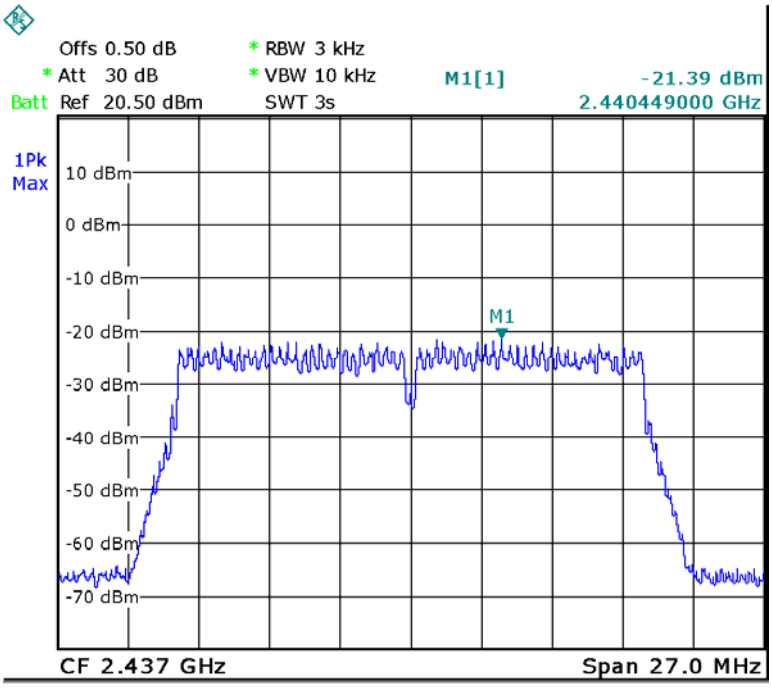
ANT1 TX 11g High channel



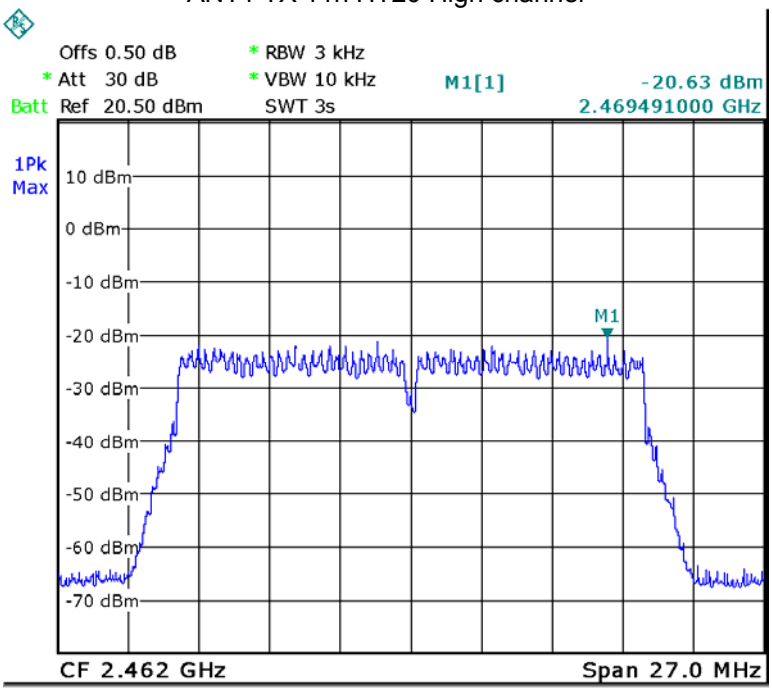
ANT1 TX 11n HT20 Low channel



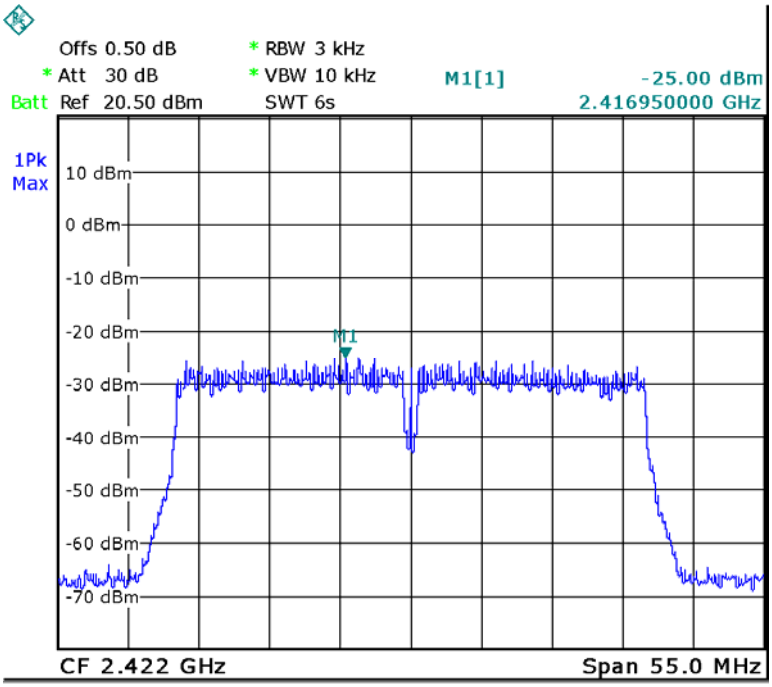
ANT1 TX 11n HT20 Middle channel



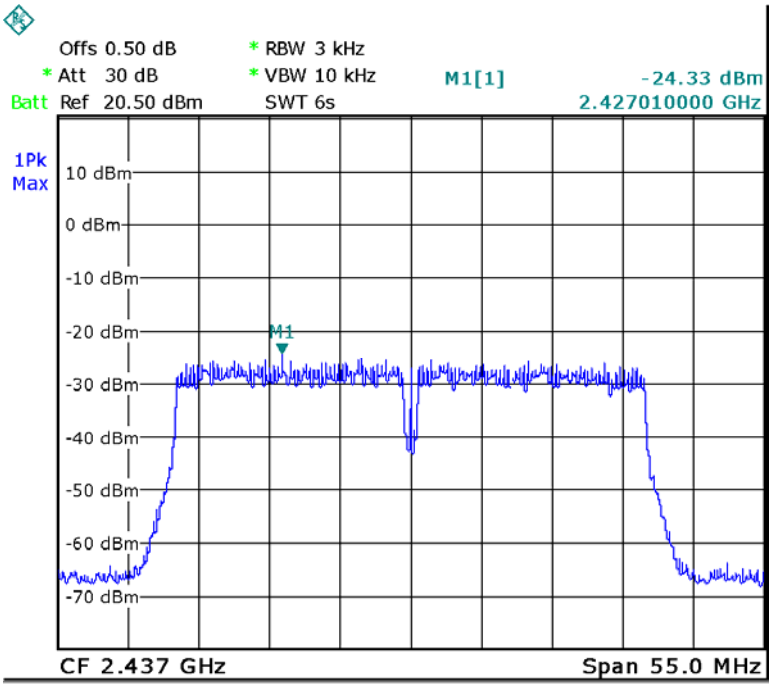
ANT1 TX 11n HT20 High channel



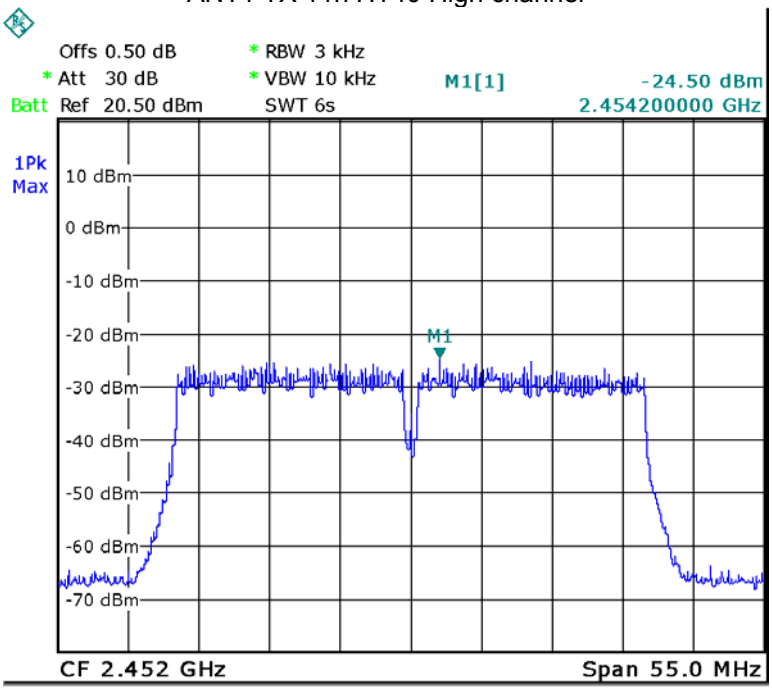
ANT1 TX 11n HT40 Low channel



ANT1 TX 11n HT40 Middle channel



ANT1 TX 11n HT40 High channel



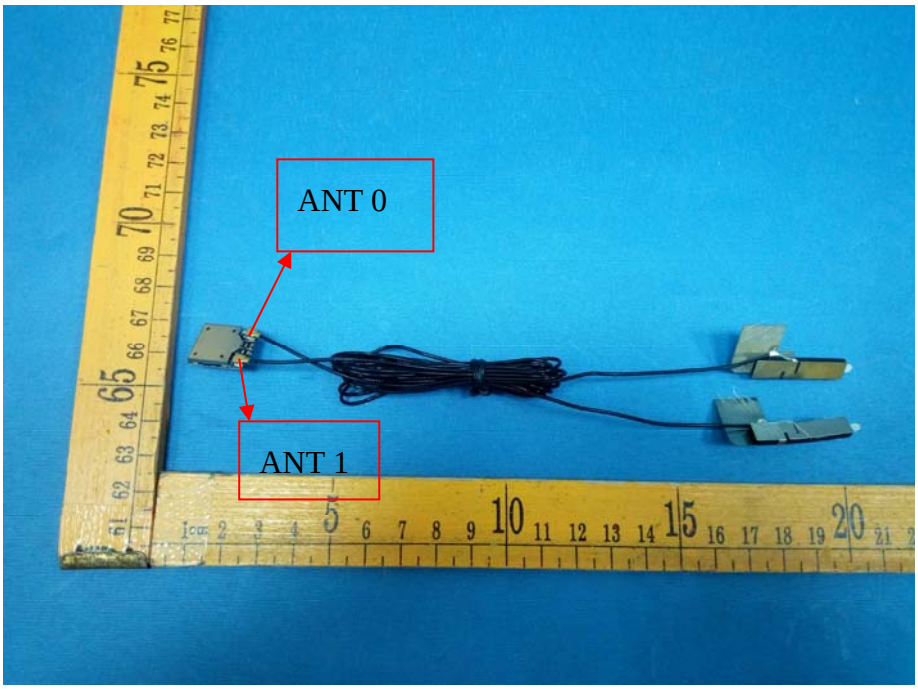
13 Antenna Requirement

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.

For intentional device, according to FCC 47 CFR Section 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.

Result:

The EUT has one Internal Intergrated Antenna, the gain is 2.0 dBi. meets the requirements of FCC 15.203.



14 RF Exposure

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.

14.1 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

14.2 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

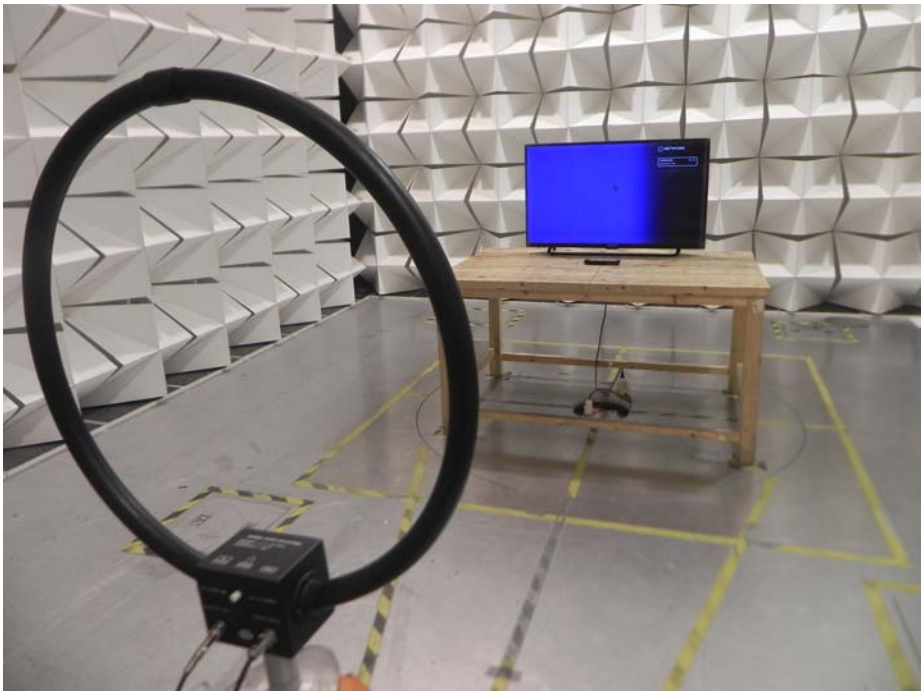
Antenna Gain (dBi)	Antenna Gain (numeric)	Max. Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (mW/cm^2)	Limit of Power Density (mW/cm^2)
2.00	1.585	15.47	35.24	0.011112	3.00

15 Photographs – Model E4ST4316H Test Setup

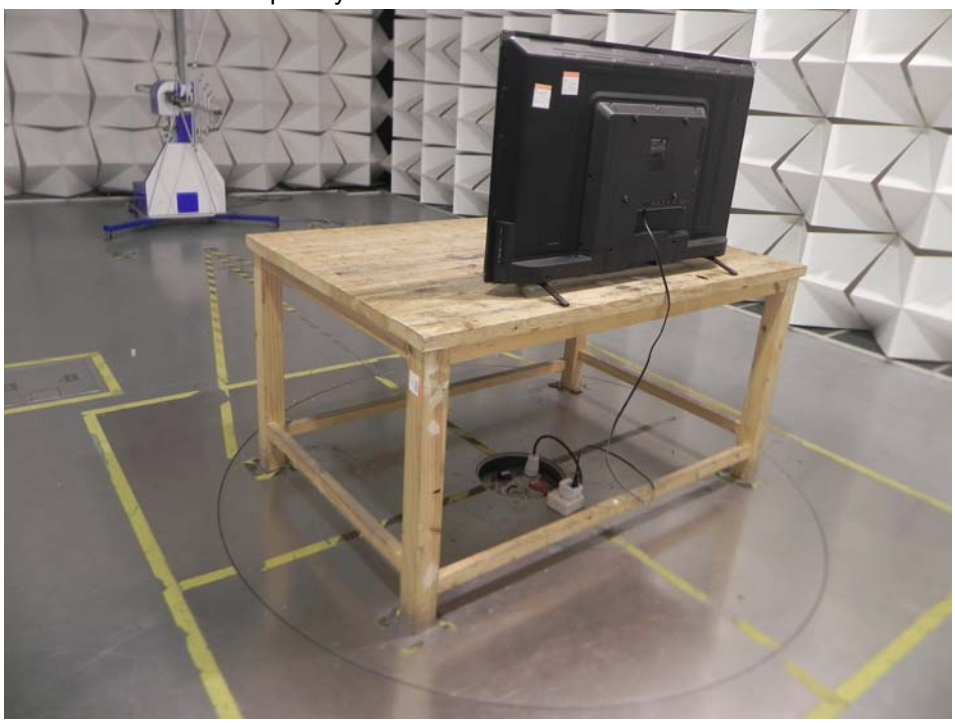
15.1 Photograph – Conducted Emission Test Setup at Test Site 2#

15.2 Photograph – Radiation Spurious Emission Test Setup

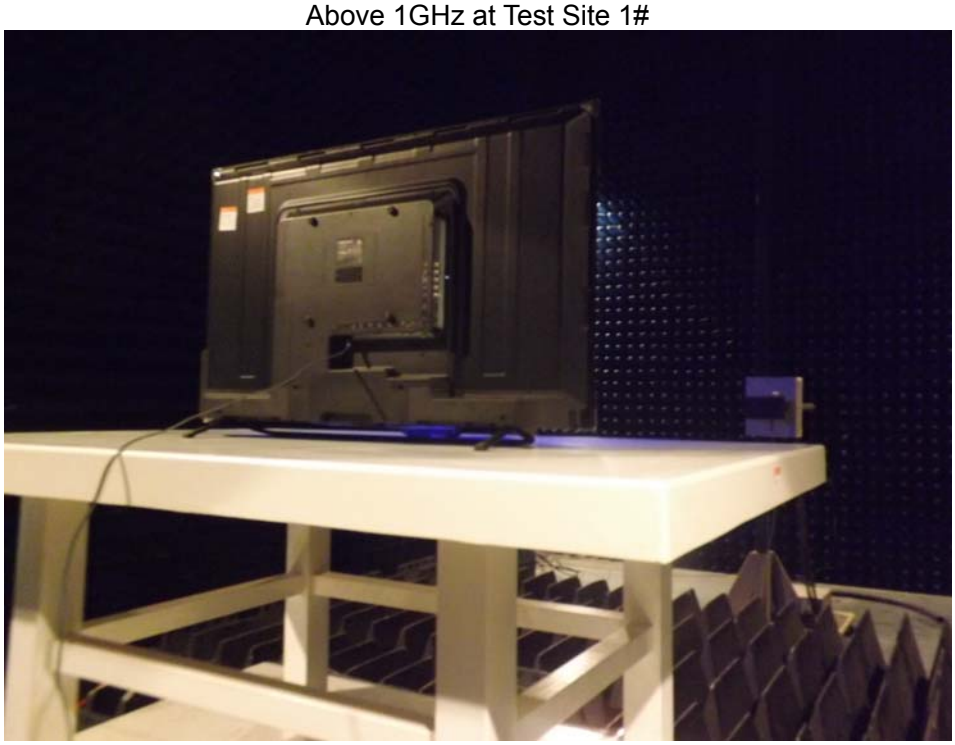
Below 30MHz at Test Site 2#



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



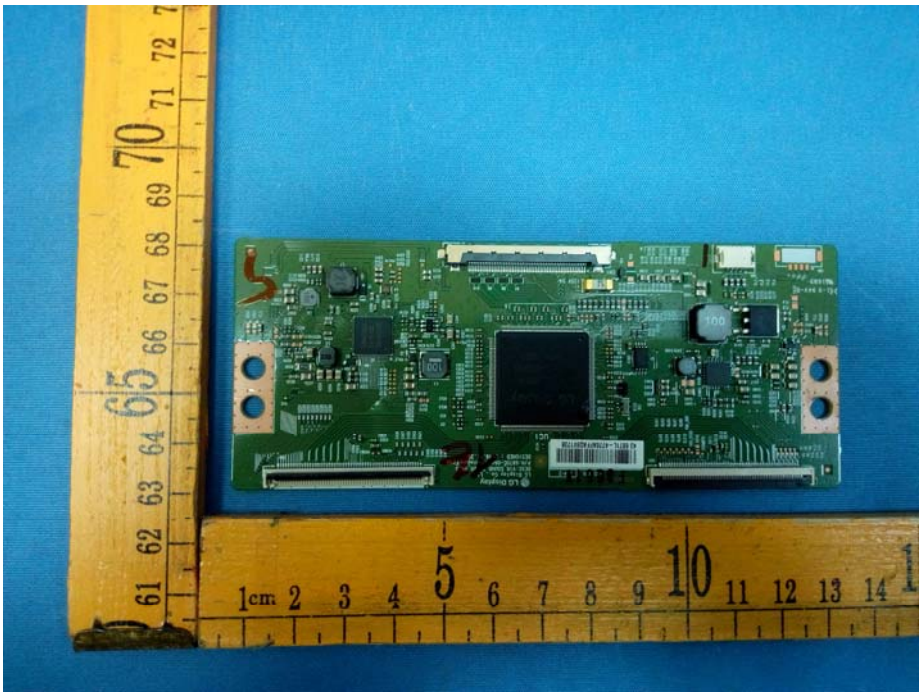
Above 1GHz at Test Site 1#

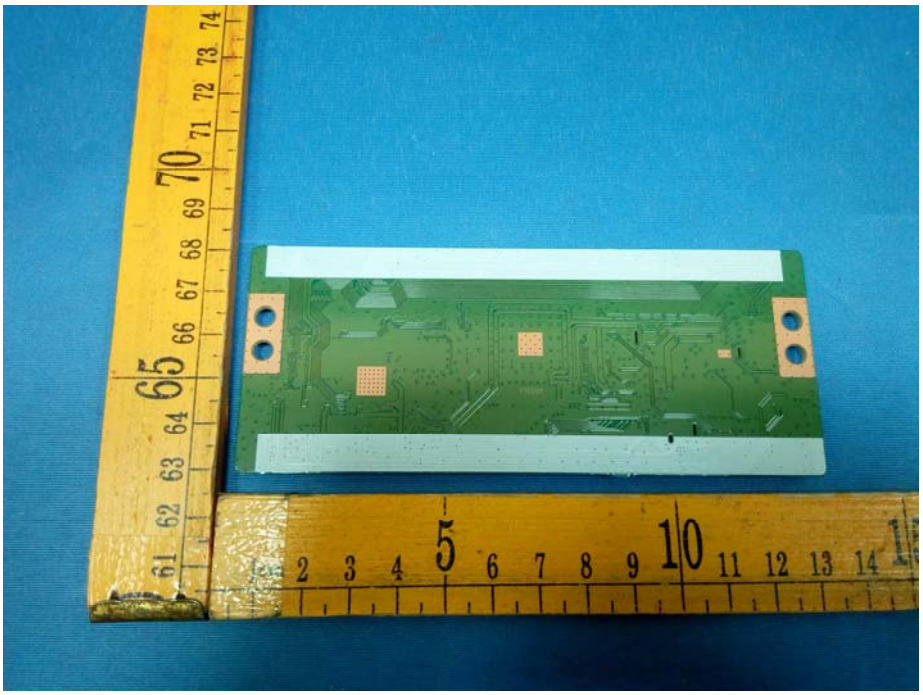


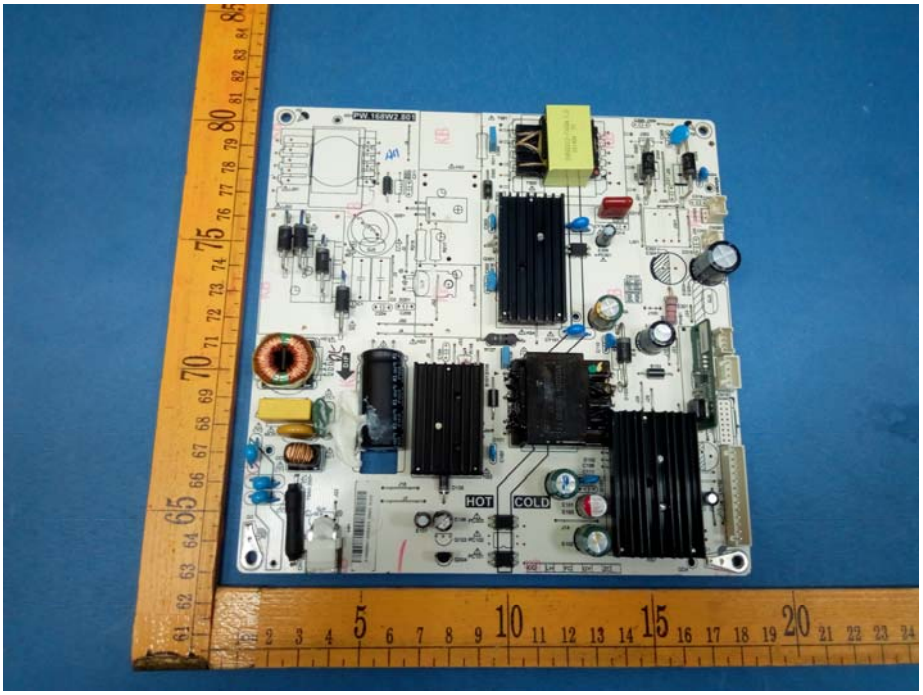
16 Photographs - Constructional Details

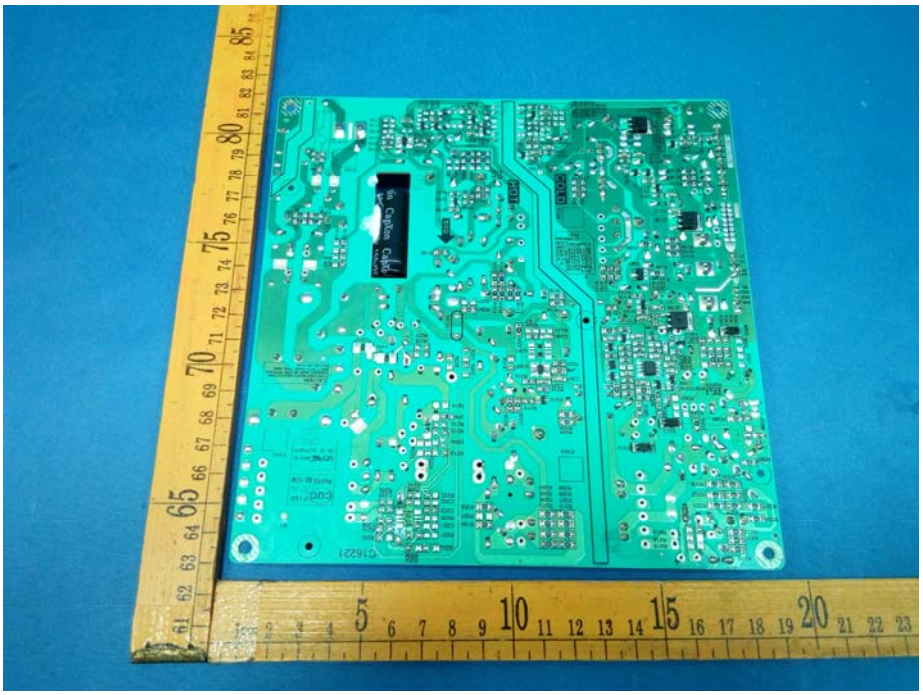
16.1 Model E4ST4316H – External Photos

16.2 Model E4ST4316H – Internal Photos



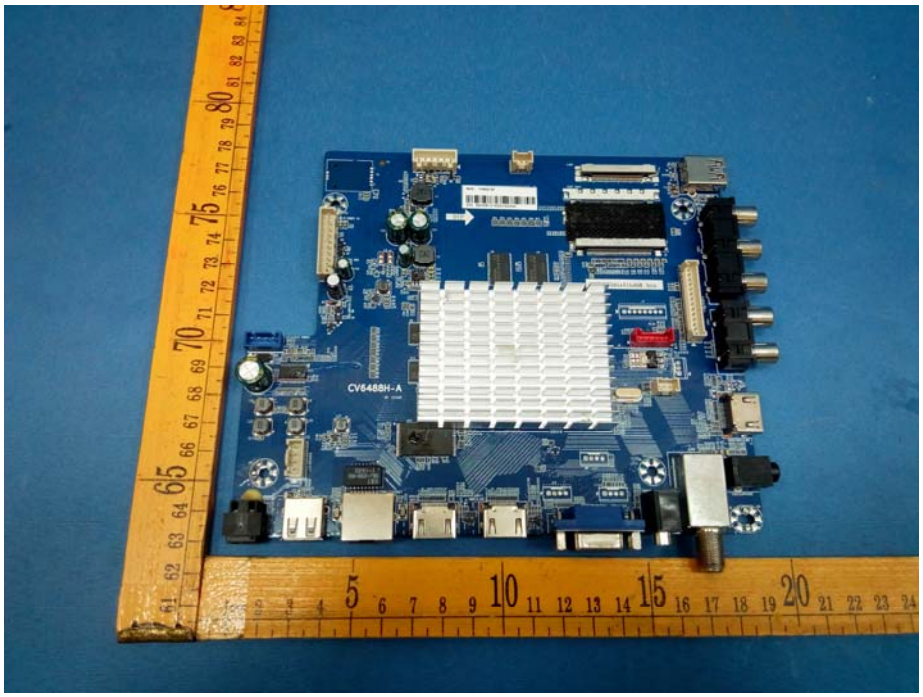


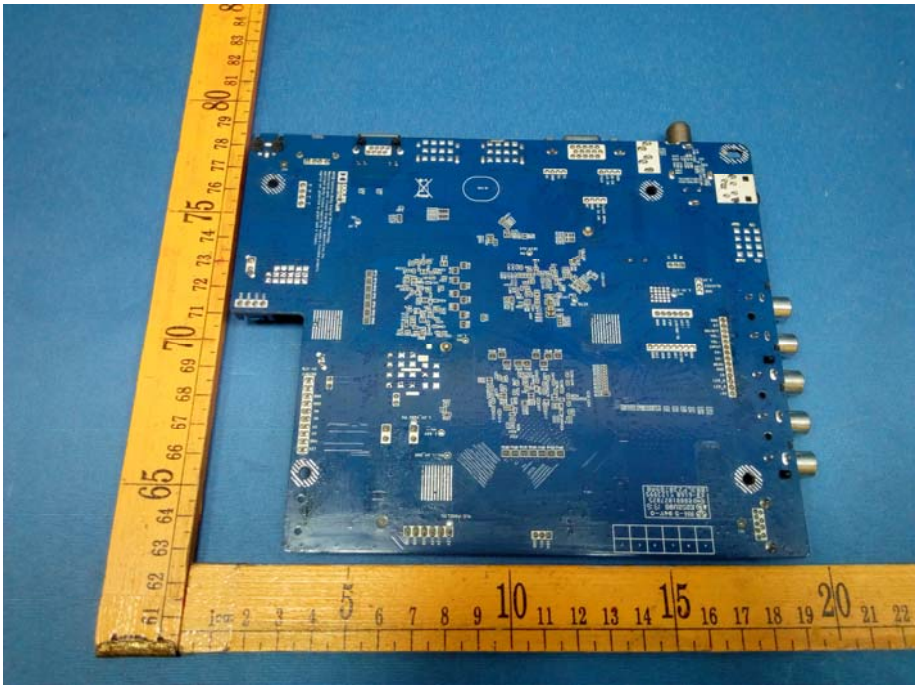

HOT
COLD

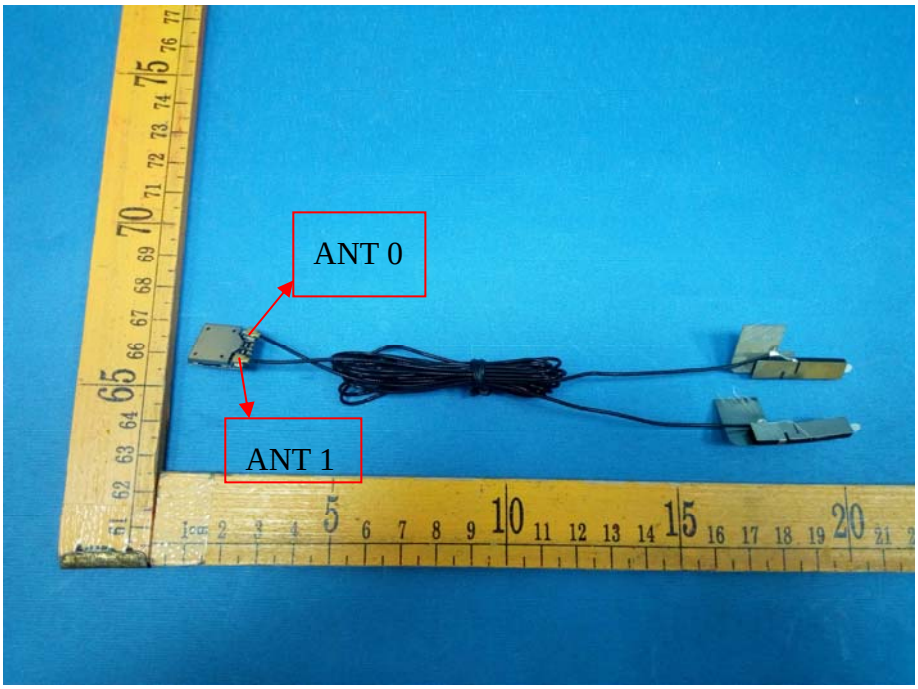


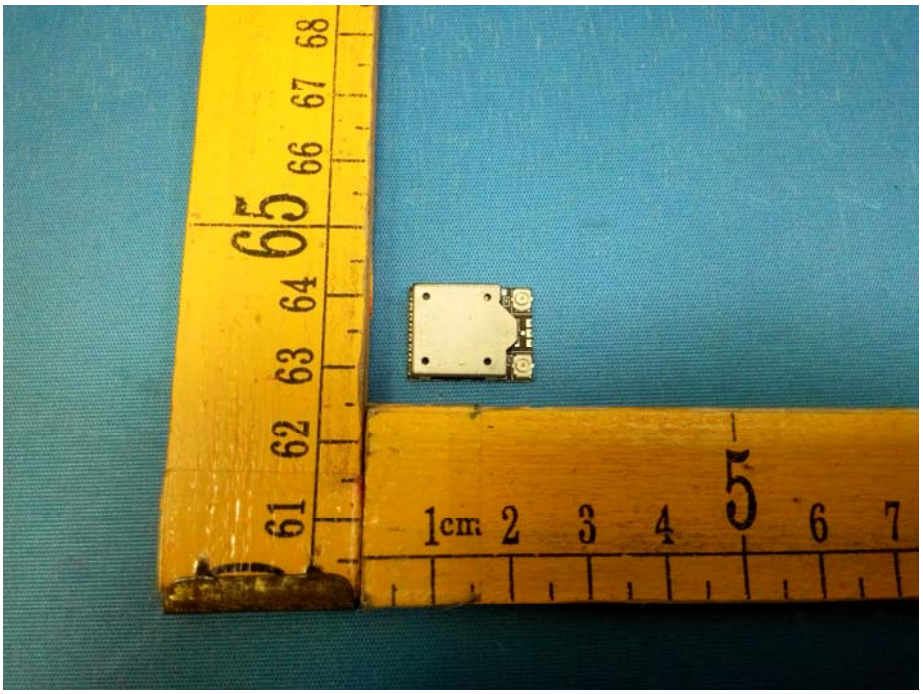

CV6488H-A

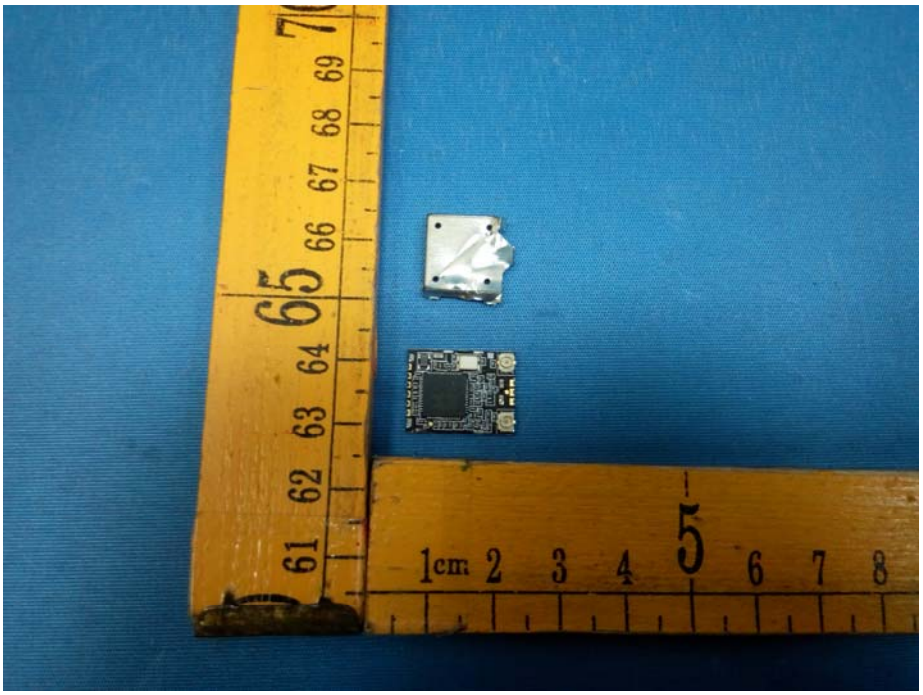

CV6488H-A

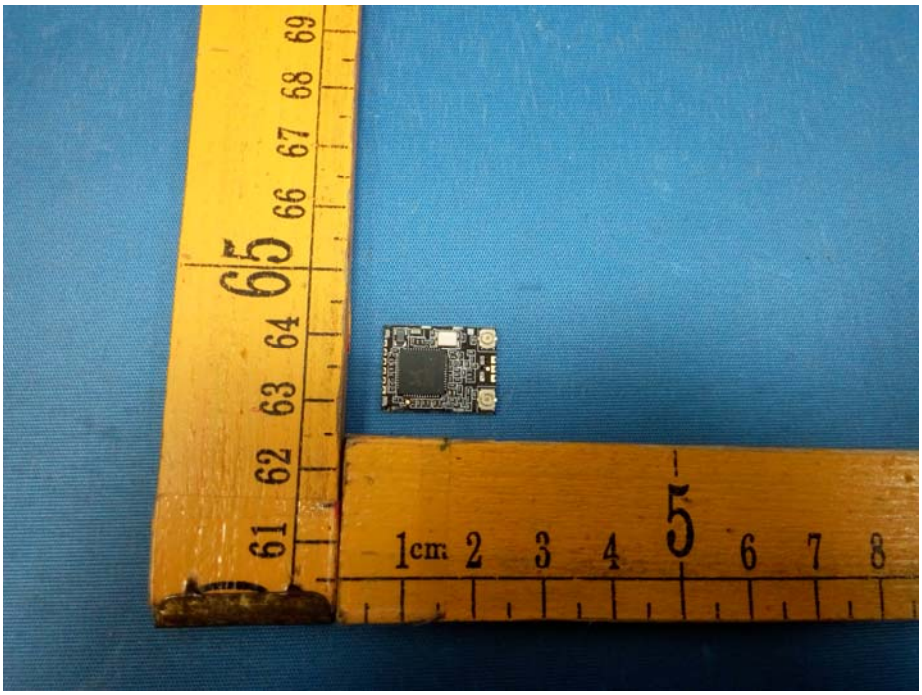

CV6488H-A

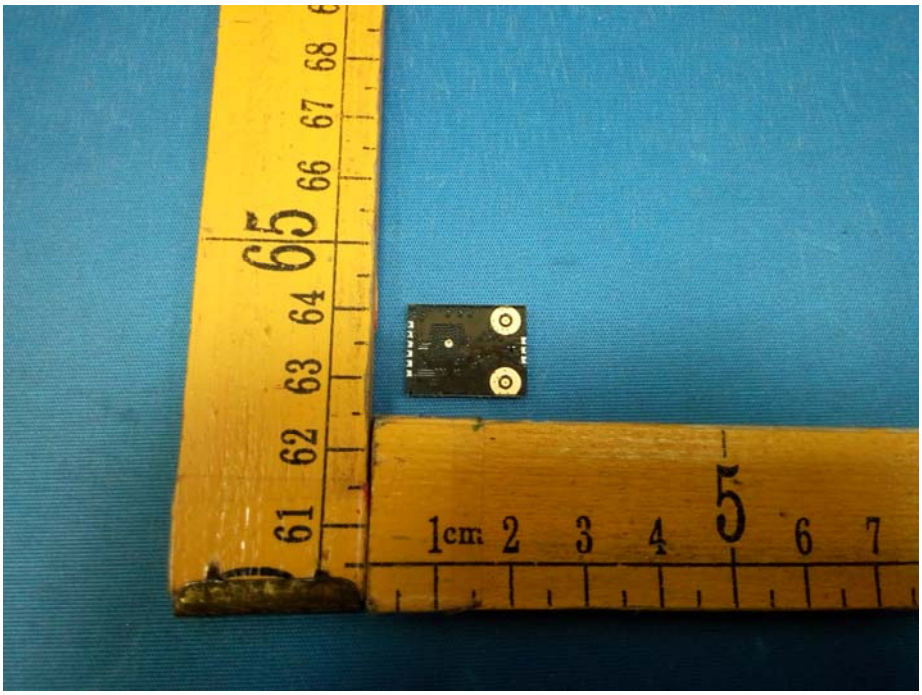



ANT 0
ANT 1


1cm 2 3 4 5 6 7


1cm 2 3 4 5 6 7 8





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