FCC Test Report

FCC ID	:	**I88NWA5123-AC**
Equipment	:	**802.11 a/b/g/n/ac Dual-Radio Managed Access Point**
Model No.	:	**NWA5123-AC**
Brand Name	:	**ZyXEL**
Applicant	:	**ZyXEL Communications Corporation**
Address	:	**No. 2, Gongye E. 9th Road, Hsinchu Science Park, Hsinchu, Taiwan.**
Standard	:	**47 CFR FCC Part 15.247**
Received Date	:	**Aug. 24, 2015**
Tested Date	:	**Aug. 24 ~ Sep. 10, 2015**

We, International Certification Corp., would like to declare that the tested sample has been evaluated and in compliance with the requirement of the above standards. The test results contained in this report refer exclusively to the product. It may be duplicated completely for legal use with the approval of the applicant. It shall not be reproduced except in full without the written approval of our laboratory.

Approved & Reviewed by:

Gary Chang / Manager

Testing Laboratory
2732

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Release Record

Report No.	Version	Description	Issued Date
FR590309AC	Rev. 01	Initial issue	Oct. 06, 2015

Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	Conducted Emissions	[dBuV]: 0.433MHz 37.36 (Margin -9.84dB) - AV	Pass
15.247(d) 15.209	Radiated Emissions	[dBuV/m at 3m]: 2390.00MHz 53.90 (Margin -0.10dB) - AV	Pass
15.247(b)(3)	Maximum Output Power	Max Power [dBm]: 27.42	Pass
15.247(a)(2)	6dB Bandwidth	Meet the requirement of limit	Pass
15.247(e)	Power Spectral Density	Meet the requirement of limit	Pass
15.203	Antenna Requirement	Meet the requirement of limit	Pass

1 General Description

1.1 Information

1.1.1 Specification of the Equipment under Test (EUT)

RF General Information					
Frequency Range (MHz)	**IEEE Std. 802.11**	**Ch. Freq. (MHz)**	**Channel Number**	**Transmit Chains (N_{TX})**	**Data Rate / MCS**
2400-2483.5	b	2412-2462	1-11 [11]	2	1-11 Mbps
2400-2483.5	g	2412-2462	1-11 [11]	2	6-54 Mbps
2400-2483.5	n (HT20)	2412-2462	1-11 [11]	2	MCS 0-15
2400-2483.5	n (HT40)	2422-2452	3-9 [7]	2	MCS 0-15
Note 1: RF output power specifies that Maximum Conducted (Average) Output Power. Note 2: 802.11b uses a combination of DSSS-DBPSK, DQPSK, CCK modulation. Note 3: 802.11g/n uses a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.					

1.1.2 Antenna Details

Ant. No.	Model	Type	Operating Frequency (MHz) / Gain (dBi)			Connector
			2400~2483.5	5150~5250	5725~5850	
1	2.4GHz Ant.1	PIFA	3.08	-	-	U.FL
2	2.4GHz Ant.2	PIFA	3.07	-	-	U.FL
3	5GHz Ant.3	PIFA	-	4.06	3.79	U.FL
4	5GHz Ant.4	PIFA	-	3.99	3.78	U.FL

1.1.3 Power Supply Type of Equipment under Test (EUT)

Power Supply Type 1	12Vdc from AC adapter
Power Supply Type 2 (Support unit only)	55Vdc from POE Brand: PowerDsine Model: PD-9001GR/AT/AC Power Rating: I/P: 100-240Vac, 50-60Hz, 0.67A O/P: 55Vdc, 0.6A

1.1.4 Accessories

Accessories		
No.	**Equipment**	**Description**
1	AC Adapter	Brand Name: DVE Model Name: DSA-12CB-12 Power Rating: I/P: 100-240Vac, 50-60Hz, 0.5A O/P: 12Vdc, 1A Power Line: 1.5m non-shielded cable w/o core

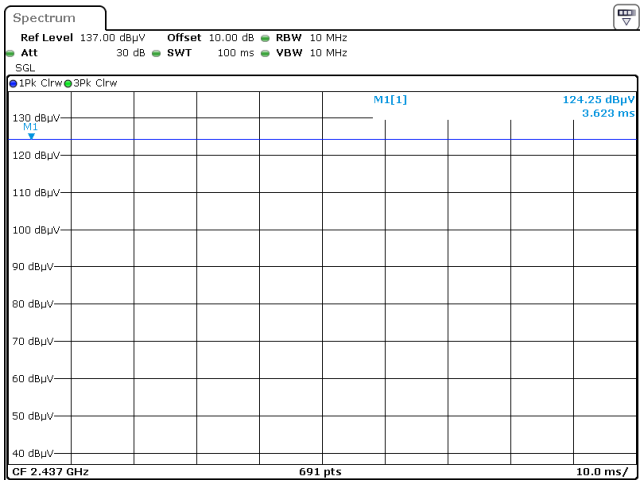
1.1.5 Channel List

Frequency band (MHz)		**2400~2483.5**	
802.11 b / g / n HT20		**802.11n HT40**	
Channel	**Frequency(MHz)**	**Channel**	**Frequency(MHz)**
1	2412	3	2422
2	2417	4	2427
3	2422	5	2432
4	2427	6	2437
5	2432	7	2442
6	2437	8	2447
7	2442	9	2452
8	2447	---	---
9	2452	---	---
10	2457	---	---
11	2462	---	---

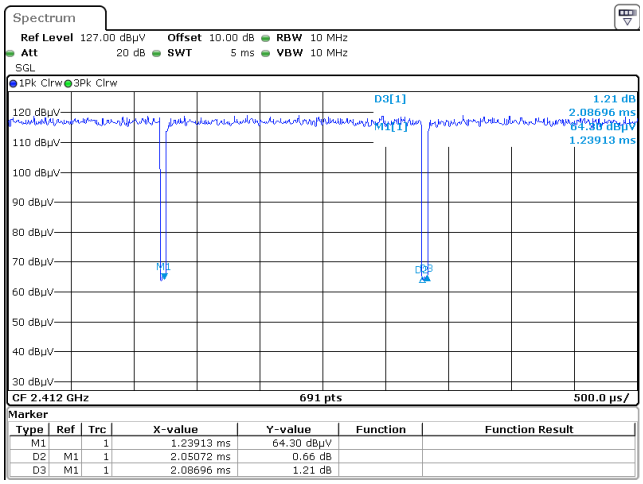
1.1.6 Test Tool and Duty Cycle

Test Tool	ART2-GUI, V2.3		
Duty Cycle and Duty Factor	Mode	Duty cycle (%)	Duty factor (dB)
	11b	100.00%	0.00
	11g	98.26%	0.08
	HT20	98.08%	0.08
	HT40	98.51%	0.07

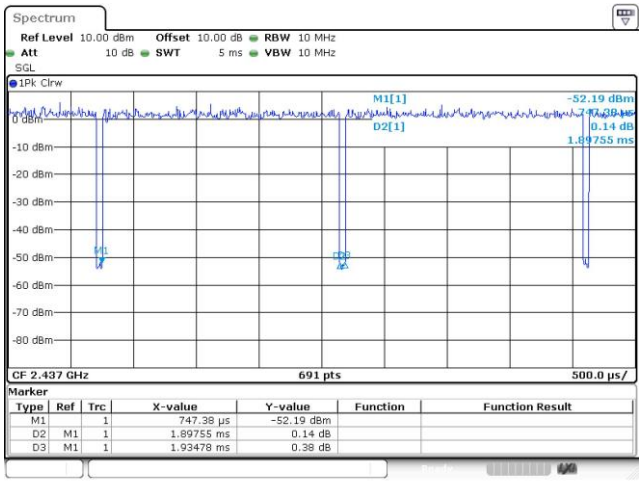
11b



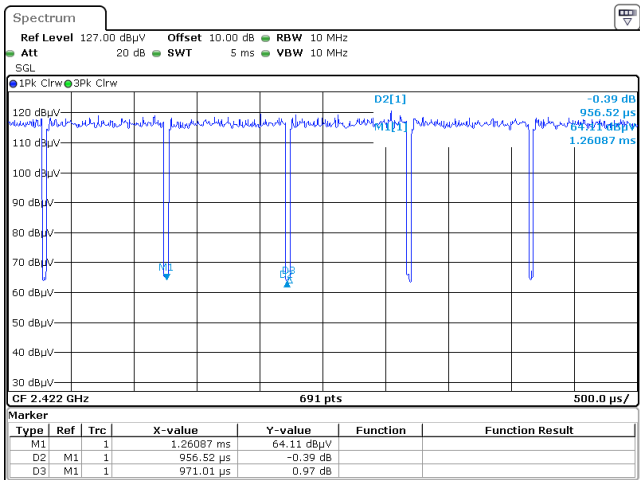
11g



11n HT20



11n HT40



1.1.7 Power Setting

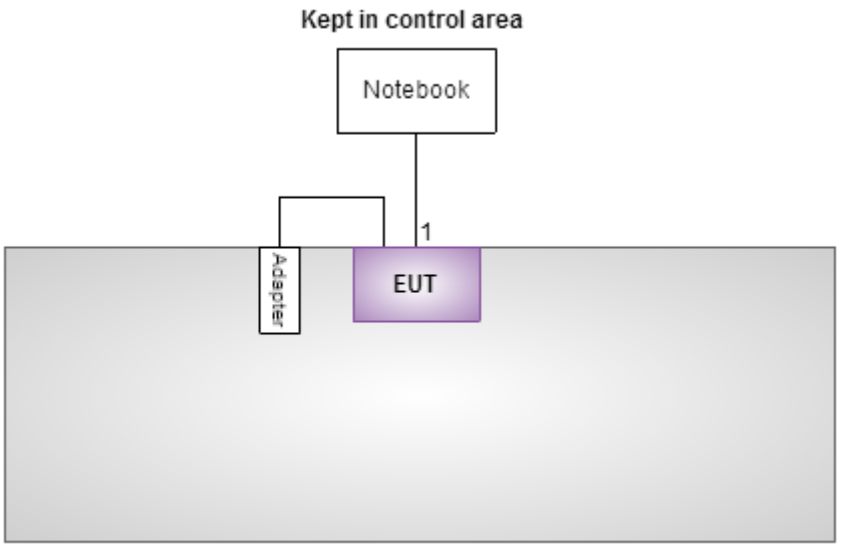
Modulation Mode	Test Frequency (MHz)	Power Set
11b	2412	23.5
11b	2437	24.0
11b	2462	23.5
11g	2412	19.0
11g	2437	24.5
11g	2462	18.0
HT20	2412	18.0
HT20	2437	24.5
HT20	2462	17.5
HT40	2422	15.5
HT40	2437	19.0
HT40	2452	16.5

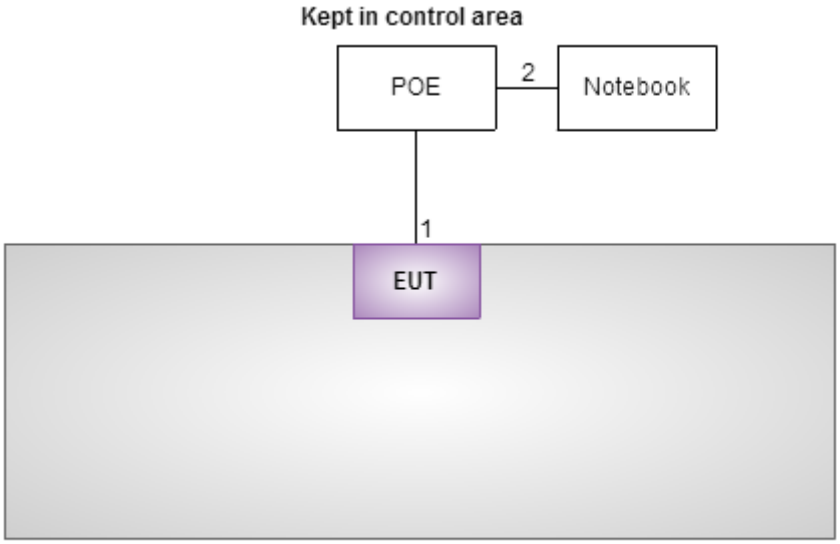
1.2 Local Support Equipment List

Support Equipment List					
No.	**Equipment**	**Brand**	**Model**	**FCC ID**	**Signal cable / Length (m)**
1	Notebook	DELL	Latitude E6430	DoC	Adapter Mode: RJ45, 10m non-shielded. POE Mode: RJ45, 1m non-shielded.
2	POE	PowerDsine	PD-9001GR/AT/AC	---	RJ45, 10m non-shielded.

Note: No. 2 was provided by applicant.

1.3 Test Setup Chart

Test Setup Diagram (AC adapter Mode)
 1. RJ45, 10m non-shielded w/o core.

Test Setup Diagram (POE Mode)
 1. RJ45, 10m non-shielded w/o core. 2. RJ45, 1m non-shielded w/o core.

1.4 The Equipment List

Test Item	Conducted Emission				
Test Site	Conduction room 1 / (CO01-WS)				
Tested Date	Sep. 10, 2015				
Instrument	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
EMC Receiver	R&S	ESCS 30	100169	Oct. 17, 2014	Oct. 16, 2015
LISN	SCHWARZBECK	Schwarzbeck 8127	8127-667	Nov. 17, 2014	Nov. 16, 2015
RF Cable-CON	Woken	CFD200-NL	CFD200-NL-001	Dec. 31, 2014	Dec. 30, 2015
Measurement Software	AUDIX	e3	6.120210k	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	Radiated Emission				
Test Site	966 chamber1 / (03CH01-WS)				
Tested Date	Aug. 24 ~ Sep. 01, 2015				
Instrument	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Spectrum Analyzer	R&S	FSV40	101498	Dec. 09, 2014	Dec. 08, 2015
Receiver	R&S	ESR3	101658	Nov. 10, 2014	Nov. 09, 2015
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-522	Aug. 20, 2015	Aug. 19, 2016
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1096	Dec. 11, 2014	Dec. 10, 2015
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Nov. 10, 2014	Nov. 09, 2015
Loop Antenna	R&S	HFH2-Z2	11900	Nov. 10, 2014	Nov. 09, 2015
Preamplifier	Burgeon	BPA-530	SN:100219	Sep. 09, 2014	Sep. 08, 2015
Preamplifier	Agilent	83017A	MY39501308	Oct. 09, 2014	Oct. 08, 2015
Pre-Amplifier	WM	TF-130N-R1	923365	Feb. 10, 2015	Feb. 09, 2016
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16014/4	Dec. 15, 2014	Dec. 14, 2015
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16019/4	Dec. 15, 2014	Dec. 14, 2015
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16139/4	Dec. 15, 2014	Dec. 14, 2015
LF cable 3M	Woken	CFD400NL-LW	CFD400NL-001	Dec. 15, 2014	Dec. 14, 2015
LF cable 10M	Woken	CFD400NL-LW	CFD400NL-002	Dec. 15, 2014	Dec. 14, 2015
Measurement Software	AUDIX	e3	6.120210g	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	RF Conducted				
Test Site	(TH01-WS)				
Tested Date	Sep. 04 ~ Sep. 09, 2015				
Instrument	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Spectrum Analyzer	R&S	FSV40	101063	Feb. 03, 2015	Feb. 02, 2016
Power Meter	Anritsu	ML2495A	1241002	Sep. 29, 2014	Sep. 28, 2015
Power Sensor	Anritsu	MA2411B	1207366	Sep. 29, 2014	Sep. 28, 2015
Measurement Software	Sporton	Sporton_1	1.3.30	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

1.5 Test Standards

According to the specification of EUT, the EUT must comply with following standards and KDB documents.

47 CFR FCC Part 15.247
ANSI C63.10-2013
FCC KDB 558074 D01 DTS Meas Guidance v03r03
FCC KDB 662911 D01 Multiple Transmitter Output v02r01

1.6 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)

Measurement Uncertainty	
Parameters	**Uncertainty**
Bandwidth	±34.134 Hz
Conducted power	±0.808 dB
Power density	±0.463 dB
Conducted emission	±2.670 dB
AC conducted emission	±2.92 dB
Radiated emission ≤ 1GHz	±3.72 dB
Radiated emission > 1GHz	±5.65 dB

2 Test Configuration

2.1 Testing Condition

Test Item	Test Site	Ambient Condition	Tested By
AC Conduction	CO01-WS	23°C / 56%	Kevin Ma
Radiated Emissions	03CH01-WS	21-22°C / 61-68%	Anderson Hong Aska Huang
RF Conducted	TH01-WS	22°C / 61%	Felix Sung

- FCC site registration No.: 657002
- IC site registration No.: 10807A-1

2.2 The Worst Test Modes and Channel Details

Test item	Modulation Mode	Test Frequency (MHz)	Data Rate	Test Configuration
Conducted Emissions	11b	2437	1 Mbps	1, 2
Radiated Emissions ≤1GHz	11b	2437	1 Mbps	1, 2
Radiated Emissions >1GHz Maximum Output Power 6dB bandwidth Power spectral density	11b 11g HT20 HT40	2412 / 2437 / 2462 2412 / 2437 / 2462 2412 / 2437 / 2462 2422 / 2437 / 2452	1 Mbps 6 Mbps MCS 0 MCS 0	1

NOTE:

1. The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement – X, Y, and Z-plane. The **Z-plane** results were found as the worst case and were shown in this report.
2. The EUT was pretested with 2 power supplies: AC adapter and POE. Both power supplies were selected for related test as below test configuration.
3. Test configurations are listed as below:
   1) Configuration 1: POE mode, Z-plane
   2) Configuration 2: AC adapter mode, Z-plane

3 Transmitter Test Results

3.1 Conducted Emissions

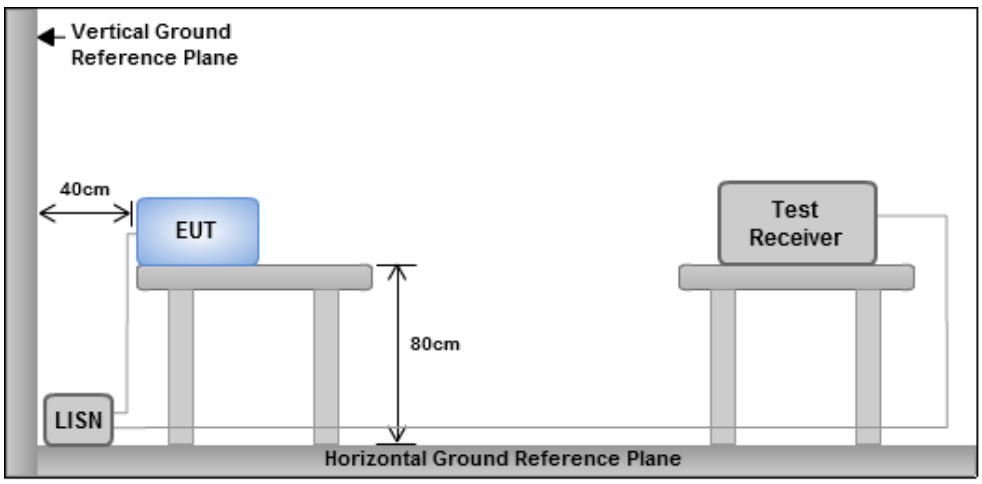
3.1.1 Limit of Conducted Emissions

Conducted Emissions Limit		
Frequency Emission (MHz)	**Quasi-Peak**	**Average**
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50
Note 1: * Decreases with the logarithm of the frequency.		

3.1.2 Test Procedures

1. The device is placed on a test table, raised 80 cm above the reference ground plane. The vertical conducting plane is located 40 cm to the rear of the device.
2. The device is connected to line impedance stabilization network (LISN) and other accessories are connected to other LISN. Measured levels of AC power line conducted emission are across the 50 Ω LISN port.
3. AC conducted emission measurements is made over frequency range from 150 kHz to 30 MHz.
4. This measurement was performed with AC 120V / 60Hz.

3.1.3 Test Setup

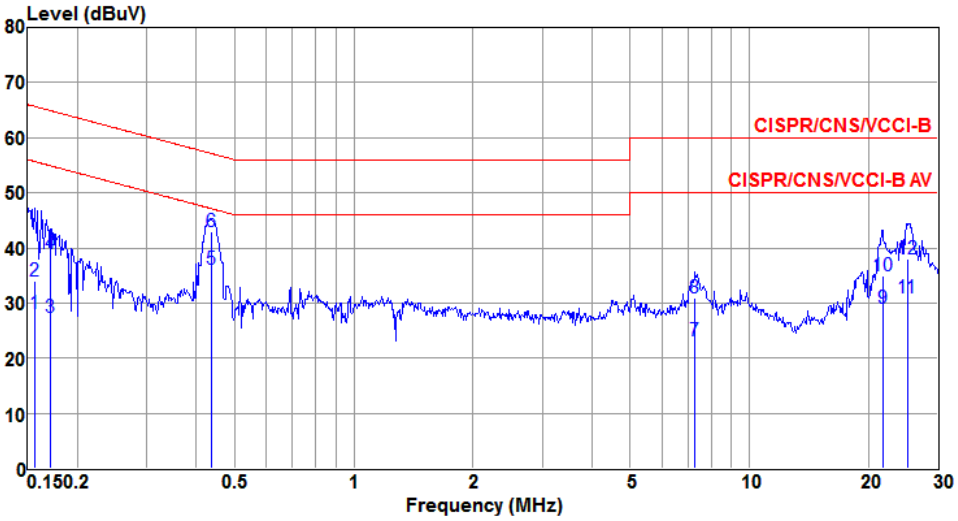


Note: 1. Support units were connected to second LISN.

2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes

3.1.4 Test Result of Conducted Emissions

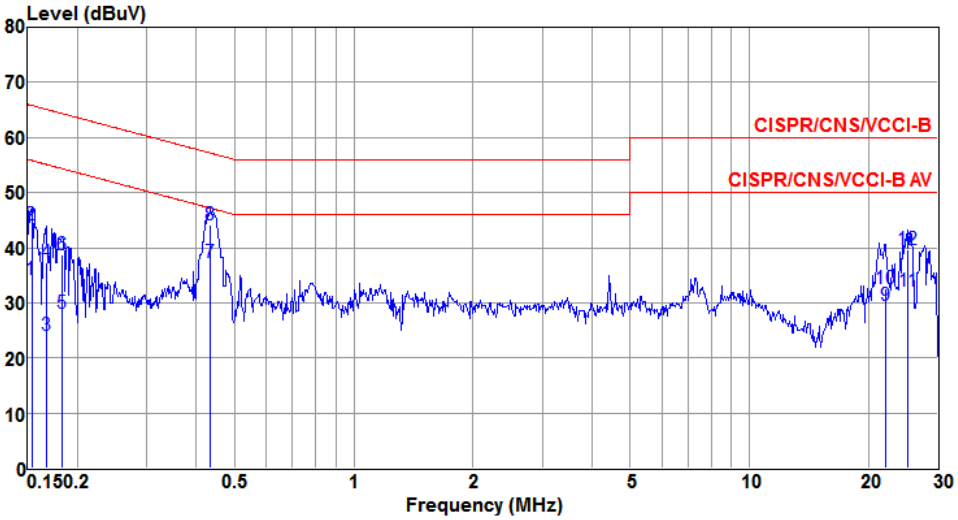
Modulation	11b	Test Freq. (MHz)	2437
Power Phase	Line	Test Configuration	1



	Freq	Level	Limit Line	Over Limit	Read Level	LISN factor	cable loss	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	
1	0.156	28.18	55.69	-27.51	18.43	9.67	0.08	Average
2	0.156	33.93	65.69	-31.76	24.18	9.67	0.08	QP
3	0.171	27.45	54.90	-27.45	17.70	9.67	0.08	Average
4	0.171	38.92	64.90	-25.98	29.17	9.67	0.08	QP
5@	0.437	36.07	47.13	-11.06	26.30	9.66	0.11	Average
6	0.437	43.02	57.13	-14.11	33.25	9.66	0.11	QP
7	7.290	23.11	50.00	-26.89	13.10	9.71	0.30	Average
8	7.290	30.98	60.00	-29.02	20.97	9.71	0.30	QP
9	21.715	29.00	50.00	-21.00	19.26	9.69	0.05	Average
10	21.715	34.99	60.00	-25.01	25.25	9.69	0.05	QP
11	25.055	30.90	50.00	-19.10	21.16	9.65	0.09	Average
12	25.055	38.06	60.00	-21.94	28.32	9.65	0.09	QP

Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB).
2: Over Limit (dB) = Level (dBuV) – Limit Line (dBuV).

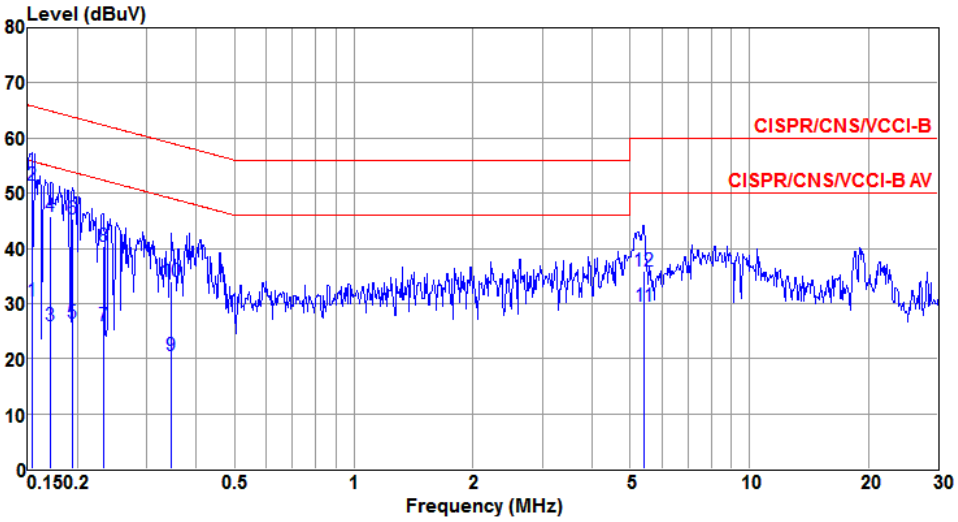
Modulation	11b	Test Freq. (MHz)	2437
Power Phase	Neutral	Test Configuration	1



	Freq	Level	Limit Line	Over Limit	Read Level	LISN factor	cable loss	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	
1	0.153	34.16	55.82	-21.66	24.41	9.67	0.08	Average
2	0.153	44.05	65.82	-21.77	34.30	9.67	0.08	QP
3	0.167	24.11	55.12	-31.01	14.36	9.67	0.08	Average
4	0.167	37.19	65.12	-27.93	27.44	9.67	0.08	QP
5	0.182	28.15	54.37	-26.22	18.40	9.66	0.09	Average
6	0.182	38.64	64.37	-25.73	28.89	9.66	0.09	QP
7@	0.433	37.36	47.20	-9.84	27.59	9.66	0.11	Average
8	0.433	44.10	57.20	-13.10	34.33	9.66	0.11	QP
9	22.063	29.58	50.00	-20.42	19.74	9.79	0.05	Average
10	22.063	32.59	60.00	-27.41	22.75	9.79	0.05	QP
11	25.188	32.08	50.00	-17.92	22.22	9.77	0.09	Average
12	25.188	39.73	60.00	-20.27	29.87	9.77	0.09	QP

Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB).
2: Over Limit (dB) = Level (dBuV) – Limit Line (dBuV).

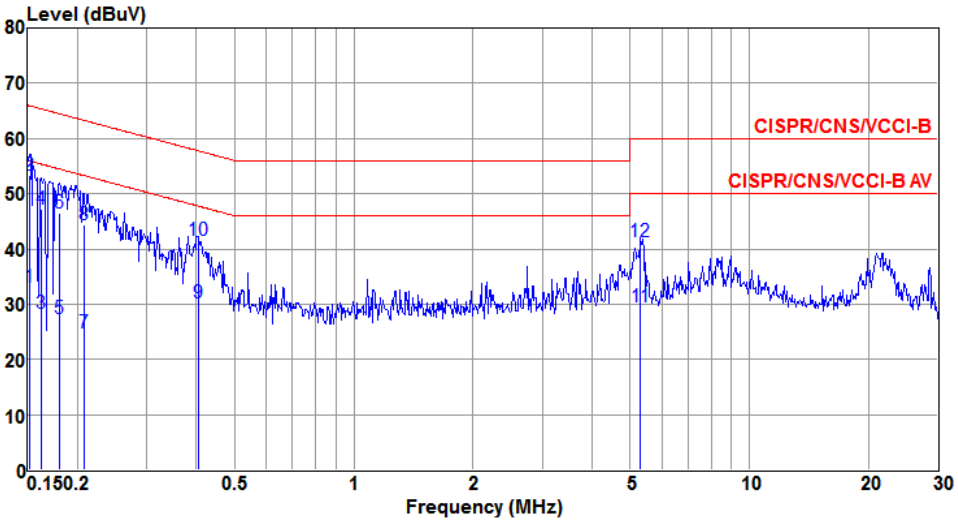
Modulation	11b	Test Freq. (MHz)	2437
Power Phase	Line	Test Configuration	2



	Freq	Level	Limit Line	Over Limit	Read Level	LISN factor	cable loss	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	
1	0.154	30.35	55.78	-25.43	20.60	9.67	0.08	Average
2@	0.154	51.44	65.78	-14.34	41.69	9.67	0.08	QP
3	0.171	26.04	54.90	-28.86	16.29	9.67	0.08	Average
4	0.171	45.81	64.90	-19.09	36.06	9.67	0.08	QP
5	0.194	26.55	53.84	-27.29	16.80	9.66	0.09	Average
6	0.194	45.42	63.84	-18.42	35.67	9.66	0.09	QP
7	0.233	25.93	52.35	-26.42	16.18	9.66	0.09	Average
8	0.233	40.38	62.35	-21.97	30.63	9.66	0.09	QP
9	0.346	20.53	49.05	-28.52	10.76	9.66	0.11	Average
10	0.346	34.02	59.05	-25.03	24.25	9.66	0.11	QP
11	5.419	29.44	50.00	-20.56	19.44	9.69	0.31	Average
12	5.419	35.88	60.00	-24.12	25.88	9.69	0.31	QP

Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB).
2: Over Limit (dB) = Level (dBuV) – Limit Line (dBuV).

Modulation	11b	Test Freq. (MHz)	2437
Power Phase	Neutral	Test Configuration	2



	Freq	Level	Limit Line	Over Limit	Read Level	LISN factor	cable loss	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	
1	0.152	33.12	55.91	-22.79	23.37	9.67	0.08	Average
2@	0.152	53.23	65.91	-12.68	43.48	9.67	0.08	QP
3	0.162	28.40	55.34	-26.94	18.65	9.67	0.08	Average
4	0.162	47.16	65.34	-18.18	37.41	9.67	0.08	QP
5	0.180	27.44	54.50	-27.06	17.69	9.66	0.09	Average
6	0.180	46.45	64.50	-18.05	36.70	9.66	0.09	QP
7	0.208	24.79	53.27	-28.48	15.04	9.66	0.09	Average
8	0.208	44.31	63.27	-18.96	34.56	9.66	0.09	QP
9	0.404	30.11	47.77	-17.66	20.34	9.66	0.11	Average
10	0.404	41.51	57.77	-16.26	31.74	9.66	0.11	QP
11	5.305	29.51	50.00	-20.49	19.50	9.70	0.31	Average
12	5.305	41.39	60.00	-18.61	31.38	9.70	0.31	QP

Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB).
2: Over Limit (dB) = Level (dBuV) – Limit Line (dBuV).

3.2 6dB and Occupied Bandwidth

3.2.1 Limit of 6dB Bandwidth

The minimum 6dB bandwidth shall be at least 500 kHz.

3.2.2 Test Procedures

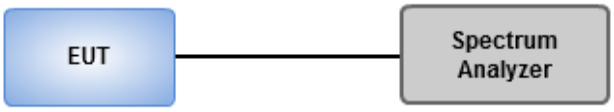
6dB Bandwidth

1. Set resolution bandwidth (RBW) = 100 kHz, Video bandwidth = 300 kHz.
2. Detector = Peak, Trace mode = max hold.
3. Sweep = auto couple, Allow the trace to stabilize.
4. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 6dB relative to the maximum level measured in the fundamental emission.

Occupied Bandwidth

1. Set resolution bandwidth (RBW) = 1 MHz, Video bandwidth = 3 MHz.
2. Detector = Sample, Trace mode = max hold.
3 Sweep = auto couple, Allow the trace to stabilize.
4. Use the OBW measurement function of spectrum analyzer to measure the occupied bandwidth.

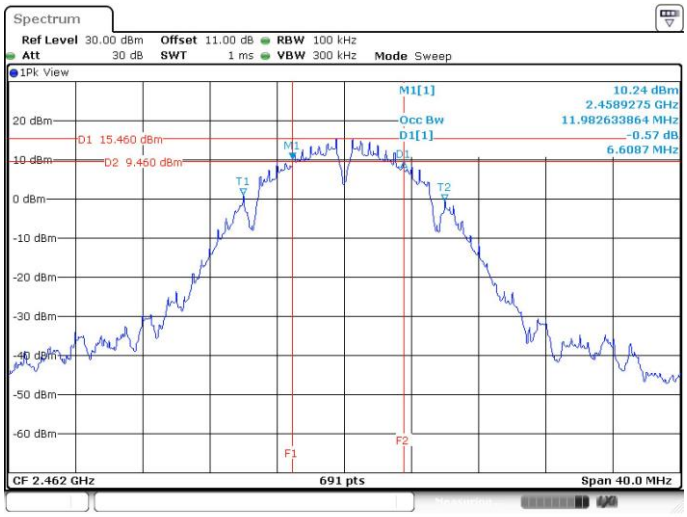
3.2.3 Test Setup



3.2.4 Test Result of 6dB and Occupied Bandwidth

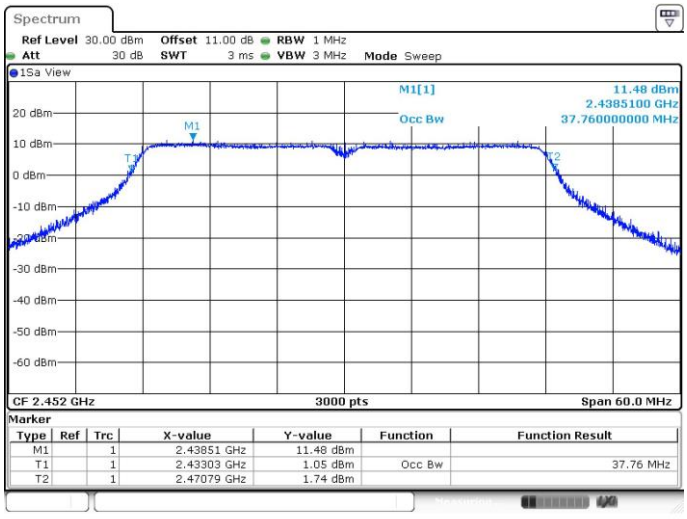
Modulation Mode	N_{TX}	Freq. (MHz)	6dB Bandwidth (MHz)				Limit (kHz)
			Chain 0	Chain 1	Chain 2	Chain 3	
11b	2	2412	7.07	7.07	---	---	500
11b	2	2437	7.54	7.07	---	---	500
11b	2	2462	6.61	7.01	---	---	500
11g	2	2412	16.35	16.35	---	---	500
11g	2	2437	16.35	16.35	---	---	500
11g	2	2462	16.35	16.35	---	---	500
HT20	2	2412	17.62	17.62	---	---	500
HT20	2	2437	17.62	17.62	---	---	500
HT20	2	2462	17.57	17.62	---	---	500
HT40	2	2422	36.41	36.41	---	---	500
HT40	2	2437	36.41	36.41	---	---	500
HT40	2	2452	36.41	36.41	---	---	500

Worst Plot



Modulation Mode	N_{TX}	Freq. (MHz)	99% Occupied Bandwidth (MHz)			
			Chain 0	Chain 1	Chain 2	Chain 3
11b	2	2412	12.05	11.98	---	---
11b	2	2437	12.10	12.05	---	---
11b	2	2462	12.14	12.03	---	---
11g	2	2412	16.77	16.93	---	---
11g	2	2437	17.25	17.37	---	---
11g	2	2462	16.78	16.90	---	---
HT20	2	2412	17.99	18.02	---	---
HT20	2	2437	18.26	18.25	---	---
HT20	2	2462	17.89	17.99	---	---
HT40	2	2422	37.28	37.20	---	---
HT40	2	2437	37.30	37.24	---	---
HT40	2	2452	37.76	37.38	---	---

Worst Plot



3.3 RF Output Power

3.3.1 Limit of RF Output Power

Conducted power shall not exceed 1Watt.

☒ Antenna gain <= 6dBi, no any corresponding reduction is in output power limit.

☐ Antenna gain > 6dBi

☐ Non Fixed, point to point operations.
The conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dB

☐ Fixed, point to point operations
Systems operating in the 2400–2483.5 MHz band that are used exclusively for fixed, point-to-point Operations, maximum peak output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

Systems operating in the 5725–5850 MHz band that are used exclusively for fixed, point-to-point operations ,no any corresponding reduction is in transmitter peak output power

3.3.2 Test Procedures

☐ Maximum Peak Conducted Output Power

☐ **Spectrum analyzer**

1. Set RBW = 1MHz, VBW = 3MHz, Detector = Peak.
2. Sweep time = auto, Trace mode = max hold, Allow trace to fully stabilize.
3. Use the spectrum analyzer channel power measurement function with the band limits set equal to the DTS bandwidth edges.

☐ **Power meter**

1. A broadband Peak RF power meter is used for output power measurement. The video bandwidth of power meter is greater than DTS bandwidth of EUT. If duty cycle of test signal is not 100 %, trigger and gating function of power meter will be enabled to capture transmission burst for measuring output power.

☒ Maximum Conducted Output Power

☒ **Power meter**

1. A broadband Average RF power meter is used for output power measurement. The video bandwidth of power meter is greater than DTS bandwidth of EUT. If duty cycle of test signal is not 100 %, trigger and gating function of power meter will be enabled to capture transmission burst for measuring output power.

3.3.3 Test Setup

3.3.4 Test Result of Maximum Output Power

Modulation Mode	N_{TX}	Freq. (MHz)	Conducted (average) output power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)
			Chain 0	Chain 1	Chain 2	Chain 3			
11b	2	2412	23.22	23.67	---	---	442.703	26.46	30.00
11b	2	2437	24.40	24.42	---	---	552.117	**27.42**	30.00
11b	2	2462	23.66	23.75	---	---	469.411	26.72	30.00
11g	2	2412	19.12	19.43	---	---	169.358	22.29	30.00
11g	2	2437	24.33	24.45	---	---	549.631	27.40	30.00
11g	2	2462	18.34	18.59	---	---	140.511	21.48	30.00
HT20	2	2412	18.02	18.25	---	---	130.221	21.15	30.00
HT20	2	2437	24.14	24.43	---	---	536.750	27.30	30.00
HT20	2	2462	17.83	17.55	---	---	117.559	20.70	30.00
HT40	2	2422	16.01	15.68	---	---	76.885	18.86	30.00
HT40	2	2437	19.35	19.37	---	---	172.596	22.37	30.00
HT40	2	2452	16.86	16.73	---	---	95.627	19.81	30.00

3.4 Power Spectral Density

3.4.1 Limit of Power Spectral Density

Power spectral density shall not be greater than 8 dBm in any 3 kHz band.

3.4.2 Test Procedures

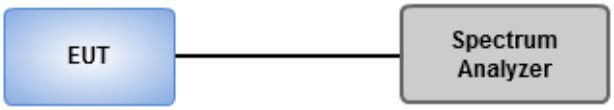
☐ Method PKPSD

1. Set the RBW = 3kHz, VBW = 10kHz.
2. Detector = Peak, Sweep time = auto couple.
3. Trace mode = max hold, allow trace to fully stabilize.
4. Use the peak marker function to determine the maximum amplitude level.

☒ Method AVGPSD-1

1. Set the RBW = 30kHz, VBW = 100 kHz.
2. Detector = RMS, Sweep time = auto couple.
3. Employ trace averaging (RMS) mode over a minimum of 100 traces
4. Use the peak marker function to determine the maximum amplitude level.

3.4.3 Test Setup

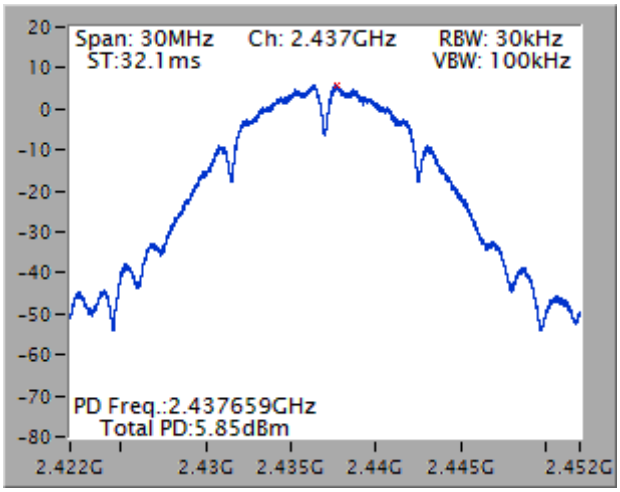


3.4.4 Test Result of Power Spectral Density

Modulation Mode	N_{TX}	Freq. (MHz)	Total Power Spectral Density (dBm/30kHz)	Limit (dBm/3kHz)
11b	2	2412	5.18	8.00
11b	2	2437	5.85	8.00
11b	2	2462	5.49	8.00
11g	2	2412	-3.15	8.00
11g	2	2437	1.97	8.00
11g	2	2462	-3.61	8.00
HT20	2	2412	-4.57	8.00
HT20	2	2437	1.87	8.00
HT20	2	2462	-4.21	8.00
HT40	2	2422	-9.51	8.00
HT40	2	2437	-6.40	8.00
HT40	2	2452	-8.49	8.00

Note: Test result is bin-by-bin summing measured value of each TX port.

Worst Plot



3.5 Unwanted Emissions into Restricted Frequency Bands

3.5.1 Limit of Unwanted Emissions into Restricted Frequency Bands

Restricted Band Emissions Limit			
Frequency Range (MHz)	**Field Strength (uV/m)**	**Field Strength (dBuV/m)**	**Measure Distance (m)**
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300
0.490~1.705	24000/F(kHz)	33.8 - 23	30
1.705~30.0	30	29	30
30~88	100	40	3
88~216	150	43.5	3
216~960	200	46	3
Above 960	500	54	3

Note 1:
Qusai-Peak value is measured for frequency below 1GHz except for 9–90 kHz, 110–490 kHz frequency band. Peak and average value are measured for frequency above 1GHz. The limit on average radio frequency emission is as above table. The limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit
Note 2:
Measurements may be performed at a distance other than what is specified provided. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor as below, Frequency at or above 30 MHz: 20 dB/decade Frequency below 30 MHz: 40 dB/decade.

3.5.2 Test Procedures

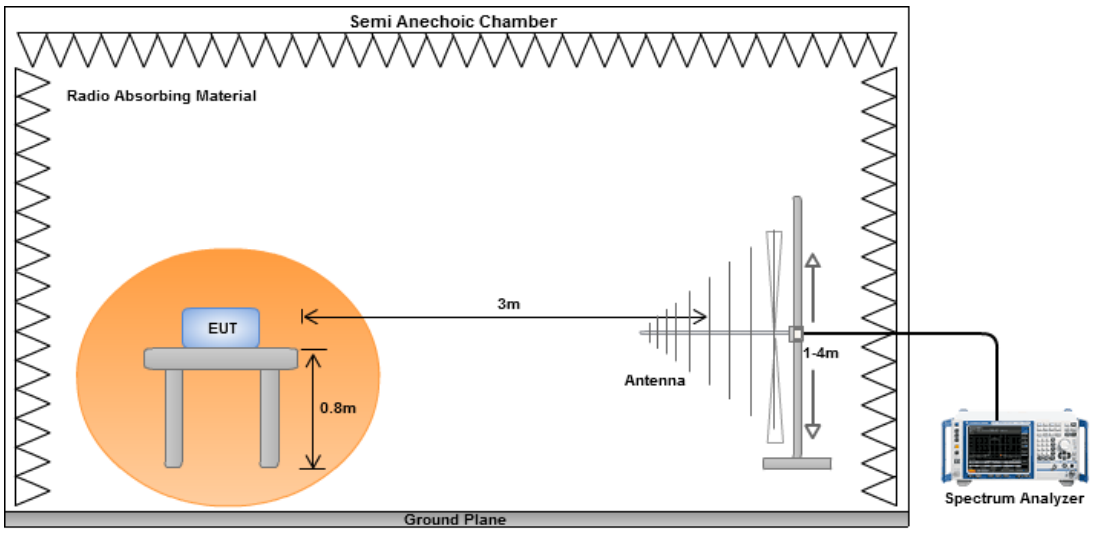
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission frequency. The EUT is placed at test table. For emissions testing at or below 1 GHz, the table height is 80 cm above the reference ground plane. For emission measurements above 1 GHz, the table height is 1.5 m
2. Measurement is made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna is varied in height (1m ~ 4m) above the reference ground plane to obtain the maximum signal strength. Distance between EUT and antenna is 3 m.
3. This investigation is performed with the EUT rotated 360°, the antenna height scanned between 1 m and 4 m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations.

Note:

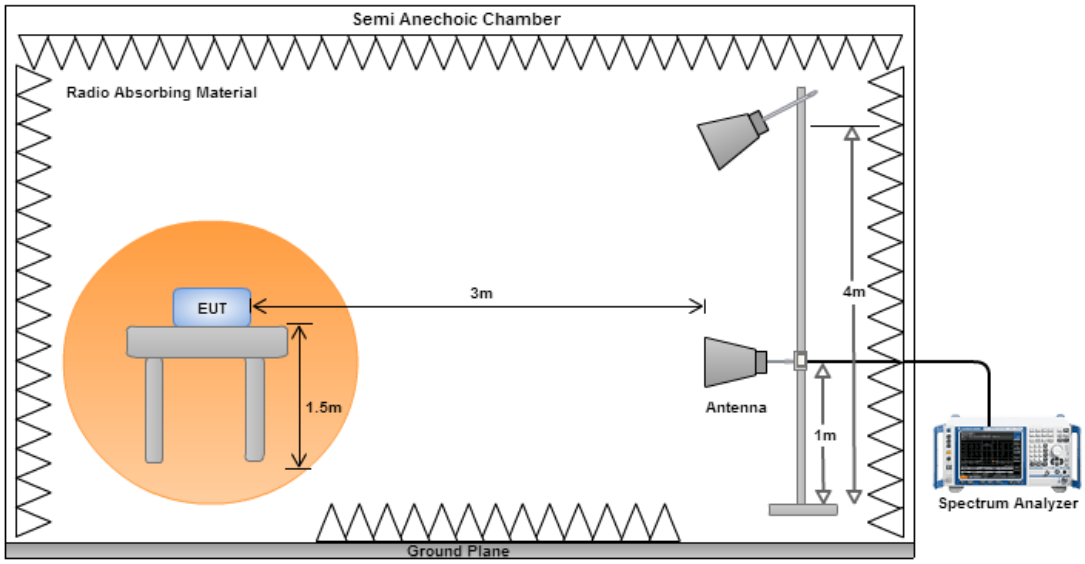
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
3. RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above 1GHz.

3.5.3 Test Setup

Radiated Emissions below 1 GHz

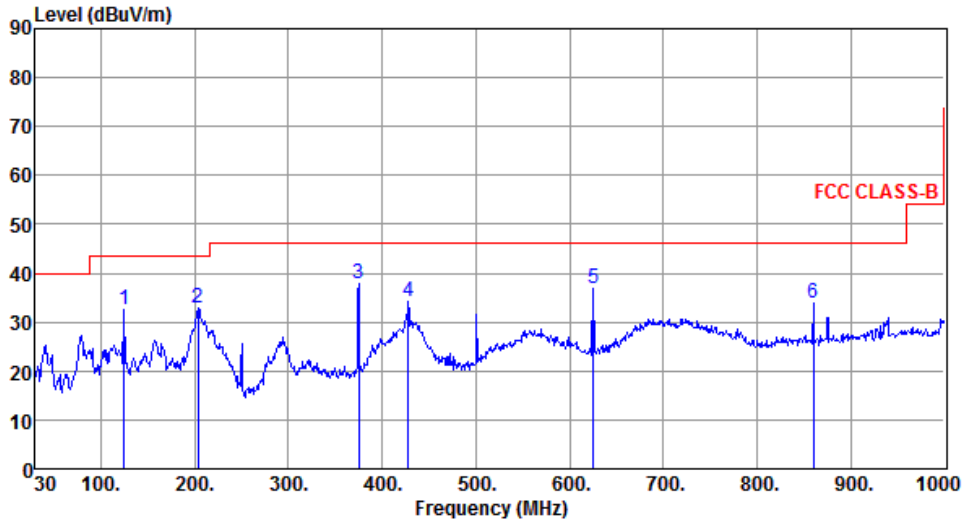


Radiated Emissions above 1 GHz



3.5.4 Transmitter Radiated Unwanted Emissions (Below 1GHz)

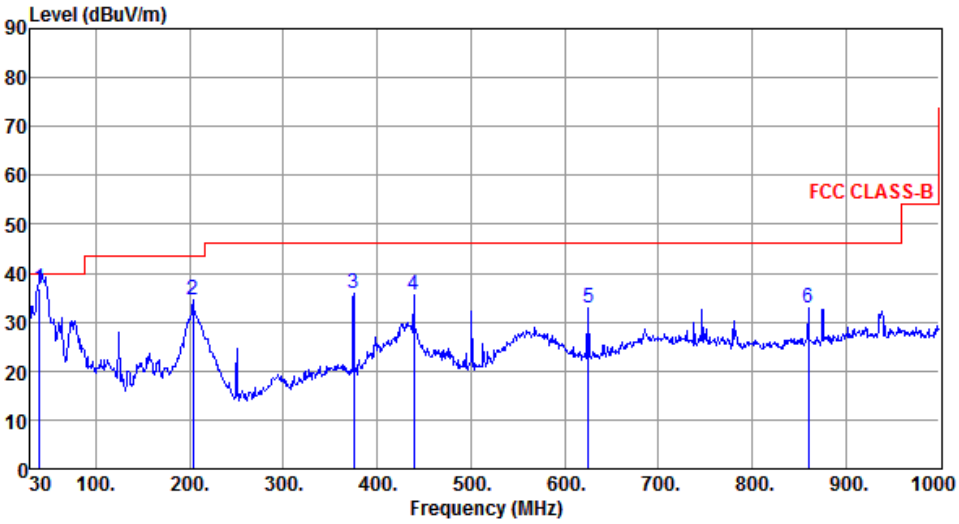
Modulation	11b	Test Freq. (MHz)	2437
Polarization	Horizontal	Test Configuration	1



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	125.06	32.67	43.50	-10.83	51.06	-18.39	Peak	---	---
2	203.63	32.78	43.50	-10.72	52.09	-19.31	Peak	---	---
3	375.32	37.81	46.00	-8.19	51.95	-14.14	Peak	---	---
4	427.70	34.24	46.00	-11.76	47.01	-12.77	Peak	---	---
5	625.58	36.97	46.00	-9.03	46.06	-9.09	Peak	---	---
6	860.32	33.83	46.00	-12.17	39.69	-5.86	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

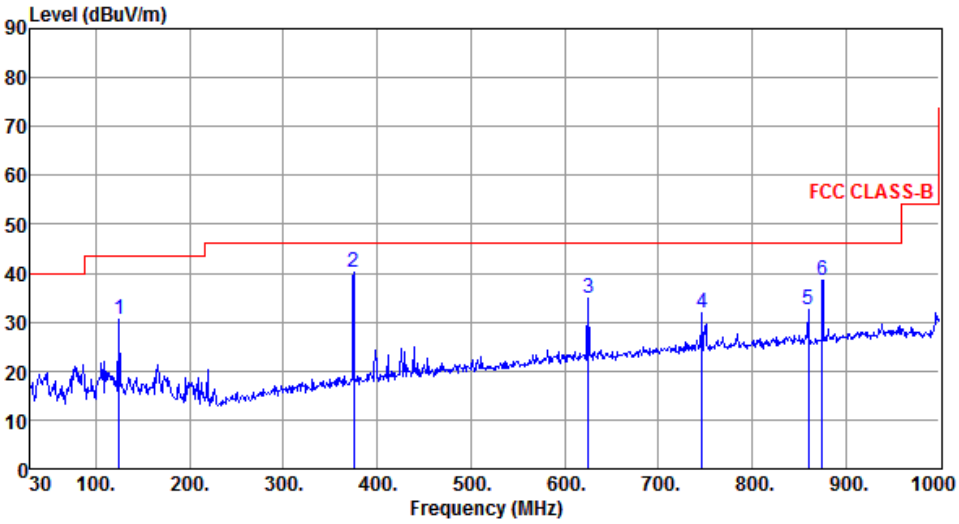
Modulation	11b	Test Freq. (MHz)	2437
Polarization	Vertical	Test Configuration	1



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	39.70	36.98	40.00	-3.02	53.74	-16.76	QP	100	238
2	203.63	34.50	43.50	-9.00	53.81	-19.31	Peak	---	---
3	375.32	35.77	46.00	-10.23	49.91	-14.14	Peak	---	---
4	439.34	35.62	46.00	-10.38	48.10	-12.48	Peak	---	---
5	625.58	32.93	46.00	-13.07	42.02	-9.09	Peak	---	---
6	860.32	32.78	46.00	-13.22	38.64	-5.86	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

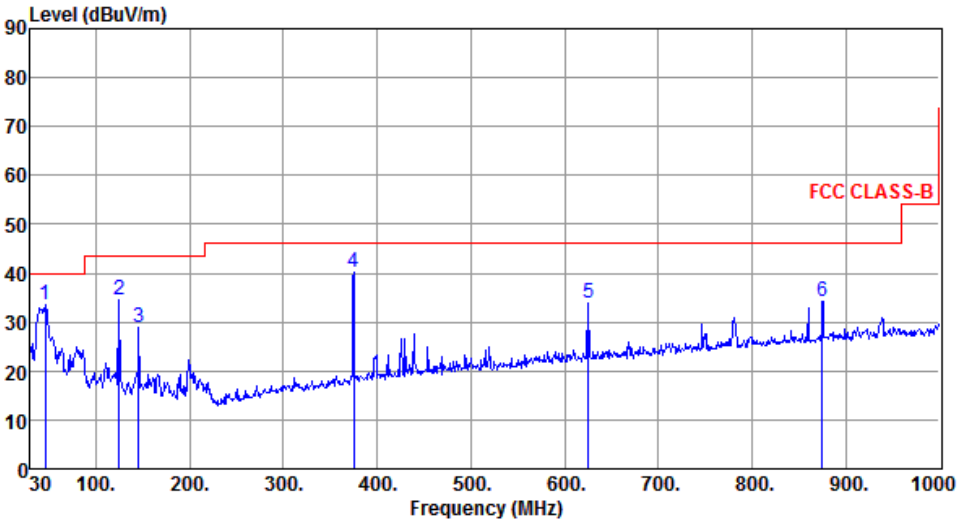
Modulation	11b	Test Freq. (MHz)	2437
Polarization	Horizontal	Test Configuration	2



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	125.06	30.72	43.50	-12.78	49.11	-18.39	Peak	---	---
2	375.32	40.18	46.00	-5.82	54.32	-14.14	Peak	---	---
3	625.58	34.84	46.00	-11.16	43.93	-9.09	Peak	---	---
4	746.83	32.01	46.00	-13.99	39.07	-7.06	Peak	---	---
5	860.32	32.44	46.00	-13.56	38.30	-5.86	Peak	---	---
6	874.87	38.63	46.00	-7.37	44.30	-5.67	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

Modulation	11b	Test Freq. (MHz)	2437
Polarization	Vertical	Test Configuration	2

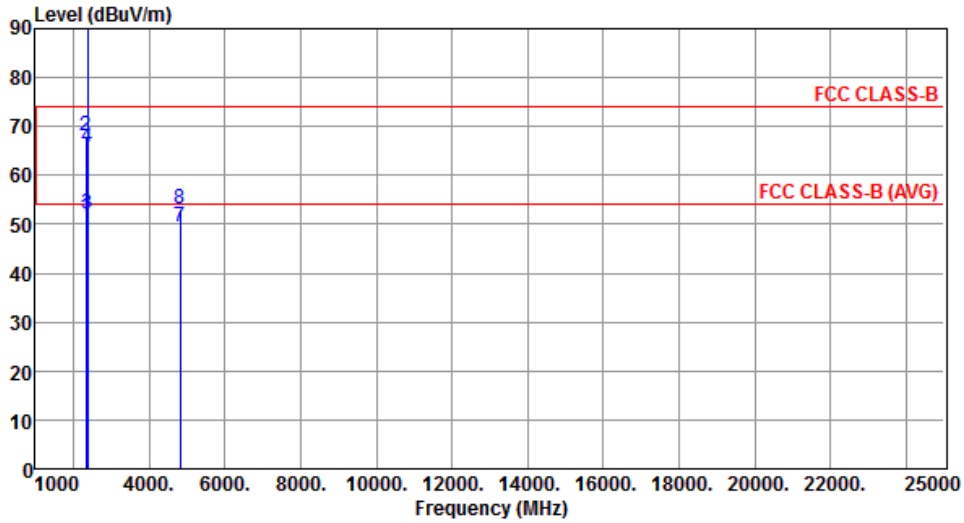


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	45.52	33.62	40.00	-6.38	49.85	-16.23	Peak	---	---
2	125.06	34.64	43.50	-8.86	53.03	-18.39	Peak	---	---
3	145.43	28.75	43.50	-14.75	45.59	-16.84	Peak	---	---
4	375.32	40.28	46.00	-5.72	54.42	-14.14	Peak	---	---
5	625.58	34.03	46.00	-11.97	43.12	-9.09	Peak	---	---
6	874.87	34.36	46.00	-11.64	40.03	-5.67	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

3.5.5 Transmitter Radiated Unwanted Emissions (Above 1GHz) for 11b

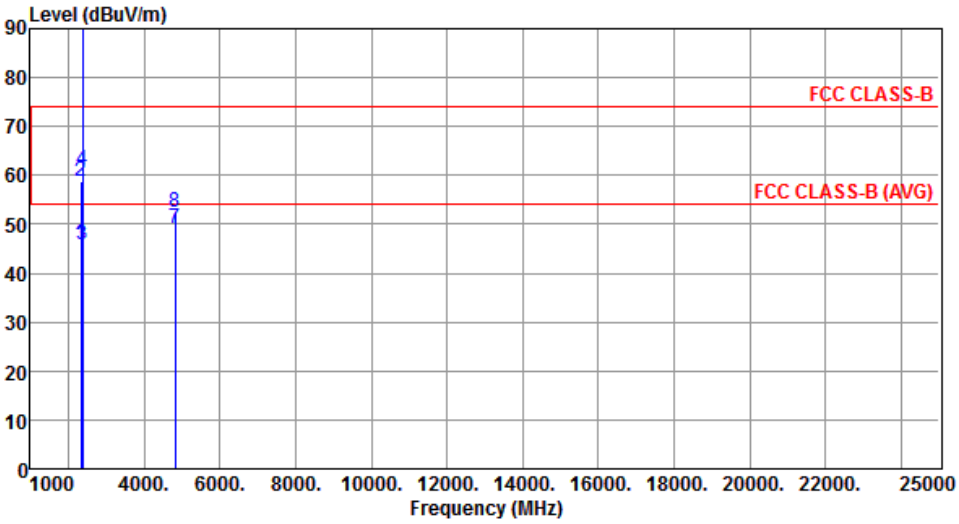
Modulation	11b	Test Freq. (MHz)	2412
Polarization	Horizontal	Test Configuration	1



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		2331.00	51.64	54.00	-2.36	55.20	-3.56	Average	115	313
2		2331.00	68.19	74.00	-5.81	71.75	-3.56	Peak	115	313
3		2390.00	52.22	54.00	-1.78	55.56	-3.34	Average	115	313
4		2390.00	65.89	74.00	-8.11	69.23	-3.34	Peak	115	313
5	*	2412.00	114.74			117.98	-3.24	Average	115	313
6	*	2412.00	117.42			120.66	-3.24	Peak	115	313
7		4824.00	49.35	54.00	-4.65	44.51	4.84	Average	104	319
8		4824.00	53.15	74.00	-20.85	48.31	4.84	Peak	104	319

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3:"*" is Peak / Average value of fundamental frequency

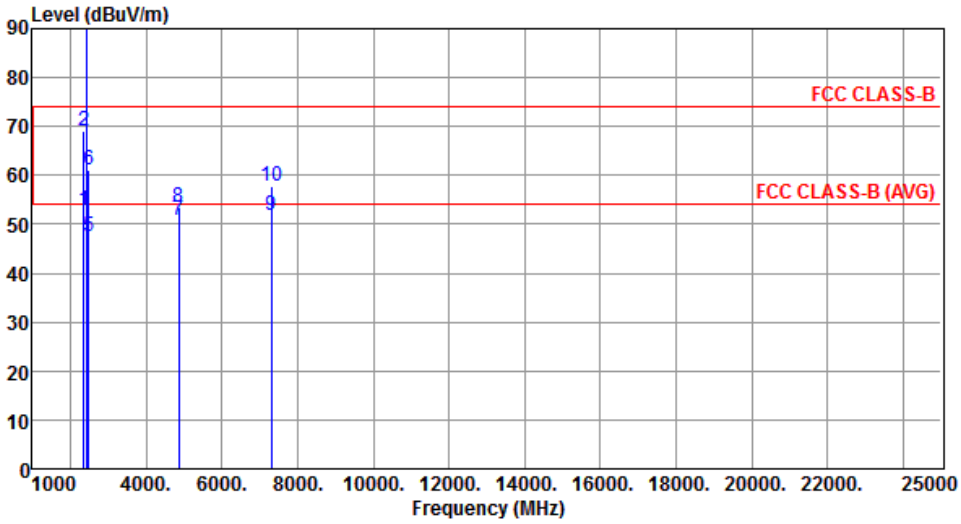
Modulation	11b	Test Freq. (MHz)	2412
Polarization	Vertical	Test Configuration	1



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		2331.00	45.85	54.00	-8.15	49.41	-3.56	Average	101	314
2		2331.00	58.92	74.00	-15.08	62.48	-3.56	Peak	101	314
3		2390.00	45.95	54.00	-8.05	49.29	-3.34	Average	101	314
4		2390.00	61.00	74.00	-13.00	64.34	-3.34	Peak	101	314
5	*	2412.00	109.57			112.81	-3.24	Average	101	314
6	*	2412.00	112.13			115.37	-3.24	Peak	101	314
7		4824.00	49.04	54.00	-4.96	44.20	4.84	Average	103	315
8		4824.00	52.35	74.00	-21.65	47.51	4.84	Peak	103	315

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3:"*" is Peak / Average value of fundamental frequency

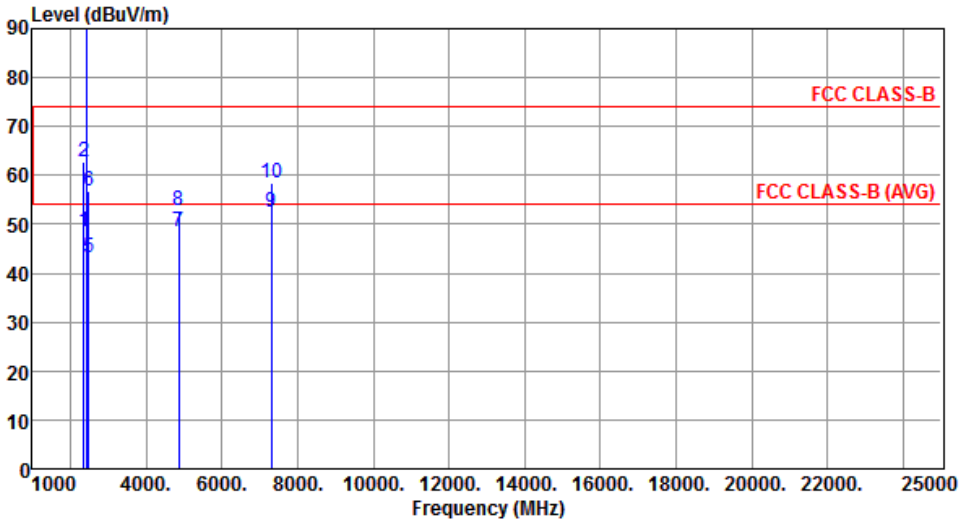
Modulation	11b	Test Freq. (MHz)	2437
Polarization	Horizontal	Test Configuration	1



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		2356.00	52.85	54.00	-1.15	56.32	-3.47	Average	110	305
2		2356.00	69.18	74.00	-4.82	72.65	-3.47	Peak	110	305
3	*	2437.00	115.64			118.76	-3.12	Average	110	311
4	*	2437.00	118.24			121.36	-3.12	Peak	110	311
5		2483.50	47.38	54.00	-6.62	50.28	-2.90	Average	105	309
6		2483.50	61.00	74.00	-13.00	63.90	-2.90	Peak	105	309
7		4874.00	50.94	54.00	-3.06	45.97	4.97	Average	196	187
8		4874.00	53.62	74.00	-20.38	48.65	4.97	Peak	196	187
9		7311.00	51.68	54.00	-2.32	42.15	9.53	Average	195	316
10		7311.00	57.84	74.00	-16.16	48.31	9.53	Peak	195	316

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3:"*" is Peak / Average value of fundamental frequency

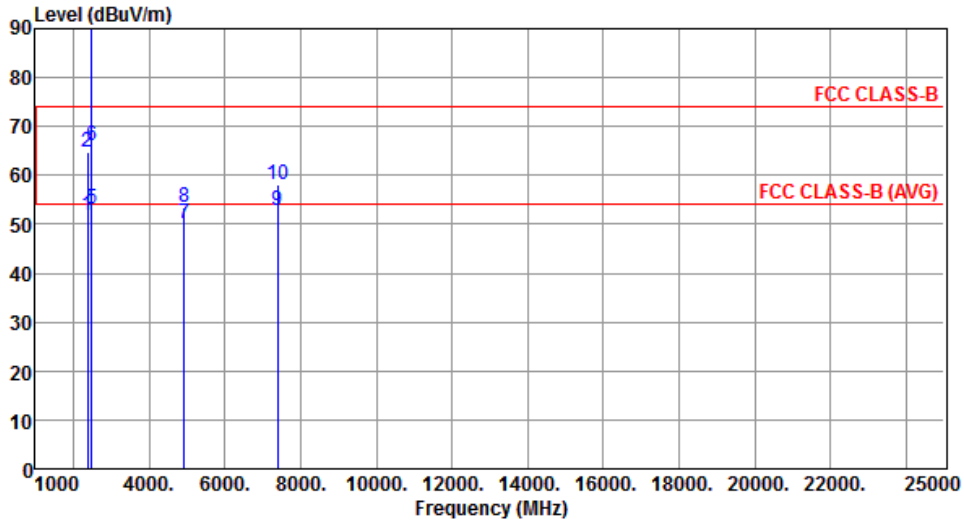
Modulation	11b	Test Freq. (MHz)	2437
Polarization	Vertical	Test Configuration	1



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		2356.00	48.51	54.00	-5.49	51.98	-3.47	Average	105	315
2		2356.00	62.86	74.00	-11.14	66.33	-3.47	Peak	105	315
3	*	2437.00	109.51			112.63	-3.12	Average	122	312
4	*	2437.00	112.32			115.44	-3.12	Peak	122	312
5		2483.50	43.27	54.00	-10.73	46.17	-2.90	Average	112	13
6		2483.50	56.85	74.00	-17.15	59.75	-2.90	Peak	112	13
7		4874.00	48.62	54.00	-5.38	43.65	4.97	Average	268	163
8		4874.00	52.96	74.00	-21.04	47.99	4.97	Peak	268	163
9		7311.00	52.63	54.00	-1.37	43.10	9.53	Average	321	5
10		7311.00	58.34	74.00	-15.66	48.81	9.53	Peak	321	5

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3:"*" is Peak / Average value of fundamental frequency

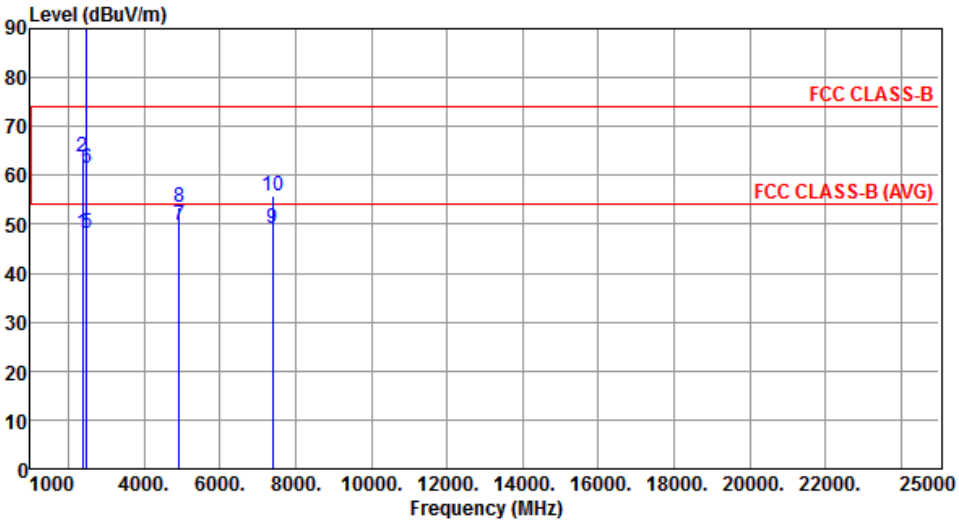
Modulation	11b	Test Freq. (MHz)	2462
Polarization	Horizontal	Test Configuration	1



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		2382.00	51.77	54.00	-2.23	55.13	-3.36	Average	115	308
2		2382.00	64.78	74.00	-9.22	68.14	-3.36	Peak	115	308
3	*	2462.00	113.54			116.54	-3.00	Average	118	292
4	*	2462.00	116.18			119.18	-3.00	Peak	118	292
5		2483.50	53.20	54.00	-0.80	56.10	-2.90	Average	100	310
6		2483.50	65.97	74.00	-8.03	68.87	-2.90	Peak	100	310
7		4924.00	50.19	54.00	-3.81	45.08	5.11	Average	221	332
8		4924.00	53.58	74.00	-20.42	48.47	5.11	Peak	221	332
9		7386.00	52.77	54.00	-1.23	43.10	9.67	Average	117	275
10		7386.00	58.04	74.00	-15.96	48.37	9.67	Peak	117	275

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3:"*" is Peak / Average value of fundamental frequency

Modulation	11b	Test Freq. (MHz)	2462
Polarization	Vertical	Test Configuration	1

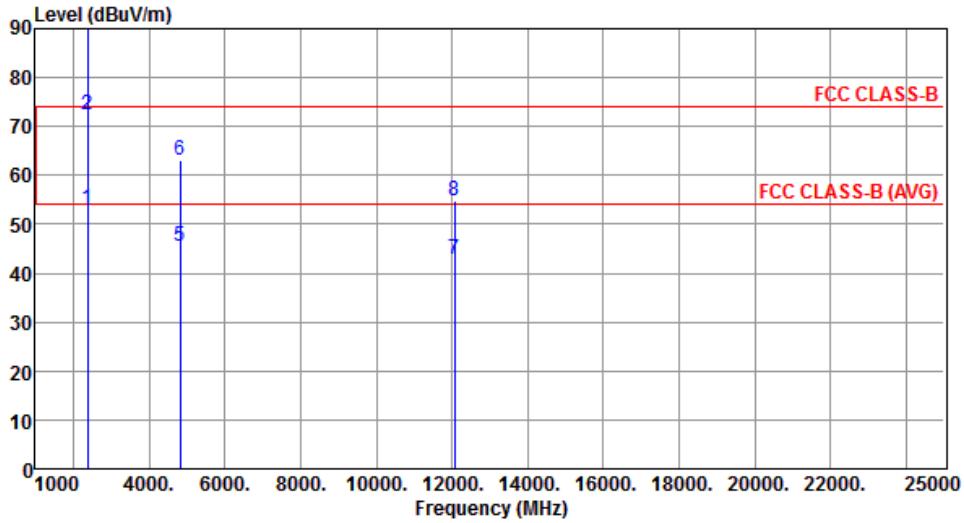


		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		2382.00	48.15	54.00	-5.85	51.51	-3.36	Average	122	2
2		2382.00	63.78	74.00	-10.22	67.14	-3.36	Peak	122	2
3	*	2462.00	110.34			113.34	-3.00	Average	122	2
4	*	2462.00	112.87			115.87	-3.00	Peak	122	2
5		2483.50	48.29	54.00	-5.71	51.19	-2.90	Average	122	2
6		2483.50	61.32	74.00	-12.68	64.22	-2.90	Peak	122	2
7		4924.00	49.89	54.00	-4.11	44.78	5.11	Average	110	321
8		4924.00	53.53	74.00	-20.47	48.42	5.11	Peak	110	321
9		7386.00	49.08	54.00	-4.92	39.41	9.67	Average	264	133
10		7386.00	55.78	74.00	-18.22	46.11	9.67	Peak	264	133

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3:"*" is Peak / Average value of fundamental frequency

3.5.6 Transmitter Radiated Unwanted Emissions (Above 1GHz) for 11g

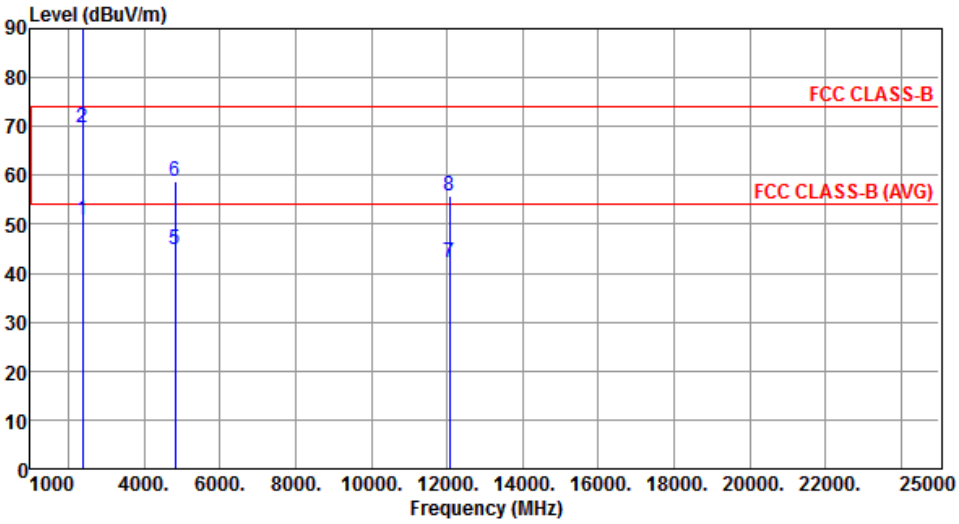
Modulation	11g	Test Freq. (MHz)	2412
Polarization	Horizontal	Test Configuration	1



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		2390.00	53.13	54.00	-0.87	56.47	-3.34	Average	135	43
2		2390.00	72.47	74.00	-1.53	75.81	-3.34	Peak	135	43
3	*	2412.00	103.94			107.18	-3.24	Average	100	307
4	*	2412.00	115.63			118.87	-3.24	Peak	100	307
5		4824.00	45.43	54.00	-8.57	40.59	4.84	Average	212	310
6		4824.00	63.02	74.00	-10.98	58.18	4.84	Peak	212	310
7		12060.00	42.88	54.00	-11.12	28.16	14.72	Average	193	67
8		12060.00	54.81	74.00	-19.19	40.09	14.72	Peak	193	67

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3:"*" is Peak / Average value of fundamental frequency

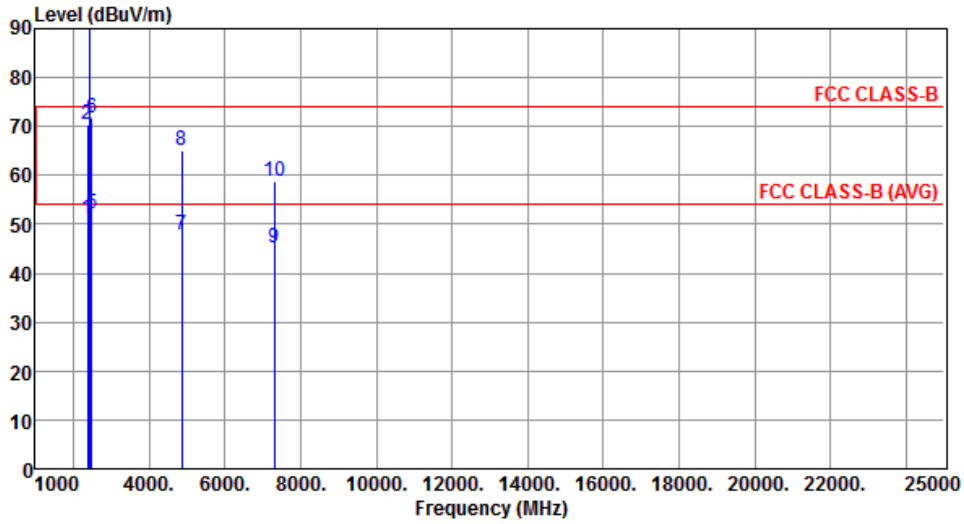
Modulation	11g	Test Freq. (MHz)	2412
Polarization	Vertical	Test Configuration	1



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		2390.00	50.76	54.00	-3.24	54.10	-3.34	Average	100	357
2		2390.00	69.77	74.00	-4.23	73.11	-3.34	Peak	100	357
3	*	2412.00	98.39			101.63	-3.24	Average	100	357
4	*	2412.00	110.23			113.47	-3.24	Peak	100	357
5		4824.00	44.75	54.00	-9.25	39.91	4.84	Average	255	322
6		4824.00	58.83	74.00	-15.17	53.99	4.84	Peak	255	322
7		12060.00	42.21	54.00	-11.79	27.49	14.72	Average	206	183
8		12060.00	55.92	74.00	-18.08	41.20	14.72	Peak	206	183

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3:"*" is Peak / Average value of fundamental frequency

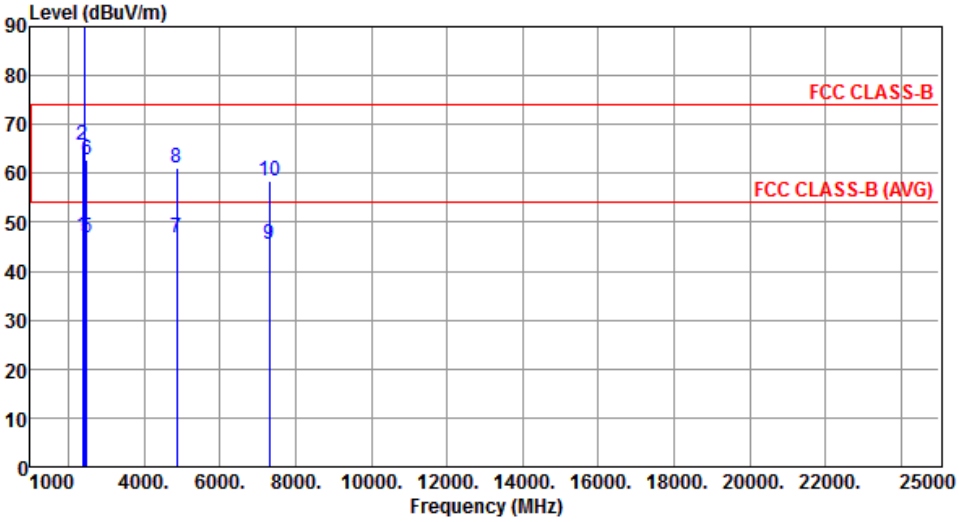
Modulation	11g	Test Freq. (MHz)	2437
Polarization	Horizontal	Test Configuration	1



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		2390.00	51.21	54.00	-2.79	54.55	-3.34	Average	100	312
2		2390.00	70.30	74.00	-3.70	73.64	-3.34	Peak	100	312
3	*	2437.00	108.53			111.65	-3.12	Average	100	312
4	*	2437.00	120.21			123.33	-3.12	Peak	100	312
5		2483.50	52.22	54.00	-1.78	55.12	-2.90	Average	100	312
6		2483.50	71.57	74.00	-2.43	74.47	-2.90	Peak	100	312
7		4874.00	47.66	54.00	-6.34	42.69	4.97	Average	216	304
8		4874.00	65.18	74.00	-8.82	60.21	4.97	Peak	216	304
9		7311.00	45.30	54.00	-8.70	35.77	9.53	Average	181	30
10		7311.00	58.65	74.00	-15.35	49.12	9.53	Peak	181	30

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3:"*" is Peak / Average value of fundamental frequency

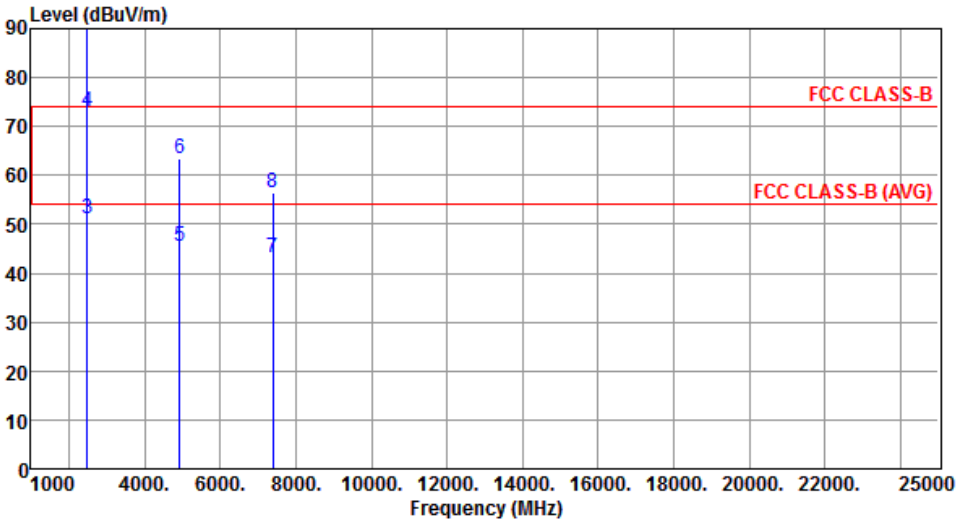
Modulation	11g	**Test Freq. (MHz)**	2437
Polarization	Vertical	**Test Configuration**	1



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		2390.00	47.23	54.00	-6.77	50.57	-3.34	Average	100	8
2		2390.00	65.82	74.00	-8.18	69.16	-3.34	Peak	100	8
3	*	2437.00	103.27			106.39	-3.12	Average	100	8
4	*	2437.00	115.77			118.89	-3.12	Peak	100	8
5		2483.50	46.74	54.00	-7.26	49.64	-2.90	Average	100	8
6		2483.50	62.87	74.00	-11.13	65.77	-2.90	Peak	100	8
7		4874.00	46.81	54.00	-7.19	41.84	4.97	Average	257	324
8		4874.00	60.97	74.00	-13.03	56.00	4.97	Peak	257	324
9		7311.00	45.39	54.00	-8.61	35.86	9.53	Average	276	7
10		7311.00	58.46	74.00	-15.54	48.93	9.53	Peak	276	7

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3:"*" is Peak / Average value of fundamental frequency

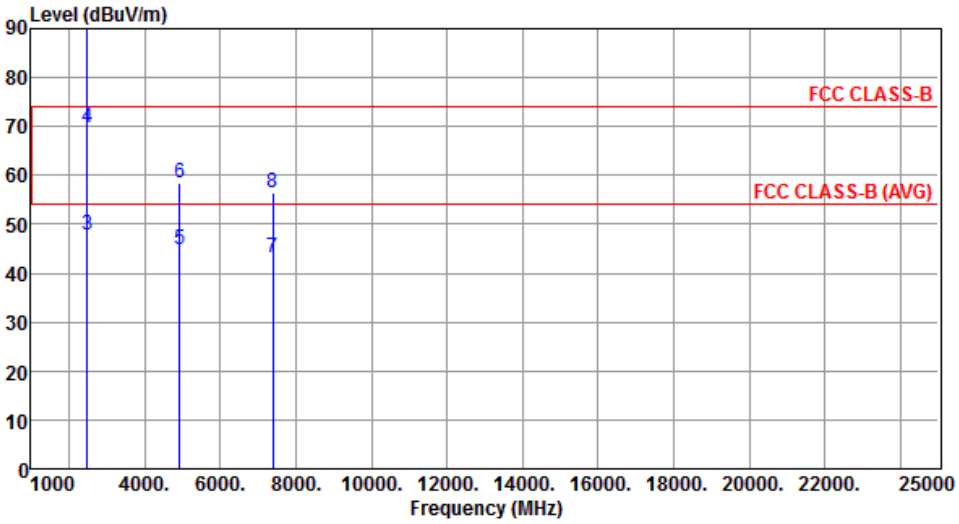
Modulation	11g	Test Freq. (MHz)	2462
Polarization	Horizontal	Test Configuration	1



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	*	2462.00	103.44			106.44	-3.00	Average	100	307
2	*	2462.00	115.09			118.09	-3.00	Peak	100	307
3		2483.50	51.30	54.00	-2.70	54.20	-2.90	Average	100	307
4		2483.50	72.99	74.00	-1.01	75.89	-2.90	Peak	100	307
5		4924.00	45.34	54.00	-8.66	40.23	5.11	Average	218	316
6		4924.00	63.42	74.00	-10.58	58.31	5.11	Peak	218	316
7		7386.00	43.15	54.00	-10.85	33.48	9.67	Average	185	36
8		7386.00	56.52	74.00	-17.48	46.85	9.67	Peak	185	36

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3:"*" is Peak / Average value of fundamental frequency

Modulation	11g	Test Freq. (MHz)	2462
Polarization	Vertical	Test Configuration	1

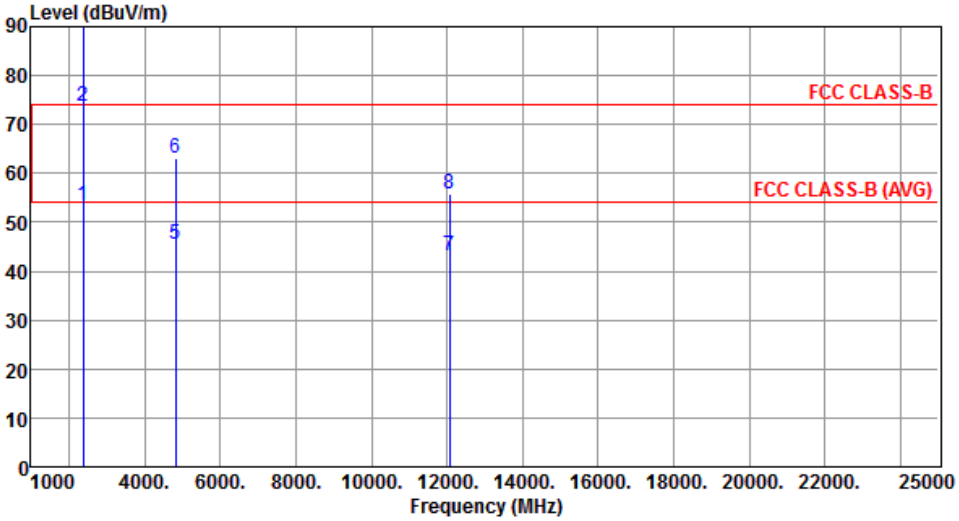


		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	*	2462.00	97.85			100.85	-3.00	Average	250	2
2	*	2462.00	109.48			112.48	-3.00	Peak	250	2
3		2483.50	47.92	54.00	-6.08	50.82	-2.90	Average	113	2
4		2483.50	69.72	74.00	-4.28	72.62	-2.90	Peak	113	2
5		4924.00	44.67	54.00	-9.33	39.56	5.11	Average	253	314
6		4924.00	58.49	74.00	-15.51	53.38	5.11	Peak	253	314
7		7386.00	43.26	54.00	-10.74	33.59	9.67	Average	271	13
8		7386.00	56.37	74.00	-17.63	46.70	9.67	Peak	271	13

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3:"*" is Peak / Average value of fundamental frequency

3.5.7 Transmitter Radiated Unwanted Emissions (Above 1GHz) for HT20

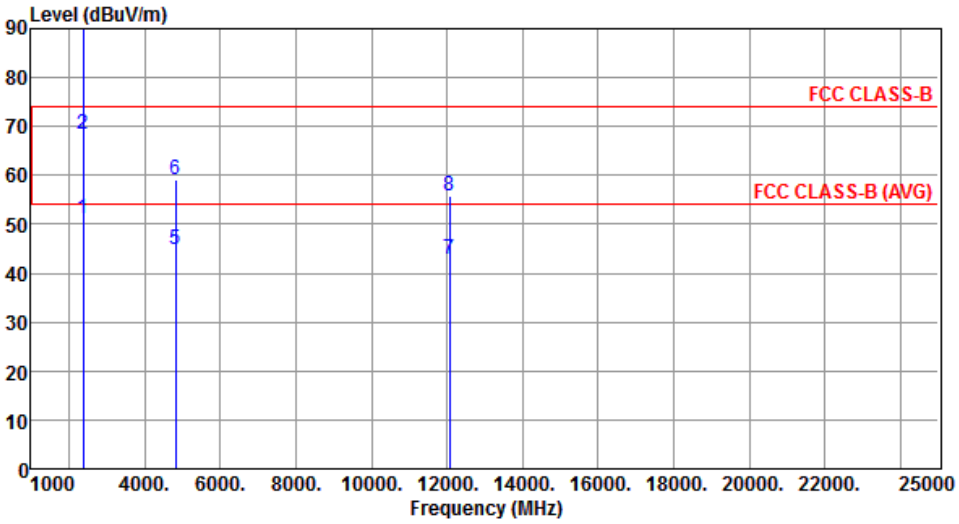
Modulation	HT20	Test Freq. (MHz)	2412
Polarization	Horizontal	Test Configuration	1



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		2390.00	53.62	54.00	-0.38	56.96	-3.34	Average	115	308
2		2390.00	73.68	74.00	-0.32	77.02	-3.34	Peak	115	308
3	*	2412.00	102.78			106.02	-3.24	Average	115	308
4	*	2412.00	114.97			118.21	-3.24	Peak	115	308
5		4824.00	45.40	54.00	-8.60	40.56	4.84	Average	202	315
6		4824.00	63.05	74.00	-10.95	58.21	4.84	Peak	202	315
7		12060.00	43.24	54.00	-10.76	28.52	14.72	Average	185	82
8		12060.00	55.83	74.00	-18.17	41.11	14.72	Peak	112	317

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3:"*" is Peak / Average value of fundamental frequency

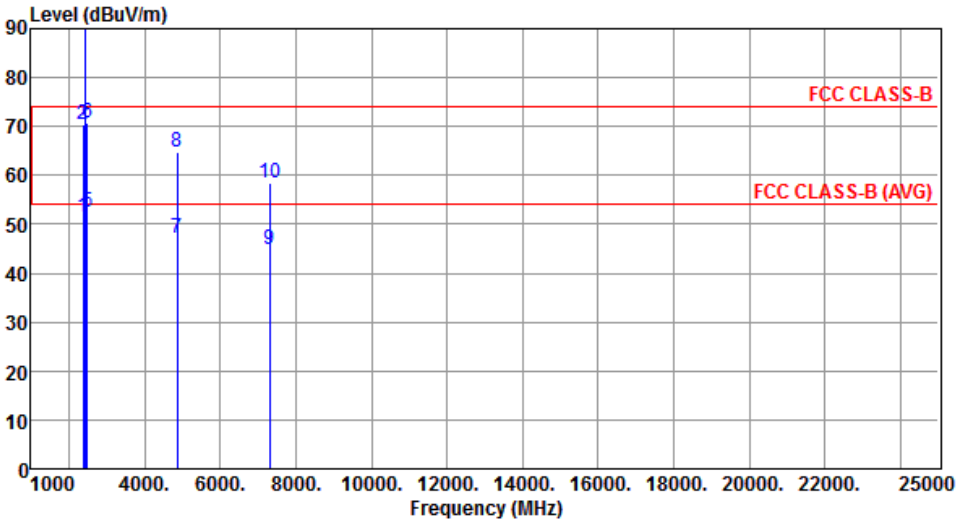
Modulation	HT20	**Test Freq. (MHz)**	2412
Polarization	Vertical	**Test Configuration**	1



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		2390.00	51.19	54.00	-2.81	54.53	-3.34	Average	100	5
2		2390.00	68.52	74.00	-5.48	71.86	-3.34	Peak	100	5
3	*	2412.00	96.78			100.02	-3.24	Average	100	5
4	*	2412.00	108.97			112.21	-3.24	Peak	100	5
5		4824.00	44.70	54.00	-9.30	39.86	4.84	Average	242	318
6		4824.00	59.07	74.00	-14.93	54.23	4.84	Peak	242	318
7		12060.00	42.92	54.00	-11.08	28.20	14.72	Average	202	175
8		12060.00	55.92	74.00	-18.08	41.20	14.72	Peak	202	175

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3:"*" is Peak / Average value of fundamental frequency

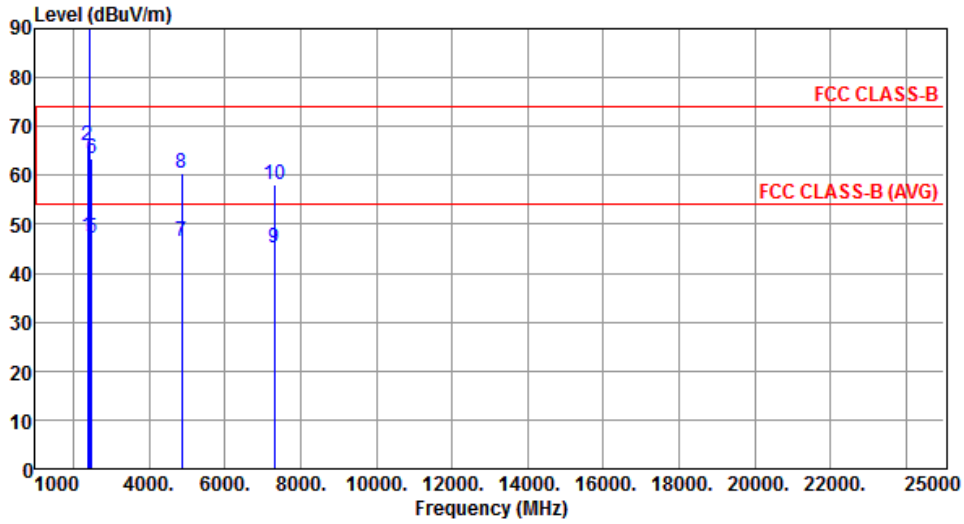
Modulation	HT20	Test Freq. (MHz)	2437
Polarization	Horizontal	Test Configuration	1



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		2390.00	51.61	54.00	-2.39	54.95	-3.34	Average	100	311
2		2390.00	70.43	74.00	-3.57	73.77	-3.34	Peak	100	311
3	*	2437.00	108.16			111.28	-3.12	Average	100	311
4	*	2437.00	120.74			123.86	-3.12	Peak	100	311
5		2483.50	52.51	54.00	-1.49	55.41	-2.90	Average	100	311
6		2483.50	70.62	74.00	-3.38	73.52	-2.90	Peak	100	311
7		4874.00	47.27	54.00	-6.73	42.30	4.97	Average	211	309
8		4874.00	64.78	74.00	-9.22	59.81	4.97	Peak	211	309
9		7311.00	44.96	54.00	-9.04	35.43	9.53	Average	180	39
10		7311.00	58.43	74.00	-15.57	48.90	9.53	Peak	180	39

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3:"*" is Peak / Average value of fundamental frequency

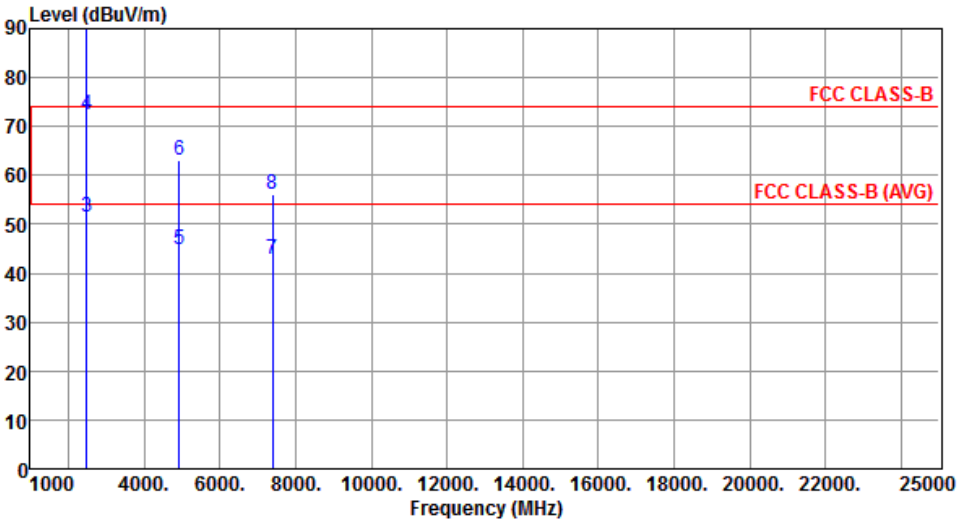
Modulation	HT20	Test Freq. (MHz)	2437
Polarization	Vertical	Test Configuration	1



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		2390.00	47.56	54.00	-6.44	50.90	-3.34	Average	102	13
2		2390.00	66.24	74.00	-7.76	69.58	-3.34	Peak	102	13
3	*	2437.00	103.05			106.17	-3.12	Average	102	13
4	*	2437.00	116.02			119.14	-3.12	Peak	102	13
5		2483.50	47.15	54.00	-6.85	50.05	-2.90	Average	102	13
6		2483.50	63.27	74.00	-10.73	66.17	-2.90	Peak	102	13
7		4874.00	46.42	54.00	-7.58	41.45	4.97	Average	250	327
8		4874.00	60.54	74.00	-13.46	55.57	4.97	Peak	250	327
9		7311.00	45.06	54.00	-8.94	35.53	9.53	Average	276	11
10		7311.00	58.06	74.00	-15.94	48.53	9.53	Peak	276	11

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3:"*" is Peak / Average value of fundamental frequency

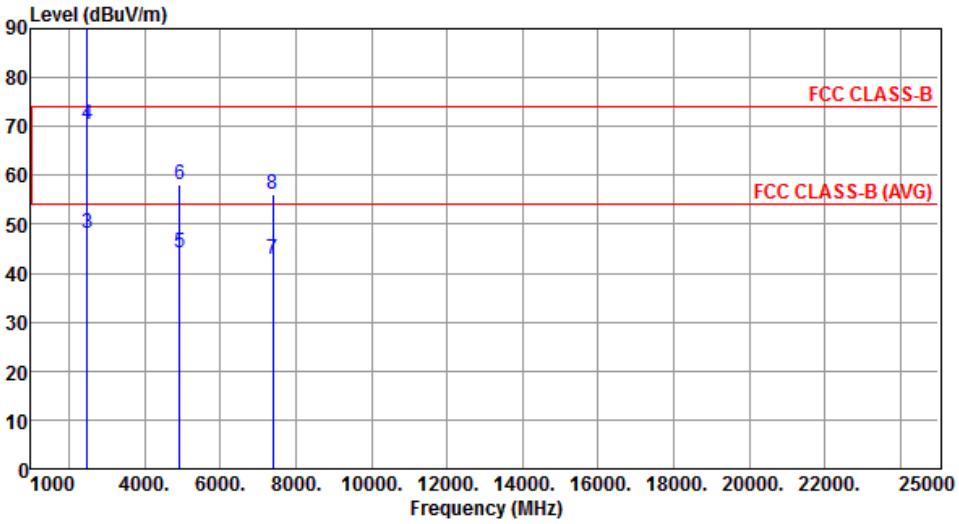
Modulation	HT20	**Test Freq. (MHz)**	2462
Polarization	Horizontal	**Test Configuration**	1



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	*	2462.00	102.35			105.35	-3.00	Average	107	309
2	*	2462.00	114.49			117.49	-3.00	Peak	107	309
3		2483.50	51.32	54.00	-2.68	54.22	-2.90	Average	107	309
4		2483.50	72.34	74.00	-1.66	75.24	-2.90	Peak	107	309
5		4924.00	44.97	54.00	-9.03	39.86	5.11	Average	213	309
6		4924.00	63.10	74.00	-10.90	57.99	5.11	Peak	213	309
7		7386.00	42.85	54.00	-11.15	33.18	9.67	Average	173	32
8		7386.00	56.27	74.00	-17.73	46.60	9.67	Peak	173	32

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3:"*" is Peak / Average value of fundamental frequency

Modulation	HT20	**Test Freq. (MHz)**	2462
Polarization	Vertical	**Test Configuration**	1

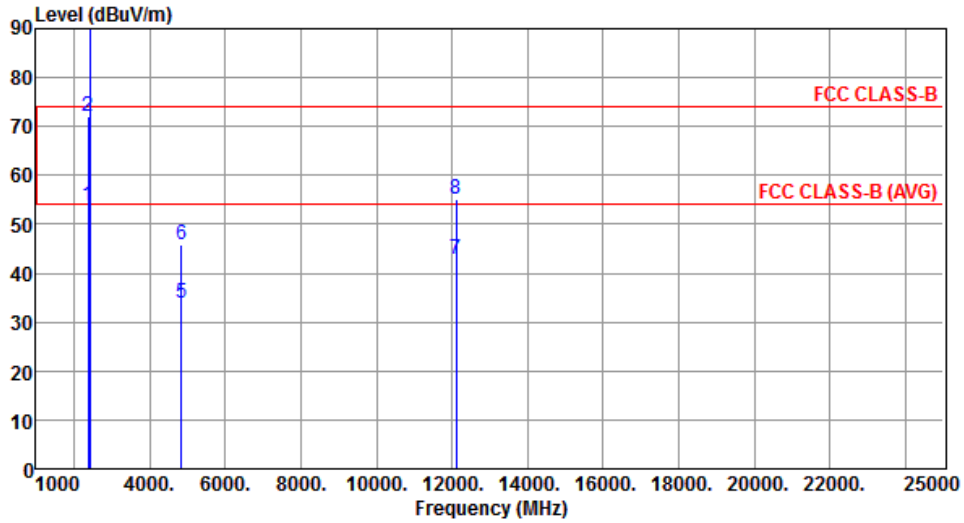


		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	*	2462.00	97.24			100.24	-3.00	Average	253	5
2	*	2462.00	109.03			112.03	-3.00	Peak	253	5
3		2483.50	48.31	54.00	-5.69	51.21	-2.90	Average	121	6
4		2483.50	70.26	74.00	-3.74	73.16	-2.90	Peak	121	6
5		4924.00	44.24	54.00	-9.76	39.13	5.11	Average	249	311
6		4924.00	58.26	74.00	-15.74	53.15	5.11	Peak	249	311
7		7386.00	42.89	54.00	-11.11	33.22	9.67	Average	263	20
8		7386.00	56.03	74.00	-17.97	46.36	9.67	Peak	263	20

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3:"*" is Peak / Average value of fundamental frequency

3.5.8 Transmitter Radiated Unwanted Emissions (Above 1GHz) for HT40

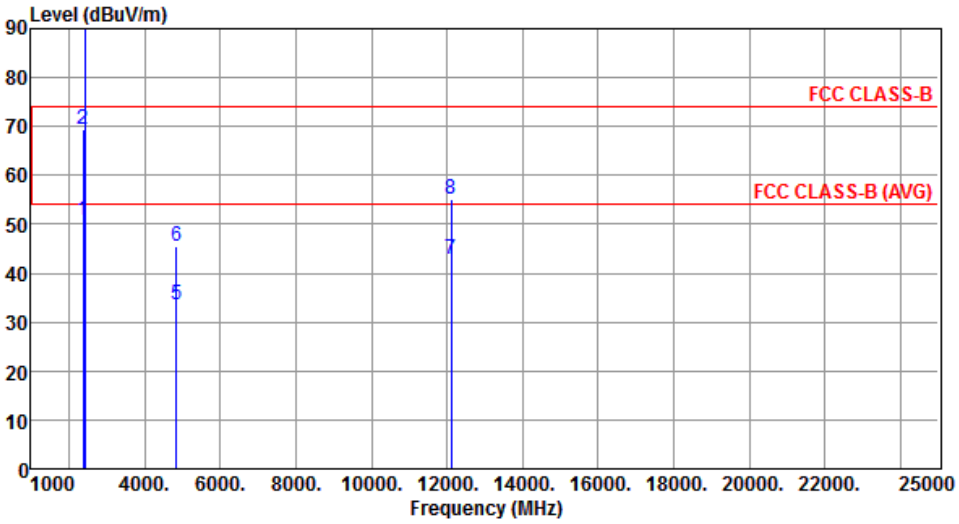
Modulation	HT40	Test Freq. (MHz)	2422
Polarization	Horizontal	Test Configuration	1



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		2390.00	53.90	54.00	-0.10	57.24	-3.34	Average	114	313
2		2390.00	72.02	74.00	-1.98	75.36	-3.34	Peak	114	313
3	*	2422.00	96.63			99.83	-3.20	Average	114	313
4	*	2422.00	109.48			112.68	-3.20	Peak	114	313
5		4844.00	33.86	54.00	-20.14	28.96	4.90	Average	318	325
6		4844.00	45.86	74.00	-28.14	40.96	4.90	Peak	318	325
7		12110.00	42.94	54.00	-11.06	28.21	14.73	Average	262	253
8		12110.00	55.28	74.00	-18.72	40.55	14.73	Peak	262	253

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3:"*" is Peak / Average value of fundamental frequency

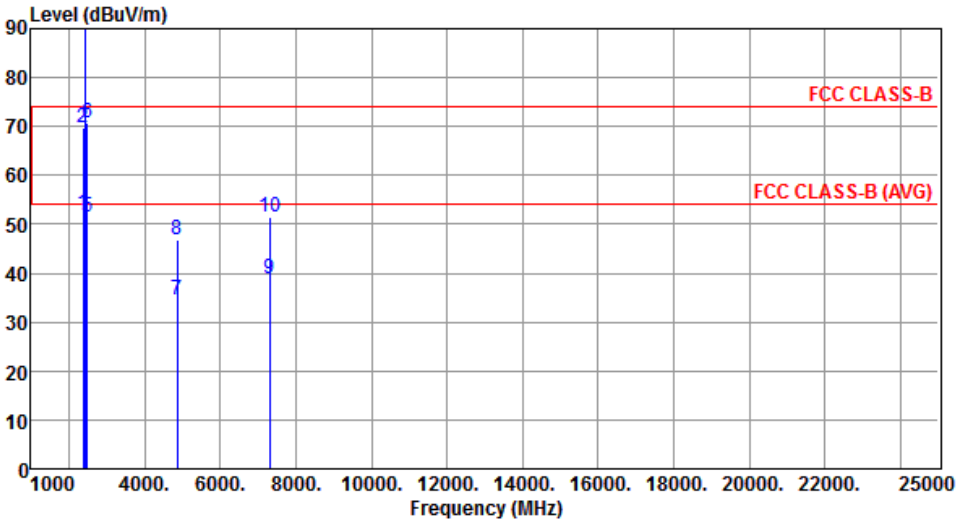
Modulation	HT40	**Test Freq. (MHz)**	2422
Polarization	Vertical	**Test Configuration**	1



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		2390.00	50.78	54.00	-3.22	54.12	-3.34	Average	100	333
2		2390.00	69.52	74.00	-4.48	72.86	-3.34	Peak	100	333
3	*	2422.00	90.57			93.77	-3.20	Average	100	333
4	*	2422.00	103.32			106.52	-3.20	Peak	100	333
5		4844.00	33.43	54.00	-20.57	28.53	4.90	Average	252	345
6		4844.00	45.45	74.00	-28.55	40.55	4.90	Peak	252	345
7		12110.00	42.75	54.00	-11.25	28.02	14.73	Average	100	185
8		12110.00	55.18	74.00	-18.82	40.45	14.73	Peak	100	185

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3:"*" is Peak / Average value of fundamental frequency

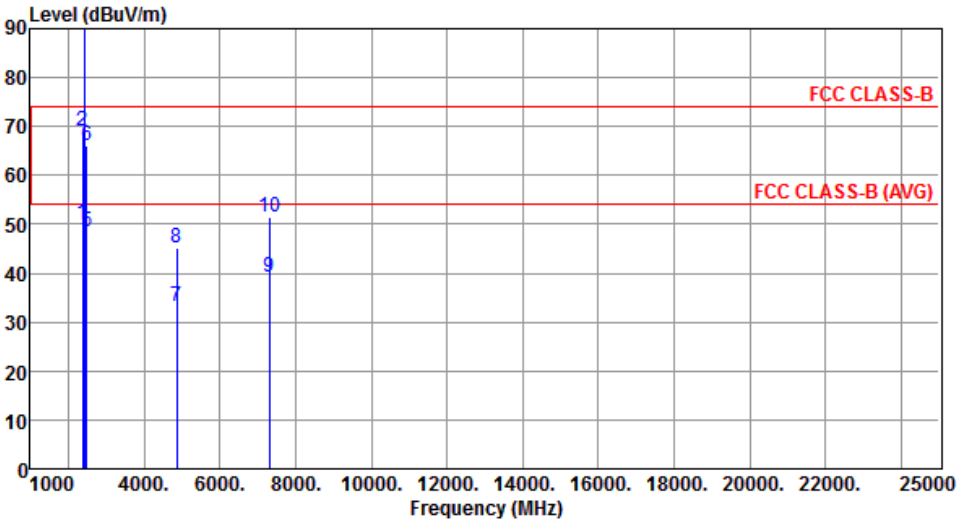
Modulation	HT40	Test Freq. (MHz)	2437
Polarization	Horizontal	Test Configuration	1



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		2390.00	52.11	54.00	-1.89	55.45	-3.34	Average	129	46
2		2390.00	69.71	74.00	-4.29	73.05	-3.34	Peak	129	46
3	*	2437.00	100.35			103.47	-3.12	Average	105	312
4	*	2437.00	113.19			116.31	-3.12	Peak	105	312
5		2483.50	51.53	54.00	-2.47	54.43	-2.90	Average	105	312
6		2483.50	70.87	74.00	-3.13	73.77	-2.90	Peak	105	312
7		4874.00	34.54	54.00	-19.46	29.57	4.97	Average	327	243
8		4874.00	46.86	74.00	-27.14	41.89	4.97	Peak	327	243
9		7311.00	38.99	54.00	-15.01	29.46	9.53	Average	271	324
10		7311.00	51.38	74.00	-22.62	41.85	9.53	Peak	271	324

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3:"*" is Peak / Average value of fundamental frequency

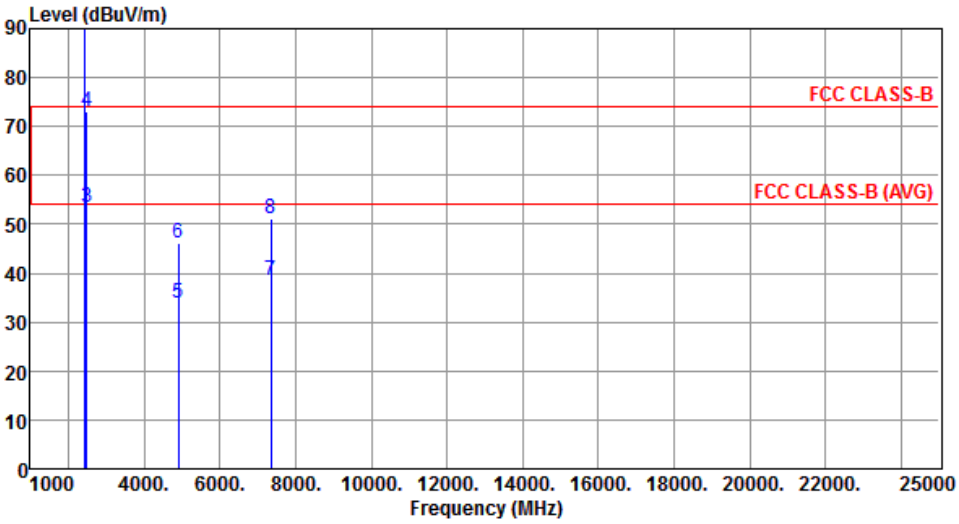
Modulation	HT40	Test Freq. (MHz)	2437
Polarization	Vertical	Test Configuration	1



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		2390.00	50.26	54.00	-3.74	53.60	-3.34	Average	100	356
2		2390.00	69.03	74.00	-4.97	72.37	-3.34	Peak	100	356
3	*	2437.00	94.80			97.92	-3.12	Average	100	356
4	*	2437.00	107.61			110.73	-3.12	Peak	100	356
5		2483.50	48.52	54.00	-5.48	51.42	-2.90	Average	100	356
6		2483.50	66.13	74.00	-7.87	69.03	-2.90	Peak	100	356
7		4874.00	33.10	54.00	-20.90	28.13	4.97	Average	268	349
8		4874.00	45.17	74.00	-28.83	40.20	4.97	Peak	268	349
9		7311.00	39.14	54.00	-14.86	29.61	9.53	Average	198	44
10		7311.00	51.42	74.00	-22.58	41.89	9.53	Peak	198	44

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3:"*" is Peak / Average value of fundamental frequency

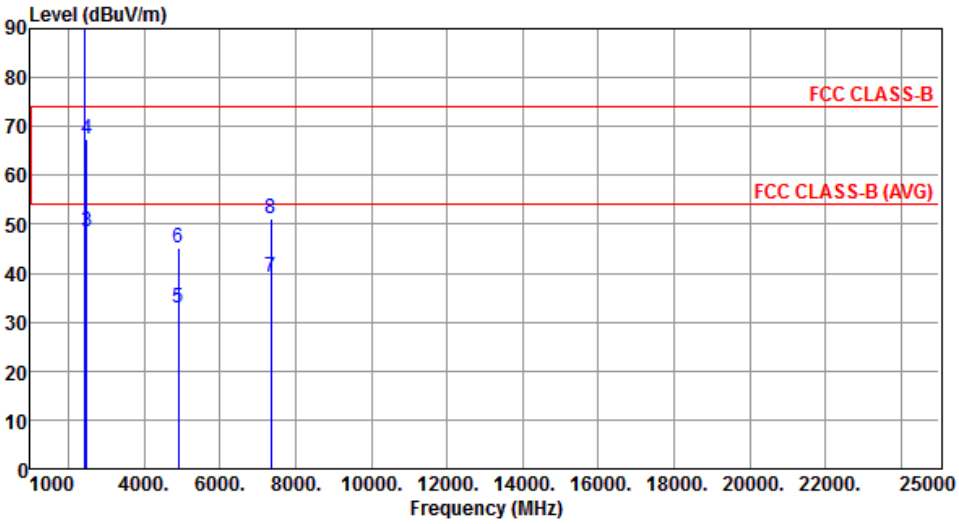
Modulation	HT40	**Test Freq. (MHz)**	2452
Polarization	Horizontal	**Test Configuration**	1



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	*	2452.00	97.56			100.62	-3.06	Average	100	308
2	*	2452.00	110.76			113.82	-3.06	Peak	100	308
3		2483.50	53.54	54.00	-0.46	56.44	-2.90	Average	100	308
4		2483.50	72.95	74.00	-1.05	75.85	-2.90	Peak	100	308
5		4904.00	33.87	54.00	-20.13	28.81	5.06	Average	312	315
6		4904.00	46.26	74.00	-27.74	41.20	5.06	Peak	312	315
7		7356.00	38.57	54.00	-15.43	28.96	9.61	Average	270	306
8		7356.00	51.12	74.00	-22.88	41.51	9.61	Peak	270	306

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3:"*" is Peak / Average value of fundamental frequency

Modulation	HT40	Test Freq. (MHz)	2452
Polarization	Vertical	Test Configuration	1



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	*	2452.00	92.07			95.13	-3.06	Average	305	20
2	*	2452.00	104.77			107.83	-3.06	Peak	305	20
3		2483.50	48.45	54.00	-5.55	51.35	-2.90	Average	305	20
4		2483.50	67.34	74.00	-6.66	70.24	-2.90	Peak	305	20
5		4904.00	33.01	54.00	-20.99	27.95	5.06	Average	266	348
6		4904.00	45.17	74.00	-28.83	40.11	5.06	Peak	266	348
7		7356.00	39.02	54.00	-14.98	29.41	9.61	Average	192	41
8		7356.00	50.99	74.00	-23.01	41.38	9.61	Peak	192	41

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3:"*" is Peak / Average value of fundamental frequency

3.6 Emissions in Non-Restricted Frequency Bands

3.6.1 Emissions in Non-Restricted Frequency Bands Limit

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

3.6.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.6.3 Test Procedures

Reference level measurement

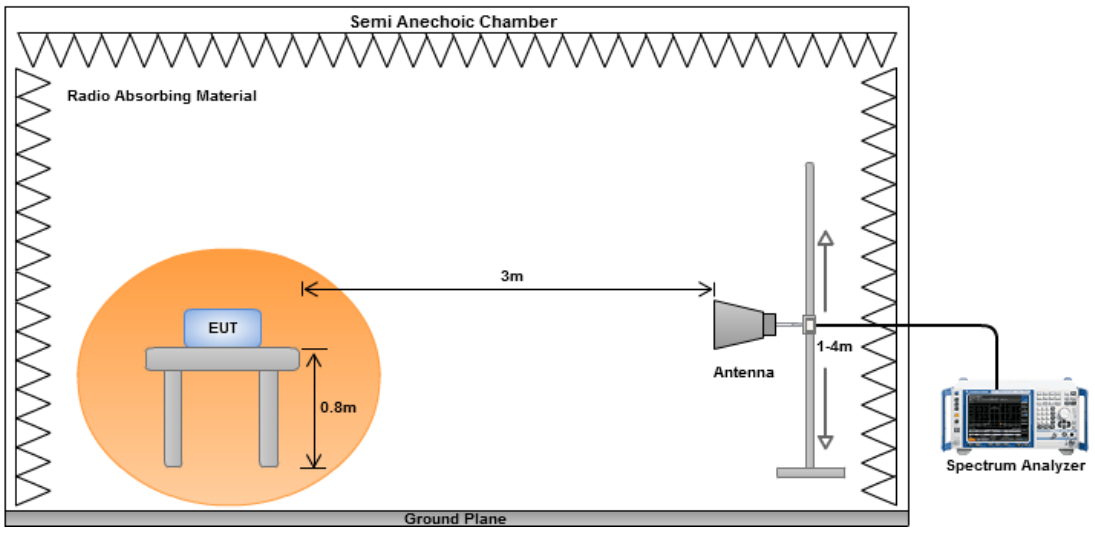
1. Set RBW=100kHz, VBW = 300kHz , Detector = Peak, Sweep time = Auto
2. Trace = max hold , Allow Trace to fully stabilize
3. Use the peak marker function to determine the maximum PSD level

Emission level measurement

1. Set RBW=100kHz, VBW = 300kHz , Detector = Peak, Sweep time = Auto
2. Trace = max hold , Allow Trace to fully stabilize
3. Scan Frequency range is up to 25GHz
4. Use the peak marker function to determine the maximum amplitude level

3.6.4 Test Setup

Transmitter Radiated Bandedge Emissions



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3.6.5 Unwanted Emissions into Non-Restricted Frequency Bands

Unwanted Emissions into Non-Restricted Frequency Bands								
Modulation	11b			**N_{TX}**	2			
Non-restricted Band (MHz)	**Test Ch. Freq. (MHz)**	**In-band PSD [i] (dBuV/100kHz)**	**NBE Freq. (MHz)**	**Out-band PSD [o] (dBuV/100kHz)**	**[i] – [o] (dB)**	**Limit (dB)**	**Level Type**	**Pol. note 1**
2390-2400	2412	113.77	2399.99	62.75	51.02	30	PK	H
2390-2400	2437	115.06	2400.00	49.86	65.20	30	PK	H
2390-2400	2462	113.64	2400.00	48.32	65.32	30	PK	H

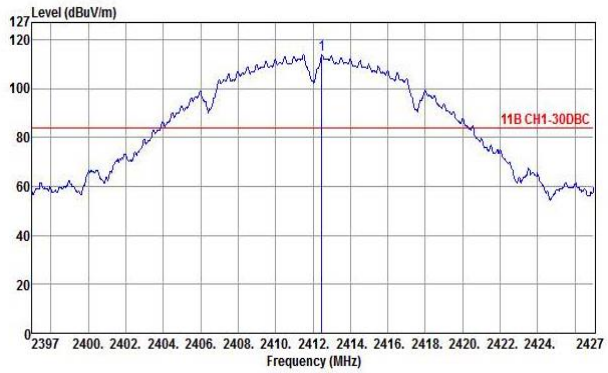
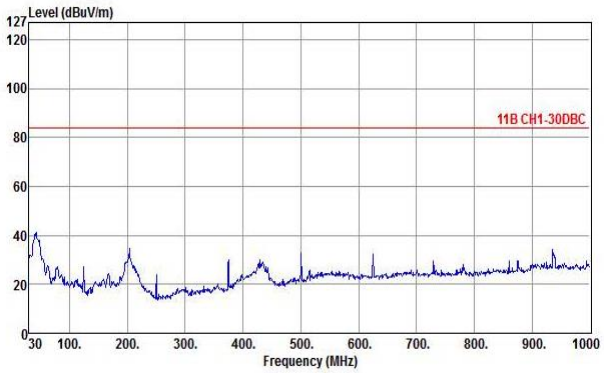
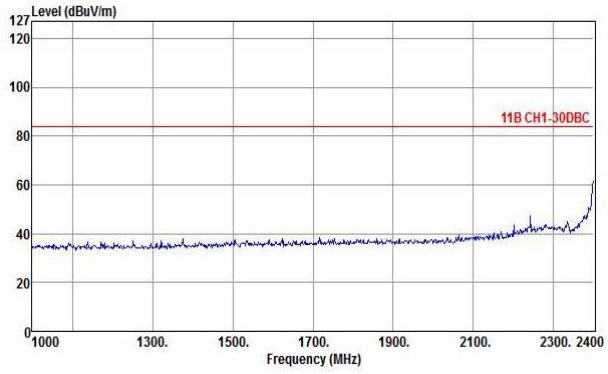
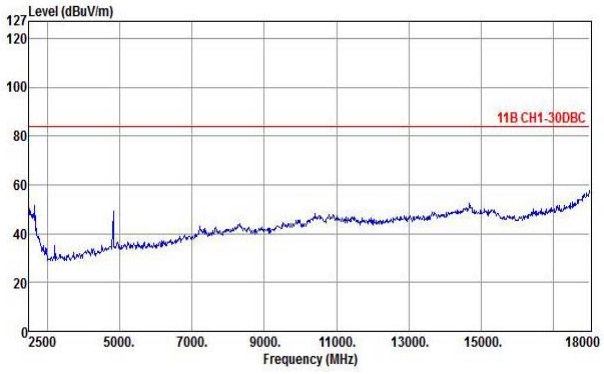
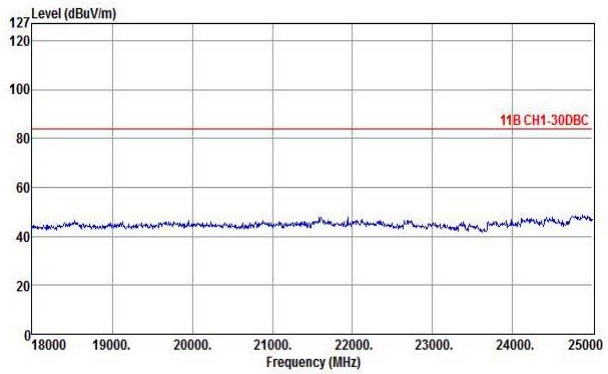
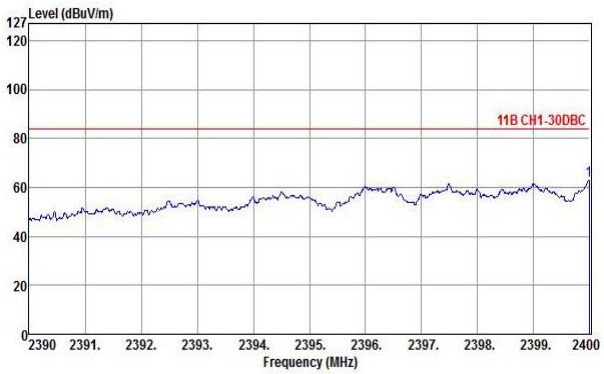
Unwanted Emissions into Non-Restricted Frequency Bands								
Modulation	11g			**N_{TX}**	2			
Non-restricted Band (MHz)	**Test Ch. Freq. (MHz)**	**In-band PSD [i] (dBuV/100kHz)**	**NBE Freq. (MHz)**	**Out-band PSD [o] (dBuV/100kHz)**	**[i] – [o] (dB)**	**Limit (dB)**	**Level Type**	**Pol. note 1**
2390-2400	2412	105.56	2399.83	69.19	36.37	30	PK	H
2390-2400	2437	110.84	2396.65	60.18	50.66	30	PK	H
2390-2400	2462	105.53	2399.99	51.36	54.17	30	PK	H

Unwanted Emissions into Non-Restricted Frequency Bands								
Modulation	HT20			**N_{TX}**	2			
Non-restricted Band (MHz)	**Test Ch. Freq. (MHz)**	**In-band PSD [i] (dBuV/100kHz)**	**NBE Freq. (MHz)**	**Out-band PSD [o] (dBuV/100kHz)**	**[i] – [o] (dB)**	**Limit (dB)**	**Level Type**	**Pol. note 1**
2390-2400	2412	103.83	2399.70	71.81	32.02	30	PK	H
2390-2400	2437	110.63	2399.77	60.43	50.20	30	PK	H
2390-2400	2462	104.80	2399.99	49.27	55.53	30	PK	H

Unwanted Emissions into Non-Restricted Frequency Bands								
Modulation	HT40			**N_{TX}**	2			
Non-restricted Band (MHz)	**Test Ch. Freq. (MHz)**	**In-band PSD [i] (dBuV/100kHz)**	**NBE Freq. (MHz)**	**Out-band PSD [o] (dBuV/100kHz)**	**[i] – [o] (dB)**	**Limit (dB)**	**Level Type**	**Pol. note 1**
2390-2400	2412	99.02	2399.99	68.70	30.32	30	PK	H
2390-2400	2437	103.68	2398.88	67.17	36.51	30	PK	H
2390-2400	2462	100.12	2400.00	52.00	48.12	30	PK	H

Note 1: Measurement worst emissions of receive antenna polarization: H (Horizontal) or V (Vertical).

802.11b

Reference Level	Tx 2412MHz / 30MHz~25GHz (down 30dBc)
	
	
	

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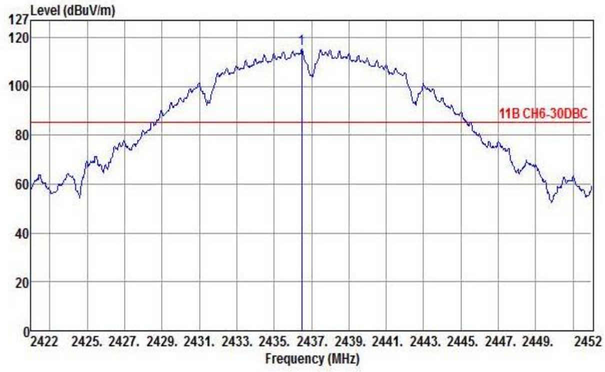
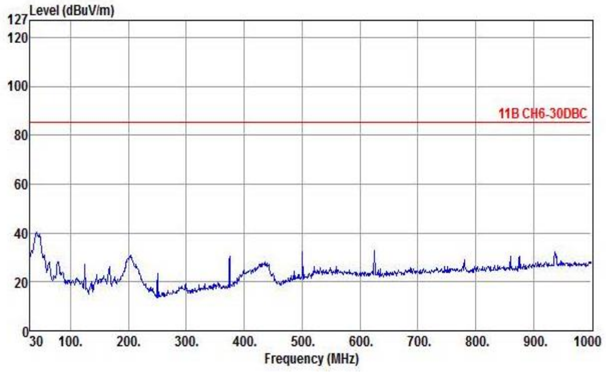
<tr><td> 
</td><td> 
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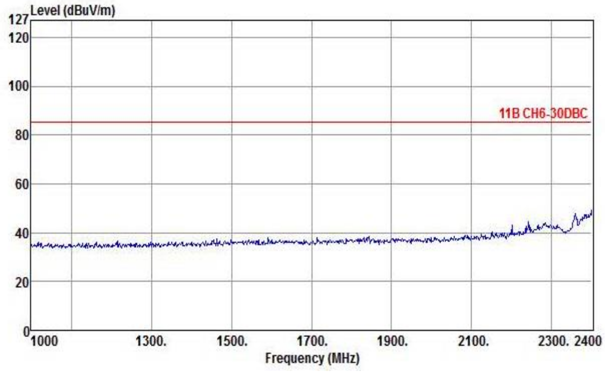
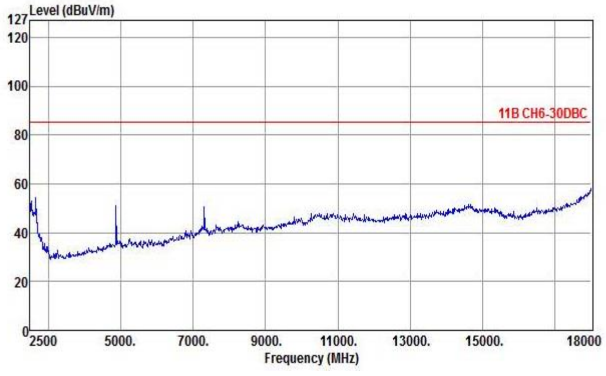
<tr><td> 
</td><td> 
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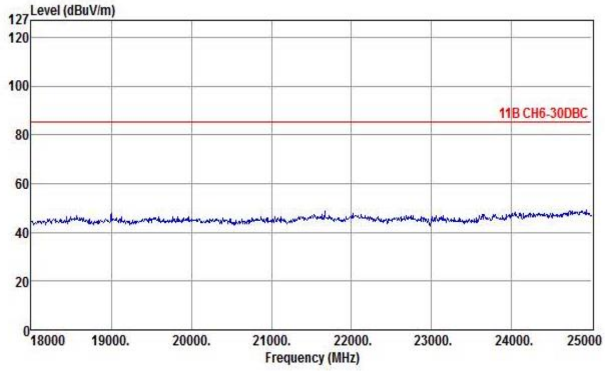
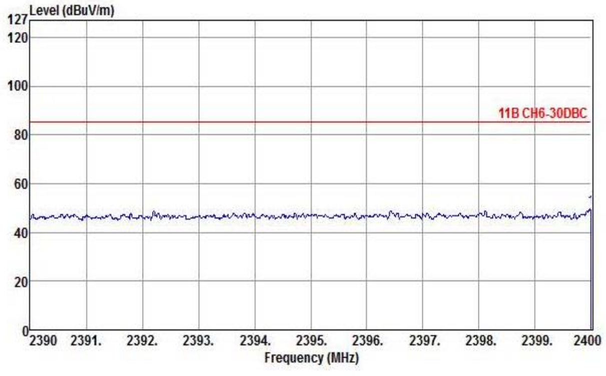
<tr><td> 
</td><td> 
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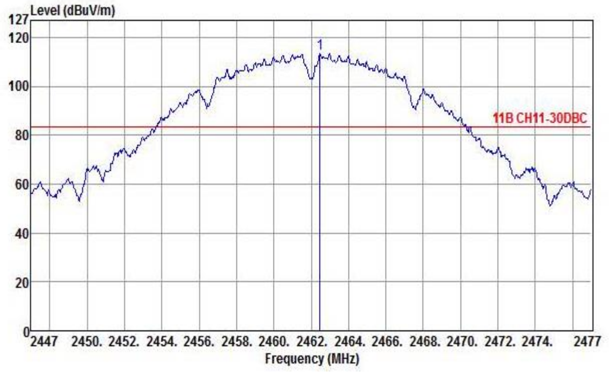
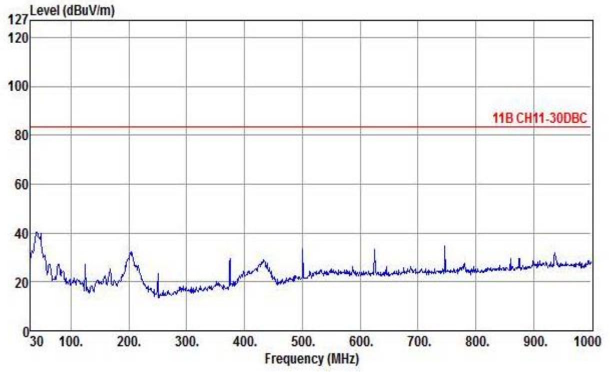
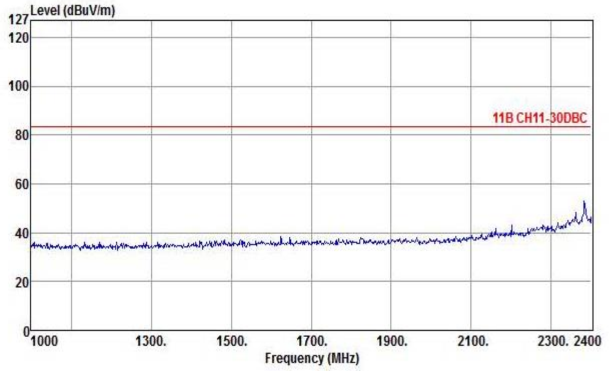
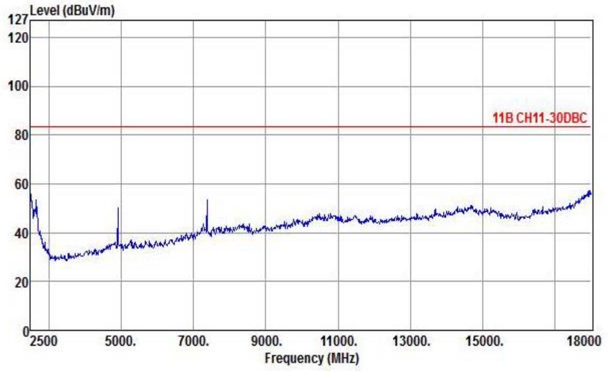
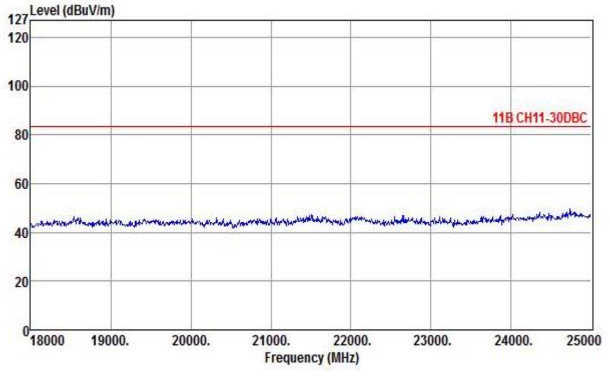
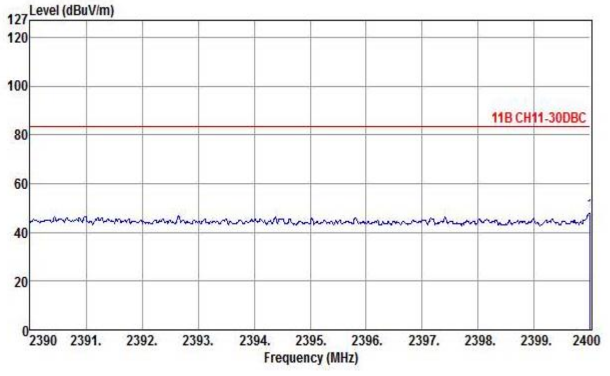
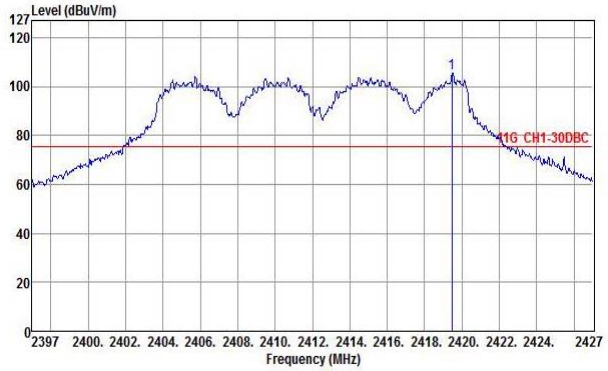
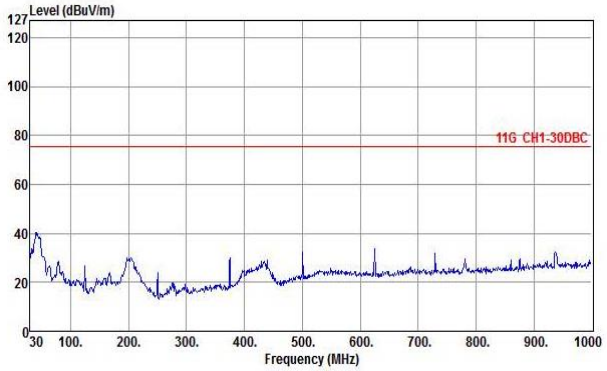
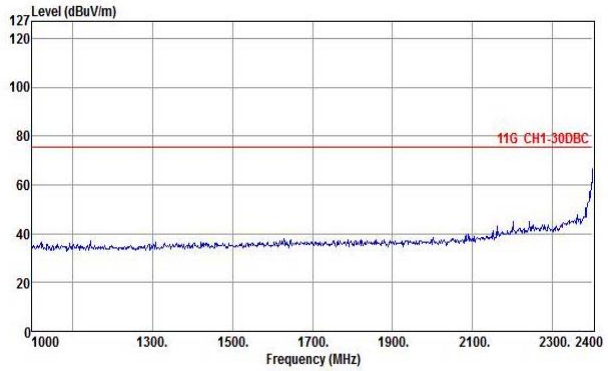
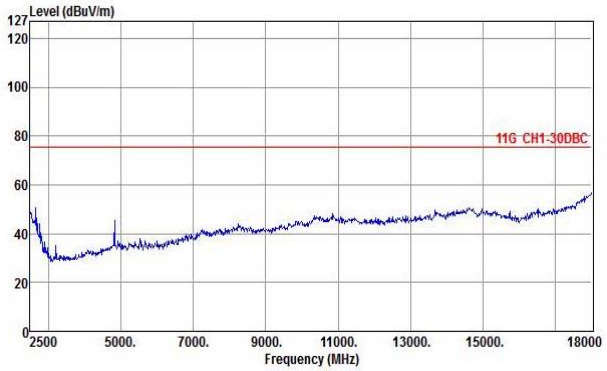
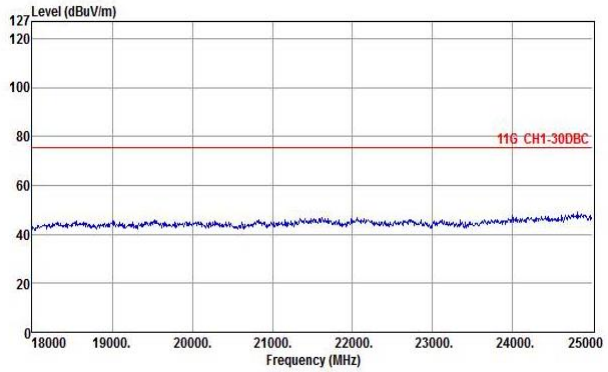
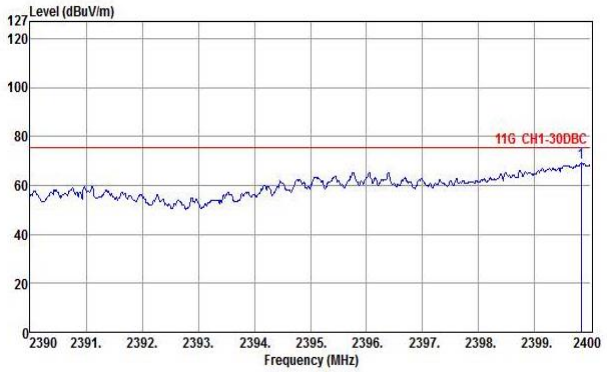
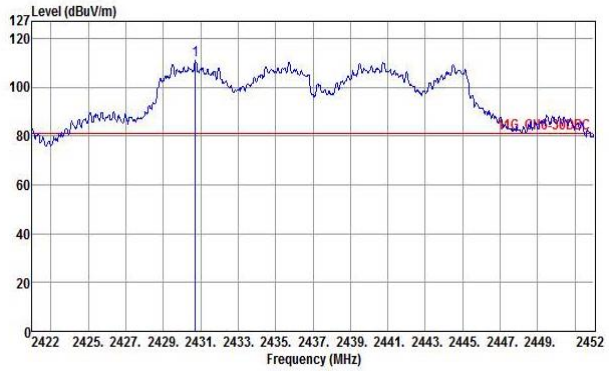
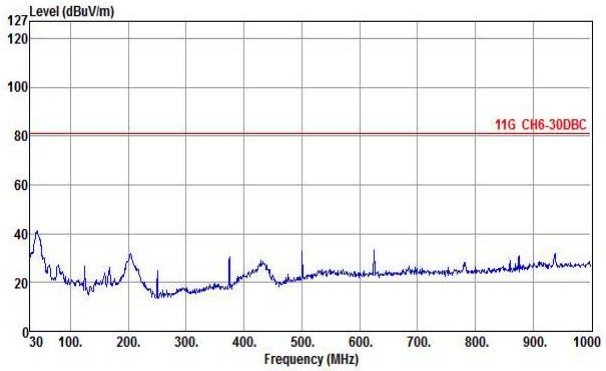
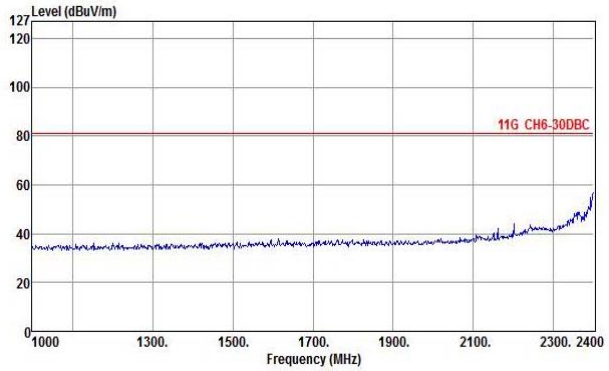
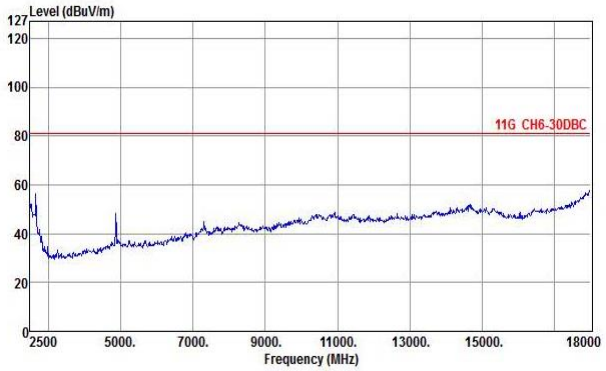
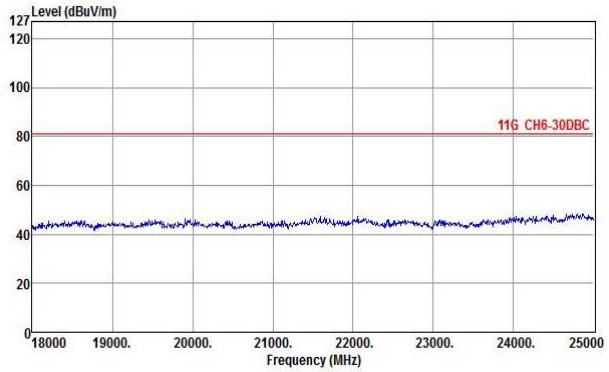
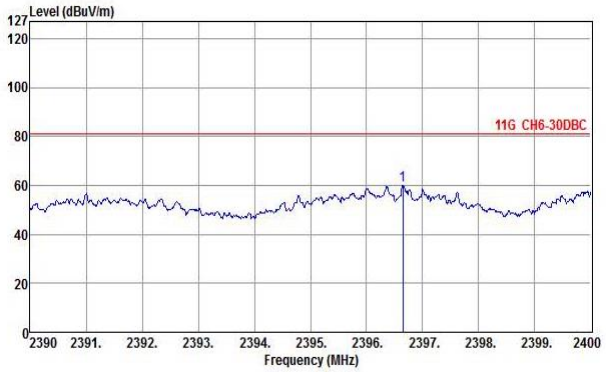
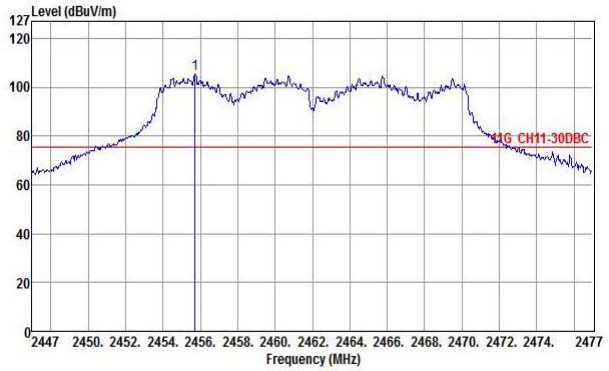
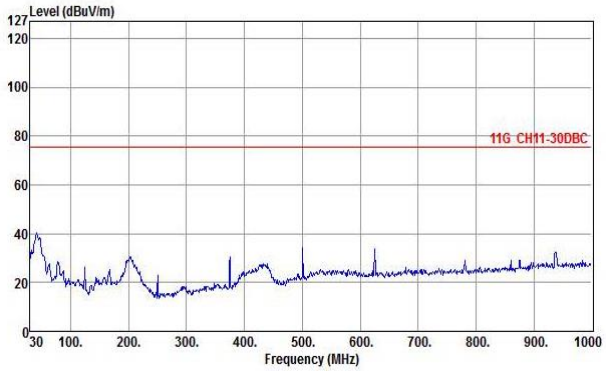
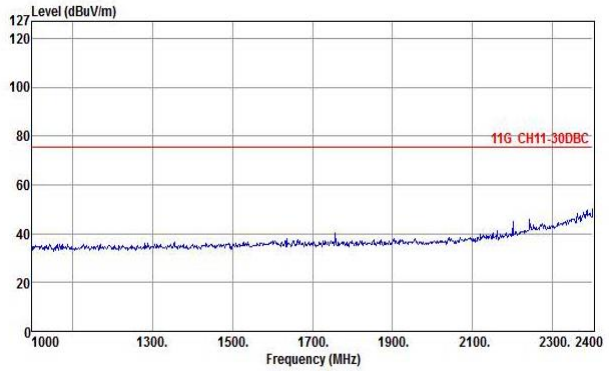
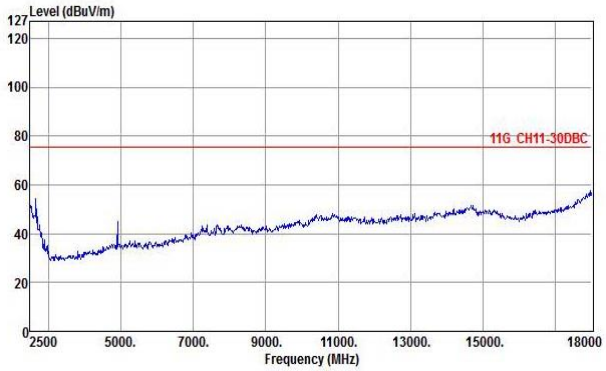
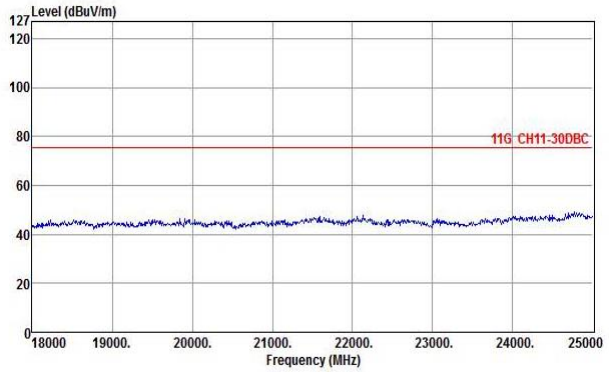
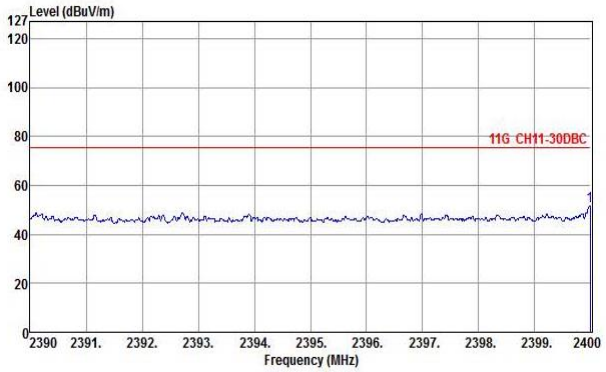
Reference Level	Tx 2462MHz / 30MHz~25GHz (down 30dBc)
	
	
	

802.11g

Reference Level	Tx 2412MHz / 30MHz~25GHz (down 30dBc)
	
	
	

Reference Level	Tx 2437MHz / 30MHz~25GHz (down 30dBc)
	
	
	

Reference Level	Tx 2462MHz / 30MHz~25GHz (down 30dBc)
	
	
	

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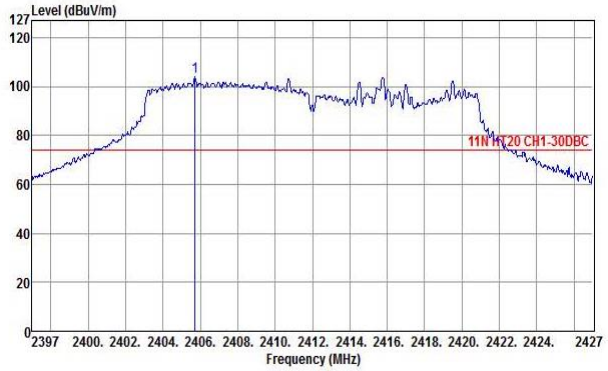
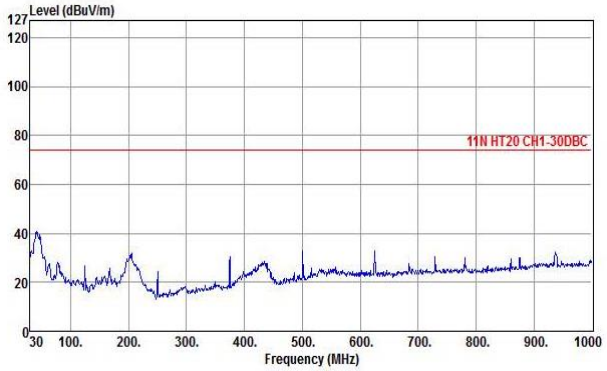
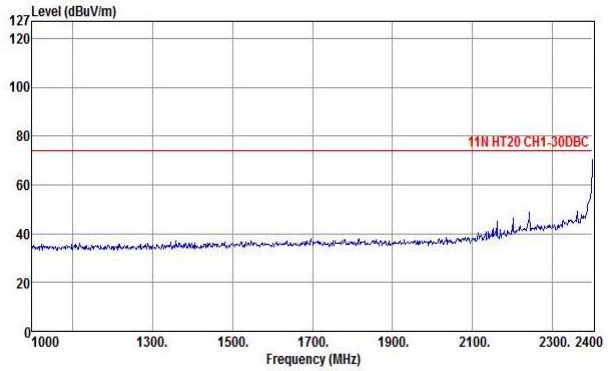
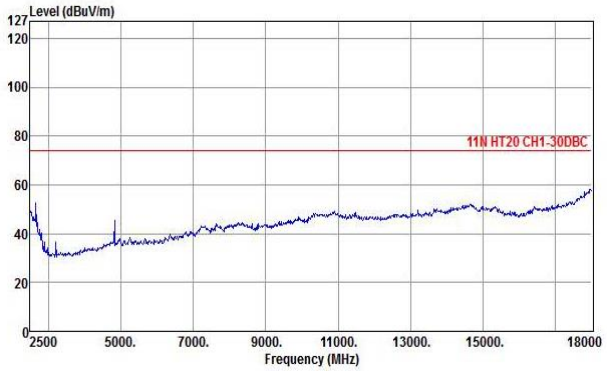
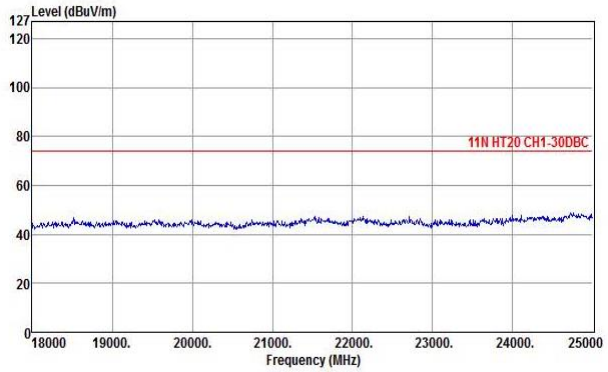
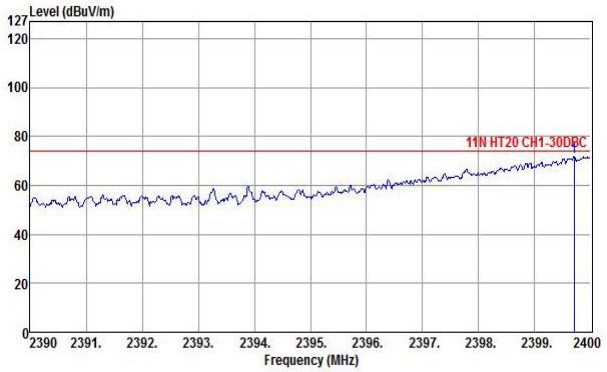
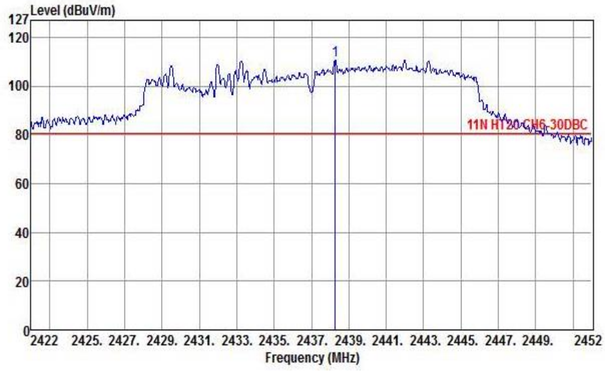
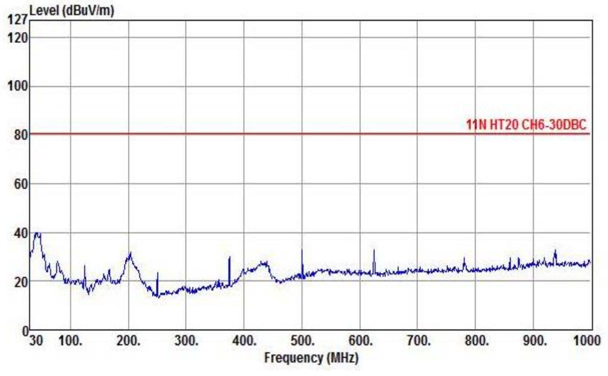
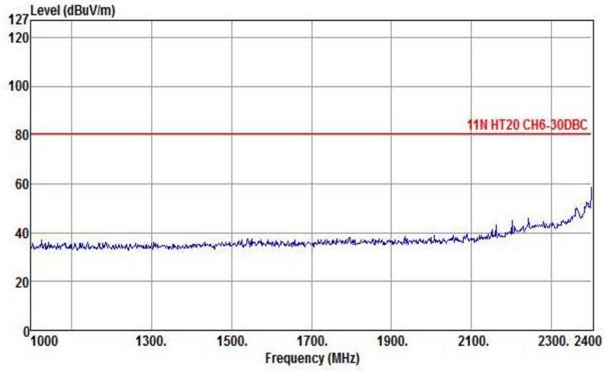
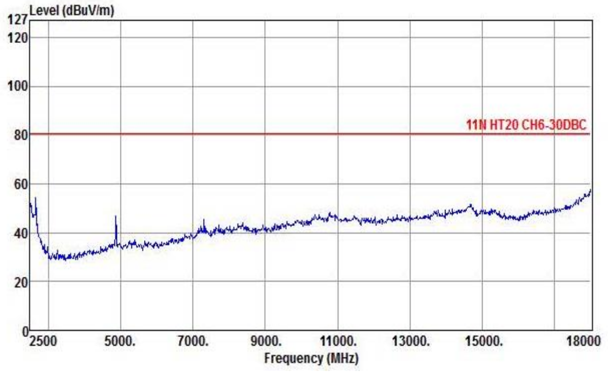
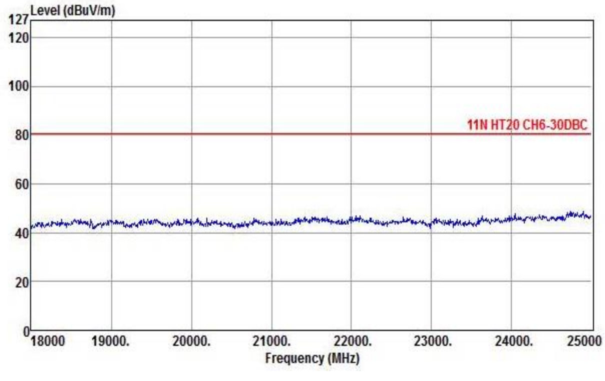
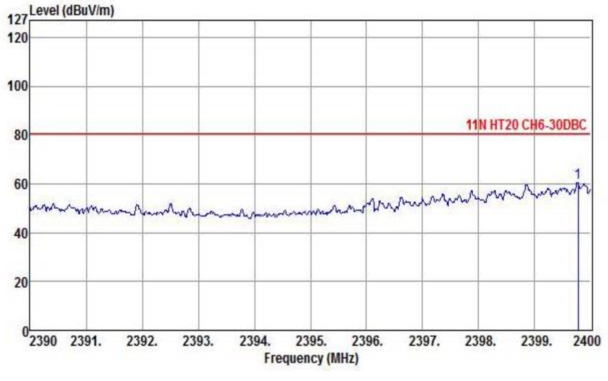
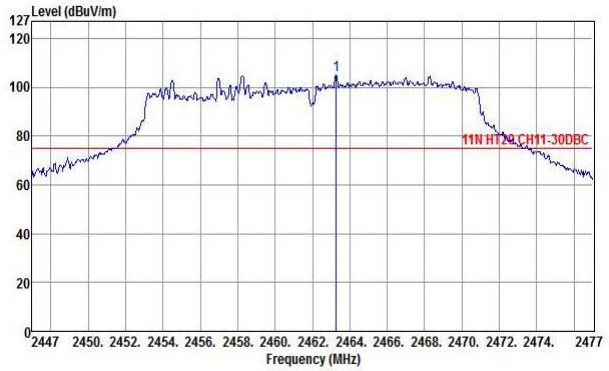
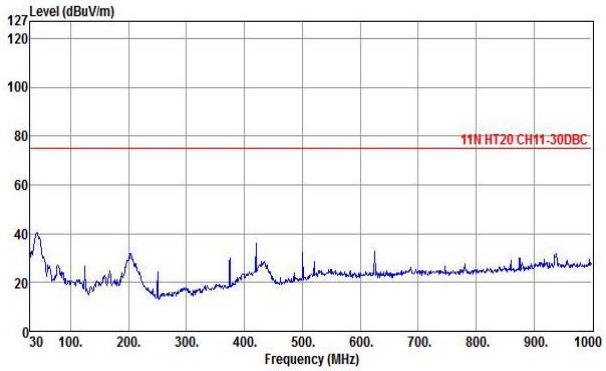
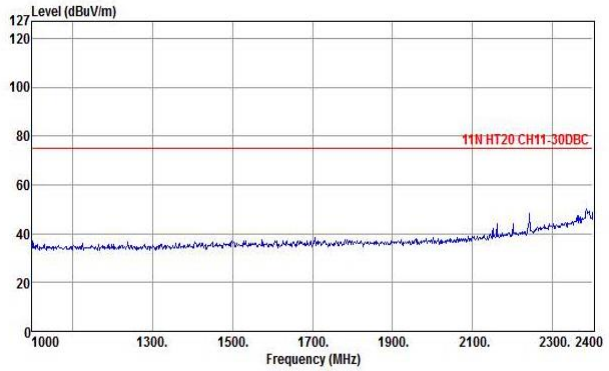
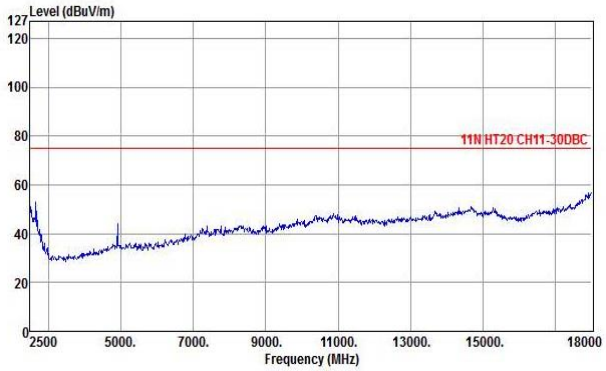
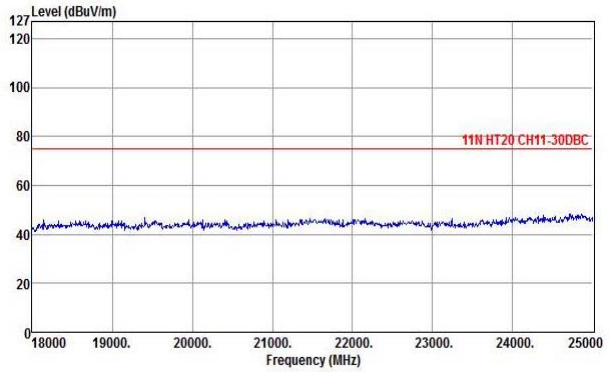
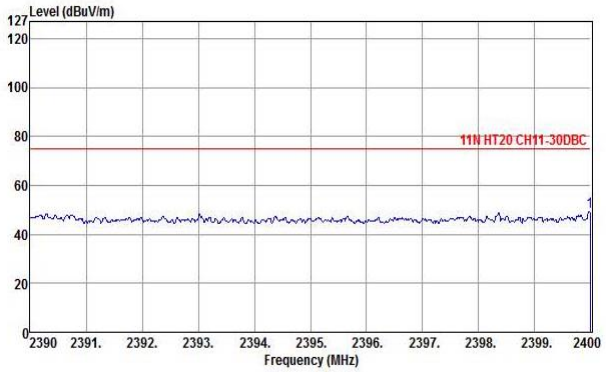
Reference Level	Tx 2412MHz / 30MHz~25GHz (down 30dBc)
	
	
	

Reference Level	Tx 2437MHz / 30MHz~25GHz (down 30dBc)
	
	
	

Reference Level	Tx 2462MHz / 30MHz~25GHz (down 30dBc)
	
	
	

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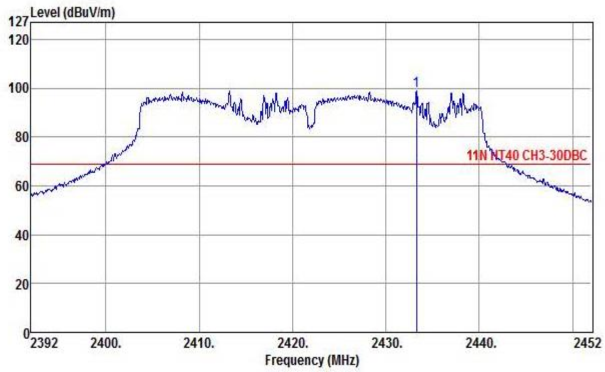
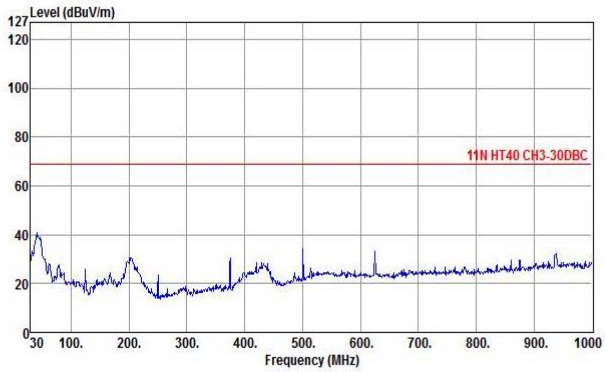
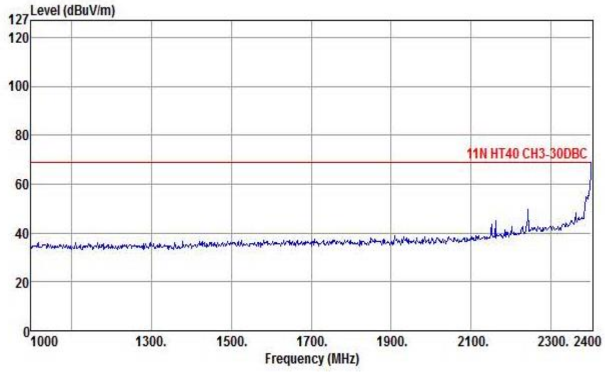
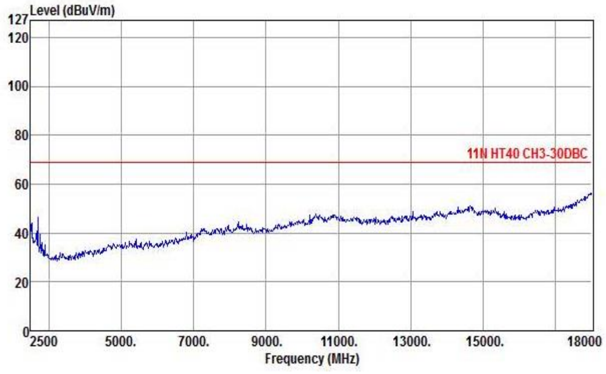
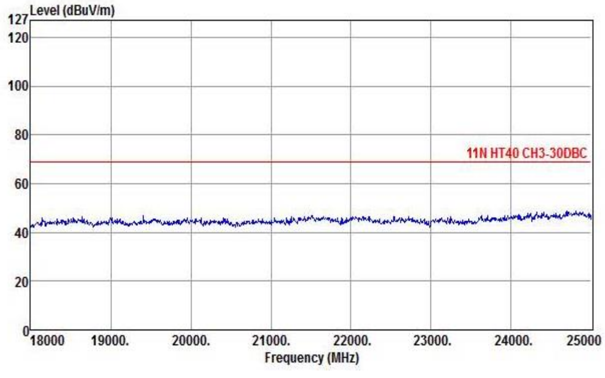
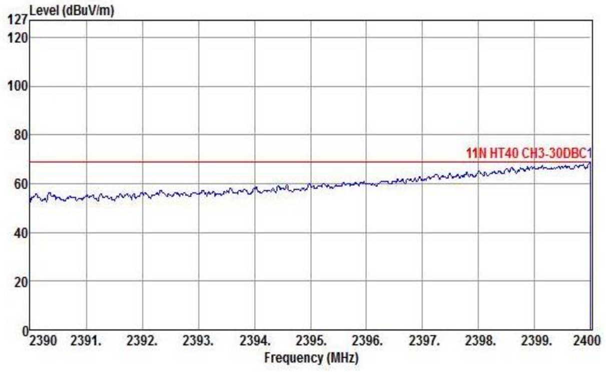
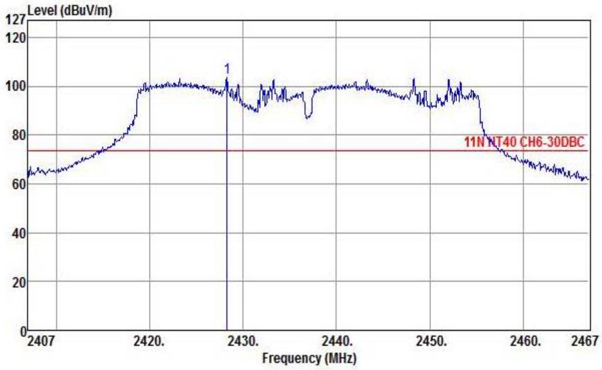
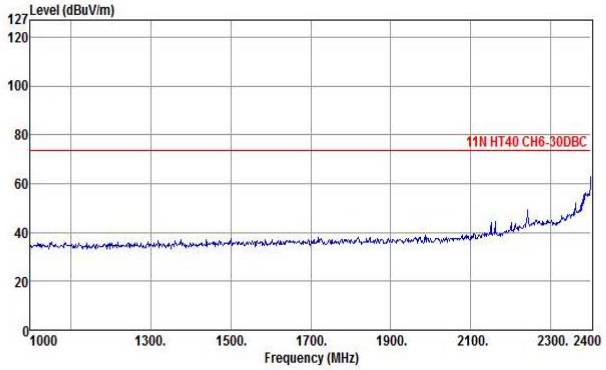
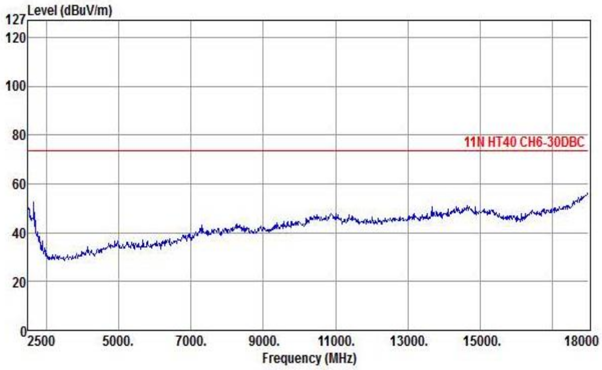
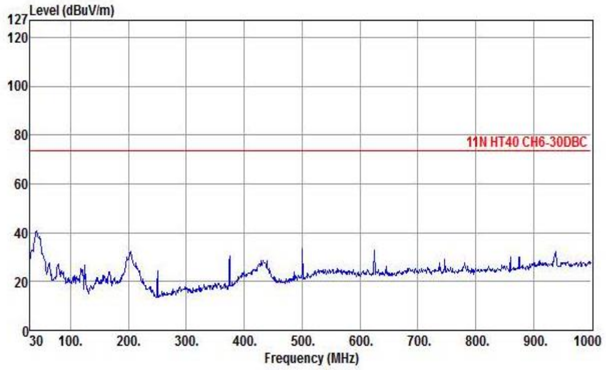
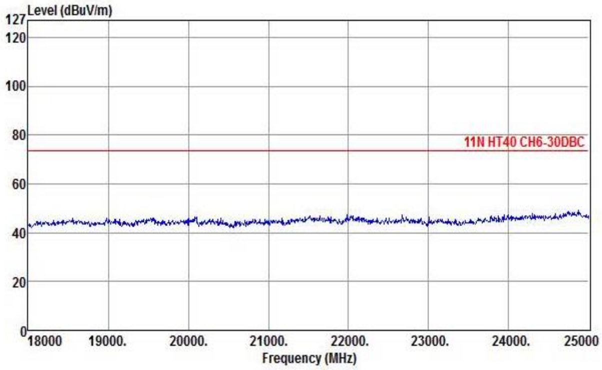
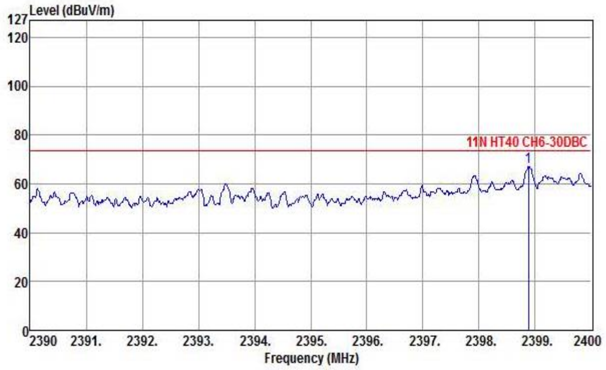
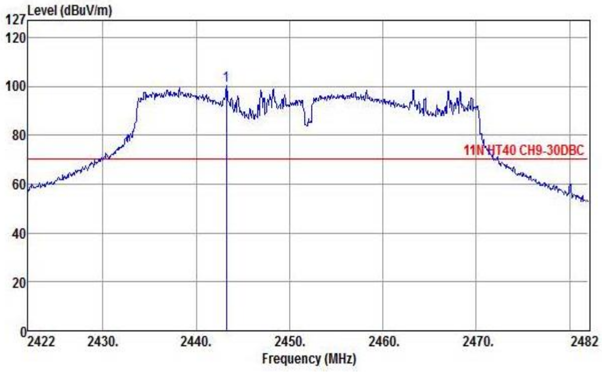
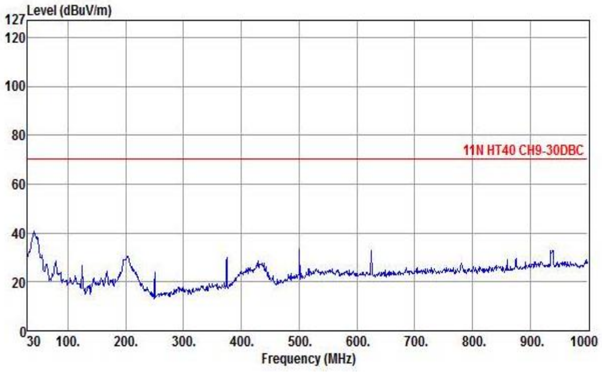
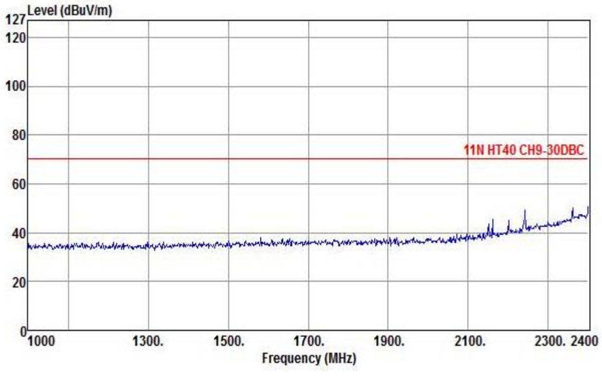
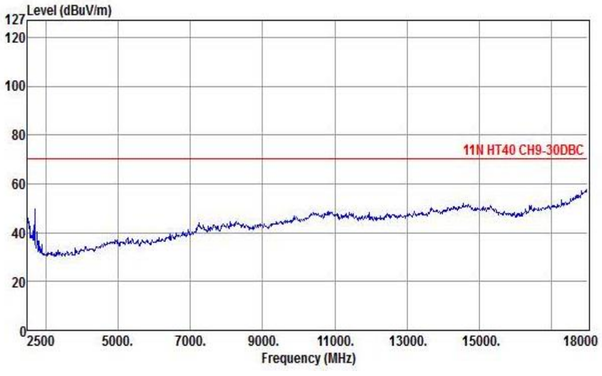
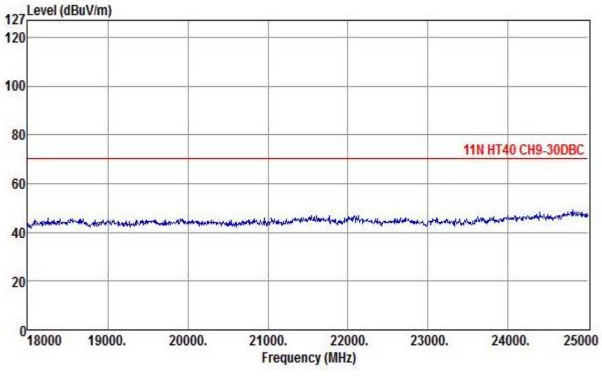
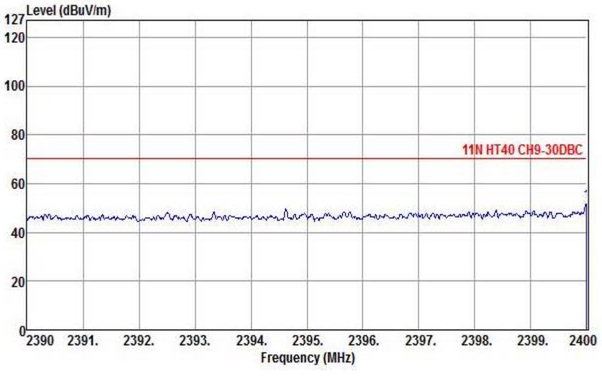
Reference Level	Tx 2422MHz / 30MHz~25GHz (down 30dBc)
	
	
	

Reference Level	Tx 2437MHz / 30MHz~25GHz (down 30dBc)
	
	
	

Reference Level	Tx 2452MHz / 30MHz~25GHz (down 30dBc)
	
	
	

4 Test laboratory information

Established in 2012, ICC provides foremost EMC & RF Testing and advisory consultation services by our skilled engineers and technicians. Our services employ a wide variety of advanced edge test equipment and one of the widest certification extents in the business.

International Certification Corp, it is our definitive objective is to institute long term, trust-based associations with our clients. The expectation we set up with our clients is based on outstanding service, practical expertise and devotion to a certified value structure. Our passion is to grant our clients with best EMC / RF services by oriented knowledgeable and accommodating staff.

Our Test sites are located at Linkou District and Kwei Shan Hsiang. Location map can be found on our website http://www.icertifi.com.tw.

Linkou	**Kwei Shan**	**Kwei Shan Site II**
Tel: 886-2-2601-1640	Tel: 886-3-271-8666	Tel: 886-3-271-8640
No. 30-2, Ding Fwu Tsuen, Lin Kou District, New Taipei City, Taiwan, R.O.C.	No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C.	No. 14-1, Lane 19, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C.

If you have any suggestion, please feel free to contact us as below information

Tel: 886-3-271-8666
Fax: 886-3-318-0155
Email: ICC_Service@icertifi.com.tw

==END==