9. Band Edges Measurement

9.1 Test Limit

1. If the maximum peak conducted output power procedure was used to determine compliance as described in 11.9.1, then the peak output power measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum.
2. If maximum conducted (average) output power was used to determine compliance as described in 11.9.2, then the peak power in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum in-band peak PSD level in 100 kHz (i.e., 30 dBc).

9.2 Test Procedure

KDB 558074 D01v03r05 – Section 12.2.4 (peak power measurements)

KDB 558074 D01v03r05 – Section 12.2.5 (average power measurements)

9.3 Test Setting

Peak Measurements above 1GHz

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

Average Measurements above 1GHz

1.Analyzer center frequency was set to the frequency of the radiated spurious emission of interest

2.RBW = 1MHz

3.VBW ≥ 1/T

Note: For b mode VBW=10Hz; For g mode VBW=10Hz; For n(20MHz) mode VBW=10Hz; For n(40MHz) mode VBW=10Hz.

4. As an alternative, the instrument may be set to linear detector mode. Ensure that video filtering is applied in linear voltage domain (rather than in a log or dB domain). Some instruments require linear display mode in order to accomplish this. Others have a setting for Average-VBW Type, which can be set to “Voltage” regardless of the display mode

5.Detector = Peak

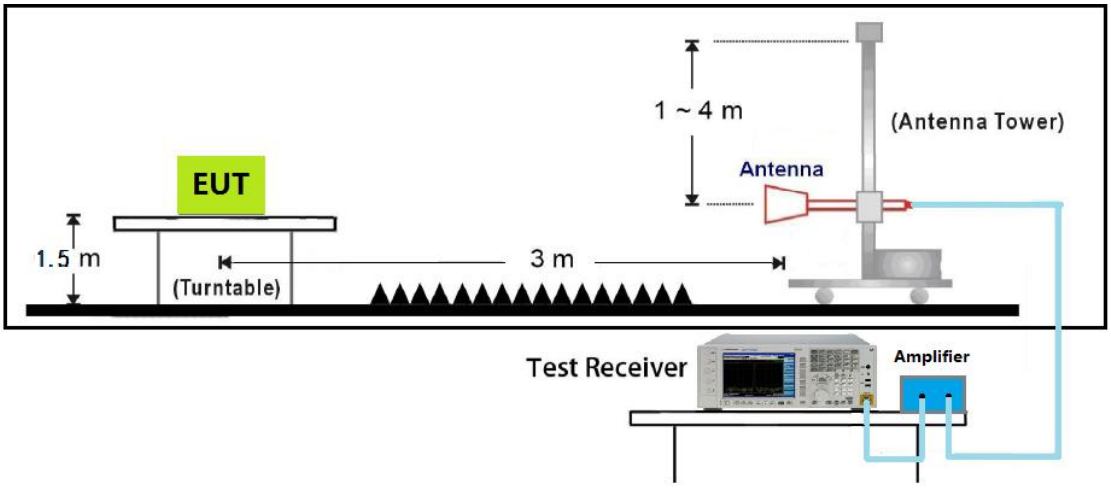
6.Sweep time = auto

7.Trace mode = max hold

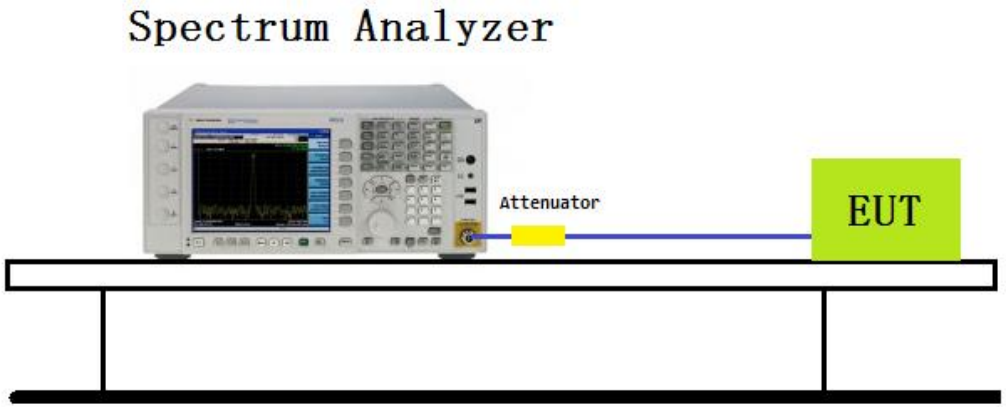
8.Allow max hold to run for at least 50 times (1/duty cycle) traces

9.4 Test Setup Layout

Radiated



Conducted



9.5 Measurement Equipment

Instrument/Ancillary	Manufacturer	Model No.	Serial No.	Calibration Date	Valid Date.
EMI Test Receiver	R&S	ESCI	101183	2016.03.28	2017.03.29
Spectrum Analyzer	N9010A	Agilent	MY53400169	2015.11.11	2016.11.11
Spectrum Analyzer	R&S	FSP40	100324	2016.03.23	2017.03.24
H64 Preamplifier	HP	8447F	3113A05582	2016.03.24	2017.03.23
Preamplifier	songyi	EM330	60618	2016.03.29	2017.03.28
Preamplifier	Agilent	8449B	3008A02342	2016.03.29	2017.03.28
Preamplifier	COM-POWER	PA-840	711885	2016.03.29	2017.03.28
Bilog Antenna	Sunol Science	JB1	A072414-1	2016.04.22	2017.04.21
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	9120D-619	2016.04.20	2017.04.19
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	9170-347	2016.04.20	2017.04.19
Temperature/ Humidity Meter	Zhicheng	ZC1-11	CEP-TH-002	2016.03.31	2017.03.30

9.6 Test Result and Data

Radiated

802.11b

No.	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type	Antenna Pole (V/H)
1	2390.000	62.457	29.346	-11.543	74.000	33.111	PK	H
2	2390.000	49.217	16.106	-4.783	54.000	33.111	AV	H
3	2390.000	62.102	28.991	-11.898	74.000	33.111	PK	V
4	2390.000	49.288	16.177	-4.712	54.000	33.111	AV	V
5	2483.500	63.158	29.666	-10.842	74.000	33.493	PK	H
6	2483.500	50.725	17.233	-3.275	54.000	33.493	AV	H
7	2483.500	64.379	30.887	-9.621	74.000	33.493	PK	V
8	2483.500	51.856	18.364	-2.144	54.000	33.493	AV	V

802.11g

No.	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type	Antenna Pole (V/H)
1	2390.000	60.870	27.759	-13.130	74.000	33.111	PK	H
2	2390.000	49.281	16.170	-4.719	54.000	33.111	AV	H
3	2390.000	61.429	28.318	-12.571	74.000	33.111	PK	V
4	2390.000	49.323	16.212	-4.677	54.000	33.111	AV	V
5	2483.500	63.675	30.183	-10.325	74.000	33.493	PK	H
6	2483.500	50.855	17.363	-3.145	54.000	33.493	AV	H
7	2483.500	66.709	33.217	-7.291	74.000	33.493	PK	V
8	2483.500	52.550	19.058	-1.450	54.000	33.493	AV	V

802.11n20

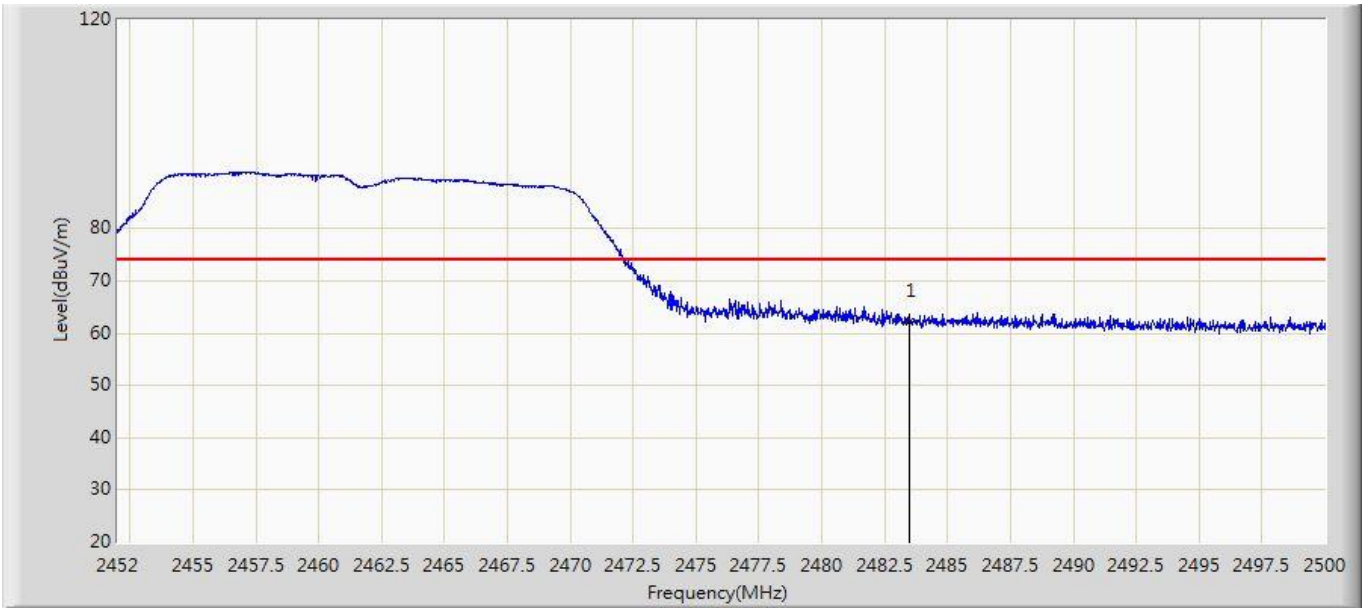
No.	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type	Antenna Pole (V/H)
1	2390.000	63.191	30.080	-10.809	74.000	33.111	PK	H
2	2390.000	49.226	16.115	-4.774	54.000	33.111	AV	H
3	2390.000	61.881	28.770	-12.119	74.000	33.111	PK	V
4	2390.000	49.495	16.384	-4.505	54.000	33.111	AV	V
5	2483.500	62.242	28.750	-11.758	74.000	33.493	PK	H
6	2483.500	50.163	16.671	-3.837	54.000	33.493	AV	H
7	2483.500	67.037	33.545	-6.963	74.000	33.493	PK	V
8	2483.500	53.117	19.625	-0.883	54.000	33.493	AV	V

802.11n40

No.	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type	Antenna Pole (V/H)
1	2390.000	62.939	29.828	-11.061	74.000	33.111	PK	H
2	2390.000	49.357	16.246	-4.643	54.000	33.111	AV	H
3	2390.000	63.767	30.656	-10.233	74.000	33.111	PK	V
4	2390.000	49.743	16.632	-4.257	54.000	33.111	AV	V
5	2483.500	62.729	29.237	-11.271	74.000	33.493	PK	H
6	2483.500	49.691	16.199	-4.309	54.000	33.493	AV	H
7	2483.500	64.586	31.094	-9.414	74.000	33.493	PK	V
8	2483.500	51.647	18.155	-2.353	54.000	33.493	AV	V

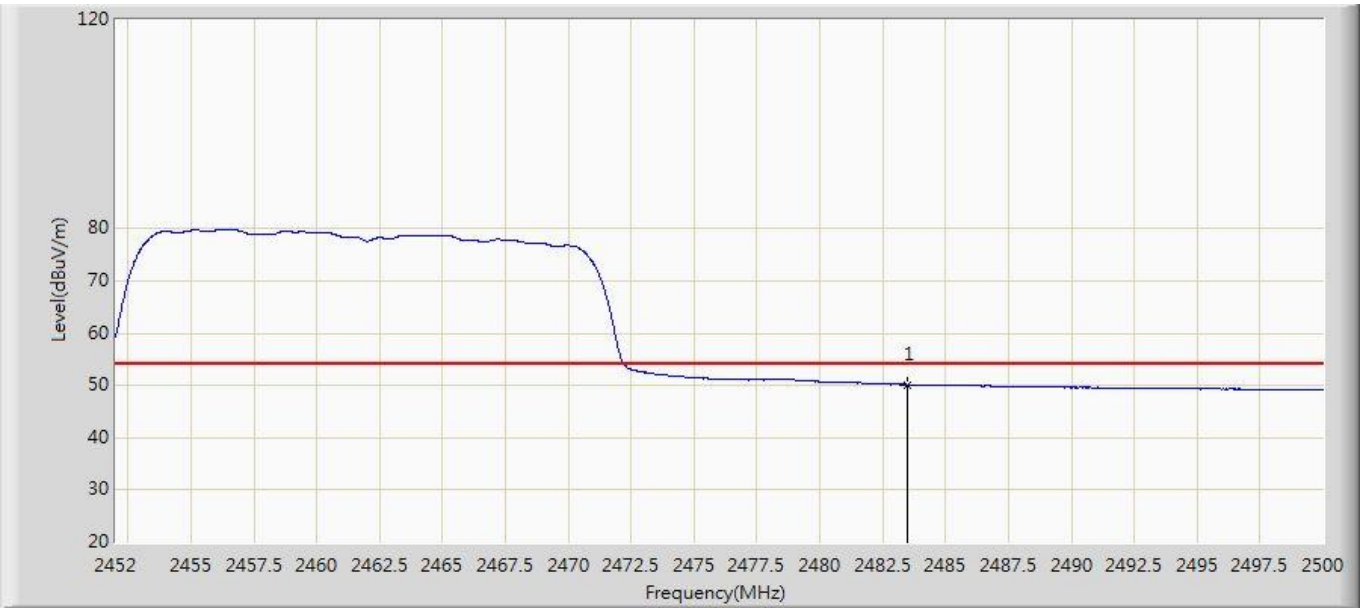
The worst-case plots of bandedge for each mode in each operating band:

Site: AC 102	Time: 2016/05/05 - 19:29
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe:	Polarity: Horizontal
EUT: 2 INCH PTZ DOME CAMERA	Power: AC 120V/60Hz
Note: Mode 1: Transmit 802.11n20 at 2462	



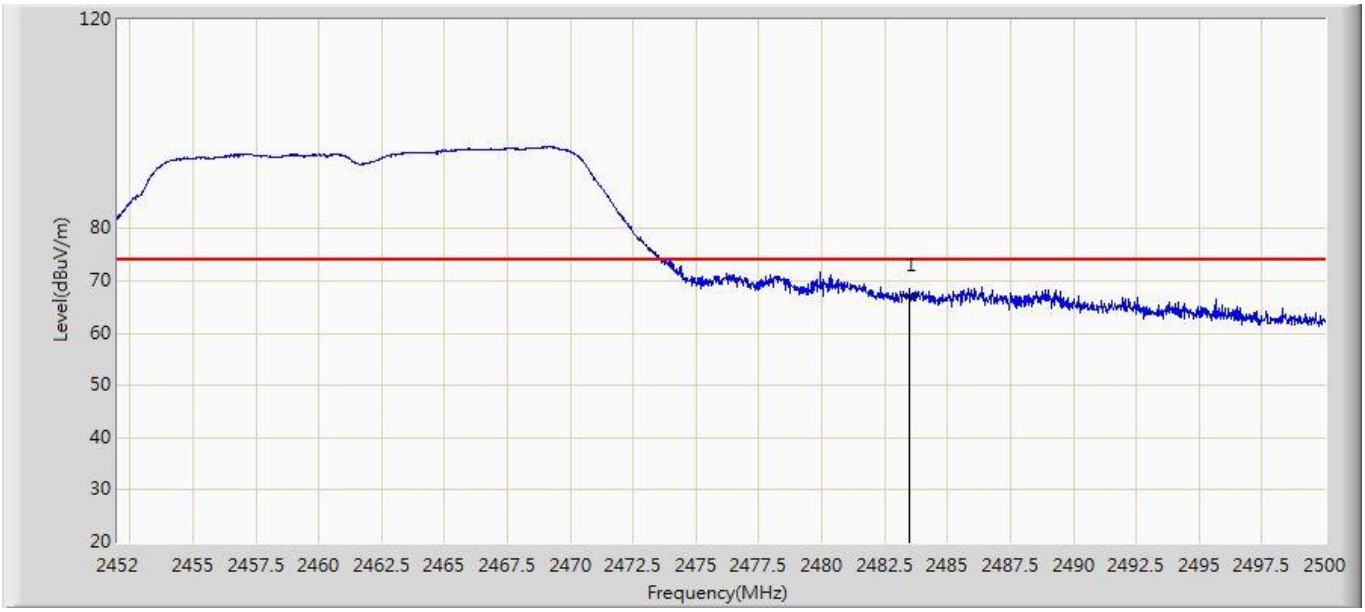
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	62.242	28.750	-11.758	74.000	33.493	PK

Site: AC102	Time: 2016/05/05 - 19:32
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe:	Polarity: Horizontal
EUT: 2 INCH PTZ DOME CAMERA	Power: AC 120V/60Hz
Note: Mode 1: Transmit 802.11n20 at 2462	



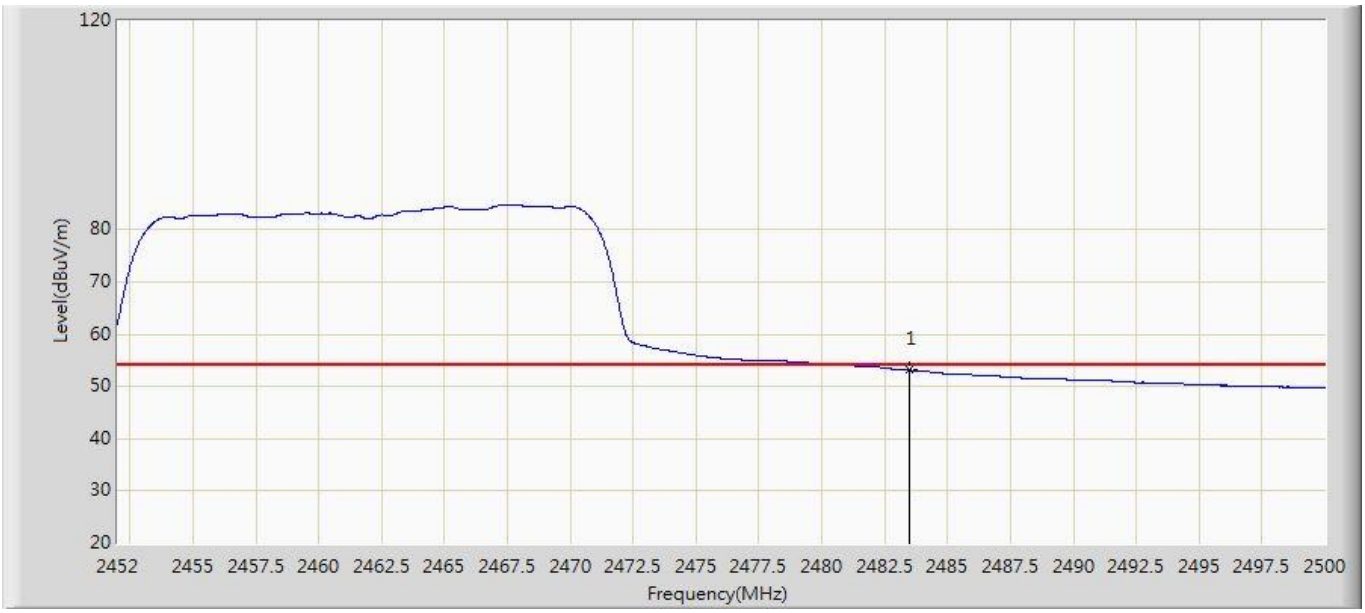
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	50.163	16.671	-3.837	54.000	33.493	AV

Site: AC102	Time: 2016/05/05 - 19:32
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe:	Polarity: Vertical
EUT: 2 INCH PTZ DOME CAMERA	Power: AC 120V/60Hz
Note: Mode 1: Transmit 802.11n20 at 2462	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	67.037	33.545	-6.963	74.000	33.493	PK

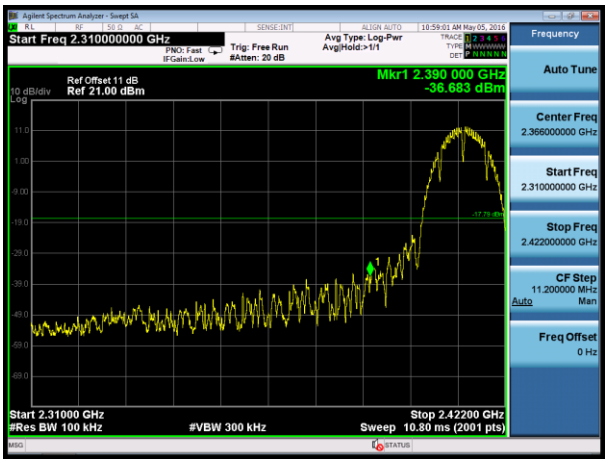
Site: AC102	Time: 2016/05/05 - 19:37
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe:	Polarity: Vertical
EUT: 2 INCH PTZ DOME CAMERA	Power: AC 120V/60Hz
Note: Mode 1: Transmit 802.11n20 at 2462	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2483.500	53.117	19.625	-0.883	54.000	33.493	AV

Band Edge (30dBc RF Conducted Measurement)

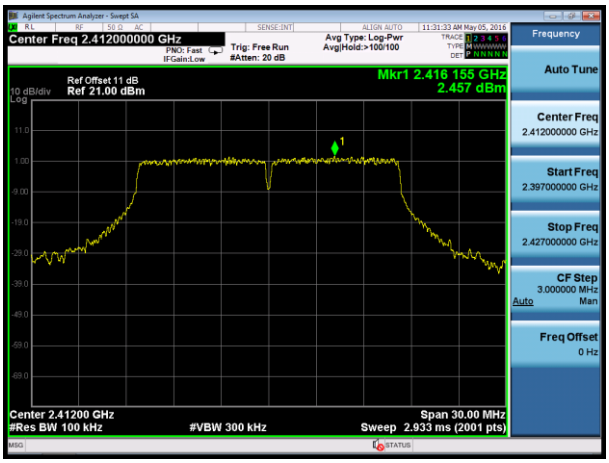
Mode 1: Transmit by 802.11b (2412MHz)



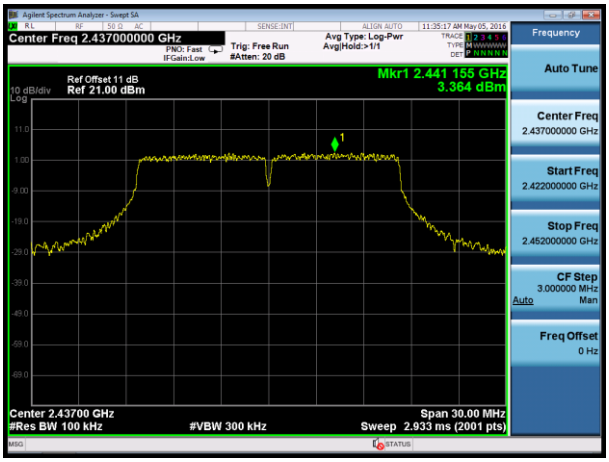
Mode 1: Transmit by 802.11b (2437MHz)

Mode 1: Transmit by 802.11b (2462MHz)

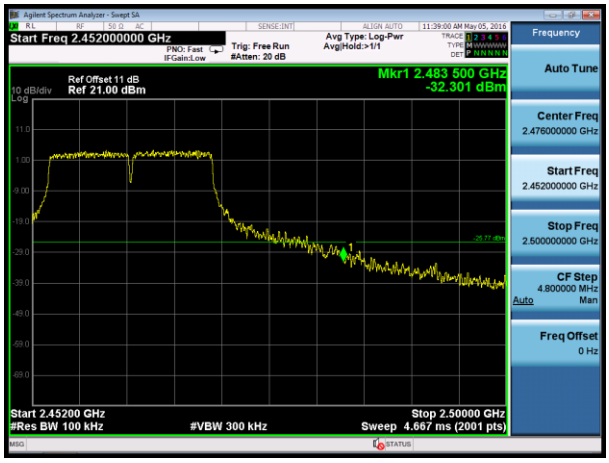
Mode 2: Transmit by 802.11g (2412MHz)



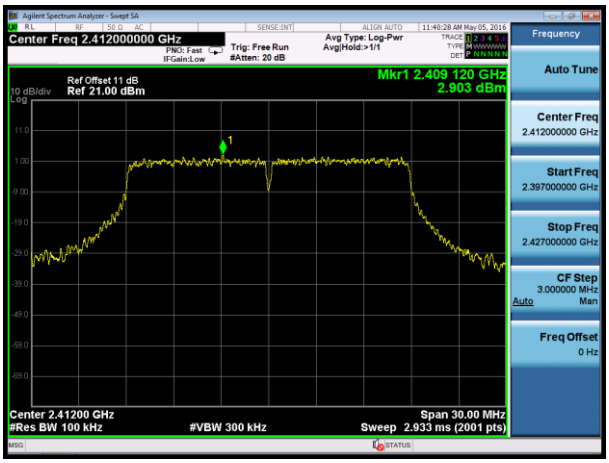
Mode 2: Transmit by 802.11g (2437MHz)



Mode 2: Transmit by 802.11g (2462MHz)



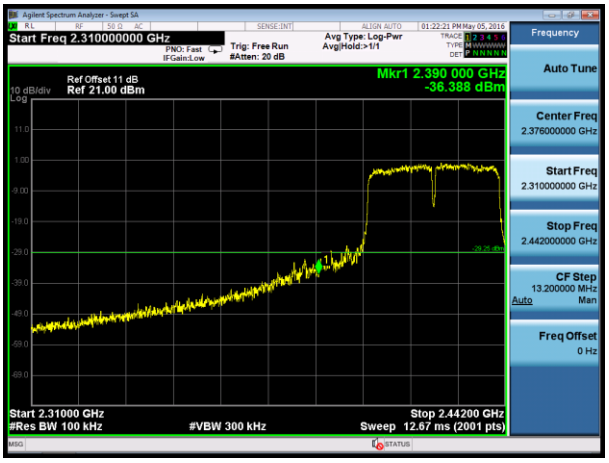
Mode 3: Transmit by 802.11n20 (2412MHz)



Mode 3: Transmit by 802.11n20 (2437MHz)

Mode 3: Transmit by 802.11n20 (2462MHz)

Mode 4: Transmit by 802.11n（40MHz）(2422MHz)



Mode 4: Transmit by 802.11n（40MHz）(2437MHz)

Mode 4: Transmit by 802.11n（40MHz）(2452MHz)

10. Restricted Bands of Operation

Only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.09000 – 0.11000	16.42000 – 16.42300	399.9 – 410.0	4.500 – 5.250
0.49500 – 0.505**	16.69475 – 16.69525	608.0 – 614.0	5.350 – 5.460
2.17350 – 2.19050	16.80425 – 16.80475	960.0 – 1240.0	7.250 – 7.750
4.12500 – 4.12800	25.50000 – 25.67000	1300.0 – 1427.0	8.025 – 8.500
4.17725 – 4.17775	37.50000 – 38.25000	1435.0 – 1626.5	9.000 – 9.200
4.20725 – 4.20775	73.00000 – 74.60000	1645.5 – 1646.5	9.300 – 9.500
6.21500 – 6.21800	74.80000 – 75.20000	1660.0 – 1710.0	10.600 – 12.700
6.26775 – 6.26825	108.00000 – 121.94000	1718.8 – 1722.2	13.250 – 13.400
6.31175 – 6.31225	123.00000 – 138.00000	2200.0 – 2300.0	14.470 – 14.500
8.29100 – 8.29400	149.90000 – 150.05000	2310.0 – 2390.0	15.350 – 16.200
8.36200 – 8.36600	156.52475 – 156.52525	2483.5 – 2500.0	17.700 – 21.400
8.37625 – 8.38675	156.70000 – 156.90000	2655.0 – 2900.0	22.010 – 23.120
8.41425 – 8.41475	162.01250 – 167.17000	3260.0 – 3267.0	23.600 – 24.000
12.29000 – 12.29300	167.72000 – 173.20000	3332.0 – 3339.0	31.200 – 31.800
12.51975 – 12.52025	240.00000 – 285.00000	3345.8 – 3358.0	36.430 – 36.500
12.57675 – 12.57725	322.00000 – 335.40000	3600.0 – 4400.0	Above 38.6
13.36000 – 13.41000			

**: Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz

10.1 Labeling Requirement

The device shall bear the following statement in a conspicuous location on the device:

This device complies with part 15 of the FCC Rules. Operation is subject to the following twoconditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.