



FCC RADIO TEST REPORT

FCC ID	: PKRISGM2000A
Equipment	: Wireless Hotspot Modem
Brand Name	: Inseego
Model Name	: M2000A
Marketing Name	: M2000
Applicant	: Inseego Corporation 9710 Scranton Road Suite 200, San Diego, CA 92121
Manufacturer	: Inseego Corporation 9710 Scranton Road Suite 200, San Diego, CA 92121
Standard	: FCC Part 15 Subpart C §15.247

The product was received on Jul. 09, 2020 and testing was started from Jul. 23, 2020 and completed on Sep. 06, 2020. We, SPORTON INTERNATIONAL INC., EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this 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.

Louis Win

Approved by: Louis Wu SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)



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History of this test report

Report No.	Version	Description	Issued Date
FR041657A	01	Initial issue of report	Sep. 16, 2020



Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.1	15.247(a)(2)	6dB Bandwidth	Pass	-
3.1	2.1049	99% Occupied Bandwidth	Reporting only	-
3.2	15.247(b)	Power Output Measurement	Pass	-
3.3	15.247(e)	Power Spectral Density	Pass	-
3.4	15 047(d)	Conducted Band Edges	Pass	-
	15.247 (u)	Conducted Spurious Emission	Pass	-
3.5	15.247(d)	Radiated Band Edges and Radiated Spurious Emission	Pass	Under limit 1.51 dB at 2483.620 MHz
3.6	15.207	AC Conducted Emission	Pass	Under limit 19.31 dB at 0.150 MHz
3.7	15.203 & 15.247(b)	Antenna Requirement 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.

Reviewed by: Wii Chang Report Producer: Amy Chen



1 General Description

1.1 Product Feature of Equipment Under Test

WCDMA/LTE/5G NR, Wi-Fi 2.4GHz 802.11b/g/n/ax, Wi-Fi 5GHz 802.11a/n/ac/ax and GNSS.

Product Specification subjective to this standard			
	WWAN: Fixed Internal Antenna		
	WLAN		
Antenna Type	<ant. 0="">: Fixed Internal Antenna</ant.>		
	<ant. 1="">: Fixed Internal Antenna</ant.>		
	GPS: Fixed Internal Antenna		

1.2 Modification of EUT

No modifications are made to the EUT during all test items.



1.3 Testing Location

Test Site	SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory			
Test Site LocationNo.52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978				
Test Site No. Sporton Site No. TH05-HY CO05-HY				

Note: The test site complies with ANSI C63.4 2014 requirement.

Test Site	SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory		
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855		
Test Site No.	Sporton Site No. 03CH15-HY		

Note: The test site complies with ANSI C63.4 2014 requirement.

FCC designation No.: TW1190 and TW0007

1.4 Applicable Standards

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

- FCC Part 15 Subpart C §15.247
- FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v05r02
- FCC KDB 414788 D01 Radiated Test Site v01r01.
- FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- ANSI C63.10-2013

Remark:

- 1. All test items were verified and recorded according to the standards and without any deviation during the test.
- 2. The TAF code is not including all the FCC KDB listed without accreditation.
- 3. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

2 Test Configuration of Equipment Under Test

- a. The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conduction emission (150 kHz to 30 MHz), radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (X plane) were recorded in this report.
- b. AC power line Conducted Emission was tested under maximum output power.

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
	1	2412	7	2442
	2	2417	8	2447
2400 2402 5 MU-	3	2422	9	2452
2400-2463.5 IVITZ	4	2427	10	2457
	5	2432	11	2462
	6	2437		

2.1 Carrier Frequency and Channel



2.2 Test Mode

Final test modes are considering the modulation and worse data rates as below table. The CDD mode is chosen as worst case configuration for all test cases due to higher power than SISO mode.

The 802.11ax mode is investigated among different tones, full resource units (RU), partial resource units. The partial RU has no higher power and PSD than full RU's, thus the full RU is chosen as main test configuration, and the partial RU is verified the band edge in accordance with the TCB workshop, Oct. 3rd .2018.

Modulation	Data Rate
802.11b	1 Mbps
802.11g	6 Mbps
802.11n HT20 (Covered by HE20)	MCS0
802.11n HT40 (Covered by HE40)	MCS0
802.11ax HE20	MCS0
802.11ax HE40	MCS0

Test Cases					
AC					
Conducted	Mode 1 :WCDMA Band V Idle + WLAN (2.4GHz) Link + Battery 1 + AC Adapter				
Emission					
Remark: For Radiated Test Cases, the tests were performed with Battery 2.					

Ch #	2400-2483.5 MHz				
Cn. #	802.11b	802.11g	802.11ax HE20	802.11ax HE40	
Low	01	01	01	03	
Middle	06	06	06	06	
High	11	11	11	09	

Remark: For radiation spurious emission, the final modulation and the worst data rate was reference the max RF conducted power, the worst mode of WLAN and LTE for simultaneous transmission were verified and compliant.



2.3 Connection Diagram of Test System

<AC Conducted Emission Mode>



<WLAN Tx Mode>



2.4 Support Unit used in test configuration and system

ltem	Equipment	Brand Name	Model Name	FCC ID	Data Cable	Power Cord
1.	System Simulator	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m
2.	Notebook	Dell	Latitude 3400	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m

2.5 EUT Operation Test Setup

The RF test items, utility "QRCT V4.0.00156.0" was installed in Notebook which was programmed in order to make the EUT get into the engineering modes to provide channel selection, power level, data rate and the application type and for continuous transmitting signals.

2.6 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

Example:

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 4.2 dB and 10dB attenuator.

 $Offset(dB) = RF \ cable \ loss(dB) + attenuator \ factor(dB).$ = 4.2 + 10 = 14.2 (dB)



3 Test Result

3.1 6dB and 99% Bandwidth Measurement

3.1.1 Limit of 6dB and 99% Bandwidth

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

3.1.2 Measuring Instruments

See list of measuring equipment of this test report.

3.1.3 Test Procedures

- 1. The testing follows the ANSI C63.10 Section 6.9.3 (OBW) and 11.8.1 (6dB BW).
- 2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
- 3. Set to the maximum power setting and enable the EUT transmit continuously.
- Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement. The 6 dB bandwidth must be greater than 500 kHz.
- 5. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) is set 1-5% of the emission bandwidth and set the Video bandwidth (VBW) \ge 3 * RBW.
- 6. Measure and record the results in the test report.

3.1.4 Test Setup



EUT

Spectrum Analyzer



3.1.5 Test Result of 6dB and 99% Occupied Bandwidth

Please refer to Appendix A.



Note: The occupied channel bandwidth is maintained within the band of operation for all of the modulations.



<For 802.11ax Mode>





3.2 Output Power Measurement

3.2.1 Limit of Output Power

For systems using digital modulation in the 2400-2483.5MHz, the limit for output power is 30dBm. If transmitting antenna with directional gain greater than 6dBi is used, the peak output power from the intentional radiator shall be reduced below the above stated value by the amount in dB that the directional gain of the antenna exceeds 6 dBi. In case of point-to-point operation, the limit has to be reduced by 1dB for every 3dB that the directional gain of the antenna exceeds 6dBi.

3.2.2 Measuring Instruments

See list of measuring equipment of this test report.

3.2.3 Test Procedures

- 1. For Average Power, the testing follows ANSI C63.10 Section 11.9.2.3.2 Method AVGPM-G
- 2. The RF output of EUT was connected to the power meter by RF cable and attenuator. The path loss was compensated to the results for each measurement.
- 3. Set to the maximum power setting and enable the EUT transmit continuously.
- 4. Measure the conducted output power and record the results in the test report.
- 5. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

3.2.4 Test Setup



3.2.5 Test Result of Average Output Power

Please refer to Appendix A.



3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

The peak power spectral density shall not be greater than 8dBm in any 3kHz band at any time interval of continuous transmission.

3.3.2 Measuring Instruments

See list of measuring equipment of this test report.

3.3.3 Test Procedures

- 1. The testing follows the ANSI C63.10 Section 11.10.2 Method PKPSD.
- 2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
- 3. Set to the maximum power setting and enable the EUT transmit continuously.
- Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 3 kHz.
 Video bandwidth VBW = 10 kHz In order to make an accurate measurement, set the span to 1.5 times DTS Channel Bandwidth. (6dB BW)
- 5. Detector = peak, Sweep time = auto couple, Trace mode = max hold, Allow trace to fully stabilize. Use the peak marker function to determine the maximum power level.
- 6. Measure and record the results in the test report.
- 7. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

If measurements performed using method (2) plus 10 log (N) exceeds the emission limit, the test should choose method (1) before declaring that the device fails the emission limit.

Method (1): Measure and sum the spectra across the outputs.

The total final Power Spectral Density is from a device with 2 transmitter outputs. The spectrum measurements of the individual outputs are all performed with the same span and number of points, the spectrum value in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 to obtain the value for the first frequency bin of the summed spectrum. Method (2): Measure and add 10 log (N) dB, where N is the number of outputs. (N=2)

3.3.4 Test Setup





3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.





<For 802.11ax Mode>



3.4 Conducted Band Edges and Spurious Emission Measurement

3.4.1 Limit of Conducted Band Edges and Spurious Emission Measurement

In any 100 kHz bandwidth outside of the authorized frequency band, the emissions which fall in the non-restricted bands shall be attenuated at least 20 dB / 30dB relative to the maximum PSD level in 100 kHz by RF conducted measurement.

3.4.2 Measuring Instruments

See list of measuring equipment of this test report.

3.4.3 Test Procedures

- 1. The testing follows the ANSI C63.10 Section 11.11.3 Emission level measurement.
- 2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
- 3. Set to the maximum power setting and enable the EUT transmit continuously.
- 4. Set RBW = 100 kHz, VBW=300 kHz, Peak Detector. Unwanted Emissions measured 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 when maximum peak conducted output power procedure is used. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB per 15.247(d).
- 5. Measure and record the results in the test report.
- 6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

3.4.4 Test Setup





3.4.5 Test Result of Conducted Band Edges and Spurious Emission

Test Engineer : Sylvia Li / Kai Liao	Sylvia Li / Kai Liao	Temperature :	23.5~24.3 ℃
		Relative Humidity :	49~55%

Number of TX = 2, Ant. 0 (Measured)





NokHz PSD reference Level Mid Channel Plot	Test Mode :	802.11b		Test Channel :	0	6	
Sportcost Sport Sport 10 dm 10 dm 10 dm 10 dm <t< th=""><th>10</th><th>0kHz PSD referei</th><th>nce Level</th><th></th><th>Mid C</th><th>hannel Plot</th><th></th></t<>	10	0kHz PSD referei	nce Level		Mid C	hannel Plot	
Spurious Emission 30MHz~3GHz Spurious Emission 2GHz~25GHz Spectrum	Spectrum Ref Level 20.00 dlm Offse • Att 20 dB SWT • IPk Max 0 0 0 • 10 dBm - 0 0 0 • 20 dBm - 0 0 - • 20 dBm - 0 0 - - 0 0 - 0 0 - 0 0 - 0 0 - 0 0 - 0 0 - 0 0 - 0 0 - 0 0 - 0 0 - 0 0 - 0 0 - 0 <t< th=""><th>at 22.30 dB • RBW 100 kHz 1.1 ms • VBW 300 kHz Mode M1 M1 M1 M1 M1 M1 M1 M1 M1 M1</th><th>Sweep 1[1] 4.65 dBm 2.4384920 GHz 4.65 dBm 4.65 dBm</th><th></th><th></th><th></th><th></th></t<>	at 22.30 dB • RBW 100 kHz 1.1 ms • VBW 300 kHz Mode M1 M1 M1 M1 M1 M1 M1 M1 M1 M1	Sweep 1[1] 4.65 dBm 2.4384920 GHz 4.65 dBm 4.65 dBm				
Spectrum Spectrum	Spur	ious Emission 30)MHz~3GHz	Spuric	ous Emi	ssion 2GHz-	-25GHz
Start 30.0 MHz 501 pts Stop 3.0 GHz Start 2.0 GHz 501 pts Stop 25.0 GH	Spectrum Ref Level 20.00 dbm Offs: • Att 10 db SWT • IPk. View 0 0 B 10 dbm 0 0 0 0 -10 dbm -0 -0 0 0 -0 -20 dbm -0 -25.350 dbm -30 dbm -30 dbm -30 dbm -30 dbm -70 dbm -70 dbm -70 dbm -70 dbm -70 dbm -70 dbm -10 dbm <t< th=""><th>at 22.30 dB • RBW 100 kHz 29.7 ms • VBW 300 kHz Mode M M M M M M M M M M M M M M M M M M M</th><th>Sweep 1(1) 4.34 dBm 2.4390 GHz 2(1) 2.4390 GHz 2.92000 GHz 4.92000 GHZ 4.92000</th><th>Spectrum Ref Level 20.00 dBm Offset witt 10 dB SWT IPK View 0 0 0 dBm -0 0 -10 dBm -0 -0 -20 dBm -0 -0 -30 dBm -0 -0 -30 dBm -0 -0 -50 dBm -0 -0 -50 dBm -0 -0 -60 dBm -0 -0 -70 dBm -70 -70</th><th>22.30 dB • RBW 230 ms • VBW</th><th>100 kHz Mode Sweep M1[1] </th><th>3.98 dBm 2.4360 GHz -48.61 dBm 15.6120 GHz</th></t<>	at 22.30 dB • RBW 100 kHz 29.7 ms • VBW 300 kHz Mode M M M M M M M M M M M M M M M M M M M	Sweep 1(1) 4.34 dBm 2.4390 GHz 2(1) 2.4390 GHz 2.92000 GHz 4.92000	Spectrum Ref Level 20.00 dBm Offset witt 10 dB SWT IPK View 0 0 0 dBm -0 0 -10 dBm -0 -0 -20 dBm -0 -0 -30 dBm -0 -0 -30 dBm -0 -0 -50 dBm -0 -0 -50 dBm -0 -0 -60 dBm -0 -0 -70 dBm -70 -70	22.30 dB • RBW 230 ms • VBW	100 kHz Mode Sweep M1[1]	3.98 dBm 2.4360 GHz -48.61 dBm 15.6120 GHz











Test Mode :	802.11g			Test Cha	nnel :	06	
1	00kHz PSD re	eference Level			Mid	Channel Plot	1
Spectrum Ref Level 20.00 dBm Att 20 dB 10 dBm 0 dBm -10 dBm	Diffset 22.30 dB RBW 100 ki SWT 1.1 ms VBW 300 ki	Made Sweep M1[1] M1[1	Expan 23.868 MHz		Spurious E	mission 2GHz	:~25GHz
Spectrum Ref Level 20.00 dBm	Dffset 22.30 dB ⊜ RBW 100 ki	Hz		Spectrum Ref Level 20.00 d	dBm Offset 22.30 dB 🗑	RBW 100 kHz	
Att 10 dB s	3WT 29.7 ms e VBW 300 ki	Hz Mode Sweep		Att 10 IPk View) dB SWT 230 ms 👄	VBW 300 kHz Mode Sweep	
10 dBm		M1[1] M2[1]	2.25 dBm 2.43980 GHz -56.35 dBm 975.50 MHz	10 dBm		M1[1] M2[1]	2.33 dBm 2.4360 GHz -50.33 dBm 15.6120 GHz
-10 dBm -20 dBm -30 dBm D1 -28.030 dBn	,			-10 dBm -20 dBm -30 dBm 01 -28.0	030 dBm		
-90 dBm	M2 Anther Mericeleustrated	un un hanne han	herrichard	-90 dBm -50 dBm -60 dBm -70 dBm	melmenemene	ng non nu pour de marce	all mar mar and a second and a second and a second a se
Start 30.0 MHz	501	pts Nessurmo.	Stop 3.0 GHz	Start 2.0 GHz		501 pts	Stop 25.0 GHz
Date: 19.AUG.2020 07:32	215Z			Date: 19.AUG.2020	07:33:23		











Test Mode : 802.11ax HE20	Test Channel : 01 Partial RU 26/0
100kHz PSD reference Level	Low Channel Plot
Spectrum With an and a state of the state o	Spectrum Image: Constraint of the second secon

Test Mode :	802.11ax HE20	1	Test Channel :	01 Partial RU 52/3	7
100	kHz PSD referen	ce Level	Lov	v Channel Plot	
Spectrum Ref Level 20.00 dBm Offset • IPk Max • IPk Max • IPk Max • IPk Max • IPk Max • IPk Max • 0 dBm • IPk Max • IPk Max • 0 dBm • IPk Max • IPk Max • 0 dBm • IPk Max • IPk Max • 0 dBm • IPk Max • IPk Max • 0 dBm • IPk Max • IPk Max • 0 dBm • IPk Max • IPk Max • 0 dBm • IPk Max • IPk Max • 0 dBm • IPk Max • IPk Max • 0 dBm • IPk Max • IPk Max • 0 dBm • IPk Max • IPk Max • 0 dBm • IPk Max • IPk Max • 0 dBm • IPk Max • IPk Max • 0 dBm • IPk Max • IPk Max • 0 dBm • IPk Max • IPk Max • 0 dBm • IPk Max • IPk Max • 0 dBm • IPk Max • IPk Max • 0 dBm • IPk Max • IPk Max • 0 dBm	22.30 dB RBW 100 HHz 1.1 ms VBW 300 HHz Mode S M11 M11 M11 M11 M11 M11 M11 M1	Weep 1 2.37 dBm 2.4145050 GHz	Spectrum Ref Level 20.00 dbm Offset 22.30 db Att 20 db SWT 8 ms IPk Max 10 dbm 0 9 ms 9 ms I0 dbm 0 0 dbm 9 ms 9 ms 9 ms 10 dbm 0 0 dbm 9 ms 9 ms<	RBW 100 H/z Mode Sweep VBW 300 H/z Mode Sweep M1[1]	-33.33 dBm 2.3999070 GHz



Test Mode :	802.11ax HE20		Test Channel :	01 Partial RU 1	106/53
100k	Hz PSD reference Level		Lo	w Channel Plot	
Spectrum Ref Level 20.00 dBm Offset 22 Att 20 dB Swr 91Pk Max 0 0 10 dBm 0 0 0 -10 dBm - 0 0 -30 dBm - - - -50 dBm - - - -50 dBm - - - -70 dBm - - - -50 dBm - - - -70 dBm - - - -70 dBm - - - -20 dBm - - - -30 dBm - - - -50 dBm - - - -70 dBm - - -	.30 dB = RBW 100 kHz 1.1 ms = VBW 300 kHz Mode Sweep M1[1] M1[2.37 dBm 2.4145050 GHz	Spectrum Ref Lovel 20.00 dBm Offset 22.30 dB Att 20 dB SWT 8 ms ID dBm 0 0 dBm 0 0 dBm -10 dBm - - 0 0 - 0 0 - 0	RBW 100 kHz VBW 300 kHz Mode Sweep M1[1] Mode Sweep M1[1] M1 M1	-28.69 dBm 2.3998730 GHz



Test Mode :	802.11ax HE20		Test Channel	:	06 Full RU		
100k	Hz PSD reference I	_evel		Mid	Channel P	lot	
Spectrum Reflevel 20.00 dbm Offset 22 Att 20 dB SWT SWT IPL Max 10 dbm 10 dbm 10 dbm 0 dbm 40 dbm 40 dbm 40 dbm -20 dbm -30 dbm -40 dbm -40 dbm -50 dbm -30 dbm -50 dbm -60 dbm -60 dbm -70 dbm -70 dbm Date: 21.AUG.2020 00:48:45 -50 dbm -50 dbm <th>30 dB @ RBW 100 kHz 1.1 ms @ VBW 300 kHz M1[1] M1 M2 M2 M2 M2 M2 M2 M2 M3 M3 <th>2.68 dbm 2.4319908 GHz</th><th></th><th></th><th></th><th></th><th></th></th>	30 dB @ RBW 100 kHz 1.1 ms @ VBW 300 kHz M1[1] M1 M2 M2 M2 M2 M2 M2 M2 M3 M3 <th>2.68 dbm 2.4319908 GHz</th> <th></th> <th></th> <th></th> <th></th> <th></th>	2.68 dbm 2.4319908 GHz					
Spurio	us Emission 30MH	z~3GHz	Spui	rious Er	nission 2G	iHz~25GF	Iz
Spectrum Ref Level 20.00 dbm Offset 22 Att 10 db SWT 2 ID dbm 0	30 dB @ RBW 100 kHz 9.7 ms @ VBW 300 kHz M1[1] M2[1] M2 M2 S01 pts	2.70 dbm 2.42790 GHz -56.62 dbm M1 1.06450 GHz	Spectrum Ref Level 20.00 dBm Officer Att 10 dB SW ID dBm 0 M1 0 0 dBm	set 22.30 dB • F 230 ms • V	XBW 100 kHz Mode S // NM 300 kHz Mull // M10 Mull // M20 Mull	weep 1] 1]	Even 25.0 GHz









Test Mode : 80	2.11ax HE20	Test Chanr	nel : 11 Partial RU 52/40
100kHz	PSD reference Level		High Channel Plot
Spectrum Ref Level 20.00 dBm Offset 22.30 dB Att 20 dB SWT 1 ms 0 dBm	• RBW 100 kHz • Mode Sweep • VBW 300 kHz • Mode Sweep • M1[1] • Milling • M1[1]	Spectrum Ref Level 20.00 dBm Att 20 dB 1.97 dBm 2.4645145 GHz 0 dBm -10 dBm -20 dBm -30 dBm -30 dBm -40 dBm -50 dBm -70 dBm -70 dBm -70 dBm	n Offset 22.30 dB RBW 100 kHz B SWT 8 ms VBW 300 kHz Mode Sweep 1 -44.90 dBm 2.5107110 GHz -44.90 dBm 0 -44.90 dBm 0



Test Mode :	802.11ax HE20		Test Char	nnel :	11 Partial	RU 106/54	ŀ	
100k	Hz PSD reference L	evel		Higl	n Channel	Plot		
Spectrum Ref Level 20.00 dbm Offset 2: 8 WT • IPk Max • Io dbm • I D dbm • Io dbm • 0 dbm • Io dbm • 20 dbm • Io dbm • 30 dbm • Io dbm • 50 dbm • Io dbm • 50 dbm • Io dbm • CF 2.462 GHz • Io characterized	.30 dB • RBW 100 KHz 1 ms • VBW 300 KHz Mode Sweep M1[1]	1.97 dBm 2.4645145 GHz 10/// 4/4 10// 4/4	Spectrum Ref Level 20.00 dl Att 20 IPk Max 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -30 dBm -30 dBm -30 dBm -20 dBm -30 dBm -30 dBm -30 dBm -30 dBm -30 dBm -20 dBm -30 dBm -30 dBm -30 dBm -30 dBm -50 dBm -70 dBm Date: 26.AUG.2020	Offset 22.30 dB SWT B ms 30 dBm B 902:41:12 B	RBW 100 Hz Mode VBW 300 Hz Mode VBW 300 Hz Mode VBW 300 Hz Mode VBW 300 Hz Mode 8001 pts Hz Hz	2 Sweep	2.522	(₩ 22860 GHz





: Sep. 16, 2020



Test Mode :	802.11ax HE40		Test Channel	:	03 Partial	RU 242	/61	
100k	Hz PSD reference Leve	I		Low	Channel	Plot		
Spectrum Ref Level 20.00 dBm Offset 22 Att 20 dB PJPK Max 0 10 dBm 0 -20 dBm -20 dBm -30 dBm -30 dBm -50 dBm -60 dBm -50 dBm -60 dBm -20 dBm -20 dBm -30 dBm -30 dBm -20 dBm -30 dBm -30 dBm -60 dBm -50 dBm -60 dBm -20 dBm -10 dBm	.30 dB • RBW 100 kHz 1 ms • VBW 300 kHz Mode Sweep M1[1] M1 M1 M1 M1 M1 M1 M1 M1 M1 M1	-1.73 dBm 2.4257528 GHz	Spectrum Ref Level 20.00 dBm Offs Att 20 dB SWT 10 dBm 0 dBm -10 dBm -10 dBm -20 dB -20 dBm 01 -31.730 dBm -40 dBm -30 dBm 01 -31.730 dBm -60 dBm -20 dBm -31.730 dBm -60 dBm -30 dBm 01 -31.730 dBm -60 dBm -20 dBm 01 -31.730 dBm -70 dBm -20 dBm 01 -31.730 dBm -70 dBm -20 dBm 01	et 22.30 dB • F	XBW 100 kHz Mode /BW 300 kHz Mode /BW 300 kHz Mode	Sweep 1[1] 10 10 10 10 10 10 10 10 10	-3 2.399	() 14.41 dBm 5360 GHz



Test Mode :	802.11ax HE40		Test Char	nnel :	06 Full RI	J	
100k	Hz PSD reference Lev	vel		Mi	d Channel	Plot	
Spectrum Ref Level 20.00 dbm Offset 22 Att 20 db SWT 10 dbm 0 0 10 dbm 0 0 -20 dbm 0 0 -30 dbm 0 0 -20 dbm 0 0 -20 dbm 0 0 -20 dbm 0 0 -30 dbm 0 0 -50 dbm 0 0 -70 dbm 0 0 -70 dbm 0 0 Date: 21.AUG.2020 01:46:13	30 dB • RBW 100 kHz .1 ms • VBW 300 kHz Mode Sweep M1[1] 	-2.46 dBm 2.4319990 GHz					
Spuriou	us Emission 30MHz~3	3GHz	9	Spurious	Emission 2	GHz~25GH	łz
Spectrum Ref Level 20.00 dbm Offset 22 Att 10 dB SWT 25 ID dbm 0 dbm 0 dbm 0 10 dbm 0 dbm 0	30 dB = RBW 100 kHz 7.7 ms = VBW 300 kHz Mode Sweep M1[1] M2 M2 M2 M2 M2 S01 pts	-4,49 dbm 2,4390 GHz -5,64 dbm 1,08220 GHz	Spectrum Ref Level 20.00 db Att 10 db ID dbm 10 dbm ID dbm 10 dbm -10 dbm -10 dbm -20 dbm 01 -32.46 O dbm 01 -32.46 O dbm -10 -32.46 Stort 2.0 dbm -70 dbm -50 dbm -70 dbm	3m Offset 22.30 dB db SWT 230 ms so so so so dB so	RBW 100 kHz Mode VBW 300 kHz Mode No	• Sweep 11[1] 12[1] 12 12 12 12 12 12 12 12 12 12	







Test Mode :	802.11ax HE40	Test Chan	nel : 09 Partial RU	J 242/62
100k	Hz PSD reference Level		High Channel Plo	ot
Spectrum Ref Level 20.00 dBm Att 20 dB 9 JPk Max 10 dBm 0 dBm -10 dBm -30 dBm -30 dBm -60 dBm -60 dBm -70 dBm	No.db RBW 100 kHz Mode Sweep 1.1 ms VBW 300 kHz Mode Sweep	Spectrum Ref Level 20.00 dBm -2.36 dBm 2.4557493 GHz 0 dBm -0 dBm -10 dBm -20 dBm -30 dBm	High Channel Pic	-44.49 dBm 2.3599680 GHz
CF 2.452 GHz	1001 pts Measuring	Span 56.0115 MHz Start 2.43 GHz	8001 pts	Stop 2.565 GHz
Date: 21.AUG.2020 01:18:16		Date: 26.AUG.2020 0	2:53:22	



Number of TX = 2, Ant. 1 (Measured)





Test Mode :	802.11b		Test Channel :	06	
100	0kHz PSD refere	nce Level	Mid	Channel Plot	
Spectrum Ref Level 20.00 dBm Offsa 10 dBm 20 dB SWT 0 dBm	t 22.30 dB • RBW 100 kHz Mode 1.1 ms • VBW 300 kHz Mode M1 M1 M1 M1 M1 M1 M1 M1 M1 M1	Sweep 11 1.16 dBm 2.4365160 GHz 4			
Spuri	ious Emission 3	0MHz~3GHz	Spurious E	mission 2GHz~25G	iHz
Spectrum Ref Level 20.00 dBm Offse # Att 10 dB SWT # Ith View In dBm In dBm 0 dBm In dBm In dBm	tt 22.30 dB ● RBW 100 kHz 29.7 ms ● VBW 300 kHz Mode	▼ Sweep 41[1] 4.05 dBm 42[1] 2.43090 GHz +2[1] -56.14 dBm 2.92000 GHz 2.92000 GHz	Spectrum Ref Level 20.00 dBm Offset 22.30 dB = Att 10 dB SWT 230 ms = ID dBm 0 0 0 0 ID dBm 0 0 0 0	RBW 100 kHz VBW 300 kHz Mode Sweep M1[1] M2[1]	
-20 dBm -30 dBm -40 dBm -50 dBm -50 dBm -70 dBm		M2	20 dBm 01 -25.820 dBm -0 dBm -0 dBm -0 dBm -0 dBm -0 dBm -70 dBm -70 dBm	ne n	
Start 30.0 MHz	501 pts	Stop 3.0 GHz	Start 2.0 GHz	501 pts	Stop 25.0 GHz











Test Mode :	802.11g		Test Channel :	06		
10	0kHz PSD referenc	e Level		Mid Channel	Plot	
Spectrum Ref Level 20.00 dbm Offs 10 dbm 20 db SWI 10 dbm 0 0 -10 dbm	et 22.30 dB • RBW 100 kHz 1 ms • VBW 300 kHz Mode Swe M1[1] M4 M4 M4 M4 M4 M4 M4 M4 M4 M4	ep 1.63 dBm 2.4319890 GHz 	Spurio	us Emission 2	GHz~25GHz	
Spectrum			Spectrum			(III)
RefLevel 20.00 dBm Offs Att 10 dB SWT	et 22.30 dB RBW 100 kHz 29.7 ms VBW 300 kHz Mode Swe	ep	RefLevel 20.00 dBm Offset 22 Att 10 dB SWT 2	.30 dB 👄 RBW 100 kHz 30 ms 👄 VBW 300 kHz 🛛 Mode	e Sweep	
• 1Pk View		-0.54 dBm	●1Pk View		41[1]	-0.01 dBm
10 dBm	M2[1]	2.43390 GHz -55.94 dBm 2.92000 GHz	10 dBm		12[1]	2.4360 GHz -50.45 dBm 15.6120 GHz
-10 dBm			-10 dBm			
-30 dBm D1 -28.370 dBm			-20 dBmD1 -28.370 dBm			
-40 dBm			-40 dBm	N	12	
-50 dBm	welmen may very many and the property	mounder have well	-\$0 dBm	www.www.www.www.	hundersman	mayne
-70 dBm			-70 dBm			
Start 30.0 MHz	501 pts	Stop 3.0 GHz	Start 2.0 GHz	501 pts		Stop 25.0 GHz
Date: 19.AUG.2020 07:35:41			Date: 19.AUG.2020 07:36:04		Measuring	











Test Mode :	802.11ax HE20	Test Channel :	01 Partial RU 26/0
100k	Hz PSD reference Level	Low	/ Channel Plot
Spectrum Ref Level 20.00 dbm Offset 22 Att 20 db SWT 9 JPk Max 10 dbm 0 dbm -10 dbm	1001 pts	P Spectrum Ref Level 20.00 dBm Offset 22.30 dB • Att 20 dB SWT • IPk Max 10 dBm • 0 dBm - • 0 dBm - -10 dBm - -30 dBm - -40 dBm - -60 dBm - -70 dBm - -80 dBm - -10 dBm - -20 dBm - -10 dBm - -20 dBm - -10 dBm - -20 dBm - -30 dBm - -40 dBm - -50 dBm - -70 dBm - -70 dBm -	RBW 100 HHz VBW 300 HHz Mode Sweep M1[1] -36.90 dBm 2.3995020 GHz M1[
Date: 20.AUG.2020 23:53:43		Date: 26.AUG.2020 01:09:59	

Test Mode : 802.11ax HE20	Test Char	nnel : 01 Partial RU	52/37
100kHz PSD reference L	evel	Low Channel Plot	:
Spectrum Ref Level 20.00 dBm Offset 22.30 dB = RBW 100 kHz Att 20 dB ID dBm M1[1] 0 dBm M1[1] 0 dBm M1[1] 0 dBm M1[1] 0 dBm M1[1] -10 dBm M1[1] -30 dBm -30 dBm -30 dBm -30 dBm -70 dBm -70 dBm -70 dBm -70 dBm -20 .412 GHz 1001 pts	Spectrum Ref Level 20.00 df 2.77 dBm 2.4169810 GH2 0 dBm 0 dBm 0 dBm -10 dBm -20 dBm -30 dBm -30 dBm -30 dBm -30 dBm -50 dBm -50 dBm -50 dBm -30 dBm -30 dBm -30 dBm -30 dBm -30 dBm -30 dBm -10 dBm -10 dBm -20 dBm -20 dBm -30 dBm -30 dBm -20 dBm -20 dBm -20 dBm -20 dBm -20 dBm -20 dBm -30 dBm -20 dBm <tr< th=""><th>Offset 22,30 db RBW 100 kHz Mode Sweep 8 SWT 8 ms VBW 300 kHz Mode Sweep 9 ms VBW 300 kHz Mode Sweep 9 ms 9 ms VBW 300 kHz Mode Sweep 9 ms 9 ms</th><th>-93.28 dbm 2.3997550 GHz</th></tr<>	Offset 22,30 db RBW 100 kHz Mode Sweep 8 SWT 8 ms VBW 300 kHz Mode Sweep 9 ms VBW 300 kHz Mode Sweep 9 ms 9 ms VBW 300 kHz Mode Sweep 9 ms 9 ms	-93.28 dbm 2.3997550 GHz



Test Mode :	802.11ax HE20		Test Channel :	01 Partial RU 106/53
100k	Hz PSD reference Level		Low	Channel Plot
Spectrum Ref Level 20.00 dBm Offset 22 10 dBm 20 dB SWT 10 dBm 0 0 0 dBm 0 0 -10 dBm 0 0 -20 dBm 0 0 -30 dBm 0 0 -50 dBm 0 0 -70 dBm 0 0	30 dB @ RBW 100 kHz 1.1 ms @ VBW 300 kHz Mode Sweep M1[1] 2 M4 M4 M4 M4 M4 M4 M4 M4 M4 M4	2.77 dBm .419910 GHz	Spectrum Ref Lovel 20.00 dbm Offset 22.30 db IV 20 db SWT 8 ms IV/ Max 10 dbm 0 0 0 dbm 0 0 0 -10 dbm - - 0 -30 dbm - - 0 -30 dbm - - - -60 dbm - - - -50 dbm - - - -70 dbm - - - Start 2.31 GHz - - - Date: 26.AW,2020 01:33:51 01:33:51	BW 100 kHz Mode Sweep M1[1] -29.55 dBm 2.3997720 GHz -29.55 dBm 0 0 0



Test Mode :	802.11ax HE20		Test Channel :	06 Full RU
100k	Hz PSD reference Level		Mid	Channel Plot
Spectrum Ref Level 20.00 dbm Offset 22 Att 20 db SWT IPk Max 10 dbm 10 dbm 0 dbm	30 dB = RBW 100 kHz 1.1 ms = VBW 300 kHz Mode Sweep M1[1] 2.43 M1[2.35 dbm 319963 GHz		
Spurio	us Emission 30MHz~3GHz	E E	Spurious En	nission 2GHz~25GHz
RefLevel 20.00 dBm Offset 22 Att 10 dB SWT 2	.30 dB e RBW 100 kHz 9.7 ms e VBW 300 kHz Mode Sweep		RefLevel 20.00 dBm Offset 22.30 dB Ref Level 20.00 dBm Offset 22.30 dB Ref Level 20.00 dBm Offset 22.30 ms V	BW 100 kHz BW 300 kHz Mode Sweep
91Pk View	MILII	-0.89 dBm	• 1Pk View	M1[1] -0.74 dBm
10 dBm	M2[1] 2 M2[1] 2 M2[1] 1	2.43390 GHz -55.79 dBm 2.95550 GHz	10 dBm	2.4360 GHz -49.56 dBm 20.0190 GHz
-10 dBm -20 dBm -30 dBm 01 -27.650 dBm -40 dBm			-10 dBm -20 dBm -30 dBm -01 -27.650 dBm -0 dBm	
-50 dBm	where the mental and the second	M2	-50 dBm -60 dBm -70 dBm	Mar and the Mark and the provide some of the second sources of the
Date: 21.AUG.2020 01:00:54	SUL pts Sto	op 3.U GHz	Date: 21.AUG.2020 01:02:20	ou pts Stop 25.0 GHz







Test Mode :	802.11ax HE20		Test Channel :	1	1 Partial RU 2	6/08	
100k	Hz PSD reference Leve	I		High C	Channel Plot		
Spectrum Ref Level 20.00 dBm Offset 22 Att 20 dB SWT ID dBm 0 dBm 0 -10 dBm	.30 dB • RBW 100 kHz 1.1 ms • VBW 300 kHz M1[1] M1 M2 M2 <th>1.96 dBm 2.4607598 GHz Mydrag Mydrag Span 27.5865 MHz</th> <th>Spectrum Ref Level 20.00 dBm Offset 2 Att 20 dB JPk Max 10 dBm 10 dBm 0 dBm -10 dBm </th> <th>22.30 dB • RBW 8 ms • VBW</th> <th>/ 100 kHz / 300 kHz M1[1] M</th> <th>4 2:55</th> <th>(♥) 16.44 dBm (4090 GHz)</th>	1.96 dBm 2.4607598 GHz Mydrag Mydrag Span 27.5865 MHz	Spectrum Ref Level 20.00 dBm Offset 2 Att 20 dB JPk Max 10 dBm 10 dBm 0 dBm -10 dBm	22.30 dB • RBW 8 ms • VBW	/ 100 kHz / 300 kHz M1[1] M	4 2:55	(♥) 16.44 dBm (4090 GHz)

Test Mode :	802.11ax HE2	0	Test Channel :	11 Partial RU 52/4	10
100k	Hz PSD refere	nce Level	Hig	gh Channel Plot	
Spectrum Ref Level 20.00 dbm Offset 2: Att 20 db SWT ID dbm 0 dbm 0 0 dbm 0 dbm 0 -10 dbm	2.30 dB • RBW 100 HH2 1.1 ms • VBW 300 HH2 Mode M1 	Sweep 1[1] 1.90 dBm 2.4607598 GHz 	Spectrum Ref Level 20.00 dBm Offset 22.30 dB Att 20 dB SWT 9 ms ID JPk Max 0 0 dBm 0 10 dBm -10 dBm -10 dBm -10 dBm -10 dBm -10 dBm -20 dBm -20 dBm -20 dBm -10 dBm -10 dBm -40 dBm -10 dBm -10 dBm -10 dBm -10 dBm -20 dBm -20 dBm -20 dBm -20 dBm -20 dBm -40 dBm -10 dBm -10 dBm -20 dBm -20 dBm -70 dBm -20 dBm -20 dBm -20 dBm -20 dBm -70 dBm -20 dBm -20 dBm -20 dBm -20 dBm -70 dBm -20 dBm -20 dBm -20 dBm -20 dBm	RBW 100 HH2 VBW 300 HH2 Mode Sweep MI[1] MI	-45.91 dbm 2.4856720 GHz -45.91 dbm 1.4956720 GHz 1.4956720 GHz











Test Mode :	802.11ax HE40	Test Channel :	03 Partial RU 242/61	
100k	Hz PSD reference Level	Low	Channel Plot	
Spectrum Ref Level 20.00 dBm Offset 22 • Att 20 dB SWT • IPk Max 10 dBm -10 dBm -10 dBm	.30 dB = RBW 100 kHz 1 ms ● VBW 300 kHz Mode Sweep M1[1] -1.52 dBm 2.4170030 GHz N11 	Spectrum Ref Level 20.00 dBm Offset 22.30 dB e Att 20 dB SWT 8 ms e Image: State of the stat	RBW 100 kHz VBW 300 kHz Mode Sweep M1[1]	() 4.93 dBm 1650 GHz
-20 dBm -30 dBm -40 dBm -40 dBm -50 dBm -60 dBm -70 dBm -70 dBm -70 dBm	1001 pts Span 52.65 MHz	-20 dBm -30 dBm -40 dBm -40 dBm -60 dBm -70 dBm -70 dBm -70 dBm -70 dBm -70 dBm	E Contraction of the contraction	
Date: 21.AUG.2020 01:58:34		Date: 26.AUG.2020 02:47:42		



100kHz Spectrum Ref Level 20.00 dBm Offset 22.30 dB Att 20 dB SWT 1 ms	PSD reference Level	Mid	Channel Plot
Spectrum Ref Level 20.00 dBm Offset 22.30 dB Att 20 dB SWT 1 ms	μ. Γ		
PPK Max 10 dBm 0 dBm -10 dBm -20 dBm -20 dBm -30 dBm -30 dBm -70	3 0 8 8W 100 HH2 Mode Sweep VBW 300 HH2 Mode Sweep M1[1] -2.37 dB 2.4320333 GH -2.4320333 GH MMMMMM MMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMM		
Spurious	Emission 30MHz~3GHz	Spurious E	mission 2GHz~25GHz
Spectrum Ref Level 20.00 dBm Offset 22.30 dB Att 10 dB SWT 29.7 ms ID dBm III IIII IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	B RBW 100 kHz S VBW 300 kHz M1[1] -3.66 de M1[1] -3.66 de M2[1] -56.33 de B21.40 Ms B21.40 Ms M1 Made Sweep S01 pts Stop 3.0 GHz	Spectrum Ref Level 20.00 dbm Offset 22.30 db • Att 10 dB SWT 230 ms • IPI: View 10 dbm 10 dbm -0 dbm -70 dbm -70 dbm	RBW 100 kHz Mode Sweep M1[1] -3.11 dBm 2.4360 dHz M2[1] M2[1] -30.25 dBm 20.0190 GHz 0 M2[1] -30.25 dBm M3[1] -30.25 dBm







Test Mode :	802.11ax HE40		Test Channel :	09 Partial RU 242/6	62
100k	Hz PSD reference Level		High	Channel Plot	
Spectrum Ref Level 20.00 dBm Att 20 dB Att 20 dB ID dBm 0 -10 dBm	.30 dB • RBW 100 kHz 1.1 ms • VBW 300 kHz Mode Sweep M1[1] M4Lh hull m 100 kHz Mode Sweep 1001 pts Sp	-1.86 dBm 2.4570205 GHz	Spectrum Ref Level 20.00 dBm Offset 22.30 dB Att 20 dB IPE Max 10 dBm -10 dBm -10 dBm -10 dBm -50 dBm -60 dBm -70 dBm -70 dBm	ABW 100 kHz ABW 300 kHz Mode Sweep M1[1] M1[1]	-45.36 dBm 2.5361900 GHz
Date: 21.AUG.2020 01:28:34	Maximum (1111)		Date: 26.AUG.2020 00:49:30	S Protection	440

3.5 Radiated Band Edges and Spurious Emission Measurement

3.5.1 Limit of Radiated band edge and Spurious Emission Measurement

In any 100 kHz bandwidth outside the intentional radiator frequency band, all harmonics/spurious must be at least 20 dB below the highest emission level within the authorized band. If the output power of this device was measured by spectrum analyzer, the attenuation under this paragraph shall be 30 dB instead of 20 dB. In addition, radiated emissions which fall in the restricted bands must also comply with the limits as below.

Frequency	Field Strength	Measurement Distance
(MHz)	(microvolts/meter)	(meters)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

3.5.2 Measuring Instruments

See list of measuring equipment of this test report.

3.5.3 Test Procedures

- 1. The testing follows the ANSI C63.10 Section 11.12.1 Radiated emission measurements.
- 2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
- 3. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
- 4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
- 5. Corrected Reading: Antenna Factor + Cable Loss + Read Level Preamp Factor = Level
- 6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
- 7. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
- 8. Use the following spectrum analyzer settings:
 - (1) Span shall wide enough to fully capture the emission being measured;
 - (2) Set RBW=100 kHz for f < 1 GHz; VBW ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold;
 - (3) Set RBW = 1 MHz, VBW= 3MHz for $f \ge 1$ GHz for peak measurement. For average measurement:
 - VBW = 10 Hz, when duty cycle is no less than 98 percent.
 - VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.



3.5.4 Test Setup

For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



Spectrum Analyzer / Receiver

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For radiated emissions above 1GHz



3.5.5 Test Results of Radiated Spurious Emissions (9kHz ~ 30MHz)

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

There is a comparison data of both open-field test site and alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result came out very similar.

3.5.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix C and D.

3.5.7 Duty Cycle

Please refer to Appendix E.

3.5.8 Test Result of Radiated Spurious Emission (30MHz ~ 10th Harmonic)

Please refer to Appendix C and D.



3.6 AC Conducted Emission Measurement

3.6.1 Limit of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

Frequency of Emission	Conducted Limit (dBµV)	
(MHz)	Quasi-Peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

3.6.2 Measuring Instruments

See list of measuring equipment of this test report.

3.6.3 Test Procedures

- 1. The EUT was placed 0.4 meter from the conducting wall of the shielding room, and it was kept at least 80 centimeters from any other grounded conducting surface.
- 2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
- 3. All the support units are connecting to the other LISN.
- 4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
- 5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
- 6. Both sides of AC line were checked for maximum conducted interference.
- 7. The frequency range from 150 kHz to 30 MHz was searched.
- 8. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF bandwidth = 9kHz) with Maximum Hold Mode.