

FCC Test Report

FCC ID : TKZAP7628-NN1

Equipment : WiFi Router

Model No. : AP7628-NN1

Applicant : AsiaRF Co., LTD.

Address : 3F, 215, Dehe Road, Yonghe Dist. New Taipei

City Taiwan

: 47 CFR FCC Part 15.247 Standard

Received Date : Jun. 14, 2019

Tested Date : Jul. 22 ~ Jul. 31, 2019

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.

Reviewed by: Approved by:

Along Chen Assistant Manager Gary Chang / Manager



Page: 1 of 63

Report No.: FR961405



Table of Contents

1	GENERAL DESCRIPTION	5
1.1	Information	
1.2	Local Support Equipment List	
1.3	Test Setup Chart	
1.4	The Equipment List	g
1.5	Test Standards	10
1.6	Deviation from Test Standard and Measurement Procedure	10
1.7	Measurement Uncertainty	10
2	TEST CONFIGURATION	11
2.1	Testing Condition	11
2.2	The Worst Test Modes and Channel Details	11
3	TRANSMITTER TEST RESULTS	12
3.1	Conducted Emissions	12
3.2	6dB and Occupied Bandwidth	15
3.3	RF Output Power	21
3.4	Power Spectral Density	24
3.5	Unwanted Emissions into Restricted Frequency Bands	30
3.6	Emissions in Non-Restricted Frequency Bands	58
4	TEST LABORATORY INFORMATION	63



Release Record

Report No.	Version	Description	Issued Date
FR961405	Rev. 01	Initial issue	Aug. 13, 2019

Report No.: FR961405 Page: 3 of 63



Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	15.207 Conducted Emissions [dBuV]:0.428 MHz 39.40 (Margin -7.89dB) - AV		Pass
15.247(d)	Radiated Emissions	[dBuV/m at 3m]: 7311.00MHz	Pass
15.209	Natiated Liffissions	53.74 (Margin -0.26dB) - AV	r ass
15.247(b)(3)	Maximum Output Power	Max Power [dBm]: 22.91	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

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Report No.: FR961405 Page: 4 of 63



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 Peak Conducted 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.	Туре	Gain (dBi)	Connector	Remark
1	PCB	1		

1.1.3 Power Supply Type of Equipment under Test (EUT)

Power Supply Type	5Vdc from adapter
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1.1.4 Accessories

	Accessories				
No.	Equipment	Description			
1	Adapter 1	Brand: YHY Model: SAW06B050-1000U Power Rating: I/P: 100-240Vac, 50/60Hz, 0.3A O/P: 5Vdc, 1A			
2	Adapter 2	Brand: JHD Model: JHD-AP006U-050100BB-2 Power Rating: I/P: 100-240Vac, 50/60Hz, 0.2A O/P: 5Vdc, 1A			
3	USB Cable	Brand: Model: CN161161G1010011 Line: 1m shielded w/o core			

Report No.: FR961405 Page: 5 of 63



1.1.5 Channel List

Frequenc	y 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	QA Mt7628, Version: V0.0.0.96				
	Mode	Duty Cycle (%)	Duty Factor (dB)		
	11b	100.00%	0.00		
Duty Cycle and Duty Factor	11g	98.49%	0.07		
	HT20	91.13%	0.40		
	HT40	87.94%	0.56		

Report No.: FR961405 Page: 6 of 63



1.1.7 Power Index of Test Tool

Modulation Mode	Test Frequency (MHz)	Power Index
11b	2412	1B
11b	2437	1B
11b	2462	19
11g	2412	17
11g	2437	1F
11g	2462	17
HT20	2412	15
HT20	2437	1D
HT20	2462	17
HT40	2422	10
HT40	2437	19
HT40	2452	13

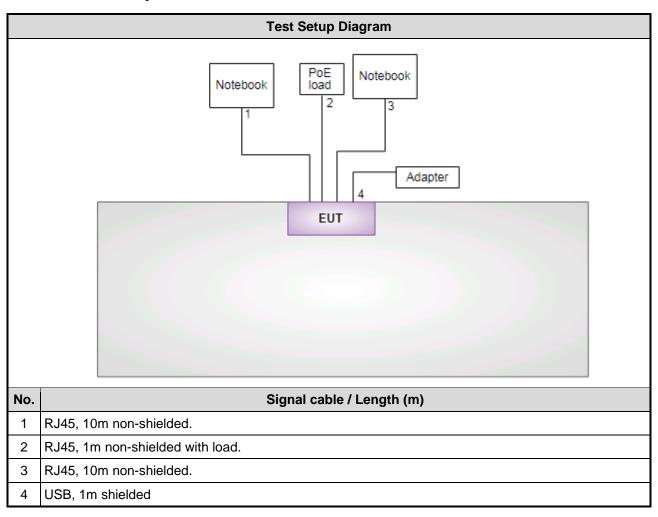
Report No.: FR961405 Page: 7 of 63



1.2 Local Support Equipment List

	Support Equipment List							
No.	Equipment	Brand	Model	FCC ID	Remarks			
1	Notebook	DELL	Latitude E6440	DoC				
2	Notebook	DELL	Latitude E5420	DoC				
3	RJ45 load							

1.3 Test Setup Chart



Report No.: FR961405 Page: 8 of 63



1.4 The Equipment List

Test Item	Conducted Emission						
Test Site	Conduction room 1 / (CO01-WS)						
Instrument	Manufacturer Model No. Serial No. Calibration Date Calibration Until						
Receiver	R&S	ESR3	101657	Jan. 08, 2019	Jan. 07, 2020		
LISN	R&S	ENV216	101579	Mar. 08, 2019	Mar. 07, 2020		
LISN (Support Unit)	SCHWARZBECK	Schwarzbeck 8127	8127-666	Nov. 29, 2018	Nov. 28, 2019		
RF Cable-CON	Woken	CFD200-NL	CFD200-NL-001	Oct. 23, 2018	Oct. 23, 2019		
50 ohm terminal (Support Unit)	NA	50	04	May 28, 2019	May 27, 2020		
Measurement Software	AUDIX	e3	6.120210k	NA	NA		
Note: Calibration Inte	rval of instruments liste	d above is one year.		•			

Test Item	Radiated Emission							
Test Site	966 chamber 3 / (03C	:H03-WS)						
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until			
Spectrum Analyzer	R&S	FSV40	101499	Jan. 07, 2019	Jan. 06, 2020			
Receiver	R&S	ESR3	101658	Dec. 11, 2018	Dec. 10, 2019			
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-685	Apr. 17, 2019	Apr. 16, 2020			
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1206	Jan. 07, 2019	Jan. 06, 2020			
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Nov. 15, 2018	Nov. 14, 2019			
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 09, 2018	Nov. 08, 2019			
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Oct. 08, 2018	Oct. 07, 2019			
Preamplifier	EMC	EMC02325	980187	Aug. 24, 2018	Aug. 23, 2019			
Preamplifier	Agilent	83017A	MY53270014	Aug. 09, 2018	Aug. 08, 2019			
Preamplifier	EMC	EMC184045B	980192	Aug. 09, 2018	Aug. 08, 2019			
RF cable-3M	HUBER+SUHNER	SUCOFLEX104	MY22620/ 4	Oct. 01, 2018	Sep. 30, 2019			
RF cable-8M	EMC	EMC104-SM-SM-80 00	181107	Oct. 01, 2018	Sep. 30, 2019			
RF cable-1M	HUBER+SUHNER	SUCOFLEX104	MY22624/4	Oct. 01, 2018	Sep. 30, 2019			
LF cable-0.8M	EMC	EMC8D-NM-NM-800	EMC8D-NM-NM-800 -001	Oct. 01, 2018	Sep. 30, 2019			
LF cable-3M	EMC	EMC8D-NM-NM-300 0	131103	Oct. 01, 2018	Sep. 30, 2019			
LF cable-13M	EMC	EMC8D-NM-NM-130 00	131104	Oct. 01, 2018	Sep. 30, 2019			
Measurement Software	AUDIX	e3	6.120210g	NA	NA			
Note: Calibration Inter	I val of instruments liste	d above is one year.			<u> </u>			

Report No.: FR961405 Page: 9 of 63



Test Item	RF Conducted					
Test Site	(TH01-WS)					
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until	
Spectrum Analyzer	R&S	FSV40	101063	Apr. 17, 2019	Apr. 16, 2020	
Spectrum Analyzer	R& S	FSV40	101499	Jan. 07, 2019	Jan. 06, 2020	
Power Meter	Anritsu	ML2495A	1241002	Oct. 09, 2018	Oct. 08, 2019	
Power Sensor	Anritsu	MA2411B	1207366	Oct. 09, 2018	Oct. 08, 2019	
MXG-B RF Vector Signal Generator	Agilent	N5182B	MY53050081	Apr. 21, 2019	Apr. 20, 2020	
AC POWER SOURCE	APC	AFC-500W	F312060012	Nov. 29, 2018	Nov. 28, 2019	
Measurement Software	Sporton	SENSE-15247_DTS	V5.10	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 15.247 Meas Guidance v05r02

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

1.6 Deviation from Test Standard and Measurement Procedure

None

1.7 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	±34.130 Hz				
Conducted power	±0.808 dB				
Power density	±0.583 dB				
Conducted emission	±2.715 dB				
AC conducted emission	±2.92 dB				
Radiated emission ≤ 1GHz	±3.96 dB				
Radiated emission > 1GHz	±4.51 dB				

Report No.: FR961405 Page: 10 of 63



2 Test Configuration

2.1 Testing Condition

Test Item Test Site		Ambient Condition	Tested By		
AC Conduction	CO01-WS	24°C / 59%	Alex Tsai		
Radiated Emissions	03CH03-WS	25°C / 60%	Roger Lu		
RF Conducted	TH01-WS	25°C / 67%	Aska Huang		

FCC Designation No.: TW0009FCC site registration No.: 207696

➤ ISED#: 10807A

> CAB identifier: TW2732

2.2 The Worst Test Modes and Channel Details

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

NOTE:

Report No.: FR961405 Page: 11 of 63

^{1.} The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement – X, Y, and Z-plane. The **X-plane** results were found as the worst case and were shown in this report.

^{2.} Two adapters (SAW06B050-1000U & JHD-AP006U-050100BB-2) had been covered during the pretest and found that **SAW06B050-1000U** adapter was the worst case and was selected for final testing.



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



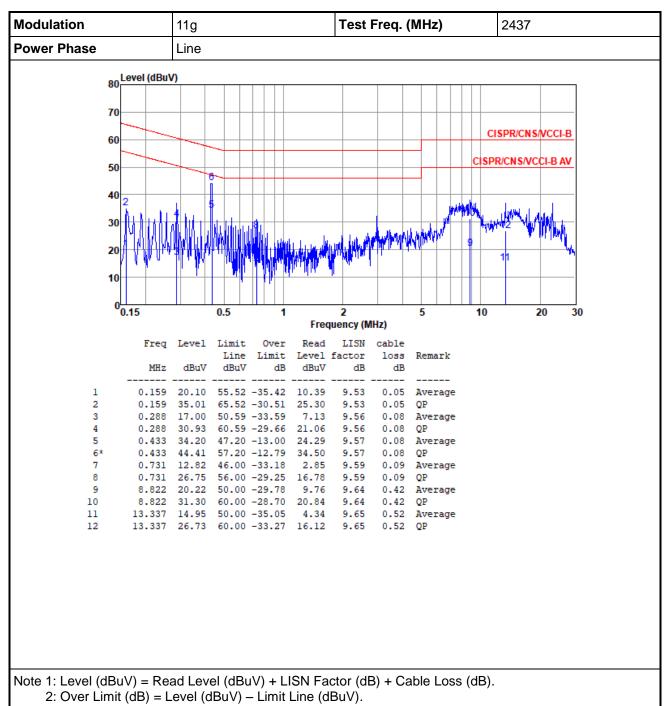
Note: 1. Support units were connected to second LISN.

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

Report No.: FR961405 Page: 12 of 63

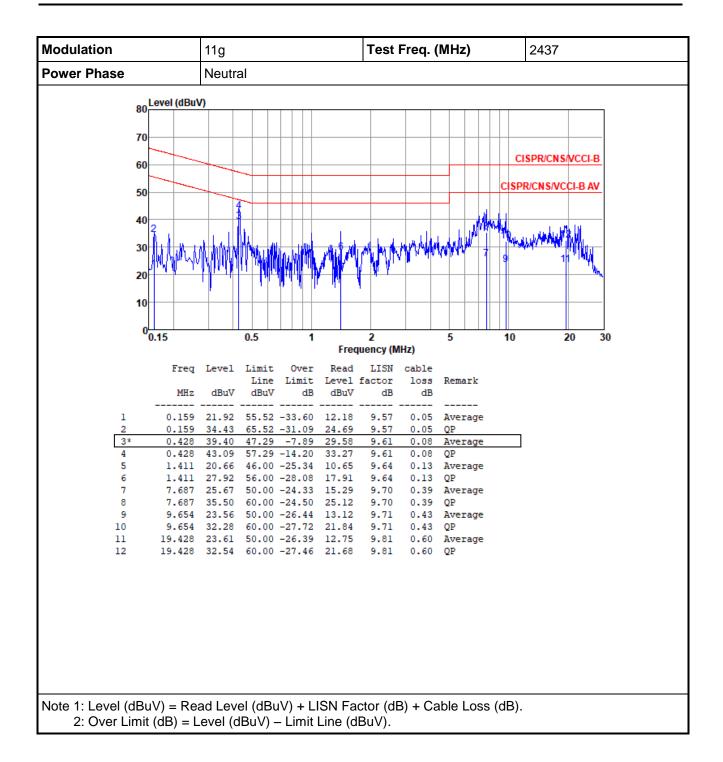


3.1.4 Test Result of Conducted Emissions



Report No.: FR961405 Page: 13 of 63





Report No.: FR961405 Page : 14 of 63



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

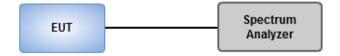
6dB Bandwidth

- 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% ~ 5 % of OBW, Video bandwidth = 3 x RBW
- 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



Report No.: FR961405 Page: 15 of 63



3.2.4 Test Result of 6dB and Occupied Bandwidth

Summary

Mode	Max-N dB	Max-OBW	ITU-Code	Min-N dB	Min-OBW
	(Hz)	(Hz)		(Hz)	(Hz)
2.4-2.4835GHz	-	-	-	-	-
802.11b_Nss1,(1Mbps)_2TX	10M	14.834M	14M8G1D	9.565M	14.472M
802.11g_Nss1,(6Mbps)_2TX	15.362M	23.01M	23M0D1D	13.768M	16.425M
802.11n HT20_Nss1,(MCS0)_2TX	15.145M	22.142M	22M1D1D	14.058M	17.583M
802.11n HT40_Nss1,(MCS0)_2TX	35.072M	36.614M	36M6D1D	31.304M	36.035M

Max-N dB = Maximum 6dB down bandwidth; **Max-OBW** = Maximum 99% occupied bandwidth; **Min-N dB** = Minimum 6dB down bandwidth; **Min-OBW** = Minimum 99% occupied bandwidth;

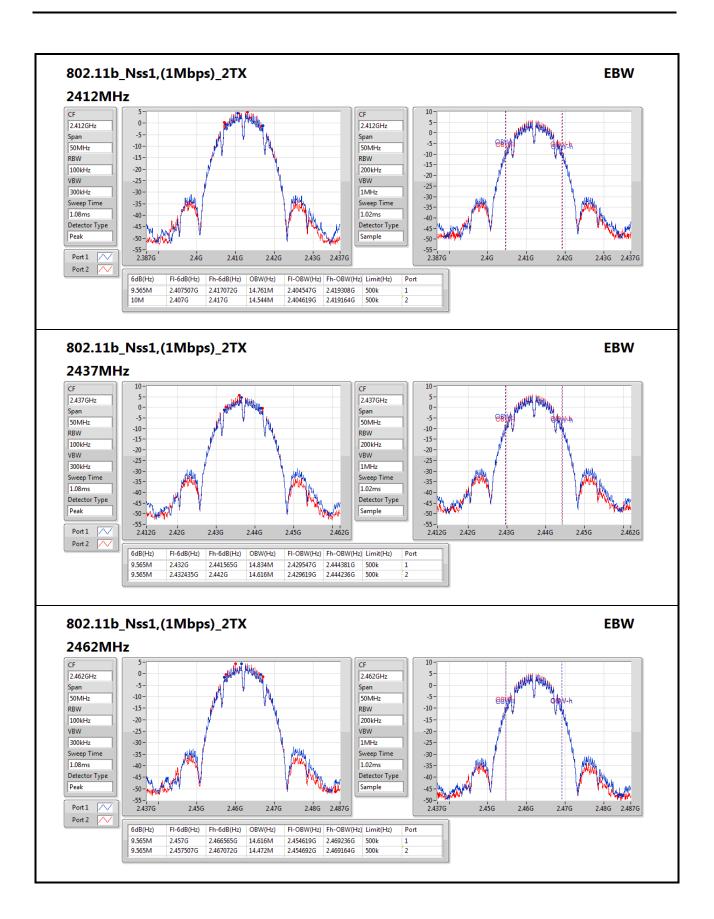
Result

Mode	Result	Limit	Port 1-N dB	Port 1-OBW	Port 2-N dB	Port 2-OBW
		(Hz)	(Hz)	(Hz)	(Hz)	(Hz)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	9.565M	14.761M	10M	14.544M
2437MHz	Pass	500k	9.565M	14.834M	9.565M	14.616M
2462MHz	Pass	500k	9.565M	14.616M	9.565M	14.472M
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	14.783M	17.004M	13.768M	16.425M
2437MHz	Pass	500k	15M	23.01M	15.362M	19.826M
2462MHz	Pass	500k	15.072M	17.004M	15.145M	16.425M
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	15.072M	17.728M	15.072M	17.583M
2437MHz	Pass	500k	15.145M	22.142M	14.638M	18.886M
2462MHz	Pass	500k	15.145M	17.945M	14.058M	17.583M
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	500k	32.609M	36.035M	35.072M	36.035M
2437MHz	Pass	500k	35.072M	36.614M	32.609M	36.179M
2452MHz	Pass	500k	31.304M	36.179M	32.609M	36.035M

Port X-N dB = Port X 6dB down bandwidth; Port X-OBW = Port X 99% occupied bandwidth;

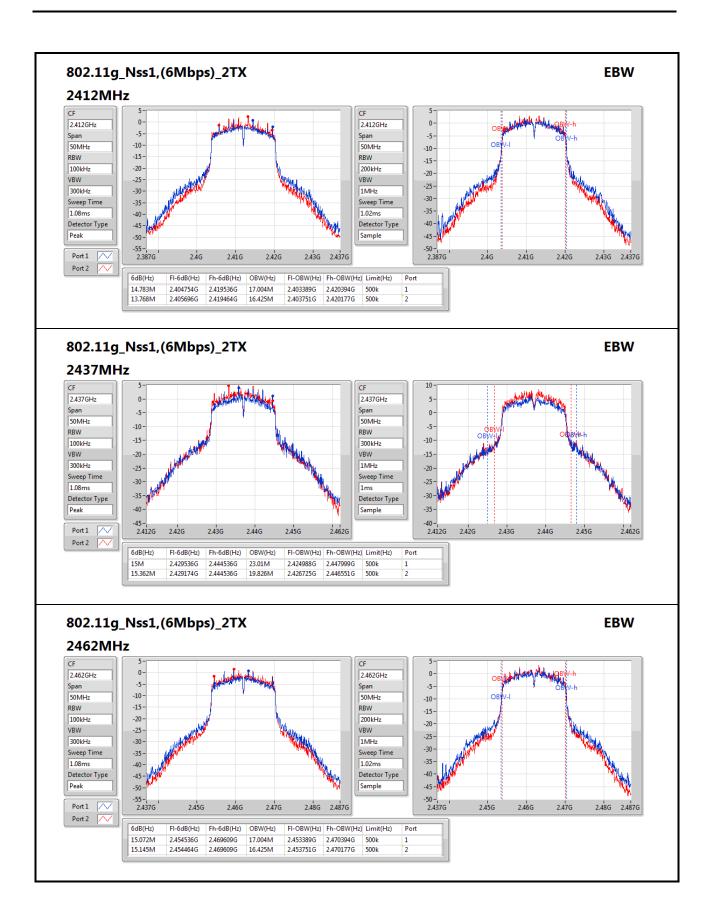
Report No.: FR961405 Page: 16 of 63





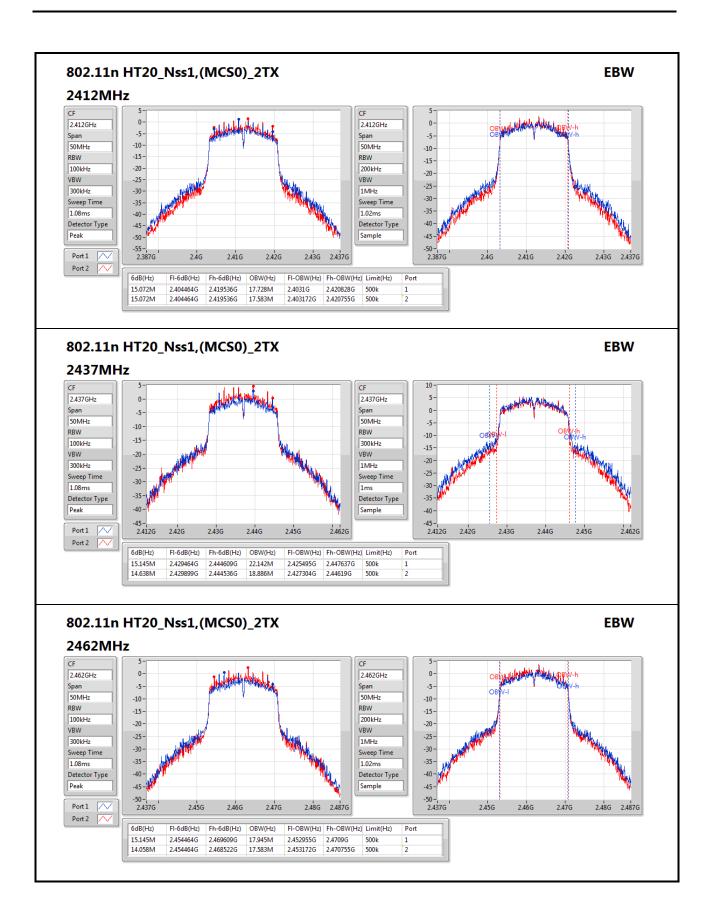
Report No.: FR961405 Page: 17 of 63





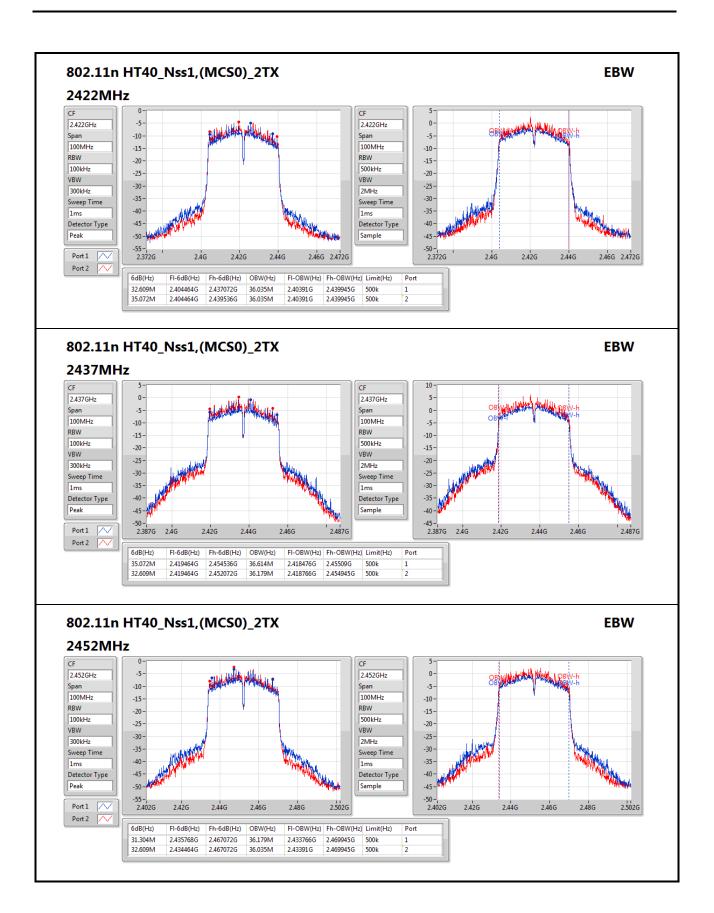
Report No.: FR961405 Page: 18 of 63





Report No.: FR961405 Page: 19 of 63





Report No.: FR961405 Page: 20 of 63



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.

3.3.2 Test Procedures

A broadband 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



Report No.: FR961405 Page: 21 of 63



3.3.4 Test Result of Maximum Output Power

Peak Power

Summary

Mode	Total Power	Total Power
	(dBm)	(W)
2.4-2.4835GHz	-	-
802.11b_Nss1,(1Mbps)_2TX	19.53	0.08974
802.11g_Nss1,(6Mbps)_2TX	22.91	0.19543
802.11n HT20_Nss1,(MCS0)_2TX	22.66	0.18450
802.11n HT40_Nss1,(MCS0)_2TX	21.58	0.14388

Result

Mode	Result	DG	Port 1	Port 2	Total Power	Power Limit	EIRP	EIRP Limit
		(dBi)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	1.00	16.39	16.65	19.53	30.00	20.53	36.00
2437MHz	Pass	1.00	16.24	16.53	19.40	30.00	20.40	36.00
2462MHz	Pass	1.00	15.35	15.30	18.34	30.00	19.34	36.00
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	1.00	18.41	19.34	21.91	30.00	22.91	36.00
2437MHz	Pass	1.00	19.04	20.62	22.91	30.00	23.91	36.00
2462MHz	Pass	1.00	18.12	19.32	21.77	30.00	22.77	36.00
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	1	-	-	-	1
2412MHz	Pass	1.00	17.93	18.54	21.26	30.00	22.26	36.00
2437MHz	Pass	1.00	18.72	20.41	22.66	30.00	23.66	36.00
2462MHz	Pass	1.00	17.95	19.04	21.54	30.00	22.54	36.00
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
2422MHz	Pass	1.00	15.27	15.52	18.41	30.00	19.41	36.00
2437MHz	Pass	1.00	17.83	19.21	21.58	30.00	22.58	36.00
2452MHz	Pass	1.00	15.85	16.97	19.46	30.00	20.46	36.00

DG = Directional Gain; **Port X** = Port X output power

Report No.: FR961405 Page: 22 of 63



Average Power

Summary

Mode	Total Power	Total Power
	(dBm)	(W)
2.4-2.4835GHz	-	-
802.11b_Nss1,(1Mbps)_2TX	17.75	0.05957
802.11g_Nss1,(6Mbps)_2TX	18.74	0.07482
802.11n HT20_Nss1,(MCS0)_2TX	17.89	0.06152
802.11n HT40_Nss1,(MCS0)_2TX	15.60	0.03631

Result

Mode	Result	DG	Port 1	Port 2	Total Power	Power Limit	EIRP	EIRP Limit
		(dBi)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	1.00	14.65	14.83	17.75	-	18.75	-
2437MHz	Pass	1.00	14.48	14.76	17.63	-	18.63	-
2462MHz	Pass	1.00	13.61	13.51	16.57	-	17.57	-
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	1	-	-
2412MHz	Pass	1.00	12.26	12.81	15.55	1	16.55	-
2437MHz	Pass	1.00	15.04	16.32	18.74	-	19.74	-
2462MHz	Pass	1.00	12.25	12.61	15.44	-	16.44	-
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	1.00	11.44	11.89	14.68	-	15.68	-
2437MHz	Pass	1.00	14.23	15.44	17.89	-	18.89	-
2462MHz	Pass	1.00	12.12	12.62	15.39	-	16.39	-
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
2422MHz	Pass	1.00	8.23	8.59	11.42	-	12.42	-
2437MHz	Pass	1.00	12.32	12.84	15.60	-	16.60	-
2452MHz	Pass	1.00	9.54	10.04	12.81	-	13.81	-

DG = Directional Gain; **Port X** = Port X output power Note : Conducted average output power is for reference only

Report No.: FR961405 Page: 23 of 63



3.4 Power Spectral Density

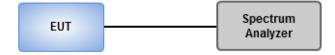
3.4.1 Limit of Power Spectral Density

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

3.4.2 Test Procedures

- 1. Set the RBW = 3 kHz, VBW = 10 kHz.
- 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.

3.4.3 Test Setup



Report No.: FR961405 Page: 24 of 63



3.4.4 Test Result of Power Spectral Density

Summary

Mode	PD
	(dBm/RBW)
2.4-2.4835GHz	-
802.11b_Nss1,(1Mbps)_2TX	-6.56
802.11g_Nss1,(6Mbps)_2TX	-7.65
802.11n HT20_Nss1,(MCS0)_2TX	-9.87
802.11n HT40_Nss1,(MCS0)_2TX	-14.42

Result

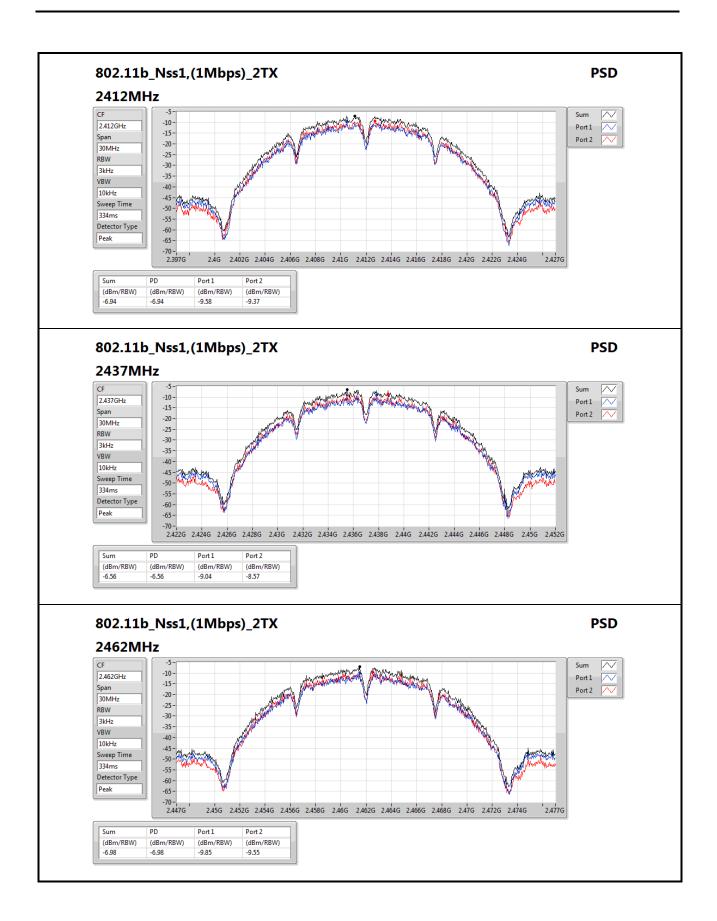
Mode	Result	DG	Port 1	Port 2	PD	PD Limit
		(dBi)	(dBm/RB W)	(dBm/RB W)	(dBm/RB W)	(dBm/RB W)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	4.01	-9.58	-9.37	-6.94	8.00
2437MHz	Pass	4.01	-9.04	-8.57	-6.56	8.00
2462MHz	Pass	4.01	-9.85	-9.55	-6.98	8.00
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	4.01	-14.75	-14.21	-12.20	8.00
2437MHz	Pass	4.01	-10.49	-10.41	-7.65	8.00
2462MHz	Pass	4.01	-14.91	-13.95	-11.90	8.00
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	4.01	-16.01	-13.25	-11.40	8.00
2437MHz	Pass	4.01	-12.50	-11.43	-9.87	8.00
2462MHz	Pass	4.01	-14.94	-13.48	-11.63	8.00
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	4.01	-21.41	-20.64	-18.23	8.00
2437MHz	Pass	4.01	-16.89	-16.19	-14.42	8.00
2452MHz	Pass	4.01	-20.26	-19.23	-17.24	8.00

DG = Directional Gain;

PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port X power density;

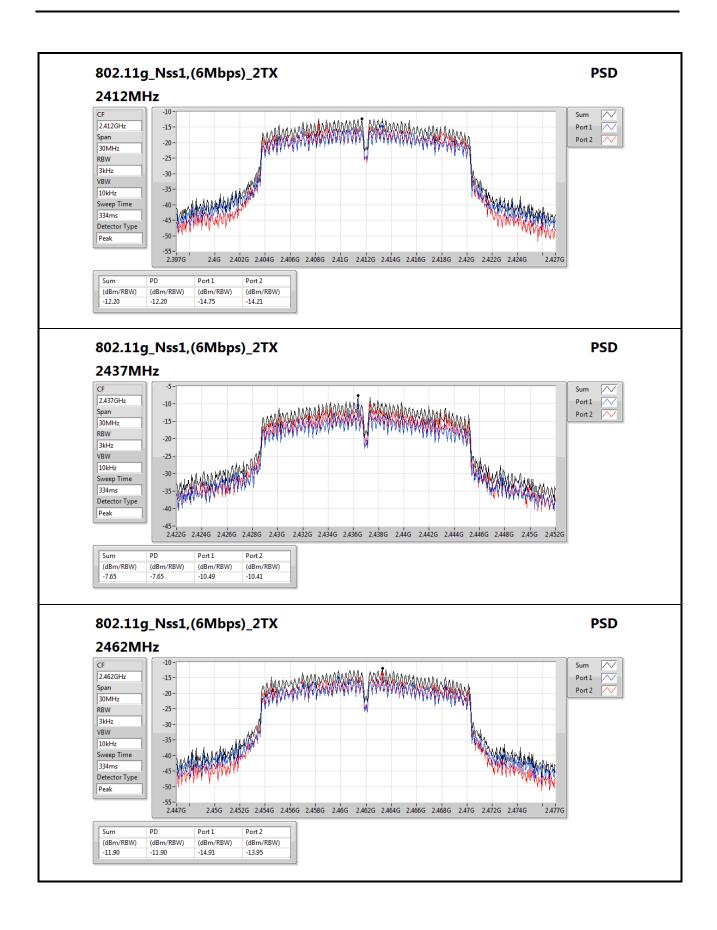
Report No.: FR961405 Page: 25 of 63





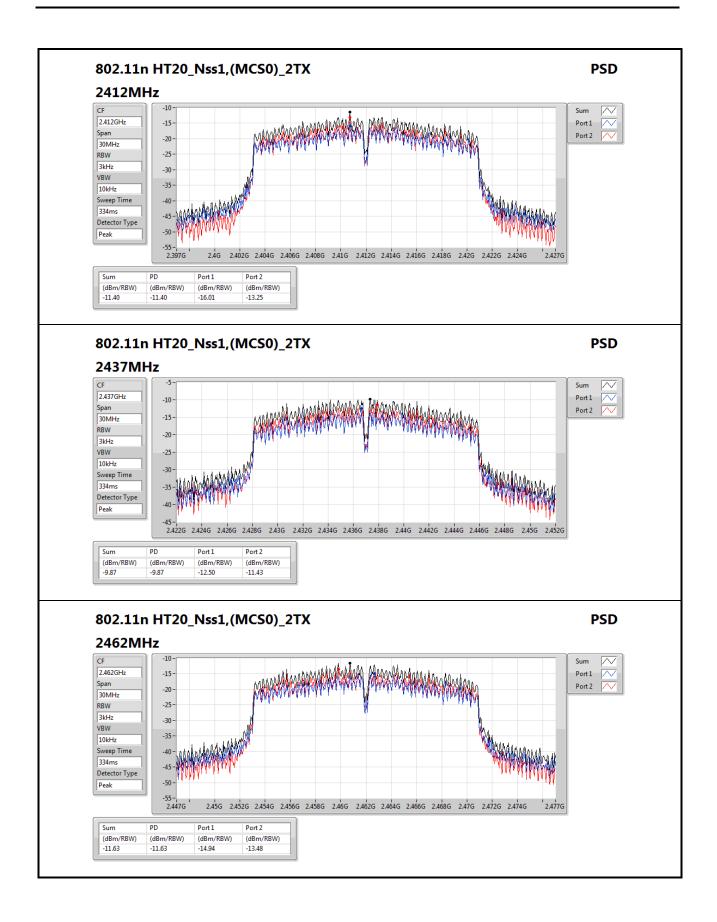
Report No.: FR961405 Page: 26 of 63





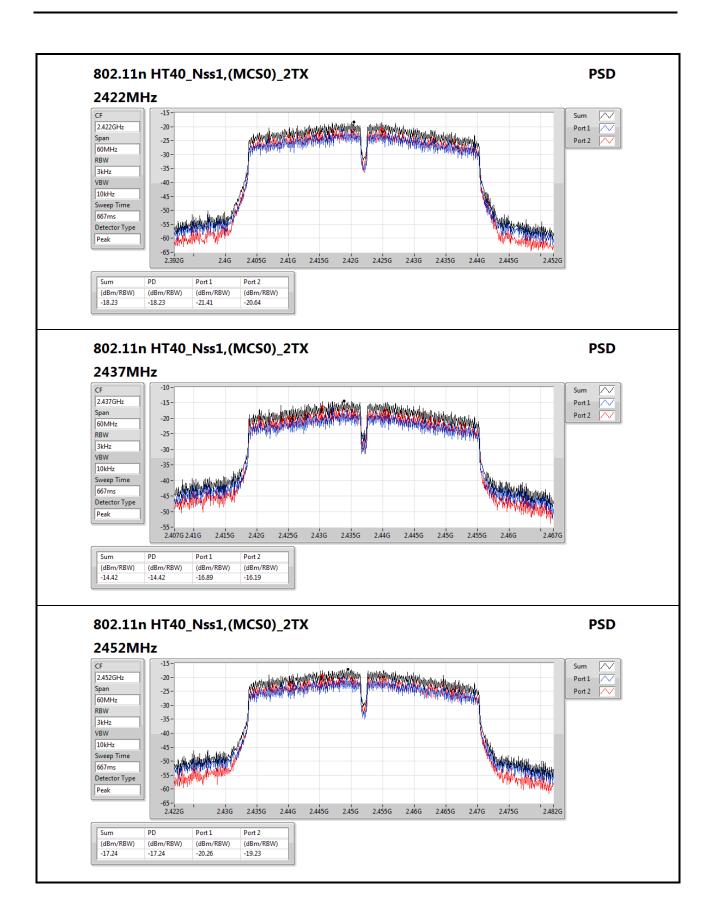
Report No.: FR961405 Page: 27 of 63





Report No.: FR961405 Page: 28 of 63





Report No.: FR961405 Page: 29 of 63



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.

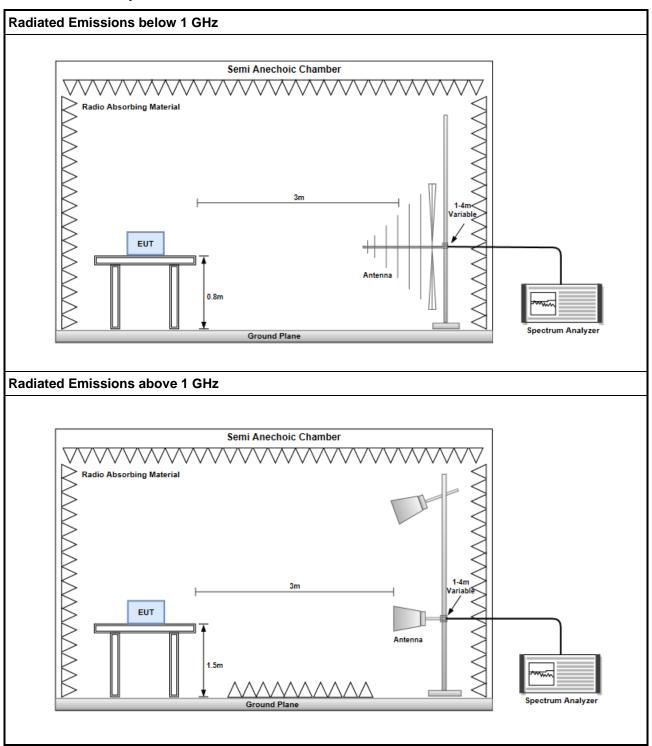
Note:

- 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.
- RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above 1GHz.

Report No.: FR961405 Page: 30 of 63



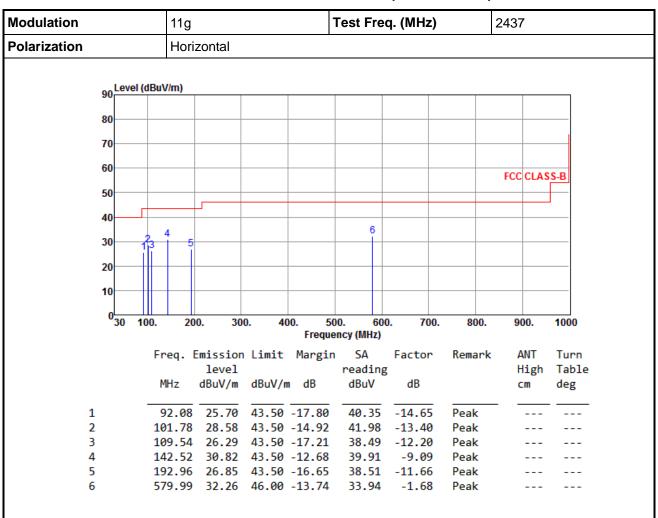
3.5.3 Test Setup



Report No.: FR961405 Page: 31 of 63



3.5.4 Transmitter Radiated Unwanted Emissions (Below 1GHz)



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.

Report No.: FR961405 Page: 32 of 63



Modulation	11g	11g				Test Freq. (MHz)			2437	
Polarization	Vert	Vertical								
Leve	90 Level (dBuV/m)									
90	, (abarini)									
80										
70										
70										
60								FCC	CLAS	S.B
50								100	CLAS	3-6
40 1	20.5									
30	2345 ₆ ∐∐ ⊥									
20										
10										_
030	100. 20	00. 30	0. 40		0. 600 ncy (MHz)	0. 700.	800.	90	00.	1000
	Freq.	Emission	Limit	Margin	SA	Factor	Remark	А	NT	Turn
		level			reading	5		Н	igh	Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		c	m	deg
1	58.13	35.90	40.00	-4.10	45.11	-9.21	Peak			
2	76.56			-7.46	45.05	-12.51	Peak			
3	85.29		40.00	-8.25	46.20		Peak			
4	92.08	31.21	43.50		45.86		Peak			
5	101.78	32.05	43.50	-11.45	45.45	-13.40	Peak			
6	142.52	30.21	43.50	-13.29	39.30	-9.09	Peak			

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor, cable loss and amplifier gain

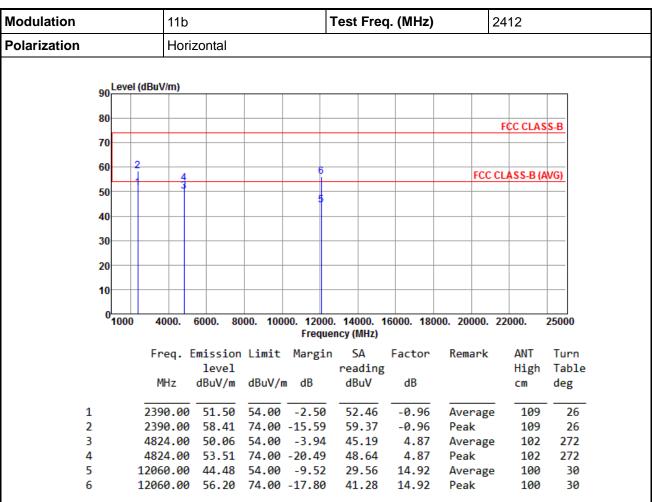
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

Report No.: FR961405 Page: 33 of 63



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



Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

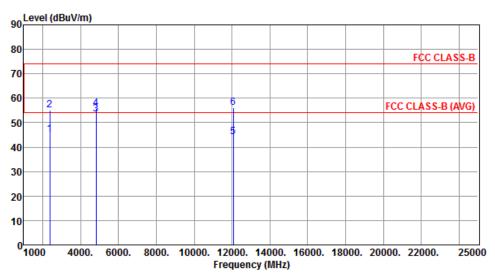
*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR961405 Page: 34 of 63



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



	Freq. MHz	Emission level dBuV/m		Ū	SA reading dBuV	Factor	Remark	ANT High	Turn Table
	MUZ	ubuv/m	dBuV/m	ub	abuv	dB		cm	deg
1	2390.00	45.02	54.00	-8.98	45.98	-0.96	Average	100	204
2	2390.00		74.00		55.93	-0.96	Peak	100	204
3	4824.00	53.55	54.00	-0.45	48.68	4.87	Average	110	195
4	4824.00	55.93	74.00	-18.07	51.06	4.87	Peak	110	195
5	12060.00	44.06	54.00	-9.94	29.14	14.92	Average	100	17
6	12060.00	56.27	74.00	-17.73	41.35	14.92	Peak	100	17

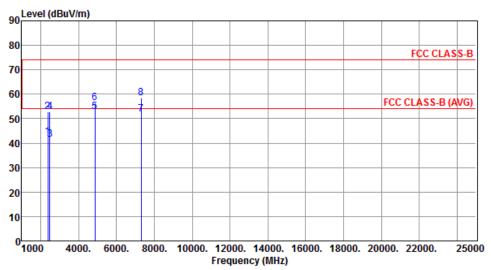
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR961405 Page: 35 of 63



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



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ū	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	42.66	54.00	-11.34	43.62	-0.96	Average	100	29
2	2390.00	52.71	74.00	-21.29	53.67	-0.96	Peak	100	29
3	2483.50	41.49	54.00	-12.51	42.61	-1.12	Average	100	29
4	2483.50	52.66	74.00	-21.34	53.78	-1.12	Peak	100	29
5	4874.00	52.88	54.00	-1.12	47.97	4.91	Average	107	269
6	4874.00	56.33	74.00	-17.67	51.42	4.91	Peak	107	269
7	7311.00	51.84	54.00	-2.16	41.49	10.35	Average	331	213
8	7311.00	58.48	74.00	-15.52	48.13	10.35	Peak	331	213

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).

Report No.: FR961405 Page: 36 of 63



Modulation			,	11b					Test	Fred	ą. (MHz)		2437	
Polarization			,	Vert	ical									
	90	Level	(dBuV/	m)		_		I I						
	80													
	δU												FCC CLAS	S-B
	70	\vdash				+								-
	60					3								
	00		21	g	7	-						FCC	CLASS-B (A	WG)
	50	\vdash												-
	40		₿											
	40													
	30					_								-
	20													
	20													
	10													-
	0													
	·	1000	400	00.	6000.	8000). 100		00. 1400 iency (M		6000. 180	00. 20000.	22000.	25000
			Fre	a. I	missio	on l	imit	Margi			Factor	Remark	ANT	Turn
				•	leve				read				High	Table
			MH	lz	dBuV/r	n c	BuV/	m dB	dBu	ιV	dB		cm	deg
	_													
	1							-14.45			-0.96	Averag		
	2		2390					-21.67			-0.96	Peak	100	205
	3 4							-14.58 -21.46			-1.12 -1.12	Averag Peak	e 100 100	205 205
	4 5							-21.40			4.91	Averag		196
	-							-1.41			4.91	Averag	- 111	100

*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

4874.00

7311.00

54.94

53.74

7311.00 59.34 74.00 -14.66

74.00 -19.06

54.00 -0.26

50.03

43.39

48.99

4.91

10.35

10.35

Peak

Peak

Average

111

347

347

196

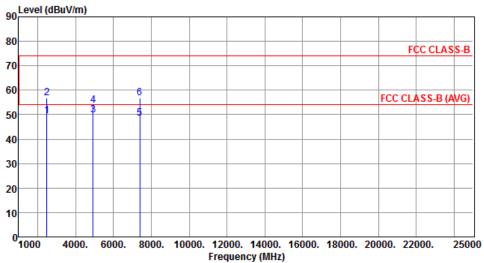
188

188

Report No.: FR961405 Page: 37 of 63



Modulation		11b		Test	Freq.	(MHz))	24	62		
Polarization		Horizontal									
90 <mark>Le</mark>	vel (dBu\	//m)								1	



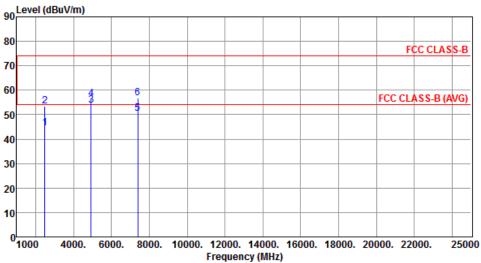
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ū	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	49.54	<u></u>	1 10	<u> </u>	1 12	A	170	
1	2403.30	49.54	54.00	-4.46	50.66	-1.12	Average	1/0	0
2	2483.50	56.69	74.00	-17.31	57.81	-1.12	Peak	170	0
3	4924.00	49.85	54.00	-4.15	44.84	5.01	Average	107	271
4	4924.00	53.96	74.00	-20.04	48.95	5.01	Peak	107	271
5	7386.00	48.58	54.00	-5.42	38.43	10.15	Average	337	211
6	7386.00	56.85	74.00	-17.15	46.70	10.15	Peak	337	211

*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR961405 Page: 38 of 63



Modulation	11b	Test Freq. (MHz)	2462				
Polarization	Vertical						
Loyal (dPuV/m)							



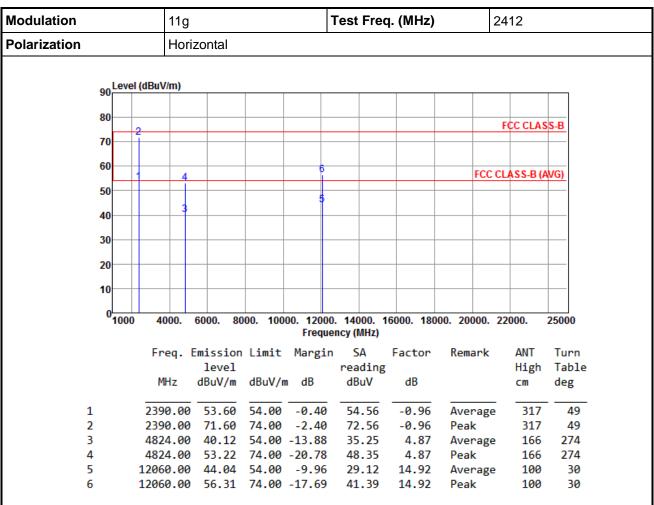
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	2483.50	44.57	54.00	-9.43	45.69	-1.12	Average	100	202
2	2483.50	53.51	74.00	-20.49	54.63	-1.12	Peak	100	202
3	4924.00	53.66	54.00	-0.34	48.65	5.01	Average	100	209
4	4924.00	56.52	74.00	-17.48	51.51	5.01	Peak	100	209
5	7386.00	50.50	54.00	-3.50	40.35	10.15	Average	335	189
6	7386.00	56.69	74.00	-17.31	46.54	10.15	Peak	335	189

*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR961405 Page: 39 of 63



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



Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

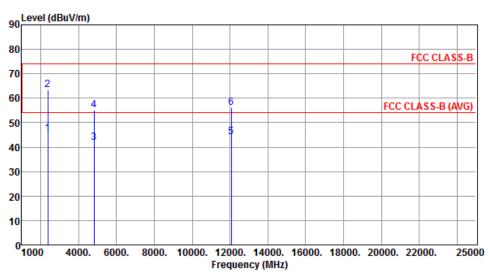
*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) - Limit (dBuV/m).

Report No.: FR961405 Page: 40 of 63



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



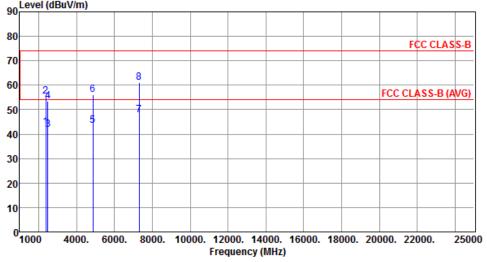
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	2390.00	45.52	54.00	-8.48	46.48	-0.96	Average	100	263
2	2390.00	63.52	74.00	-10.48	64.48	-0.96	Peak	100	263
3	4824.00	41.99	54.00	-12.01	37.12	4.87	Average	100	269
4	4824.00	55.07	74.00	-18.93	50.20	4.87	Peak	100	269
5	12060.00	44.21	54.00	-9.79	29.29	14.92	Average	100	20
6	12060.00	56.15	74.00	-17.85	41.23	14.92	Peak	100	20

*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR961405 Page: 41 of 63



Modulation 11g		Test	Freq.	(MHz)	24	2437			
Polarization	F	Horizontal							
l ev	el (dRuV/m	n)							
	el (dBuV/n	,							
80							FC	C CLAS	S-B



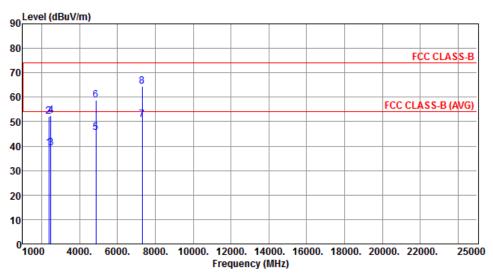
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ū	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	42.81	54.00	-11.19	43.77	-0.96	Average	302	359
2	2390.00	55.30	74.00	-18.70	56.26	-0.96	Peak	302	359
3	2483.50	41.89	54.00	-12.11	43.01	-1.12	Average	302	359
4	2483.50	53.48	74.00	-20.52	54.60	-1.12	Peak	302	359
5	4874.00	43.52	54.00	-10.48	38.61	4.91	Average	165	273
6	4874.00	56.13	74.00	-17.87	51.22	4.91	Peak	165	273
7	7311.00	47.75	54.00	-6.25	37.40	10.35	Average	319	205
8	7311.00	61.17	74.00	-12.83	50.82	10.35	Peak	319	205

*Factor includes antenna factor, cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR961405 Page: 42 of 63



Modulation 11g		Test Freq. (MHz)	2437
Polarization Vertice	cal		



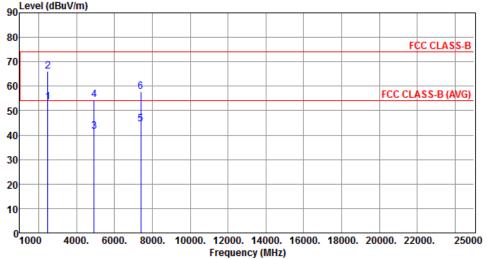
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ū	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	39.30	54.00	-14.70	40.26	-0.96	Average	100	265
2	2390.00	52.30	74.00	-21.70	53.26	-0.96	Peak	100	265
3	2483.50	39.21	54.00	-14.79	40.33	-1.12	Average	100	265
4	2483.50	52.39	74.00	-21.61	53.51	-1.12	Peak	100	265
5	4874.00	45.57	54.00	-8.43	40.66	4.91	Average	100	272
6	4874.00	58.63	74.00	-15.37	53.72	4.91	Peak	100	272
7	7311.00	50.85	54.00	-3.15	40.50	10.35	Average	339	193
8	7311.00	64.49	74.00	-9.51	54.14	10.35	Peak	339	193

*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR961405 Page: 43 of 63



Modulation 11g		Test Freq. (MHz)	2462		
Polarization	Horizontal				
90 Level (dBu	ıV/m)				



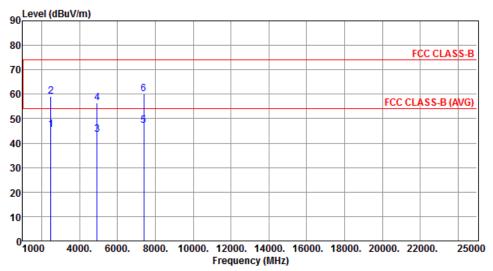
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	2483.50	53.57	54.00	-0.43	54.69	-1.12	Average	332	
1	2403.30	33.37	34.00	-0.43	34.05	-1.12	Average	332	
2	2483.50	66.25	74.00	-7.75	67.37	-1.12	Peak	332	3
3	4924.00	41.56	54.00	-12.44	36.55	5.01	Average	166	270
4	4924.00	54.32	74.00	-19.68	49.31	5.01	Peak	166	270
5	7386.00	44.41	54.00	-9.59	34.26	10.15	Average	323	206
6	7386.00	57.80	74.00	-16.20	47.65	10.15	Peak	323	206

*Factor includes antenna factor, cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR961405 Page: 44 of 63



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



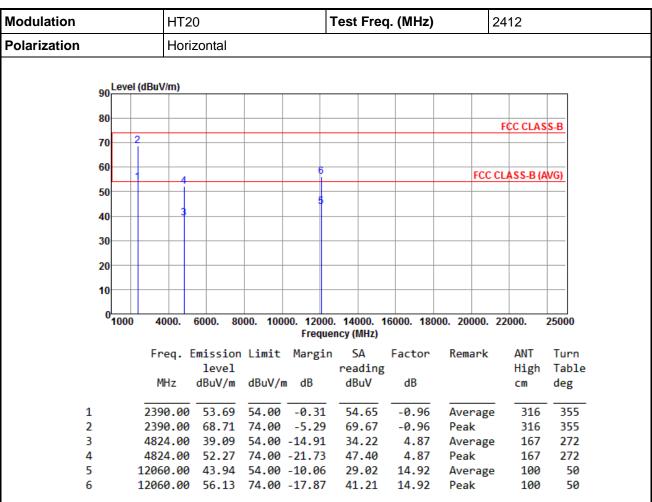
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ū	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	45.41	54.00	-8.59	46.53	-1.12	Average	100	265
2	2483.50	59.09	74.00	-14.91	60.21	-1.12	Peak	100	265
3	4924.00	43.44	54.00	-10.56	38.43	5.01	Average	100	271
4	4924.00	56.47	74.00	-17.53	51.46	5.01	Peak	100	271
5	7386.00	47.28	54.00	-6.72	37.13	10.15	Average	335	195
6	7386.00	60.27	74.00	-13.73	50.12	10.15	Peak	335	195

*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR961405 Page: 45 of 63



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



Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

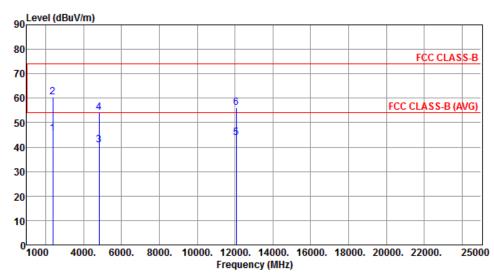
*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR961405 Page: 46 of 63



Modulation	HT20	Test Freq. (MHz)	2412
Polarization	Vertical		



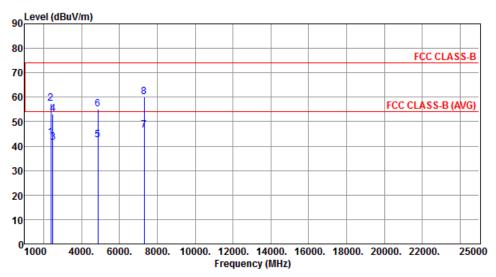
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	2390.00	45.45	54.00	-8.55	46.41	-0.96	Average	100	269
2	2390.00	60.37	74.00	-13.63	61.33	-0.96	Peak	100	269
3	4824.00	40.99	54.00	-13.01	36.12	4.87	Average	169	275
4	4824.00	54.22	74.00	-19.78	49.35	4.87	Peak	169	275
5	12060.00	43.97	54.00	-10.03	29.05	14.92	Average	100	90
6	12060.00	56.08	74.00	-17.92	41.16	14.92	Peak	100	90

*Factor includes antenna factor, cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR961405 Page: 47 of 63



Modulation	HT20	Test Freq. (MHz)	2437
Polarization	Horizontal		



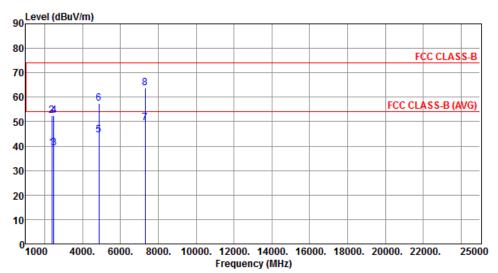
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	2390.00	43.63	54.00	10 37	44.59	-0.96	Average	311	353
_									
2	2390.00	57.58	74.00	-16.42	58.54	-0.96	Peak	311	353
3	2483.50	41.47	54.00	-12.53	42.59	-1.12	Average	311	353
4	2483.50	53.14	74.00	-20.86	54.26	-1.12	Peak	311	353
5	4874.00	42.46	54.00	-11.54	37.55	4.91	Average	169	278
6	4874.00	55.04	74.00	-18.96	50.13	4.91	Peak	169	278
7	7311.00	46.56	54.00	-7.44	36.21	10.35	Average	320	207
8	7311.00	60.03	74.00	-13.97	49.68	10.35	Peak	320	207

*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR961405 Page: 48 of 63



Modulation	HT20	Test Freq. (MHz)	2437
Polarization	Vertical		



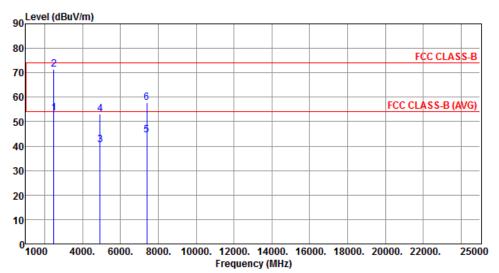
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ū	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	39.27	54.00	-14.73	40.23	-0.96	Average	100	267
2	2390.00	52.58	74.00	-21.42	53.54	-0.96	Peak	100	267
3	2483.50	39.23	54.00	-14.77	40.35	-1.12	Average	100	267
4	2483.50	52.45	74.00	-21.55	53.57	-1.12	Peak	100	267
5	4874.00	44.47	54.00	-9.53	39.56	4.91	Average	100	269
6	4874.00	57.59	74.00	-16.41	52.68	4.91	Peak	100	269
7	7311.00	49.47	54.00	-4.53	39.12	10.35	Average	340	195
8	7311.00	63.61	74.00	-10.39	53.26	10.35	Peak	340	195

*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR961405 Page: 49 of 63



Modulation	HT20	Test Freq. (MHz)	2462
Polarization	Horizontal		



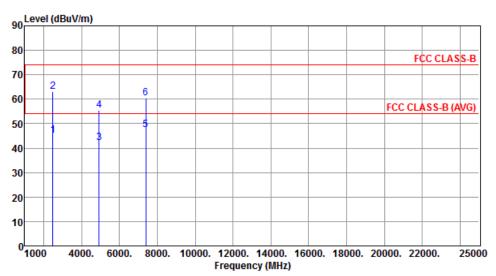
	Freq.	Emission level	Limit	Margin	SA reading		Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	2483.50	53.56	54.00	-0.44	54.68	-1.12	Average	331	18
2	2483.50	71.31	74.00	-2.69	72.43	-1.12	Peak	331	18
3	4924.00	40.42	54.00	-13.58	35.41	5.01	Average	165	275
4	4924.00	53.17	74.00	-20.83	48.16	5.01	Peak	165	275
5	7386.00	44.34	54.00	-9.66	34.19	10.15	Average	321	202
6	7386.00	57.71	74.00	-16.29	47.56	10.15	Peak	321	202

*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR961405 Page: 50 of 63



Modulation	HT20	Test Freq. (MHz)	2462
Polarization	Vertical		



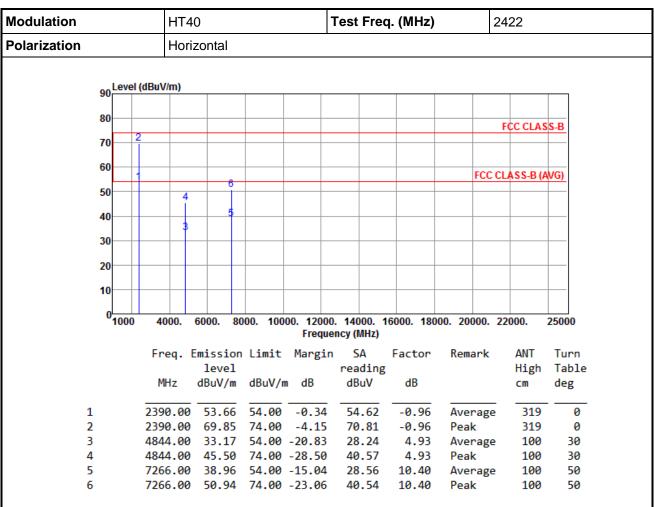
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ü	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	45.13	54 00	8 87	46.25	-1.12	Average	100	263
_	2403.30	45.15	34.00	-0.07	40.23	-1.12	Average	100	203
2	2483.50	63.16	74.00	-10.84	64.28	-1.12	Peak	100	263
3	4924.00	42.17	54.00	-11.83	37.16	5.01	Average	100	268
4	4924.00	55.39	74.00	-18.61	50.38	5.01	Peak	100	268
5	7386.00	47.36	54.00	-6.64	37.21	10.15	Average	335	194
6	7386.00	60.55	74.00	-13.45	50.40	10.15	Peak	335	194

*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR961405 Page: 51 of 63



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



Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

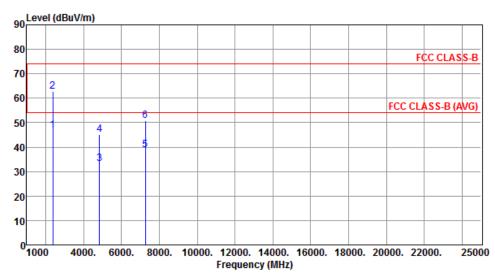
*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR961405 Page: 52 of 63



Modulation	HT40	Test Freq. (MHz)	2422
Polarization	Vertical		



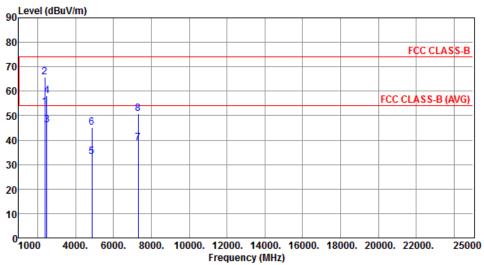
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	J	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
			,						
1	2390.00	46.99	54.00	-7.01	47.95	-0.96	Average	100	267
2	2390.00	62.64	74.00	-11.36	63.60	-0.96	Peak	100	267
3	4844.00	33.15	54.00	-20.85	28.22	4.93	Average	100	20
4	4844.00	45.27	74.00	-28.73	40.34	4.93	Peak	100	20
5	7266.00	38.95	54.00	-15.05	28.55	10.40	Average	100	90
6	7266.00	50.91	74.00	-23.09	40.51	10.40	Peak	100	90

*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR961405 Page: 53 of 63



Modulation	HT40	Test Freq.	(MHz)	24	37		
Polarization	Horizontal						
90 Level (dBu	//m)						



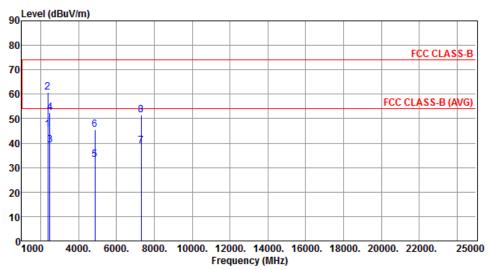
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	2390.00	53.58	54.00	-0.42	54.54	-0.96	Average	318	343
2	2390.00	65.85	74.00	-8.15	66.81	-0.96	Peak	318	343
3	2483.50	46.07	54.00	-7.93	47.19	-1.12	Average	243	343
4	2483.50	58.20	74.00	-15.80	59.32	-1.12	Peak	243	343
5	4874.00	33.07	54.00	-20.93	28.16	4.91	Average	100	30
6	4874.00	45.14	74.00	-28.86	40.23	4.91	Peak	100	30
7	7311.00	38.84	54.00	-15.16	28.49	10.35	Average	100	100
8	7311.00	50.84	74.00	-23.16	40.49	10.35	Peak	100	100

*Factor includes antenna factor, cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR961405 Page: 54 of 63



Modulation	HT40	Test Freq. (MHz)	2437
Polarization	Vertical		



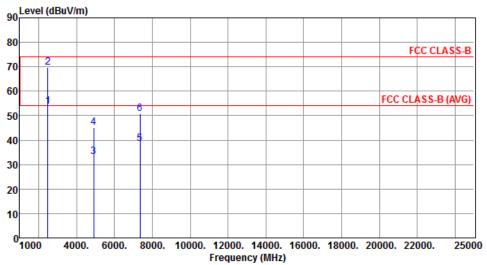
	Freq.	Emission level dBuV/m	Limit dBuV/m	Ū	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	45.59	54.00	-8.41	46.55	-0.96	Average	100	267
2	2390.00	60.62	74.00	-13.38	61.58	-0.96	Peak	100	267
3	2483.50	39.19	54.00	-14.81	40.31	-1.12	Average	100	267
4	2483.50	52.33	74.00	-21.67	53.45	-1.12	Peak	100	267
5	4874.00	33.33	54.00	-20.67	28.42	4.91	Average	100	60
6	4874.00	45.41	74.00	-28.59	40.50	4.91	Peak	100	60
7	7311.00	38.91	54.00	-15.09	28.56	10.35	Average	100	55
8	7311.00	51.62	74.00	-22.38	41.27	10.35	Peak	100	55

*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR961405 Page: 55 of 63



Modulation		HT40			Test	Test Freq. (MHz)				2452		
Polarization Horizontal												
90 Level (dBuV/m)												
90												



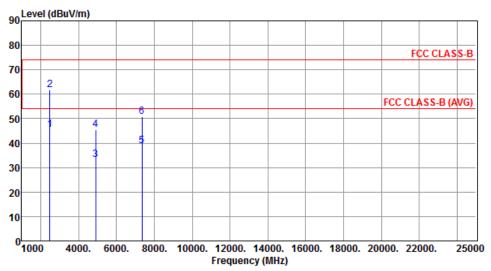
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	2483.50	53.65	54.00	-0.35	54.77	-1.12	Average	147	339
2	2483.50	69.79	74.00	-4.21	70.91	-1.12	Peak	147	339
3	4904.00	33.17	54.00	-20.83	28.26	4.91	Average	100	40
4	4904.00	45.27	74.00	-28.73	40.36	4.91	Peak	100	40
5	7356.00	38.69	54.00	-15.31	28.46	10.23	Average	100	20
6	7356.00	50.82	74.00	-23.18	40.59	10.23	Peak	100	20

*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR961405 Page: 56 of 63



Modulation	HT40	Test Freq. (MHz)	2452
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ū	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	45.53	54 00	-8.47	46.65	-1.12	Average	100	260
2									
2	2403.30	61.73	74.00	-12.2/	62.85	-1.12	Peak	100	260
3	4904.00	33.22	54.00	-20.78	28.31	4.91	Average	100	20
4	4904.00	45.44	74.00	-28.56	40.53	4.91	Peak	100	20
5	7356.00	38.88	54.00	-15.12	28.65	10.23	Average	100	80
6	7356.00	50.84	74.00	-23.16	40.61	10.23	Peak	100	80

*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR961405 Page: 57 of 63



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 20 dB relative to the maximum in-band peak PSD level in 100 kHz.

3.6.2 Test Procedures

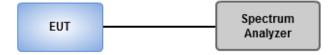
Reference level measurement

- 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

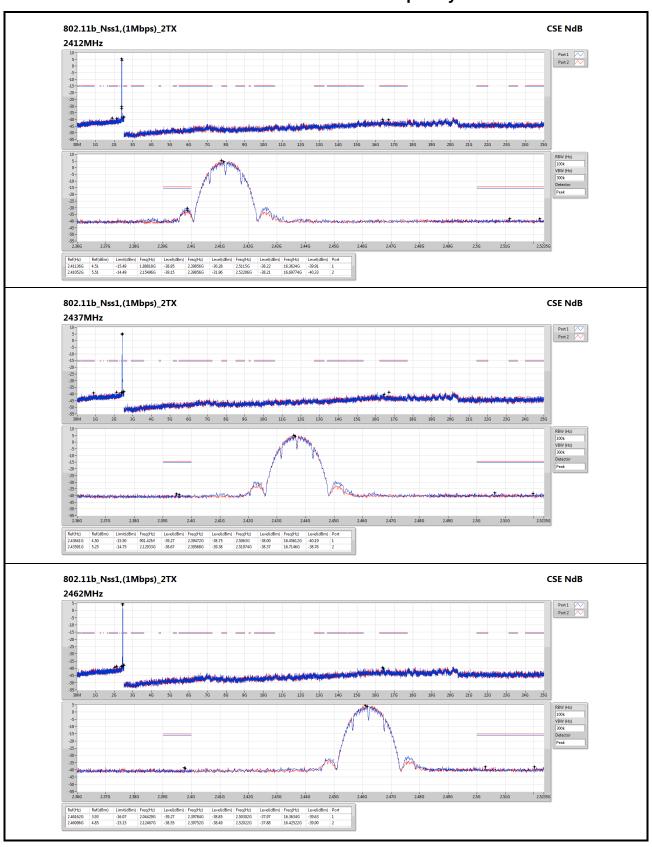
3.6.3 Test Setup



Report No.: FR961405 Page: 58 of 63

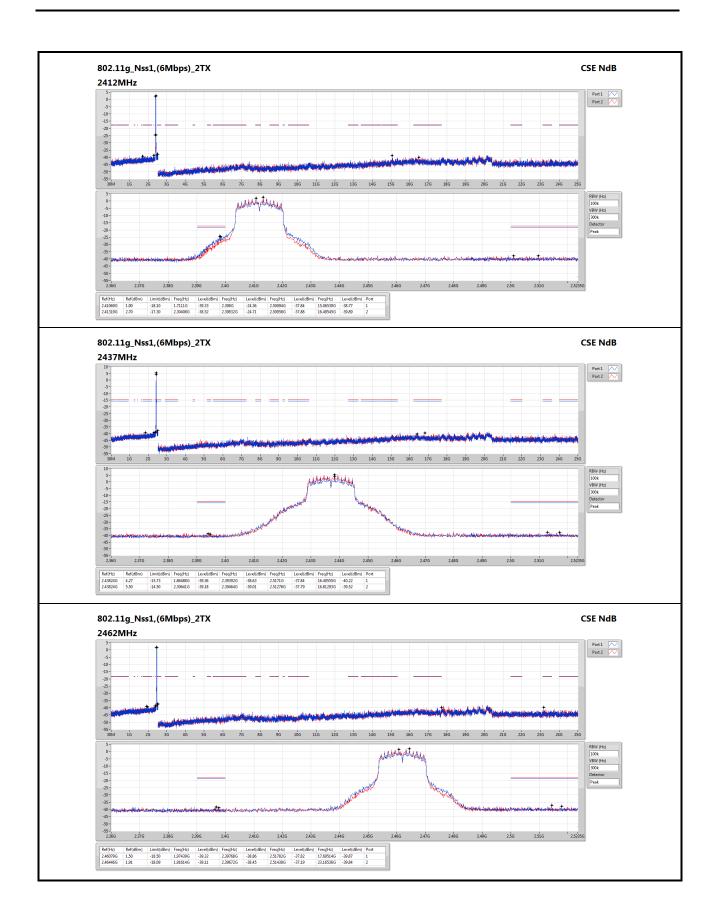


3.6.4 Unwanted Emissions into Non-Restricted Frequency Bands



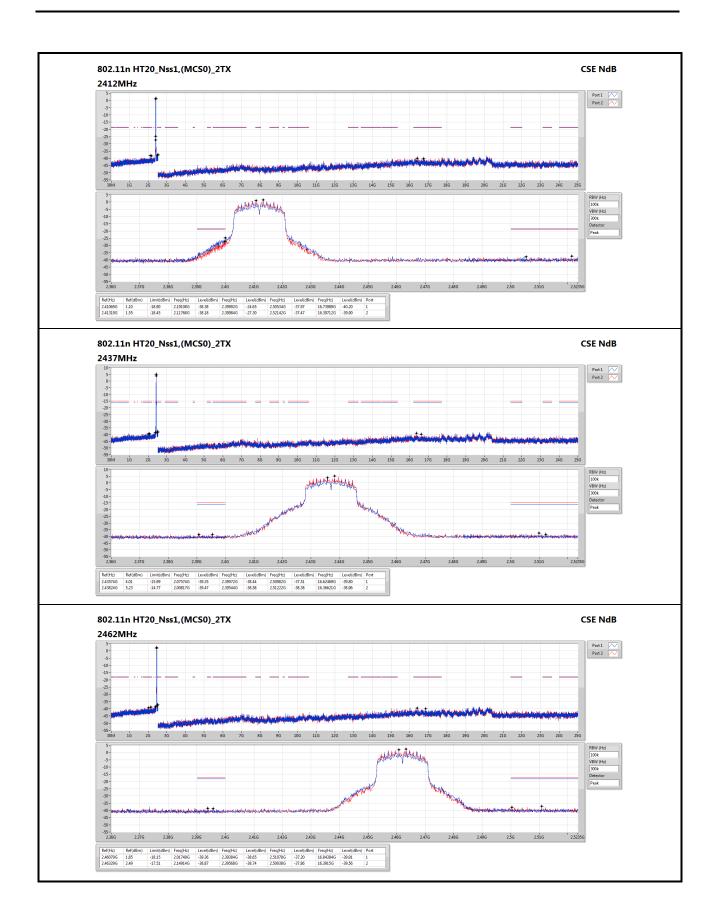
Report No.: FR961405 Page: 59 of 63





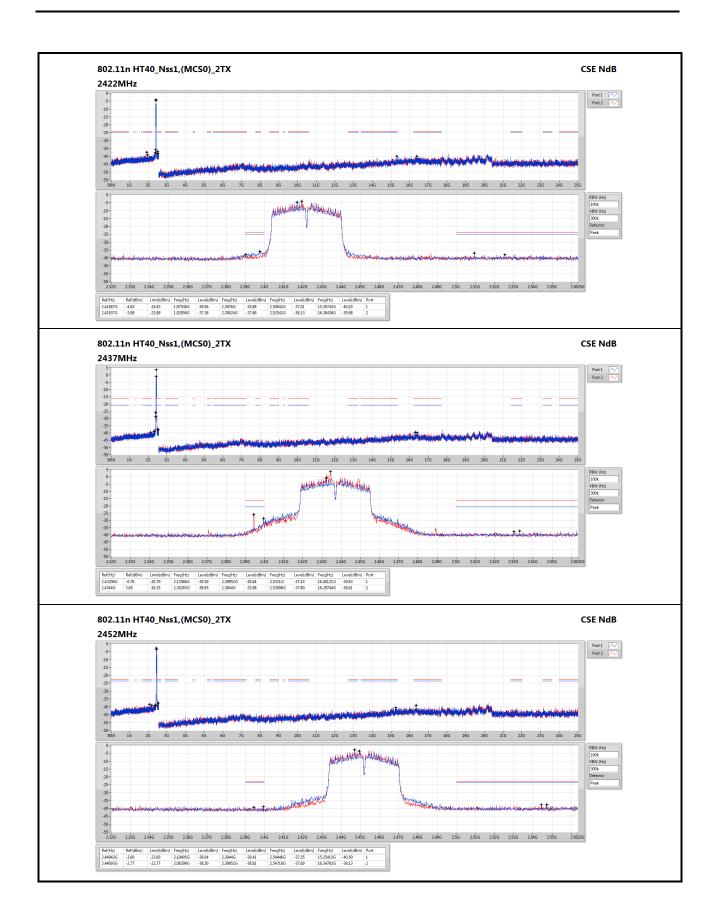
Report No.: FR961405 Page: 60 of 63





Report No.: FR961405 Page: 61 of 63





Report No.: FR961405 Page: 62 of 63



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 (EMC and Wireless Communication Laboratory), 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 District. Location map can be found on our website http://www.icertifi.com.tw.

Linkou

Tel: 886-2-2601-1640 No. 30-2, Ding Fwu Tsuen, Lin Kou District, New Taipei City,

Taiwan, R.O.C.

Kwei Shan

Tel: 886-3-271-8666 No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan District, Tao Yuan City 333, Taiwan, R.O.C.

Kwei Shan Site II

Tel: 886-3-271-8640

No. 14-1, Lane 19, Wen San 3rd St., Kwei Shan District, Tao Yuan City 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==

Report No.: FR961405 Page: 63 of 63