

FCC Test Report

FCC ID : QYL9260NG
Equipment : WLAN module
Brand Name : Getac
Model Name : 9260NGW
Applicant : Getac Technology Corporation.
5F., Building A, No. 209, Sec.1, Nangang
Rd., Nangang Dist., Taipei City 11568, Taiwan, R.O.C.
Manufacturer : Intel Mobile Communications
100 Center Point Circle, Suite 200, Columbia,
South Carolina 29210 USA
Standard : 47 CFR FCC Part 15.247

The product was received on Jul. 01, 2019, and testing was started from Jul. 05, 2019 and completed on Jul. 08, 2019. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

The test results in this variant report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.



Approved by: Allen Lin

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)



Table of Contents

HISTORY OF THIS TEST REPORT3

SUMMARY OF TEST RESULT4

1 GENERAL DESCRIPTION5

1.1 Information.....5

1.2 Testing Applied Standards7

1.3 Testing Location Information7

1.4 Measurement Uncertainty7

2 TEST CONFIGURATION OF EUT.....8

2.1 Test Condition8

2.2 Test Channel Mode8

2.3 The Worst Case Measurement Configuration.....10

2.4 Support Equipment.....10

2.5 Test Setup Diagram11

3 TRANSMITTER TEST RESULT12

3.1 Maximum Conducted Output Power12

3.2 Emissions in Restricted Frequency Bands.....14

4 TEST EQUIPMENT AND CALIBRATION DATA17

APPENDIX A. TEST RESULTS OF MAXIMUM CONDUCTED OUTPUT POWER

APPENDIX B. TEST RESULTS OF EMISSIONS IN RESTRICTED FREQUENCY BANDS

APPENDIX C. TEST PHOTOS

PHOTOGRAPHS OF EUT V01



Summary of Test Result

Report Clause	Ref. Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.2	15.203	Antenna Requirement	PASS	FCC 15.203
3.1	15.247(b)	Maximum Conducted Output Power	PASS	Power [dBm]: 30
3.2	15.247(d)	Emissions in Restricted Frequency Bands	PASS	Restricted Bands: FCC 15.209

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:

None

Reviewed by: Sam Tsai

Report Producer: Michelle Tsai

1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz)	IEEE Std. 802.11	Ch. Frequency (MHz)	Channel Number
2400-2483.5	b, g, n (HT20)	2412-2472	1-13 [13]
2400-2483.5	n (HT40)	2422-2462	3-11 [9]

Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	802.11b	20	1TX(Port 1)
2.4-2.4835GHz	802.11g	20	1TX(Port 1)
2.4-2.4835GHz	802.11n HT20	20	2TX
2.4-2.4835GHz	802.11n HT40	40	2TX

Note:

- ♦ 11b mode uses a combination of DSSS-DBPSK, DQPSK, CCK modulation.
- ♦ 11g, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- ♦ BWch is the nominal channel bandwidth.

1.1.2 Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector
1	-	-	PIFA	IPEX
2	-	-	PIFA	IPEX

Ant.	Port	Gain (dBi)											
		2.4G		BT		5G							
						UNII-1		UNII-2A		UNII-2C		UNII-3	
1(Aux)	2	-	-0.33	-	0.34	-	0.45	-	0.43	-	1.24	-	1.10
2(Main)	1	0.34	-	-	-	-0.15	-	-0.97	-	0.26	-	1.03	-

Note 1: The EUT has two antennas.

For 2.4GHz function:

For IEEE 802.11 b/g/n mode (1TX/1RX)

Support diversity function and pre-tested on each single chain.

For IEEE 802.11 n mode (2TX/2RX)

Ant. 1 (port 2) and Ant. 2 (port 1) could transmit/receive simultaneously.

For BT function:

For IEEE 802.15.1 Bluetooth mode (1TX/1RX)

Ant. 1 (port 2) could transmit/receive simultaneously.

For 5GHz function:

For IEEE 802.11 a/n/ac mode (1TX/1RX)

Support diversity function and pre-tested on each single chain.

For IEEE 802.11 n/ac mode (2TX/2RX)

Ant. 1 (port 2) and Ant. 2 (port 1) could transmit/receive simultaneously.



1.1.3 EUT Information

Operational Condition			
EUT Power Type	From Host System		
EUT Function	<input checked="" type="checkbox"/> Point-to-multipoint	<input type="checkbox"/> Point-to-point	
Beamforming Function	<input type="checkbox"/> With beamforming	<input checked="" type="checkbox"/> Without beamforming	
Type of EUT			
<input type="checkbox"/>	Stand-alone		
<input type="checkbox"/>	Combined (EUT where the radio part is fully integrated within another device)		
	Combined Equipment - Brand Name / Model No.:	...	
<input checked="" type="checkbox"/>	Plug-in radio (EUT intended for a variety of host systems)		
	Host System - Brand Name / Model No.:	1.Getac / A140 2.Getac / A140G2	
<input type="checkbox"/>	Other:		

1.1.4 Mode Test Duty Cycle

Mode	DC	T(s)	VBW(Hz) ≥ 1/T
802.11b	0.968	0.14	12.324m
802.11g	0.852	0.7	2.05m
802.11n HT20	0.851	0.7	1.911m
802.11n HT40	0.845	0.73	939.063u

Note. If DC < 0.98, the DCF was added while measuring Output power and PSD.

1.1.5 Table for Permissive Change

Modifications	Performance Checking
Host system were added, the model name : A140 and A140G2.	Conducted Output power and emissions in Restricted Frequency Bands



1.2 Testing Applied Standards

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

- ◆ 47 CFR FCC Part 15
- ◆ ANSI C63.10-2013
- ◆ KDB 558074 D01 v05r02
- ◆ KDB 662911 D01 v02r01

1.3 Testing Location Information

Testing Location		
<input checked="" type="checkbox"/>	HWA YA	ADD : No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL : 886-3-327-3456 FAX : 886-3-327-0973
Test site Designation No. TW1190 with FCC.		
<input type="checkbox"/>	JHUBEI	ADD : No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County, Taiwan (R.O.C.) TEL : 886-3-656-9065 FAX : 886-3-656-9085
Test site Designation No. TW0006 with FCC.		

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
Radiated	03CH09-HY	Ryan	22.5~24.5°C / 49~52%	08/Jul/2019
RF Conducted	TH06-HY	Gary	23.5~25.5°C / 65~69%	05/Jul/2019

1.4 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))

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	3.54 dB	Confidence levels of 95%
Radiated Emission (9kHz ~ 30MHz)	1.6 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	4.3 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	3.9 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	3.5 dB	Confidence levels of 95%
Conducted Emission	1.3 dB	Confidence levels of 95%
Temperature	0.7 °C	Confidence levels of 95%
Humidity	4 %	Confidence levels of 95%



2 Test Configuration of EUT

2.1 Test Condition

RF Conducted	Abbreviation	Remark
TnomVnom	Tnom	20°C
-	Vnom	120V

2.2 Test Channel Mode

Test Software Version	DRTU v11.1902.0-09060
-----------------------	-----------------------




Mode	PowerSetting
802.11b_Nss1,(1Mbps)_1TX(Port1)	-
2412MHz	17.125
2437MHz	17
2462MHz	17.125
2467MHz	16
2472MHz	14.75
802.11b_Nss1,(1Mbps)_1TX(Port2)	-
2412MHz	17.125
2437MHz	17.25
2462MHz	17.5
2467MHz	14
2472MHz	12.5
802.11g_Nss1,(6Mbps)_1TX(Port1)	-
2412MHz	16.125
2437MHz	17.125
2462MHz	16.625
2467MHz	15.125
2472MHz	0
802.11g_Nss1,(6Mbps)_1TX(Port2)	-
2412MHz	16.875
2437MHz	17.25
2462MHz	16.5
2467MHz	15
2472MHz	-3
802.11n HT20_Nss1,(MCS0)_1TX(Port1)	-
2412MHz	15.625



Mode	PowerSetting
2437MHz	17.25
2462MHz	15.75
2467MHz	14.375
2472MHz	-2
802.11n HT20_Nss1,(MCS0)_1TX(Port2)	-
2412MHz	16.375
2437MHz	17.375
2462MHz	16.5
2467MHz	15
2472MHz	-3
802.11n HT20_Nss1,(MCS0)_2TX	-
2412MHz	12.625,12.75
2437MHz	14.125,14.25
2462MHz	12.625,13
2467MHz	14,14
2472MHz	-7,-7
802.11n HT40_Nss1,(MCS0)_1TX(Port1)	-
2422MHz	13.625
2437MHz	15.625
2452MHz	14.125
2457MHz	10.75
2462MHz	6.625
802.11n HT40_Nss1,(MCS0)_1TX(Port2)	-
2422MHz	13.25
2437MHz	15.875
2452MHz	14.375
2457MHz	10.25
2462MHz	6.25
802.11n HT40_Nss1,(MCS0)_2TX	-
2422MHz	10,10.125
2437MHz	12.5,12.75
2452MHz	11.125,11.375
2457MHz	10,10
2462MHz	4.75,4.75

2.3 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	Maximum Conducted Output Power
Test Condition	Conducted measurement at transmit chains

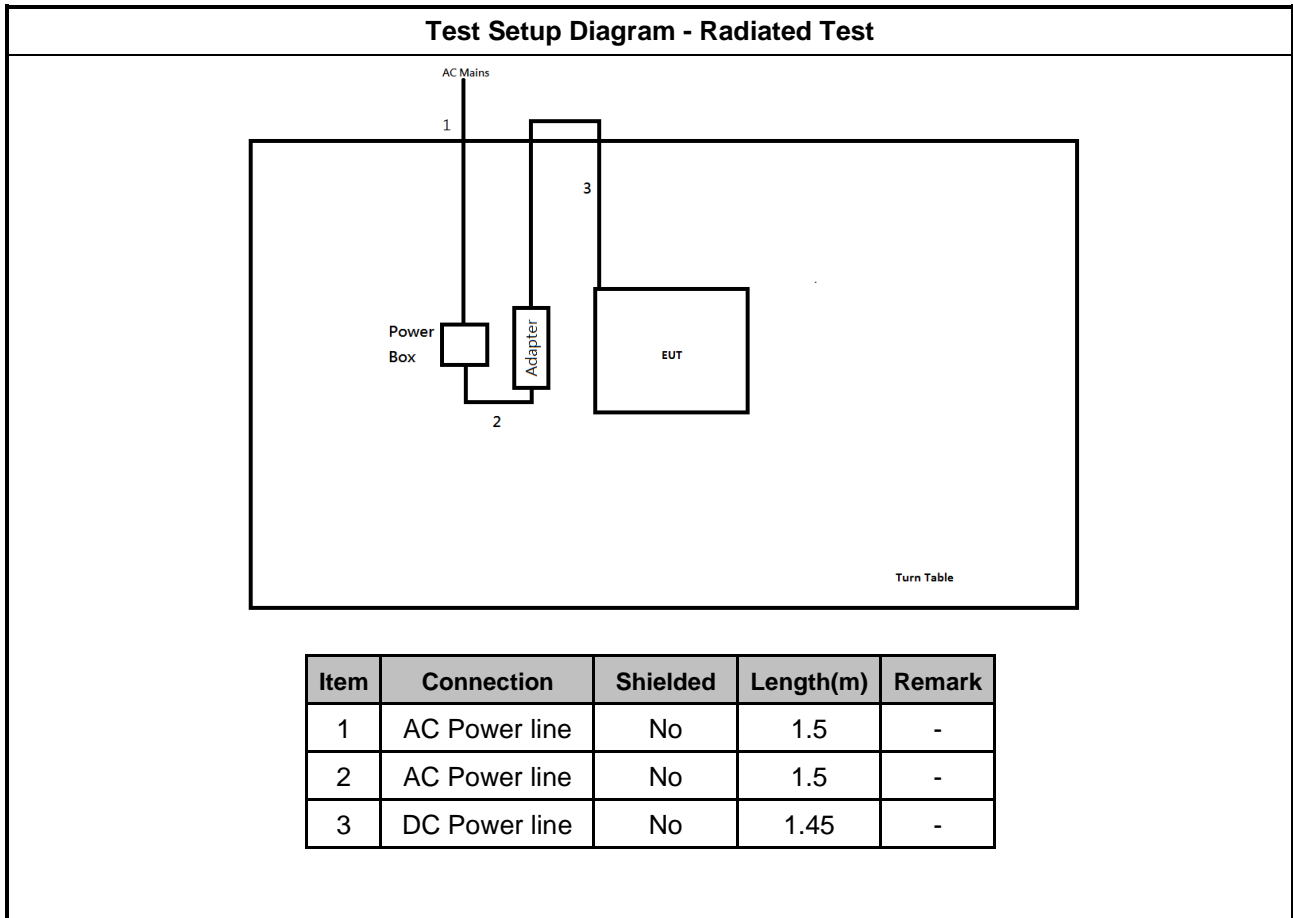
The Worst Case Mode for Following Conformance Tests			
Tests Item	Emissions in Restricted Frequency Bands		
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.		
Operating Mode < 1GHz	CTX		
1	Adapter Mode		
Operating Mode > 1GHz	CTX		
Orthogonal Planes of EUT	X Plane	Y Plane	Z Plane
			
Worst Planes of EUT		V	

2.4 Support Equipment

Support Equipment – RF Conducted				
No.	Equipment	Brand Name	Model Name	FCC ID
1	Notebook	DELL	E5410	DoC
2	Adapter for NB	DELL	HA65NM130	DoC
3	AC Adapter	FSP	FSP065-RBBN3	DoC

Support Equipment – Radiated				
No.	Equipment	Brand Name	Model Name	FCC ID
1	AC Adapter	FSP	FSP065-RBBN3	DoC

2.5 Test Setup Diagram



3 Transmitter Test Result

3.1 Maximum Conducted Output Power

3.1.1 Maximum Conducted Output Power Limit

Maximum Conducted Output Power Limit	
	<ul style="list-style-type: none"> ▪ If $G_{TX} \leq 6$ dBi, then $P_{Out} \leq 30$ dBm (1 W)
	<ul style="list-style-type: none"> ▪ Point-to-multipoint systems (P2M): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$ dBm
	<ul style="list-style-type: none"> ▪ Point-to-point systems (P2P): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm
	<ul style="list-style-type: none"> ▪ Smart antenna system (SAS):
	<ul style="list-style-type: none"> - Single beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm
	<ul style="list-style-type: none"> - Overlap beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm
	<ul style="list-style-type: none"> - Aggregate power on all beams: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3 + 8$ dB dBm
e.i.r.p. Power Limit:	
	<ul style="list-style-type: none"> ▪ 2400-2483.5 MHz Band
	<ul style="list-style-type: none"> ▪ Point-to-multipoint systems (P2M): $P_{eirp} \leq 36$ dBm (4 W)
	<ul style="list-style-type: none"> ▪ Point-to-point systems (P2P): $P_{eirp} \leq \text{MAX}(36, [P_{Out} + G_{TX}])$ dBm
	<ul style="list-style-type: none"> ▪ Smart antenna system (SAS)
	<ul style="list-style-type: none"> - Single beam: $P_{eirp} \leq \text{MAX}(36, P_{Out} + G_{TX})$ dBm
	<ul style="list-style-type: none"> - Overlap beam: $P_{eirp} \leq \text{MAX}(36, P_{Out} + G_{TX})$ dBm
	<ul style="list-style-type: none"> - Aggregate power on all beams: $P_{eirp} \leq \text{MAX}(36, [P_{Out} + G_{TX} + 8])$ dBm
<p>P_{Out} = maximum peak conducted output power or maximum conducted output power in dBm, G_{TX} = the maximum transmitting antenna directional gain in dBi.</p>	

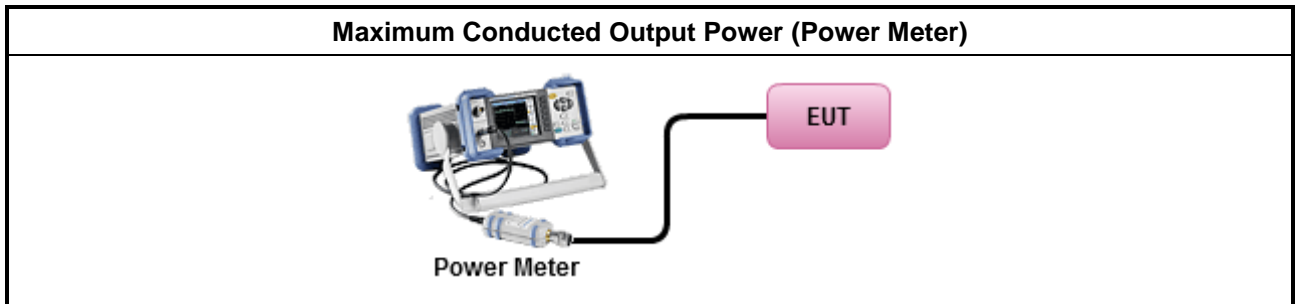
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

Test Method	
<ul style="list-style-type: none"> ▪ Maximum Peak Conducted Output Power 	
<input type="checkbox"/>	Refer as KDB 558074, clause 8.3.1.1 (11.9.1.1 of ANSI C63.10) RBW ≥ EBW method.
<input type="checkbox"/>	Refer as KDB 558074, clause 8.3.1.2 (11.9.1.2 of ANSI C63.10) integrated band power method.
<input type="checkbox"/>	Refer as KDB 558074, clause 8.3.1.3 (11.9.1.3 of ANSI C63.10) peak power meter.
<ul style="list-style-type: none"> ▪ Maximum Average Conducted Output Power 	
<input type="checkbox"/>	Refer as KDB 558074, clause 8.3.2.2 (11.9.2.2 of ANSI C63.10) using a spectrum analyzer.
<input checked="" type="checkbox"/>	Refer as KDB 558074, clause 8.3.2.3 (11.9.2.3 of ANSI C63.10) using a power meter.
<ul style="list-style-type: none"> ▪ For conducted measurement. 	
<ul style="list-style-type: none"> ▪ If the EUT supports multiple transmit chains using options given below: Refer as KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them. 	
<ul style="list-style-type: none"> ▪ If multiple transmit chains, EIRP calculation could be following as methods: $P_{total} = P_1 + P_2 + \dots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$ 	

3.1.4 Test Setup



3.1.5 Test Result of Maximum Conducted Output Power

Refer as Appendix A



3.2 Emissions in Restricted Frequency Bands

3.2.1 Emissions in Restricted Frequency Bands Limit

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: Test distance for frequencies at or above 30 MHz, measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).

Note 2: Test distance for frequencies at below 30 MHz, measurements may be performed at a distance closer than the EUT limit distance; however, an attempt should be made to avoid making measurements in the near field. When performing measurements below 30 MHz at a closer distance than the limit distance, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two or more distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade). The test report shall specify the extrapolation method used to determine compliance of the EUT.

Note 3: Using the distance of 1m during the test for above 18 GHz, and the test value to correct for the distance factor at 3m.

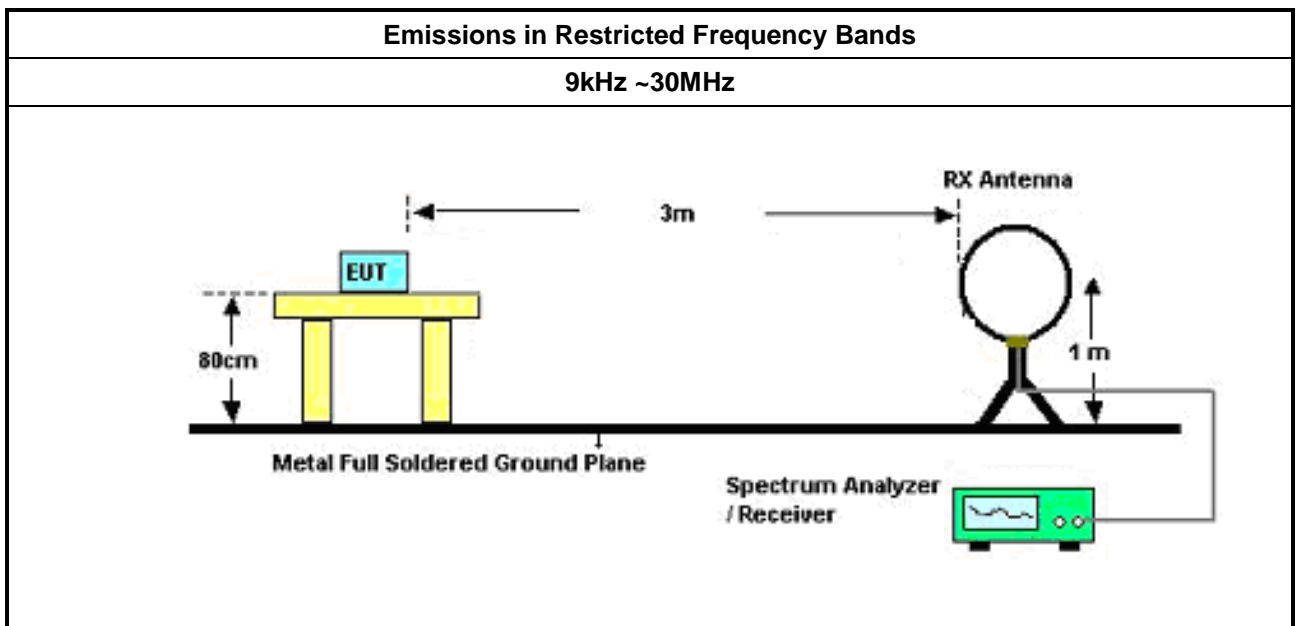
3.2.2 Measuring Instruments

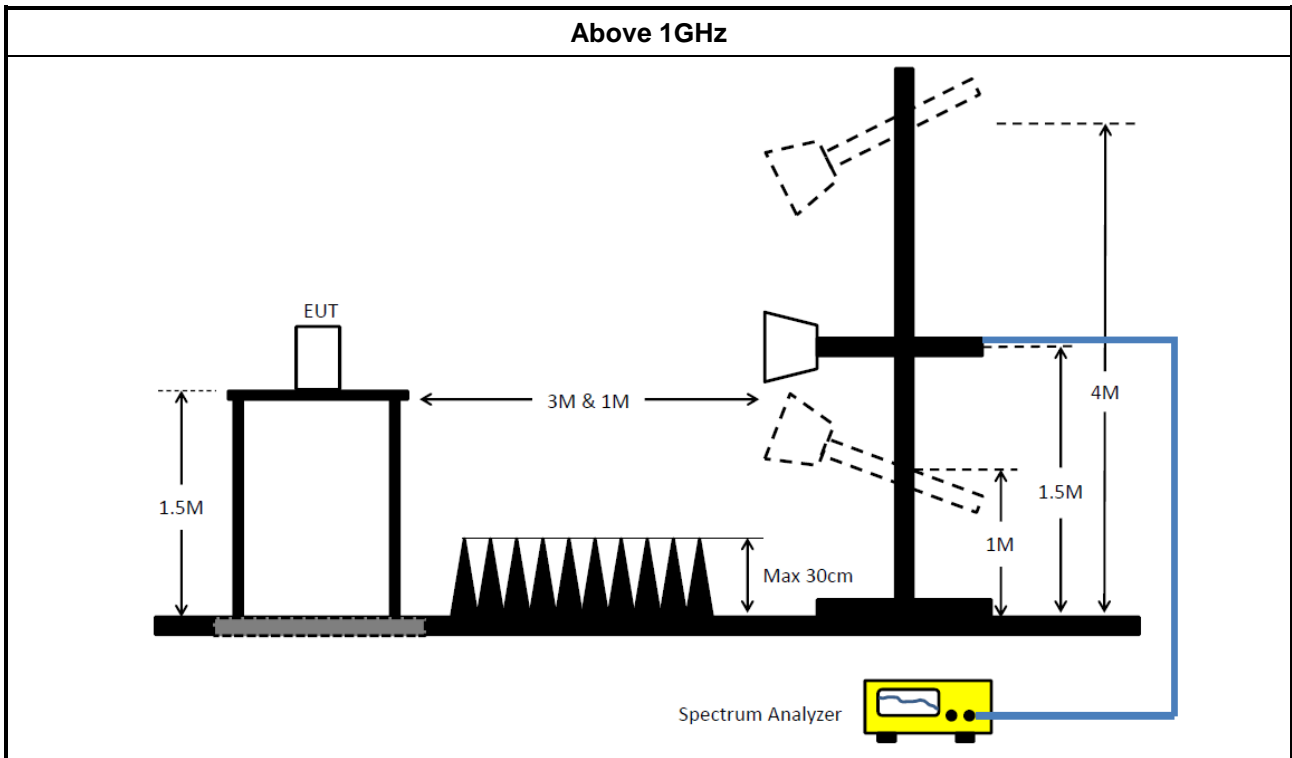
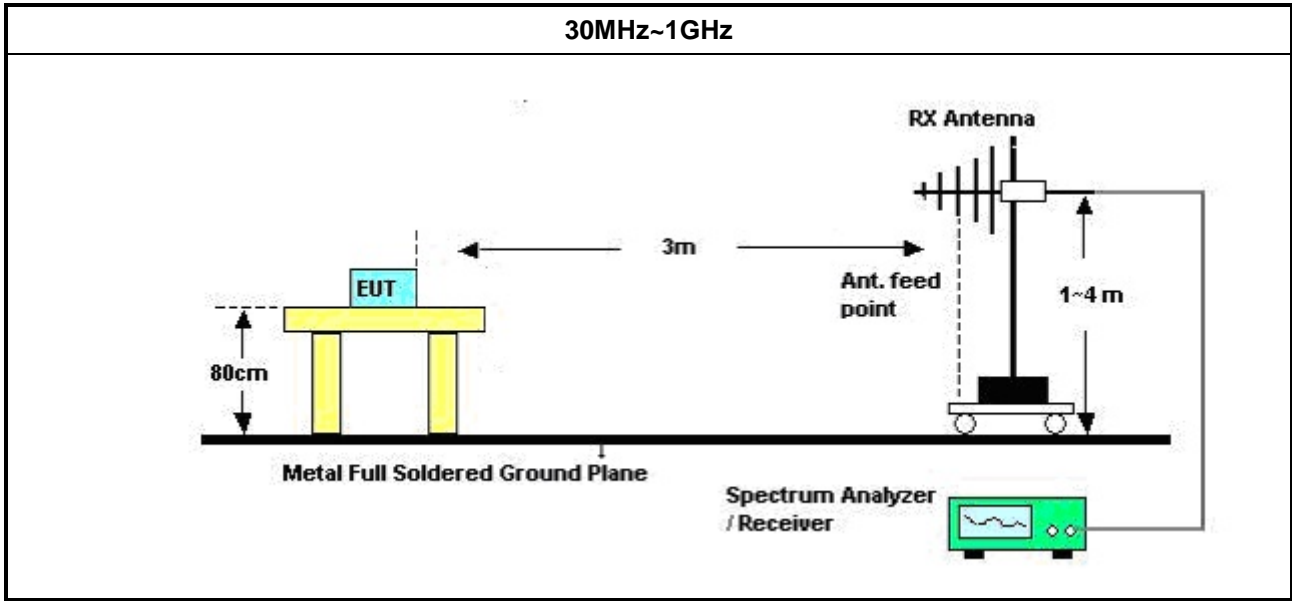
Refer a test equipment and calibration data table in this test report.

3.2.3 Test Procedures

Test Method	
<ul style="list-style-type: none"> The average emission levels shall be measured in [duty cycle \geq 98 or duty factor]. 	
<ul style="list-style-type: none"> Refer as ANSI C63.10, clause 6.10.3 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band. 	
<ul style="list-style-type: none"> For the transmitter unwanted emissions shall be measured using following options below: 	
	<ul style="list-style-type: none"> Refer as KDB 558074, clause 8.6 (11.12 of ANSI C63.10) for restricted frequency bands.
<ul style="list-style-type: none"> For the transmitter band-edge emissions shall be measured using following options below: 	
	<ul style="list-style-type: none"> Refer as KDB 558074 clause 8.7.1, When the performing peak or average radiated measurements, emissions within 2 MHz of the authorized band edge may be measured using the marker-delta method described below.
	<ul style="list-style-type: none"> Refer as KDB 558074, clause 8.7.2 (6.10.6 of ANSI C63.10) for marker-delta method for band-edge measurements.
	<ul style="list-style-type: none"> Refer as KDB 558074, clause 8.7.3 for narrower resolution bandwidth (100kHz) using the band power and summing the spectral levels.
<ul style="list-style-type: none"> Use the following spectrum analyzer settings: 	
	<ul style="list-style-type: none"> Set RBW=100 kHz for $f < 1$ GHz; VBW=3 * RBW; Sweep = auto; Detector function = peak; Trace = max hold.
	<ul style="list-style-type: none"> Set RBW = 1 MHz, VBW= 3MHz for $f \geq 1$ GHz for peak measurement. For average measurement, refer as 1.1.4.

3.2.4 Test Setup





3.2.5 Test Result of Emissions in Restricted Frequency Bands (Below 30MHz)

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

3.2.6 Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix B



4 Test Equipment and Calibration Data

Instrument for Conducted Test

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Spectrum Analyzer	R&S	FSV 40	101013	10Hz~40GHz	13/Mar/2019	12/Mar/2020
Power Sensor	Anritsu	MA2411B	1339407	300MHz ~ 40GHz	17/Nov/2018	16/Nov/2019
Power Meter	Anritsu	ML2495A	1517010	300MHz ~ 40GHz	17/Nov/2018	16/Nov/2019
Cable 0.2m	HUBER	MY10710/4	RF Cable - 01	30MHz ~18G	10/Jan/2019	09/Jan/2020
Cable 0.2m	HUBER	MY10711/4	RF Cable - 02	30MHz ~18G	10/Jan/2019	09/Jan/2020
Cable 0.5m	HUBER	MY39470/4	RF Cable - 29	30MHz ~18G	10/Jan/2019	09/Jan/2020
SMB100A Signal Generator	R&S	SMB100A03	181147	100kHz~40GHz	12/Nov/2018	10/Nov/2020

Instrument for Radiated Test

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH09-HY	30MHz ~ 1GHz	22/Apr/2019	21/Apr/2020
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH09-HY	1GHz ~ 18GHz	13/Jun/2019	12/Jun/2020
Microwave System Prempplier	KEYSIGHT	87422A	MY53270197	1GHz ~ 18GHz	30/Nov/2018	29/Nov/2019
Amplifier	EMC	EMC9135	980232	9kHz~1GHz	22/Apr/2019	21/Apr/2020
EMI Test Receiver	R&S	ESR3	102052	9kHz ~ 3.6GHz	09/Apr/2019	08/Apr/2020
EXA Signal Analyzer	KEYSIGHT	N9010A	MY54200885	10Hz ~ 44GHz	31/Jul/2018	30/Jul/2019
Bilog Antenna & 5dB Attenuator	TESEQ & MTJ	CBL6111D & MTJ6102-05	35418 / 3	30MHz~1GHz	02/Oct/2018	03/Oct/2019
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA9120 D 1534	1GHz~18GHz	22/May/2019	21/May/2020
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170614	18GHz~40GHz	22/May/2019	21/May/2020
Preamplifier	MITEQ	TTA1840-35-HG	1864481	18GHz ~ 40GHz	24/Aug/2018	23/Aug/2019
Loop Antenna	TESEQ	HLA 6120	31244	9k-30MHz	15/Mar/2019	14/Mar/2020
LF-CABLE-2019 0218	Jye Bao	RG142	CB028	9kHz ~ 1GHz	18/Feb/2019	17/Feb/2020
RF Cable-high	HUBER+SUHNER	SUCOFLEX104	SN 556626/4 + 556627	1GHz ~ 40GHz	13/Mar/2019	12/Mar/2020



Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11b_Nss1,(1Mbps)_1TX(Port1)	17.47	0.05585
802.11b_Nss1,(1Mbps)_1TX(Port2)	17.48	0.05598
802.11g_Nss1,(6Mbps)_1TX(Port1)	17.43	0.05534
802.11g_Nss1,(6Mbps)_1TX(Port2)	17.42	0.05521
802.11n HT20_Nss1,(MCS0)_1TX(Port1)	17.43	0.05534
802.11n HT20_Nss1,(MCS0)_1TX(Port2)	17.40	0.05495
802.11n HT20_Nss1,(MCS0)_2TX	17.46	0.05572
802.11n HT40_Nss1,(MCS0)_1TX(Port1)	15.93	0.03917
802.11n HT40_Nss1,(MCS0)_1TX(Port2)	15.97	0.03954
802.11n HT40_Nss1,(MCS0)_2TX	15.96	0.03945



Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11b_Nss1,(1Mbps)_1TX(Port1)	-	-	-	-	-	-
2412MHz	Pass	0.34	17.47		17.47	30.00
2437MHz	Pass	0.34	17.47		17.47	30.00
2462MHz	Pass	0.34	17.46		17.46	30.00
2467MHz	Pass	0.34	16.25		16.25	30.00
2472MHz	Pass	0.34	15.21		15.21	30.00
802.11b_Nss1,(1Mbps)_1TX(Port2)	-	-	-	-	-	-
2412MHz	Pass	-0.33		17.40	17.40	30.00
2437MHz	Pass	-0.33		17.48	17.48	30.00
2462MHz	Pass	-0.33		17.47	17.47	30.00
2467MHz	Pass	-0.33		14.05	14.05	30.00
2472MHz	Pass	-0.33		12.67	12.67	30.00
802.11g_Nss1,(6Mbps)_1TX(Port1)	-	-	-	-	-	-
2412MHz	Pass	0.34	16.46		16.46	30.00
2437MHz	Pass	0.34	17.43		17.43	30.00
2462MHz	Pass	0.34	16.90		16.90	30.00
2467MHz	Pass	0.34	15.24		15.24	30.00
2472MHz	Pass	0.34	1.74		1.74	30.00
802.11g_Nss1,(6Mbps)_1TX(Port2)	-	-	-	-	-	-
2412MHz	Pass	-0.33		16.98	16.98	30.00
2437MHz	Pass	-0.33		17.42	17.42	30.00
2462MHz	Pass	-0.33		16.48	16.48	30.00
2467MHz	Pass	-0.33		15.06	15.06	30.00
2472MHz	Pass	-0.33		-2.25	-2.25	30.00
802.11n HT20_Nss1,(MCS0)_1TX(Port1)	-	-	-	-	-	-
2412MHz	Pass	0.34	15.90		15.90	30.00
2437MHz	Pass	0.34	17.43		17.43	30.00
2462MHz	Pass	0.34	15.96		15.96	30.00
2467MHz	Pass	0.34	14.60		14.60	30.00
2472MHz	Pass	0.34	-0.40		-0.40	30.00
802.11n HT20_Nss1,(MCS0)_1TX(Port2)	-	-	-	-	-	-
2412MHz	Pass	-0.33		16.46	16.46	30.00
2437MHz	Pass	-0.33		17.40	17.40	30.00
2462MHz	Pass	-0.33		16.43	16.43	30.00
2467MHz	Pass	-0.33		15.04	15.04	30.00
2472MHz	Pass	-0.33		-2.06	-2.06	30.00
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	0.34	12.94	12.93	15.95	30.00
2437MHz	Pass	0.34	14.48	14.41	17.46	30.00
2462MHz	Pass	0.34	12.87	12.92	15.91	30.00
2467MHz	Pass	0.34	14.16	14.04	17.11	30.00
2472MHz	Pass	0.34	-4.77	-5.94	-2.31	30.00
802.11n HT40_Nss1,(MCS0)_1TX(Port1)	-	-	-	-	-	-
2422MHz	Pass	0.34	13.90		13.90	30.00



Average Power

Appendix A

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)
2437MHz	Pass	0.34	15.93		15.93	30.00
2452MHz	Pass	0.34	14.44		14.44	30.00
2457MHz	Pass	0.34	11.28		11.28	30.00
2462MHz	Pass	0.34	7.29		7.29	30.00
802.11n HT40_Nss1,(MCS0)_1TX(Port2)	-	-	-	-	-	-
2422MHz	Pass	-0.33		13.45	13.45	30.00
2437MHz	Pass	-0.33		15.97	15.97	30.00
2452MHz	Pass	-0.33		14.40	14.40	30.00
2457MHz	Pass	-0.33		10.54	10.54	30.00
2462MHz	Pass	-0.33		6.89	6.89	30.00
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	0.34	10.48	10.45	13.48	30.00
2437MHz	Pass	0.34	12.96	12.94	15.96	30.00
2452MHz	Pass	0.34	11.39	11.38	14.40	30.00
2457MHz	Pass	0.34	10.31	10.42	13.38	30.00
2462MHz	Pass	0.34	5.13	5.26	8.21	30.00

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



Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-
802.11b_Nss1,(1Mbps)_1TX(Port2)	Pass	PK	860.32M	39.49	46.00	-6.51	-6.58	3	Vertical	360	1.00	-



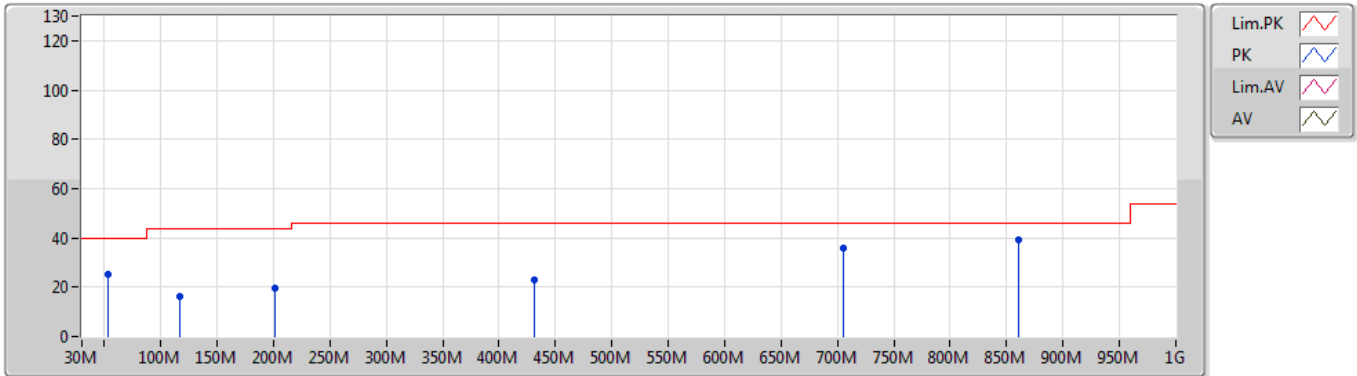
Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
802.11b_Nss1_(1Mbps)_1TX(Port2)	-	-	-	-	-	-	-	-	-	-	-	-
2437MHz	Pass	PK	53.28M	24.94	40.00	-15.06	-24.39	3	Vertical	360	1.00	-
2437MHz	Pass	PK	117.3M	16.05	43.50	-27.45	-19.26	3	Vertical	360	1.00	-
2437MHz	Pass	PK	200.72M	19.67	43.50	-23.83	-20.97	3	Vertical	360	1.00	-
2437MHz	Pass	PK	431.58M	23.04	46.00	-22.96	-12.87	3	Vertical	360	1.00	-
2437MHz	Pass	PK	705.12M	35.72	46.00	-10.28	-9.18	3	Vertical	360	1.00	-
2437MHz	Pass	PK	860.32M	39.49	46.00	-6.51	-6.58	3	Vertical	360	1.00	-
2437MHz	Pass	PK	127M	14.38	43.50	-29.12	-18.98	3	Horizontal	0	1.00	-
2437MHz	Pass	PK	243.4M	29.28	46.00	-16.72	-18.09	3	Horizontal	0	1.00	-
2437MHz	Pass	PK	431.58M	25.53	46.00	-20.47	-12.87	3	Horizontal	0	1.00	-
2437MHz	Pass	PK	584.84M	27.61	46.00	-18.39	-10.55	3	Horizontal	0	1.00	-
2437MHz	Pass	PK	672.14M	31.78	46.00	-14.22	-9.56	3	Horizontal	0	1.00	-
2437MHz	Pass	PK	738.1M	35.39	46.00	-10.61	-8.10	3	Horizontal	0	1.00	-

802.11b_Nss1,(1Mbps)_1TX(Port2)

08/07/2019

2437MHz_Adapter

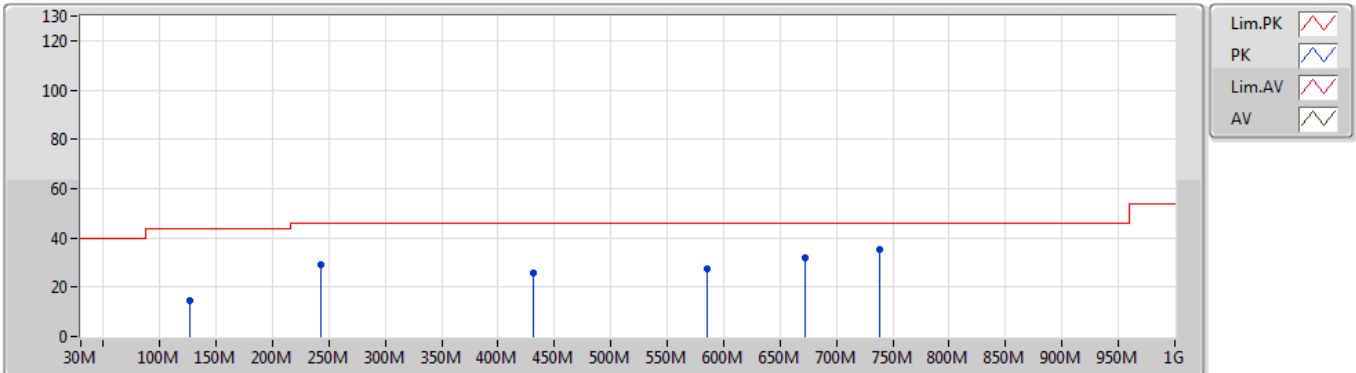


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	53.28M	24.94	40.00	-15.06	-24.39	3	Vertical	360	1.00	-	49.33	12.15	0.60	37.14
PK	117.3M	16.05	43.50	-27.45	-19.26	3	Vertical	360	1.00	-	35.31	16.57	0.88	36.71
PK	200.72M	19.67	43.50	-23.83	-20.97	3	Vertical	360	1.00	-	40.64	14.21	1.18	36.36
PK	431.58M	23.04	46.00	-22.96	-12.87	3	Vertical	360	1.00	-	35.91	22.08	1.77	36.72
PK	705.12M	35.72	46.00	-10.28	-9.18	3	Vertical	360	1.00	-	44.90	25.90	2.29	37.37
PK	860.32M	39.49	46.00	-6.51	-6.58	3	Vertical	360	1.00	-	46.07	28.41	2.51	37.50

802.11b_Nss1,(1Mbps)_1TX(Port2)

08/07/2019

2437MHz_Adapter



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	127M	14.38	43.50	-29.12	-18.98	3	Horizontal	0	1.00	-	33.36	16.77	0.91	36.66
PK	243.4M	29.28	46.00	-16.72	-18.09	3	Horizontal	0	1.00	-	47.37	17.04	1.28	36.41
PK	431.58M	25.53	46.00	-20.47	-12.87	3	Horizontal	0	1.00	-	38.40	22.08	1.77	36.72
PK	584.84M	27.61	46.00	-18.39	-10.55	3	Horizontal	0	1.00	-	38.16	24.55	2.07	37.17
PK	672.14M	31.78	46.00	-14.22	-9.56	3	Horizontal	0	1.00	-	41.34	25.53	2.23	37.32
PK	738.1M	35.39	46.00	-10.61	-8.10	3	Horizontal	0	1.00	-	43.49	26.98	2.34	37.42



Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-
802.11b_Nss1,(1Mbps)_1TX(Port2)	Pass	AV	2.485G	48.29	54.00	-5.71	35.66	3	Vertical	123	1.87	-



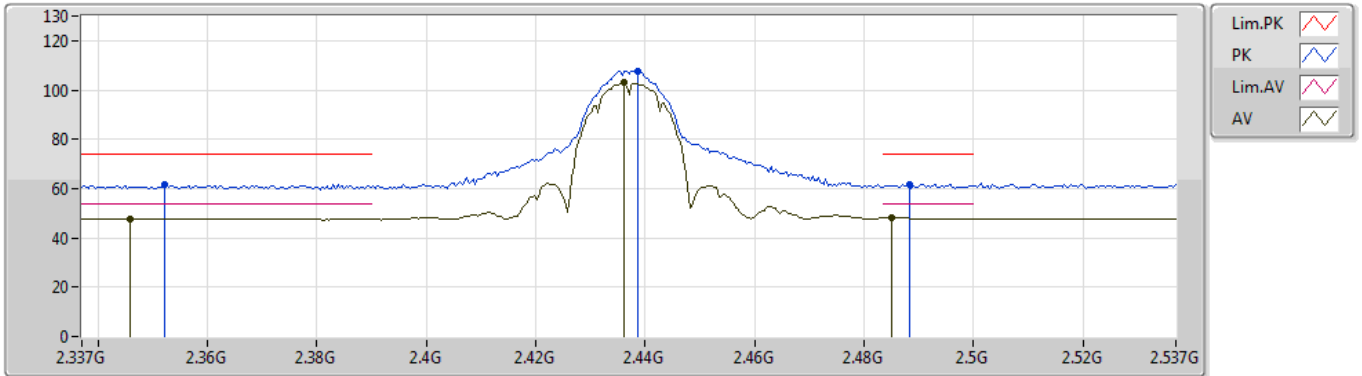
Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
802.11b_Nss1_(1Mbps)_1TX(Port2)	-	-	-	-	-	-	-	-	-	-	-	-
2437MHz	Pass	AV	2.3458G	47.58	54.00	-6.42	36.06	3	Vertical	123	1.87	-
2437MHz	Pass	AV	2.4362G	102.87	Inf	-Inf	35.73	3	Vertical	123	1.87	-
2437MHz	Pass	AV	2.485G	48.29	54.00	-5.71	35.66	3	Vertical	123	1.87	-
2437MHz	Pass	PK	2.3522G	61.63	74.00	-12.37	36.02	3	Vertical	123	1.87	-
2437MHz	Pass	PK	2.4386G	107.86	Inf	-Inf	35.73	3	Vertical	123	1.87	-
2437MHz	Pass	PK	2.4882G	61.61	74.00	-12.39	35.65	3	Vertical	123	1.87	-
2437MHz	Pass	AV	2.389G	47.63	54.00	-6.37	35.84	3	Horizontal	27	1.50	-
2437MHz	Pass	AV	2.4362G	100.52	Inf	-Inf	35.73	3	Horizontal	27	1.50	-
2437MHz	Pass	AV	2.4846G	47.78	54.00	-6.22	35.66	3	Horizontal	27	1.50	-
2437MHz	Pass	PK	2.3794G	61.50	74.00	-12.50	35.89	3	Horizontal	27	1.50	-
2437MHz	Pass	PK	2.3794G	61.50	74.00	-12.50	35.89	3	Horizontal	27	1.50	-
2437MHz	Pass	PK	2.4835G	61.73	74.00	-12.27	35.66	3	Horizontal	27	1.50	-
2437MHz	Pass	PK	2.4835G	61.73	74.00	-12.27	35.66	3	Horizontal	27	1.50	-
2437MHz	Pass	AV	4.87396G	35.58	54.00	-18.42	8.82	3	Vertical	222	1.24	-
2437MHz	Pass	PK	4.87347G	47.89	74.00	-26.11	8.82	3	Vertical	222	1.24	-
2437MHz	Pass	AV	4.87395G	36.13	54.00	-17.87	8.82	3	Horizontal	35	1.81	-
2437MHz	Pass	PK	4.87417G	47.54	74.00	-26.46	8.82	3	Horizontal	35	1.81	-

802.11b_Nss1,(1Mbps)_1TX(Port2)

08/07/2019

2437MHz_TX

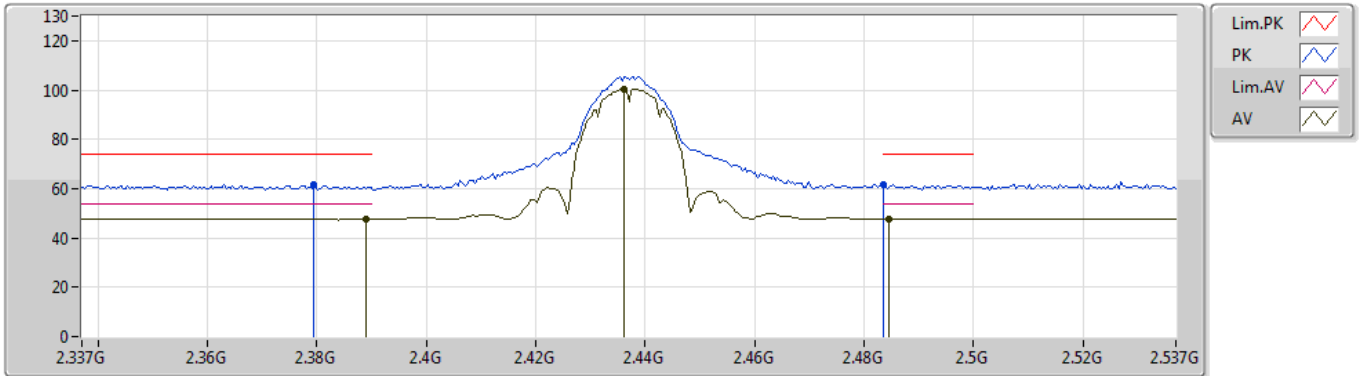


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3458G	47.58	54.00	-6.42	36.06	3	Vertical	123	1.87	-	11.52	27.82	8.24	-
AV	2.4362G	102.87	Inf	-Inf	35.73	3	Vertical	123	1.87	-	67.14	27.56	8.17	-
AV	2.485G	48.29	54.00	-5.71	35.66	3	Vertical	123	1.87	-	12.63	27.52	8.14	-
PK	2.3522G	61.63	74.00	-12.37	36.02	3	Vertical	123	1.87	-	25.61	27.79	8.23	-
PK	2.4386G	107.86	Inf	-Inf	35.73	3	Vertical	123	1.87	-	72.13	27.56	8.17	-
PK	2.4882G	61.61	74.00	-12.39	35.65	3	Vertical	123	1.87	-	25.96	27.51	8.14	-

802.11b_Nss1,(1Mbps)_1TX(Port2)

08/07/2019

2437MHz_TX

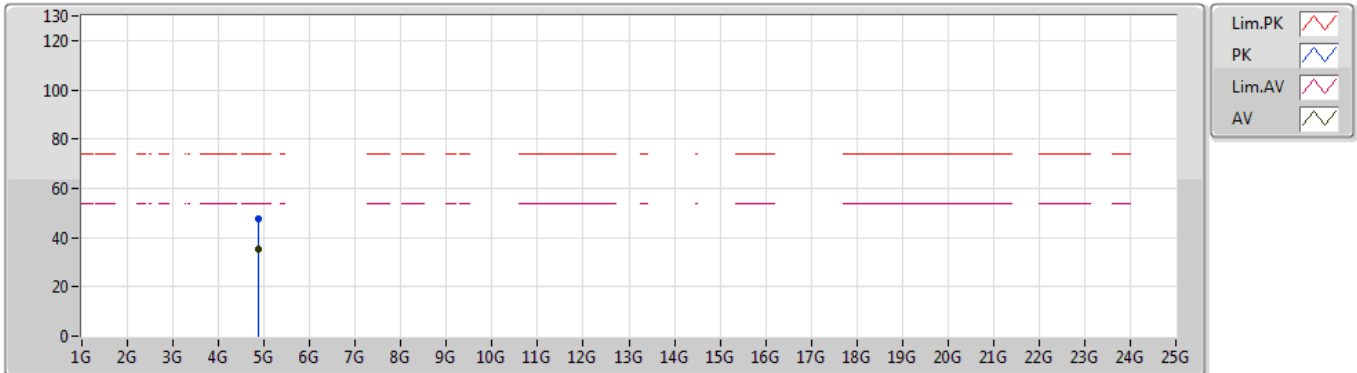


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.389G	47.63	54.00	-6.37	35.84	3	Horizontal	27	1.50	-	11.79	27.64	8.20	-
AV	2.4362G	100.52	Inf	-Inf	35.73	3	Horizontal	27	1.50	-	64.79	27.56	8.17	-
AV	2.4846G	47.78	54.00	-6.22	35.66	3	Horizontal	27	1.50	-	12.12	27.52	8.14	-
PK	2.3794G	61.50	74.00	-12.50	35.89	3	Horizontal	27	1.50	-	25.61	27.68	8.21	-
PK	2.3794G	61.50	74.00	-12.50	35.89	3	Horizontal	27	1.50	-	25.61	27.68	8.21	-
PK	2.4835G	61.73	74.00	-12.27	35.66	3	Horizontal	27	1.50	-	26.07	27.52	8.14	-
PK	2.4835G	61.73	74.00	-12.27	35.66	3	Horizontal	27	1.50	-	26.07	27.52	8.14	-

802.11b_Nss1,(1Mbps)_1TX(Port2)

08/07/2019

2437MHz_TX

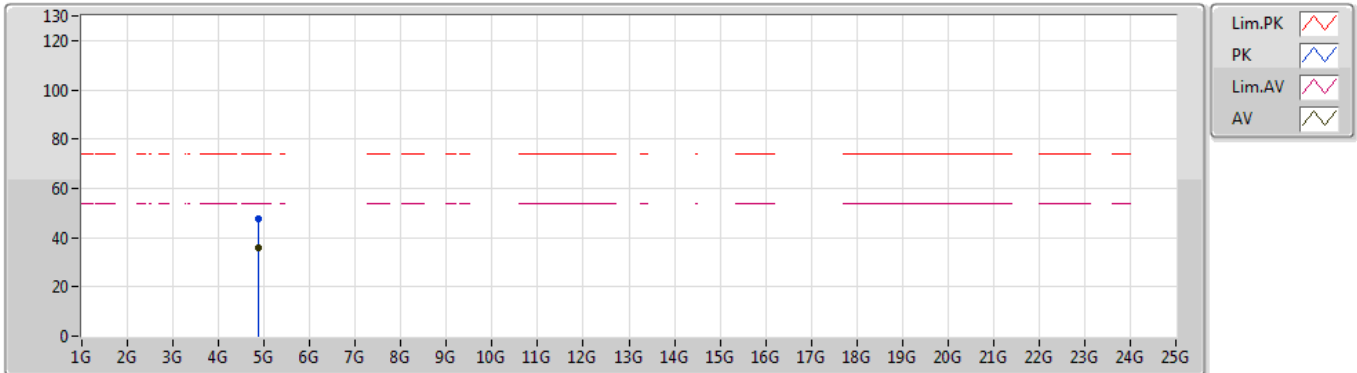


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.87396G	35.58	54.00	-18.42	8.82	3	Vertical	222	1.24	-	26.76	31.10	7.49	29.77
PK	4.87347G	47.89	74.00	-26.11	8.82	3	Vertical	222	1.24	-	39.07	31.10	7.49	29.77

802.11b_Nss1,(1Mbps)_1TX(Port2)

08/07/2019

2437MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.87395G	36.13	54.00	-17.87	8.82	3	Horizontal	35	1.81	-	27.31	31.10	7.49	29.77
PK	4.87417G	47.54	74.00	-26.46	8.82	3	Horizontal	35	1.81	-	38.72	31.10	7.49	29.77