RF TEST REPORT

Applicant	ZTE Corporation
FCC ID	SRQ-WF820R
Product	Wi-Fi Router
Brand	ZTE
Model	WF820+ Router
Report No.	RXA1707-0212RF01R1
Issue Date	August 25, 2017

TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC CFR47 Part 15C (2017)**. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Performed by: Xianqing Li	*Approved by: Kai Xu*

TA Technology (Shanghai) Co., Ltd.

No.145, Jintang Rd, Tangzhen Industry Park, Pudong Shanghai, China

TEL: +86-021-50791141/2/3

FAX: +86-021-50791141/2/3-8000

TABLE OF CONTENT

Summary of measurement results

Number	Summary of measurements of results	Clause in FCC rules	Verdict
1	Maximum Average conducted output power	15.247(b)(3)	PASS
2	6 dB bandwidth	15.247(a)(2)	PASS
3	Power spectral density	15.247(e)	PASS
4	Band Edge	15.247(d)	PASS
5	Spurious RF Conducted Emissions	15.247(d)	PASS
6	Radiated Emissions in restricted frequency bands	15.247(d),15.205,15.209	PASS
7	Radiated Emissions	15.247(d),15.205,15.209	PASS
8	Conducted Emissions	15.207	PASS
Date of Testing: July 10, 2017 ~ July 29, 2017			

1. Test Laboratory

1.1. Notes of the test report

This report shall not be reproduced in full or partial, without the written approval of **TA technology (shanghai) co., Ltd.** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein .Measurement Uncertainties were not taken into account and are published for informational purposes only. This report is written to support regulatory compliance of the applicable standards stated above. This report must not be used by the client to claim product certification, approval, or endorsement by any government agencies.

1.2. Test facility

CNAS (accreditation number: L2264)

TA Technology (Shanghai) Co., Ltd. has obtained the accreditation of China National Accreditation Service for Conformity Assessment (CNAS).

FCC (Designation number: CN1179, Test Firm Registration Number: 446626)

TA Technology (Shanghai) Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

IC (recognition number is 8510A)

TA Technology (Shanghai) Co., Ltd. has been listed by industry Canada to perform electromagnetic emission measurement.

VCCI (recognition number is C-4595, T-2154, R-4113, G-10766)

TA Technology (Shanghai) Co., Ltd. has been listed by industry Japan to perform electromagnetic emission measurement.

A2LA (Certificate Number: 3857.01)

TA Technology (Shanghai) Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform electromagnetic emission measurement.

1.3. Testing Location

Company:	TA Technology (Shanghai) Co., Ltd.
Address:	No.145, Jintang Rd, Tangzhen Industry Park, Pudong
City:	Shanghai
Post code:	201201
Country:	P. R. China
Contact:	Xu Kai
Telephone:	+86-021-50791141/2/3
Fax:	+86-021-50791141/2/3-8000
Website:	http://www.ta-shanghai.com
E-mail:	xukai@ta-shanghai.com

2. General Description of Equipment under Test

Client Information

Applicant	ZTE Corporation
Applicant address	ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park, Nanshan District, Shenzhen, Guangdong, P.R.China
Manufacturer	ZTE Corporation
Manufacturer address	ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park, Nanshan District, Shenzhen, Guangdong, P.R.China

General information

EUT Description	
Model:	WF820+ Router
S/N:	6453017220400020
HW Version:	V3.3
SW Version:	CLARO_PER_WF820+_V1.0.0B07
Power Supply:	AC adapter
Antenna Type:	Internal Antenna
Antenna Connector:	A permanently attached antenna (meet with the standard FCC Part 15.203 requirement)
Antenna Gain:	Antenna1 : 3dBi Antenna2 : 3dBi
Directional Gain:	3.00 dBi
additional beamforming gain:	0 dB
Test Mode:	802.11b 802.11g, 802.11n(HT20/HT40);
Modulation Type:	802.11b: DSSS; 802.11g/n(HT20/HT40): OFDM
Max. Conducted Power	19.79dBm
Operating Frequency Range(s)	802.11b/g/n(HT20): 2412 ~ 2462 MHz 802.11n(HT40): 2422 ~ 2452 MHz
EUT Accessory	
Adapter 1	Manufacturer: AQUILSTAR PRECISION INDUSTRIAL (SHENZHEN) CO., LTD Model: ASSA53A-120150
Adapter 2	Manufacturer: RUIDE Model: RD1201500-C55-1MG

Note: The information of the EUT is declared by the manufacturer.

3. Applied Standards

According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

Test standards

- **FCC CFR47 Part 15C (2017) Radio Frequency Devices**
- **ANSI C63.10 (2013)**
- **KDB 558074 D01 DTS Meas Guidance v04**
- **KDB 662911 D01 Multiple Transmitter Output v02r01**

4. Test Configuration

Test Mode

The EUT was programmed to be in continuously transmitting mode and the transmit duty cycle is not less than 98%.

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

The radiated emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in stand-up position (Z axis) and the worst case was recorded.

In order to find the worst case condition, Pre-tests are needed at the presence of different data rate. Preliminary tests have been done on all the configuration for confirming worst case. Data rate below means worst-case rate of each test item.

The worst case data rates are shown as following table.

Band	Data Rate		
	Antenna 1	Antenna 2	MIMO
802.11b	1 Mbps	1 Mbps	/
802.11g	6 Mbps	6 Mbps	/
802.11n HT20	MCS0	MCS0	MCS8
802.11n HT40	MCS0	MCS0	MCS8

The worst case Antenna mode for each of the following tests for Wi-Fi:

Test Cases	Antenna 1	Antenna 2	MIMO
Average Power Output –Conducted	802.11b 802.11g	802.11b 802.11g	802.11n HT20 802.11n HT40
6dB Bandwidth	802.11b 802.11g	--	802.11n HT20 802.11n HT40
Band Edge	802.11b 802.11g	--	802.11n HT20 802.11n HT40
Power Spectral Density	802.11b 802.11g	802.11b 802.11g	802.11n HT20 802.11n HT40
Spurious RF Conducted Emissions	O	O	802.11n HT20 802.11n HT40
Radiates Emission in the Restricted Band	802.11b 802.11g	--	802.11n HT20 802.11n HT40
Radiates Emission	802.11b 802.11g	--	802.11n HT20 802.11n HT40
Conducted Emission	802.11b	--	--
Note：“O”: test all bands			

5. Test Case Results

5.1. Average Power Output –Conducted

Ambient condition

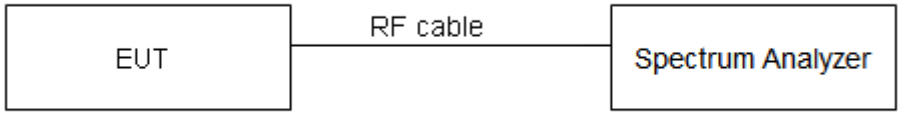
Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Methods of Measurement

During the process of the testing, The EUT was connected to Spectrum Analyzer with a known loss. The EUT is max power transmission with proper modulation. The Average detector is used. We use Maximum Average Conducted Output Power Level Method in KDB 558074 D01/KDB662911 D01 for this test.

The conducted Power is measured at each antenna port. The measured results at the various antenna ports are then summed mathematically.

Test Setup



Limits

Rule Part 15.247 (b) (3) specifies that " For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz: 1 Watt."

Average Output Power	≤ 1W (30dBm)

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2, U= 0.44 dB.

Test Results

Single Antenna Power Index						
Packet Type	Antenna 1			Antenna 2		
	CH1	CH6	CH11	CH1	CH6	CH11
802.11b	1	13	14	4	17	16
802.11g	1	13	14	4	19	16

Mimo Antenna Power Index						
Packet Type	Mimo Antenna 1			Mimo Antenna 2		
	CH1	CH6	CH11	CH1	CH6	CH11
802.11n HT20	1	13	14	4	18.5	16
Packet Type	**CH3**	**CH6**	**CH9**	**CH3**	**CH6**	**CH9**
802.11n HT40	1	19	14	2	12	18

SISO Antenna 1

Network Standards	Carrier frequency (MHz)	Average Output Power (dBm)	Limit (dBm)	Conclusion
802.11b	2412	16.52	30	PASS
	2437	16.39	30	PASS
	2462	16.73	30	PASS
802.11g	2412	16.79	30	PASS
	2437	16.29	30	PASS
	2462	16.48	30	PASS

SISO Antenna 2

Network Standards	Carrier frequency (MHz)	Average Output Power (dBm)	Limit (dBm)	Conclusion
802.11b	2412	16.47	30	PASS
	2437	16.44	30	PASS
	2462	16.71	30	PASS
802.11g	2412	16.26	30	PASS
	2437	16.13	30	PASS
	2462	16.11	30	PASS

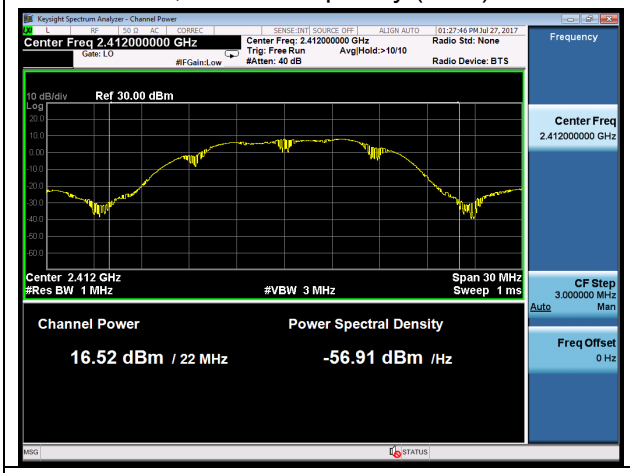
MIMO

Network Standards	Carrier frequency (MHz)	Average Output Power (dBm)						Limit (dBm)	Conclusion
		Antenna 1		Antenna 2		Total Power			
		(dBm)	(mW)	(dBm)	(mW)	(mW)	(dBm)		
802.11n HT20	2412	16.72	46.99	16.83	48.19	95.18	19.79	30	PASS
	2437	16.17	41.40	16.24	42.07	83.47	19.22	30	PASS
	2462	16.36	43.25	16.07	40.46	83.71	19.23	30	PASS
802.11n HT40	2422	16.60	45.71	16.20	41.69	87.40	19.41	30	PASS
	2437	16.48	44.46	16.67	46.45	90.91	19.59	30	PASS
	2452	16.53	44.98	16.58	45.50	90.48	19.57	30	PASS

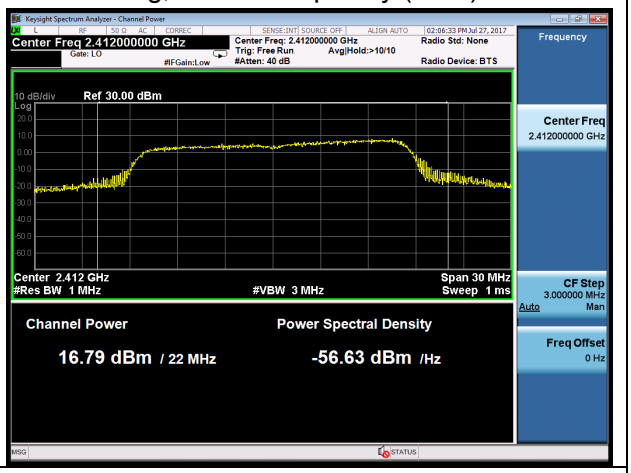
Note: 1. For Total Power, according to KDB 662911 D01 Multiple Transmitter Output v02r01 1),
The Total Power =$10\log(10^{(\text{Power antenna1 in dBm}/10)}+10^{(\text{Power antenna2 in dBm}/10)})$.
2. all transmit signals are completely uncorrelated with each other, Directional gain = G_{ANT}=3dB

SISO Antenna 1

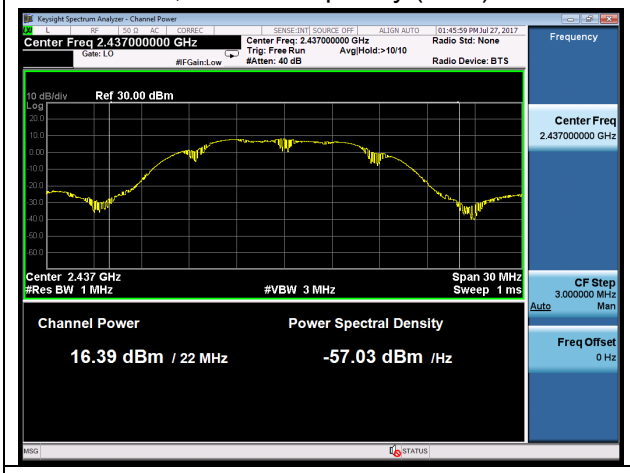
802.11b, Carrier frequency (MHz): 2412



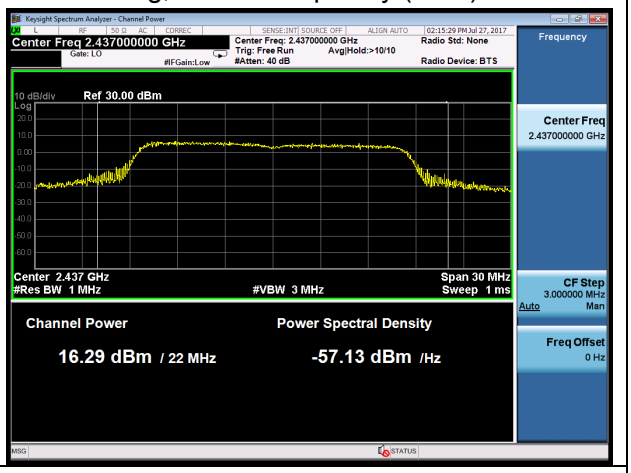
802.11g, Carrier frequency (MHz): 2412



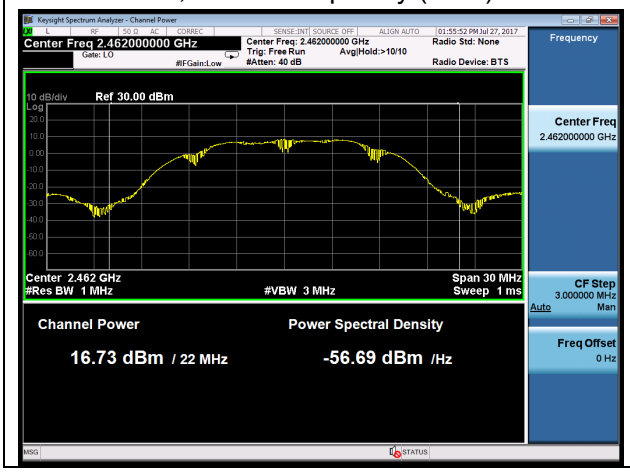
802.11b, Carrier frequency (MHz): 2437



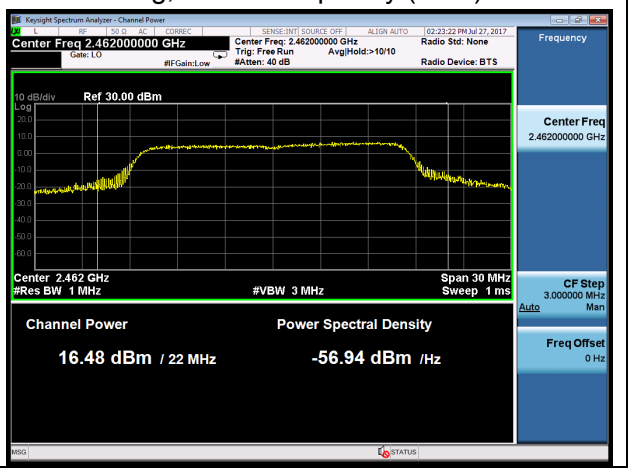
802.11g, Carrier frequency (MHz): 2437



802.11b, Carrier frequency (MHz):2462

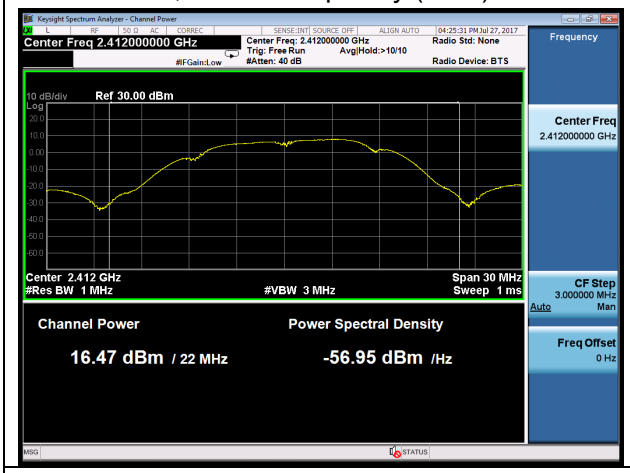


802.11g, Carrier frequency (MHz):2462

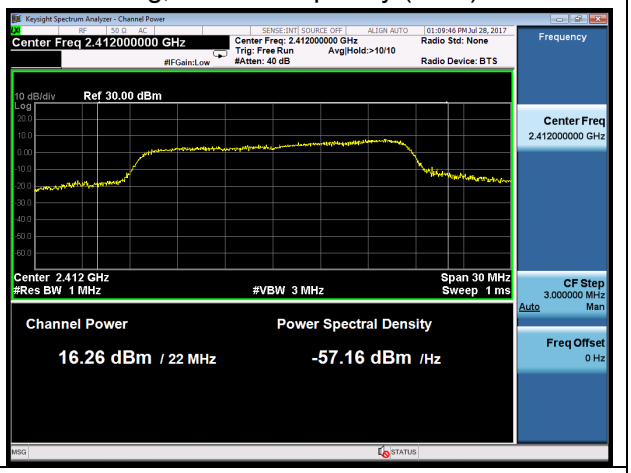


SISO Antenna 2

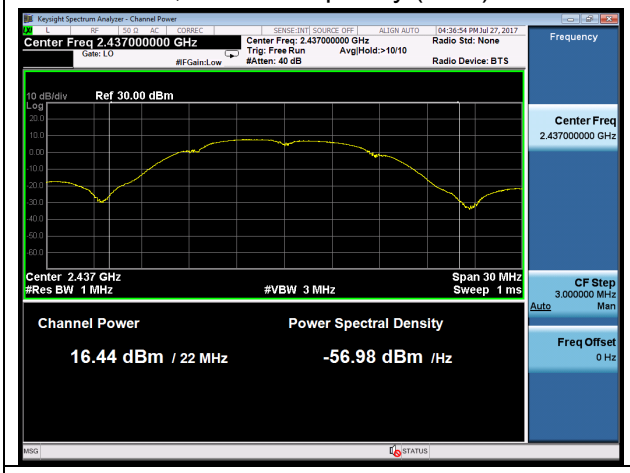
802.11b, Carrier frequency (MHz): 2412



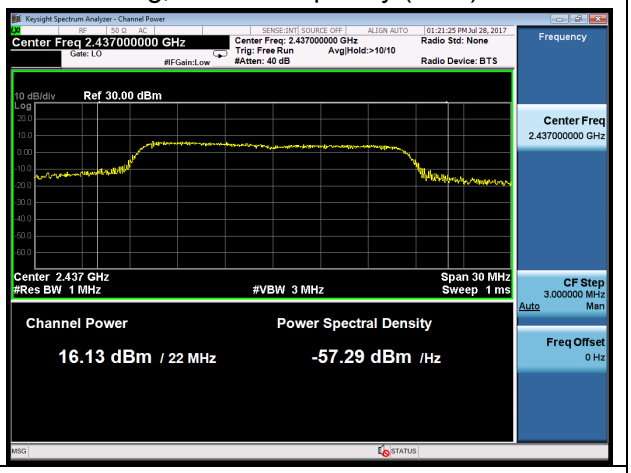
802.11g, Carrier frequency (MHz): 2412



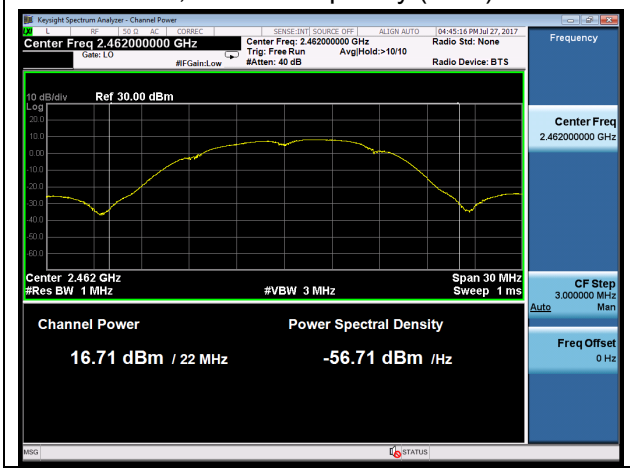
802.11b, Carrier frequency (MHz): 2437



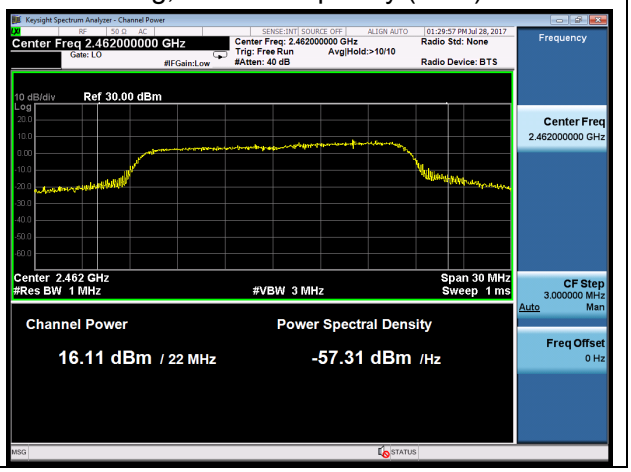
802.11g, Carrier frequency (MHz): 2437



802.11b, Carrier frequency (MHz):2462

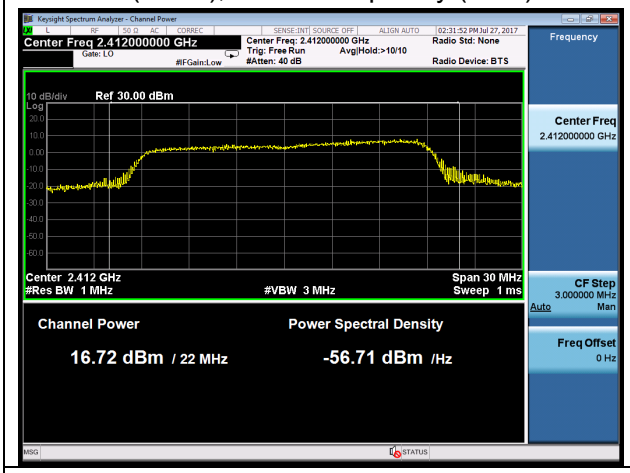


802.11g, Carrier frequency (MHz):2462

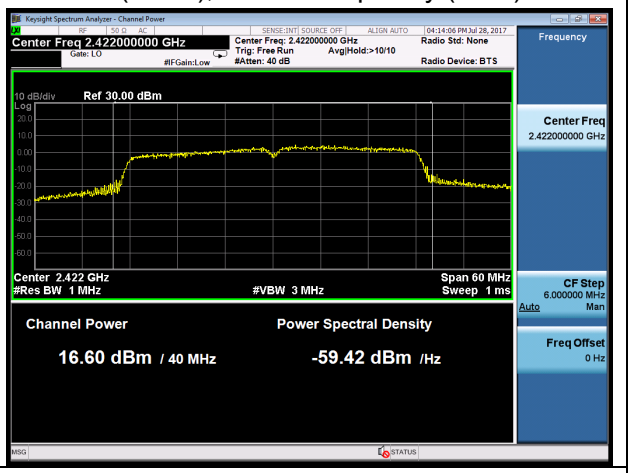


MIMO Antenna 1

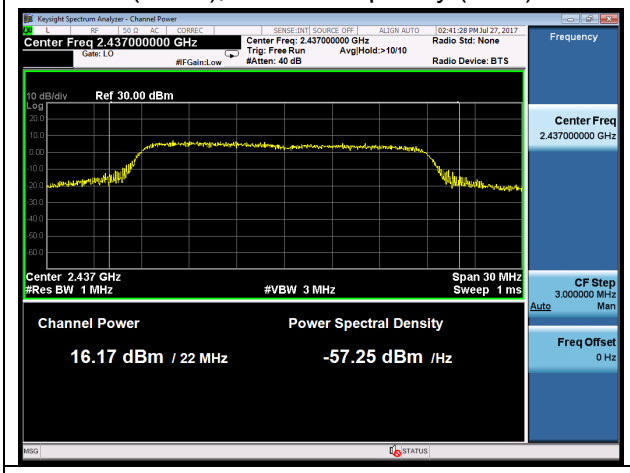
802.11n(HT20), Carrier frequency (MHz): 2412



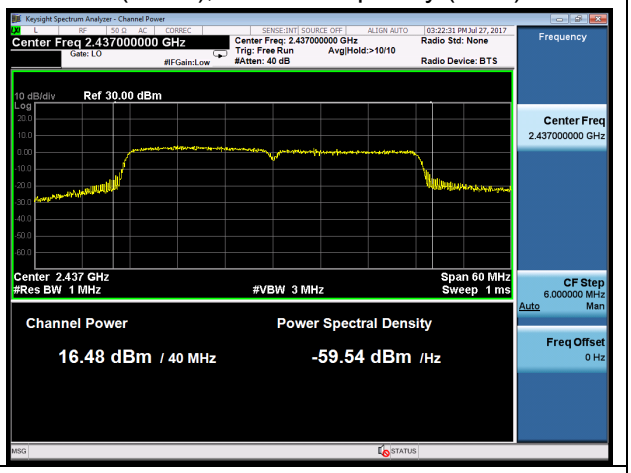
802.11n(HT40), Carrier frequency (MHz): 2422



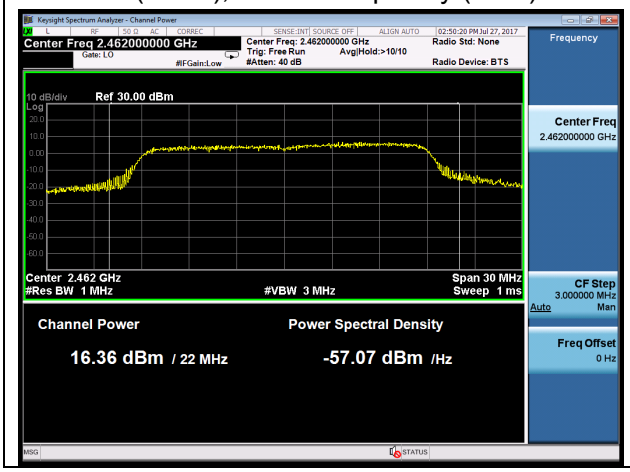
802.11n(HT20), Carrier frequency (MHz): 2437



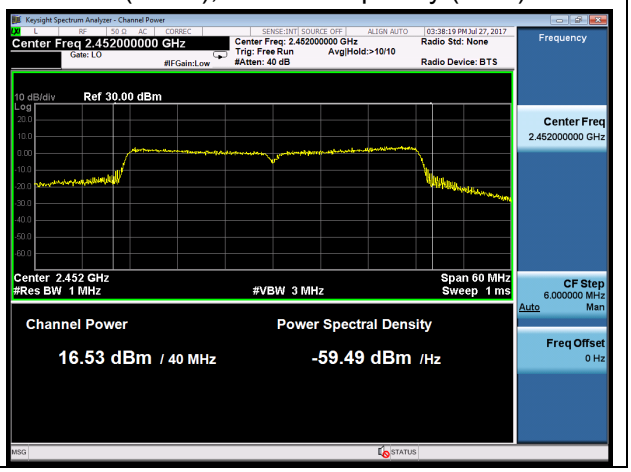
802.11n(HT40), Carrier frequency (MHz): 2437



802.11n(HT20), Carrier frequency (MHz):2462

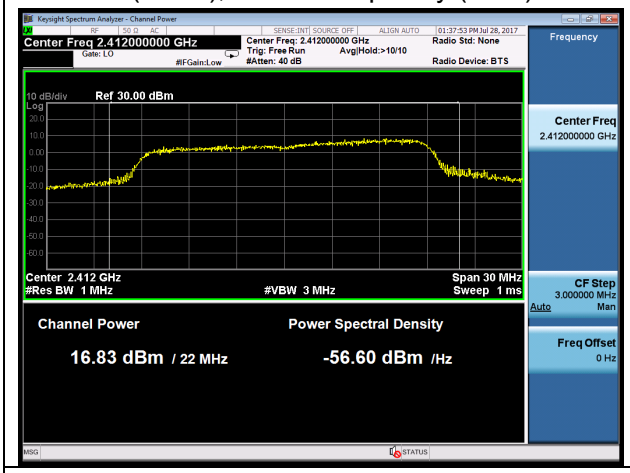


802.11n(HT40), Carrier frequency (MHz):2452

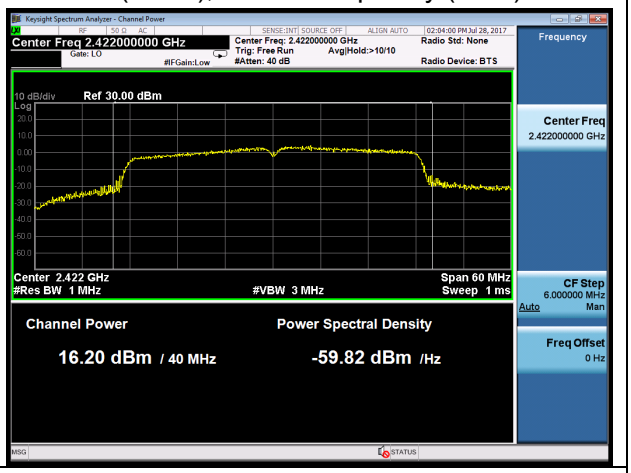


MIMO Antenna 2

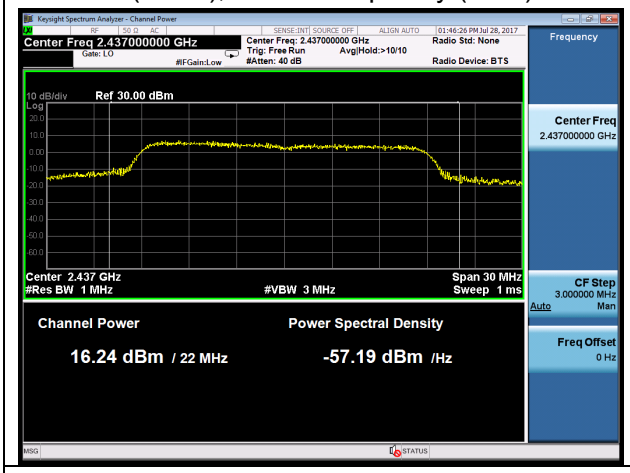
802.11n(HT20), Carrier frequency (MHz): 2412



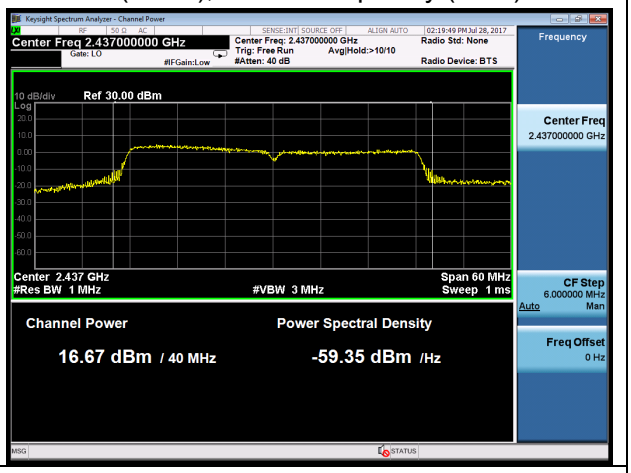
802.11n(HT40), Carrier frequency (MHz): 2422



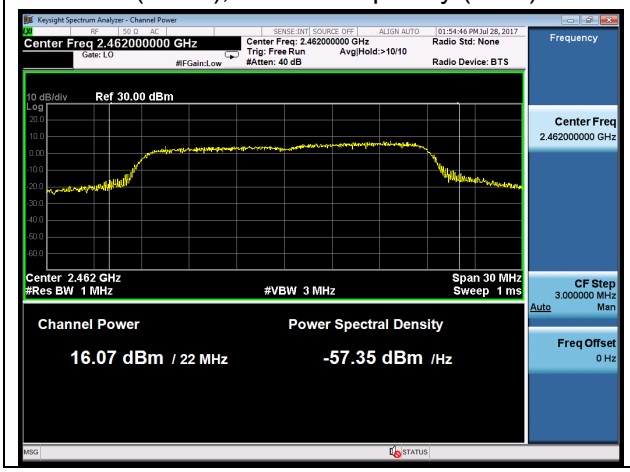
802.11n(HT20), Carrier frequency (MHz): 2437



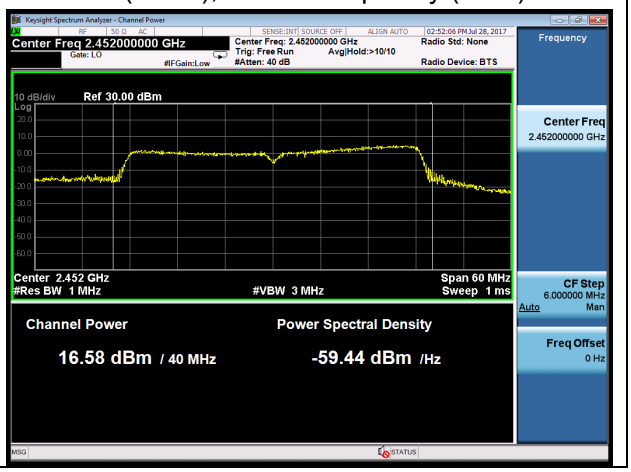
802.11n(HT40), Carrier frequency (MHz): 2437



802.11n(HT20), Carrier frequency (MHz):2462



802.11n(HT40), Carrier frequency (MHz):2452



5.2. 6dB Bandwidth

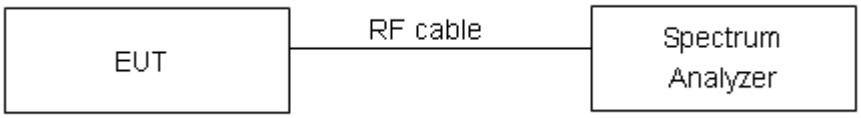
Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The EUT was connected to the spectrum analyzer through an external attenuator (20dB) and a known loss cable. RBW is set to 100 kHz; VBW is set to 300 kHz on spectrum analyzer.

Test Setup



Limits

Rule Part 15.247 (a) (2) specifies that “Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.”

minimum 6 dB bandwidth	≥ 500 kHz

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2, U= 936 Hz.

Test Results:

SISO Antenna 1

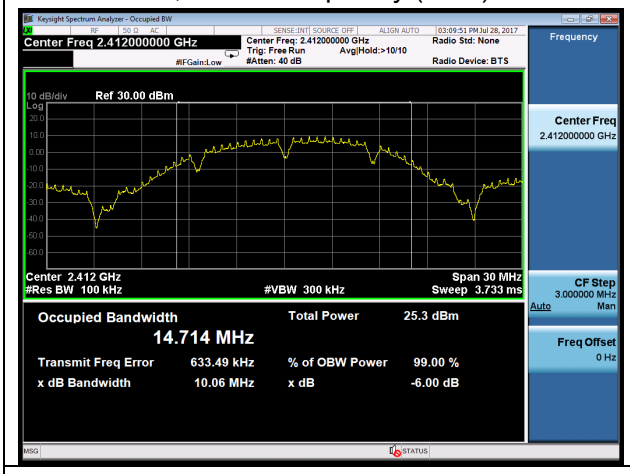
Network Standards	Carrier frequency (MHz)	99% bandwidth (MHz)	Minimum 6 dB bandwidth (MHz)	Limit (kHz)	Conclusion
802.11b	2412	14.714	10.060	500	PASS
	2437	14.343	10.070	500	PASS
	2462	13.992	9.594	500	PASS
802.11g	2412	19.519	15.690	500	PASS
	2437	17.326	16.320	500	PASS
	2462	16.705	15.750	500	PASS

MIMO

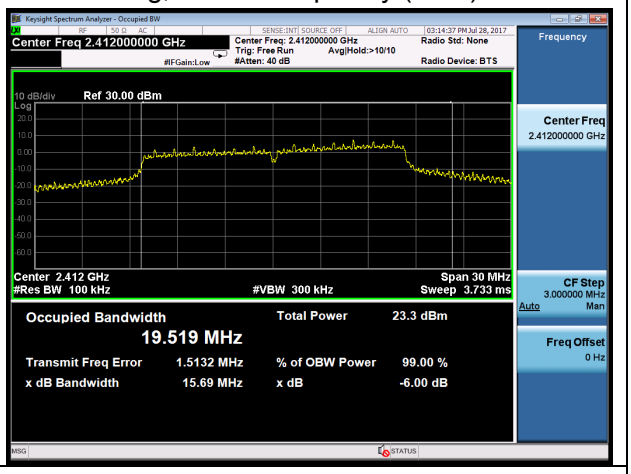
Network Standards	Carrier frequency (MHz)	99% bandwidth (MHz)	Minimum 6 dB bandwidth (MHz)	Limit (kHz)	Conclusion
802.11n HT20	2412	19.898	15.090	500	PASS
	2437	18.101	16.340	500	PASS
	2462	17.781	16.280	500	PASS
802.11n HT40	2422	38.160	33.820	500	PASS
	2437	40.789	35.950	500	PASS
	2452	36.744	35.790	500	PASS

SISO Antenna 1

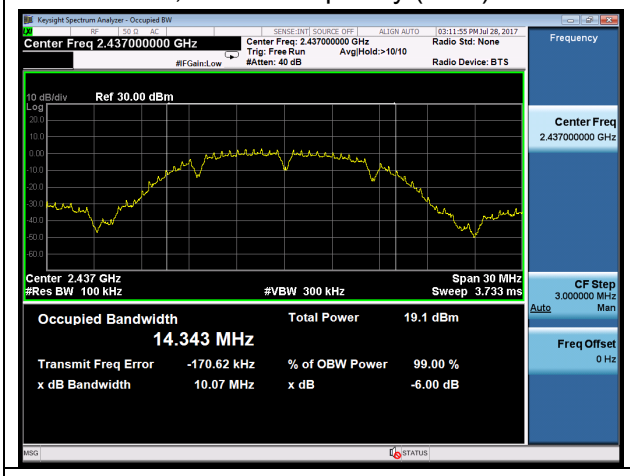
802.11b, Carrier frequency (MHz): 2412



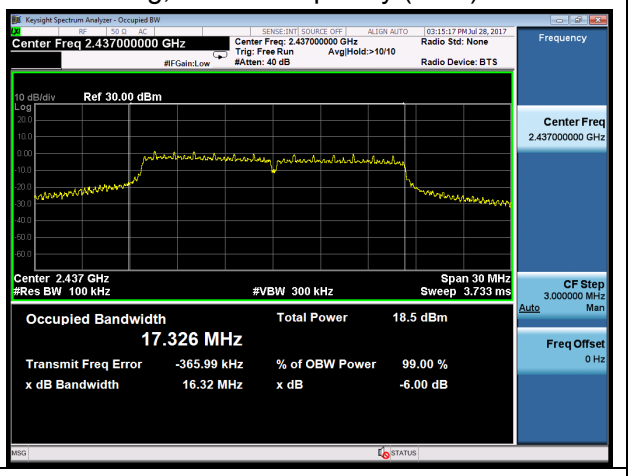
802.11g, Carrier frequency (MHz): 2412



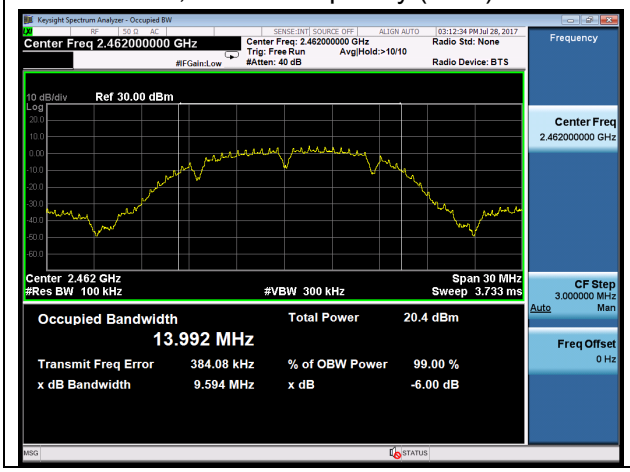
802.11b, Carrier frequency (MHz): 2437



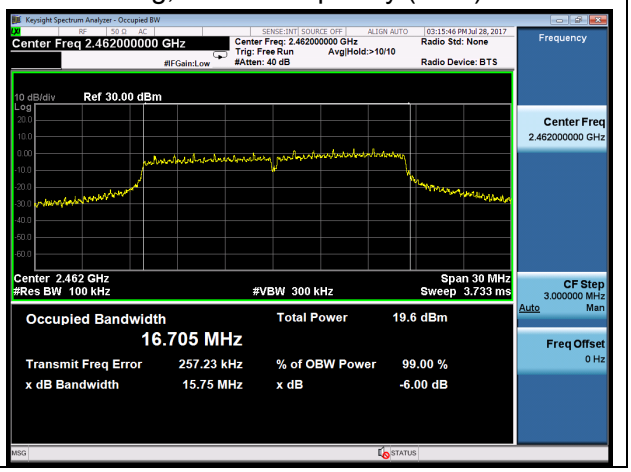
802.11g, Carrier frequency (MHz): 2437



802.11b, Carrier frequency (MHz):2462

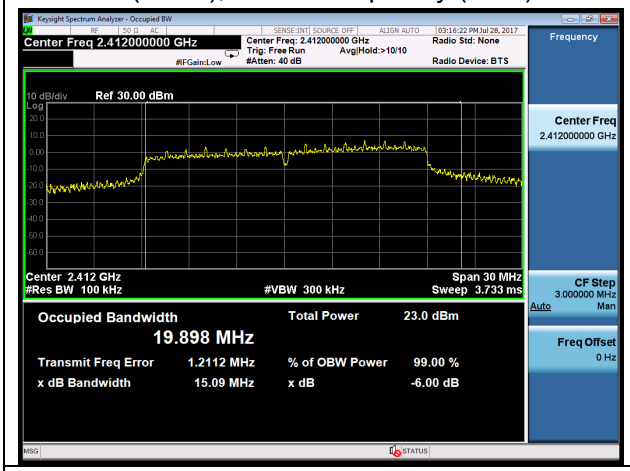


802.11g, Carrier frequency (MHz):2462

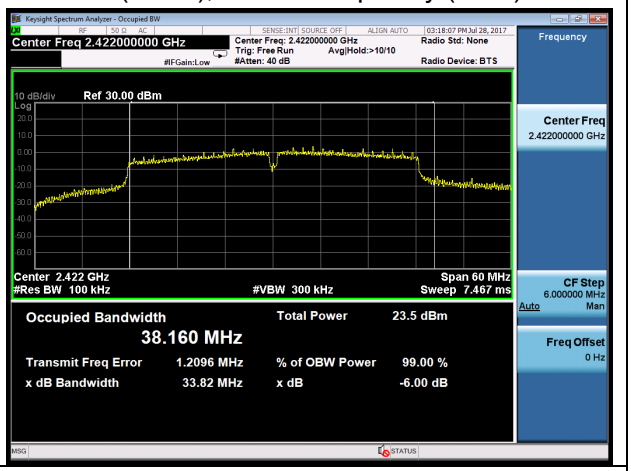


MIMO

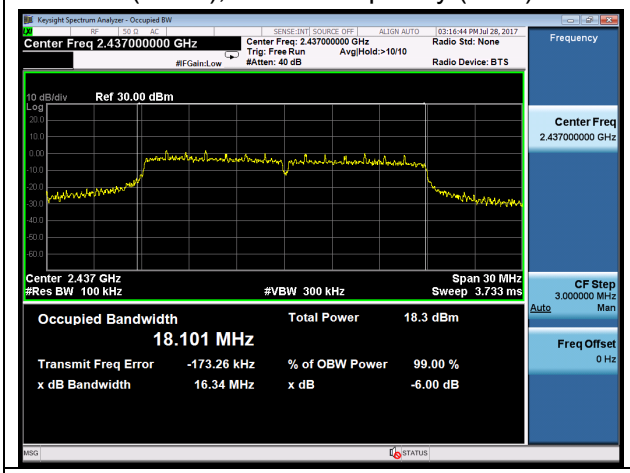
802.11n(HT20), Carrier frequency (MHz): 2412



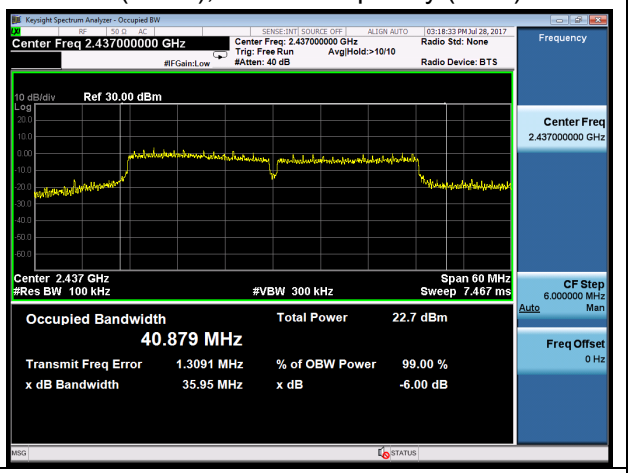
802.11n(HT40), Carrier frequency (MHz): 2422



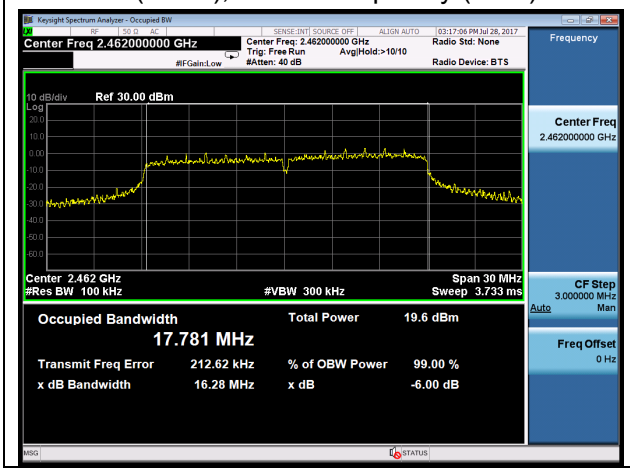
802.11n(HT20), Carrier frequency (MHz): 2437



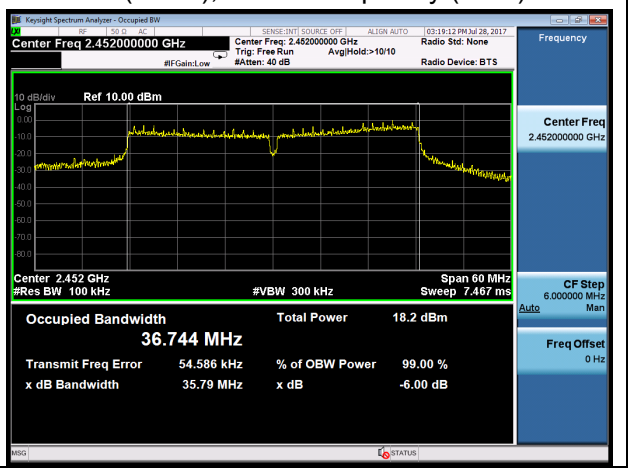
802.11n(HT40), Carrier frequency (MHz): 2437



802.11n(HT20), Carrier frequency (MHz):2462



802.11n(HT40), Carrier frequency (MHz):2452



5.3. Band Edge

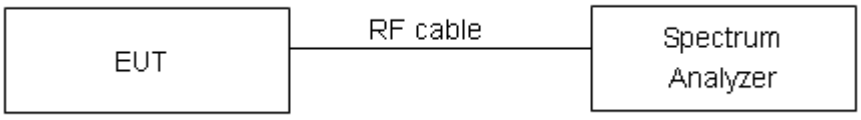
Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The EUT was connected to the spectrum analyzer through an external attenuator (20dB) and a known loss cable the band edge of the lowest and highest channels were measured. The peak detector is used and RBW is set to 100 kHz and VBW is set to 300 kHz on spectrum analyzer. Spectrum analyzer plots are included on the following pages.

Test Setup



Limits

Rule Part 15.247(d) specifies that “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.”

Measurement Uncertainty

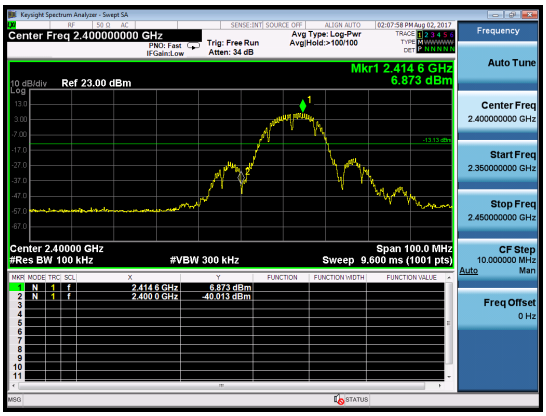
The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 1.96.

Frequency	Uncertainty
2GHz-3GHz	1.407 dB

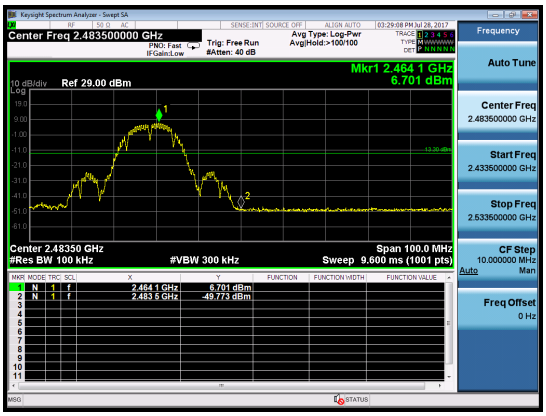
Test Results:

SISO Antenna 1

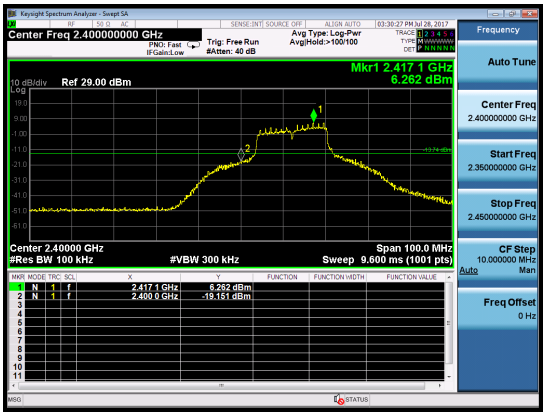
802.11b, Channel No.: 1



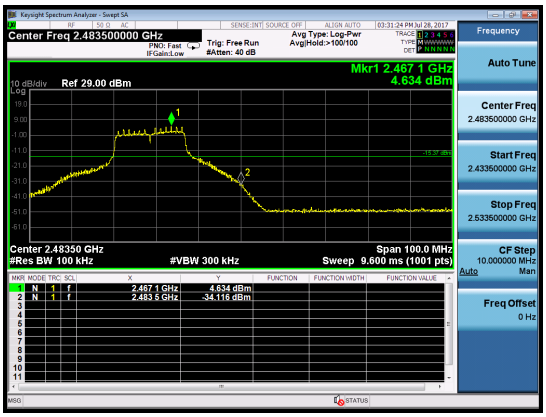
802.11b, Channel No.: 11



802.11g, Channel No.: 1

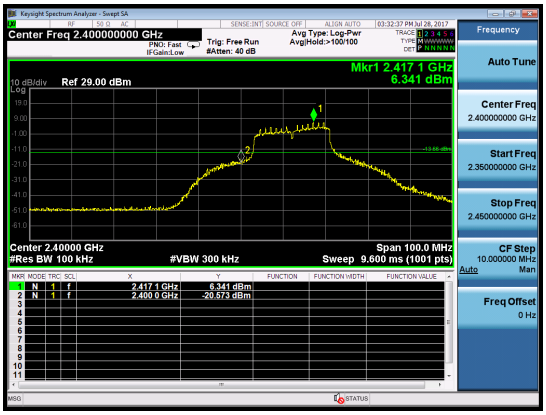


802.11g, Channel No.: 11

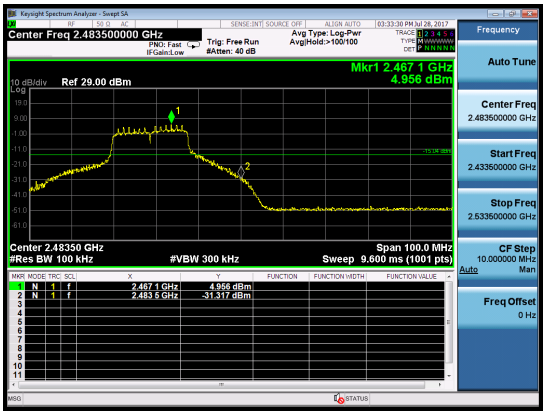


MIMO

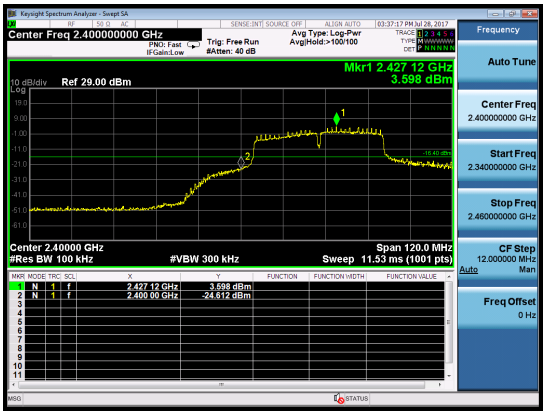
802.11n(HT20), Channel No.: 1



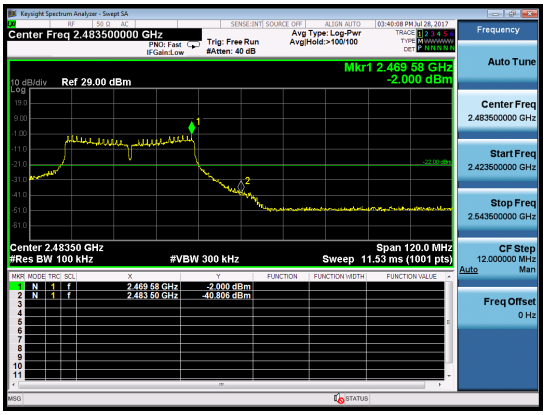
802.11n(HT20), Channel No.: 11



802.11n(HT40), Channel No.: 3



802.11n(HT40), Channel No.: 9



5.4. Power Spectral Density

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

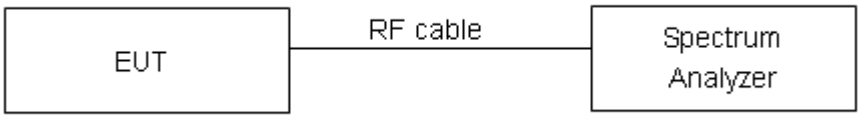
The EUT was connected to the spectrum analyzer through an external attenuator (20dB) and a known loss cable.

RBW is set to 3 kHz and VBW is set to 10 kHz for Wi-Fi 2.4G on spectrum analyzer.

Set the span to 1.5 times the DTS channel bandwidth. Sweep time = auto couple. Trace mode = max hold. The Average power spectral density is recorded.

The conducted Power is measured at each antenna port. The measured results at the various antenna ports are then summed mathematically.

Test setup



Limits

Rule Part 15.247(e) specifies that" For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. ''

Limits	≤ 8 dBm / 3kHz

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2, U= 0.75dB.

Test Results:

SISO Antenna 1

Network Standards	Channel Number	Power Spectral Density (dBm / 3kHz)	Limit (dBm / 3kHz)	Conclusion
802.11b	1	-16.605	8	PASS
	6	-17.102	8	PASS
	11	-16.515	8	PASS
802.11g	1	-16.429	8	PASS
	6	-18.581	8	PASS
	11	-18.157	8	PASS

SISO Antenna 2

Network Standards	Channel Number	Power Spectral Density (dBm / 3kHz)	Limit (dBm / 3kHz)	Conclusion
802.11b	1	-16.585	8	PASS
	6	-17.214	8	PASS
	11	-16.729	8	PASS
802.11g	1	-16.756	8	PASS
	6	-18.233	8	PASS
	11	-18.242	8	PASS

MIMO

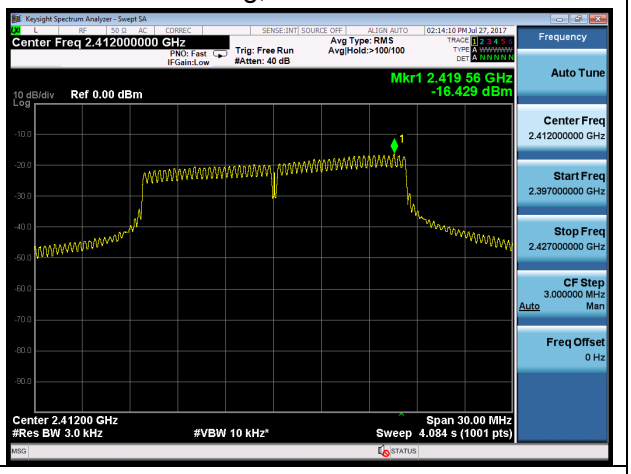
Network Standards	Channel Number	Power Spectral Density (dBm / 3kHz)						Limit (dBm / 3kHz)	Conclusion
		Antenna 1		Antenna 2		Total PSD			
		(dBm / 3kHz)	(mW/ 3kHz)	(dBm / 3kHz)	(mW/ 3kHz)	(mW/ 3kHz)	(dBm / 3kHz)		
802.11n HT20	1	-17.09	0.02	-17.05	0.02	0.04	-14.06	8	PASS
	6	-18.44	0.01	-18.44	0.01	0.03	-15.43	8	PASS
	11	-18.74	0.01	-18.44	0.01	0.03	-15.58	8	PASS
802.11n HT40	3	-19.62	0.01	-21.26	0.01	0.02	-17.35	8	PASS
	6	-21.15	0.01	-20.52	0.01	0.02	-17.81	8	PASS
	9	-20.99	0.01	-19.65	0.01	0.02	-17.26	8	PASS

Note: 1. For Total PSD, according to KDB 662911 D01 Multiple Transmitter Output v02r01 2)a),the power spectral density=$10\log(10^{(\text{PSD antenna1 in dBm/10})}+10^{(\text{PSD antenna2 in dBm/10})})$

Antenna 1

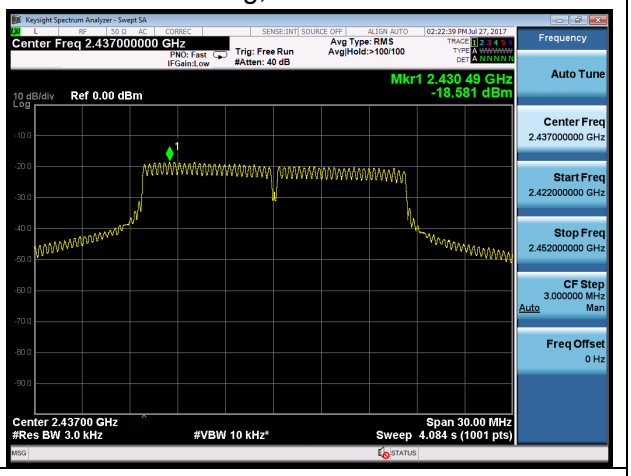
802.11b, Channel No.: 1

802.11g, Channel No.: 1



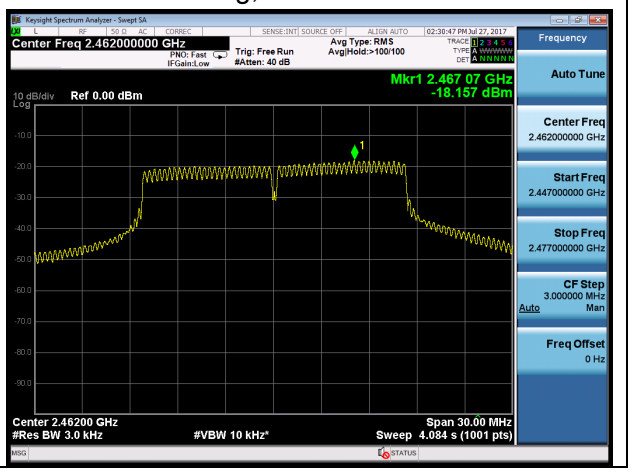
802.11b, Channel No.: 6

802.11g, Channel No.: 6

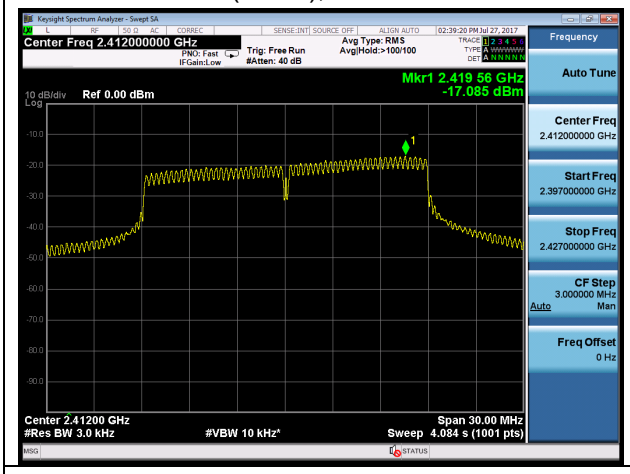


802.11b, Channel No.: 11

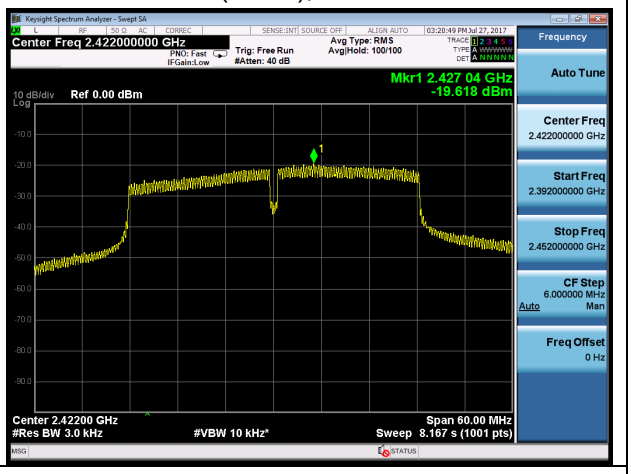
802.11g, Channel No.: 11



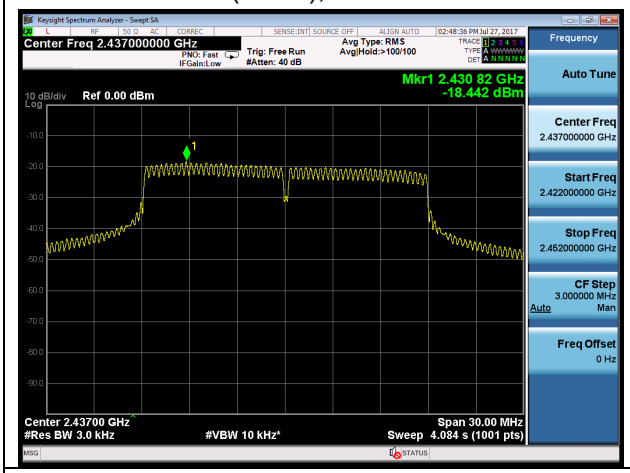
802.11n(HT20), Channel No. 1



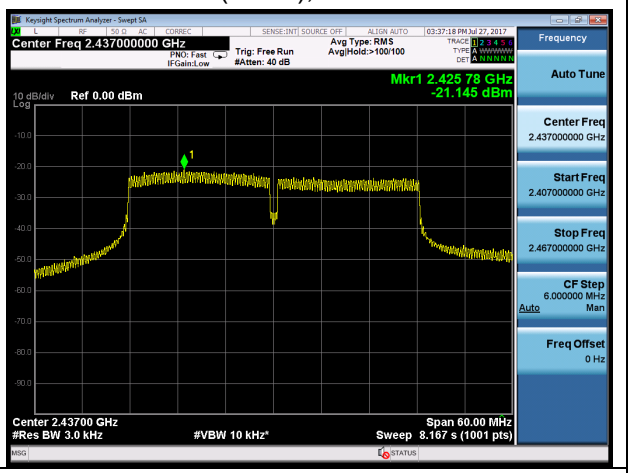
802.11n(HT40), Channel No. 3



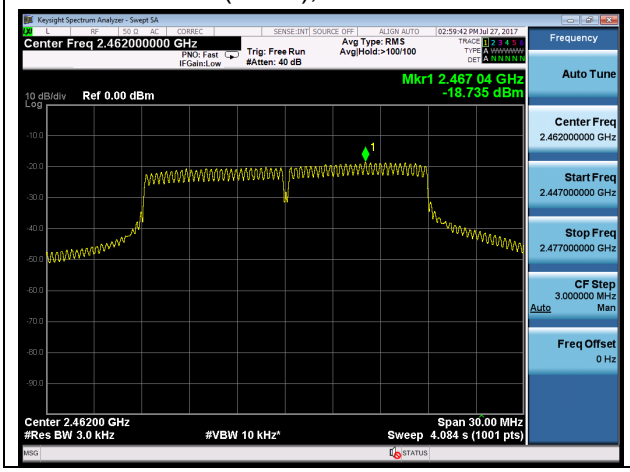
802.11n(HT20), Channel No. 6



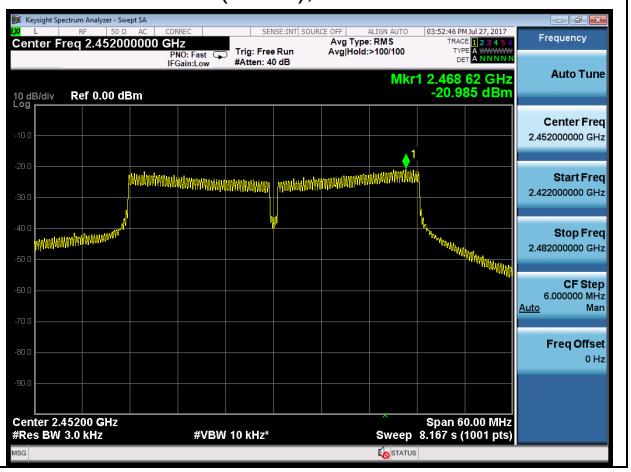
802.11n(HT40), Channel No. 6



802.11n(HT20), Channel No. 11

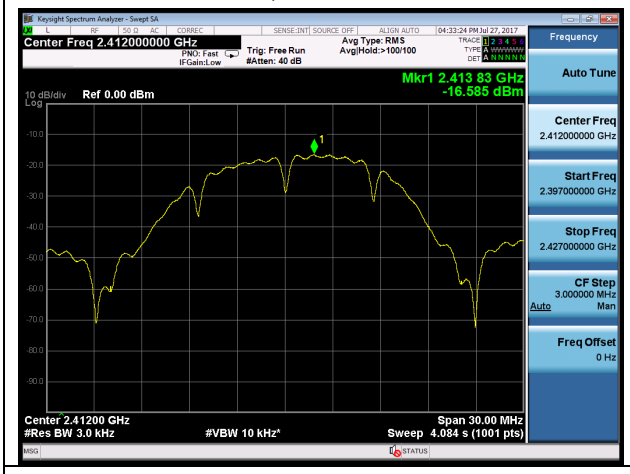


802.11n(HT40), Channel No. 9

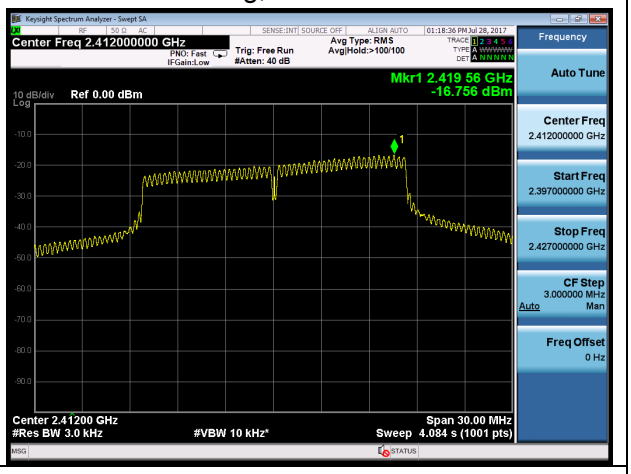


Antenna 2

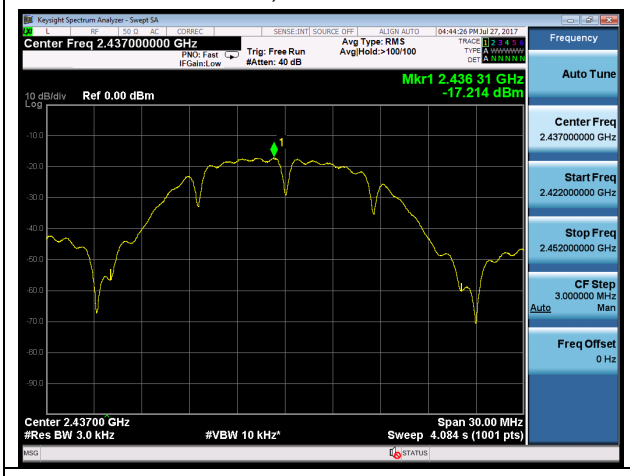
802.11b, Channel No.: 1



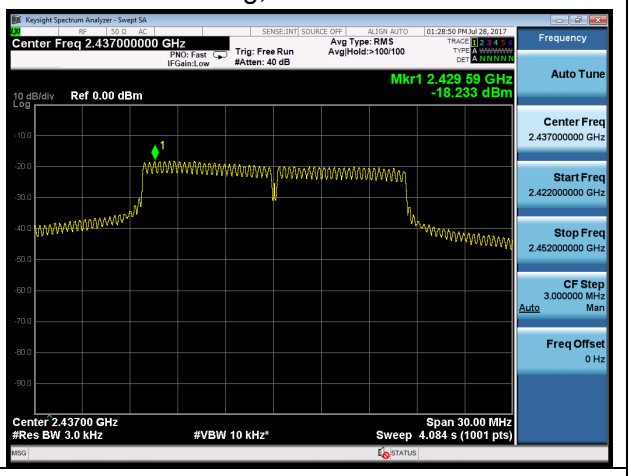
802.11g, Channel No.: 1



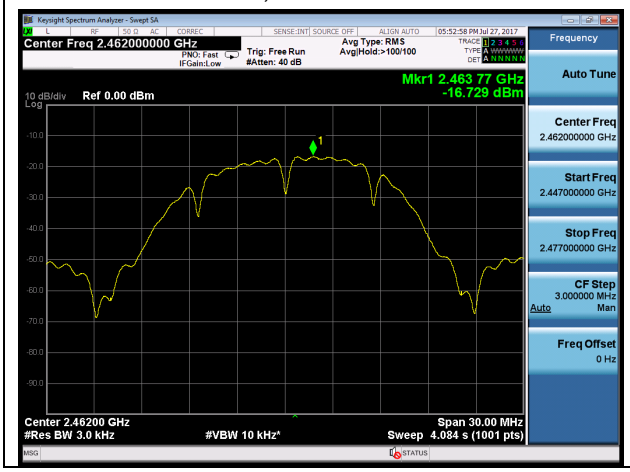
802.11b, Channel No.: 6



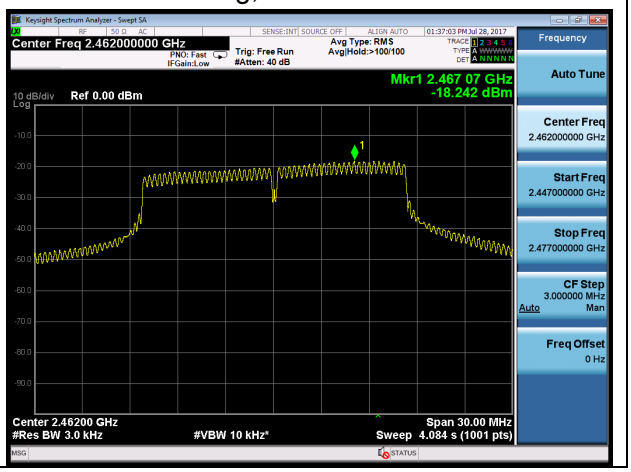
802.11g, Channel No.: 6



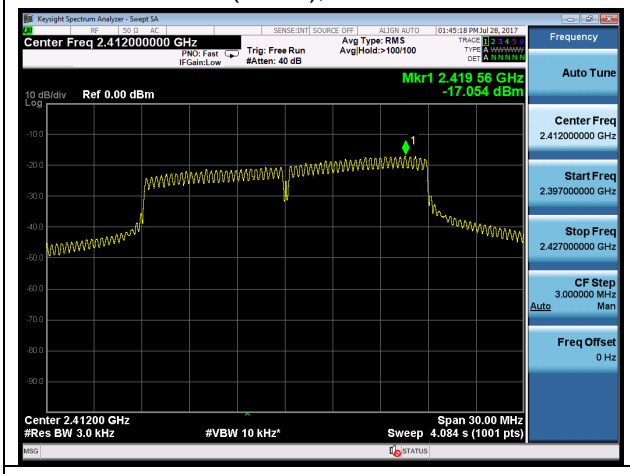
802.11b, Channel No.: 11



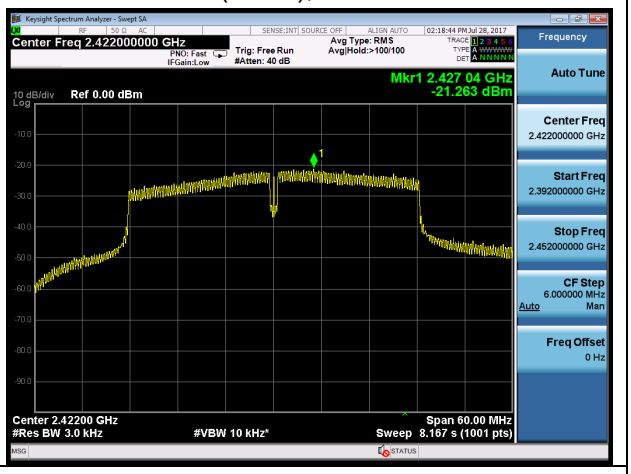
802.11g, Channel No.: 11



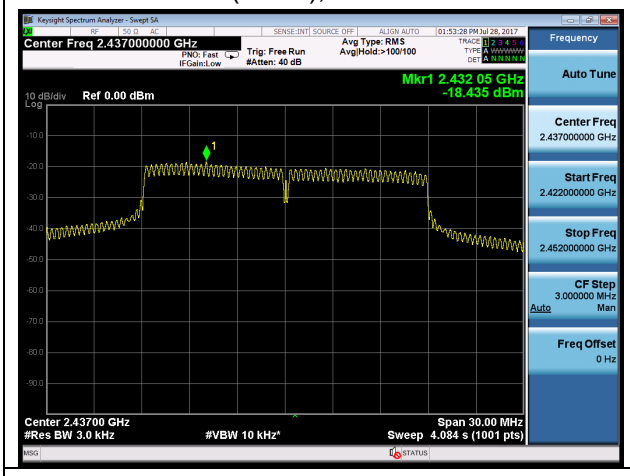
802.11n(HT20), Channel No. 1



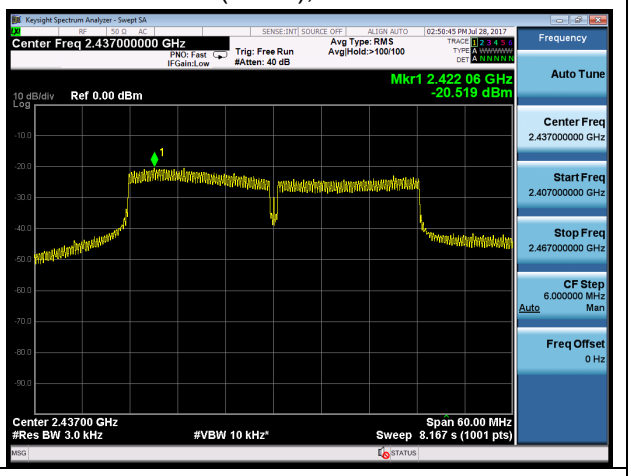
802.11n(HT40), Channel No. 3



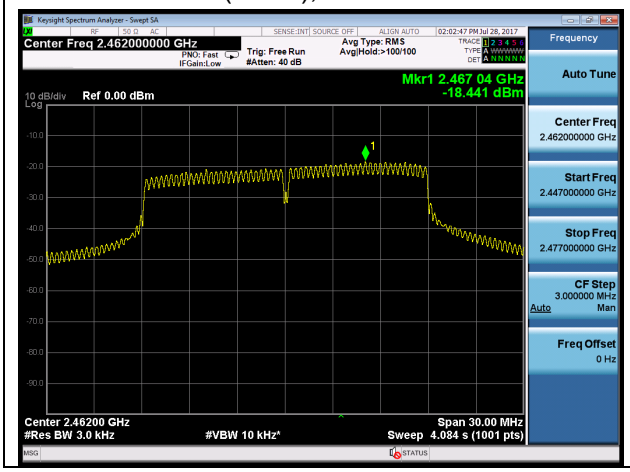
802.11n(HT20), Channel No. 6



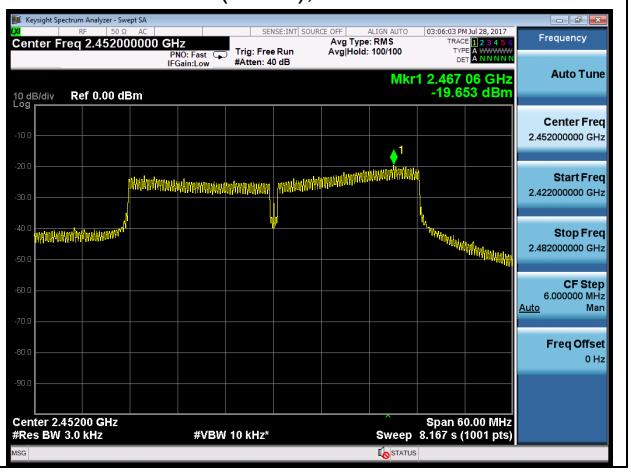
802.11n(HT40), Channel No. 6



802.11n(HT20), Channel No. 11



802.11n(HT40), Channel No. 9



5.5. Spurious RF Conducted Emissions

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The EUT was connected to the spectrum analyzer with a known loss. The spectrum analyzer scans from 30MHz to the 10th harmonic of the carrier. The peak detector is used. Set RBW to100kHz and VBW to 300 kHz, Sweep is set to ATUO.
The test is in transmitting mode.

Test setup

Limits

Rule Part 15.247(d) pacifies that “In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power.”

SISO Antenna 1

Network Standards	Carrier frequency (MHz)	Reference value (dBm)	Limit
802.11b	2412	0.537	-19.463
	2437	3.418	-16.582
	2462	3.047	-16.953
802.11g	2412	-2.734	-22.734
	2437	-1.616	-21.616
	2462	-0.737	-20.737
802.11n HT20	2412	-5.530	-25.530
	2437	-1.752	-21.752
	2462	-3.312	-23.312
802.11n HT40	2422	-3.868	-23.868
	2437	-3.244	-23.244
	2452	-3.940	-23.940

SISO Antenna 2

Network Standards	Carrier frequency (MHz)	Reference value (dBm)	Limit
802.11b	2412	-1.154	-21.154
	2437	1.165	-18.835
	2462	1.656	-18.344
802.11g	2412	-5.594	-25.594
	2437	-3.411	-23.411
	2462	-1.698	-21.698
802.11n HT20	2412	-6.592	-26.592
	2437	-2.172	-22.172
	2462	-1.507	-21.507
802.11n HT40	2422	-0.815	-20.815
	2437	-4.150	-24.150
	2452	-3.467	-23.467

Mimo

Network Standards	Carrier frequency (MHz)	Reference value (dBm)	Limit
802.11n HT20	2412	-10.415	-30.415
	2437	-7.750	-27.750
	2462	-7.880	-27.880
802.11n HT40	2422	-8.300	-28.300
	2437	-10.484	-30.484
	2452	-10.424	-30.424

Measurement Uncertainty

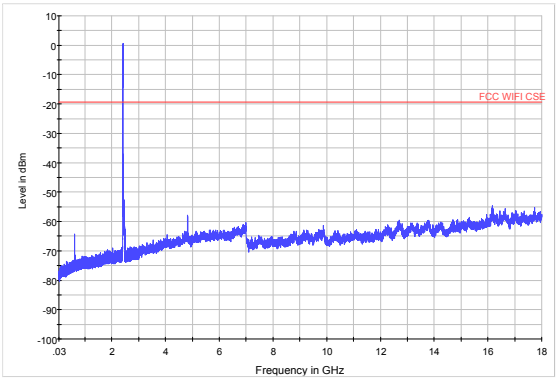
The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 1.96.

Frequency	Uncertainty
100kHz-2GHz	0.684 dB
2GHz-26GHz	1.407 dB

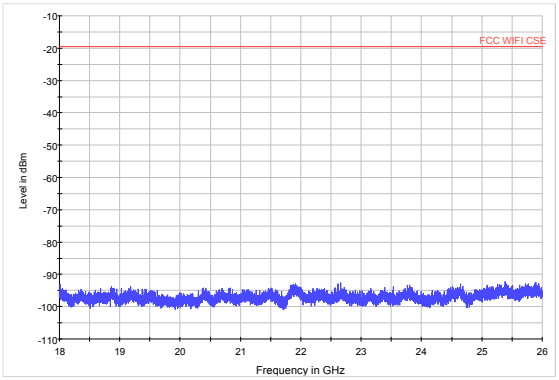
Test Results:

If disturbances were found more than 20dB below limit line, the mark is not required for the EUT.
The signal beyond the limit is carrier.

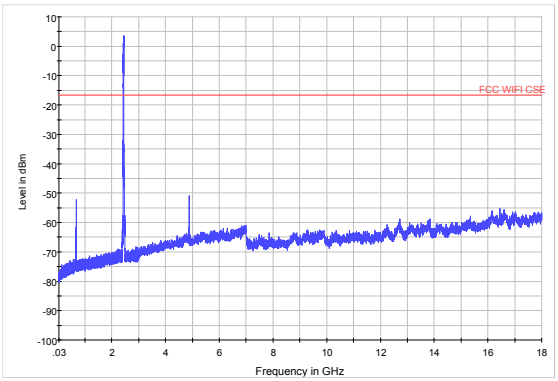
SISO Antenna 1



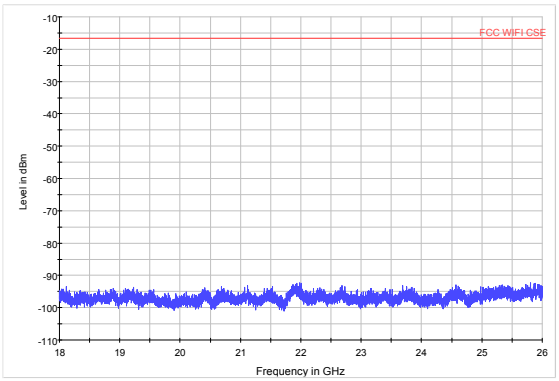
802.11b CH1 30MHz to 18GHz



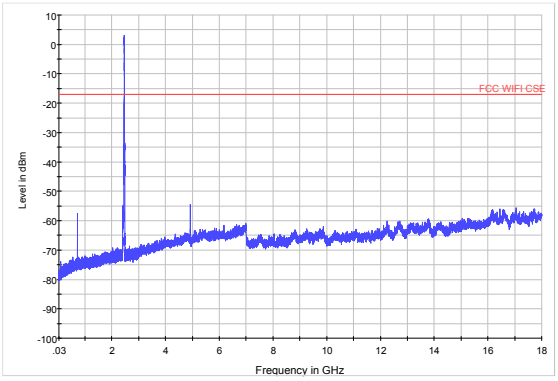
802.11b CH1 18GHz to 26.5GHz



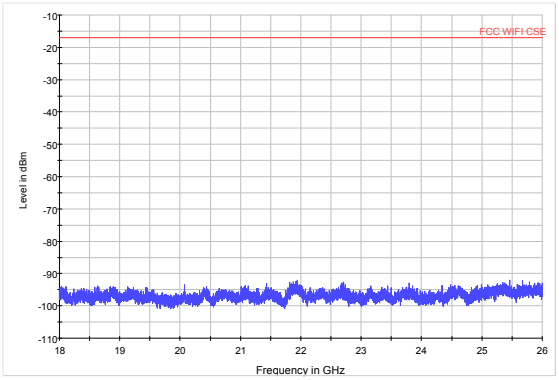
802.11b CH6 30MHz to 18GHz



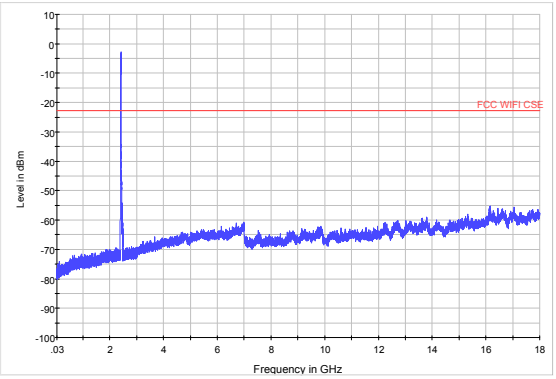
802.11b CH6 18GHz to 26.5GHz



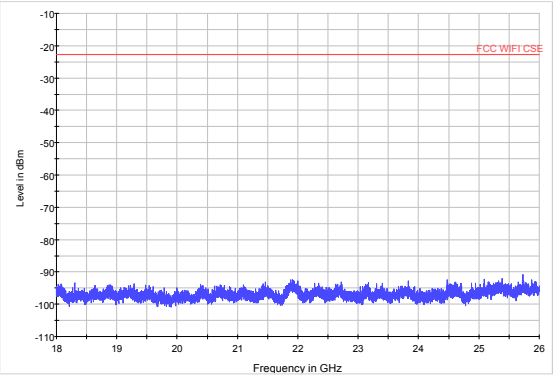
802.11b CH11 30MHz to 18GHz



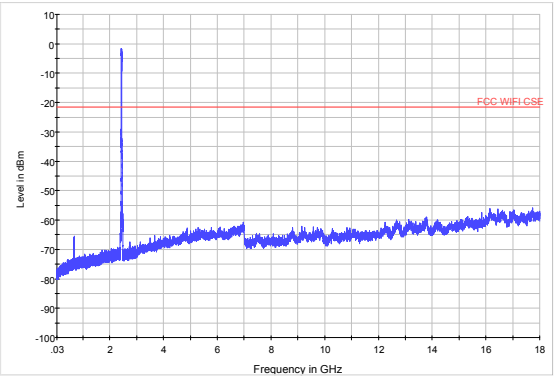
802.11b CH11 18GHz to 26.5GHz



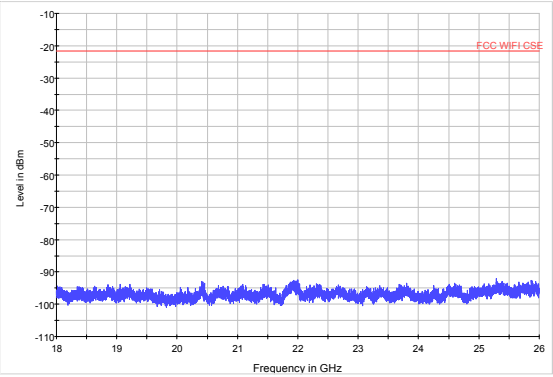
802.11g CH1 30MHz to 18GHz



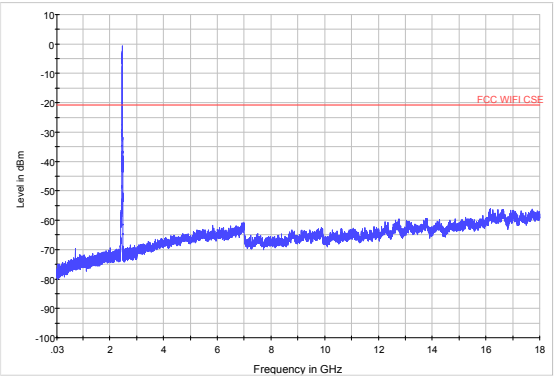
802.11g CH1 18GHz to 26.5GHz



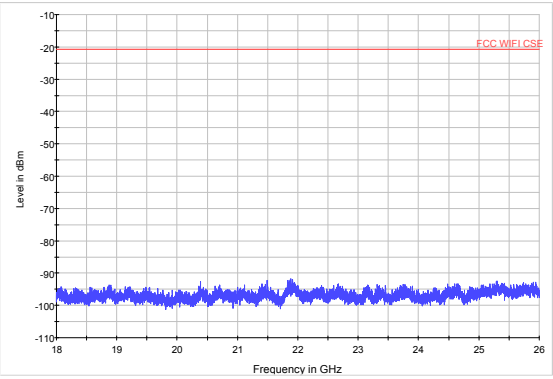
802.11g CH6 30MHz to 18GHz



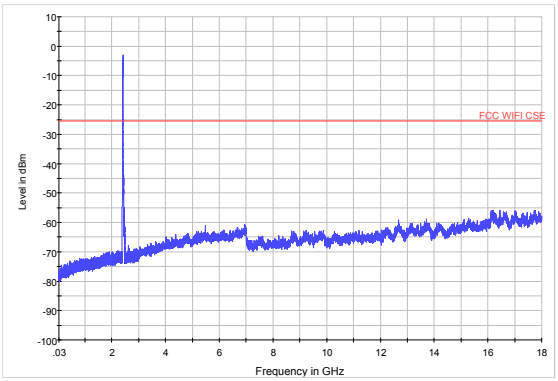
802.11g CH6 18GHz to 26.5GHz



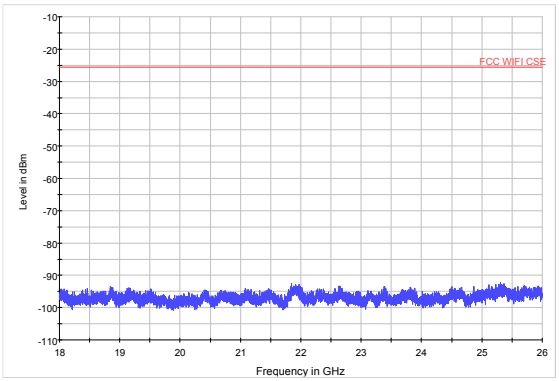
802.11g CH11 30MHz to 18GHz



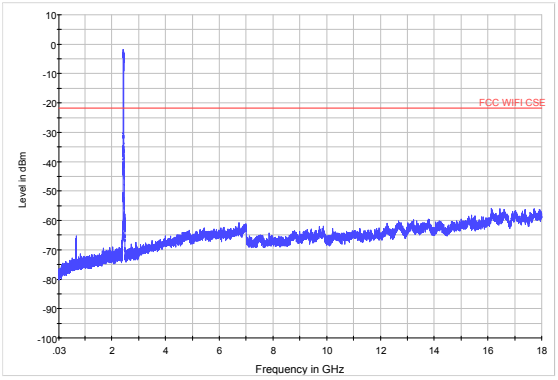
802.11g CH11 18GHz to 26.5GHz



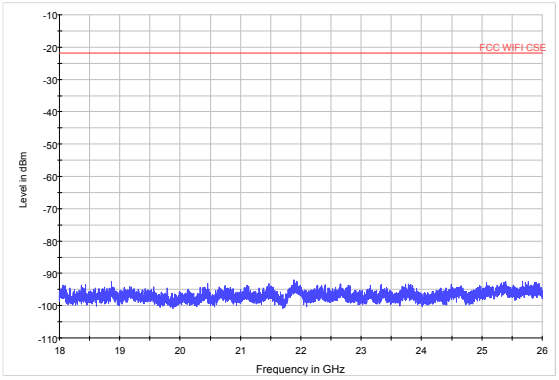
802.11n (HT20) CH1 30MHz to 18GHz



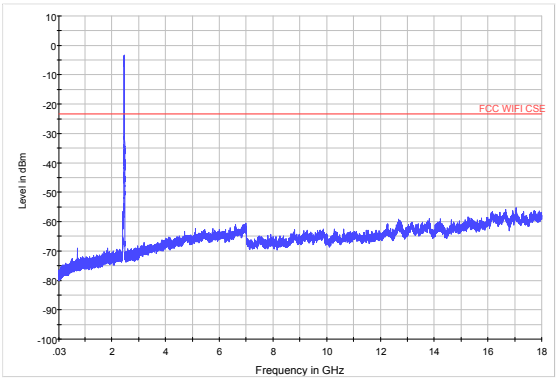
802.11n (HT20) CH1 18GHz to 26.5GHz



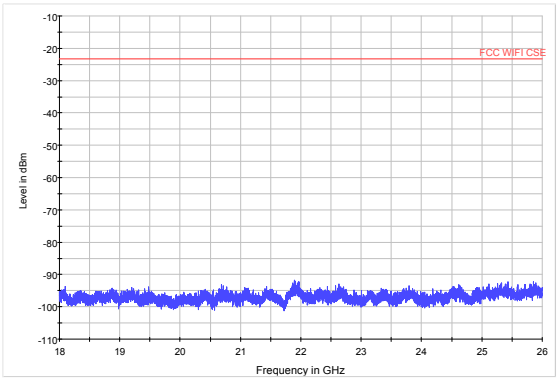
802.11n (HT20) CH6 30MHz to 18GHz



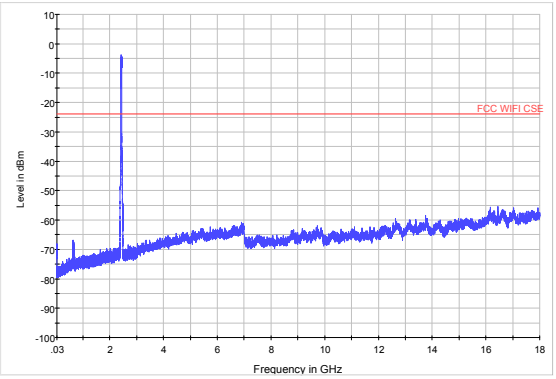
802.11n (HT20) CH6 18GHz to 26.5GHz



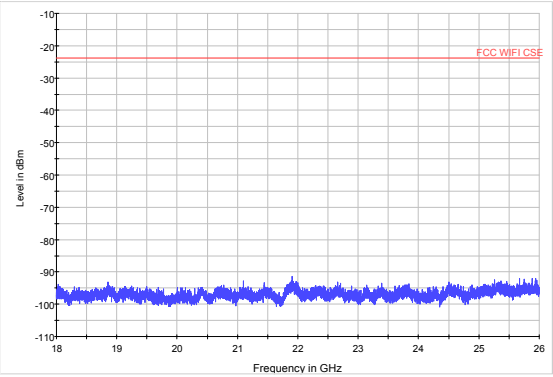
802.11n (HT20) CH11 30MHz to 18GHz



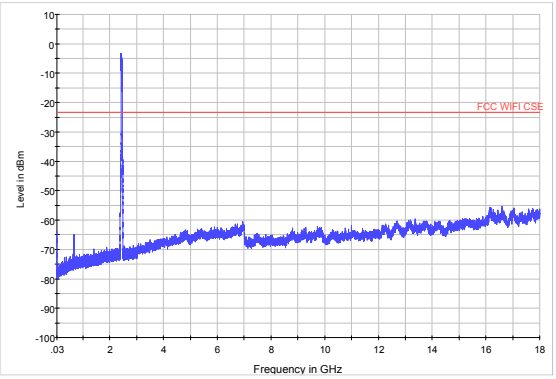
802.11n (HT20) CH11 18GHz to 26.5GHz



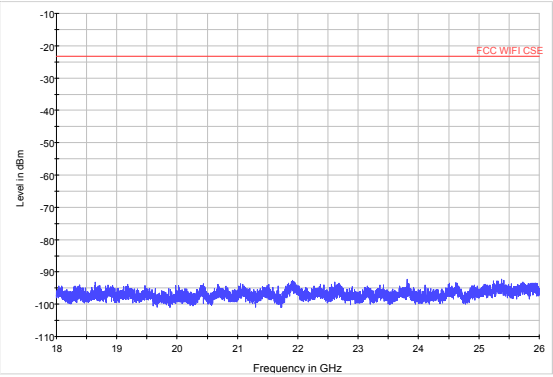
802.11n (HT40) CH3 30MHz to 18GHz



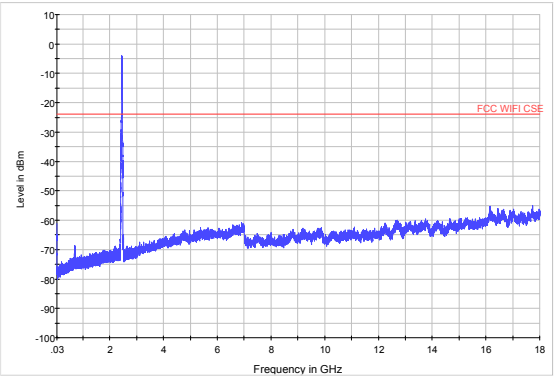
802.11n (HT40) CH3 18GHz to 26.5GHz



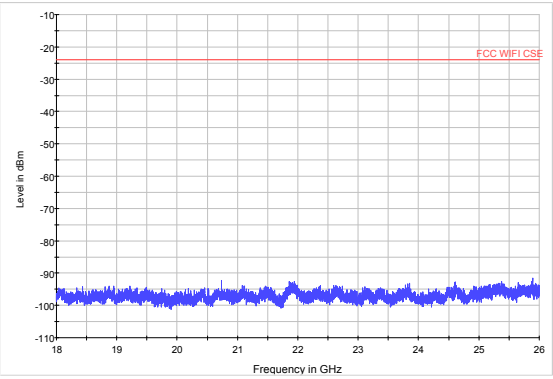
802.11n (HT40) CH6 30MHz to 18GHz



802.11n (HT40) CH6 18GHz to 26.5GHz

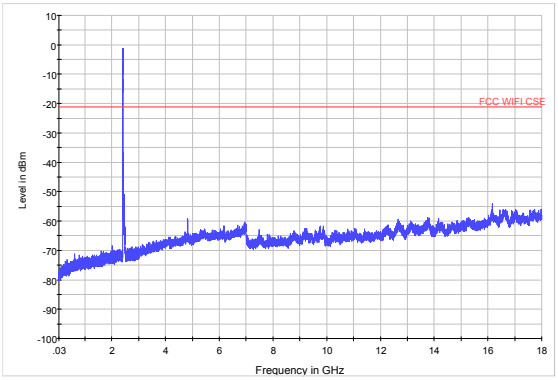


802.11n (HT40) CH9 30MHz to 18GHz

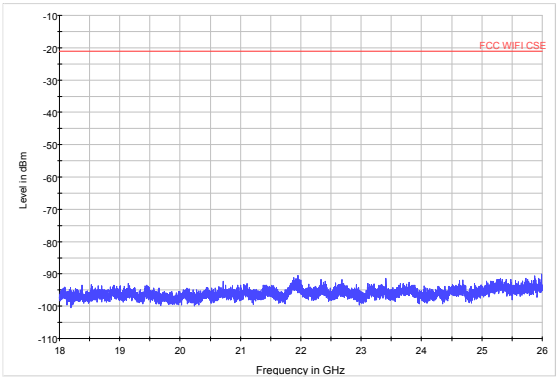


802.11n (HT40) CH9 18GHz to 26.5GHz

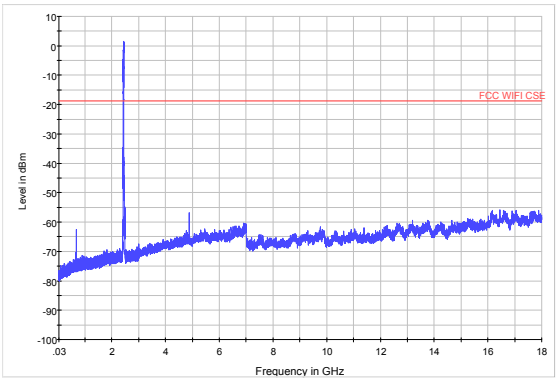
SISO Antenna 2



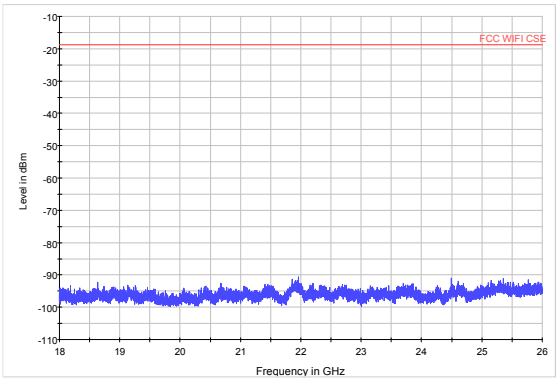
802.11b CH1 30MHz to 18GHz



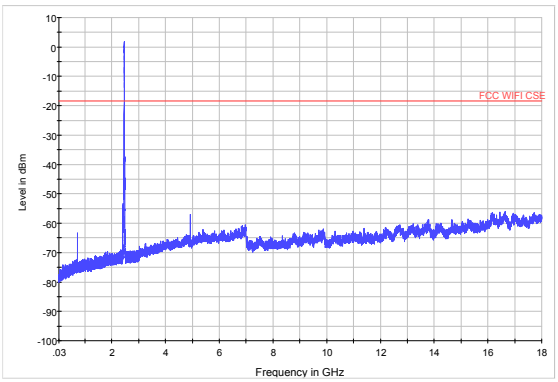
802.11b CH1 18GHz to 26.5GHz



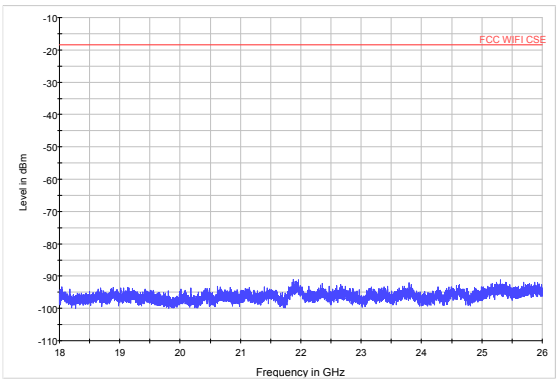
802.11b CH6 30MHz to 18GHz



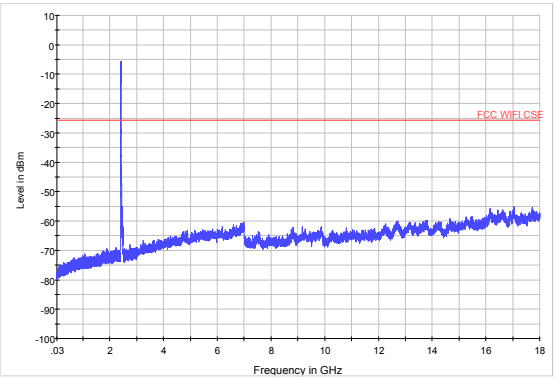
802.11b CH6 18GHz to 26.5GHz



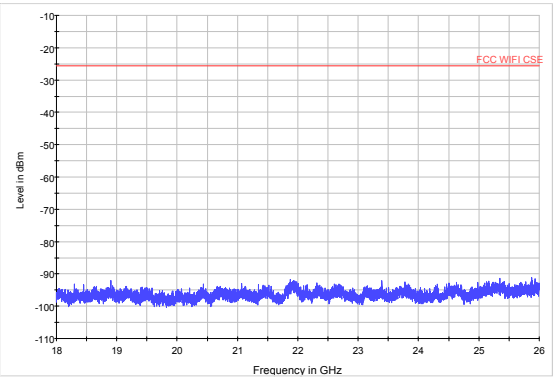
802.11b CH11 30MHz to 18GHz



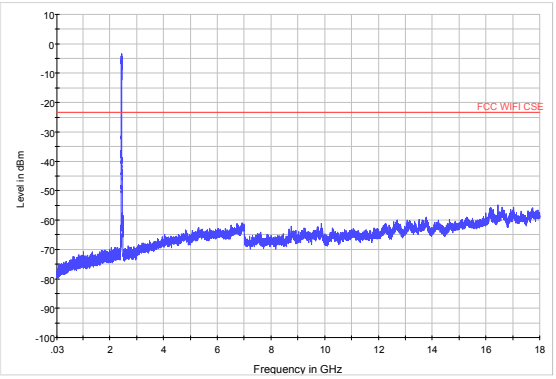
802.11b CH11 18GHz to 26.5GHz



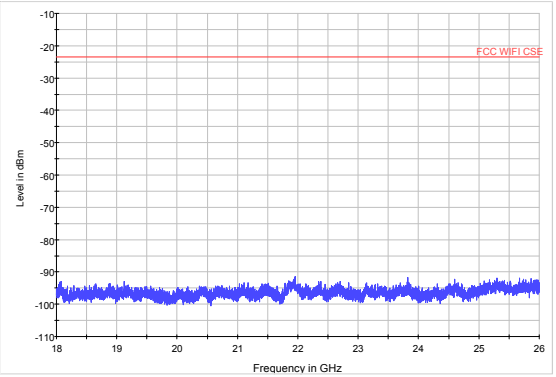
802.11g CH1 30MHz to 18GHz



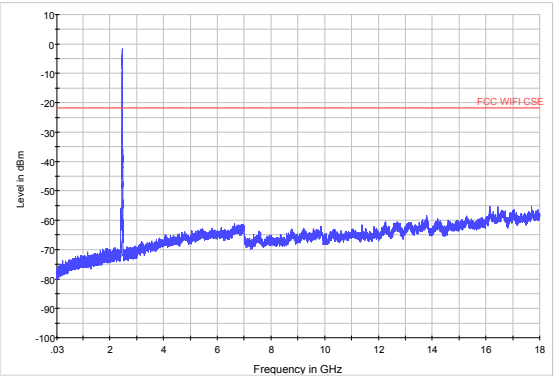
802.11g CH1 18GHz to 26.5GHz



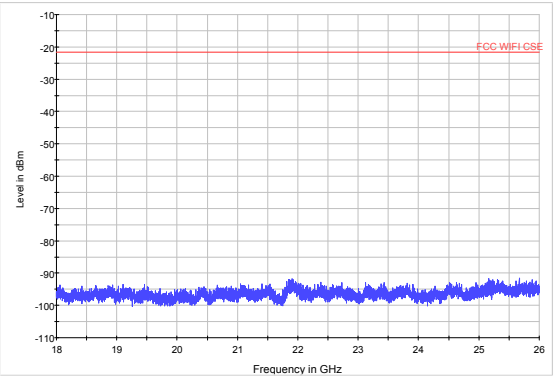
802.11g CH6 30MHz to 18GHz



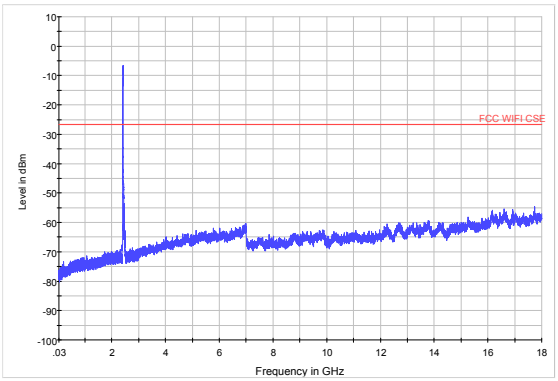
802.11g CH6 18GHz to 26.5GHz



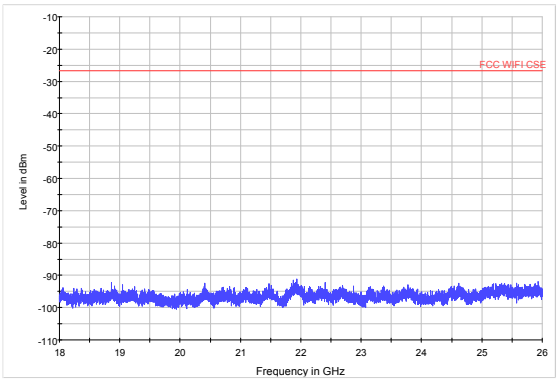
802.11g CH11 30MHz to 18GHz



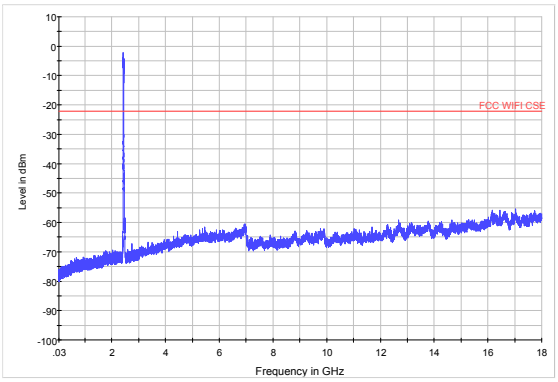
802.11g CH11 18GHz to 26.5GHz



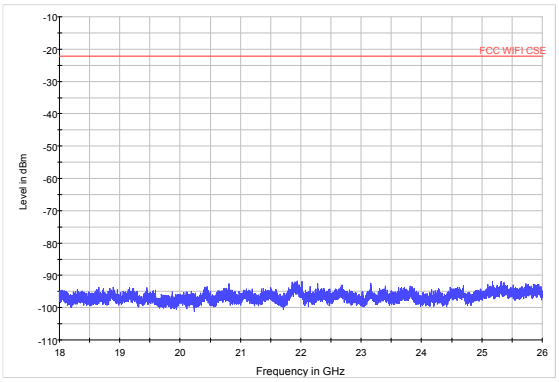
802.11n (HT20) CH1 30MHz to 18GHz



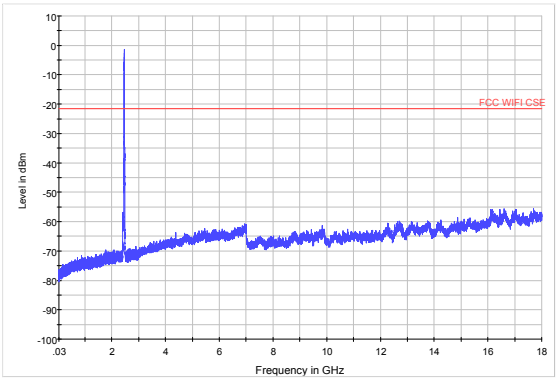
802.11n (HT20) CH1 18GHz to 26.5GHz



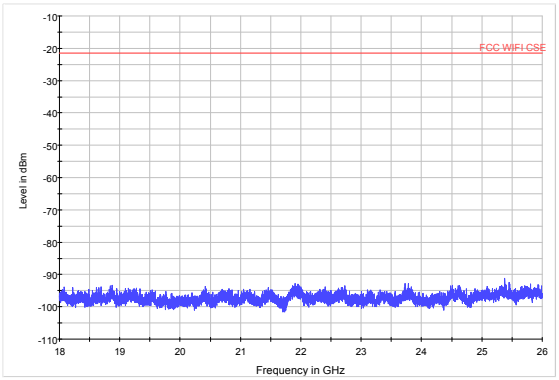
802.11n (HT20) CH6 30MHz to 18GHz



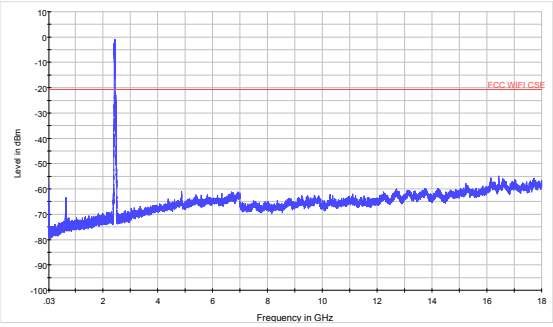
802.11n (HT20) CH6 18GHz to 26.5GHz



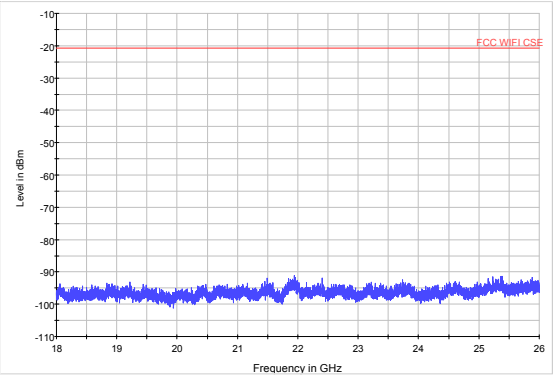
802.11n (HT20) CH11 30MHz to 18GHz



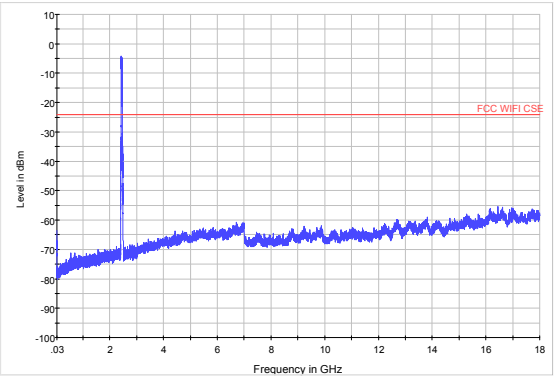
802.11n (HT20) CH11 18GHz to 26.5GHz



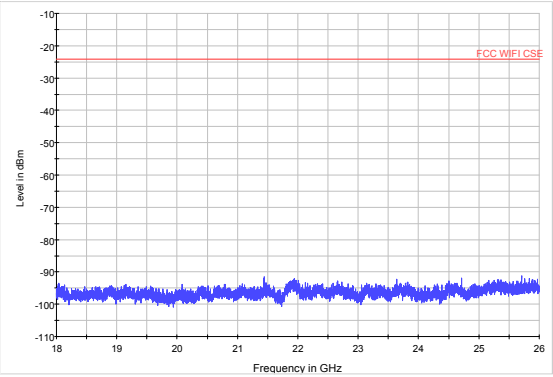
802.11n (HT40) CH3 30MHz to 18GHz



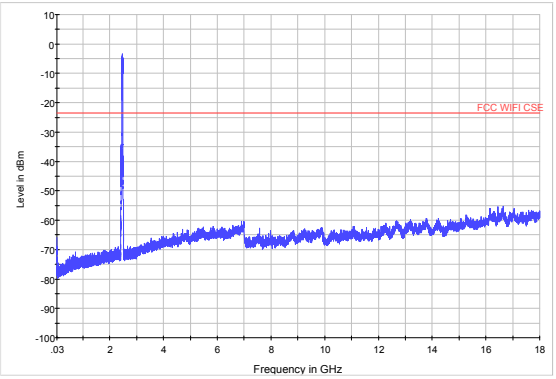
802.11n (HT40) CH3 18GHz to 26.5GHz



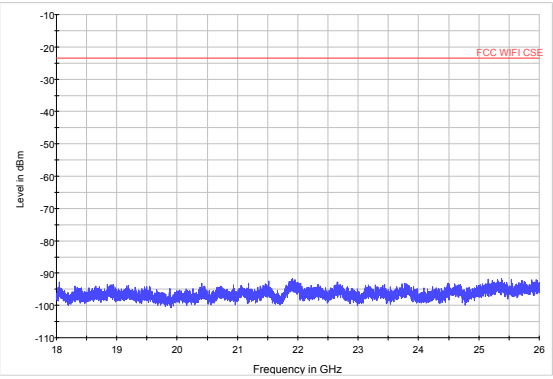
802.11n (HT40) CH6 30MHz to 18GHz



802.11n (HT40) CH6 18GHz to 26.5GHz

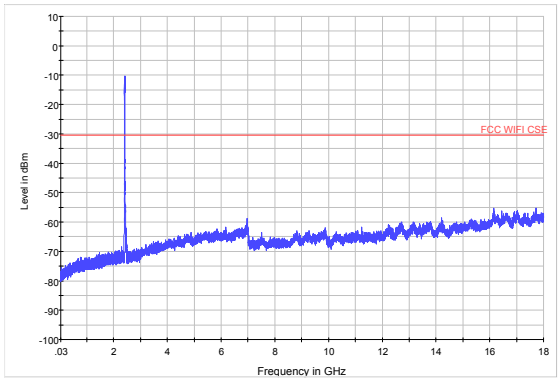


802.11n (HT40) CH9 30MHz to 18GHz

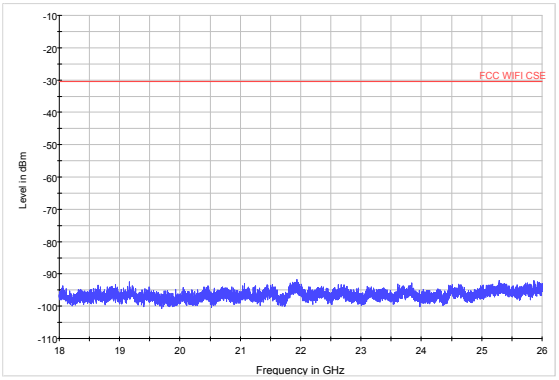


802.11n (HT40) CH9 18GHz to 26.5GHz

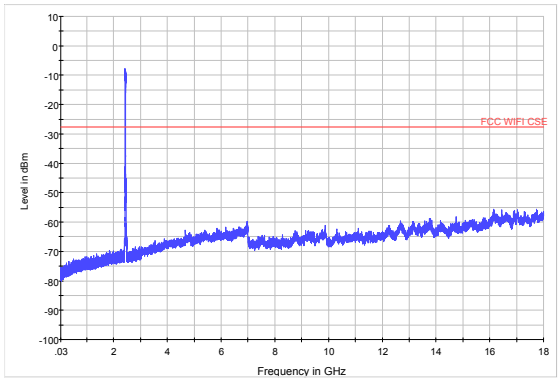
MIMO



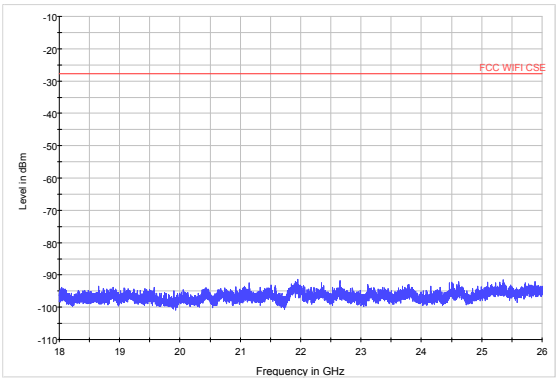
802.11n (HT20) CH1 30MHz to 18GHz



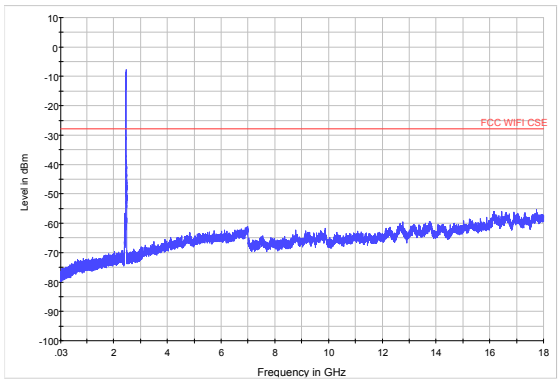
802.11n (HT20) CH1 18GHz to 26.5GHz



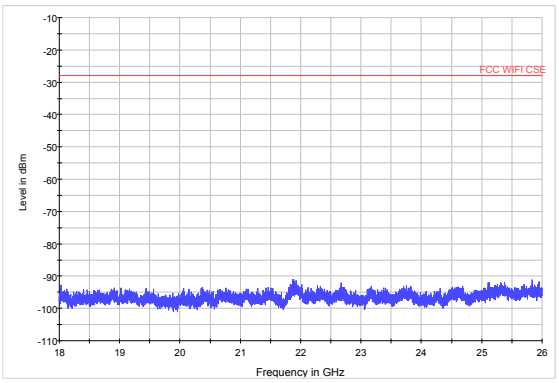
802.11n (HT20) CH6 30MHz to 18GHz



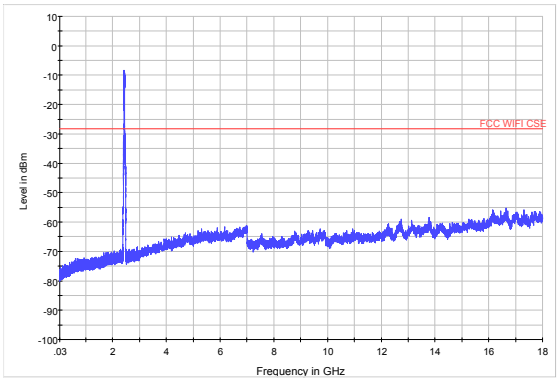
802.11n (HT20) CH6 18GHz to 26.5GHz



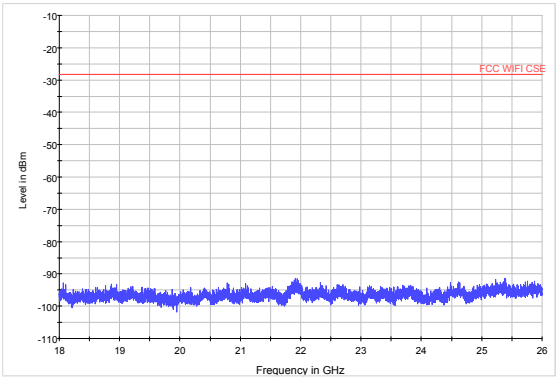
802.11n (HT20) CH11 30MHz to 18GHz



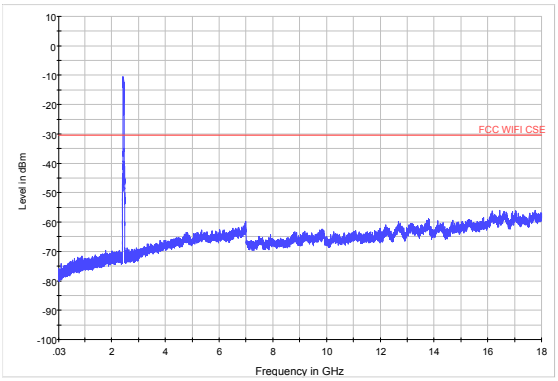
802.11n (HT20) CH11 18GHz to 26.5GHz



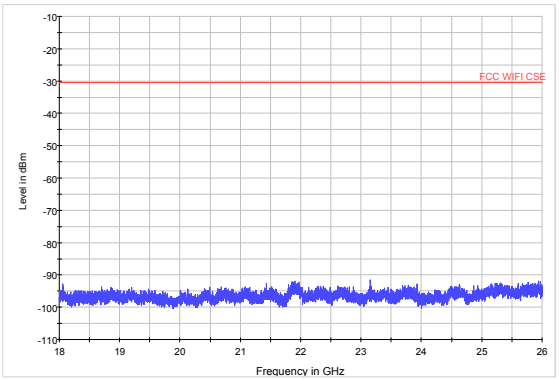
802.11n (HT40) CH3 30MHz to 18GHz



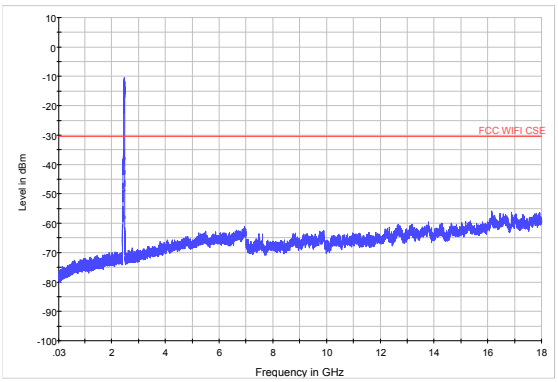
802.11n (HT40) CH3 18GHz to 26.5GHz



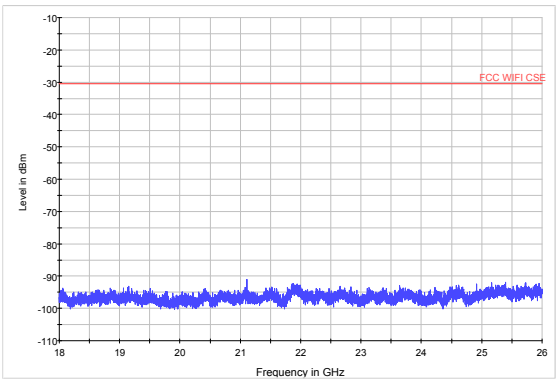
802.11n (HT40) CH6 30MHz to 18GHz



802.11n (HT40) CH6 18GHz to 26.5GHz



802.11n (HT40) CH9 30MHz to 18GHz



802.11n (HT40) CH9 18GHz to 26.5GHz

5.6. Radiated Emissions in the Restricted Band

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

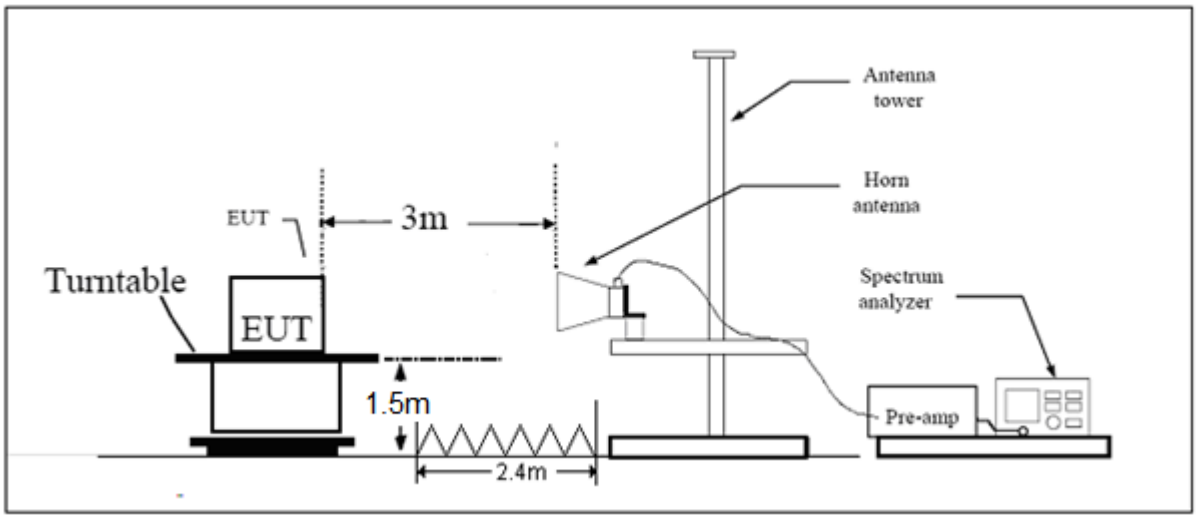
The Equipment Under Test (EUT) was set up on a non-conductive table in the semi-anechoic chamber. The test was performed at the distance of 3 m between the EUT and the receiving antenna. The turntable shall be rotated from 0 to 360 degrees for detecting the maximum of radiated spurious signal level. The measurements shall be repeated with orthogonal polarization of the test antenna. RBW is set to 100kHz.The data of cable loss and antenna factor has been calibrated in full testing frequency range before the testing. Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier, and the emissions less than 20 dB below the permissible value are reported.

Set the spectrum analyzer in the following:
(a) PEAK: RBW=1MHz /VBW=3MHz / Sweep=AUTO
(b) AVERAGE: RBW=1MHz /VBW=3MHz / Sweep=AUTO
This setting method can refer to **KDB 558074.**

The field strength of spurious emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in stand-up position (Y axis) and the antenna is vertical.

The test is in transmitting mode.

Test setup



Note: Area side: 2.4mX3.6m

Limits

Spurious Radiated Emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
[1]0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	([2])
13.36 - 13.41			

Limit in restricted band

Frequency of emission (MHz)	Field strength(uV/m)	Field strength(dBuV/m)
30-88	100	40
88-216	150	43.5
216-960	200	46
Above960	500	54

§15.35(b)

There is also a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit.

Peak Limit=74 dBuV/m

Average Limit=54 dBuV/m

Measurement Uncertainty

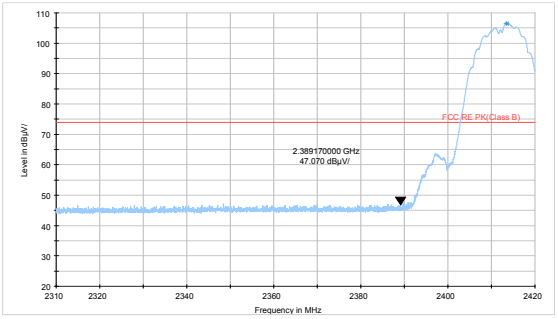
The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 1.96, U= 3.55 dB.

Test Results:

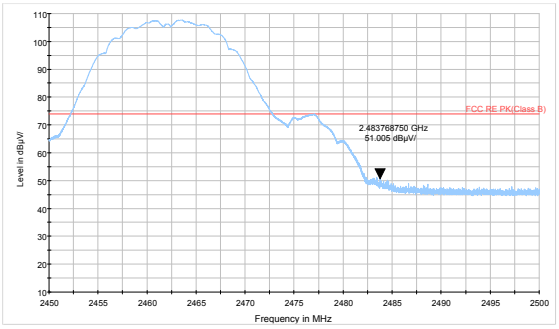
SISO Antenna 1

The signal beyond the limit is carrier.

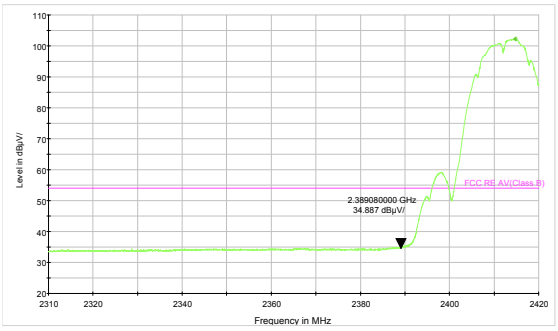
802.11b-Channel 1: Peak



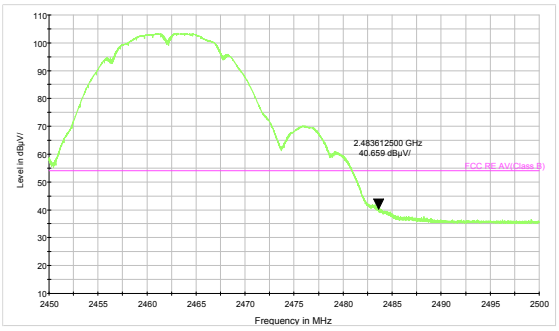
802.11b-Channel 11: Peak



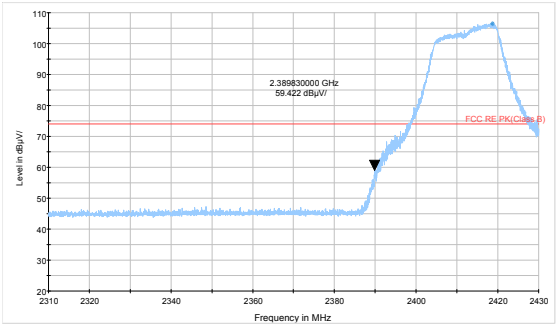
802.11b-Channel 1: Average



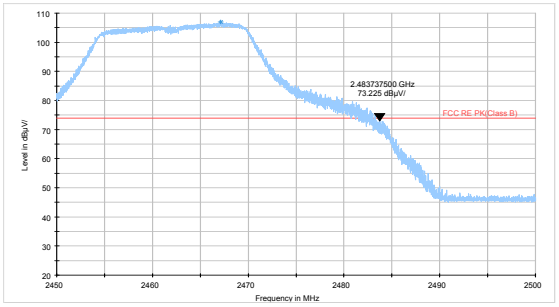
802.11b-Channel 11: Average



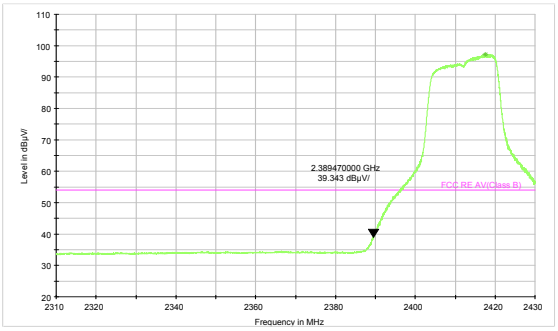
802.11g-Channel 1: Peak



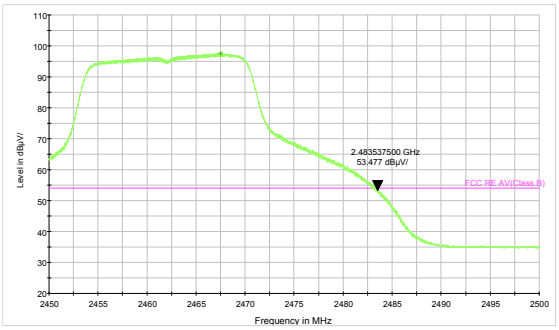
802.11g-Channel 11: Peak



802.11g-Channel 1: Average

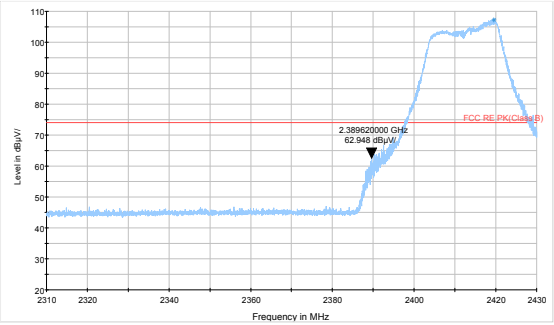


802.11g-Channel 11: Average

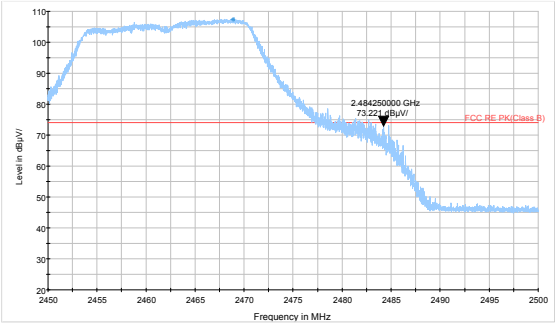


MIMO

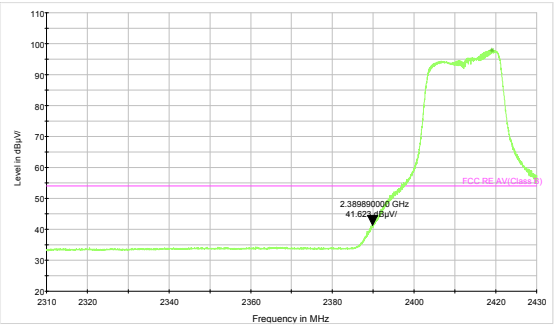
802.11n HT20 -Channel 1: Peak



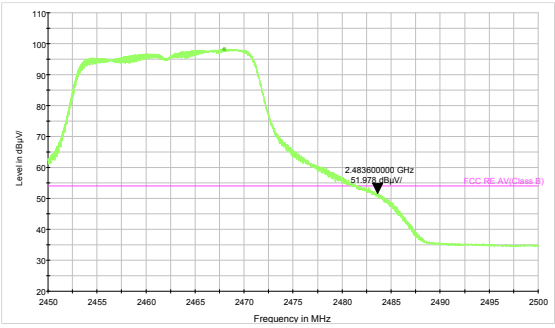
802.11n HT20-Channel 11: Peak



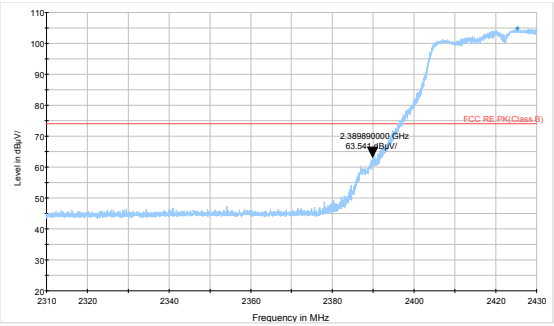
802.11n HT20-Channel 1: Average



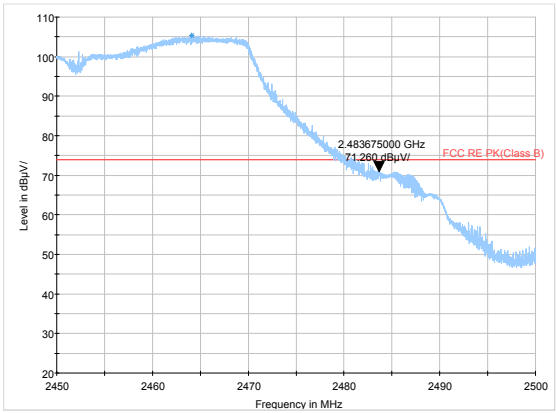
802.11n HT20-Channel 11: Average



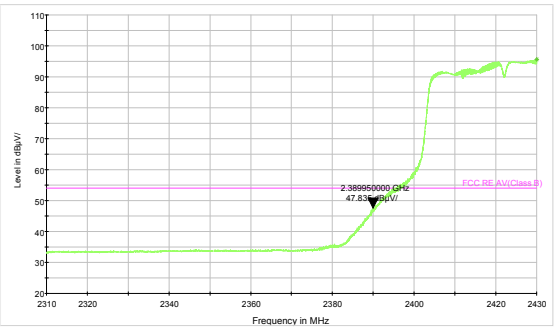
802.11n HT40 -Channel 3: Peak



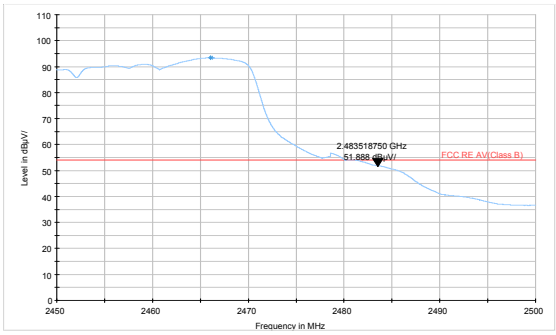
802.11n HT40-Channel 9: Peak



802.11n HT40-Channel 3: Average



802.11n HT40-Channel 9: Average



5.7. Radiates Emission

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	102.5kPa

Method of Measurement

The test set-up was made in accordance to the general provisions of ANSI C63.10-2013.The Equipment Under Test (EUT) was set up on a non-conductive table in the semi-anechoic chamber. The test was performed at the distance of 3 m between the EUT and the receiving antenna. The radiated emissions measurements were made in a typical installation configuration.
Sweep the whole frequency band through the range from 9 kHz to the 10th harmonic of the carrier, and the emissions less than 20 dB below the permissible value are reported.

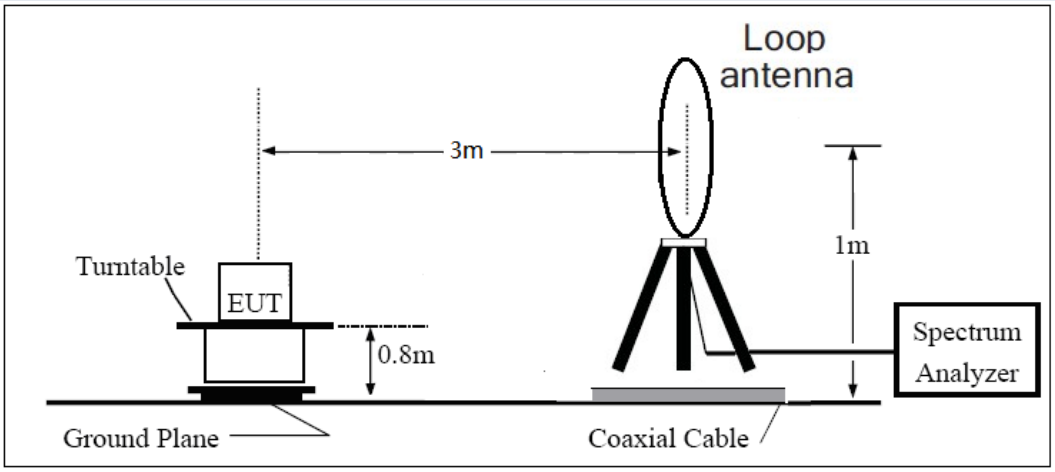
During the test, below 30MHz, the center of the loop shall be 1 meters; above 30MHz, the height of receive antenna shall be moved from 1 to 4 meters, and the antenna shall be performed under horizontal and vertical polarization. The turntable shall be rotated from 0 to 360 degrees for detecting the maximum of radiated spurious signal level. The measurements shall be repeated with orthogonal polarization of the test antenna. The data of cable loss and antenna factor has been calibrated in full testing frequency range before the testing.
Set the spectrum analyzer in the following:
Below 1GHz (detector: Peak and Quasi-Peak)
RBW=100 kHz / VBW=300 kHz / Sweep=AUTO
Above 1GHz (detector: Peak):
(a) PEAK: RBW=1MHz / VBW=3MHz/ Sweep=AUTO
(b) AVERAGE: RBW=1MHz / VBW=3MHz / Sweep=AUTO

The radiated emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in stand-up position (Z axis) and the worst case was recorded.

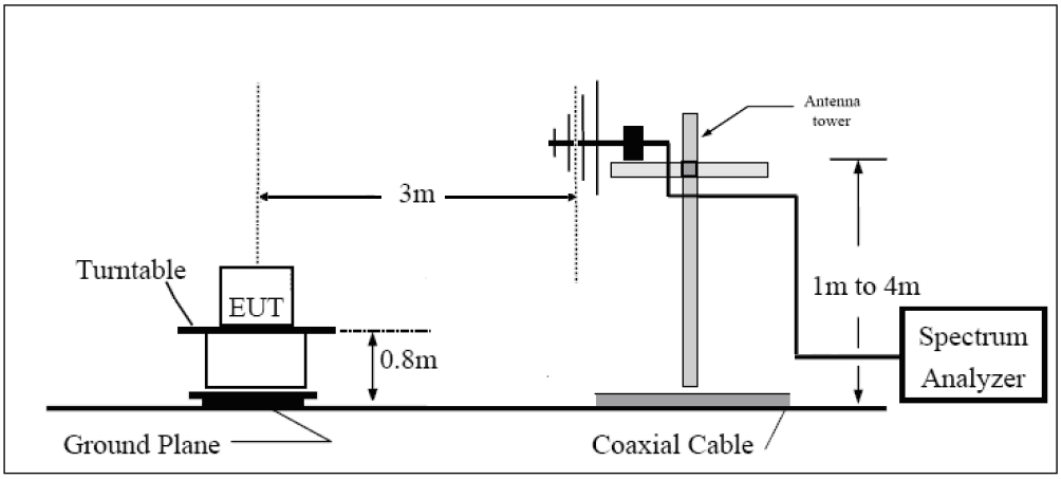
The test is in transmitting mode.

Test setup

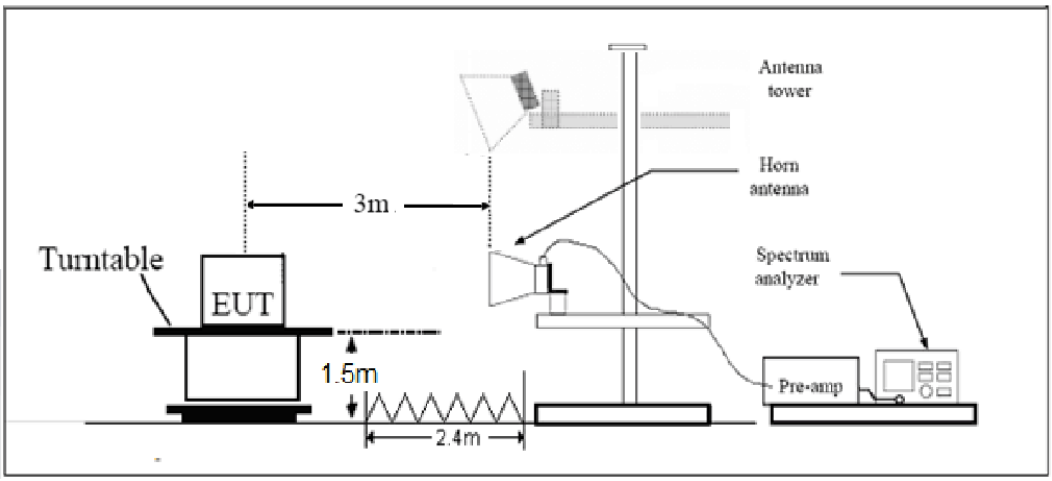
9KHz ~ 30MHz



30MHz ~ 1GHz



Above 1GHz



Note: Area side:2.4mX3.6m

Limits

Rule Part 15.247(d) specifies that “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)).”

Limit in restricted band

Frequency of emission (MHz)	Field strength(uV/m)	Field strength(dBuV/m)
0.009–0.490	2400/F(kHz)	/
0.490–1.705	24000/F(kHz)	/
1.705–30.0	30	/
30-88	100	40
88-216	150	43.5
216-960	200	46
Above960	500	54

§15.35(b)

There is also a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit.

Measurement Uncertainty

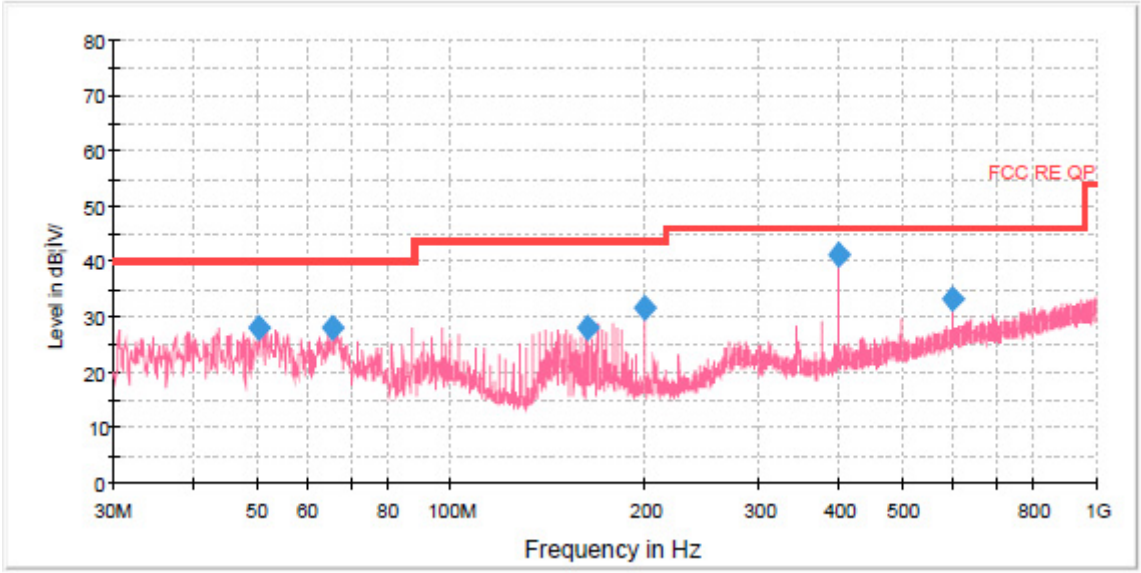
The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 1.96.

Frequency	Uncertainty
9KHz-30MHz	3.55 dB
30MHz-200MHz	4.19 dB
200MHz-1GHz	3.63 dB
Above 1GHz	3.68 dB

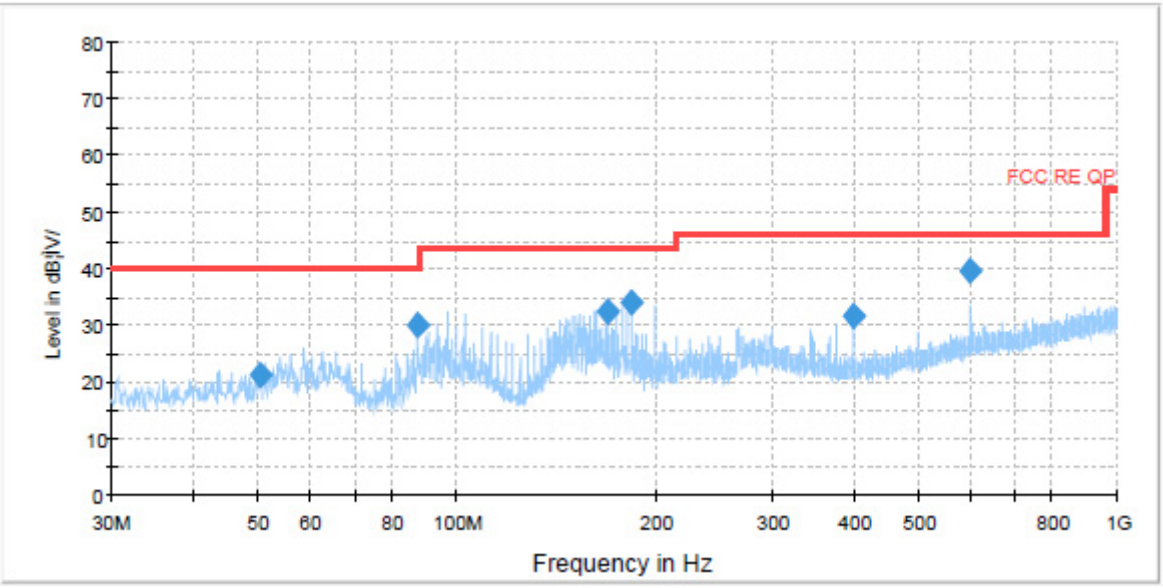
Test result

Sweep from 9 kHz to 30MHz, and the emissions more than 20 dB below the permissible value are not reported.

Continuous TX mode:



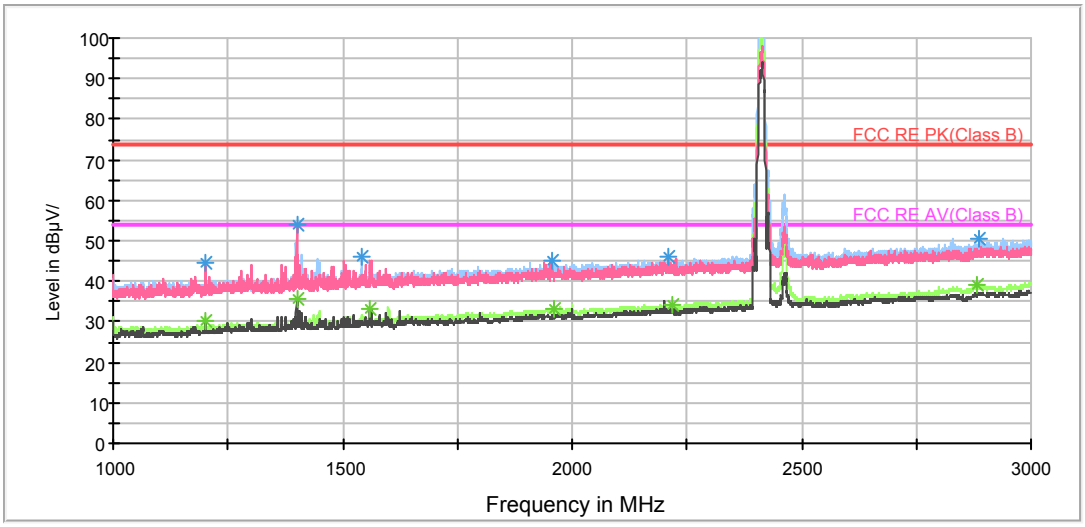
Radiates Emission from 30MHz to 1GHz_Vertical



Radiates Emission from 30MHz to 1GHz_Horizontal

SISO Antenna 1

RE 1G-3GHz PK+AV



Radiates Emission from 1GHz to 3GHz

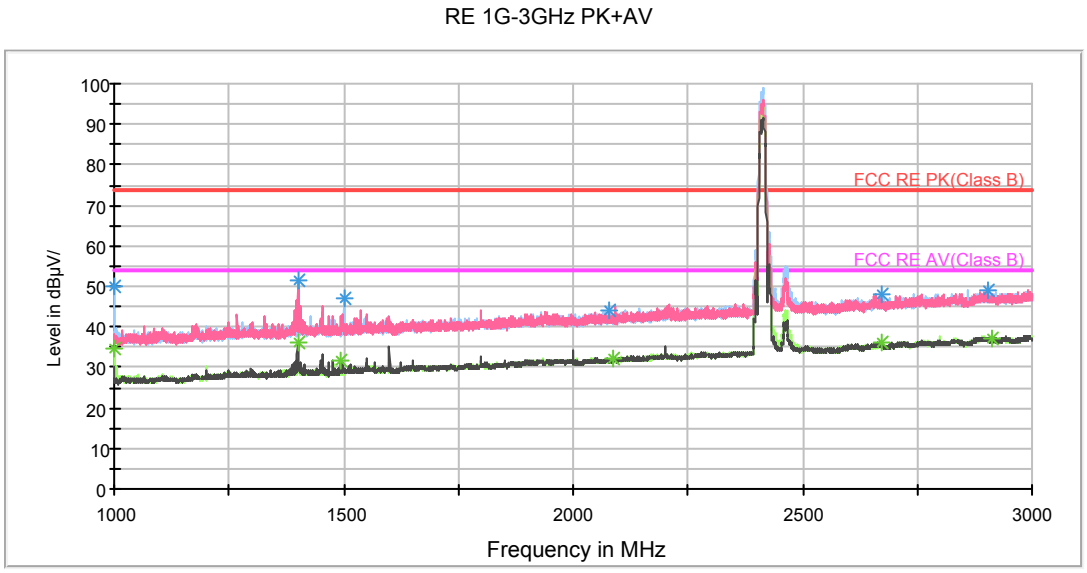
Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1200.000000	44.8	202.0	V	0.0	53.0	-8.2	29.2	74
1399.750000	54.0	202.0	V	224.0	61.1	-7.1	20.0	74
1543.250000	45.8	101.0	H	0.0	52.1	-6.3	28.2	74
1954.250000	45.3	102.0	V	276.0	48.9	-3.6	28.7	74
2211.000000	46.0	102.0	V	235.0	48.2	-2.2	28.0	74
2886.750000	50.4	202.0	H	60.0	48.2	2.2	23.6	74

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1199.500000	30.4	202.0	H	189.0	38.6	-8.2	23.6	54
1399.750000	35.5	202.0	V	224.0	42.6	-7.1	18.5	54
1559.750000	33.1	102.0	V	73.0	39.7	-6.6	20.9	54
1959.500000	33.2	202.0	H	105.0	36.4	-3.2	20.8	54
2217.000000	33.9	202.0	H	78.0	36.2	-2.3	20.1	54
2884.250000	39.0	101.0	H	0.0	36.8	2.2	15.0	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

SISO Antenna 2



Radiates Emission from 1GHz to 3GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1000.000000	50.2	102.0	H	192.0	59.4	-9.2	23.8	74
1399.750000	51.6	202.0	V	352.0	58.7	-7.1	22.4	74
1500.000000	47.2	202.0	H	305.0	53.9	-6.7	26.8	74
2077.750000	44.0	202.0	V	127.0	47.0	-3.0	30.0	74
2674.500000	48.1	202.0	H	173.0	47.9	0.2	25.9	74
2903.500000	49.1	202.0	V	334.0	47.1	2.0	24.9	74

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1000.000000	34.6	102.0	H	192.0	43.8	-9.2	19.4	54
1399.750000	36.0	202.0	V	352.0	43.1	-7.1	18.0	54
1494.750000	31.8	102.0	V	283.0	38.5	-6.7	22.2	54
2085.500000	32.0	202.0	H	0.0	34.9	-2.9	22.0	54
2670.750000	35.9	102.0	H	359.0	35.6	0.3	18.1	54
2911.000000	37.3	202.0	V	352.0	35.4	1.9	16.7	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

After the pre test, Antenna 1 was selected as the worst antenna.

SISO Antenna 1

802.11b CH1

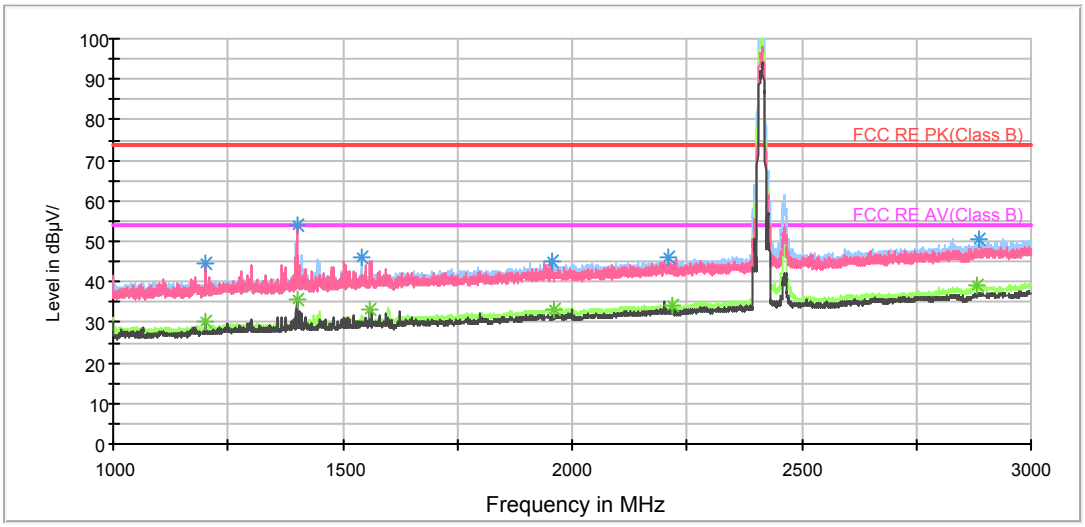
Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1200.000000	44.8	202.0	V	0.0	53.0	-8.2	29.2	74
1399.750000	54.0	202.0	V	224.0	61.1	-7.1	20.0	74
1543.250000	45.8	101.0	H	0.0	52.1	-6.3	28.2	74
1954.250000	45.3	102.0	V	276.0	48.9	-3.6	28.7	74
2211.000000	46.0	102.0	V	235.0	48.2	-2.2	28.0	74
2886.750000	50.4	202.0	H	60.0	48.2	2.2	23.6	74

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1199.500000	30.4	202.0	H	189.0	38.6	-8.2	23.6	54
1399.750000	35.5	202.0	V	224.0	42.6	-7.1	18.5	54
1559.750000	33.1	102.0	V	73.0	39.7	-6.6	20.9	54
1959.500000	33.2	202.0	H	105.0	36.4	-3.2	20.8	54
2217.000000	33.9	202.0	H	78.0	36.2	-2.3	20.1	54
2884.250000	39.0	101.0	H	0.0	36.8	2.2	15.0	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

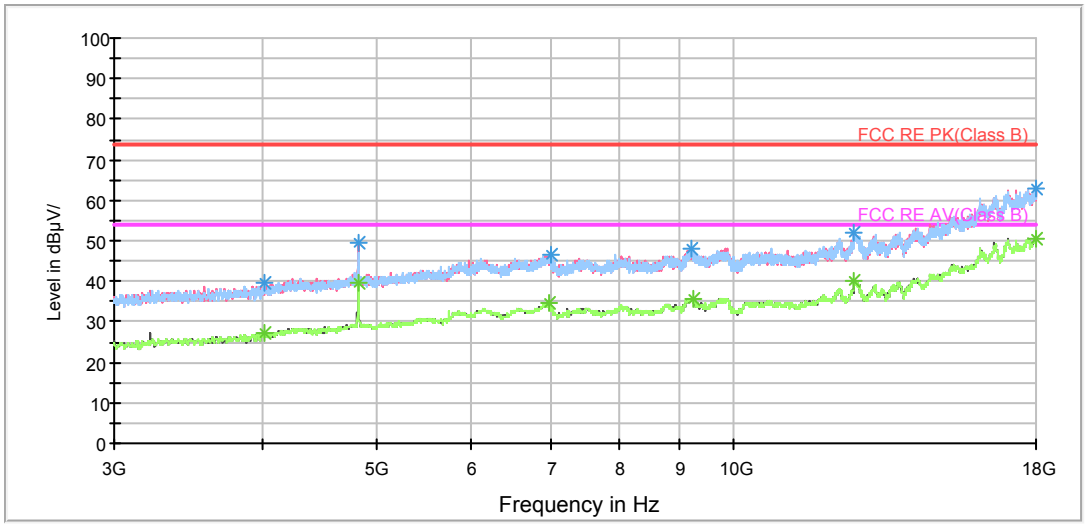
RE 1G-3GHz PK+AV



Note: The signal beyond the limit is carrier.

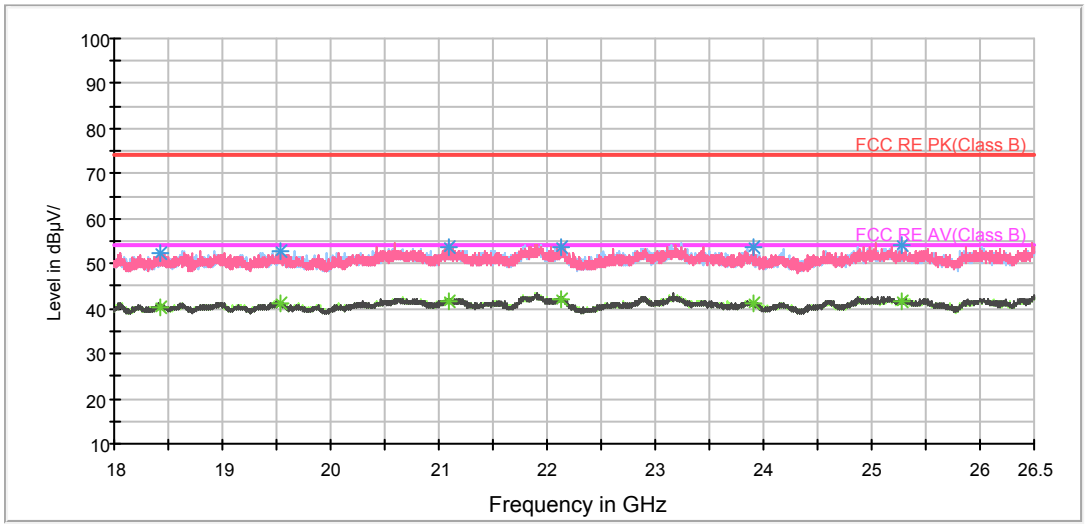
Radiates Emission from 1GHz to 3GHz

RE 3-18GHz PK+AV



Radiates Emission from 3GHz to 18GHz

BELL_RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

802.11b CH6

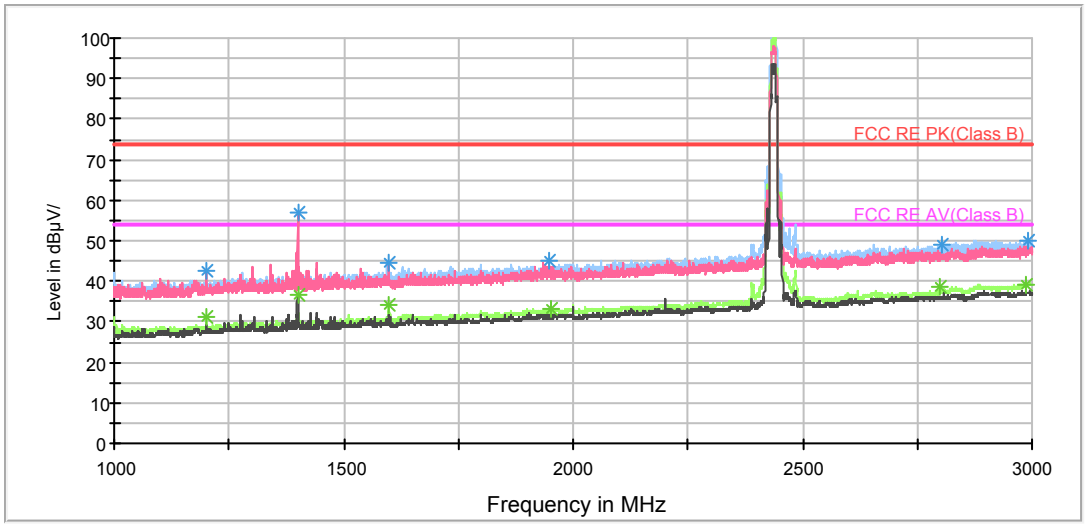
Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1200.250000	42.7	103.0	V	48.0	50.9	-8.2	31.3	74
1399.750000	57.0	103.0	V	164.0	64.1	-7.1	17.0	74
1599.750000	44.8	103.0	V	164.0	51.2	-6.4	29.2	74
1948.250000	45.2	202.0	H	0.0	48.7	-3.5	28.8	74
2990.750000	50.1	102.0	H	258.0	47.9	2.2	23.9	74
2805.250000	49.2	202.0	H	34.0	48.0	1.2	24.8	74

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1200.000000	31.0	202.0	H	231.0	39.2	-8.2	23.0	54
1399.750000	36.4	202.0	V	0.0	43.5	-7.1	17.6	54
1599.500000	34.2	202.0	H	193.0	40.6	-6.4	19.8	54
1952.000000	33.0	102.0	H	0.0	36.6	-3.6	21.0	54
2800.000000	38.8	202.0	H	0.0	37.7	1.1	15.2	54
2987.500000	39.1	102.0	H	258.0	36.9	2.2	14.9	54

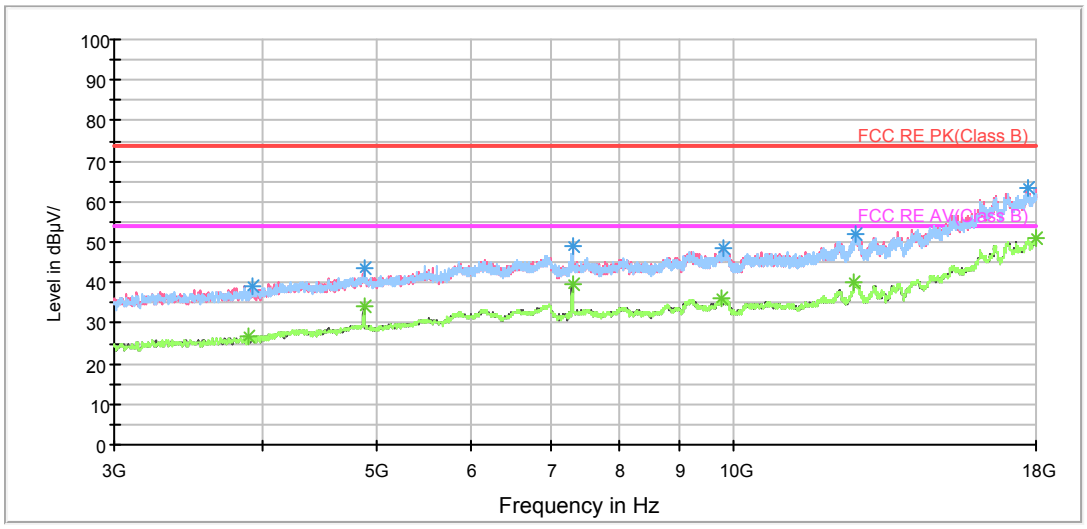
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

RE 1G-3GHz PK+AV



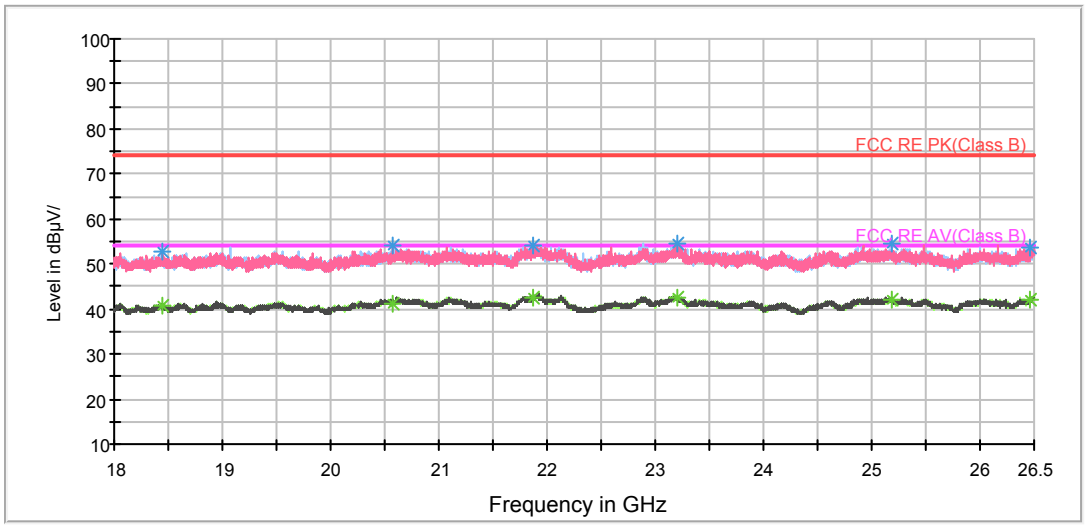
Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz

RE 3-18GHz PK+AV



Radiates Emission from 3GHz to 18GHz

BELL_RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

802.11b CH11

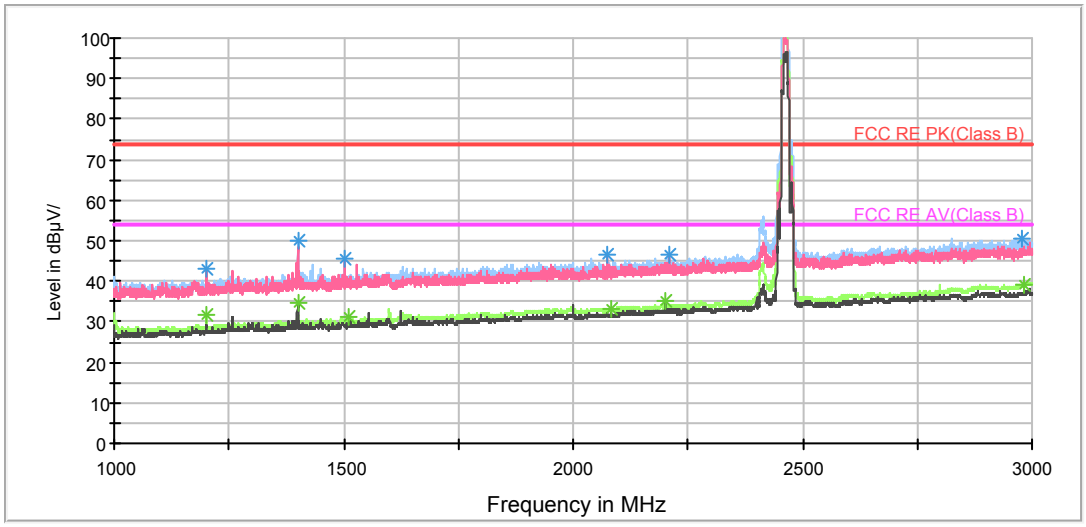
Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1199.500000	43.2	102.0	V	22.0	51.4	-8.2	30.8	74
1399.750000	49.8	103.0	H	358.0	56.9	-7.1	24.2	74
1500.500000	45.8	202.0	V	196.0	52.5	-6.7	28.2	74
2074.750000	46.5	102.0	V	256.0	49.6	-3.1	27.5	74
2980.000000	50.7	103.0	H	358.0	48.5	2.2	23.3	74
2210.250000	46.4	102.0	V	13.0	48.6	-2.2	27.6	74

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1199.750000	31.9	202.0	H	177.0	40.1	-8.2	22.1	54
1400.000000	34.8	202.0	V	0.0	41.9	-7.1	19.2	54
1509.250000	31.1	103.0	H	0.0	37.6	-6.5	22.9	54
2084.250000	33.3	103.0	H	332.0	36.2	-2.9	20.7	54
2200.000000	35.1	202.0	V	0.0	37.1	-2.0	18.9	54
2980.500000	39.1	103.0	H	305.0	36.9	2.2	14.9	54

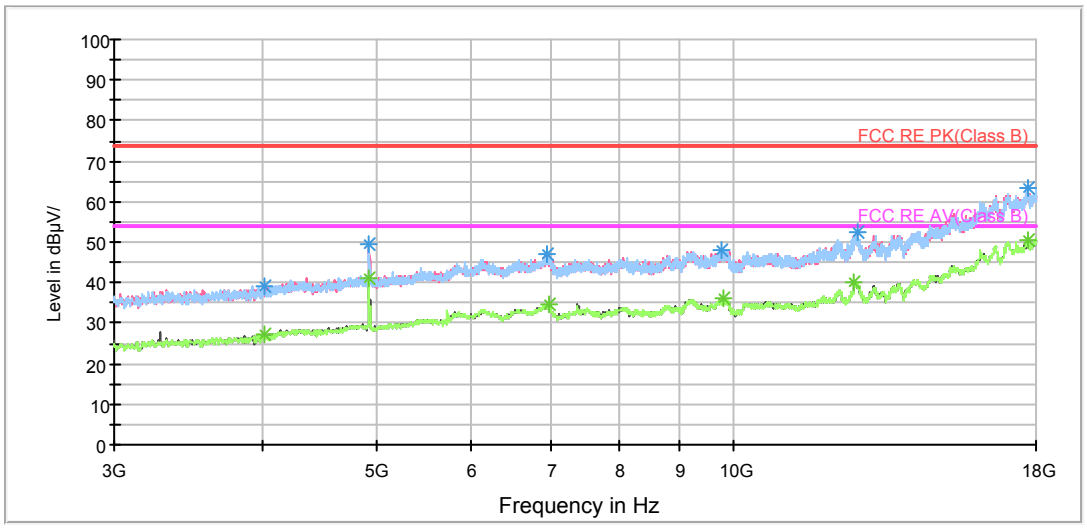
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

RE 1G-3GHz PK+AV



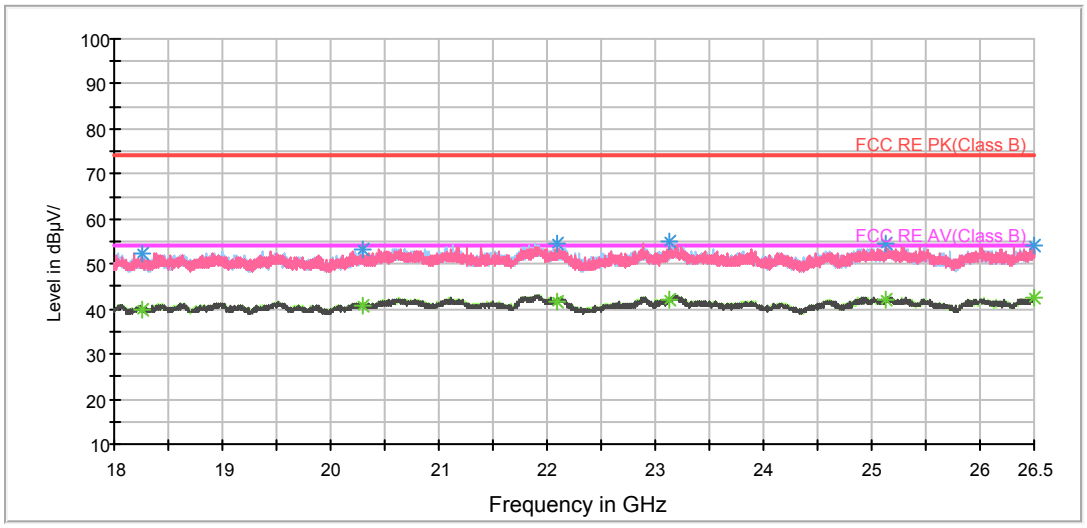
Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz

RE 3-18GHz PK+AV



Radiates Emission from 3GHz to 18GHz

BELL_RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

802.11g CH1

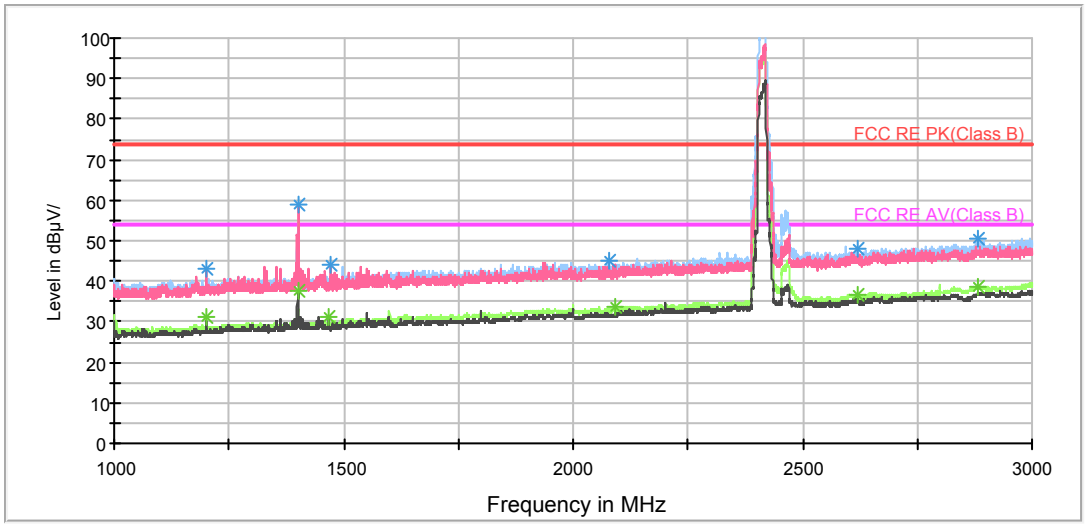
Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1200.000000	42.9	202.0	V	353.0	51.1	-8.2	31.1	74
1400.000000	59.1	202.0	V	353.0	66.2	-7.1	14.9	74
1471.250000	44.0	102.0	V	127.0	50.7	-6.7	30.0	74
2079.250000	45.2	202.0	H	204.0	48.2	-3.0	28.8	74
2621.500000	48.2	202.0	H	99.0	48.3	-0.1	25.8	74
2882.750000	50.7	202.0	H	0.0	48.5	2.2	23.3	74

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1199.750000	31.0	202.0	H	166.0	39.2	-8.2	23.0	54
1400.000000	37.7	202.0	V	353.0	44.8	-7.1	16.3	54
1467.000000	30.9	102.0	V	0.0	37.7	-6.8	23.1	54
2091.500000	33.4	102.0	H	0.0	36.2	-2.8	20.6	54
2620.500000	36.7	202.0	H	0.0	36.8	-0.1	17.3	54
2883.000000	38.6	202.0	H	0.0	36.4	2.2	15.4	54

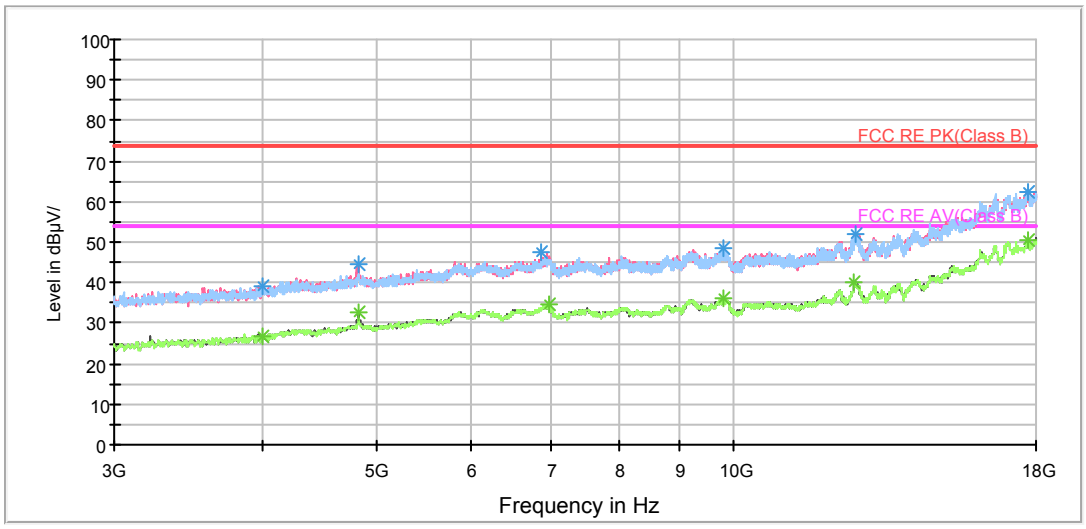
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

RE 1G-3GHz PK+AV



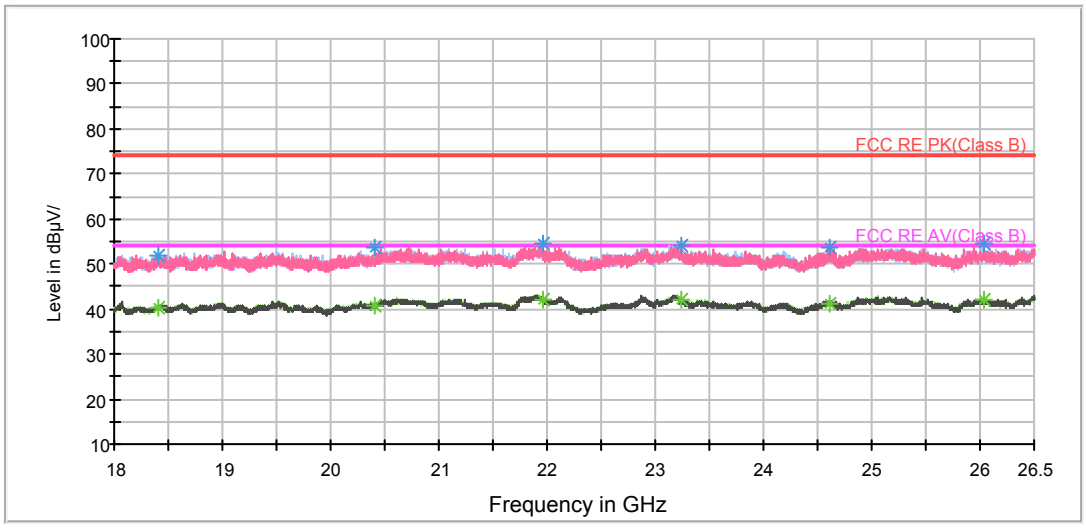
Note: The signal beyond the limit is carrier.
Radiates Emission from 1GHz to 3GHz

RE 3-18GHz PK+AV



Radiates Emission from 3GHz to 18GHz

BELL_RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz