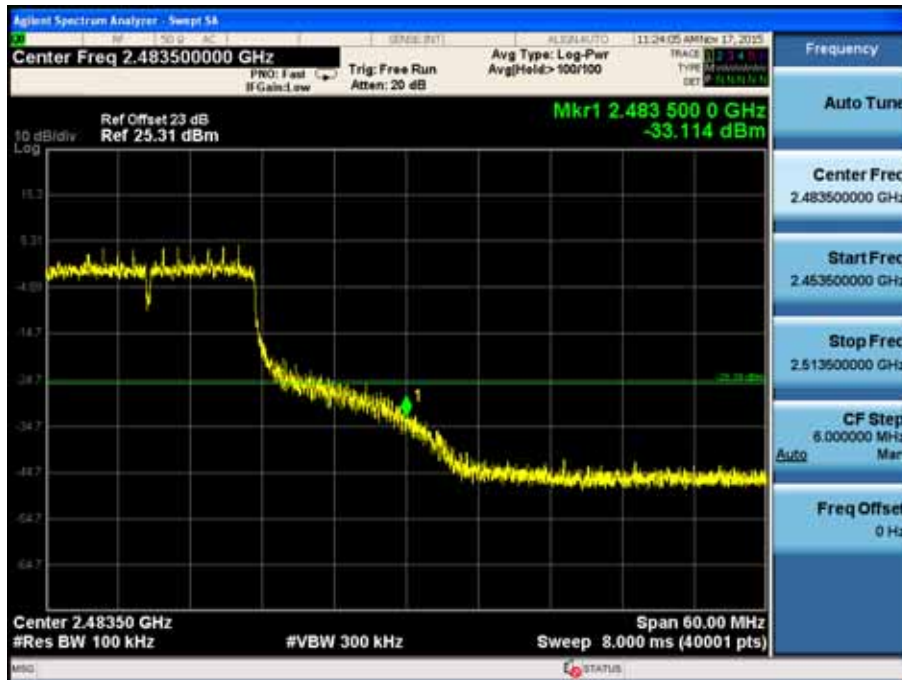


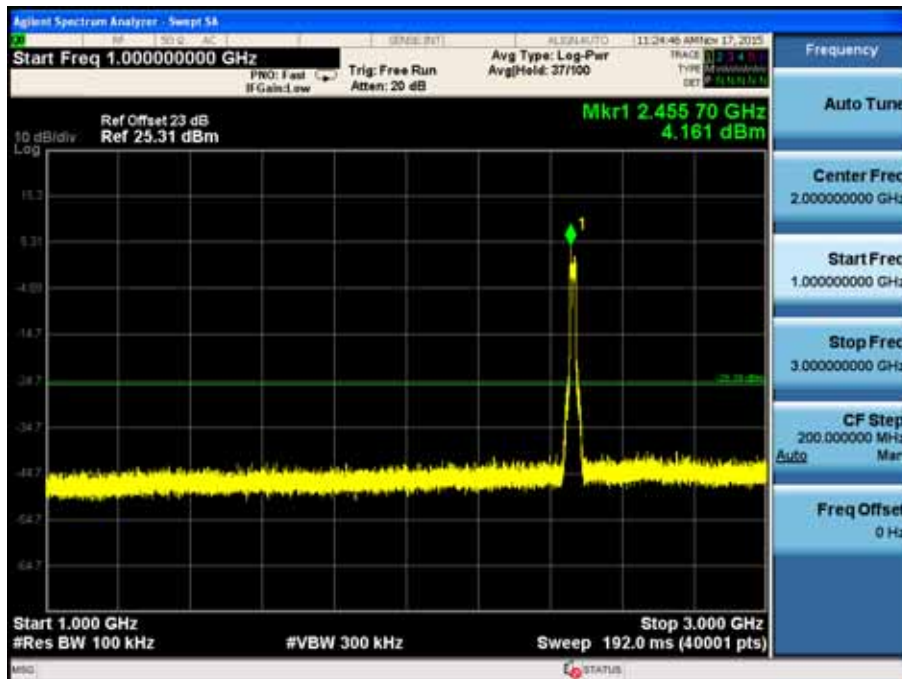
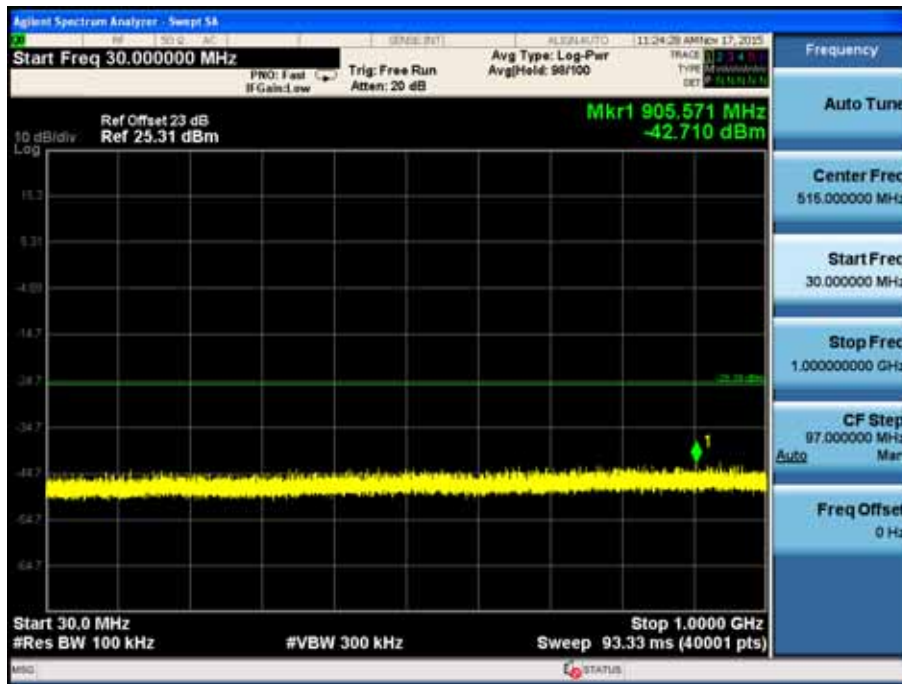
Channel 11 (2462MHz) Reference Level – Frequency H

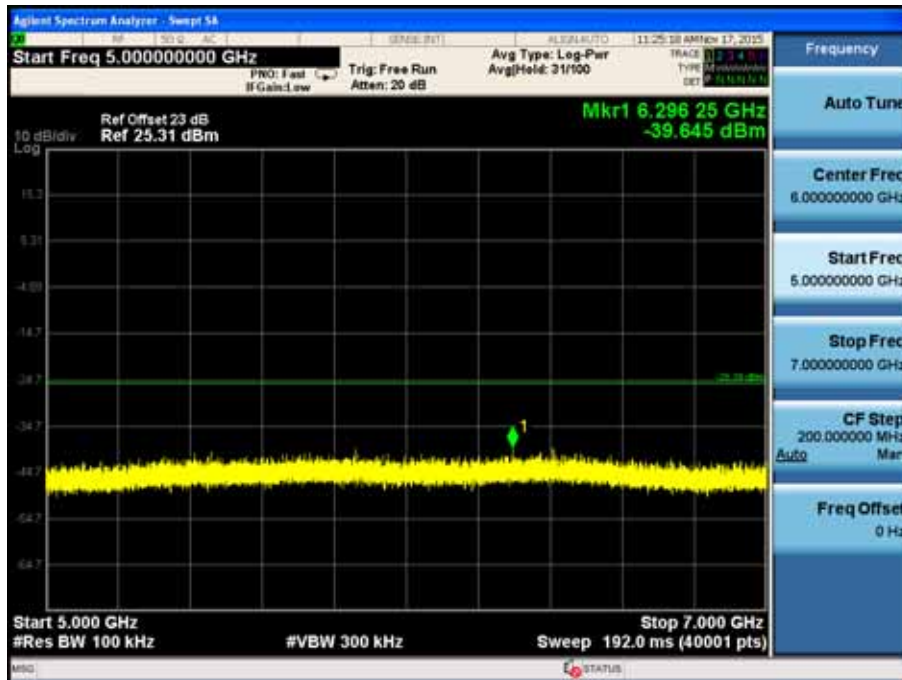
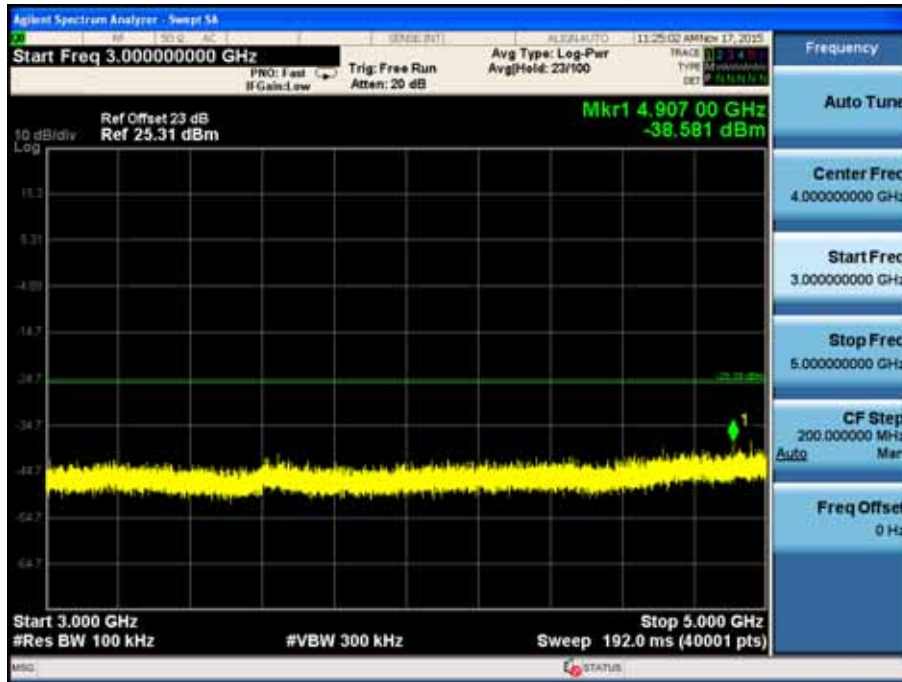


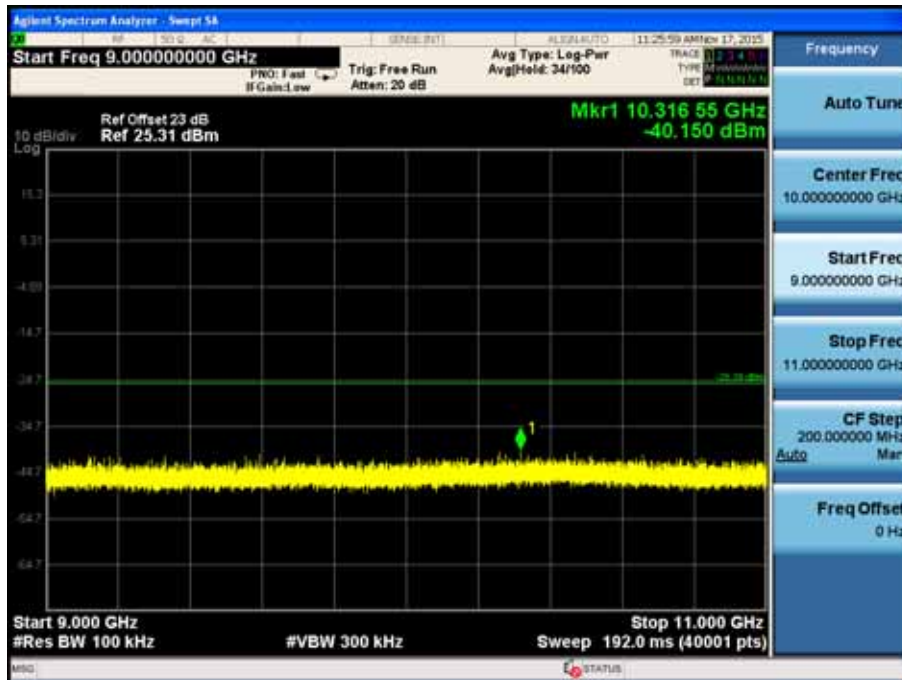
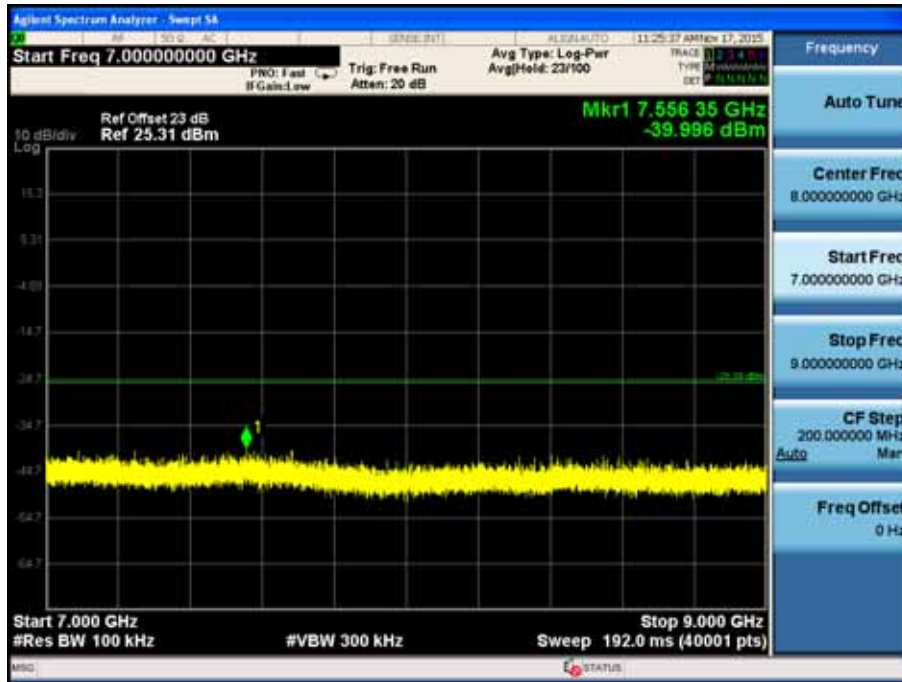
High Band Edge - Frequency H

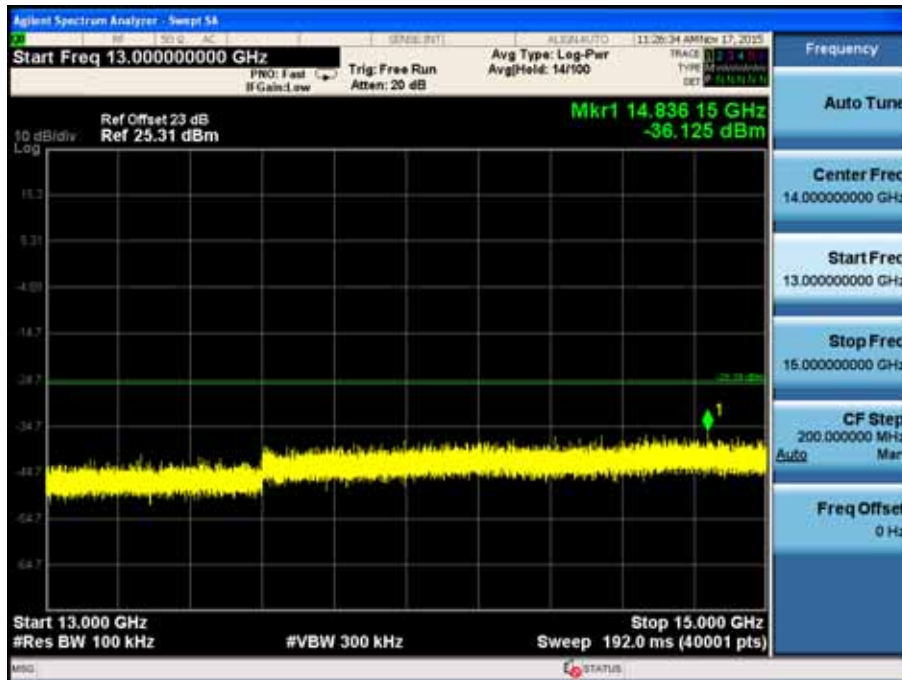
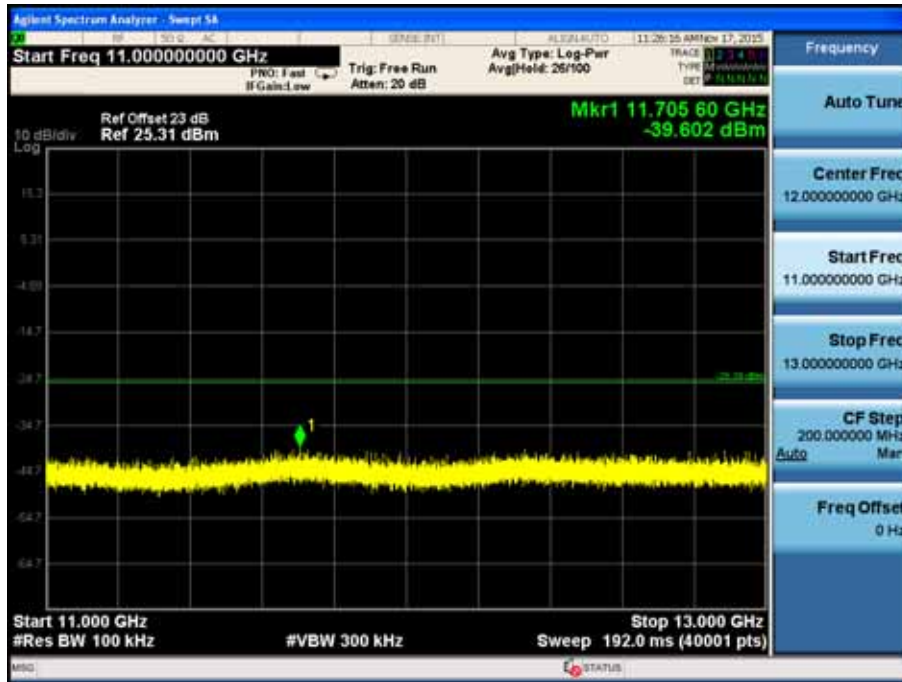


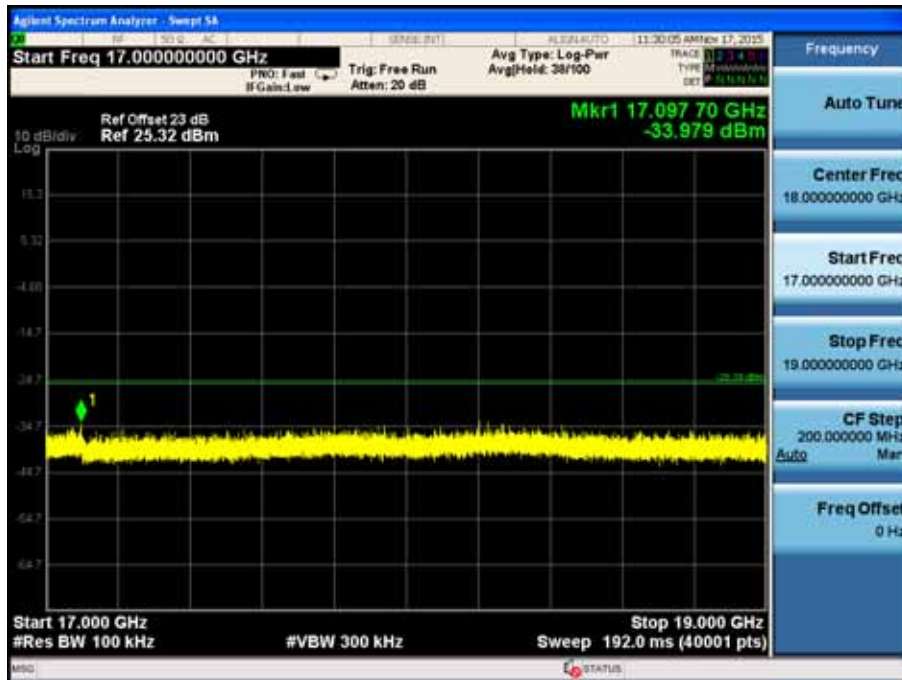
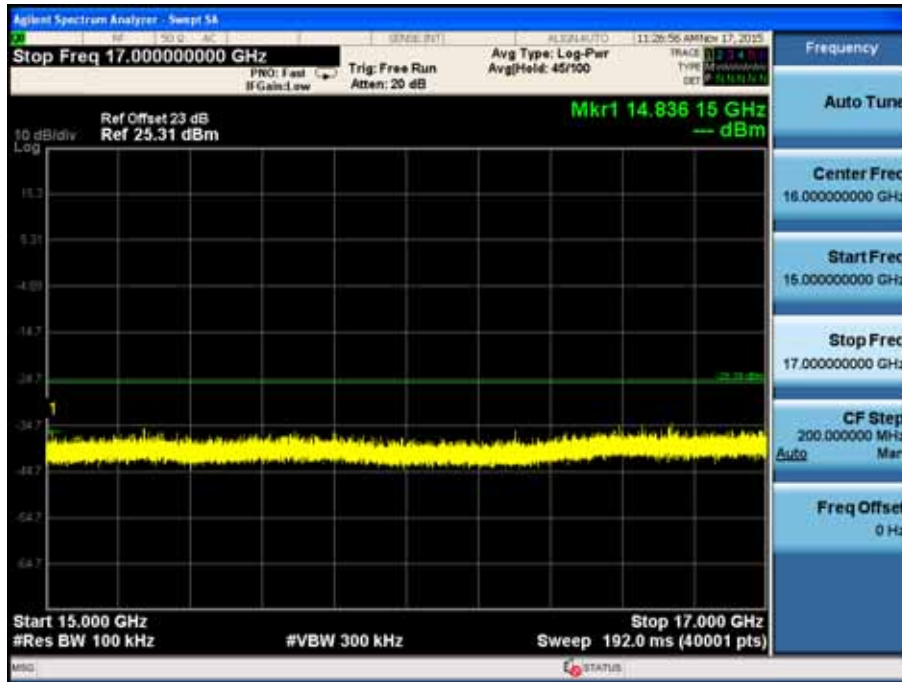
Spurious Emission 30MHz ~ 25GHz - Frequency H

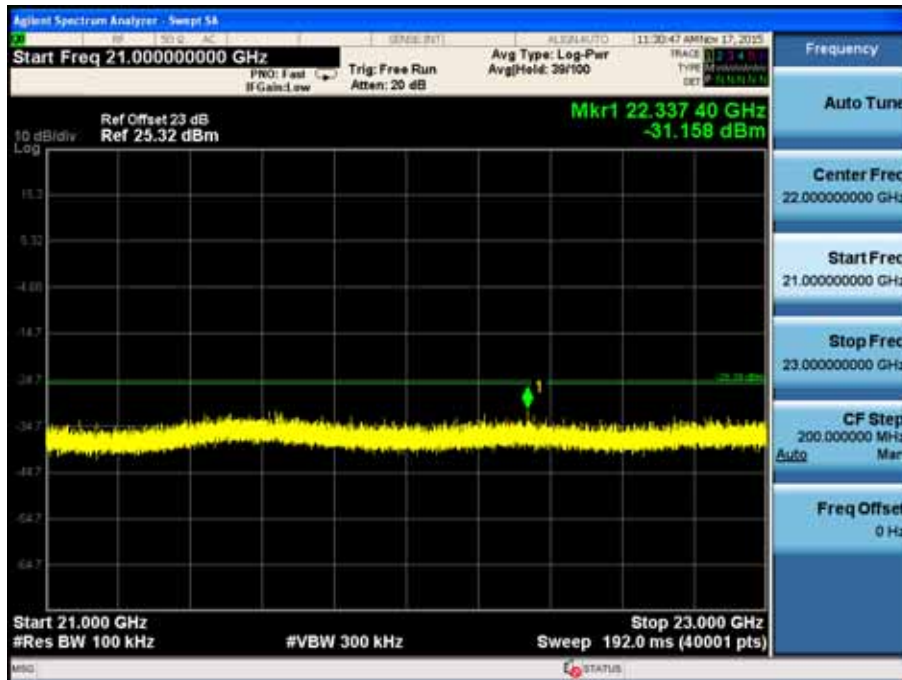
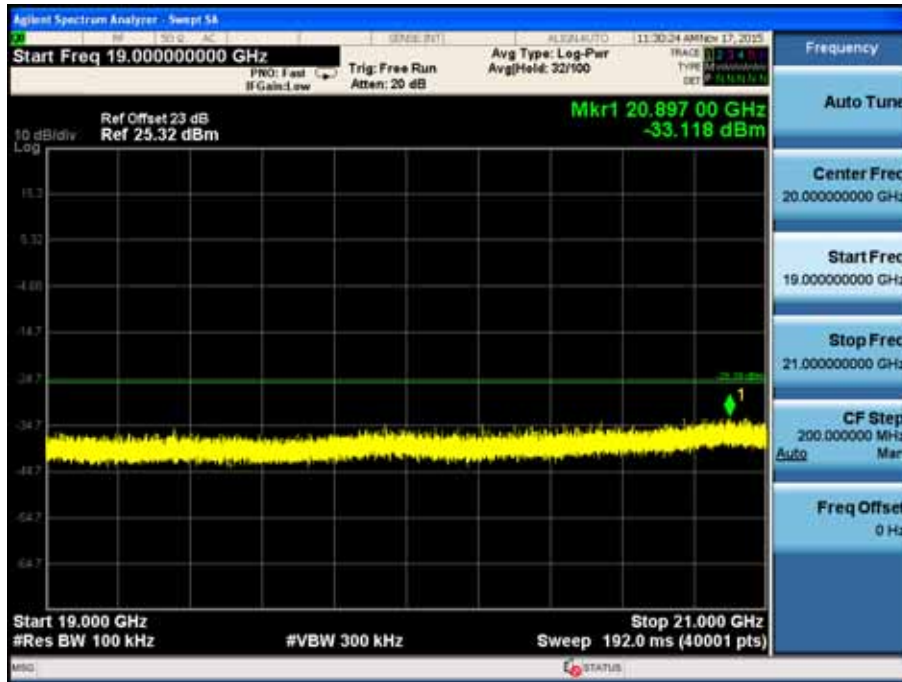


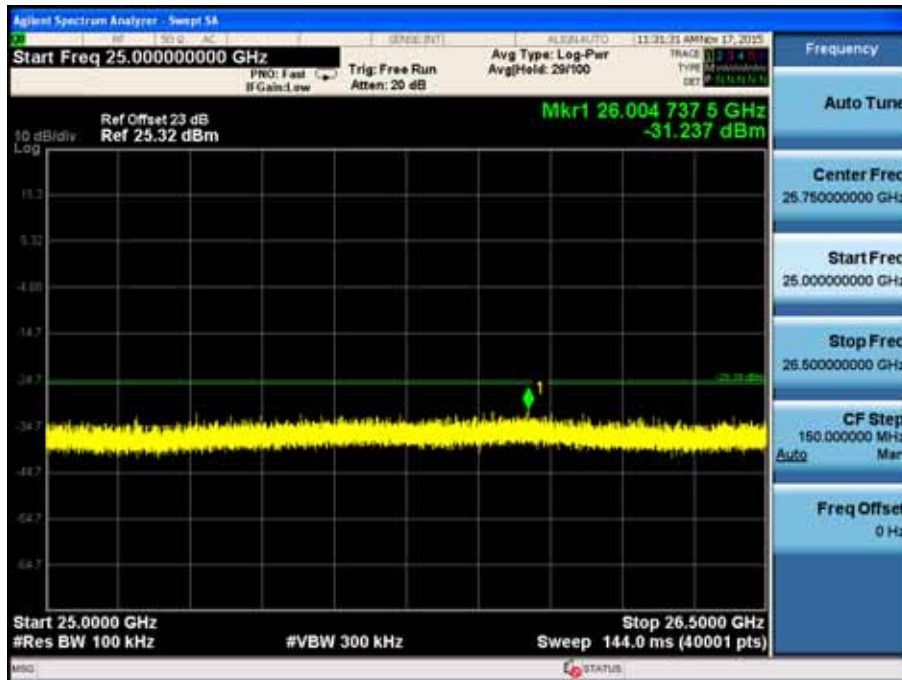












Product	:	Wi-Fi Smart Plug With Energy Monitoring
Test Item	:	RF Antenna Conducted Spurious
Test Site	:	TR-8
Test Mode	:	Mode 4: Transmit by 802.11n(40MHz)

Channel 03 (2422MHz)

Reference Level – Frequency L

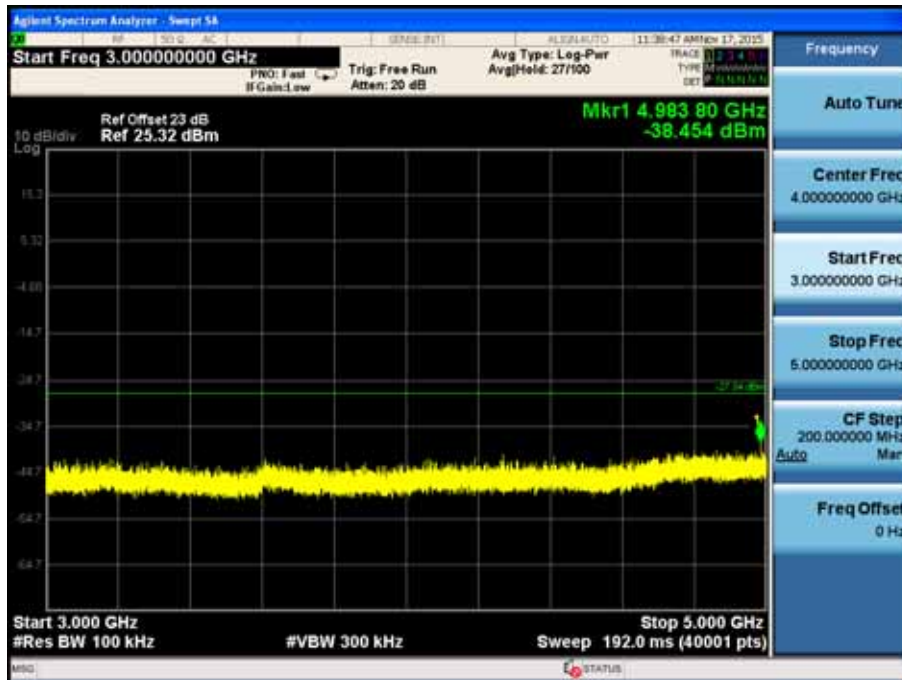
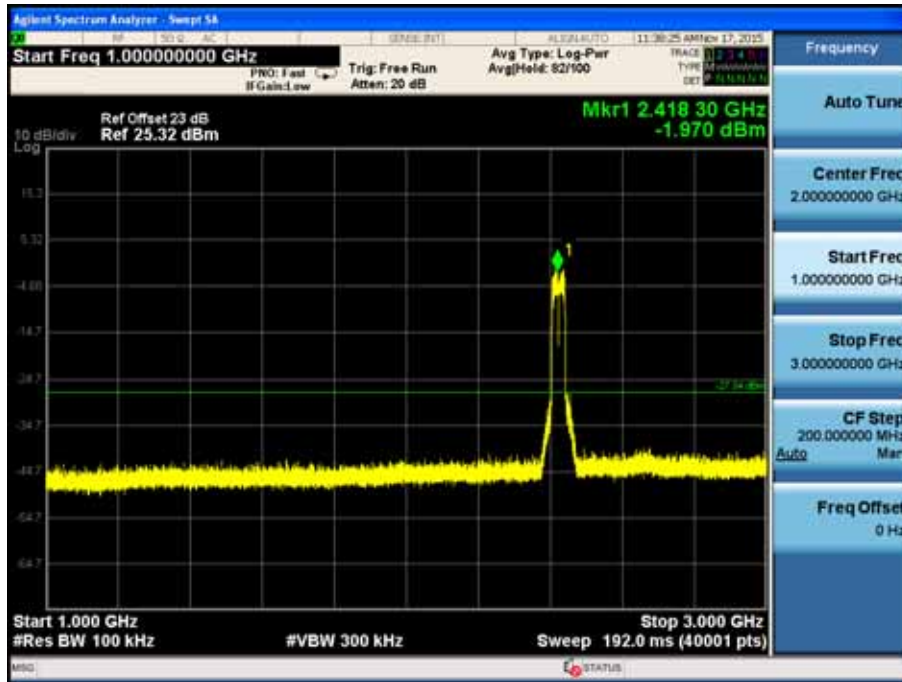


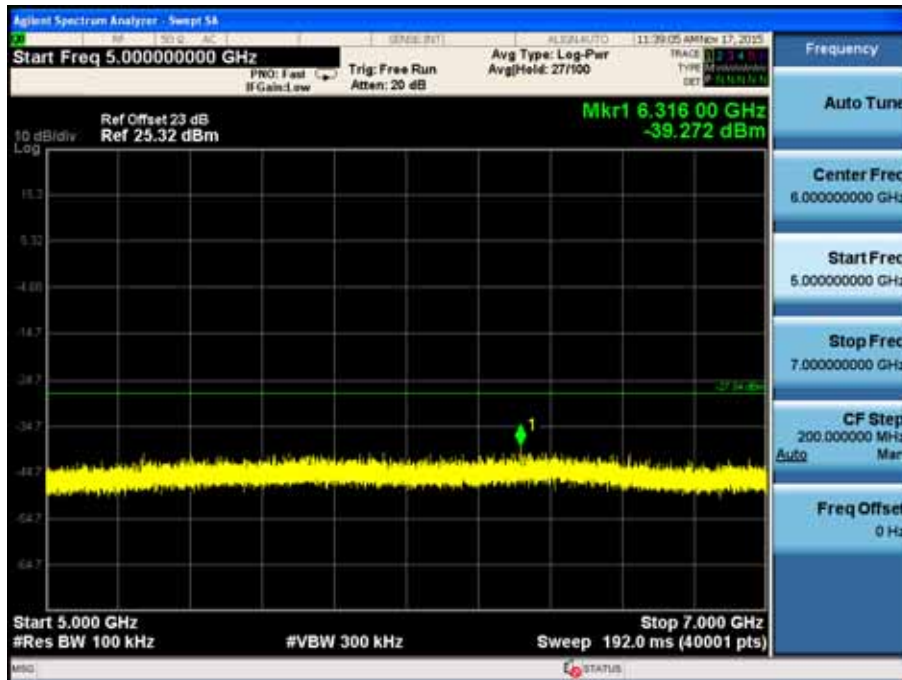
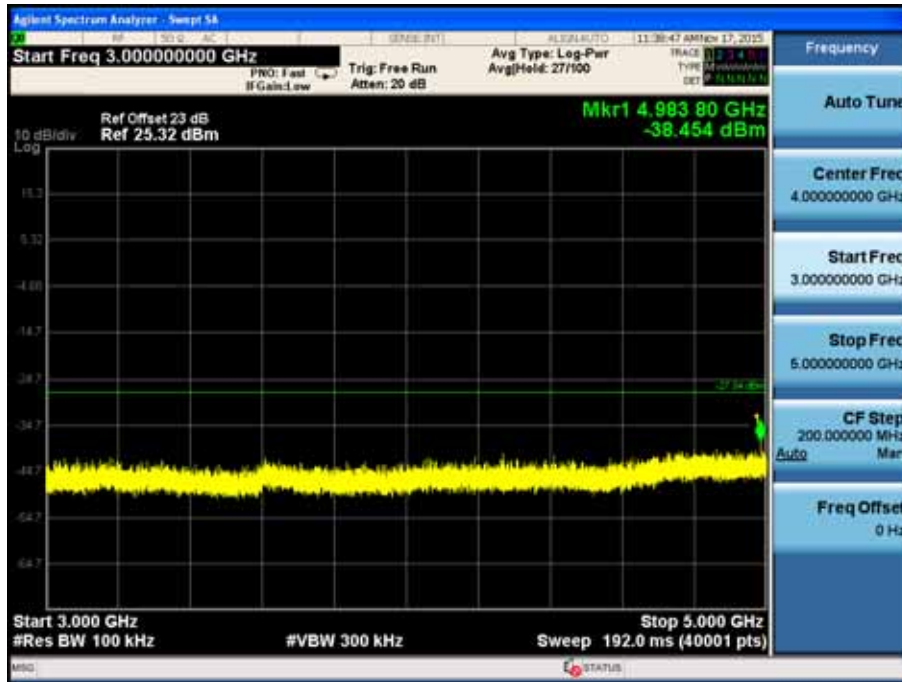
Low Band Edge - Frequency L



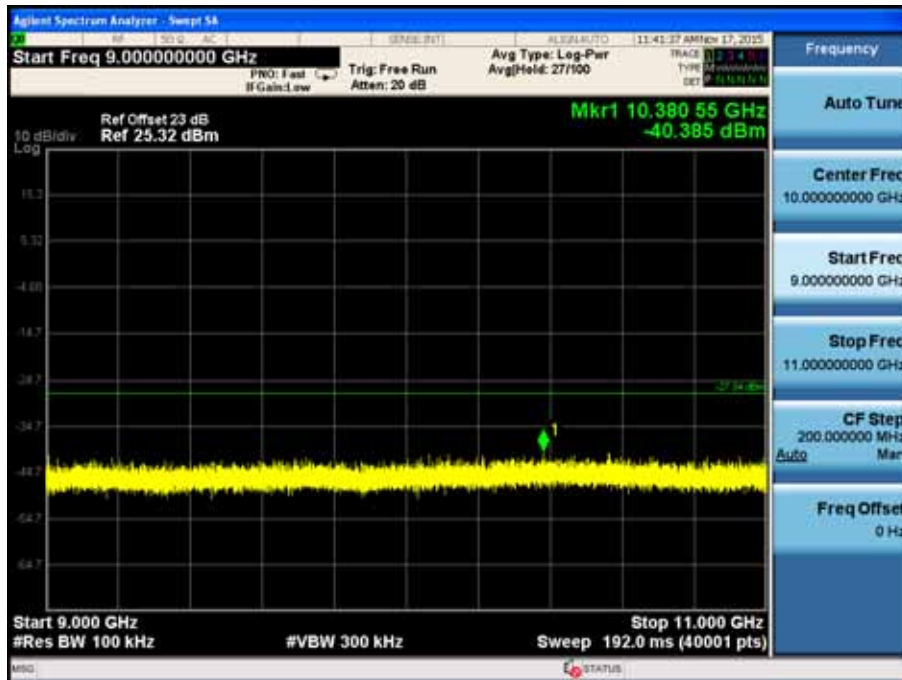
Spurious Emission 30MHz ~ 25GHz - Frequency L

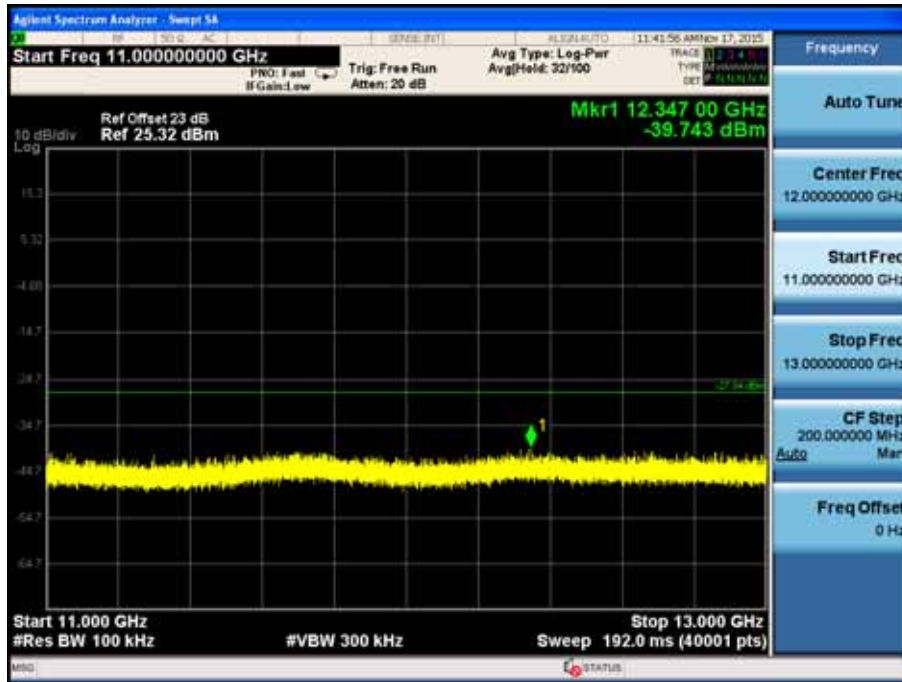


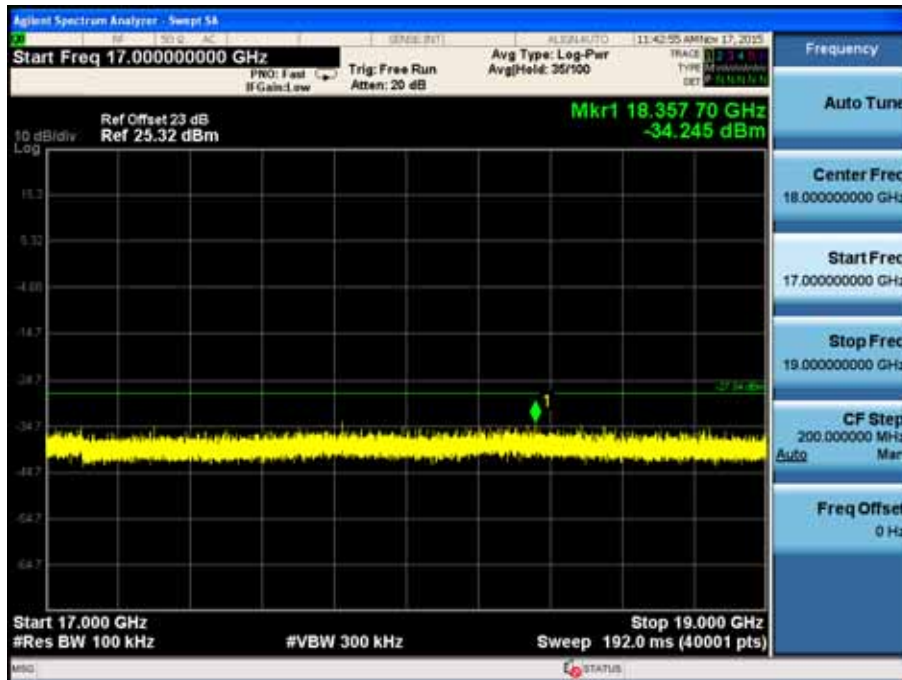
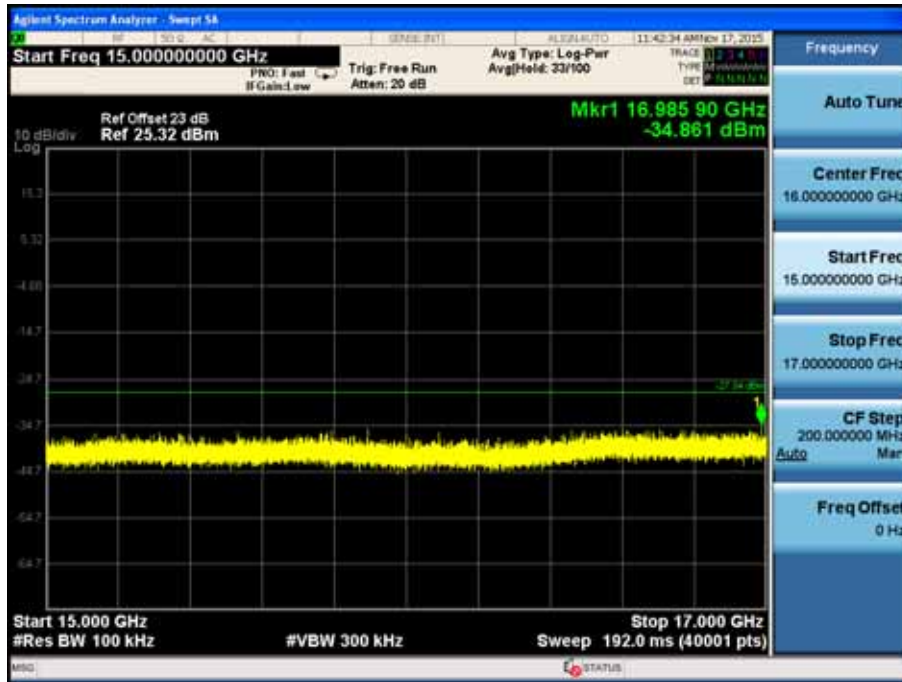


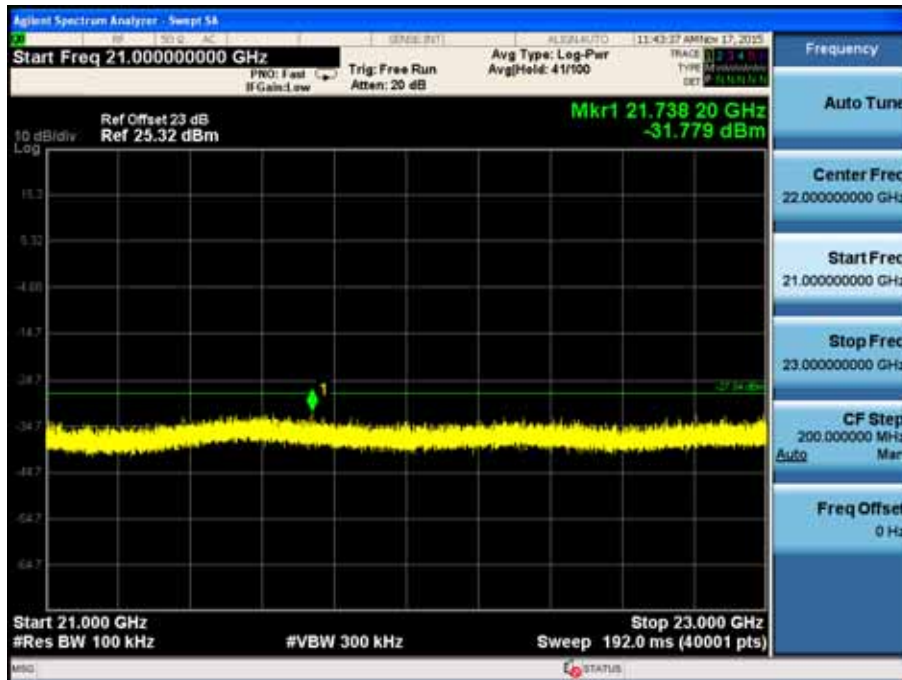


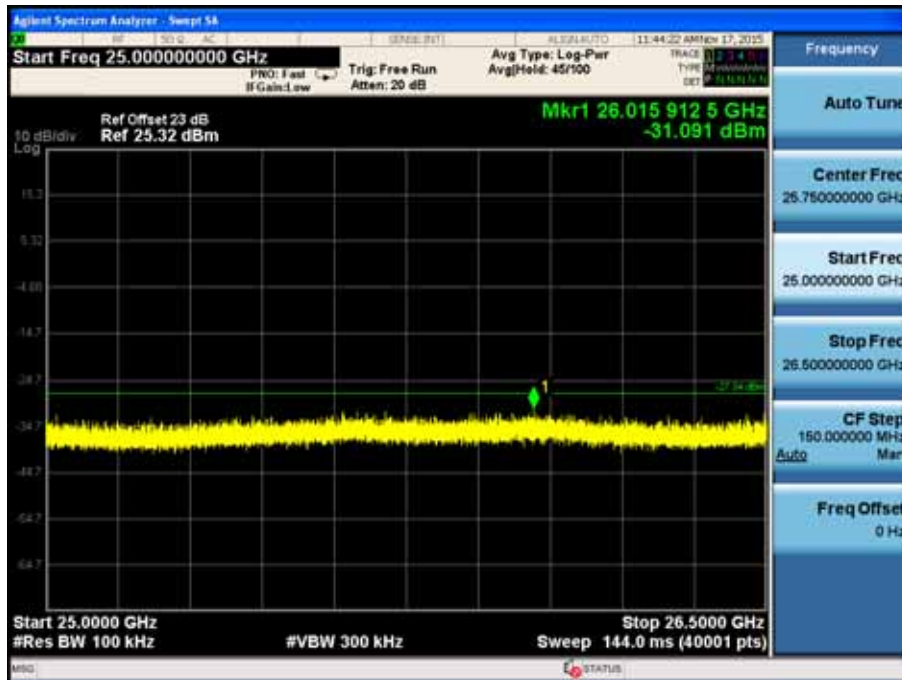


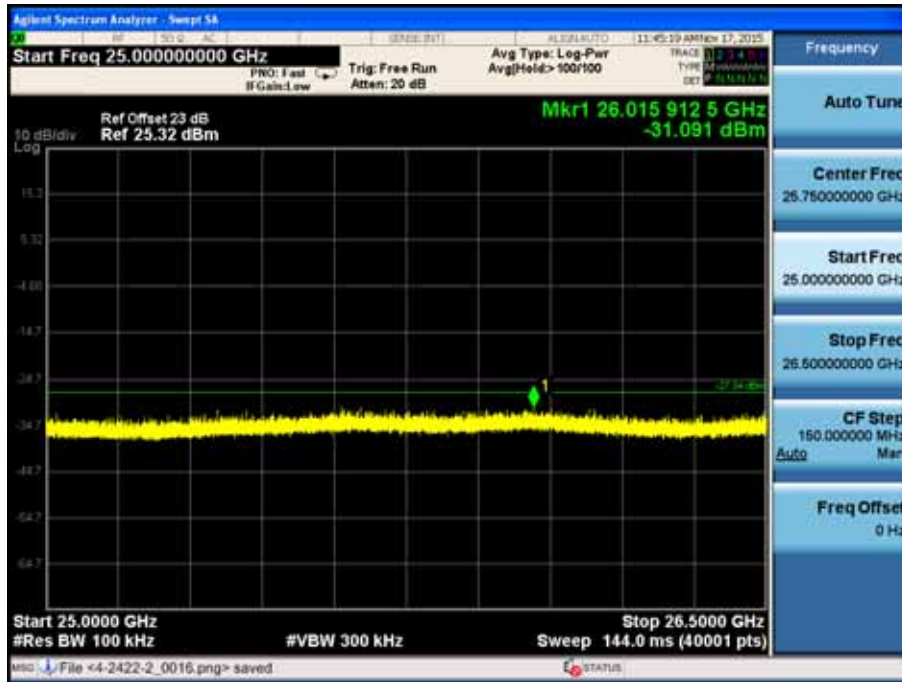




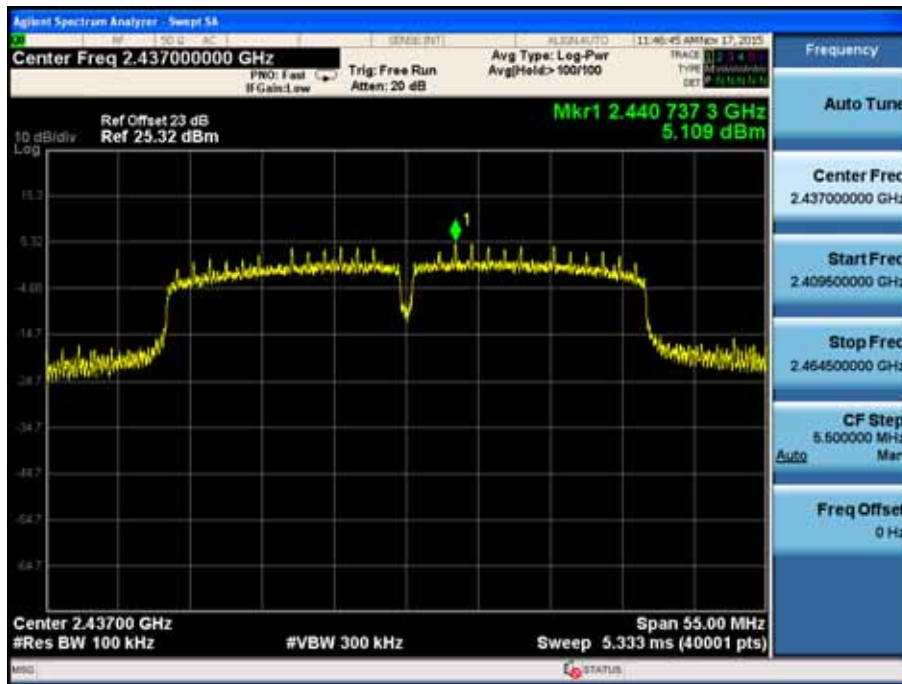




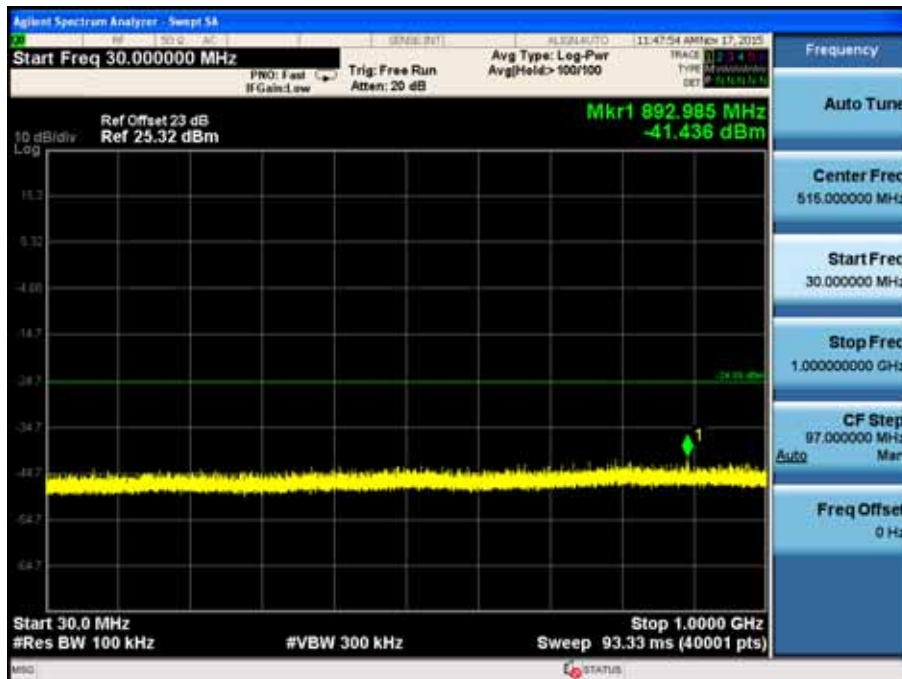


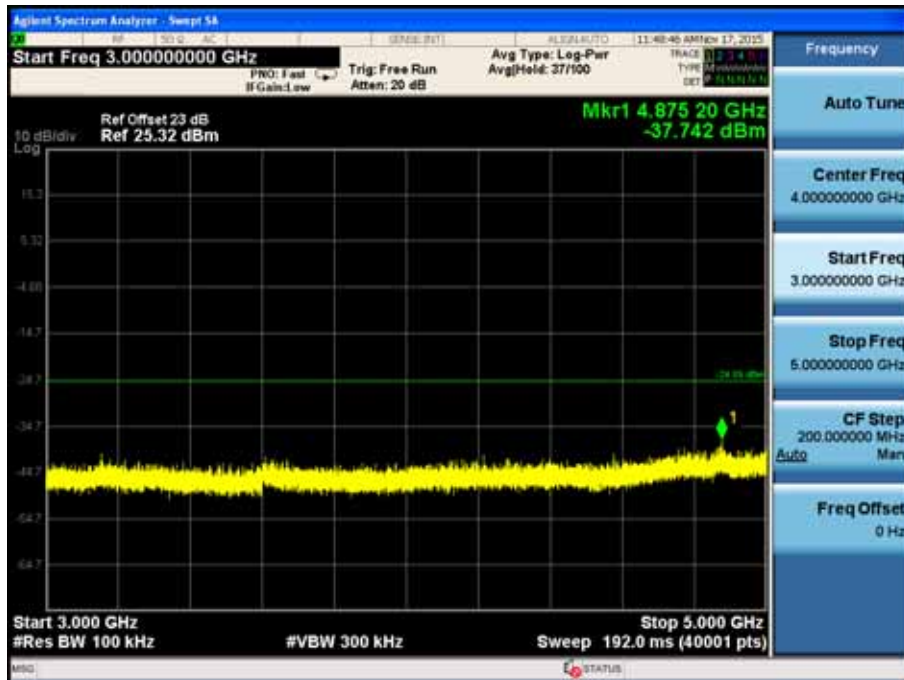
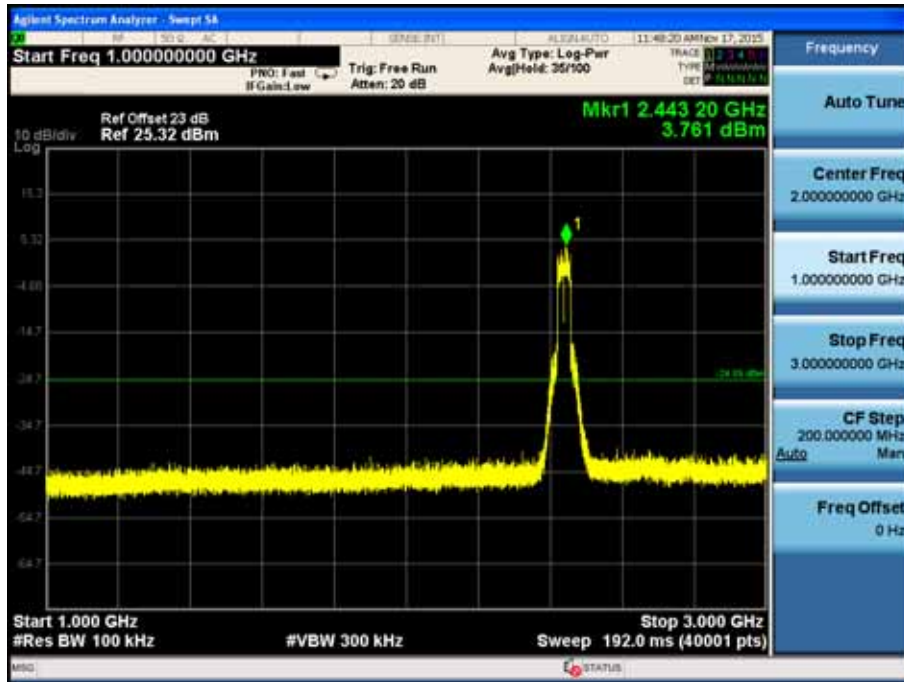


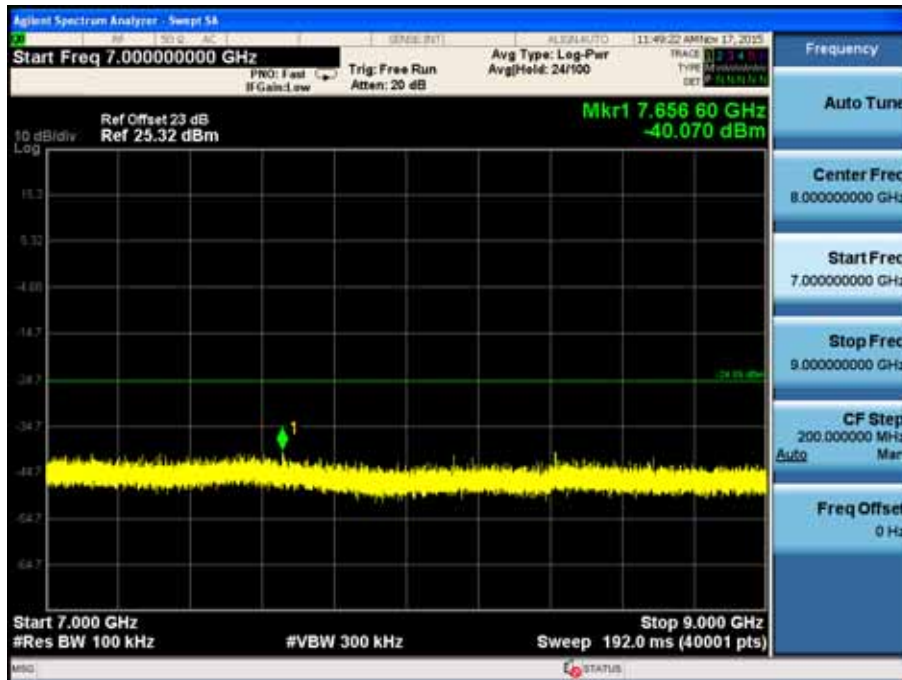
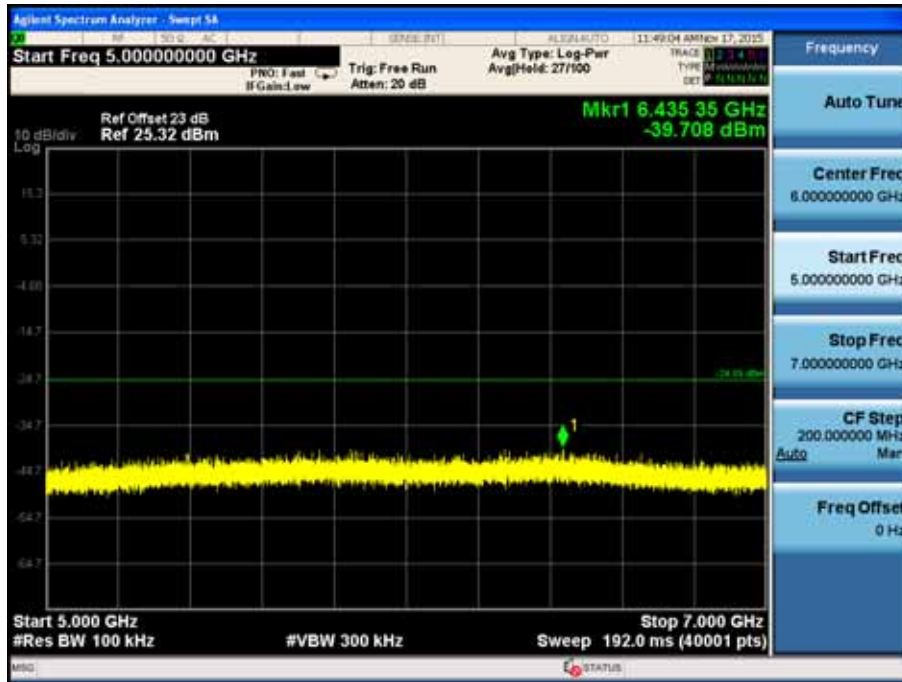
Channel 06(2437MHz)
 Reference Level – Frequency M

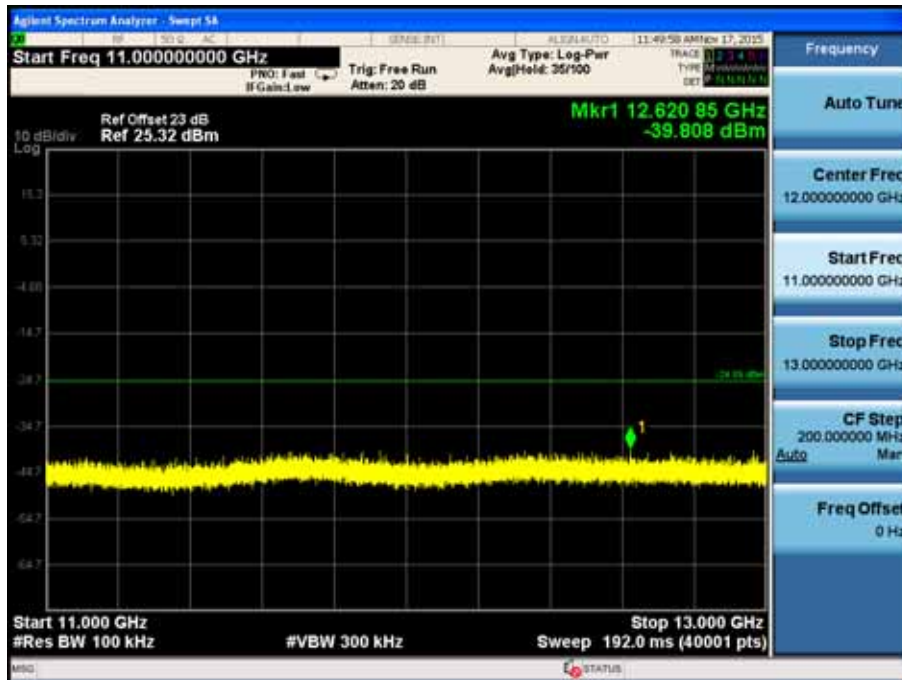
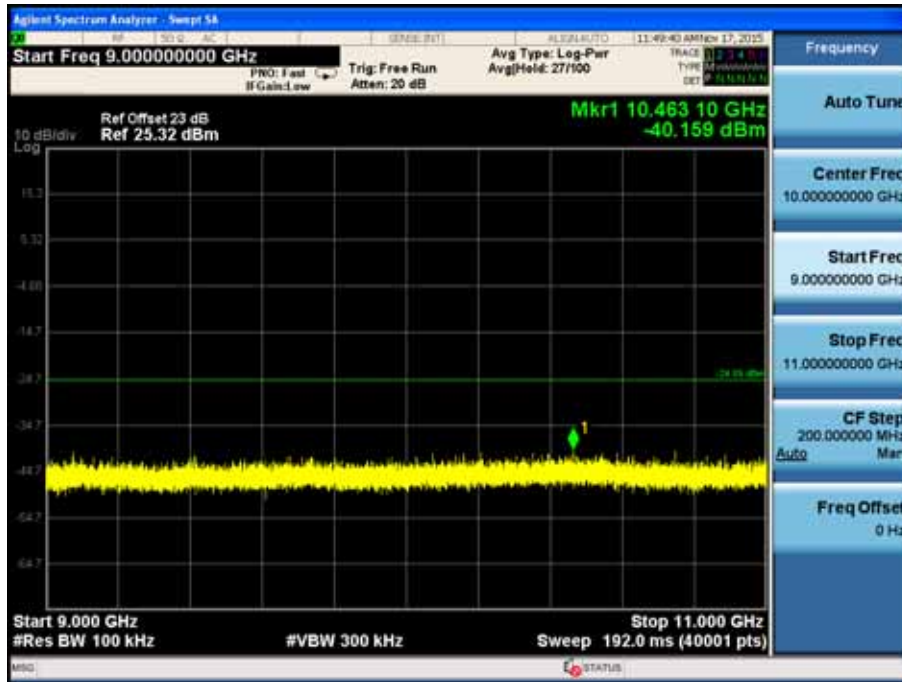


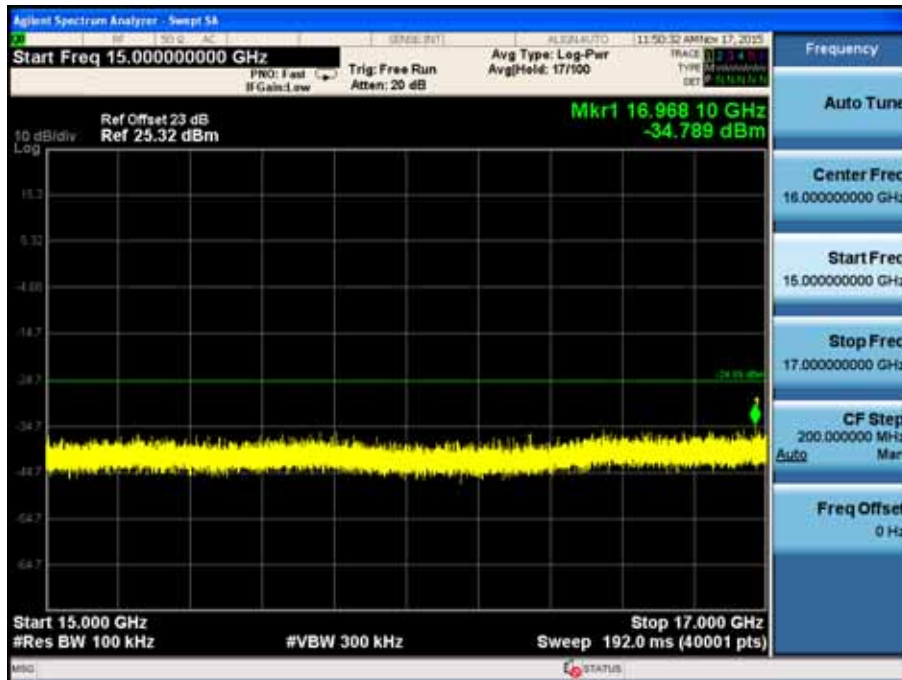
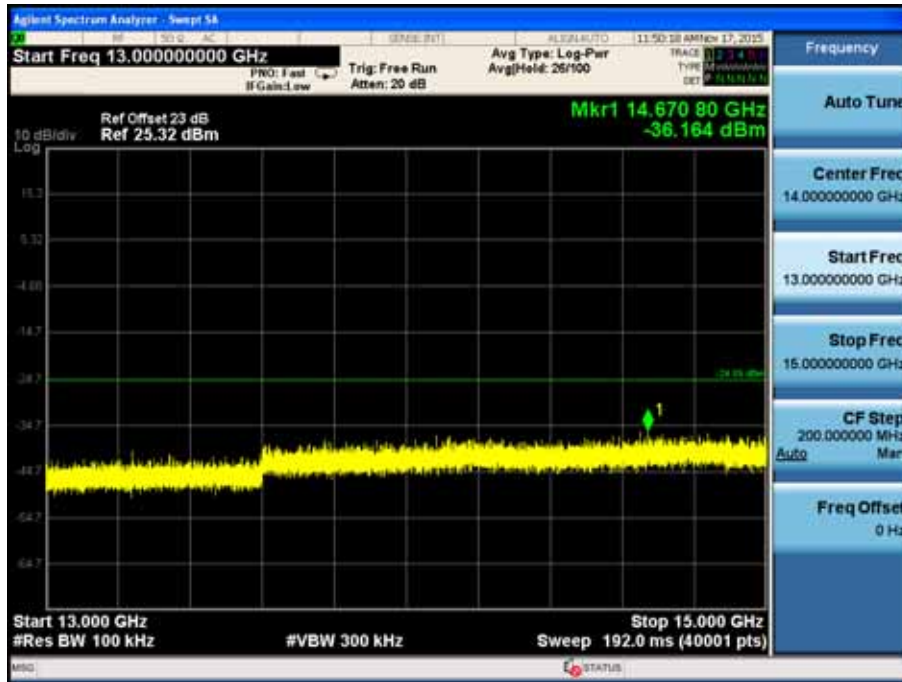
Spurious Emission 30MHz ~ 25GHz - Frequency M

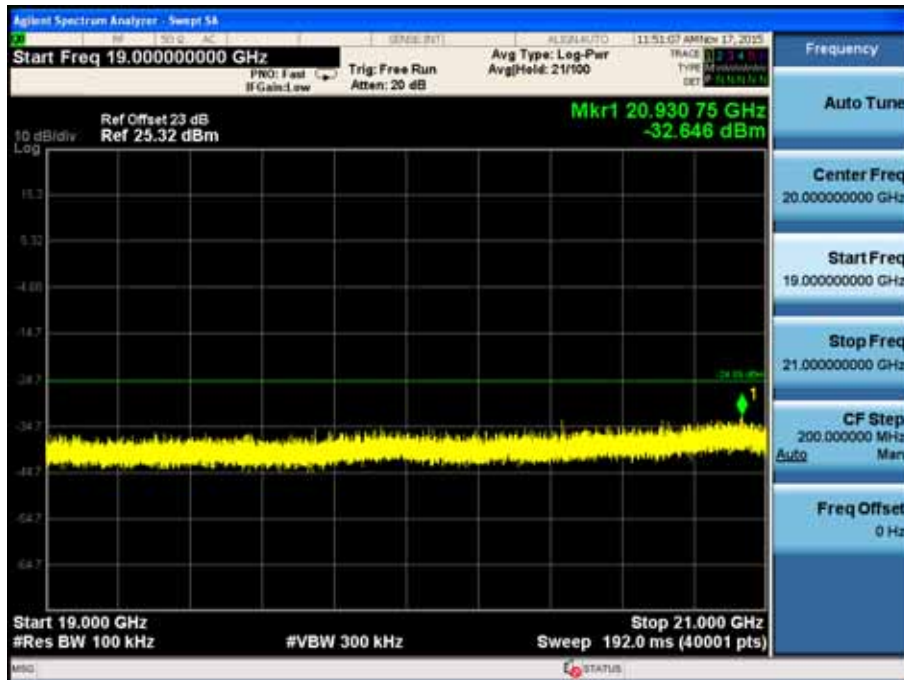
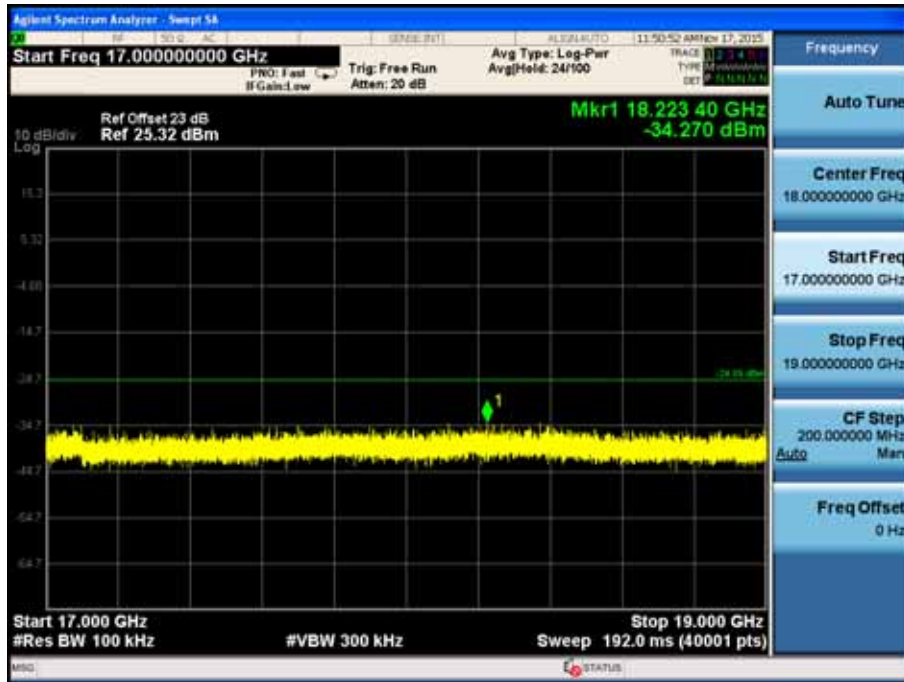


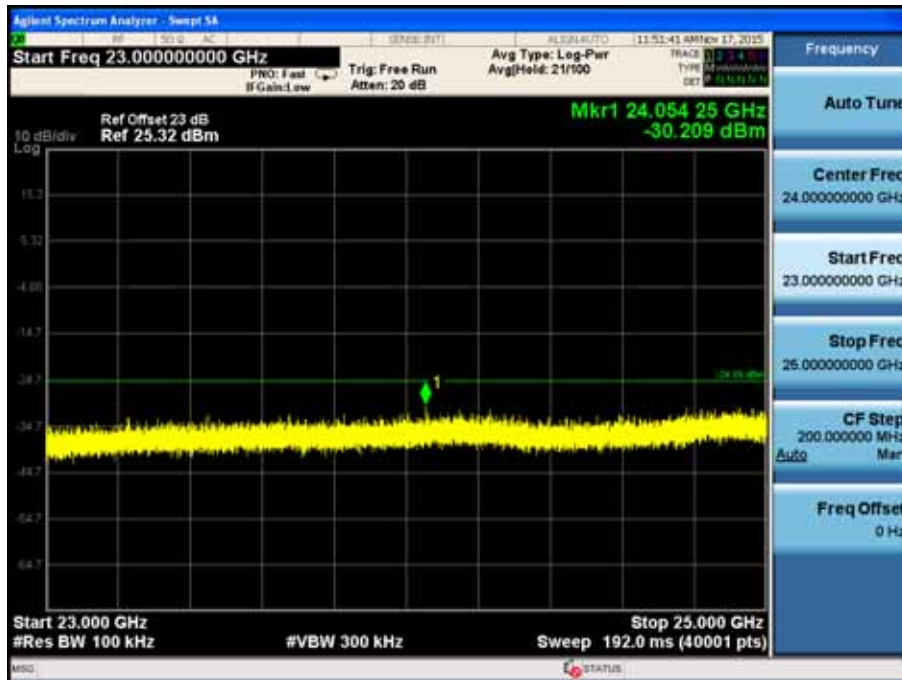


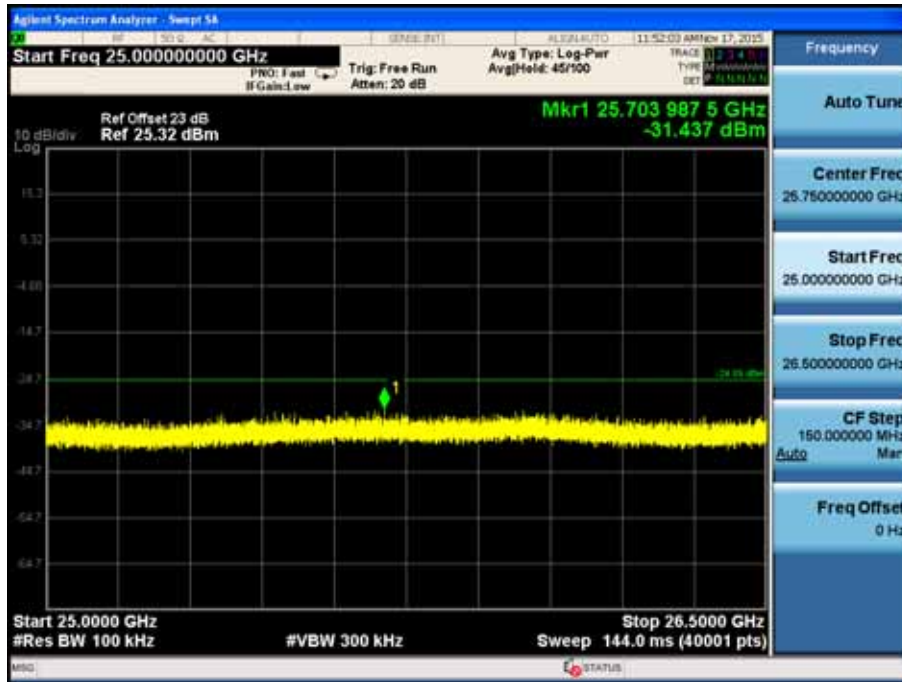




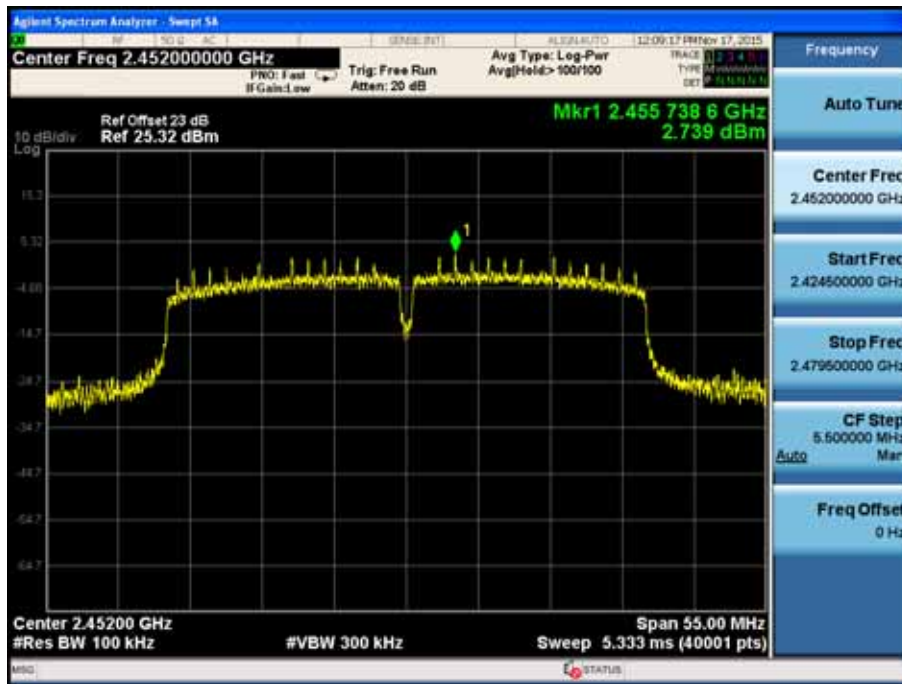








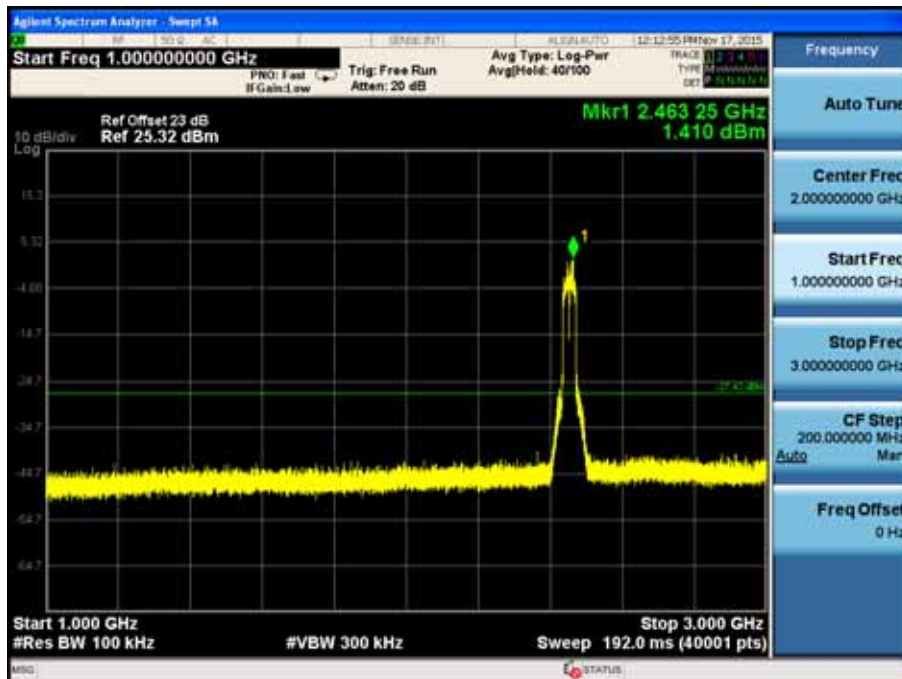
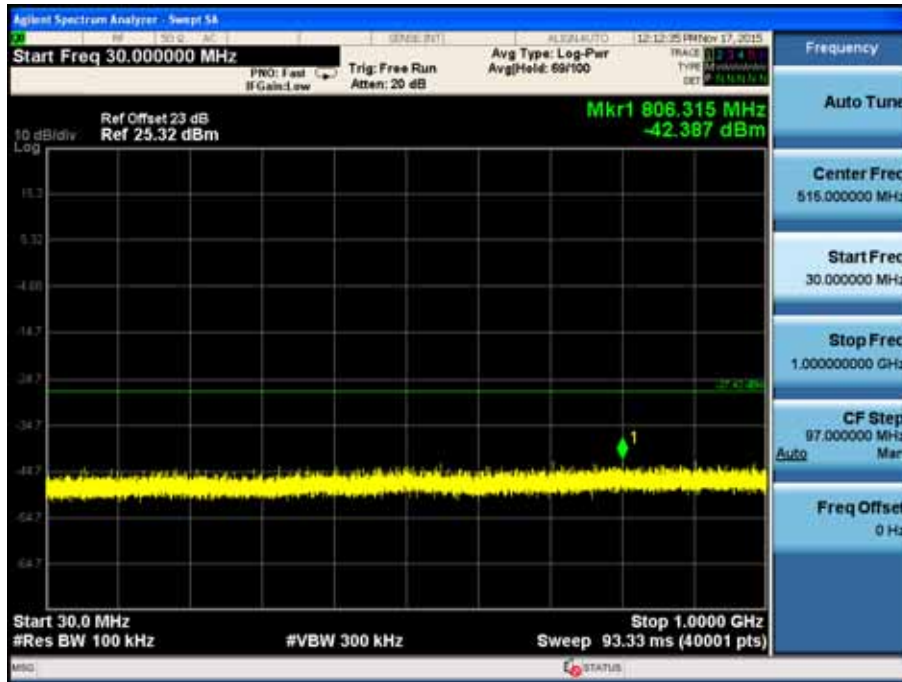
Channel 09 (2452MHz)
 Reference Level – Frequency H



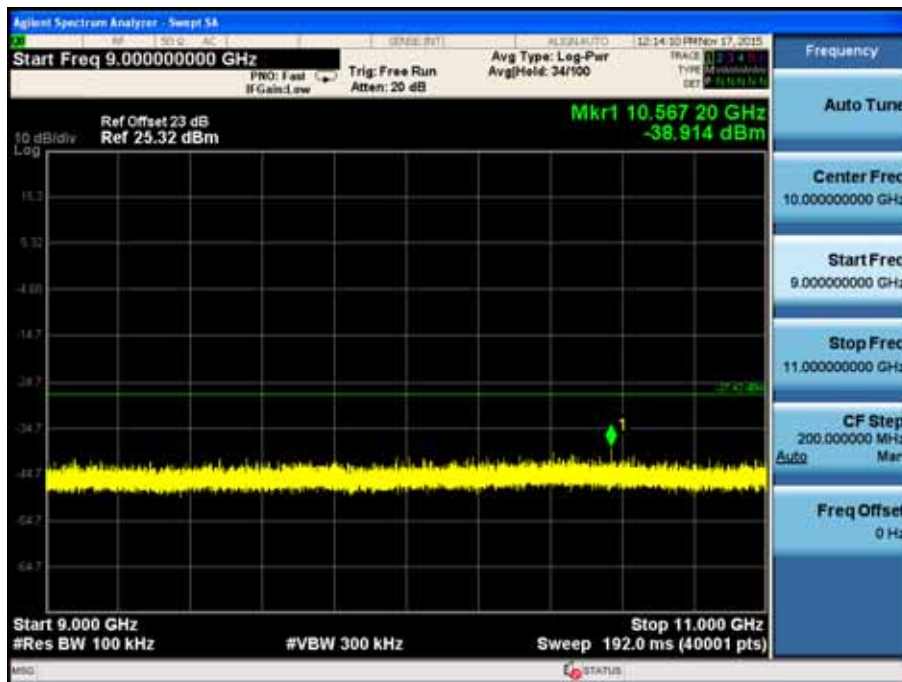
High Band Edge - Frequency H

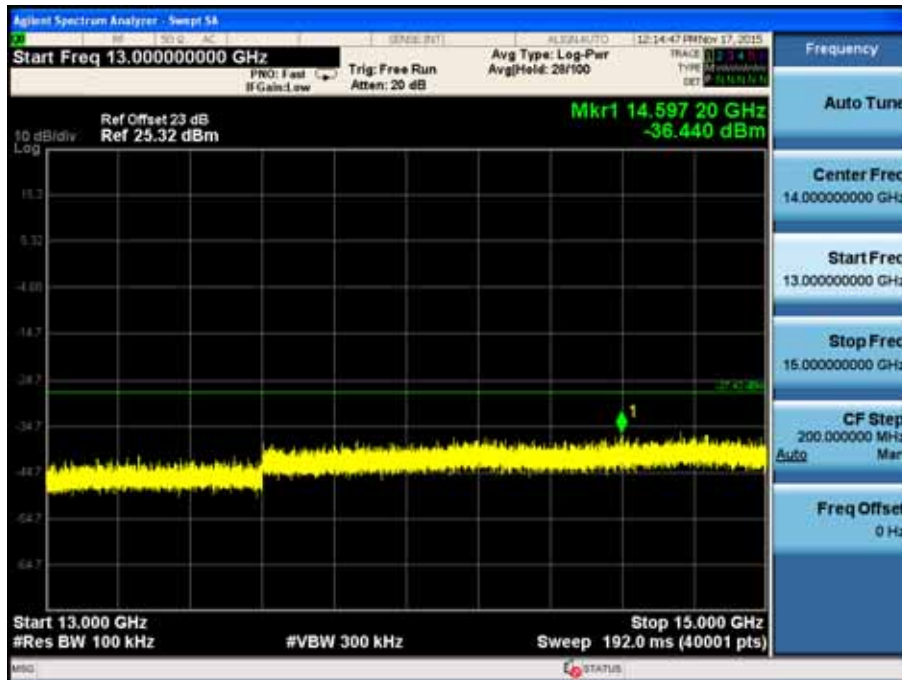
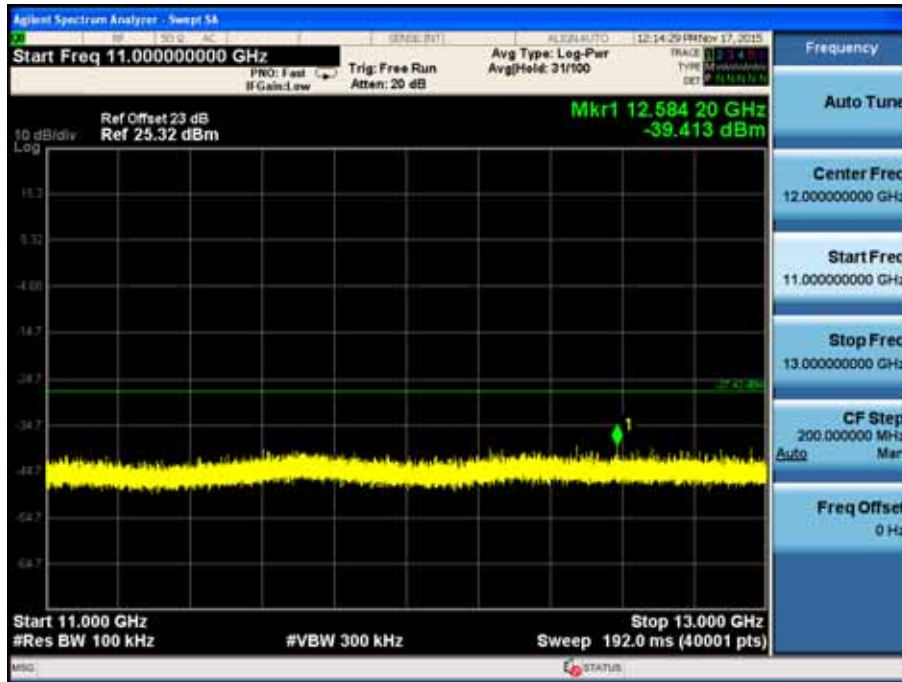


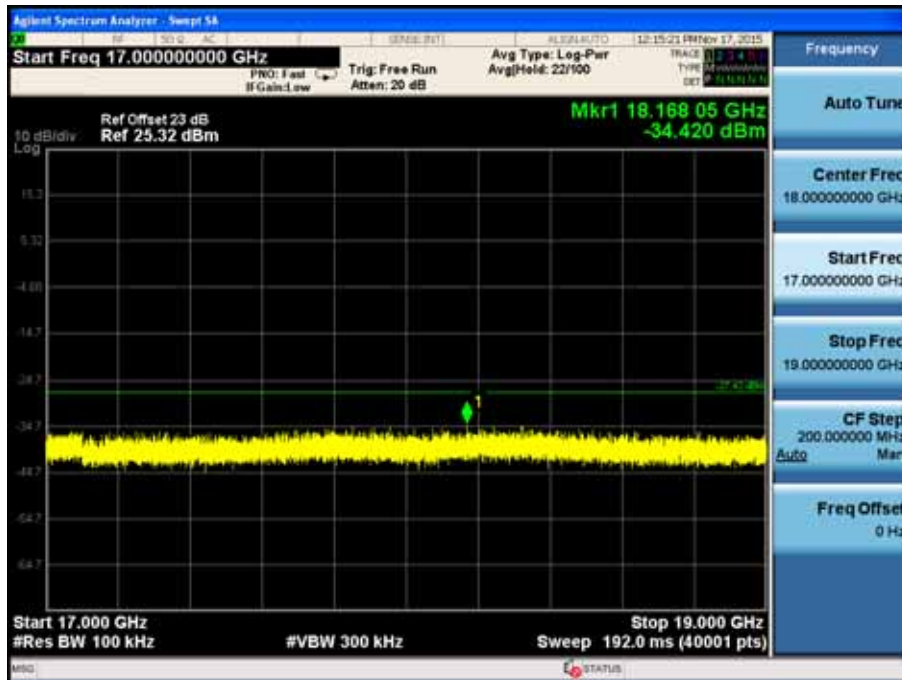
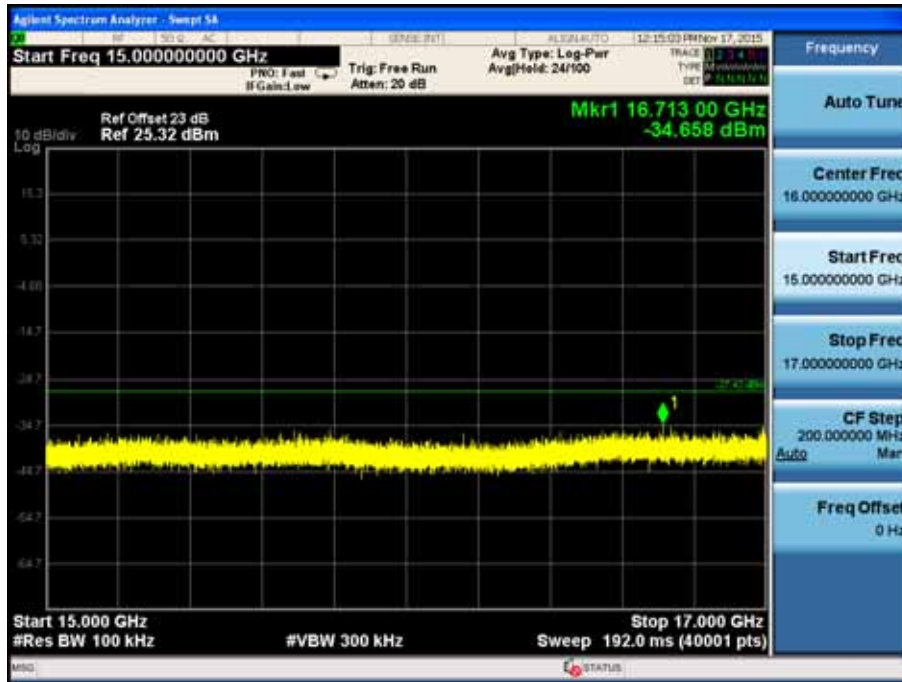
Emission 30MHz ~ 25GHz - Frequency H

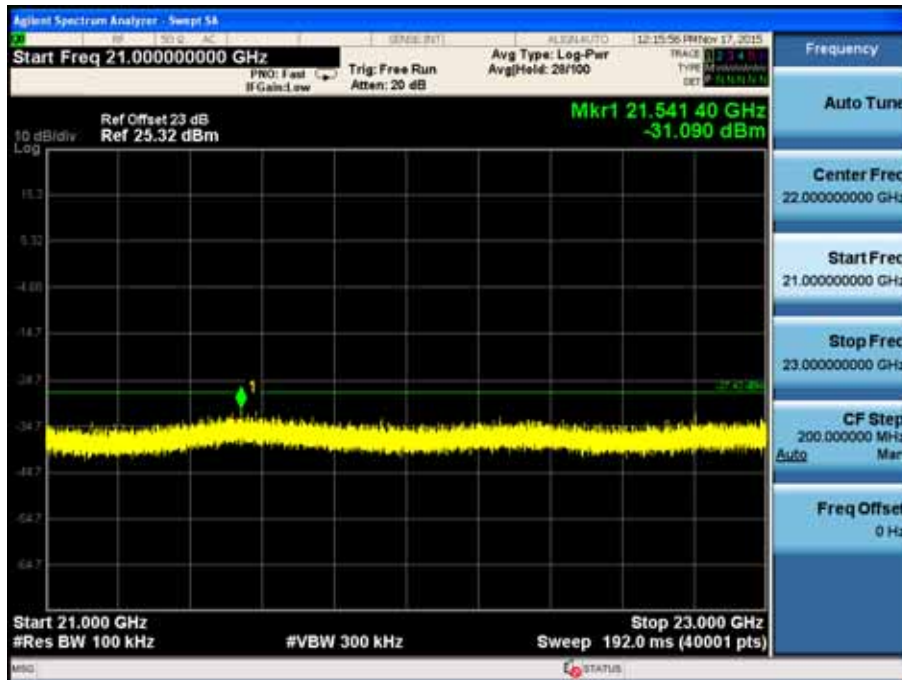


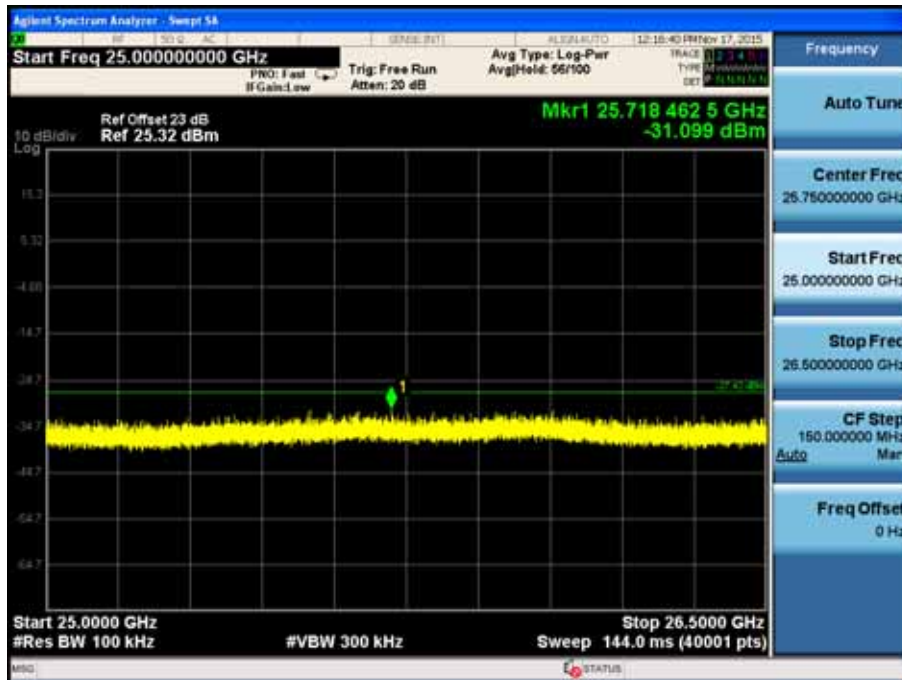












6. Radiated Emission Band Edge

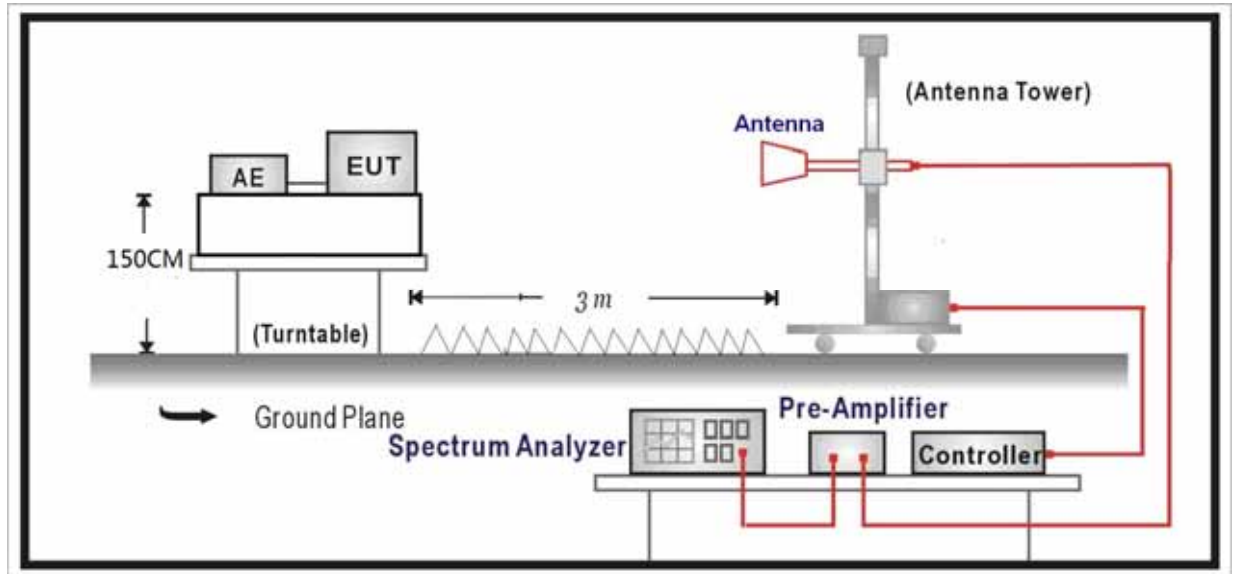
6.1. Test Equipment

Radiated Emission Band Edge / AC-5

Instrument	Manufacturer	Type No.	Serial No.	Cali. Due Date
Preamplifier	Miteq	NSP1800-25	1364185	2016.05.03
Preamplifier	Quietek	AP-040G	CHM-0906001	2016.05.03
Bilog Antenna	Teseq GmbH	CBL6112D	27612	2016.10.15
DRG Horn	ETS-Lindgren	3117	00123988	2016.01.07
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C1	2016.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2016.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 102	AC5-C3	2016.03.01
EMI Receiver	Agilent	N9038A	MY51210196	2016.06.09
Temperature/Humidity Meter	Zhichen	ZC1-2	AC5-TH	2016.01.08

Note 1: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

6.2. Test Setup



6.3. Limit

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a) of FCC part 15, must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

6.4. Test Procedure

According to FCC ANSI C63.4: 2014 & ANSI C63.10: 2013 & FCC 47CFR 15.247 & KDB 558074 D01v03r03

This test is required for any spurious emission or modulation product that falls in a Restricted Band, as defined in Section 15.205 of FCC part 15. It must be performed with the highest gain of each type of antenna proposed for use with the EUT. Use the following spectrum analyzer settings:

Span = wide enough to fully capture the emission being measured

RBW = 1 MHz for $f \geq 1$ GHz, 100 kHz for $f < 1$ GHz

VBW \geq RBW

Sweep = auto

Detector function = peak

Trace = max hold

Follow the guidelines in ANSI C63.4 with respect to maximizing the emission by rotating the EUT, measuring the emission while the EUT is situated in three orthogonal planes (if appropriate), adjusting the measurement antenna height and polarization, etc. A pre-amp and a

high pass filter are required for this test, in order to provide the measuring system with sufficient sensitivity. Allow the trace to stabilize. The peak reading of the emission, after being corrected by the antenna factor, cable loss, pre-amp gain, etc., is the peak field strength, which must comply with the limit specified in Section 15.35(b) of FCC part 15.

Now set the VBW $\geq 1 / T$ (the minimum transmission duration), while maintaining all of the other instrument settings. This peak level, once corrected, must comply with the limit specified in Section 15.209 of FCC Part 15.

If the emission on which a radiated measurement must be made is located at the edge of the authorized band of operation, then the alternative “marker-delta” method may be employed.

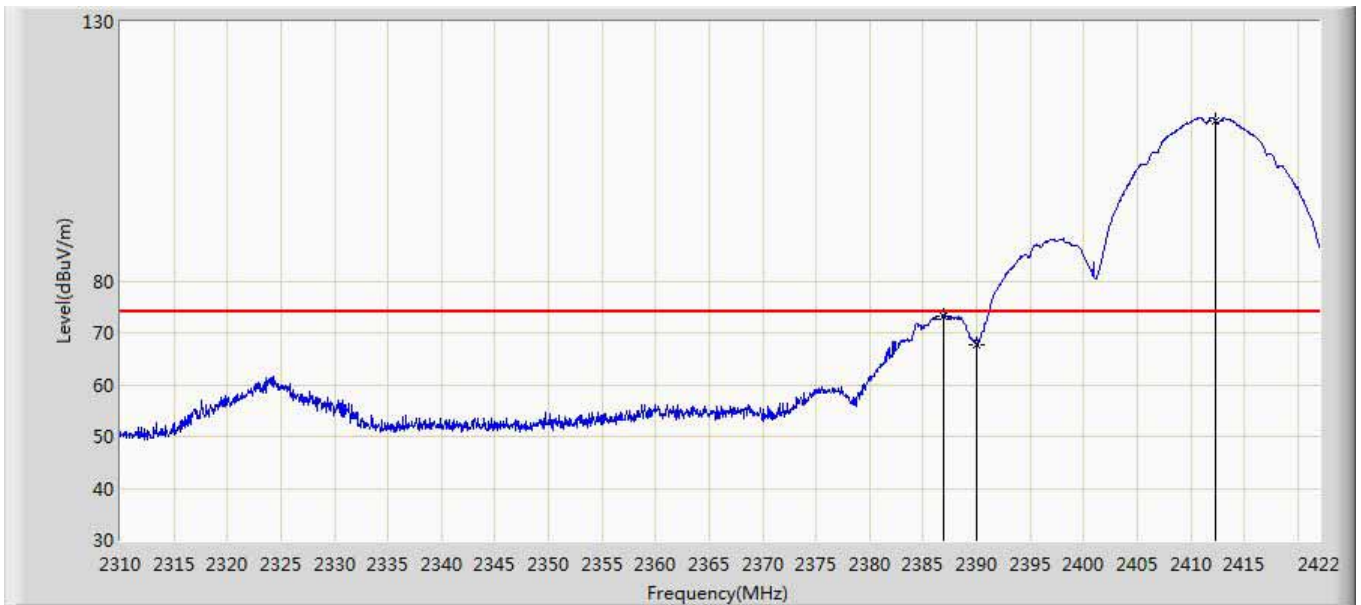
6.5. Uncertainty

The measurement uncertainty above 1G is defined as ± 3.9 dB

6.6. Test Result

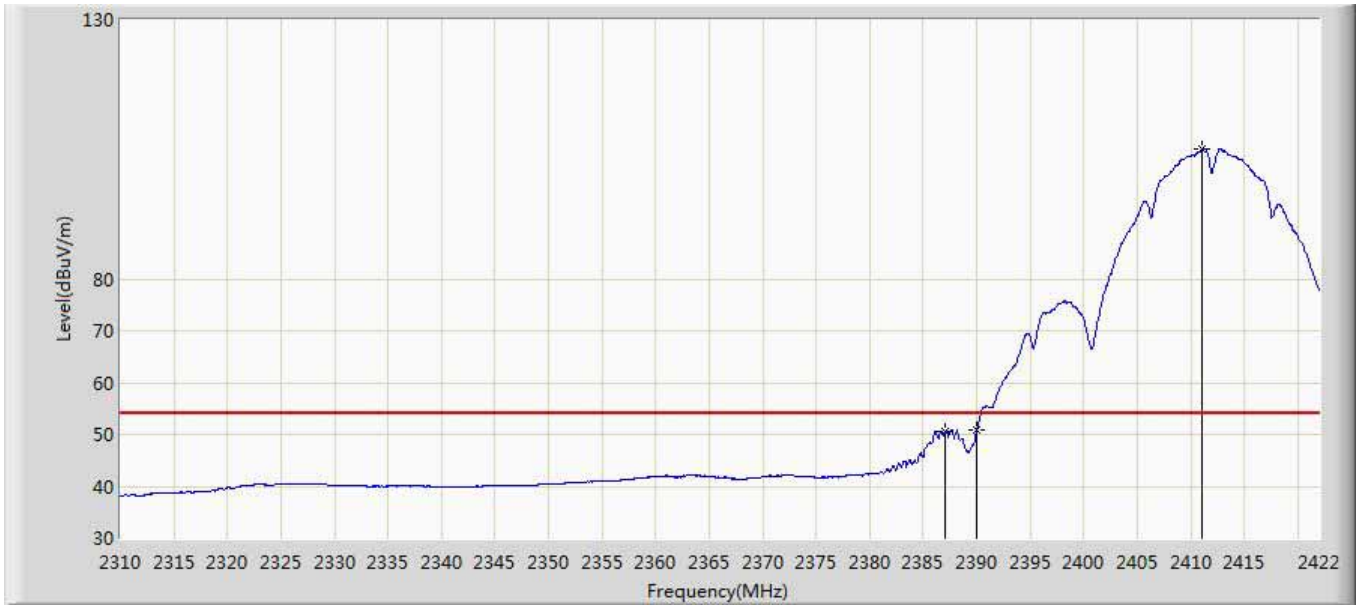
Measure Level = Reading Level + Cable Loss + Antenna Factor - Preamplifier Gain

Site: AC5	Time: 2015/10/23 - 09:38
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00165315(1-18GHz)	Polarity: Horizontal
EUT: Wi-Fi Smart Plug With Energy Monitoring	Power: 120V/60Hz
Note: Mode 1: Transmit at ch2412 by 802.11b	



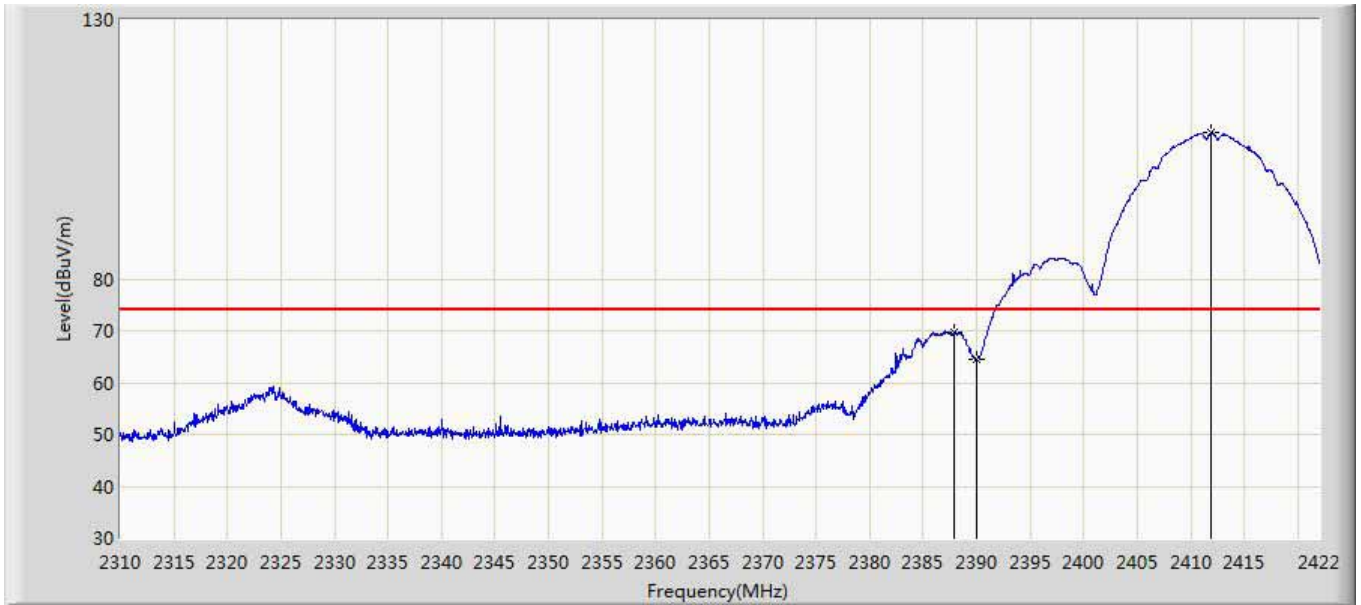
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2386.888	73.135	35.792	-0.865	74.000	37.343	PK
2		2390.000	67.571	30.226	-6.429	74.000	37.345	PK
3	*	2412.360	110.845	73.496	36.845	74.000	37.349	PK

Site: AC5	Time: 2015/10/23 - 09:39
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00165315(1-18GHz)	Polarity: Horizontal
EUT: Wi-Fi Smart Plug With Energy Monitoring	Power: 120V/60Hz
Note: Mode 1: Transmit at ch2412 by 802.11b	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2387.112	50.662	13.319	-3.338	54.000	37.344	AV
2		2390.000	50.821	13.476	-3.179	54.000	37.345	AV
3	*	2411.080	105.134	67.795	51.134	54.000	37.339	AV

Site: AC5	Time: 2015/10/23 - 09:46
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00165315(1-18GHz)	Polarity: Vertical
EUT: Wi-Fi Smart Plug With Energy Monitoring	Power: 120V/60Hz
Note: Mode 1: Transmit at ch2412 by 802.11b	



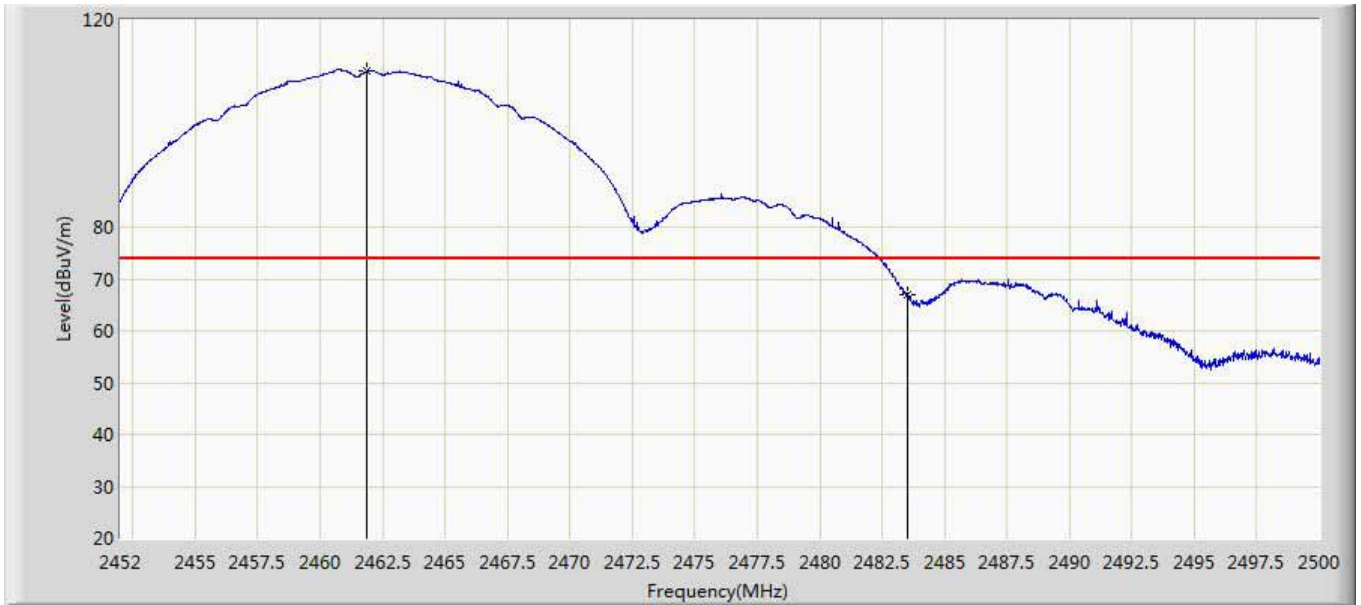
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2387.952	69.675	32.331	-4.325	74.000	37.343	PK
2		2390.000	64.437	27.092	-9.563	74.000	37.345	PK
3	*	2411.920	108.121	70.775	34.121	74.000	37.346	PK

Site: AC5	Time: 2015/10/23 - 09:49
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00165315(1-18GHz)	Polarity: Vertical
EUT: Wi-Fi Smart Plug With Energy Monitoring	Power: 120V/60Hz
Note: Mode 1: Transmit at ch2412 by 802.11b	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2387.056	53.310	15.967	-0.690	54.000	37.343	AV
2		2390.000	51.233	13.888	-2.767	54.000	37.345	AV
3	*	2410.912	103.523	66.184	49.523	54.000	37.339	AV

Site: AC5	Time: 2015/10/23 - 10:03
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00165315(1-18GHz)	Polarity: Horizontal
EUT: Wi-Fi Smart Plug With Energy Monitoring	Power: 120V/60Hz
Note: Mode 1: Transmit at ch2462 by 802.11b	



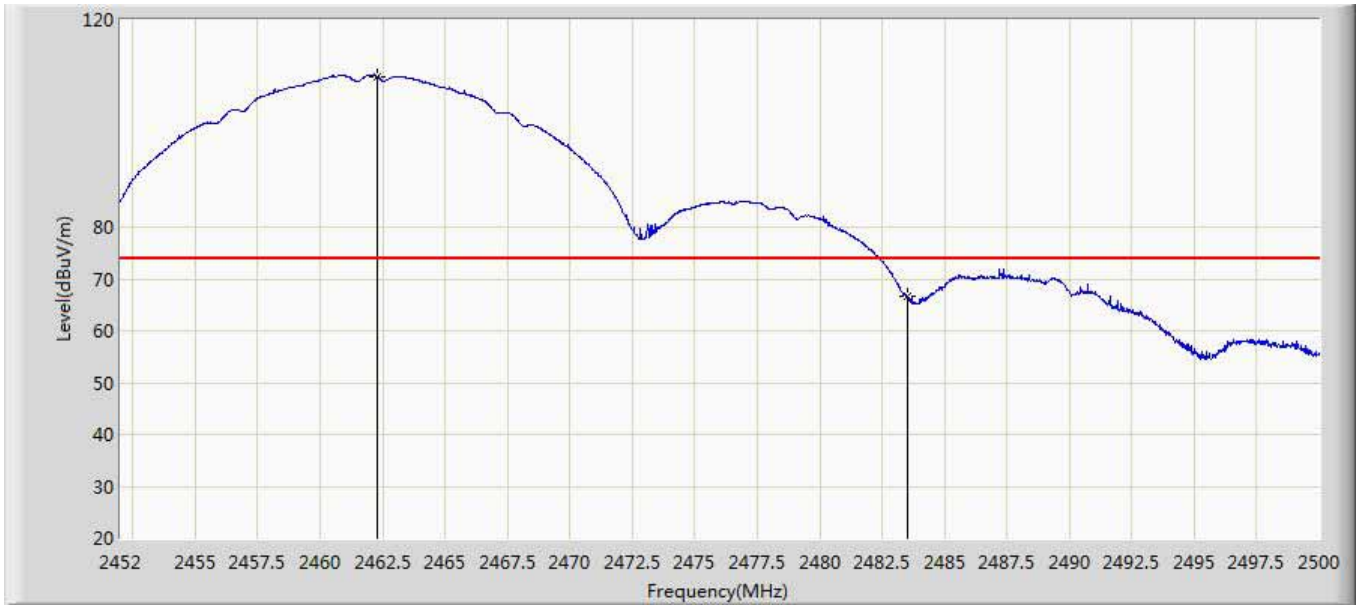
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.888	110.101	72.619	36.101	74.000	37.483	PK
2		2483.500	66.938	29.343	-7.062	74.000	37.595	PK

Site: AC5	Time: 2015/10/23 - 10:03
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00165315(1-18GHz)	Polarity: Horizontal
EUT: Wi-Fi Smart Plug With Energy Monitoring	Power: 120V/60Hz
Note: Mode 1: Transmit at ch2462 by 802.11b	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2462.872	104.990	67.504	50.990	54.000	37.486	AV
2		2483.500	50.149	12.554	-3.851	54.000	37.595	AV

Site: AC5	Time: 2015/10/23 - 10:11
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00165315(1-18GHz)	Polarity: Vertical
EUT: Wi-Fi Smart Plug With Energy Monitoring	Power: 120V/60Hz
Note: Mode 1: Transmit at ch2462 by 802.11b	



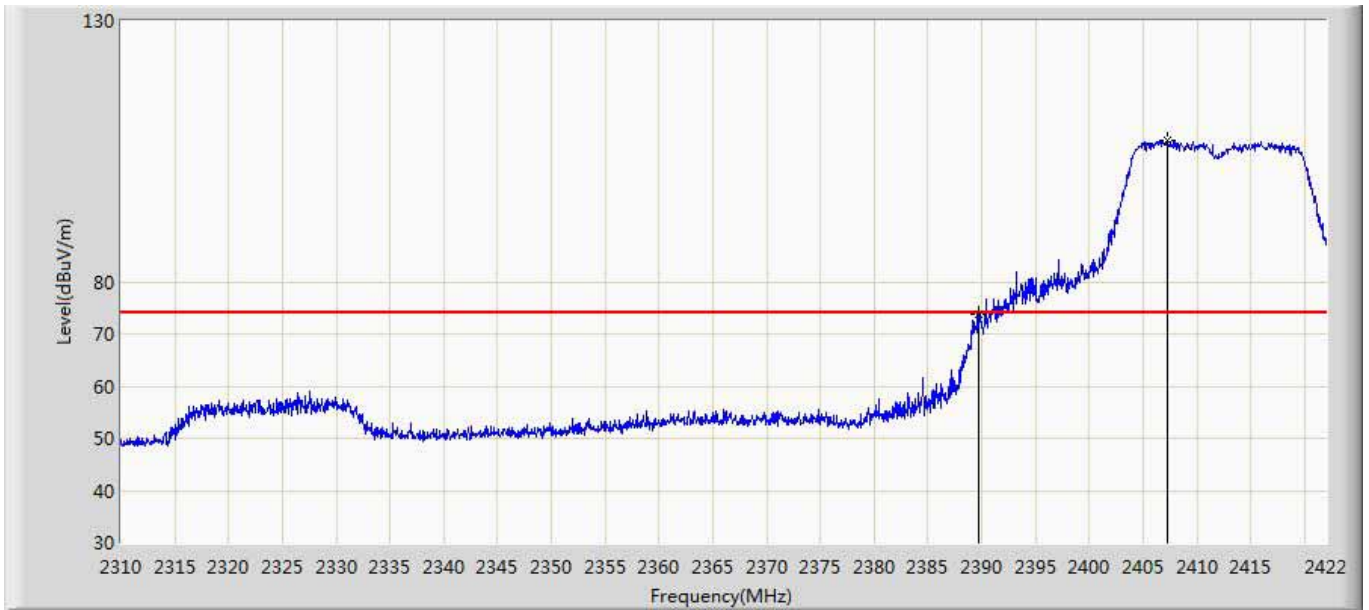
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2462.272	109.046	71.562	35.046	74.000	37.484	PK
2		2483.500	66.522	28.927	-7.478	74.000	37.595	PK

Site: AC5	Time: 2015/10/23 - 10:11
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00165315(1-18GHz)	Polarity: Vertical
EUT: Wi-Fi Smart Plug With Energy Monitoring	Power: 120V/60Hz
Note: Mode 1: Transmit at ch2462 by 802.11b	



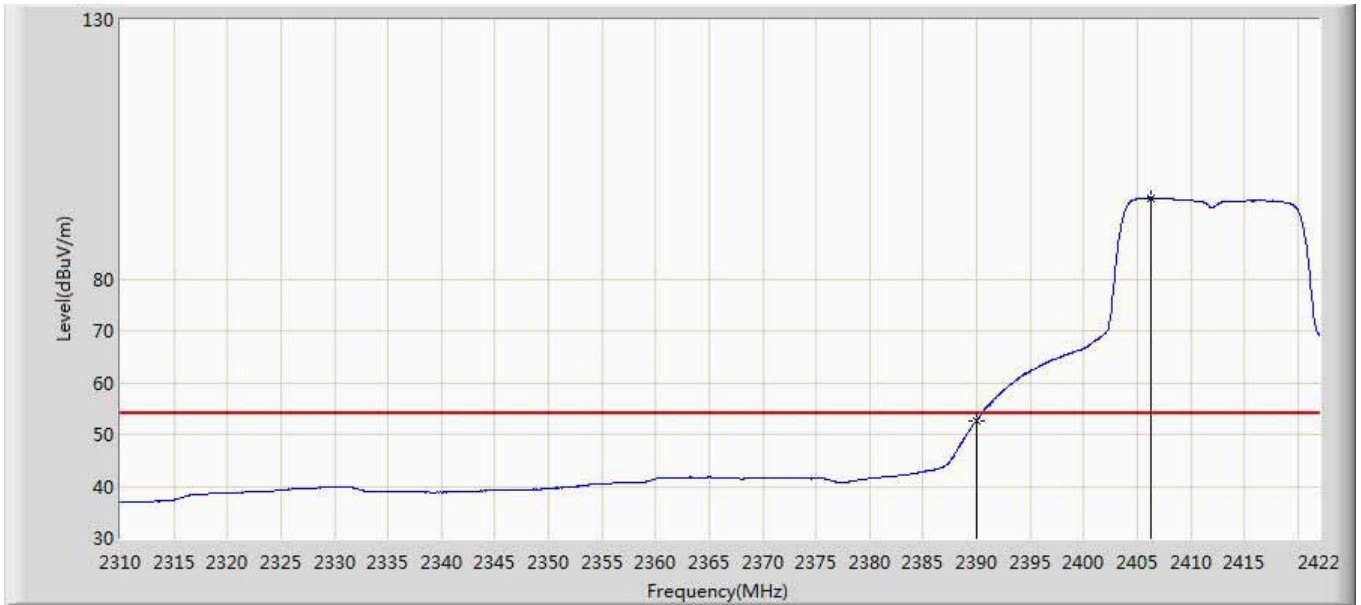
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2462.680	103.732	66.247	49.732	54.000	37.486	AV
2		2483.500	53.328	17.733	-0.872	54.000	37.595	AV

Site: AC5	Time: 2015/10/23 - 10:26
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00165315(1-18GHz)	Polarity: Horizontal
EUT: Wi-Fi Smart Plug With Energy Monitoring	Power: 120V/60Hz
Note: Mode 2: Transmit at ch2412 by 802.11g	



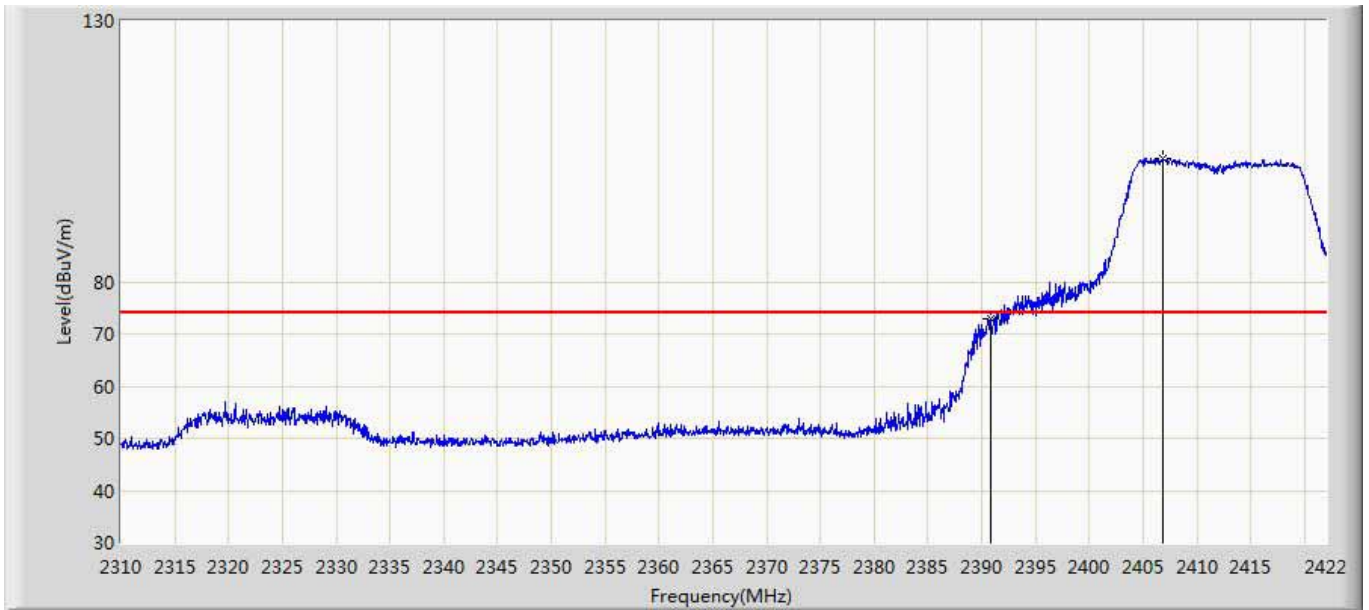
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2389.688	73.821	36.476	-0.179	74.000	37.345	PK
2	*	2407.216	106.977	69.636	32.977	74.000	37.341	PK

Site: AC5	Time: 2015/10/23 - 10:27
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00165315(1-18GHz)	Polarity: Horizontal
EUT: Wi-Fi Smart Plug With Energy Monitoring	Power: 120V/60Hz
Note: Mode 2: Transmit at ch2412 by 802.11g	



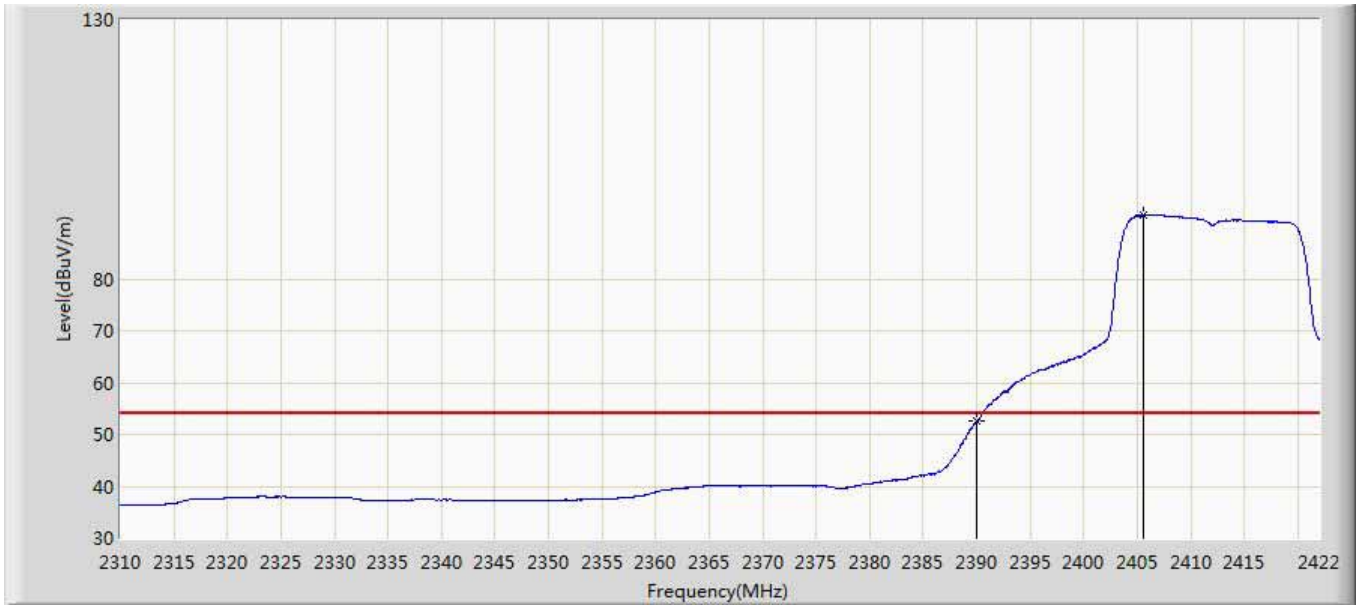
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	52.702	15.357	-1.298	54.000	37.345	AV
2	*	2406.320	95.583	58.242	41.583	54.000	37.341	AV

Site: AC5	Time: 2015/10/23 - 10:30
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00165315(1-18GHz)	Polarity: Vertical
EUT: Wi-Fi Smart Plug With Energy Monitoring	Power: 120V/60Hz
Note: Mode 2: Transmit at ch2412 by 802.11g	



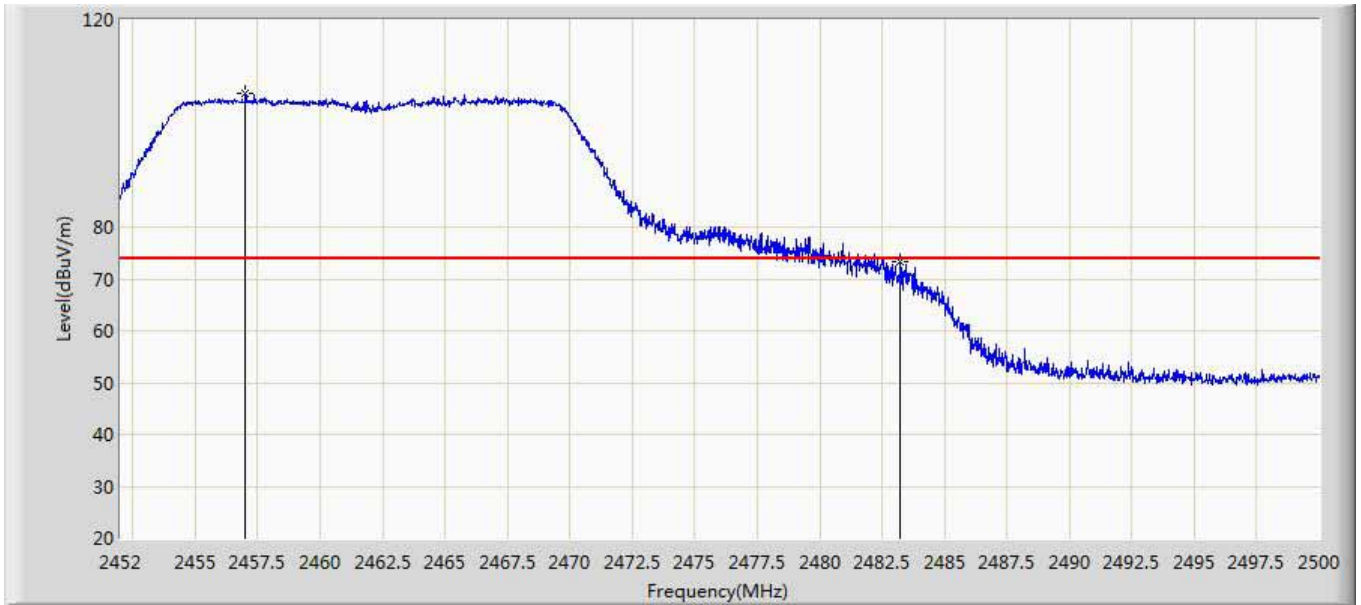
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.808	73.821	36.475	-0.871	74.000	37.346	PK
2	*	2406.880	103.483	66.142	29.483	74.000	37.341	PK

Site: AC5	Time: 2015/10/23 - 10:34
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00165315(1-18GHz)	Polarity: Vertical
EUT: Wi-Fi Smart Plug With Energy Monitoring	Power: 120V/60Hz
Note: Mode 2: Transmit at ch2412 by 802.11g	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	52.520	15.175	-1.480	54.000	37.345	AV
2	*	2405.536	92.285	54.943	38.285	54.000	37.342	AV

Site: AC5	Time: 2015/10/23 - 10:45
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00165315(1-18GHz)	Polarity: Horizontal
EUT: Wi-Fi Smart Plug With Energy Monitoring	Power: 120V/60Hz
Note: Mode 2: Transmit at ch2462 by 802.11g	



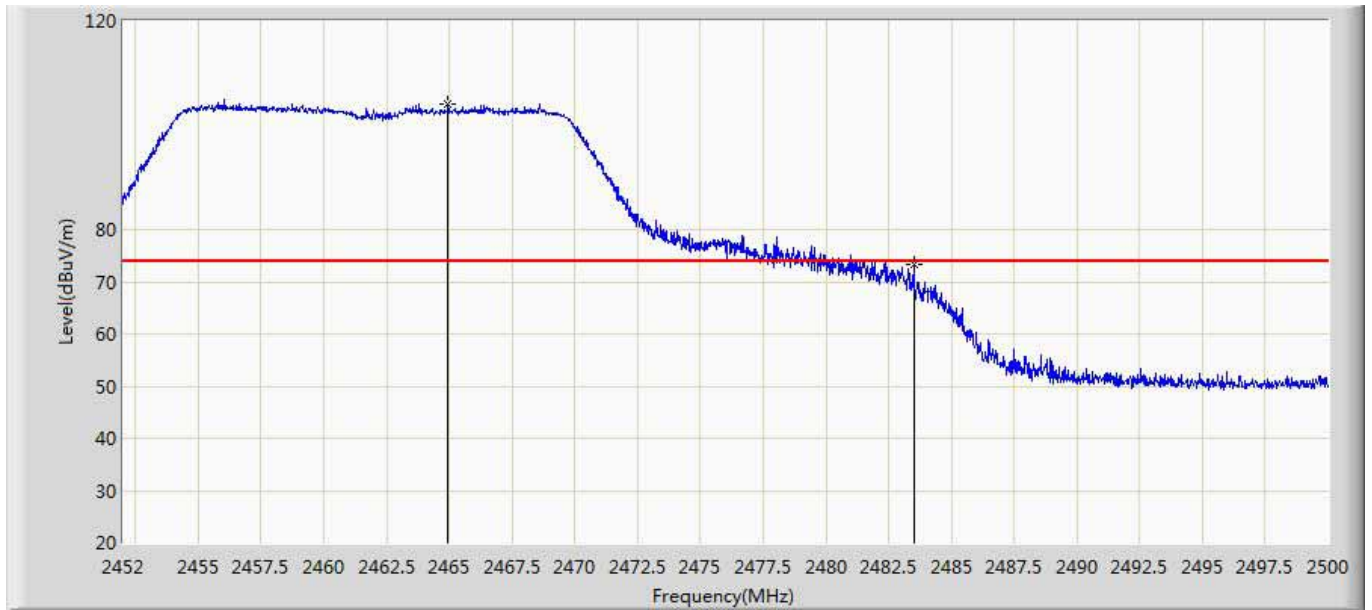
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2456.992	105.695	68.214	31.695	74.000	37.481	PK
2		2483.224	73.267	35.674	-0.733	74.000	37.592	PK

Site: AC5	Time: 2015/10/23 - 10:48
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00165315(1-18GHz)	Polarity: Horizontal
EUT: Wi-Fi Smart Plug With Energy Monitoring	Power: 120V/60Hz
Note: Mode 2: Transmit at ch2462 by 802.11g	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2467.672	93.453	55.945	39.453	54.000	37.508	AV
2		2483.500	52.179	14.584	-1.821	54.000	37.595	AV

Site: AC5	Time: 2015/10/23 - 10:54
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00165315(1-18GHz)	Polarity: Vertical
EUT: Wi-Fi Smart Plug With Energy Monitoring	Power: 120V/60Hz
Note: Mode 2: Transmit at ch2462 by 802.11g	



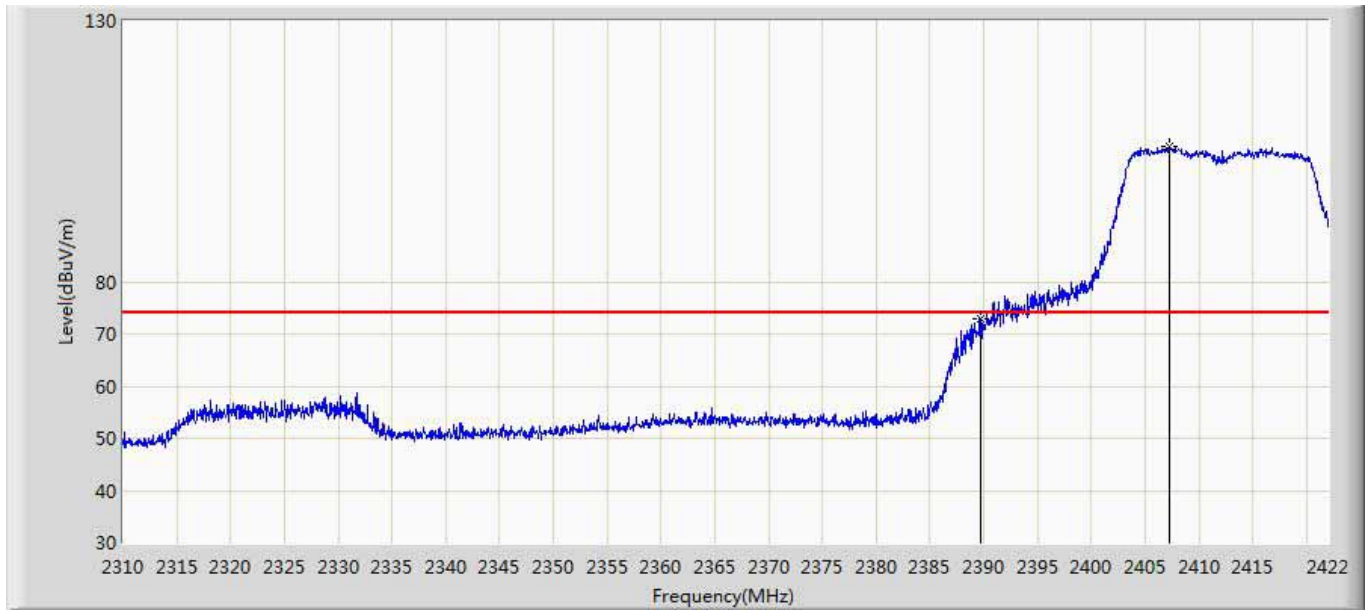
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2464.960	104.037	66.541	30.037	74.000	37.496	PK
2		2483.512	73.282	35.687	-0.718	74.000	37.595	PK

Site: AC5	Time: 2015/10/23 - 10:55
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00165315(1-18GHz)	Polarity: Vertical
EUT: Wi-Fi Smart Plug With Energy Monitoring	Power: 120V/60Hz
Note: Mode 2: Transmit at ch2462 by 802.11g	



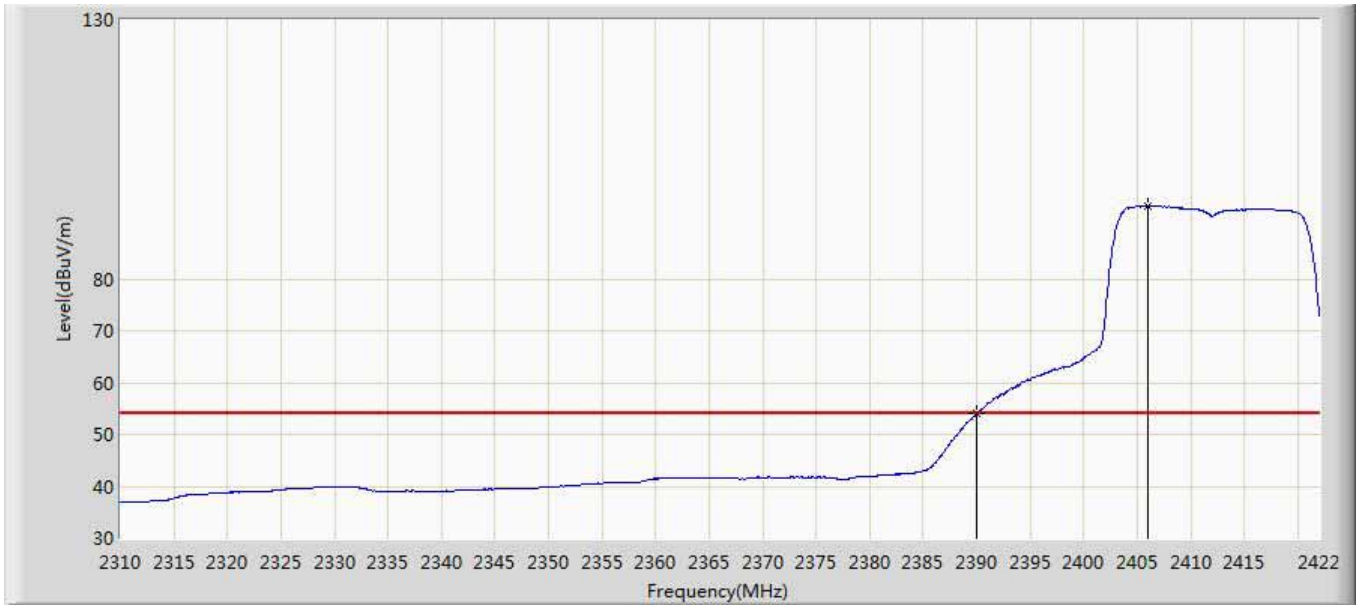
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2466.256	92.700	55.199	38.700	54.000	37.502	AV
2		2483.500	51.811	14.216	-2.189	54.000	37.595	AV

Site: AC5	Time: 2015/10/23 - 11:04
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00165315(1-18GHz)	Polarity: Horizontal
EUT: Wi-Fi Smart Plug With Energy Monitoring	Power: 120V/60Hz
Note: Mode 3: Transmit at ch2412 by 802.11(n20MHz)	



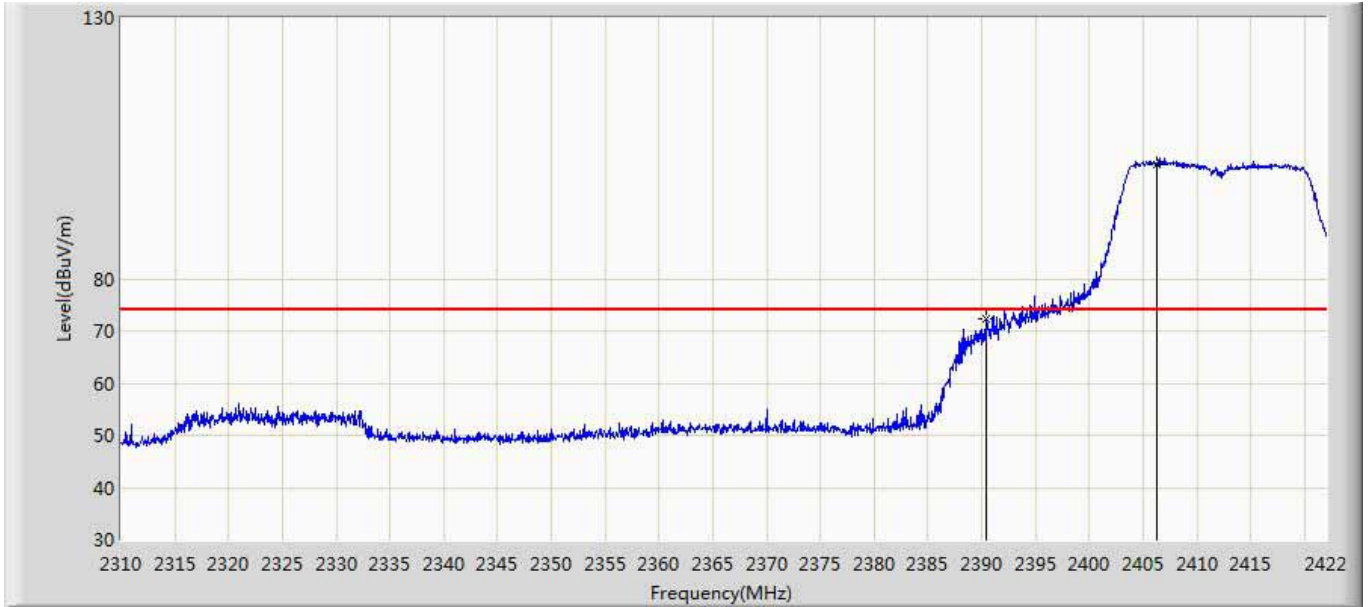
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2389.744	73.025	35.680	-0.975	74.000	37.345	PK
2	*	2407.328	106.058	68.717	32.058	74.000	37.341	PK

Site: AC5	Time: 2015/10/23 - 11:05
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00165315(1-18GHz)	Polarity: Horizontal
EUT: Wi-Fi Smart Plug With Energy Monitoring	Power: 120V/60Hz
Note: Mode 3: Transmit at ch2412 by 802.11(n20MHz)	



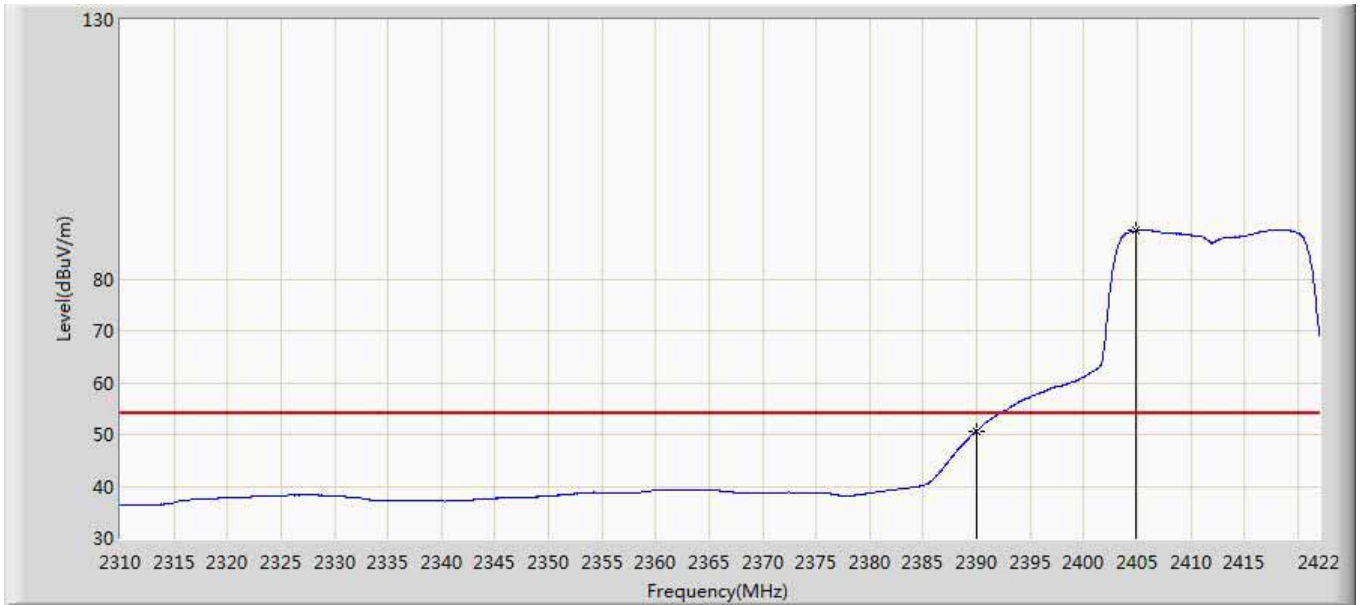
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	53.993	16.648	-0.007	54.000	37.345	AV
2	*	2406.040	94.143	56.802	40.143	54.000	37.341	AV

Site: AC5	Time: 2015/10/23 - 11:10
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00165315(1-18GHz)	Polarity: Vertical
EUT: Wi-Fi Smart Plug With Energy Monitoring	Power: 120V/60Hz
Note: Mode 3: Transmit at ch2412 by 802.11(n20MHz)	



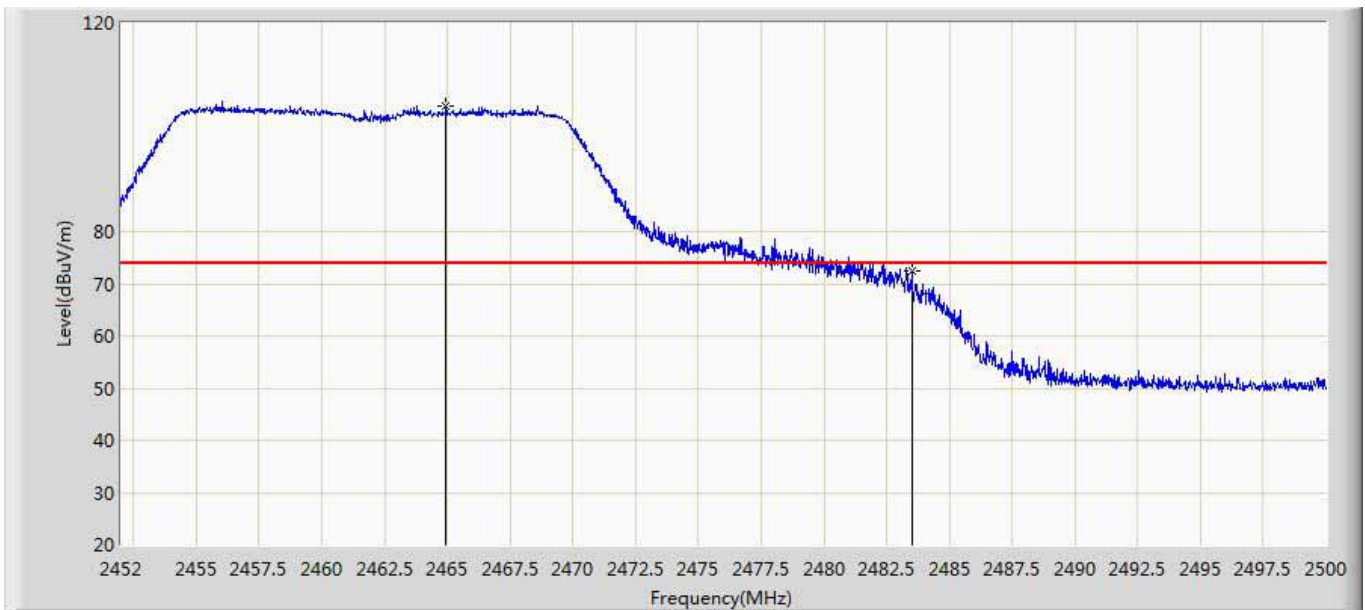
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	72.356	35.010	-1.644	74.000	37.346	PK
2	*	2406.320	101.897	64.556	27.897	74.000	37.341	PK

Site: AC5	Time: 2015/10/23 - 11:13
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00165315(1-18GHz)	Polarity: Vertical
EUT: Wi-Fi Smart Plug With Energy Monitoring	Power: 120V/60Hz
Note: Mode 3: Transmit at ch2412 by 802.11n(20MHz)	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	50.680	13.335	-3.320	54.000	37.345	AV
2	*	2404.920	89.289	51.947	35.289	54.000	37.342	AV

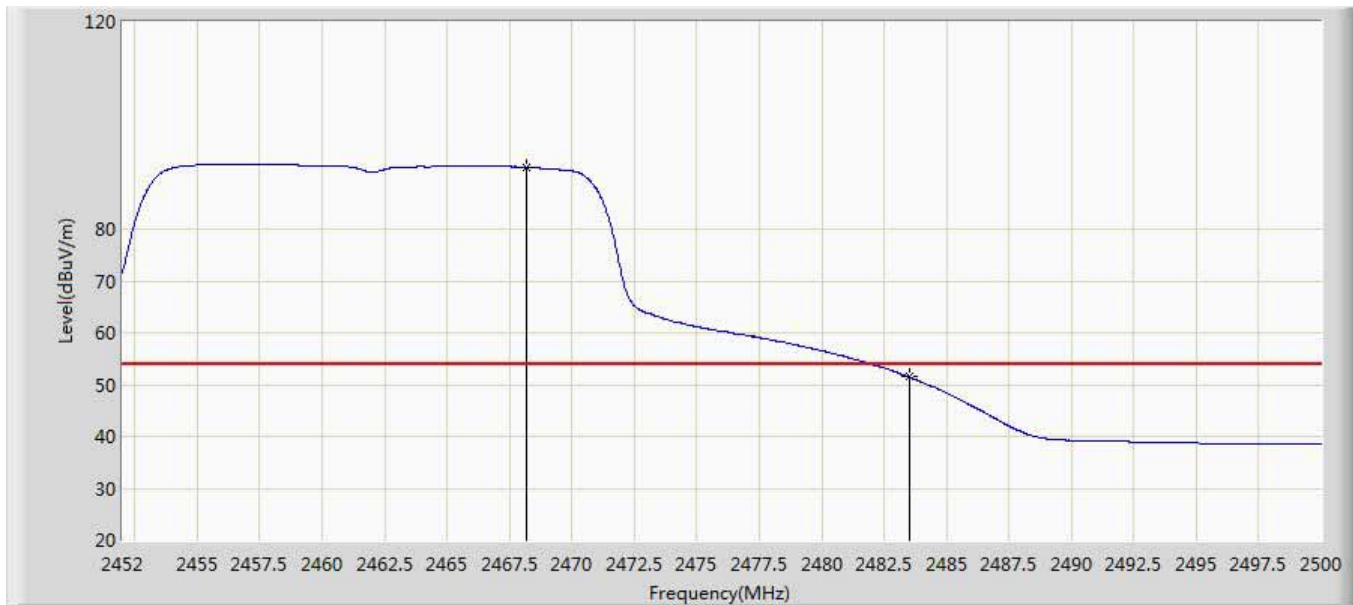
Site: AC5	Time: 2015/10/23 - 11:23
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00165315(1-18GHz)	Polarity: Horizontal
EUT: Wi-Fi Smart Plug With Energy Monitoring	Power: 120V/60Hz
Note: Mode 3: Transmit at ch2462 by 802.11n(20MHz)	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2464.960	104.037	66.541	30.037	74.000	37.496	PK
2		2483.512	72.582	34.987	-1.418	74.000	37.595	PK

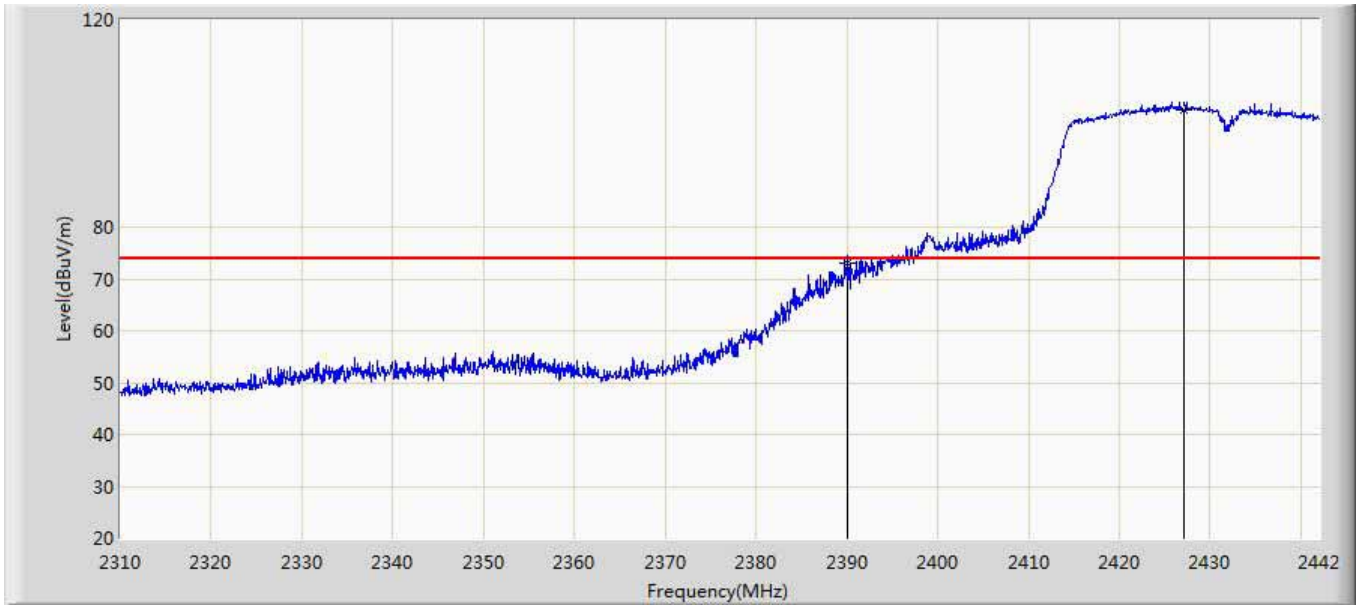
Site: AC5	Time: 2015/10/23 - 11:26
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00165315(1-18GHz)	Polarity: Horizontal

EUT: Wi-Fi Smart Plug With Energy Monitoring	Power: 120V/60Hz
Note: Mode 3: Transmit at ch2462 by 802.11n(20MHz)	



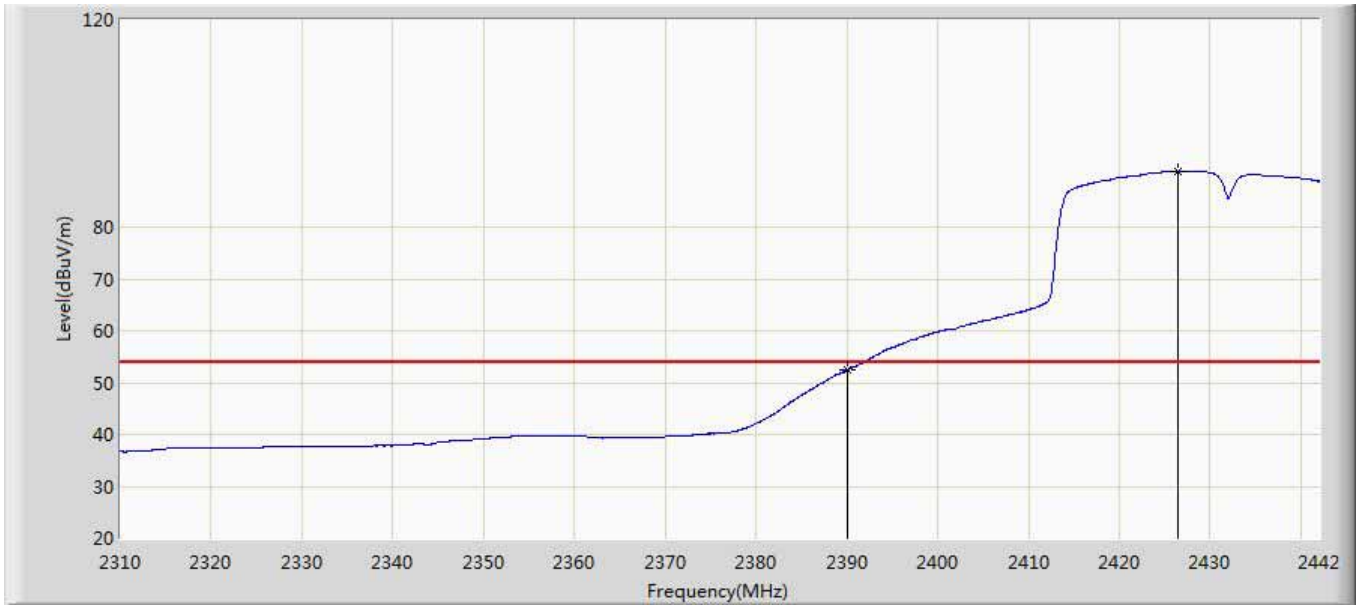
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2468.200	91.902	54.392	37.902	54.000	37.510	AV
2		2483.500	51.461	13.866	-2.539	54.000	37.595	AV

Site: AC5	Time: 2015/10/24 - 11:03
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00165315(1-18GHz)	Polarity: Horizontal
EUT: Wi-Fi Smart Plug With Energy Monitoring	Power: 120V/60Hz
Note: Mode 4: Transmit at ch2422 by 802.11n(40MHz)	



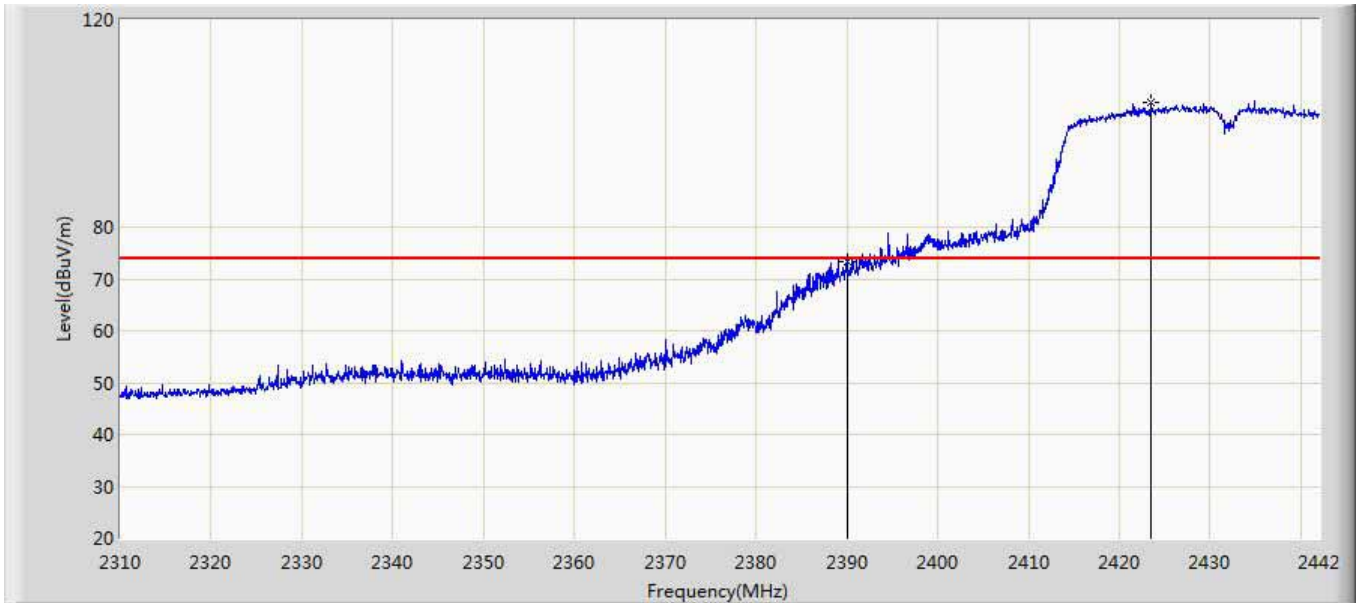
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	73.058	35.713	-0.942	74.000	37.345	PK
2	*	2427.127	102.485	65.022	28.485	74.000	37.463	PK

Site: AC5	Time: 2015/10/24 - 11:03
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00165315(1-18GHz)	Polarity: Horizontal
EUT: Wi-Fi Smart Plug With Energy Monitoring	Power: 120V/60Hz
Note: Mode 4: Transmit at ch2422 by 802.11n(40MHz)	



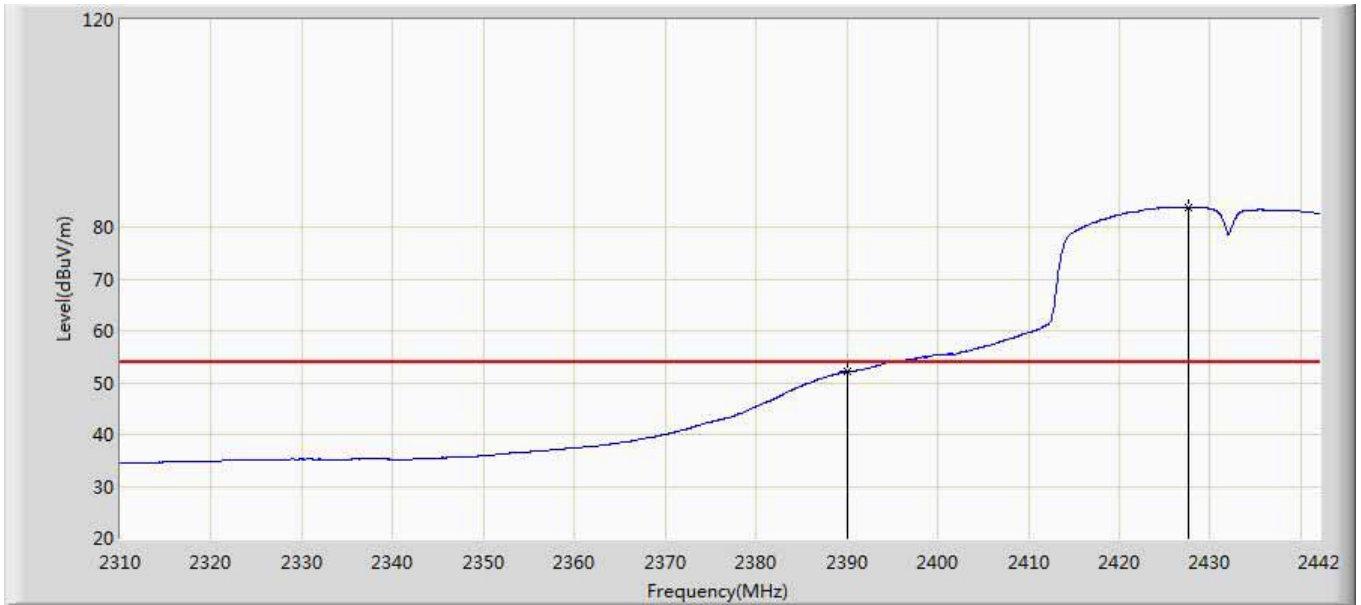
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	52.461	15.116	-1.539	54.000	37.345	AV
2	*	2426.424	90.710	53.252	36.710	54.000	37.457	AV

Site: AC5	Time: 2015/10/24 - 11:09
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00165315(1-18GHz)	Polarity: Vertical
EUT: Wi-Fi Smart Plug With Energy Monitoring	Power: 120V/60Hz
Note: Mode 4: Transmit at ch2422 by 802.11n(40MHz)	



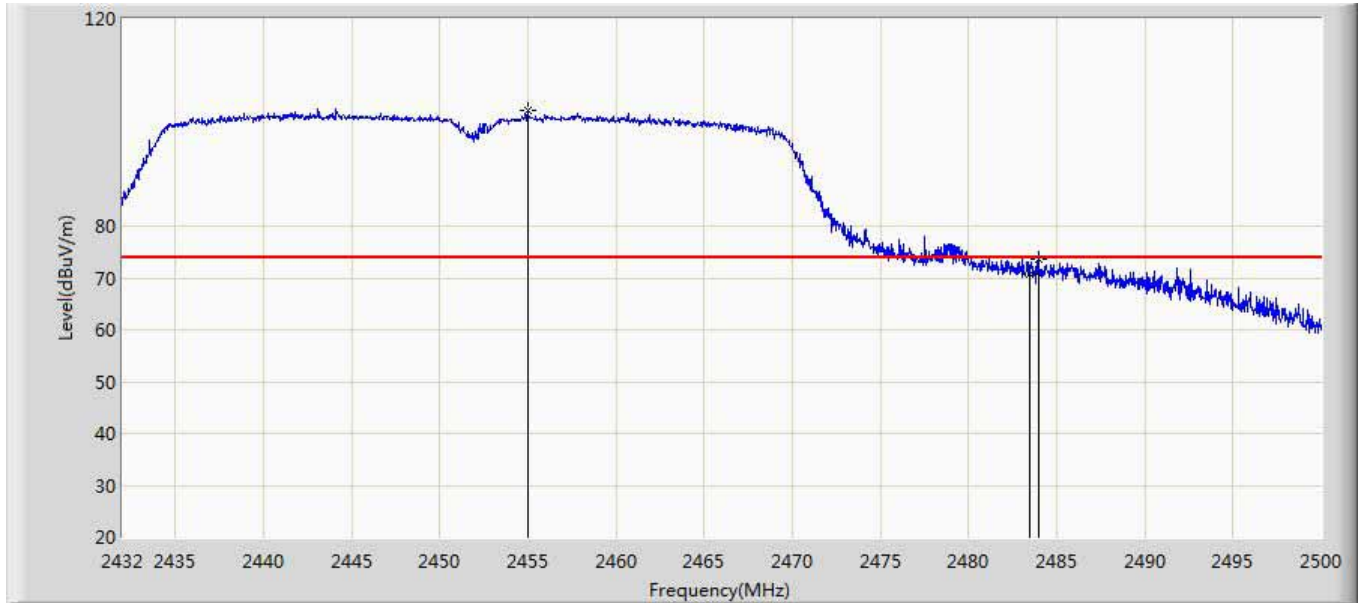
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	73.334	35.989	-0.666	74.000	37.345	PK
2	*	2423.520	103.992	66.557	29.992	74.000	37.435	PK

Site: AC5	Time: 2015/10/24 - 11:09
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00165315(1-18GHz)	Polarity: Vertical
EUT: Wi-Fi Smart Plug With Energy Monitoring	Power: 120V/60Hz
Note: Mode 4: Transmit at ch2422 by 802.11n(40MHz)	



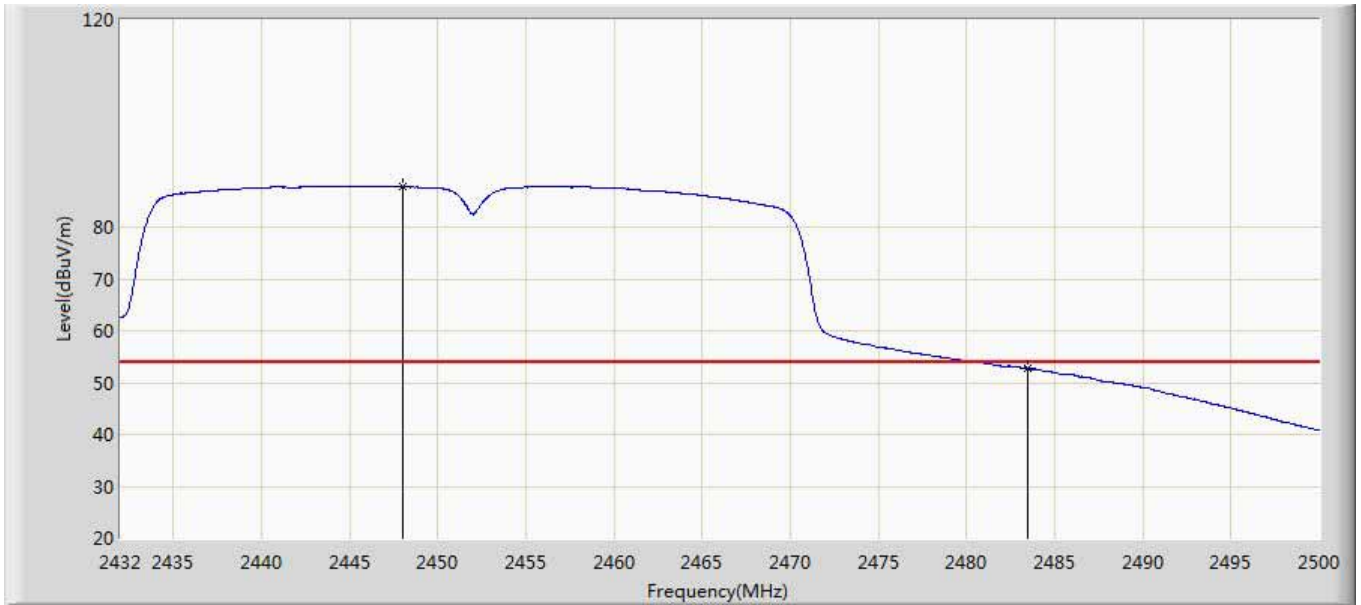
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	52.119	14.774	-1.881	54.000	37.345	AV
2	*	2427.678	83.844	46.376	29.844	54.000	37.467	AV

Site: AC5	Time: 2015/10/24 - 11:17
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00165315(1-18GHz)	Polarity: Horizontal
EUT: Wi-Fi Smart Plug With Energy Monitoring	Power: 120V/60Hz
Note: Mode 4: Transmit at ch2452 by 802.11n(40MHz)	



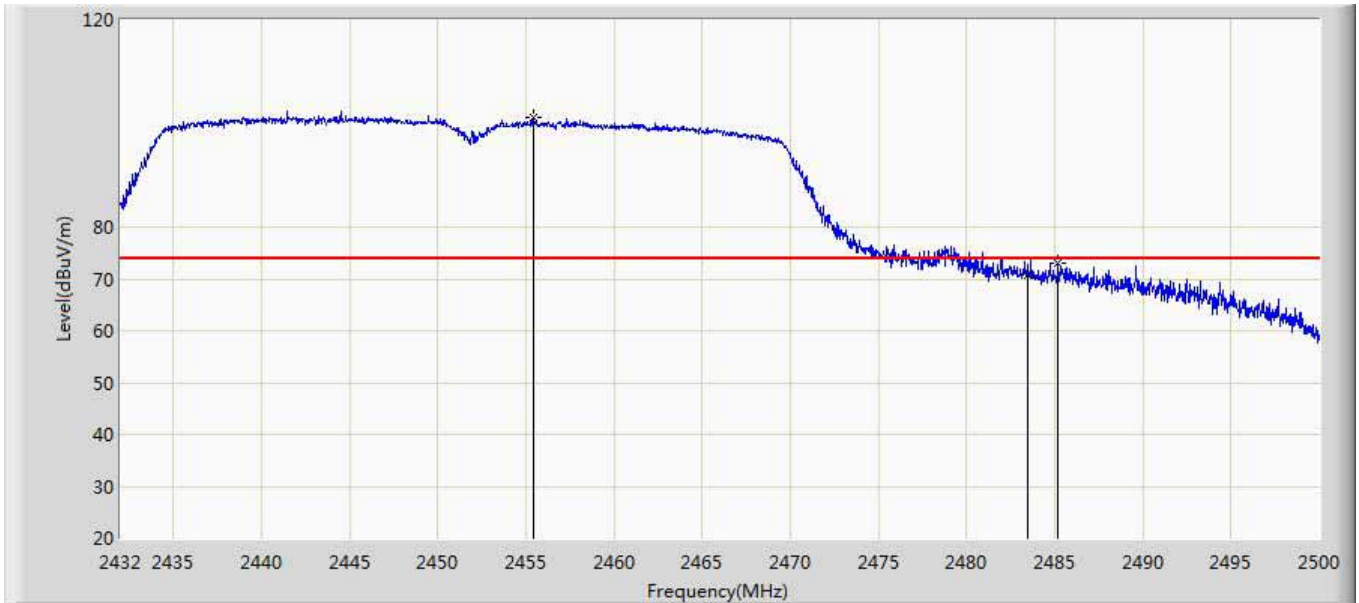
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2454.984	102.267	64.786	28.267	74.000	37.481	PK
2		2483.500	70.816	33.221	-3.184	74.000	37.595	PK
3		2483.952	73.581	35.982	-0.419	74.000	37.599	PK

Site: AC5	Time: 2015/10/24 - 11:20
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00165315(1-18GHz)	Polarity: Horizontal
EUT: Wi-Fi Smart Plug With Energy Monitoring	Power: 120V/60Hz
Note: Mode 4: Transmit at ch2452 by 802.11n(40MHz)	



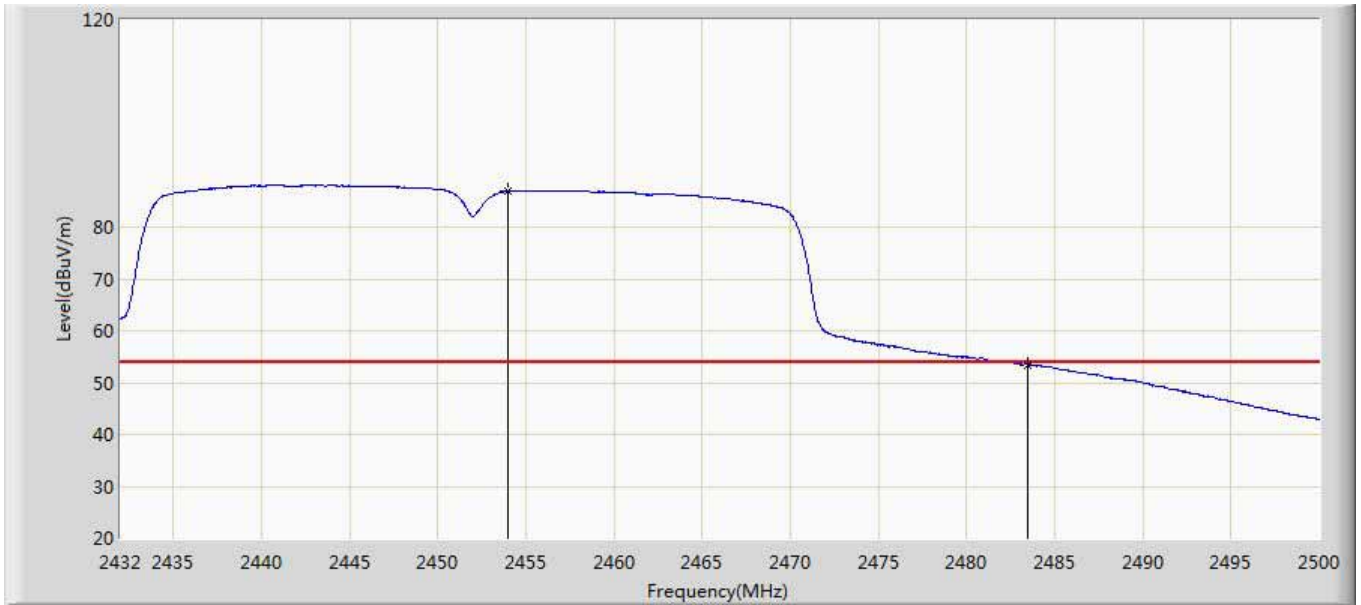
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2448.048	87.775	50.296	33.775	54.000	37.480	AV
2		2483.500	52.721	15.126	-1.279	54.000	37.595	AV

Site: AC5	Time: 2015/10/24 - 11:25
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00165315(1-18GHz)	Polarity: Vertical
EUT: Wi-Fi Smart Plug With Energy Monitoring	Power: 120V/60Hz
Note: Mode 4: Transmit at ch2452 by 802.11n(40MHz)	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2455.426	101.244	63.763	27.244	74.000	37.481	PK
2		2483.500	70.755	33.160	-3.245	74.000	37.595	PK
3		2485.210	73.117	35.508	-0.883	74.000	37.609	PK

Site: AC5	Time: 2015/10/24 - 11:26
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00165315(1-18GHz)	Polarity: Vertical
EUT: Wi-Fi Smart Plug With Energy Monitoring	Power: 120V/60Hz
Note: Mode 4: Transmit at ch2452 by 802.11n(40MHz)	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2453.964	86.927	49.446	32.927	54.000	37.481	AV
2		2483.500	53.434	15.839	-0.566	54.000	37.595	AV

7. Occupied Bandwidth

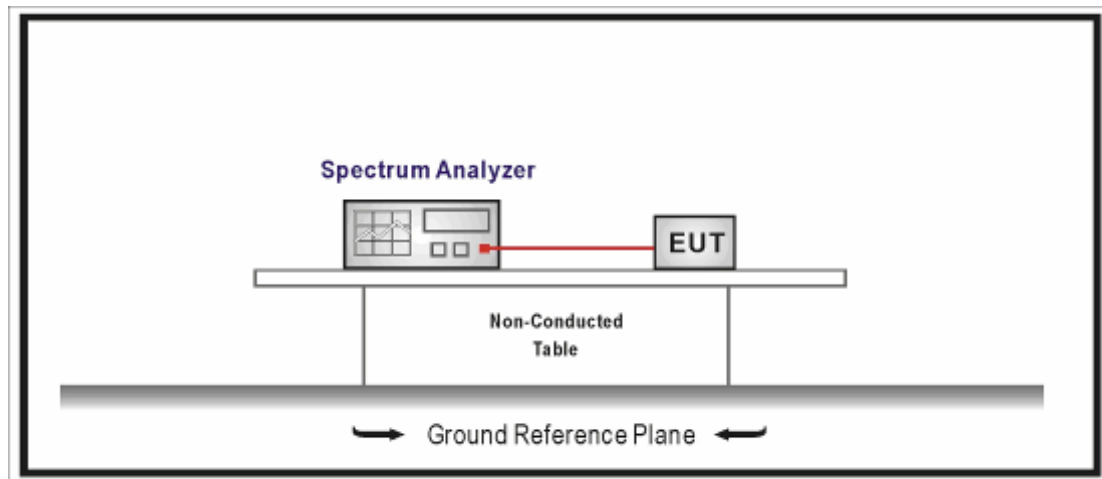
7.1. Test Equipment

Occupied Bandwidth / TR-8

Instrument	Manufacturer	Type No.	Serial No.	Cal. Due Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2016.01.07
Temperature/Humidity Meter	zhicheng	ZC1-2	TR8-TH	2016.04.09

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

7.2. Test Setup



7.3. Limit

For FCC

99% occupied bandwidth should be less than the nominal bandwidth.

7.4. Test Procedure

According to FCC ANSI C63.4: 2014 & ANSI C63.10: 2013& FCC 47CFR 15.247& KDB 558074 D01v03r03

- Set RBW = in the range of 1% to 5% of the OBW.
- Set the video bandwidth (VBW) $\geq 3 \times$ RBW.
- Detector = Peak.
- Trace mode = max hold.
- Sweep = auto couple.

- f) Allow the trace to stabilize.
- g) Use the 99% power bandwidth function of the instrument (if available) and report the measured bandwidth.

7.5. Uncertainty

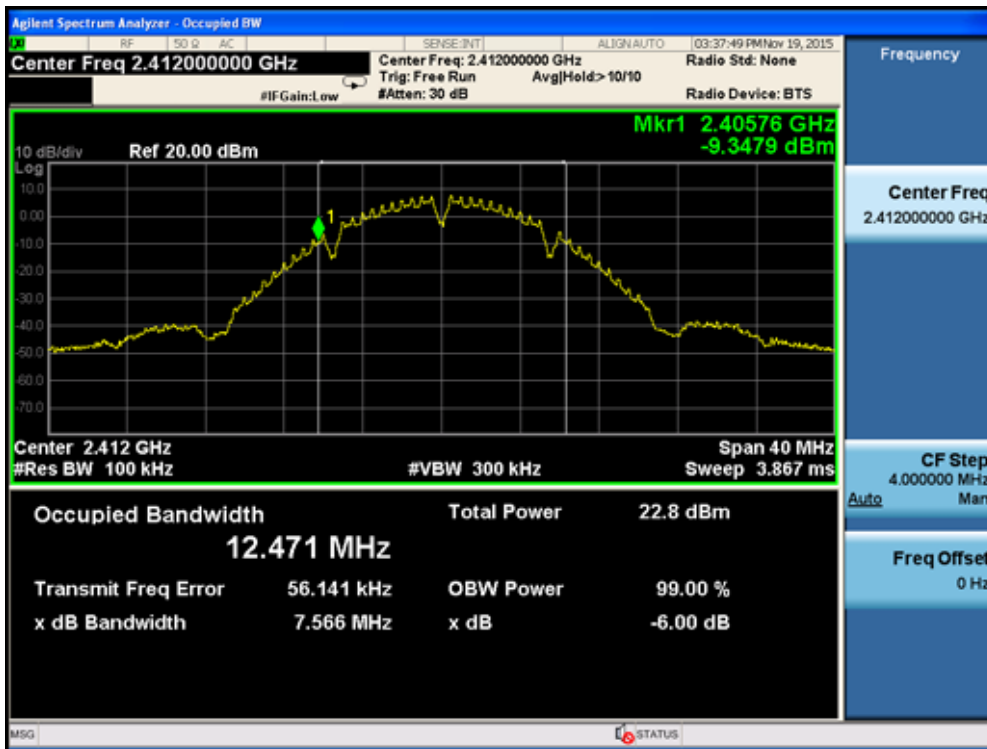
The measurement uncertainty is defined as ± 1 kHz

7.6. Test Result

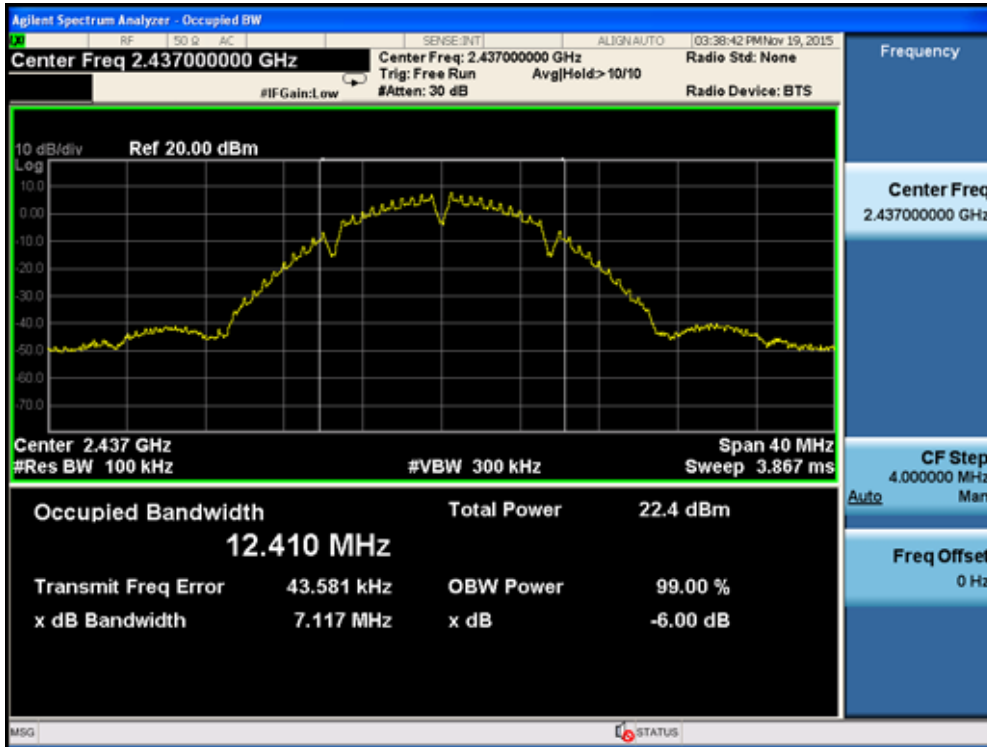
Product	:	Wi-Fi Smart Plug With Energy Monitoring
Test Item	:	Occupied Bandwidth
Test Mode	:	Mode 1: Transmit by 802.11b

Channel No.	Frequency (MHz)	Occupied Bandwidth (kHz)	6dB Bandwidth (kHz)	FCC Limit (kHz)	Result
01	2412	12471	7566	20000	Pass
06	2437	12410	7117	20000	Pass
11	2462	12438	7112	20000	Pass

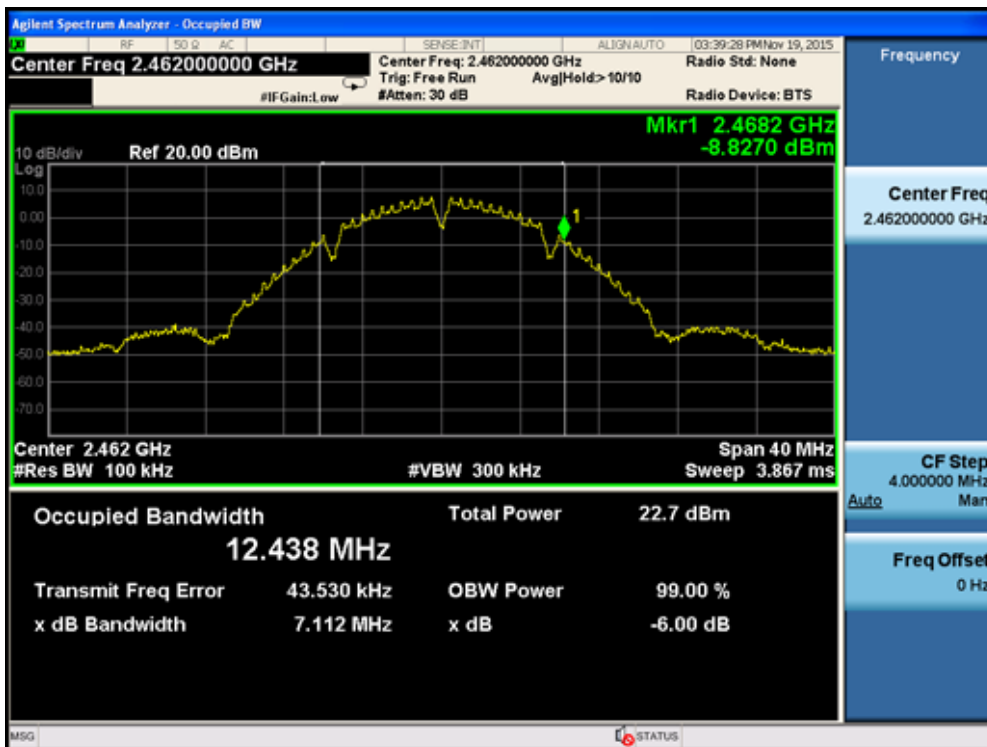
Channel 01 (2412MHz)



Channel 06 (2437MHz)



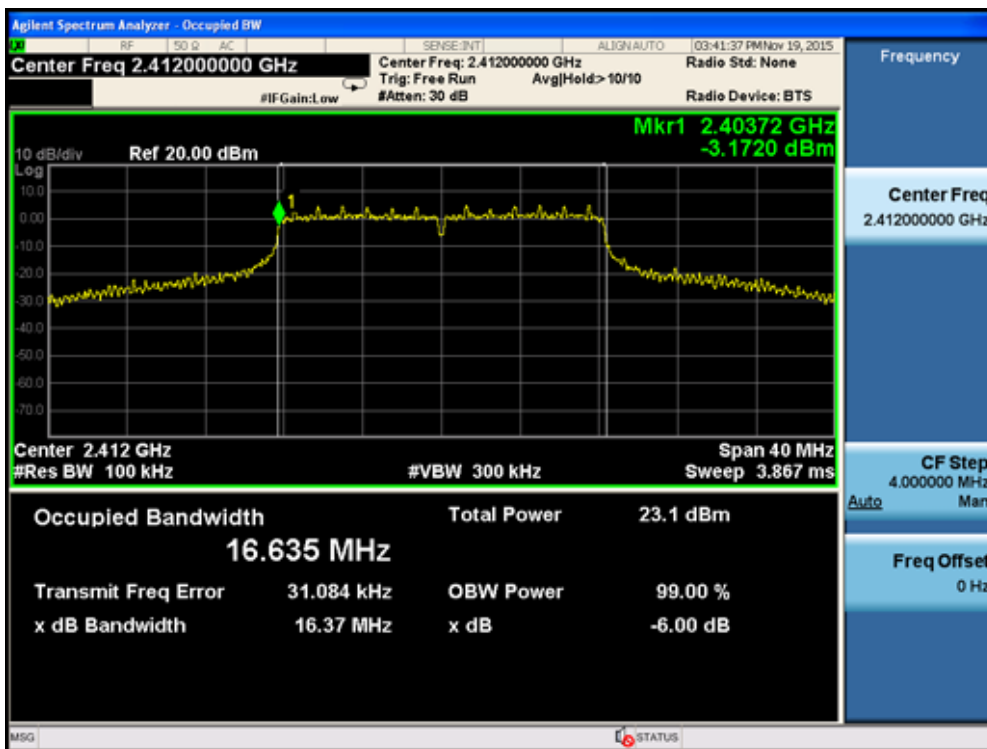
Channel 11 (2462MHz)



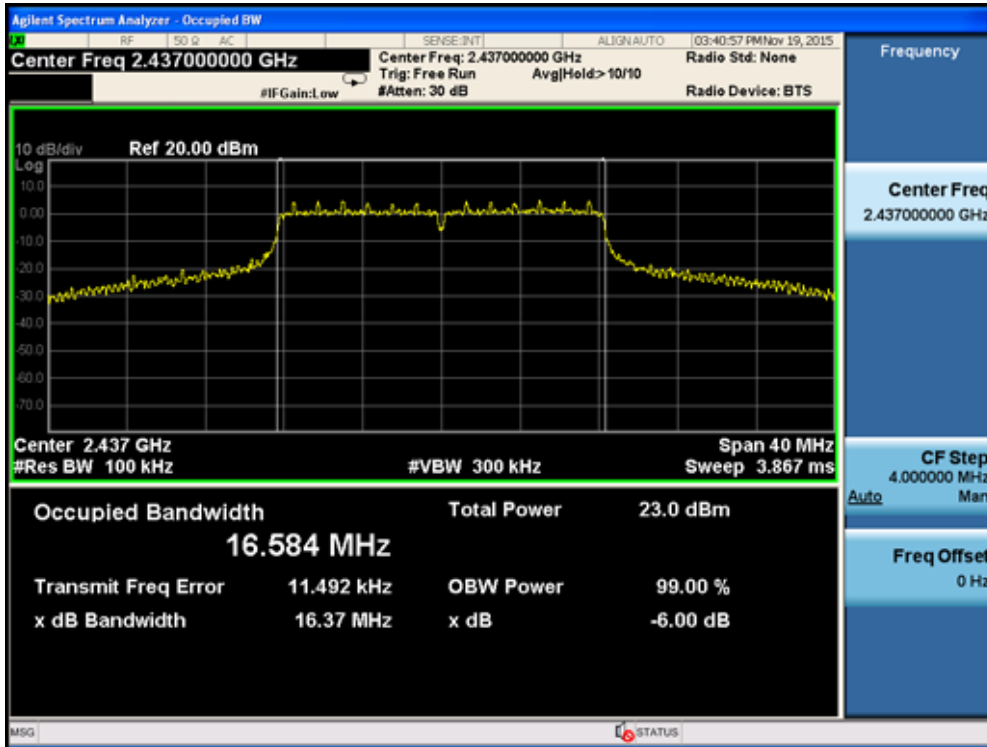
Product	:	Wi-Fi Smart Plug With Energy Monitoring
Test Item	:	Occupied Bandwidth
Test Mode	:	Mode 2: Transmit by 802.11g

Channel No.	Frequency (MHz)	Occupied Bandwidth (kHz)	6dB Bandwidth (kHz)	FCC Limit (kHz)	Result
01	2412	16635	16370	20000	Pass
06	2437	16584	16370	20000	Pass
11	2462	16568	16370	20000	Pass

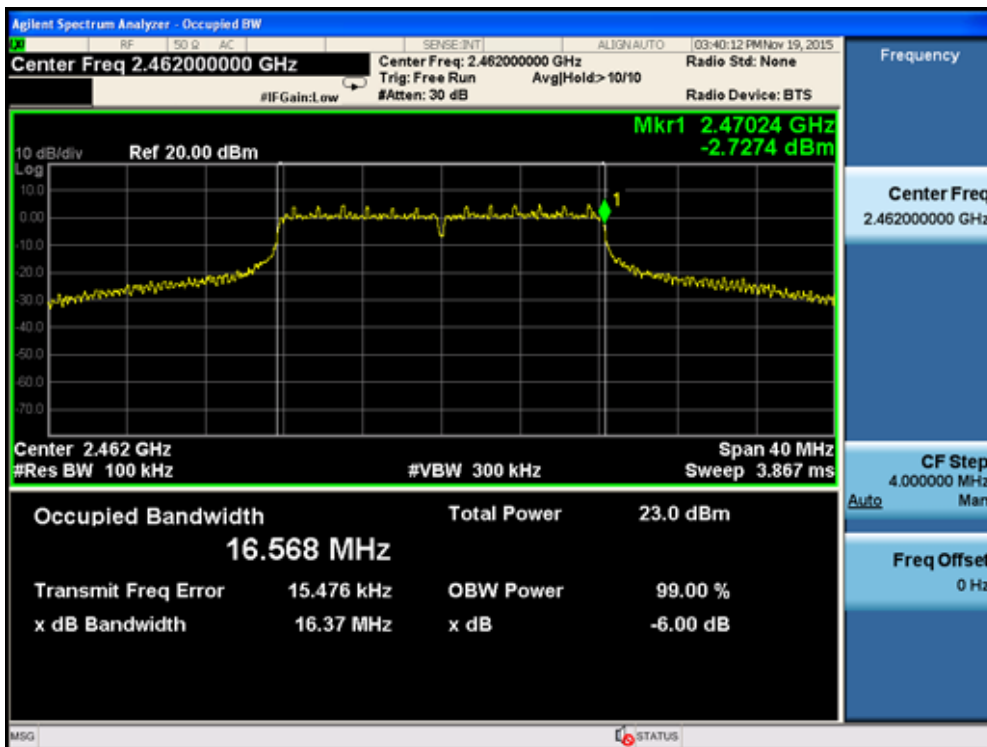
Channel 01 (2412MHz)



Channel 06 (2437MHz)



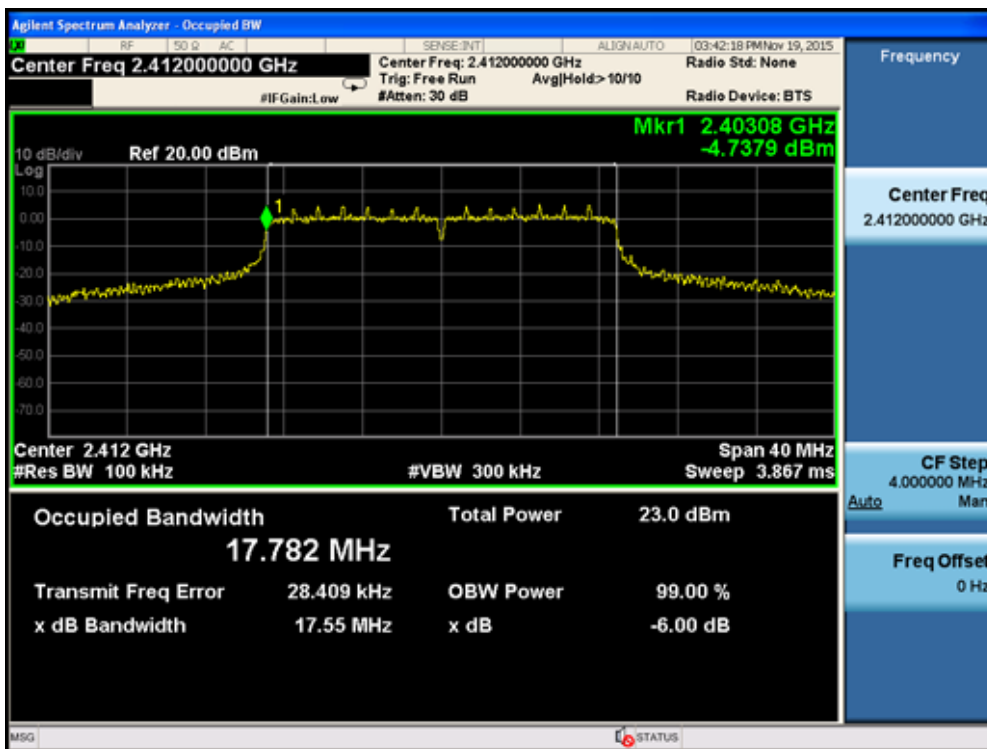
Channel 11 (2462MHz)



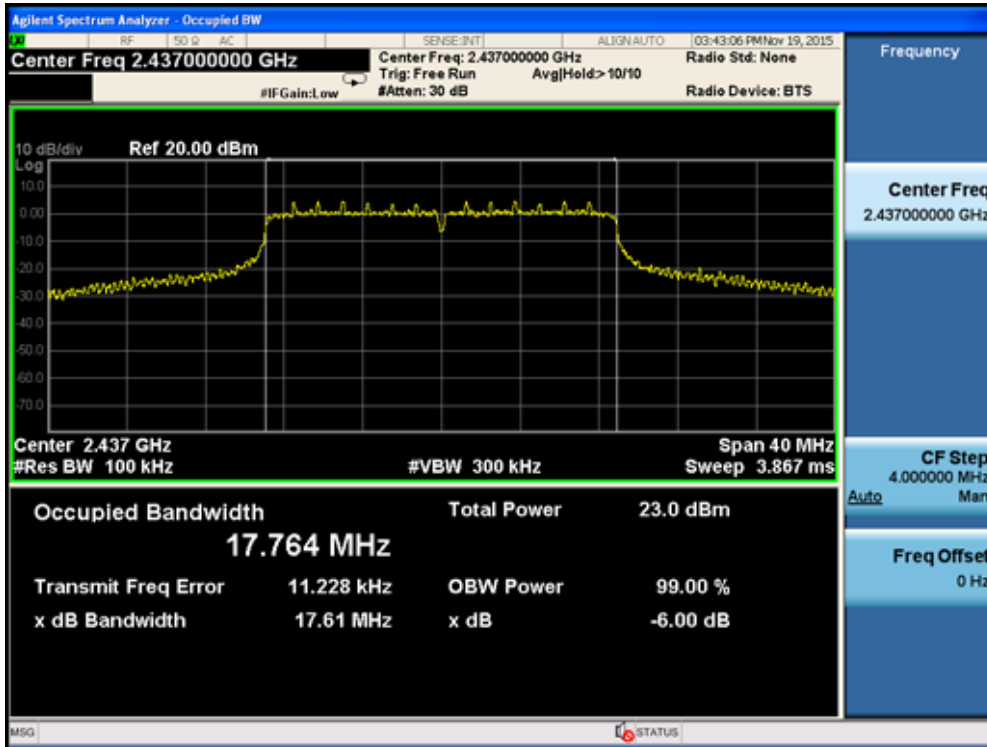
Product	:	Wi-Fi Smart Plug With Energy Monitoring
Test Item	:	Occupied Bandwidth
Test Mode	:	Mode 3: Transmit by 802.11n(20MHz)

Channel No.	Frequency (MHz)	Occupied Bandwidth (kHz)	6dB Bandwidth (kHz)	FCC Limit (kHz)	Result
01	2412	17782	17550	20000	Pass
06	2437	17764	17610	20000	Pass
11	2462	17752	17610	20000	Pass

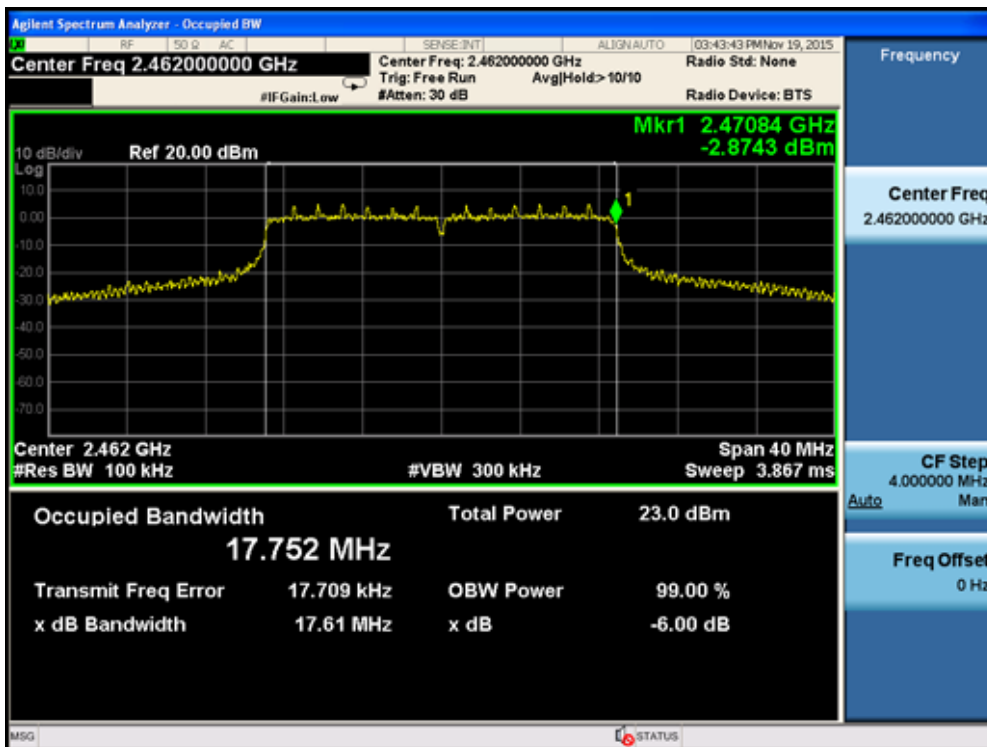
Channel 01 (2412MHz)



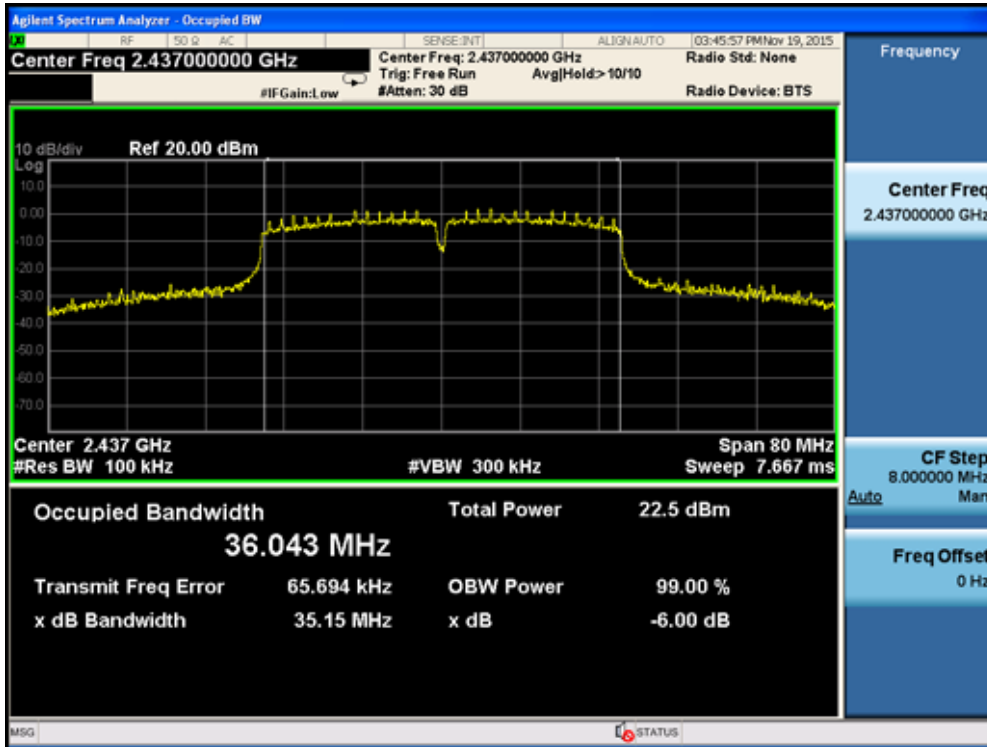
Channel 06 (2437MHz)



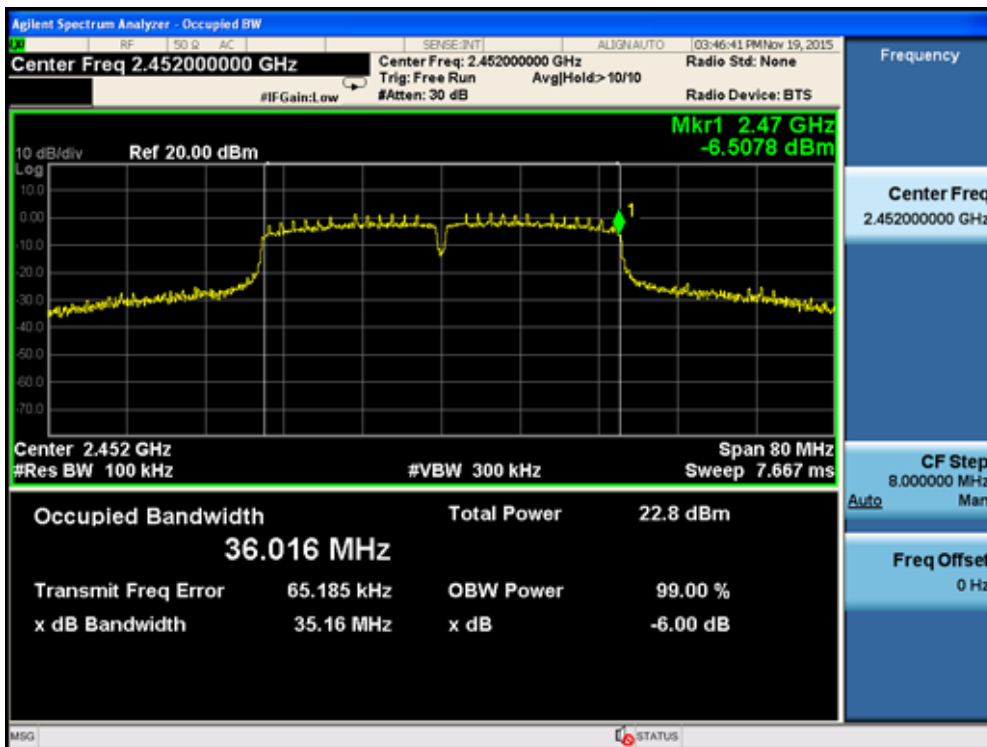
Channel 11 (2462MHz)



Channel 06 (2437MHz)



Channel 09 (2452MHz)



8. Power Output

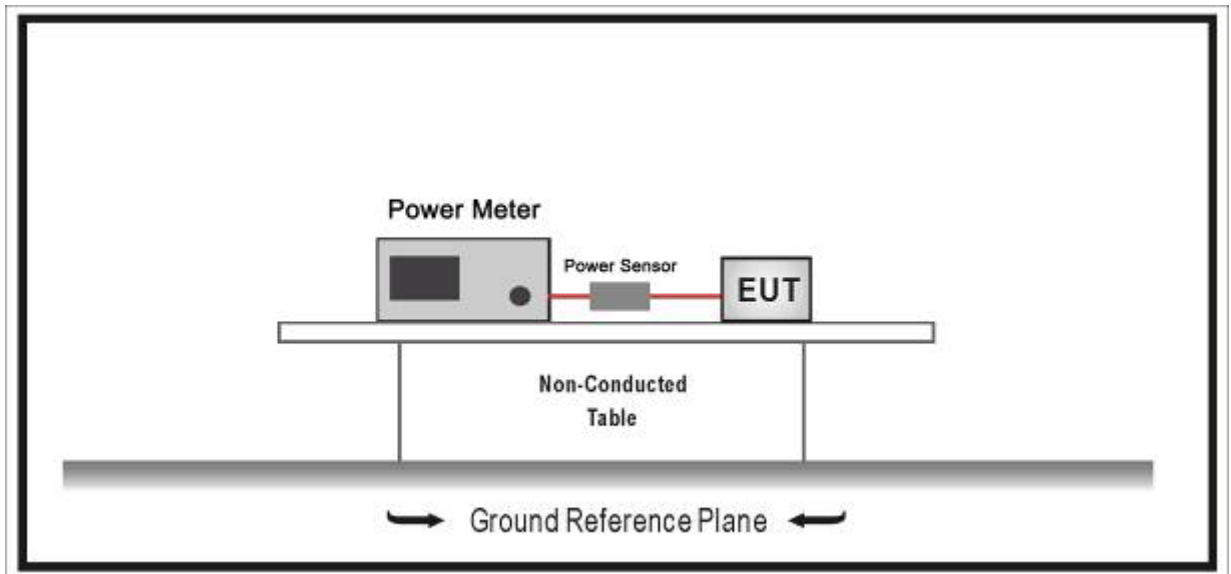
8.1. Test Equipment

Power Output / TR-8

Instrument	Manufacturer	Type No.	Serial No.	Cal. Due Date
Wideband Peak Power Meter	Anritsu	ML2495A	0905006	2016.11.10
Power Sensor	Anritsu	MA2411B	0846014	2016.11.10
Temperature/Humidity Meter	zhicheng	ZC1-2	TR8-TH	2016.04.09

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

8.2. Test Setup



8.3. Limit

For FCC

The maximum peak power shall be less 1 Watt (30dBm).

Note: the conducted output power limit specified above is based on the use the antennas with directional gains that do not exceed 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values above, as appropriate, by the amount in dB that the directional gain of antenna exceeds 6 dBi.

8.4. Test Procedure

According to FCC ANSI C63.4: 2014 & ANSI C63.10: 2013& FCC 47CFR 15.247& KDB 558074 D01v03r03

1. Power meter and sensor's minimum video bandwidth is 50MHz, larger than 802.11n(40MHz) bandwidth;
2. Fast responding diode sensors respond immediately to changes in power level to reduce total test time.
3. Use average detector to test.

8.5. Uncertainty

The measurement uncertainty is defined as ± 1.27 dB

8.6. Test Result

Product	:	Wi-Fi Smart Plug With Energy Monitoring
Test Item	:	Power Output
Test Site	:	TR8
Test Mode	:	Mode 1: Transmit by 802.11b

Channel No.	Frequency (MHz)	Measurement Power Output (Average) (dBm)	Limit (dBm)	Result
1	2412	10.38	30.00	Pass
6	2437	13.26	30.00	Pass
11	2462	13.15	30.00	Pass

Product	:	Wi-Fi Smart Plug With Energy Monitoring
Test Item	:	Power Output
Test Site	:	TR8
Test Mode	:	Mode 2: Transmit by 802.11g

Channel No.	Frequency (MHz)	Measurement Power Output (Average) (dBm)	Limit (dBm)	Result
1	2412	11.72	30.00	Pass
6	2437	17.35	30.00	Pass
11	2462	13.23	30.00	Pass

Product	: Wi-Fi Smart Plug With Energy Monitoring
Test Item	: Power Output
Test Site	: TR8
Test Mode	: Mode 3: Transmit by 802.11n(20MHz)

Channel No.	Frequency (MHz)	Measurement Power Output (Average) (dBm)	Limit (dBm)	Result
1	2412	10.65	30.00	Pass
6	2437	19.12	30.00	Pass
11	2462	12.71	30.00	Pass

Product	: Wi-Fi Smart Plug With Energy Monitoring
Test Item	: Power Output
Test Site	: TR8
Test Mode	: Mode 4: Transmit by 802.11n(40MHz)

Channel No.	Frequency (MHz)	Measurement Power Output (Average) (dBm)	Limit (dBm)	Result
3	2422	12.64	30.00	Pass
6	2437	15.48	30.00	Pass
9	2452	11.61	30.00	Pass

9. Power Spectral Density

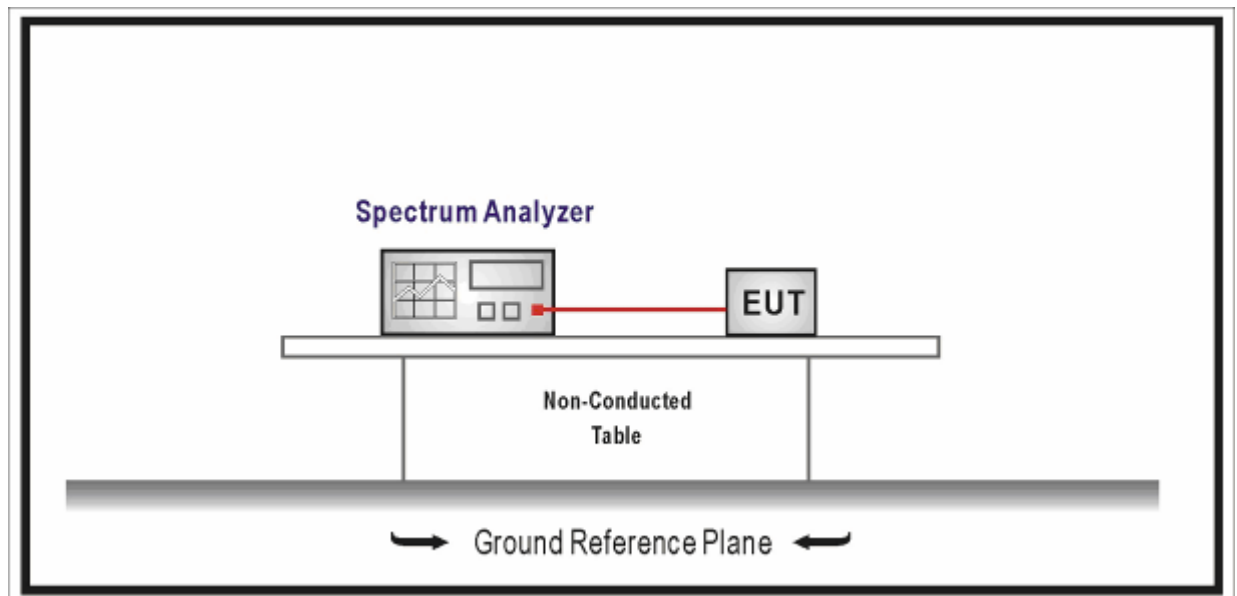
9.1. Test Equipment

Power Spectral Density / TR-8

Instrument	Manufacturer	Type No.	Serial No.	Cal. Due Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2016.01.07
Temperature/Humidity Meter	zhicheng	ZC1-2	TR8-TH	2016.04.09

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

9.2. Test Setup



9.3. Limit

For FCC

For digitally modulated systems, the power spectral density conducted from the intentional radiated to the Antenna shall not be greater than 8dBm in any 3kHz band during any time interval of continuous transmission.

9.4. Test Procedure

According to ANSI C63.4: 2014 & ANSI C63.10: 2013& FCC 47CFR 15.247& KDB 558074 D01v03r03

- a) Set analyzer center frequency to DTS channel center frequency.
- b) Set the span to 1.5 times the DTS bandwidth.
- c) Set the RBW to: $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$. (Actually we use 3kHz RBW)
- d) Set the VBW $\geq 3 \times \text{RBW}$.
- e) Detector = peak.
- f) Sweep time = auto couple.
- g) Trace mode = max hold.
- h) Allow trace to fully stabilize.
- i) Use the peak marker function to determine the maximum amplitude level within the band.
- j) If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

9.5. Uncertainty

The measurement uncertainty is defined as $\pm 1.27 \text{ dB}$

9.6. Test Result

Product	:	Wi-Fi Smart Plug With Energy Monitoring
Test Item	:	Power Spectral Density
Test Site	:	TR-8
Test Mode	:	Mode 1: Transmit by 802.11b

Channel No.	Frequency (MHz)	Measurement PPSD (dBm)	Limit (dBm)	Result
1	2412	-7.914	8	Pass
6	2437	-5.619	8	Pass
11	2462	-5.954	8	Pass

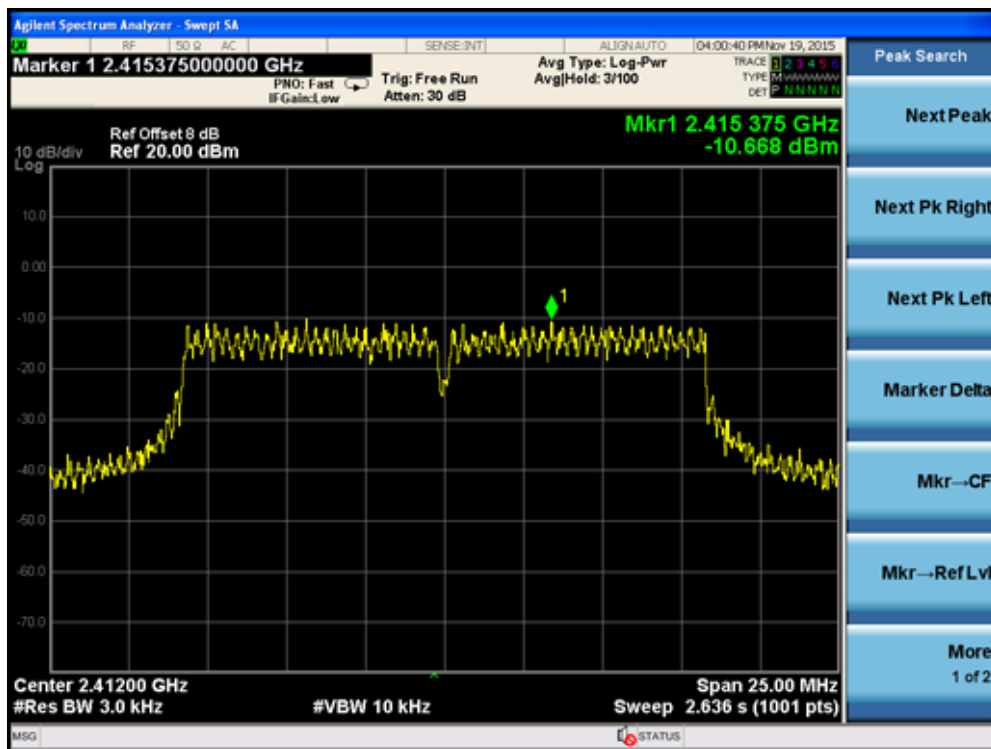
Channel 01 (2412MHz)



Product	:	Wi-Fi Smart Plug With Energy Monitoring
Test Item	:	Power Spectral Density
Test Site	:	TR-8
Test Mode	:	Mode 2: Transmit by 802.11g

Channel No.	Frequency (MHz)	Measurement PPSD (dBm)	Limit (dBm)	Result
01	2412	-10.668	8	Pass
06	2437	-5.886	8	Pass
11	2462	-10.459	8	Pass

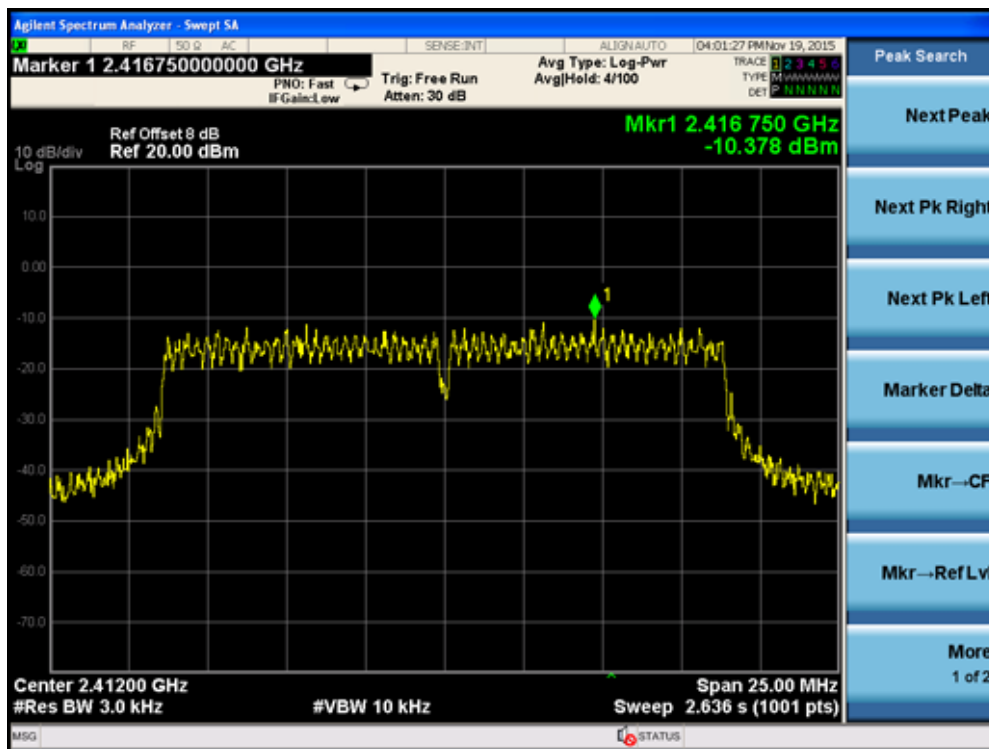
Channel 01 (2412MHz)



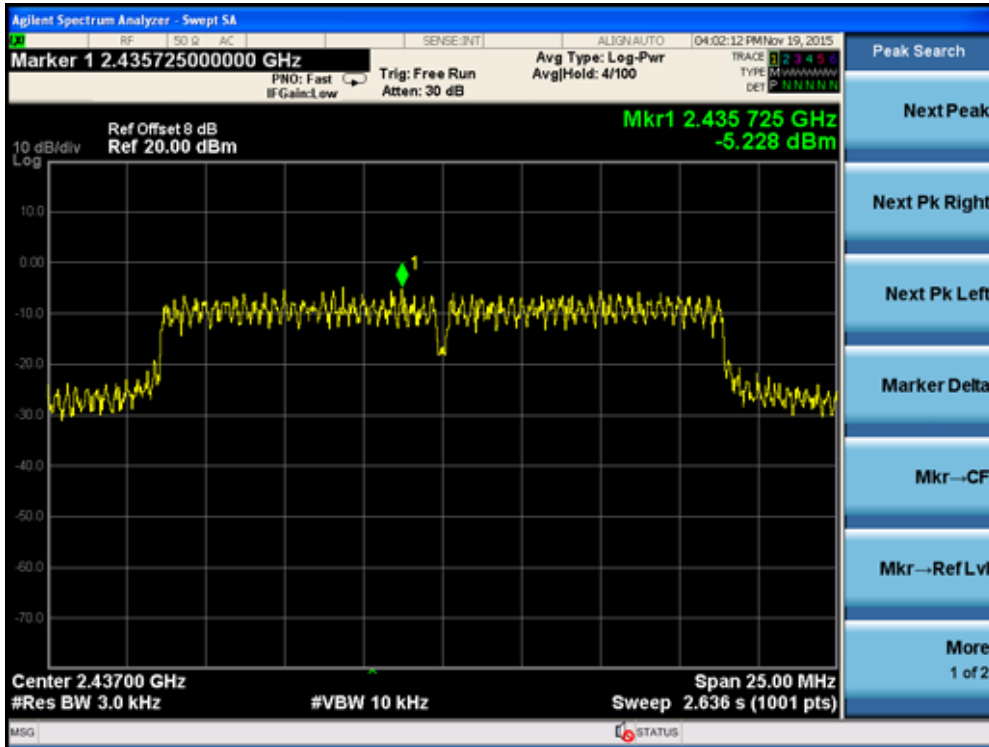
Product	:	Wi-Fi Smart Plug With Energy Monitoring
Test Item	:	Power Spectral Density
Test Site	:	TR-8
Test Mode	:	Mode 3: Transmit by 802.11n(20MHz)

Channel No.	Frequency (MHz)	Measurement PPSD (dBm)	Limit (dBm)	Result
01	2412	-10.378	8	Pass
06	2437	-5.228	8	Pass
11	2462	-9.088	8	Pass

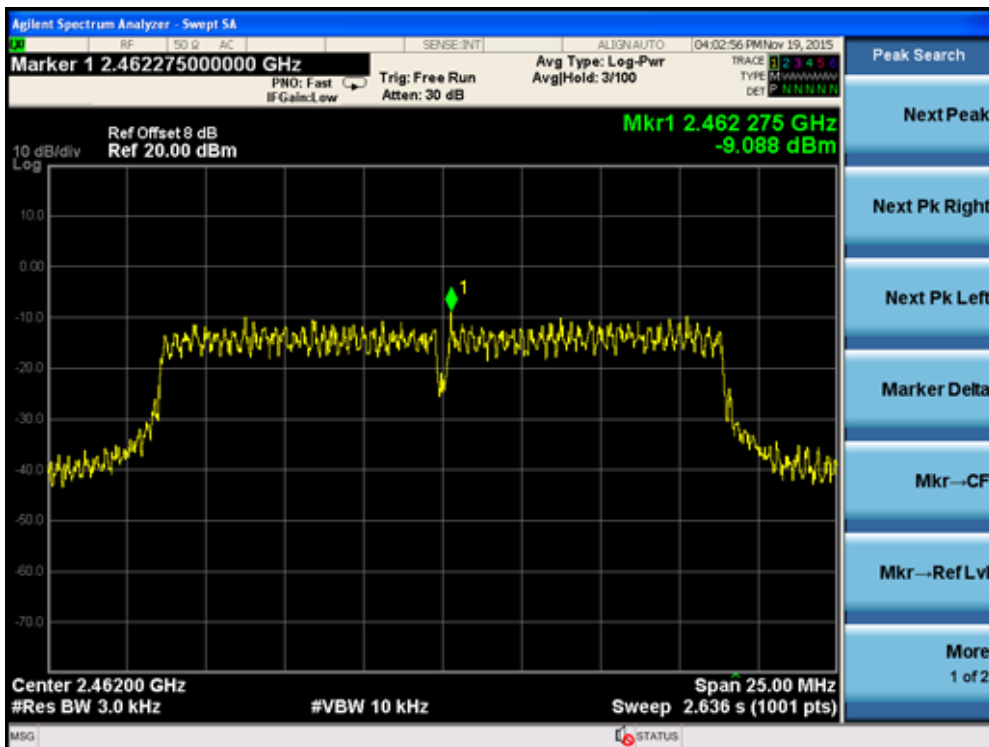
Channel 01 (2412MHz)



Channel 06 (2437MHz)



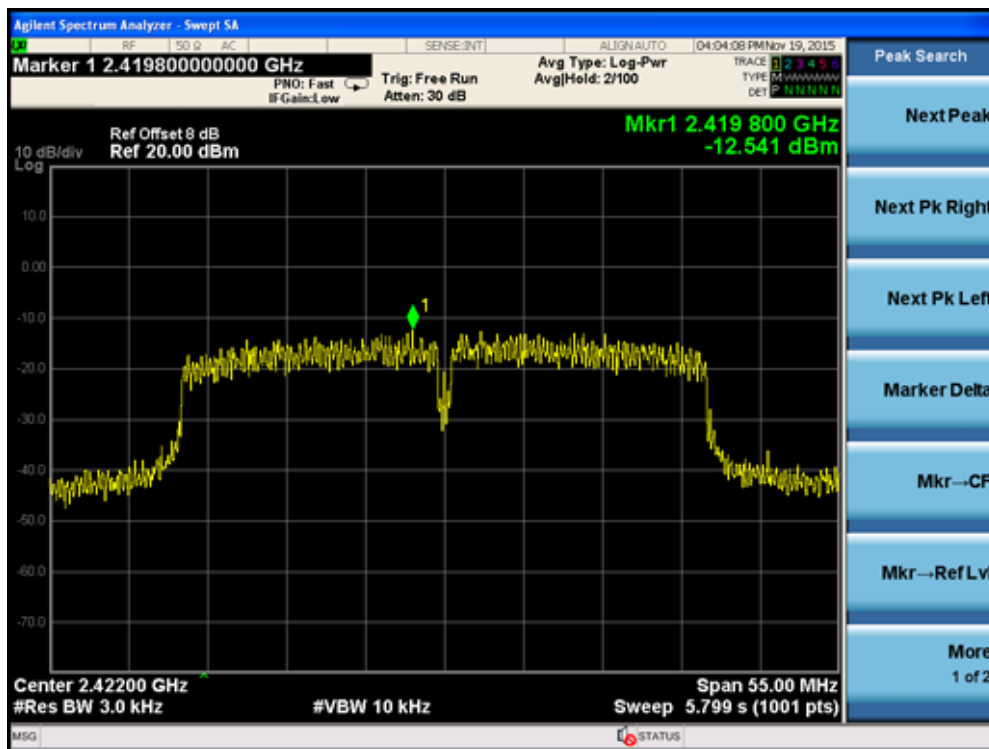
Channel 11 (2462MHz)



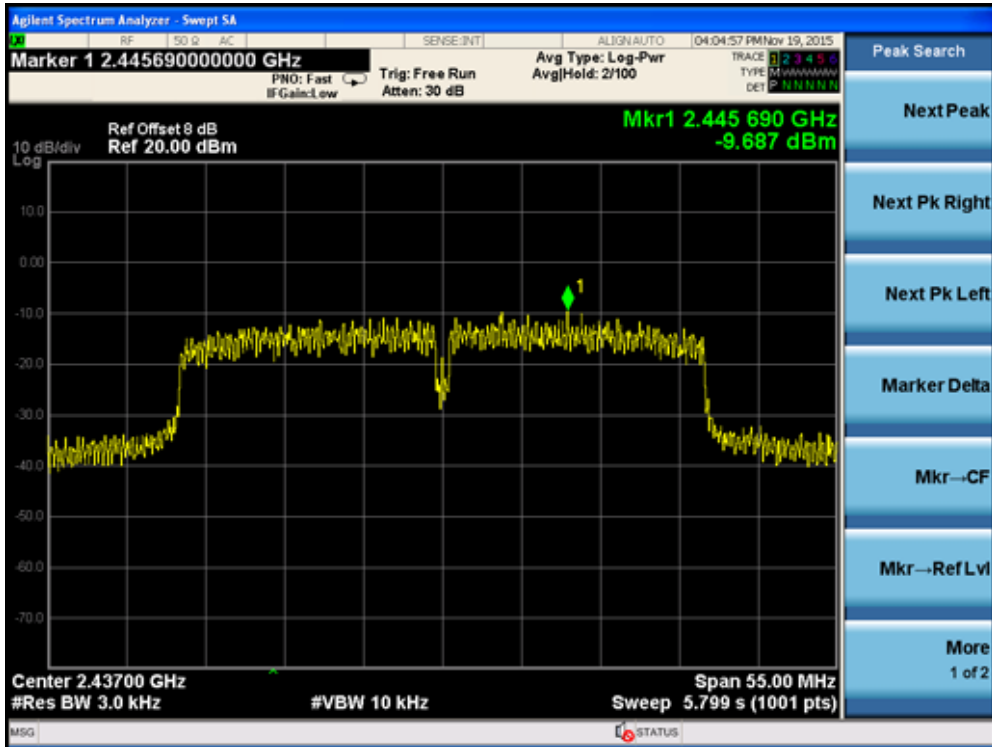
Product	:	Wi-Fi Smart Plug With Energy Monitoring
Test Item	:	Power Spectral Density
Test Site	:	TR-8
Test Mode	:	Mode 4: Transmit by 802.11n(40MHz)

Channel No.	Frequency (MHz)	Measurement PPSD (dBm)	Limit (dBm)	Result
03	2422	-12.541	8	Pass
06	2437	-9.687	8	Pass
09	2452	-12.944	8	Pass

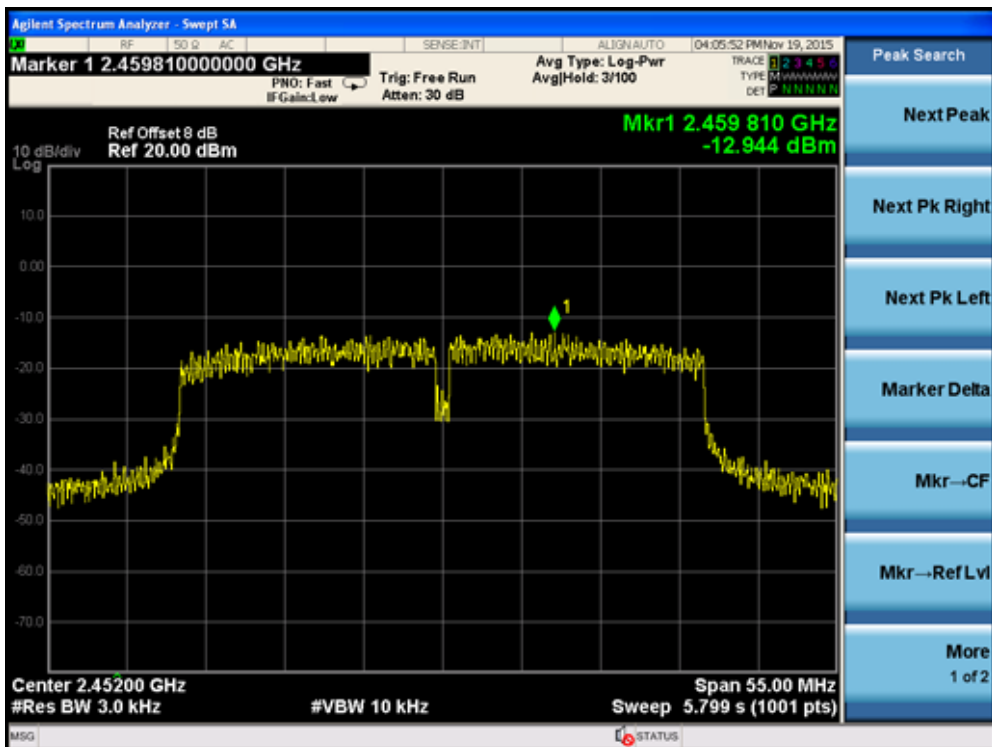
Channel 03 (2422MHz)



Channel 06 (2437MHz)



Channel 09 (2452MHz)



The End