FCC Test Report

FCC ID	:	**MXF-WLTMS11043**
Equipment	:	**CPE9000-PRO-1D-3.x**
Model No.	:	**WLTMS-110**
Brand Name	:	**Gemtek**
Applicant	:	**Gemtek Technology Co., Ltd.**
Address	:	**No. 15-1 Zhonghua Road, Hsinchu Industrial Park, Hukou, Hsinchu, Taiwan, 30352.**
Standard	:	**47 CFR FCC Part 90 Subpart Z**
Received Date	:	**Dec. 02, 2016**
Tested Date	:	**Dec. 12 ~ Dec. 21, 2016**

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:

Along Chen / Assistant Manager

Approved by:

Gary Chang / Manager

Testing Laboratory 2732

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Release Record

Report No.	Version	Description	Issued Date
FW6D0202	Rev. 01	Initial issue	Jan. 12, 2017

Summary of Test Results

FCC Rules	Test Items	Measured	Result
2.1046 / 90.1321	Equivalent Isotropically Radiated Power	Maximum EIRP: 4.159 W / 5MHz 3.972 W / 10MHz 3.733 W / 15MHz 4.236 W / 20MHz	Pass
2.1046 / 90.1321	Peak EIRP Power Density	Meet the requirement of limit	Pass
2.1053 / 90.1323	Radiated Emissions	Meet the requirement of limit	Pass
2.1051 / 90.1323	Conducted Emissions	Meet the requirement of limit	Pass
90.210	Emission Mask	Meet the requirement of limit	Pass
2.1049 / 90.1323	26dBc Bandwidth	Meet the requirement of limit	Pass
2.1055 / 90.213	Frequency Stability	Meet the requirement of limit	Pass

1 General Description

1.1 Information

1.1.1 Specification of the Equipment under Test (EUT)

Operating Frequency	Channel Bandwidth: 5MHz: 3652.5 MHz ~ 3697.5 MHz Channel Bandwidth: 10MHz: 3655.0 MHz ~ 3695.0 MHz Channel Bandwidth: 15MHz: 3657.5 MHz ~ 3692.5 MHz Channel Bandwidth: 20MHz: 3660.0 MHz ~ 3690.0 MHz
Modulation Type	QPSK, 16QAM (Uplink)
Duplex Mode	TDD
UE Category	Cat. 5 & Cat. 6
Release	9
H/W Version	Main board: V00 Daughter board: V01
S/W Version	01.01.02.115

1.1.2 Maximum EIRP & Emission Designator

Channel Bandwidth	Modulation	Maximum EIRP (W)	Emission Designator
5MHz	QPSK	4.140	4M46G7D
5MHz	16QAM	4.159	4M46W7D
10MHz	QPSK	3.954	8M89G7D
10MHz	16QAM	3.972	8M89W7D
15MHz	QPSK	3.715	13M4G7D
15MHz	16QAM	3.733	13M4W7D
20MHz	QPSK	4.198	17M9G7D
20MHz	16QAM	4.236	17M8W7D

1.1.3 Antenna Details

Ant. No.	Type	Gain (dBi)	Connector
1	Patch	13.6	UFL

1.1.4 EUT Operational Condition

Power Supply Type	56Vdc from POE		
Operational Voltage	☒ Vnom (120 V)	☒ Vmax (138 V)	☒ Vmin (102 V)
Operational Climatic	☒ Tnom (20°C)	☒ Tmax (55°C)	☒ Tmin (-40°C)

1.1.5 Accessories

Accessories		
No.	**Equipment**	**Description**
1	POE 1	Brand: SHENZHEN FRECOM Model: PGOC24D01-560027 Power Rating: I/P: 100-240Vac, 50/60Hz, 0.7A O/P: 56Vdc, 0.27A
2	POE 2	Brand: GOSPELL Model: G0720-560-027 Power Rating: I/P: 100-240Vac, 50/60Hz, 0.75A O/P: 56Vdc, 0.27A
3	Power Line	0.72m non-shielded without core
4	Core for RJ45	Brand: King core Model: KCF-130

1.1.6 Operating Channel List

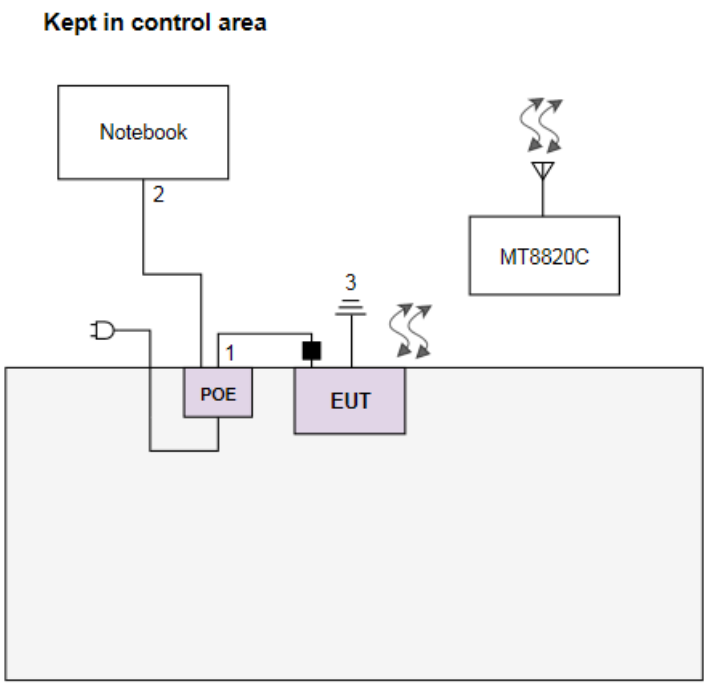
Channel Bandwidth (MHz)	Channel	Frequency (MHz)
5	44115	3652.5
5	44340	3675.0
5	44565	3697.5
10	44140	3655.0
10	44340	3675.0
10	44540	3695.0
15	44165	3657.5
15	44340	3675.0
15	44515	3692.5
20	44190	3660.0
20	44340	3675.0
20	44490	3690.0

1.2 Local Support Equipment List

Support Equipment List						
No.	**Equipment**	**Brand**	**Model**	**S/N**	**FCC ID**	**Signal cable / Length (m)**
1	Notebook	DELL	Latitude E6430	9ZFB4X1	DoC	RJ45, 10m non-shielded.

1.3 Test Setup Chart

Test Setup Diagram



1. RJ45, 1m shielded with 1 core
2. RJ45, 10m non-shielded.
3. Ground, 3m

1.4 The Equipment List

Test Item	Radiated Emission				
Test Site	966 chamber1 / (03CH01-WS)				
Instrument	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Radio Communication Analyzer	Anritsu	MT8820C	6201240341	Mar. 28, 2016	Mar. 27, 2017
Spectrum Analyzer	R&S	FSV40	101498	Nov. 25, 2016	Nov. 24, 2017
Receiver	R&S	ESR3	101658	Nov. 24, 2016	Nov. 23, 2017
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-522	Aug. 04, 2016	Aug. 03, 2017
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1095	Sep. 21, 2016	Sep. 20, 2017
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Oct. 25, 2016	Oct. 24, 2017
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 10, 2016	Nov. 09, 2017
Preamplifier	EMC	EMC02325	980225	Aug. 05, 2016	Aug. 04, 2017
Preamplifier	Agilent	83017A	MY39501308	Oct. 06, 2016	Oct. 05, 2017
Preamplifier	EMC	EMC184045B	980192	Aug. 24, 2016	Aug. 23, 2017
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16014/4	Dec. 09, 2016	Dec. 08, 2017
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16019/4	Dec. 09, 2016	Dec. 08, 2017
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16139/4	Dec. 09, 2016	Dec. 08, 2017
LF cable 1M	EMC	EMCCFD400-NM-NM-1000	16052	Dec. 09, 2016	Dec. 08, 2017
LF cable 3M	Woken	CFD400NL-LW	CFD400NL-001	Dec. 09, 2016	Dec. 08, 2017
LF cable 10M	Woken	CFD400NL-LW	CFD400NL-002	Dec. 09, 2016	Dec. 08, 2017
Measurement Software	AUDIX	e3	6.120210g	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	RF Conducted				
Test Site	(TH01-WS)				
Instrument	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Spectrum Analyzer	R&S	FSV40	101063	Feb. 17, 2016	Feb. 16, 2017
Spectrum Analyzer	Agilent	N9010A	MY53400091	Sep. 09, 2016	Sep. 08, 2017
TEMP&HUMIDITY CHAMBER	GIANT FORCE	GCT-225-40-SP-SD	MAF1212-002	Nov. 21, 2016	Nov. 20, 2017
Power Meter	Anritsu	ML2495A	1241002	Oct. 06, 2016	Oct. 05, 2017
Power Sensor	Anritsu	MA2411B	1207366	Oct. 06, 2016	Oct. 05, 2017
Radio Communication Analyzer	Anritsu	MT8820C	6201240341	Mar. 28, 2016	Mar. 27, 2017
AC POWER SOURCE	APC	AFC-500W	F312060012	Oct. 28, 2016	Oct. 27, 2017
Measurement Software	Sporton	Sporton_1	1.3.30	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

1.5 Test Standards

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

47 CFR FCC Part 90 Subpart Z
KDB 965270 D01 PwrMeas Part 90 Z Equipment v01
ANSI C63.4-2014
ANSI/TIA-603-D 2010
KDB 971168 D01 Power Meas License Digital Systems v02r02
KDB 412172 D01 Determining ERP and EIRP v01r01

1.6 Measurement Uncertainty

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

Measurement Uncertainty	
Parameters	**Uncertainty**
Bandwidth	±34.134 Hz
Conducted power	±0.808 dB
Frequency error	±34.134 Hz
Conducted emission	±2.670 dB
Radiated emission ≤ 1GHz	±3.66 dB
Radiated emission > 1GHz	±5.63 dB
Temperature	±0.6 °C

2 Test Configuration

2.1 Testing Condition and Location Information

Test Item	Test Site	Ambient Condition	Tested By
RF Conducted	TH01-WS	23°C / 60%	Along Chen
Radiated Emissions	03CH01-WS	24°C / 62%	Kevin Lee

- FCC Designation No.: TW2732
- FCC site registration No.: 181692
- IC site registration No.: 10807A-1

2.2 The Worst Test Modes and Channel Details

Test item	Channel Bandwidth	Modulation	Test channel (MHz)
Equivalent Isotropically Radiated Power Peak EIRP Power Density	5 MHz 10 MHz 15 MHz 20 MHz	QPSK / 16QAM QPSK / 16QAM QPSK / 16QAM QPSK / 16QAM	3652.5 / 3675.0 / 3697.5 3655.0 / 3675.0 / 3695.0 3657.5 / 3675.0 / 3692.5 3660.0 / 3675.0 / 3690.0
Radiated Emission ≤ 1GHz	5 MHz 10 MHz 15 MHz 20 MHz	QPSK QPSK QPSK QPSK	3697.5 3695.0 3692.5 3690.0
Radiated Emission > 1GHz	5 MHz 10 MHz 15 MHz 20 MHz	QPSK QPSK QPSK QPSK	3652.5 / 3675.0 / 3697.5 3655.0 / 3675.0 / 3695.0 3657.5 / 3675.0 / 3692.5 3660.0 / 3675.0 / 3690.0
Conducted Emissions Emission Mask 26dBc Bandwidth	5 MHz 10 MHz 15 MHz 20 MHz	QPSK / 16QAM QPSK / 16QAM QPSK / 16QAM QPSK / 16QAM	3652.5 / 3675.0 / 3697.5 3655.0 / 3675.0 / 3695.0 3657.5 / 3675.0 / 3692.5 3660.0 / 3675.0 / 3690.0
Frequency Stability	---	Un-modulation	3675.0

NOTE:

1. Two POEs had been covered during the pretest and found that **POE 2** was the worst case and was selected for final testing (POE 1: SHENZHEN FRECOM; POE 2: GOSPELL).

3 Test Results

3.1 Equivalent Isotropically Radiated Power and Peak EIRP Power Density

3.1.1 Limit of Equivalent Isotropically Radiated Power and Peak EIRP Power Density

Base and fixed stations are limited to 25 watts/25 MHz equivalent isotropically radiated power (EIRP), the peak EIRP power density shall not exceed 1 Watt in any one-mega hertz slice of spectrum.

Mobile and portable stations are limited to 1 watt/25 MHz EIRP. The peak EIRP density shall not exceed 40 milli watts in any one-megahertz slice of spectrum.

3.1.2 Test Procedures

For EIRP

1. A broadband Average RF power meter is used for output power measurement. The video bandwidth of power meter is greater than occupied 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
2. Determine the EIRP by adding the effective antenna gain to the adjusted power level.

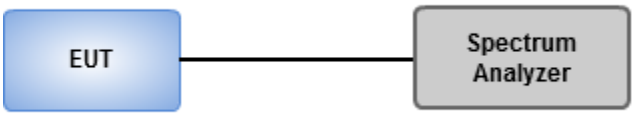
For Peak EIRP Power Density

1. Connect the transmitter to the spectrum analyzer via coaxial cable (i.e., conducted measurement) while ensuring proper impedance matching.
2. Tune the analyzer to the nominal center frequency of the emission bandwidth.
3 Set the span to twice the nominal EBW (span = 2 x EBW).
4 Set the resolution bandwidth (RBW) to 1 MHz.
5 Set the video bandwidth (VBW) to 3 MHz
6 Select the average power (RMS) display detector.
7 Set the number of measurement points to ≥ 1001.
8 Use auto-coupled sweep time.
9 Perform the measurement over an interval of time when the transmission is continuous and at its maximum power level.
10 Utilize trace averaging over 100 traces in the power averaging.
11 Find the maximum trace amplitude (peak search) and record.
12 Adjust the recorded level by applying appropriate correction factors for the measurement set-up.
13 Determine the EIRP by adding the effective antenna gain to the adjusted power level.

3.1.3 Test Setup

Conducted Power

Power Density



3.1.4 Duty cycle and duty factor

	Mode	Duty cycle (%)	Duty factor (dB)
Duty Cycle and Duty Factor	QPSK	41.13	3.86
	16QAM	41.13	3.86

3.1.5 Test Result of EIRP

Channel Bandwidth: 5MHz- QPSK

Channel	Channel Frequency (MHz)	Conducted Output Power (dBm)	Max. Ant. Gain(dBi)	EIRP (dBm)	EIRP (W)	LIMIT (W)
44115	3652.5	22.53	13.6	36.13	4.102	5
44340	3675.0	22.42	13.6	36.02	3.999	5
44565	3697.5	22.57	13.6	36.17	4.140	5

Channel Bandwidth: 5MHz- 16QAM

Channel	Channel Frequency (MHz)	Conducted Output Power (dBm)	Max. Ant. Gain(dBi)	EIRP (dBm)	EIRP (W)	LIMIT (W)
44115	3652.5	22.56	13.6	36.16	4.130	5
44340	3675.0	22.48	13.6	36.08	4.055	5
44565	3697.5	22.59	13.6	36.19	4.159	5

Channel Bandwidth: 10MHz- QPSK

Channel	Channel Frequency (MHz)	Conducted Output Power (dBm)	Max. Ant. Gain(dBi)	EIRP (dBm)	EIRP (W)	LIMIT (W)
44140	3655.0	22.35	13.6	35.95	3.936	10
44340	3675.0	22.20	13.6	35.80	3.802	10
44540	3695.0	22.37	13.6	35.97	3.954	10

Channel Bandwidth: 10MHz- 16QAM

Channel	Channel Frequency (MHz)	Conducted Output Power (dBm)	Max. Ant. Gain(dBi)	EIRP (dBm)	EIRP (W)	LIMIT (W)
44140	3655.0	22.36	13.6	35.96	3.945	10
44340	3675.0	22.28	13.6	35.88	3.873	10
44540	3695.0	22.39	13.6	35.99	3.972	10

Channel Bandwidth: 15MHz- QPSK

Channel	Channel Frequency (MHz)	Conducted Output Power (dBm)	Max. Ant. Gain(dBi)	EIRP (dBm)	EIRP (W)	LIMIT (W)
44165	3657.5	22.10	13.6	35.70	3.715	15
44340	3675.0	22.07	13.6	35.67	3.690	15
44515	3692.5	22.09	13.6	35.69	3.707	15

Channel Bandwidth: 15MHz- 16QAM

Channel	Channel Frequency (MHz)	Conducted Output Power (dBm)	Max. Ant. Gain(dBi)	EIRP (dBm)	EIRP (W)	LIMIT (W)
44165	3657.5	22.11	13.6	35.71	3.724	15
44340	3675.0	22.10	13.6	35.70	3.715	15
44515	3692.5	22.12	13.6	35.72	3.733	15

Channel Bandwidth: 20MHz- QPSK

Channel	Channel Frequency (MHz)	Conducted Output Power (dBm)	Max. Ant. Gain(dBi)	EIRP (dBm)	EIRP (W)	LIMIT (W)
44190	3660.0	22.57	13.6	36.17	4.140	20
44340	3675.0	22.54	13.6	36.14	4.111	20
44490	3690.0	22.63	13.6	36.23	4.198	20

Channel Bandwidth: 20MHz- 16QAM

Channel	Channel Frequency (MHz)	Conducted Output Power (dBm)	Max. Ant. Gain(dBi)	EIRP (dBm)	EIRP (W)	LIMIT (W)
44190	3660.0	22.59	13.6	36.19	4.159	20
44340	3675.0	22.57	13.6	36.17	4.140	20
44490	3690.0	22.67	13.6	36.27	4.236	20

3.1.6 Test Result of Peak EIRP Density

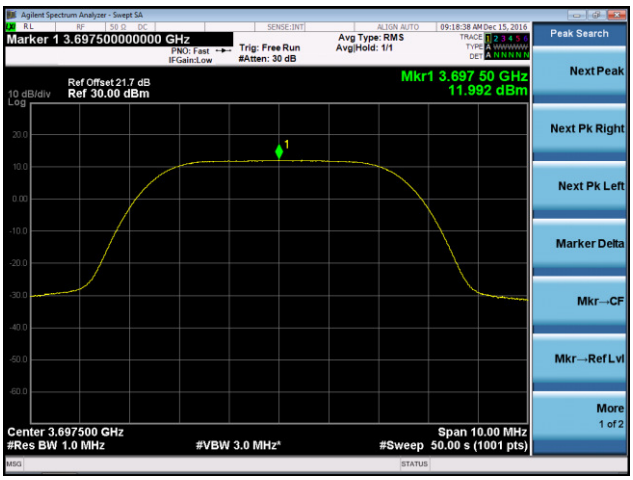
Channel Bandwidth: 5MHz- QPSK

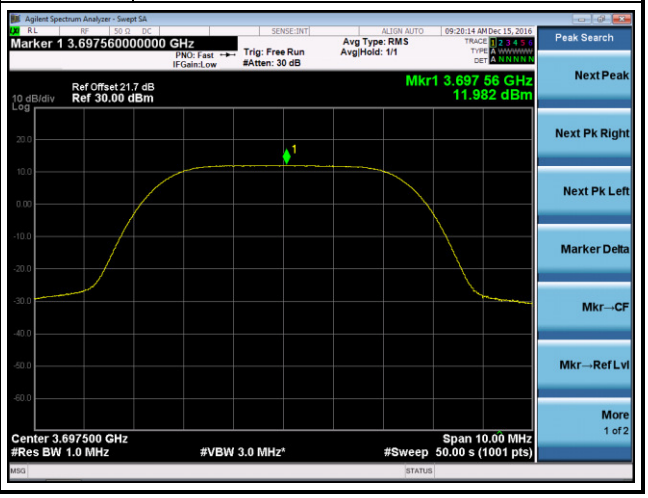
Channel	Channel Frequency (MHz)	Conducted Power Density (dBm/MHz)	Duty Factor (dB)	Max. Ant. Gain (dBi)	EIRP Peak Density (dBm/MHz)	EIRP Peak Density (W/MHz)	LIMIT (W/MHz)
44115	3652.5	11.780	3.86	13.6	29.240	0.839	1.00
44340	3675.0	11.855	3.86	13.6	29.315	0.854	1.00
44565	3697.5	11.992	3.86	13.6	29.452	0.881	1.00

Channel Bandwidth: 5MHz- 16QAM

Channel	Channel Frequency (MHz)	Conducted Power Density (dBm/MHz)	Duty Factor (dB)	Max. Ant. Gain (dBi)	EIRP Peak Density (dBm/MHz)	EIRP Peak Density (W/MHz)	LIMIT (W/MHz)
44115	3652.5	11.739	3.86	13.6	29.199	0.832	1.00
44340	3675.0	11.838	3.86	13.6	29.298	0.851	1.00
44565	3697.5	11.982	3.86	13.6	29.442	0.879	1.00

Worst Plots			
Mode	CB: 5MHz , QPSK	Mode	CB: 5MHz, 16QAM



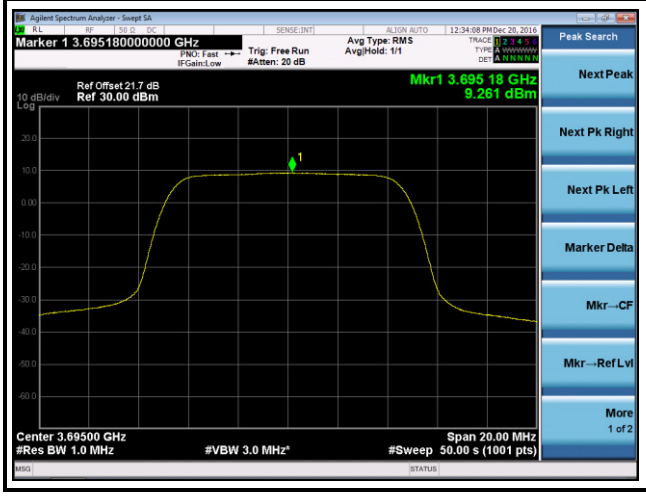
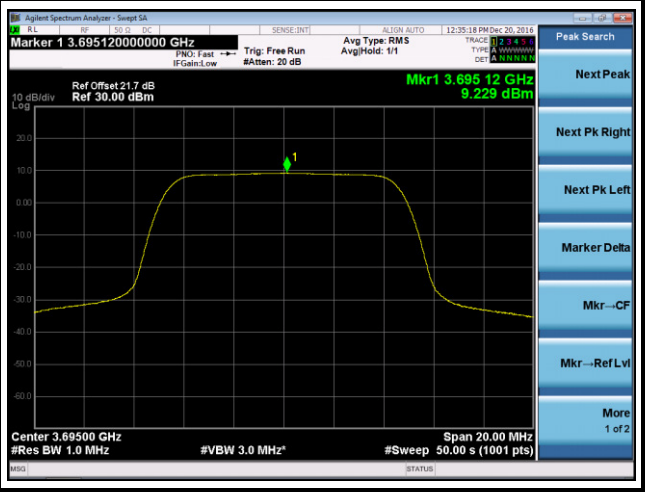


Channel Bandwidth: 10MHz- QPSK

Channel	Channel Frequency (MHz)	Conducted Power Density (dBm/MHz)	Duty Factor (dB)	Max. Ant. Gain (dBi)	EIRP Peak Density (dBm/MHz)	EIRP Peak Density (W/MHz)	LIMIT (W/MHz)
44140	3655.0	8.879	3.86	13.6	26.339	0.430	1.00
44340	3675.0	9.185	3.86	13.6	26.645	0.462	1.00
44540	3695.0	9.261	3.86	13.6	26.721	0.470	1.00

Channel Bandwidth: 10MHz- 16QAM

Channel	Channel Frequency (MHz)	Conducted Power Density (dBm/MHz)	Duty Factor (dB)	Max. Ant. Gain (dBi)	EIRP Peak Density (dBm/MHz)	EIRP Peak Density (W/MHz)	LIMIT (W/MHz)
44140	3655.0	8.869	3.86	13.6	26.329	0.429	1.00
44340	3675.0	8.893	3.86	13.6	26.353	0.432	1.00
44540	3695.0	9.229	3.86	13.6	26.689	0.467	1.00

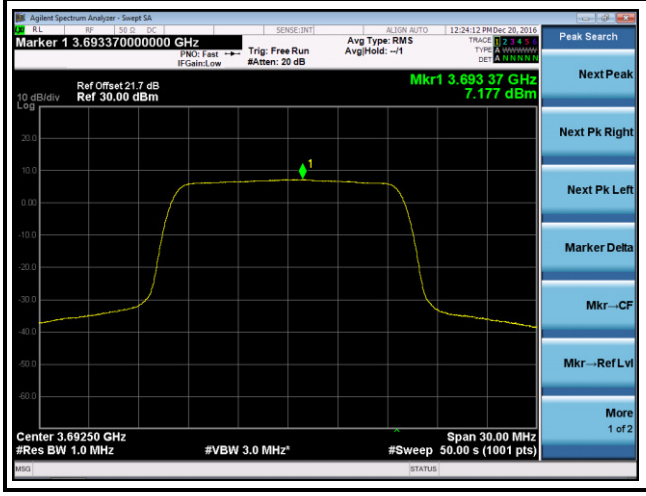
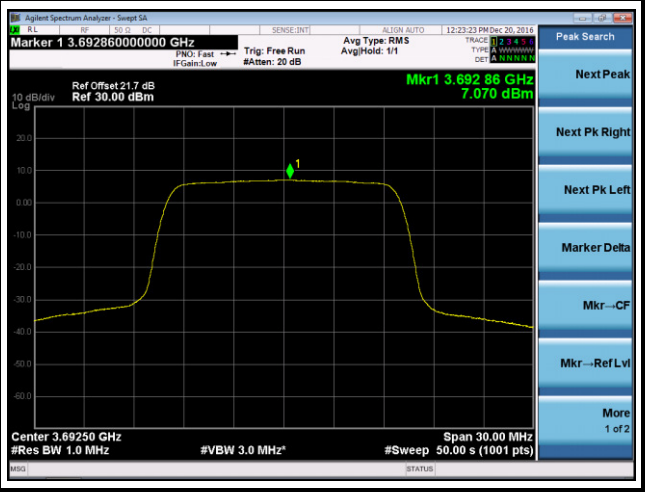
Worst Plots			
Mode	CB: 10MHz , QPSK	Mode	CB: 10MHz, 16QAM
			

Channel Bandwidth: 15MHz- QPSK

Channel	Channel Frequency (MHz)	Conducted Power Density (dBm/MHz)	Duty Factor (dB)	Max. Ant. Gain (dBi)	EIRP Peak Density (dBm/MHz)	EIRP Peak Density (W/MHz)	LIMIT (W/MHz)
44165	3657.5	7.029	3.86	13.6	24.489	0.281	1.00
44340	3675.0	7.121	3.86	13.6	24.581	0.287	1.00
44515	3692.5	7.177	3.86	13.6	24.637	0.291	1.00

Channel Bandwidth: 15MHz- 16QAM

Channel	Channel Frequency (MHz)	Conducted Power Density (dBm/MHz)	Duty Factor (dB)	Max. Ant. Gain (dBi)	EIRP Peak Density (dBm/MHz)	EIRP Peak Density (W/MHz)	LIMIT (W/MHz)
44165	3657.5	6.916	3.86	13.6	24.376	0.274	1.00
44340	3675.0	6.977	3.86	13.6	24.437	0.278	1.00
44515	3692.5	7.070	3.86	13.6	24.530	0.284	1.00

Worst Plots			
Mode	CB: 15MHz , QPSK	Mode	CB: 15MHz, 16QAM
			

Channel Bandwidth: 20MHz- QPSK

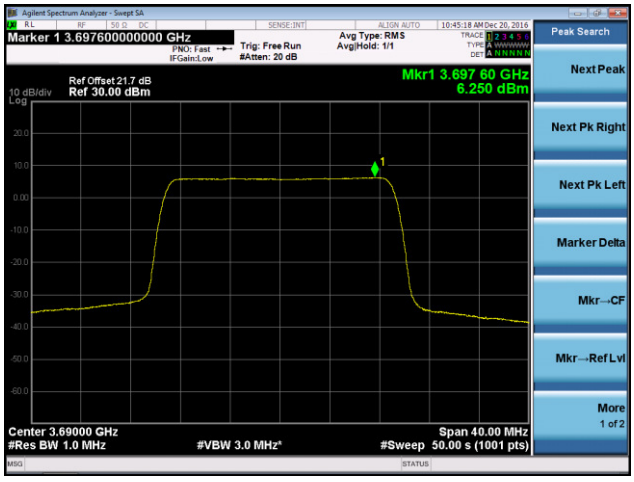
Channel	Channel Frequency (MHz)	Conducted Power Density (dBm/MHz)	Duty Factor (dB)	Max. Ant. Gain (dBi)	EIRP Peak Density (dBm/MHz)	EIRP Peak Density (W/MHz)	LIMIT (W/MHz)
44190	3660.0	6.168	3.86	13.6	23.628	0.231	1.00
44340	3675.0	6.163	3.86	13.6	23.623	0.230	1.00
44490	3690.0	6.250	3.86	13.6	23.710	0.235	1.00

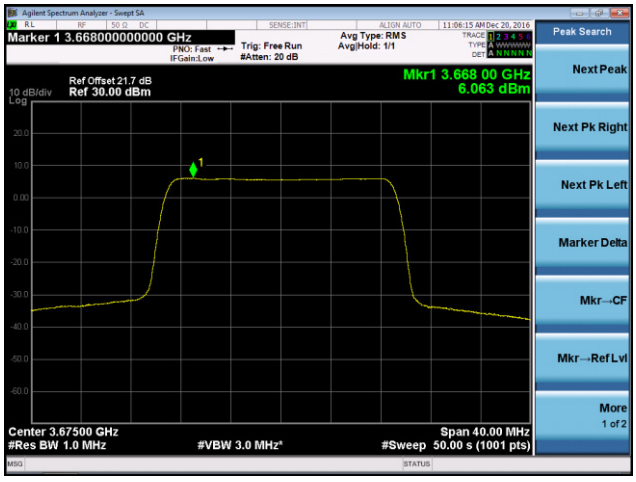
Channel Bandwidth: 20MHz- 16QAM

Channel	Channel Frequency (MHz)	Conducted Power Density (dBm/MHz)	Duty Factor (dB)	Max. Ant. Gain (dBi)	EIRP Peak Density (dBm/MHz)	EIRP Peak Density (W/MHz)	LIMIT (W/MHz)
44190	3660.0	6.040	3.86	13.6	23.500	0.224	1.00
44340	3675.0	6.063	3.86	13.6	23.523	0.225	1.00
44490	3690.0	6.030	3.86	13.6	23.490	0.223	1.00

Worst Plots

Mode	CB: 20MHz , QPSK	Mode	CB: 20MHz, 16QAM





3.2 Radiated Emissions

3.2.1 Limit of Radiated Emissions

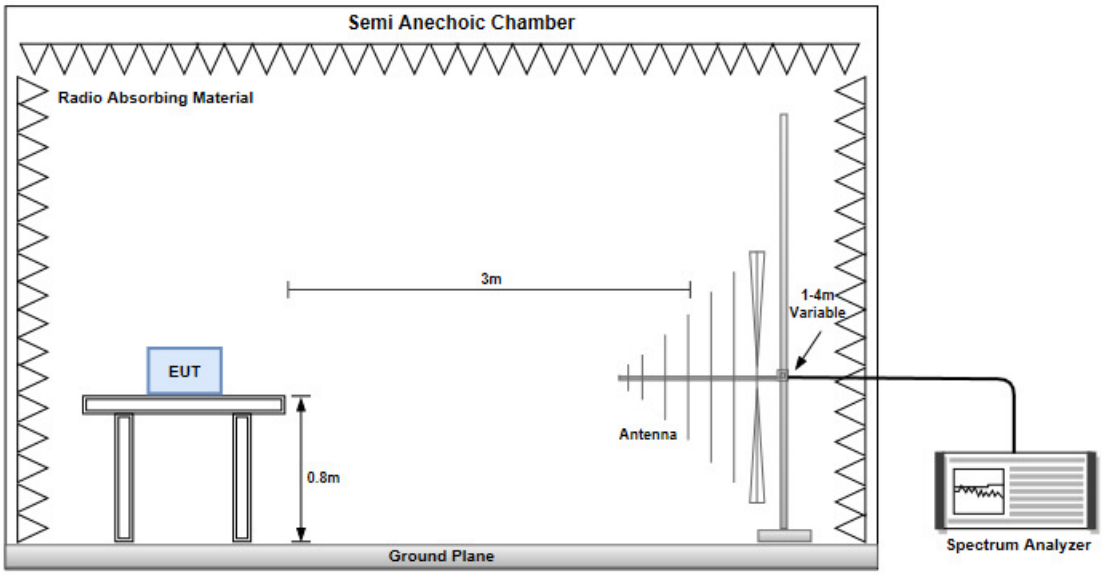
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB equal to -13dBm.

3.2.2 Test Procedures

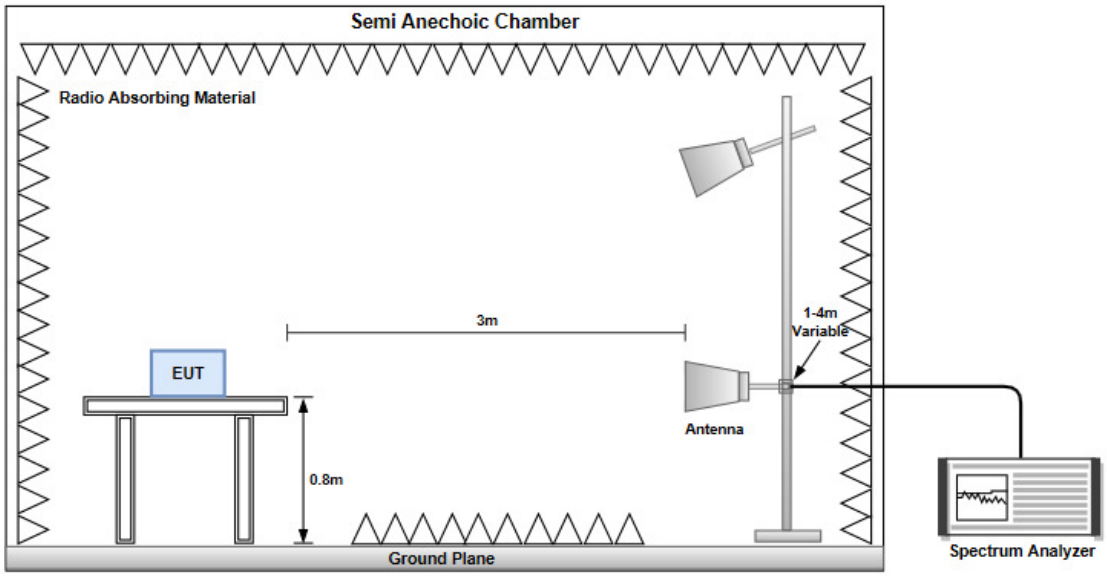
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission frequency. The EUT is placed at a height of 0.8 m test table above the ground plane.
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 and4 m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations.
4. After finding the max radiated emission, substitution method will be used for getting effective radiated power. EUT will be removed and substitution antenna will be placed at same position. Signal generator will output CW signal to substitution antenna through a RF cable. Rotate turntable and move antenna to find maximum radiated emission. Adjust output power of signal generator to let the maximum radiated emission is same as step 3. Record the output power level.
5. E.I.R.P = output power of step 4 + gain of substitution antenna – cable loss of RF cable.

3.2.3 Test Setup

Radiated Emissions below 1 GHz



Radiated Emissions above 1 GHz



3.2.4 Test Result of Radiated Emissions below 1GHz

Mode	CB:5MHz, Channel:44565						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
30.00	H	-61.95	-13.00	-48.95	-69.89	-47.75	-14.20
139.61	H	-65.91	-13.00	-52.91	-65.76	-64.56	-1.35
199.75	H	-69.09	-13.00	-56.09	-65.05	-73.39	4.30
298.69	H	-73.49	-13.00	-60.49	-72.51	-77.77	4.28
417.03	H	-68.93	-13.00	-55.93	-72.06	-73.12	4.19
728.40	H	-67.49	-13.00	-54.49	-75.63	-71.05	3.56
51.34	V	-64.67	-13.00	-51.67	-62.74	-54.31	-10.36
90.14	V	-62.24	-13.00	-49.24	-62.49	-63.02	0.78
205.57	V	-59.74	-13.00	-46.74	-61.59	-64.08	4.34
227.88	V	-61.87	-13.00	-48.87	-64.05	-66.27	4.40
261.83	V	-59.93	-13.00	-46.93	-62.31	-64.35	4.42
721.61	V	-63.56	-13.00	-50.56	-72.93	-67.15	3.59

Mode	CB:10MHz, Channel:44540						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
30.97	H	-62.16	-13.00	-49.16	-70.08	-48.19	-13.97
89.17	H	-66.83	-13.00	-53.83	-65.34	-67.36	0.53
214.30	H	-59.09	-13.00	-46.09	-55.46	-63.46	4.37
242.43	H	-61.24	-13.00	-48.24	-58.50	-65.68	4.44
309.36	H	-62.01	-13.00	-49.01	-61.63	-66.30	4.29
720.64	H	-64.37	-13.00	-51.37	-72.20	-67.97	3.60
49.40	V	-64.12	-13.00	-51.12	-62.20	-53.29	-10.83
80.44	V	-54.18	-13.00	-41.18	-53.37	-51.95	-2.23
151.25	V	-67.36	-13.00	-54.36	-69.36	-66.62	-0.74
205.57	V	-59.04	-13.00	-46.04	-60.89	-63.38	4.34
249.22	V	-50.71	-13.00	-37.71	-53.22	-55.17	4.46
721.61	V	-59.76	-13.00	-46.76	-69.13	-63.35	3.59

Mode	CB:15MHz, Channel:44515						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
39.70	H	-62.33	-13.00	-49.33	-70.09	-50.00	-12.33
89.17	H	-66.69	-13.00	-53.69	-65.20	-67.22	0.53
180.35	H	-57.20	-13.00	-44.20	-56.06	-59.54	2.34
242.43	H	-53.63	-13.00	-40.63	-50.89	-58.07	4.44
531.49	H	-65.37	-13.00	-52.37	-70.18	-69.40	4.03
718.70	H	-64.86	-13.00	-51.86	-72.61	-68.47	3.61
90.14	V	-63.76	-13.00	-50.76	-64.01	-64.54	0.78
105.66	V	-64.56	-13.00	-51.56	-65.00	-64.52	-0.04
199.75	V	-62.56	-13.00	-49.56	-64.34	-66.86	4.30
235.64	V	-51.33	-13.00	-38.33	-53.63	-55.75	4.42
455.83	V	-64.59	-13.00	-51.59	-68.54	-68.62	4.03
721.61	V	-60.66	-13.00	-47.66	-70.03	-64.25	3.59

Mode	CB:20MHz, Channel:44490						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
30.00	H	-62.00	-13.00	-49.00	-69.94	-47.80	-14.20
105.66	H	-67.49	-13.00	-54.49	-66.34	-67.45	-0.04
139.61	H	-62.21	-13.00	-49.21	-62.06	-60.86	-1.35
199.75	H	-67.75	-13.00	-54.75	-63.71	-72.05	4.30
273.47	H	-70.75	-13.00	-57.75	-68.98	-75.13	4.38
721.61	H	-60.74	-13.00	-47.74	-68.61	-64.33	3.59
51.34	V	-64.17	-13.00	-51.17	-62.24	-53.81	-10.36
83.35	V	-58.95	-13.00	-45.95	-58.23	-57.65	-1.30
148.34	V	-57.38	-13.00	-44.38	-59.20	-56.48	-0.90
199.75	V	-62.54	-13.00	-49.54	-64.32	-66.84	4.30
323.91	V	-64.77	-13.00	-51.77	-67.03	-69.08	4.31
714.82	V	-62.36	-13.00	-49.36	-71.61	-65.99	3.63

3.2.5 Test Result of Radiated Emissions above 1GHz

Mode	CB:5MHz, Channel:44115						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
7305.00	H	-44.31	-13.00	-31.31	-65.10	-47.56	3.25
10957.50	H	-41.65	-13.00	-28.65	-65.29	-42.27	0.62
14610.00	H	-41.39	-13.00	-28.39	-65.53	-41.51	0.12
7305.00	V	-44.17	-13.00	-31.17	-66.46	-47.42	3.25
10957.50	V	-42.24	-13.00	-29.24	-66.38	-42.86	0.62
14610.00	V	-38.45	-13.00	-25.45	-65.53	-38.57	0.12
Mode	CB:5MHz, Channel:44340						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
7350.00	H	-44.39	-13.00	-31.39	-65.33	-47.48	3.09
11025.00	H	-39.12	-13.00	-26.12	-62.76	-39.70	0.58
14700.00	H	-41.22	-13.00	-28.22	-65.58	-41.46	0.24
7350.00	V	-43.47	-13.00	-30.47	-65.75	-46.56	3.09
11025.00	V	-41.77	-13.00	-28.77	-66.01	-42.35	0.58
14700.00	V	-37.01	-13.00	-24.01	-64.45	-37.25	0.24
Mode	CB:5MHz, Channel:44565						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
7395.00	H	-45.18	-13.00	-32.18	-32.18	-48.11	2.93
11092.50	H	-41.90	-13.00	-28.90	-28.90	-42.53	0.63
14790.00	H	-40.61	-13.00	-27.61	-27.61	-40.97	0.36
7395.00	V	-43.27	-13.00	-30.27	-30.27	-46.20	2.93
11092.50	V	-40.56	-13.00	-27.56	-27.56	-41.19	0.63
14790.00	V	-37.54	-13.00	-24.54	-24.54	-37.90	0.36

Mode	CB:10MHz, Channel:44140						
Frequency (MHz)	**Antenna Polarity**	**E.I.R.P (dBm)**	**Limit (dBm)**	**Margin (dB)**	**S.A Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**
7310.00	H	-45.42	-13.00	-32.42	-66.23	-48.65	3.23
10965.00	H	-42.64	-13.00	-29.64	-66.27	-43.25	0.61
14620.00	H	-42.14	-13.00	-29.14	-66.30	-42.27	0.13
7310.00	V	-44.00	-13.00	-31.00	-66.30	-47.23	3.23
10965.00	V	-41.72	-13.00	-28.72	-65.86	-42.33	0.61
14620.00	V	-39.23	-13.00	-26.23	-66.35	-39.36	0.13
Mode	CB:10MHz, Channel:44340						
Frequency (MHz)	**Antenna Polarity**	**E.I.R.P (dBm)**	**Limit (dBm)**	**Margin (dB)**	**S.A Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**
7350.00	H	-44.64	-13.00	-31.64	-65.58	-47.73	3.09
11025.00	H	-42.62	-13.00	-29.62	-66.26	-43.20	0.58
14700.00	H	-40.91	-13.00	-27.91	-65.27	-41.15	0.24
7350.00	V	-43.19	-13.00	-30.19	-65.47	-46.28	3.09
11025.00	V	-42.05	-13.00	-29.05	-66.29	-42.63	0.58
14700.00	V	-38.47	-13.00	-25.47	-65.91	-38.71	0.24
Mode	CB:10MHz, Channel:44540						
Frequency (MHz)	**Antenna Polarity**	**E.I.R.P (dBm)**	**Limit (dBm)**	**Margin (dB)**	**S.A Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**
7390.00	H	-46.50	-13.00	-33.50	-67.58	-49.45	2.95
11085.00	H	-42.92	-13.00	-29.92	-66.69	-43.54	0.62
14780.00	H	-42.83	-13.00	-29.83	-67.39	-43.18	0.35
7390.00	V	-45.88	-13.00	-32.88	-68.13	-48.83	2.95
11085.00	V	-42.31	-13.00	-29.31	-66.73	-42.93	0.62
14780.00	V	-38.76	-13.00	-25.76	-66.52	-39.11	0.35

Mode	CB:15MHz, Channel:44165						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
7315.00	H	-46.07	-13.00	-33.07	-66.89	-49.28	3.21
10972.50	H	-42.63	-13.00	-29.63	-66.26	-43.23	0.60
14630.00	H	-41.63	-13.00	-28.63	-65.82	-41.78	0.15
7315.00	V	-45.30	-13.00	-32.30	-67.59	-48.51	3.21
10972.50	V	-42.68	-13.00	-29.68	-66.83	-43.28	0.60
14630.00	V	-39.22	-13.00	-26.22	-66.38	-39.37	0.15
Mode	CB:15MHz, Channel:44340						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
7350.00	H	-46.07	-13.00	-33.07	-67.01	-49.16	3.09
11025.00	H	-43.22	-13.00	-30.22	-66.86	-43.80	0.58
14700.00	H	-42.48	-13.00	-29.48	-66.84	-42.72	0.24
7350.00	V	-45.23	-13.00	-32.23	-67.51	-48.32	3.09
11025.00	V	-42.00	-13.00	-29.00	-66.24	-42.58	0.58
14700.00	V	-40.84	-13.00	-27.84	-68.28	-41.08	0.24
Mode	CB:15MHz, Channel:44515						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)
7385.00	H	-45.52	-13.00	-32.52	-66.59	-48.48	2.96
11077.50	H	-43.27	-13.00	-30.27	-67.02	-43.89	0.62
14770.00	H	-41.50	-13.00	-28.50	-66.04	-41.84	0.34
7385.00	V	-43.98	-13.00	-30.98	-66.24	-46.94	2.96
11077.50	V	-41.78	-13.00	-28.78	-66.18	-42.40	0.62
14770.00	V	-38.17	-13.00	-25.17	-65.89	-38.51	0.34

Mode	CB:20MHz, Channel:44190						
Frequency (MHz)	**Antenna Polarity**	**E.I.R.P (dBm)**	**Limit (dBm)**	**Margin (dB)**	**S.A Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**
7320.00	H	-44.43	-13.00	-31.43	-65.28	-47.62	3.19
10980.00	H	-39.86	-13.00	-26.86	-63.47	-40.45	0.59
14640.00	H	-38.65	-13.00	-25.65	-62.87	-38.81	0.16
7320.00	V	-44.22	-13.00	-31.22	-66.51	-47.41	3.19
10980.00	V	-41.07	-13.00	-28.07	-65.22	-41.66	0.59
14640.00	V	-38.83	-13.00	-25.83	-66.03	-38.99	0.16
Mode	CB:20MHz, Channel:44340						
Frequency (MHz)	**Antenna Polarity**	**E.I.R.P (dBm)**	**Limit (dBm)**	**Margin (dB)**	**S.A Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**
7350.00	H	-46.21	-13.00	-33.21	-67.15	-49.30	3.09
11025.00	H	-41.94	-13.00	-28.94	-65.58	-42.52	0.58
14700.00	H	-40.96	-13.00	-27.96	-65.32	-41.20	0.24
7350.00	V	-44.45	-13.00	-31.45	-66.73	-47.54	3.09
11025.00	V	-41.61	-13.00	-28.61	-65.85	-42.19	0.58
14700.00	V	-38.37	-13.00	-25.37	-65.81	-38.61	0.24
Mode	CB:20MHz, Channel:44490						
Frequency (MHz)	**Antenna Polarity**	**E.I.R.P (dBm)**	**Limit (dBm)**	**Margin (dB)**	**S.A Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**
7380.00	H	-44.81	-13.00	-31.81	-65.85	-47.79	2.98
11070.00	H	-42.74	-13.00	-29.74	-66.47	-43.35	0.61
14760.00	H	-40.78	-13.00	-27.78	-65.29	-41.10	0.32
7380.00	V	-45.85	-13.00	-32.85	-68.11	-48.83	2.98
11070.00	V	-41.94	-13.00	-28.94	-66.31	-42.55	0.61
14760.00	V	-39.64	-13.00	-26.64	-67.32	-39.96	0.32

3.3 Conducted Emissions

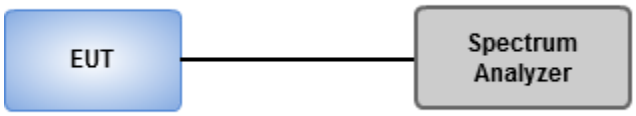
3.3.1 Limit of Conducted Emissions

The power of any emission outside of the authorized operating frequencyranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB equal to -13dBm.

3.3.2 Test Procedures

1. Lowest, middle and highest operating channels are tested for this item.
2. Scan frequency range is from 30MHz~40GHz.
3. Set RBW = 1MHz, VBW = 3MHz, detector = RMS, sweep time = auto.
4. Record the max trace value and capture the test plot of each sub frequency band.

3.3.3 Test Setup



3.3.4 Test Result of Conducted Emissions

Low Ch.	QPSK, CB: 5MHz	Low Ch.	16QAM, CB: 5MHz

Mid. Ch.	QPSK, CB: 5MHz	Mid. Ch.	16QAM, CB: 5MHz

High Ch.	QPSK, CB: 5MHz	High Ch.	16QAM, CB: 5MHz

Low Ch.	QPSK, CB: 10MHz	Low Ch.	16QAM, CB: 10MHz

Mid. Ch.	QPSK, CB: 10MHz	Mid. Ch.	16QAM, CB: 10MHz

High Ch.	QPSK, CB: 10MHz	High Ch.	16QAM, CB: 10MHz

Low Ch.	QPSK, CB: 15MHz	Low Ch.	16QAM, CB: 15MHz

Mid. Ch.	QPSK, CB: 15MHz	Mid. Ch.	16QAM, CB: 15MHz

High Ch.	QPSK, CB: 15MHz	High Ch.	16QAM, CB: 15MHz

Low Ch.	QPSK, CB: 20MHz	Low Ch.	16QAM, CB: 20MHz

Mid. Ch.	QPSK, CB: 20MHz	Mid. Ch.	16QAM, CB: 20MHz

High Ch.	QPSK, CB: 20MHz	High Ch.	16QAM, CB: 20MHz