



FCC TEST REPORT
FCC ID: 2BVQR-O-001

On Behalf of

ZHEJIANG SHENCHEN KAI DONG TECHNOLOGY CO., LTD.
AQPU PET SMART TRACKER
Model No.: O-001

Prepared for : ZHEJIANG SHENCHEN KAI DONG TECHNOLOGY CO., LTD.
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TEST REPORT DECLARATION

Applicant : ZHEJIANG SHENCHEN KAI DONG TECHNOLOGY CO., LTD.
Address : 3rd Floor, Building 1, Hangzhou Bay joint Innovation Center, West Wuxing Road,
Cao'e Street, Shangyu District, Shaoxing, Zhejiang, China
Manufacturer : ZHEJIANG SHENCHEN KAI DONG TECHNOLOGY CO., LTD.
Address : 3rd Floor, Building 1, Hangzhou Bay joint Innovation Center, West Wuxing Road,
Cao'e Street, Shangyu District, Shaoxing, Zhejiang, China
EUT Description : AQPU PET SMART TRACKER
(A) Model No. : O-001
(B) Trademark : **AQPU**

Measurement Standard Used:

FCC CFR Title 47 Part 2
FCC CFR Title 47 Part 24 Subpart E
FCC CFR Title 47 Part 27
ANSI C63.26:2015

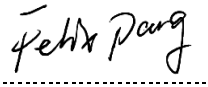
RSS-130 issue 2
RSS-133 issue 7
RSS-139 Issue 4
RSS-Gen Issue 5+Amd 1+Amd 2

Test Result: PASS

The device described above is tested by Shenzhen PSI Testing Co., Ltd. to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The test results are contained in this test report and Shenzhen PSI Testing Co., Ltd. is assumed full responsibility for the accuracy and completeness of test. Also, this report shows that the EUT is technically compliant with the above standards requirements.

After the test, our opinion is that EUT compliance with the requirement of the above standards.

This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Shenzhen PSI Testing Co., Ltd.

Tested by (name + signature).....: Felix Pang
Test Engineer 
Approved by (name + signature).....: Simple Guan
Project Manager 
Date of issue.....: June 4, 2026

Revision History

Revision	Issue Date	Revisions	Revised By
V0	June 4, 2026	Initial released Issue	Felix Pang



1 Test Summary

Test Item	Section in CFR 47	Result
RF Exposure (SAR)	Part 1.1307, Part 2.1093 RSS-102	Pass* (Please refer to RF Exposure)
Transmitter Radiated Power (EIRP/ERP)	Part 2.1046, Part 24.232(c) Part 27.50(d)(4), Part 27.50(h)/(c) RSS-130(4.6), RSS-133(5.5), RSS-139(5.5), RSS-Gen Issue 5 §6.12, ANSI C63.26	Pass
Peak-To-Average Ratio	Part 2.1046, Part 24.232 (d) Part 27.50(d), Part 27.50 (c) RSS-130 (4.6.1), RSS-133 (5.5) RSS-139(5.5), ANSI C63.26	Pass
Modulation Characteristics	Part 2.1047 RSS-130 (4.2), RSS-133 (5.3), RSS-139(5.3), RSS-Gen Issue 5 §6.7, ANSI C63.26	N/A
99% & -26 dB Occupied Bandwidth	Part 2.1049, Part 24.238 Part 27.53(a) RSS-Gen Issue 5 §6.7, ANSI C63.26	Pass
Spurious Emissions at Antenna Terminal	Part 2.1051, Part 24.238 (a) Part 27.53 (h)/(m)/(g) RSS-130 (4.7), RSS-133 (5.6), RSS-139(5.6) RSS-Gen Issue 5 §6.12, ANSI C63.26	Pass
Field Strength of Spurious Radiation	Part 2.1053, Part 24.238 (a) Part 27.53 (h)/(m)/(g) RSS-130 (4.7), RSS-133 (5.6), RSS-139(5.6) RSS-Gen Issue 5 §6.12, ANSI C63.26	Pass
Frequency stability	Part 2.1055(a)(1)(b), Part 2.1055(d)(1)(2), Part 27.54 RSS-130 (4.5), RSS-133 (5.4), RSS-139(5.4) RSS-Gen Issue 5 §6.11, ANSI C63.26	Pass

Note: 1. Pass: The EUT complies with the essential requirements in the standard.

2. The conclusion of this test report is judged by actual test data without considering measurement uncertainty.

3. N/A indicates not applicable.

2 General Information

2.1 General Description of EUT

Description of Device (EUT)

Description : AQPU PET SMART TRACKER
Model Number : O-001
Diff : N/A
Test Voltage : DC 5V from adapter, DC 3.7V from battery.

Support Networks : LTE

Support Bands : CAT-M: Band 2/4/5/12/66

CAT-M Band 2: 1.4/3/5/10/15/20MHz

CAT-M Band 4: 1.4/3/5/10/15/20MHz

Channel Bandwidth : CAT-M Band 5: 1.4/3/5/10MHz

CAT-M Band 12: 1.4/3/5/10MHz

CAT-M Band 66: 1.4/3/5/10/15/20MHz

CAT-M Band 2: 1850.7~1909.3MHz

CAT-M Band 4: 1710.7~1754.3MHz

TX Frequency : CAT-M Band 5: 824.7~848.3MHz

CAT-M Band 12: 699.7~715.3MHz

CAT-M Band 66: 1710.7~1779.3 MHz

Modulation type : QPSK, 16QAM

Antenna type : Internal antenna

Maximum Gain is -1.08dBi for CAT-M Band 2

Maximum Gain is -2.27dBi for CAT-M Band 4

Antenna Type : Maximum Gain is -5.17dBi for CAT-M Band 5

Maximum Gain is -4.73dBi for CAT-M Band 12

Maximum Gain is -1.82dBi for CAT-M Band 66

Software version : N/A

Hardware version : N/A

Note : Antenna information is provided by applicant.

Testing lab is not responsible for the accuracy of the information.

Final test channel:

Operation bands	Channel Bandwidth (MHz)	Frequencies under Test					
		Channel Low	CH Fre (MHz)	Channel Mid	CH Fre (MHz)	Channel High	CH Fre (MHz)
Band 2	1.4	18607	1850.7	18900	1880	19193	1909.3
	3	18615	1851.5	18900	1880	19185	1908.5
	5	18625	1852.5	18900	1880	19175	1907.5
	10	18650	1855	18900	1880	19150	1905
	15	18675	1857.5	18900	1880	19125	1902.5
	20	18700	1860	18900	1880	19100	1900
Band 4	1.4	19957	1710.7	20175	1732.5	20393	1754.3
	3	19965	1711.5	20175	1732.5	20385	1753.5
	5	19975	1712.5	20175	1732.5	20375	1752.5
	10	20000	1715	20175	1732.5	20350	1750
	15	20025	1717.5	20175	1732.5	20325	1747.5
	20	20050	1720	20175	1732.5	20300	1745
Band 5	1.4	20407	824.7	20525	836.5	20643	848.3
	3	20415	825.5	20525	836.5	20635	847.5
	5	20425	826.5	20525	836.5	20625	846.5
	10	20450	829.0	20525	836.5	20600	844.0
Band 12	1.4	23017	699.7	23095	707.5	23173	715.3
	3	23025	700.5	23095	707.5	23165	714.5
	5	23035	701.5	23095	707.5	23155	713.5
	10	23060	704	23095	707.5	23130	711
Band 66	1.4	131979	1710.7	132322	1745.0	132665	1779.3
	3	131987	1711.5	132322	1745.0	132657	1778.5
	5	131997	1712.5	132322	1745.0	132647	1777.5
	10	132022	1715.0	132322	1745.0	132622	1775.0
	15	132047	1717.5	132322	1745.0	132597	1772.5
	20	132072	1720.0	132322	1745.0	132572	1770.0

2.2 Related Submittal(s)/Grant (s)

This submittal(s) (test report) is filing to comply with Section Part 27 and Part 24 subpart E of the FCC CFR 47 Rules and RSS-130, RSS-133and RSS-139 Rules.

2.3 Test Methodology

Both conducted and radiated testing were performed according to the procedures document on TIA/EIA 603 and FCC CFR 47.1046, 2.1047, 2.1049, 2.1051, 2.1053, 2.1055 and 2.1057, ANSI C63.26:2015

2.4 Test Facility

Shenzhen PSI Testing Co., Ltd.

1-2/F., Building 5, Yudafu Industrial Park, No.10, Xingye West Road, Shajing Subdistrict, Bao'an District, Shenzhen, Guangdong, China

September 13, 2023 File on Federal Communication Commission

Registration Number: 916281

Designation Number: CN1362

September 21, 2023 Certificated by IC

Registration Number: 31123

CAB identifier: CN0158

2.5 Accessories of Device (EUT)

Accessories : USB Cable

Manufacturer : N/A

Model : N/A

Ratings : N/A

2.6 Tested Supporting System Details

No.	Description	Manufacturer	Model	Serial Number	Certification
1	Adapter	Baseus	CCXFK65CC	N/A	1
2	Notebook PC	Dell	Latitude 3490	N/A	2

2.7 Test Conditions

Items	Required
Temperature range:	15-35℃
Humidity range:	25-75%
Pressure range:	86-106kPa

2.8 Measurement Uncertainty

(95% confidence levels, k=2)

Item	Uncertainty
Power Line Conducted Emissions Test	2.13dB
Radiation Emission test in 3m chamber(Below 30MHz)	4.07dB
Radiation Emission test in 3m chamber(30MHz to 1GHz)	4.51dB
Radiation Emission test in 3m chamber(1GHz to 18GHz)	5.07dB
Radiation Emission test in 3m chamber(18GHz to 40GHz)	5.21dB
Radio Frequency	48.24KHz
Conducted RF Power	0.41dB
Power Spectral Density	0.39 dB
Occupied-Bandwidth	968Hz
Duty Cycle	1%
Conducted-Spurious Emission	1.26dB

3 Test Instruments list

Item	Equipment	Manufacturer	Model No.	Serial No.	Firmware Version	Last Cal.	Cal. Interval
1.	9*6*6 anechoic chamber	SKET	9*6*6	N/A	/	2025.12.18	3 Year
2.	Test Receiver	Rohde&Schwarz	ESCI 7	101032/003	4.42 SP3	2025.12.18	1 Year
3.	L.I.S.N.#1	Rohde&Schwarz	ENV 216	102282	/	2025.12.18	1 Year
4.	L.I.S.N.#2	EMCO	3810-2	00094944	/	2025.12.18	1 Year
5.	Loop Antenna	Schwarz beck	FMZB 1519B	00128	/	2025.01.02	2 Year
6.	Bilog Antenna	Schwarz beck	VULB 9168	01448	/	2025.01.02	2 Year
7.	Spectrum Analyzer	Rohde&Schwarz	FSV40-N	101648	3.70	2025.12.18	1 Year
8.	Horn Antenna	Schwarz beck	BBHA 9120 D	02706	/	2025.01.02	2 Year
9.	Amplifier	SKET	LNPA_0118 G-50	SK20220329 01	/	2025.12.18	1 Year
10.	Horn Antenna	Schwarz beck	BBHA 9170	00946	/	2024.12.31	2 Year
11.	Amplifier	SKET	LNPA_1840 G-50	SK20190403 02	/	2025.12.18	1 Year
12.	RF Power Probe	Rohde&Schwarz	NRP-Z11	1138.3004.02 -1111533-Fz	/	2025.12.18	1 Year
13.	RF Sensor Unit	Tachoy	TR1029-2	20220428P0 08	/	2025.12.18	1 Year
14.	Spectrum Analyzer	Agilent	N9020A	MY51281067	A.14.03	2025.12.18	1 Year
15.	Temp. & Humid Chamber	Auchno	9606	/	/	2025.12.18	1 Year
16.	Regulated DC Power Supply	Xinouhua	ADC120V10 A	20221125163 8	/	2025.12.18	1 Year
17.	Cable	SKET	Cable-RE-1	#02/#03	/	2025.12.18	1 Year
18.	Cable	SKET	Cable-RE-2	#01	/	2025.12.18	1 Year
19.	Cable	SKET	Cable-RE-3	#04	/	2025.12.18	1 Year
20.	Cable	SKET	Cable-CE-1	A-E-24	/	2025.12.18	1 Year
21.	6dB Attenuator	Schwarzbeck	DGA 9552N 6dB	CK4186	/	2025.12.18	1 Year
22.	Power meter	Agilent	E4419B	GB40202121	/	2025.12.18	1 Year
23.	Comprehensive Test Instrument	Rohde&Schwarz	CMW 500	145266	/	2025.12.18	1 Year

For Test Software Information

Item	Software Name	Manufacturer	Version
RE	EZ EMC	Farad	PSI-3A1
CE	EZ EMC	Farad	PSI-3A1
RF	RTS	TACHOY	V1.0.0

4 System test configuration

4.1 Test mode

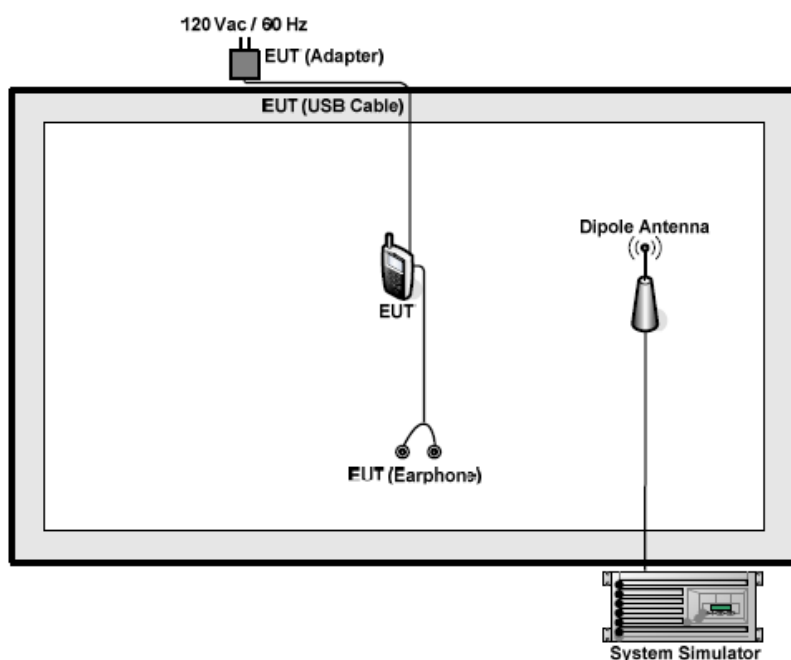
During all testing, EUT is in link mode with base station emulator at maximum power level. The spurious emission measurements were carried out in semi-anechoic chamber with 3-meter test range, and EUT is rotated on three test planes to find out the worst emission.

Test modes		
Band	Radiated	Conducted
CAT-M Band 2	■ QPSK link, 16QAM link	■ QPSK link, 16QAM link
CAT-M Band 4	■ QPSK link, 16QAM link	■ QPSK link, 16QAM link
CAT-M Band 5	■ QPSK link, 16QAM link	■ QPSK link, 16QAM link
CAT-M Band 12	■ QPSK link, 16QAM link	■ QPSK link, 16QAM link
CAT-M Band 66	■ QPSK link, 16QAM link	■ QPSK link, 16QAM link

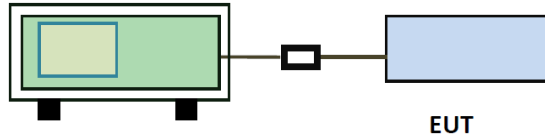
Note: Antenna port conducted and radiated test items were performed according to KDB 971168 D01 Power Meas License Digital Systems v03r1 with maximum output power.

Radiated measurements were performed with rotating EUT in different three orthogonal test planes to find the maximum emission.

4.2 Configuration of Tested System



4.3 Transmitter Radiated Power (EIRP/ERP)

Test Requirement:	FCC part24.232(b) and FCC Part 27.50 (d)(4)/(h)/(c) RSS-130 (4.6), RSS-133 (5.5), RSS-139(5.5)
Test Method:	ANSI C63.26:2015
Limit:	CAT-M Band 2: 2W(33.01dBm) CAT-M Band 4: 1W(30.00dBm) CAT-M Band 5: 7W(38.45dBm) CAT-M Band 12: 3W(34.77dBm) CAT-M Band 66: 1W(30.00dBm)
Test setup:	 Communication tester EUT
Test Procedure:	Description of the Conducted Output Power Measurement The EUT is coupled to the SS with attenuator through power splitter; the RF load attached to EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. A system simulator is used to establish communication with the EUT, and its parameters are set to force the EUT transmitting at maximum output power. The measured power in the radio frequency on the transmitter output terminals shall be reported. The relevant equation for determining the conducted measured value is: Conducted Output Power Value (dBm) = Measured Value (dBm) + Path Loss (dB) where: Conducted Output Power Value = final conducted measured value in the conducted power test, in dBm; Measured Value = measured conducted power received by spectrum analyzer or power meter, in dBm; Path Loss = signal attenuation in the connecting cable between the transmitter and spectrum analyzer or power meter, including external cable loss, in dB; During the test, the data of Path Loss (dB) is added in the spectrum analyzer or power meter, so Measured Value (dBm) is the final values which contains the data of Path Loss (dB). For example: In the conducted output power test, when measured value for GSM850 is 24.7 dBm, and path loss is 8.5 dB, then final conducted output power value is: Conducted Output Power Value (dBm) = 24.7 dBm + 8.5 dB = 33.2 dBm Description of the Transmitter Radiated Power Measurement In many cases, the RF output power limits for licensed digital transmission devices is specified in terms of effective radiated power (ERP) or equivalent isotropic radiated power (EIRP). Typically, ERP is specified when the operating frequency is less than or equal to 1 GHz and

	EIRP is specified when the operating frequency is greater than 1 GHz. Both are determined by adding the transmit antenna gain to the conducted RF output power with the primary difference between the two being that when determining the ERP, the transmit antenna gain is referenced to a dipole antenna (i.e., dBd) whereas when determining the EIRP, the transmit antenna gain is referenced to an isotropic antenna (dBi). Final measurement calculation as below: The relevant equation for determining the ERP or EIRP from the conducted RF output power measured using the guidance provided above is: $\text{ERP/EIRP} = \text{PMeas} + \text{GT} - \text{LC}$ where: ERP/EIRP = effective or equivalent radiated power, respectively (expressed in the same units as PMeas, typically dBW or dBm); PMeas = measured transmitter output power or PSD, in dBm or dBW; GT = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP); dBd (ERP)=dBi (EIRP) -2.15 dB LC = signal attenuation in the connecting cable between the transmitter and antenna, in dB. For devices utilizing multiple antennas, KDB 662911 provides guidance for determining the effective array transmit antenna gain term to be used in the above equation. For example: In the EIRP test, when PMeas value for GSM1900 is 30.2 dBm, LC is 0.6 dB, and GT is -3.4 dB, then final EIRP value is: $\text{EIRP for GSM1900} = 30.2 \text{ dBm} - 3.4 \text{ dBi} - 0.6 \text{ dB} = 26.2 \text{ dBm}$ The relevant equation for determining the ERP/EIRP from the radiated RF output power is: $\text{ERP/EIRP (dBm)} = \text{SA Read Value (dBm)} + \text{Correction Factor (dB)}$ where: ERP/EIRP = effective or equivalent radiated power, in dBm; SA Read Value = measured transmitter power received by EMI receiver or spectrum analyzer, in dBm; Correction Factor = total correction factor including cable loss, in dB; During the test, the data of Correction Factor (dB) is added in the EMI receiver or spectrum analyzer, so SA Read Value (dBm) is the final values which contains the data of Correction Factor (dB). For example: In the ERP test, when SA read value for GSM850 is 21dBm, and correction factor is 8dB, then final ERP value for GSM850 is: $\text{ERP (dBm)} = 21\text{dBm} + 8\text{dB} = 29\text{dBm}$
Test Instruments:	Refer to section 3 for details
Test mode:	Refer to section 4.1 for details
Test results:	Pass

Band	BW [MHz]	Modulation	Channel	RB Size	RB Start	NBIndex	Result (dBm)	EIRP (dBm)(watts)	Limit (watts)	Verdict	
B2	1.4	QPSK	Low	1	0	Low	23.29	22.21	0.166	2	Pass
B2	1.4		Low	6	0	Low	21.72	20.64	0.116	2	Pass
B2	3		Low	1	0	Low	23.86	22.78	0.190	2	Pass
B2	3		Low	6	0	Low	21.03	19.95	0.099	2	Pass
B2	5		Low	1	0	Low	22.81	21.73	0.149	2	Pass
B2	5		Low	6	0	Low	22.13	21.05	0.127	2	Pass
B2	10		Low	1	0	Low	22.91	21.83	0.152	2	Pass
B2	10		Low	6	0	Low	22.06	20.98	0.125	2	Pass
B2	15		Low	1	0	Low	23.38	22.30	0.170	2	Pass
B2	15		Low	6	0	Low	22.12	21.04	0.127	2	Pass
B2	20		Low	1	0	Low	22.09	21.01	0.126	2	Pass
B2	20		Low	6	0	Low	21.15	20.07	0.102	2	Pass
B2	1.4	16-QAM	Low	1	0	Low	23.79	22.71	0.187	2	Pass
B2	1.4		Low	5	0	Low	21.56	20.48	0.112	2	Pass
B2	3		Low	1	0	Low	23.71	22.63	0.183	2	Pass
B2	3		Low	5	0	Low	22.16	21.08	0.128	2	Pass
B2	5		Low	1	0	Low	23.75	22.67	0.185	2	Pass
B2	5		Low	5	0	Low	20.94	19.86	0.097	2	Pass
B2	10		Low	1	0	Low	23.70	22.62	0.183	2	Pass
B2	10		Low	5	0	Low	21.80	20.72	0.118	2	Pass
B2	15		Low	1	0	Low	23.18	22.10	0.162	2	Pass
B2	15		Low	5	0	Low	23.22	22.14	0.164	2	Pass
B2	20		Low	1	0	Low	22.79	21.71	0.148	2	Pass
B2	20		Low	5	0	Low	22.11	21.03	0.127	2	Pass
B2	1.4	QPSK	Middle	1	0	Low	22.96	21.88	0.154	2	Pass
B2	1.4		Middle	6	0	Low	20.82	19.74	0.094	2	Pass
B2	3		Middle	1	0	Low	22.19	21.11	0.129	2	Pass
B2	3		Middle	6	0	Low	22.13	21.05	0.127	2	Pass
B2	5		Middle	1	0	Low	23.85	22.77	0.189	2	Pass
B2	5		Middle	6	0	Low	21.27	20.19	0.104	2	Pass
B2	10		Middle	1	0	Low	23.58	22.50	0.178	2	Pass
B2	10		Middle	6	0	Low	22.67	21.59	0.144	2	Pass
B2	15		Middle	1	0	Low	23.15	22.07	0.161	2	Pass
B2	15		Middle	6	0	Low	21.03	19.95	0.099	2	Pass
B2	20		Middle	1	0	Low	24.13	23.05	0.202	2	Pass
B2	20		Middle	6	0	Low	21.65	20.57	0.114	2	Pass
B2	1.4	16-QAM	Middle	1	0	Low	22.60	21.52	0.142	2	Pass
B2	1.4		Middle	5	0	Low	22.58	21.50	0.141	2	Pass
B2	3		Middle	1	0	Low	23.40	22.32	0.171	2	Pass
B2	3		Middle	5	0	Low	21.66	20.58	0.114	2	Pass
B2	5		Middle	1	0	Low	23.03	21.95	0.157	2	Pass
B2	5		Middle	5	0	Low	21.65	20.57	0.114	2	Pass
B2	10		Middle	1	0	Low	21.45	20.37	0.109	2	Pass
B2	10		Middle	5	0	Low	22.40	21.32	0.136	2	Pass
B2	15		Middle	1	0	Low	22.85	21.77	0.150	2	Pass
B2	15		Middle	5	0	Low	22.40	21.32	0.136	2	Pass
B2	20		Middle	1	0	Low	24.05	22.97	0.198	2	Pass
B2	20		Middle	5	0	Low	22.07	20.99	0.126	2	Pass
B2	1.4	QPSK	High	1	5	High	23.68	22.60	0.182	2	Pass
B2	1.4		High	6	0	High	21.67	20.59	0.115	2	Pass
B2	3		High	1	5	High	23.58	22.50	0.178	2	Pass
B2	3		High	6	0	High	21.55	20.47	0.111	2	Pass
B2	5		High	1	5	High	23.06	21.98	0.158	2	Pass
B2	5		High	3	3	High	22.45	21.37	0.137	2	Pass
B2	10		High	1	5	High	23.15	22.07	0.161	2	Pass
B2	10		High	6	0	High	22.62	21.54	0.143	2	Pass
B2	15		High	1	5	High	23.01	21.93	0.156	2	Pass
B2	15		High	6	0	High	21.01	19.93	0.098	2	Pass
B2	20		High	1	5	High	23.06	21.98	0.158	2	Pass
B2	20		High	6	0	High	21.20	20.12	0.103	2	Pass
B2	1.4	16-QAM	High	1	5	High	23.90	22.82	0.191	2	Pass
B2	1.4		High	5	1	High	21.82	20.74	0.119	2	Pass
B2	3		High	1	5	High	23.39	22.31	0.170	2	Pass
B2	3		High	5	1	High	21.67	20.59	0.115	2	Pass
B2	5		High	1	5	High	23.71	22.63	0.183	2	Pass
B2	5		High	3	3	High	21.48	20.40	0.110	2	Pass

B2	10		High	1	5	High	24.01	22.93	0.196	2	Pass
B2	10		High	5	1	High	21.50	20.42	0.110	2	Pass
B2	15		High	1	5	High	23.04	21.96	0.157	2	Pass
B2	15		High	5	1	High	23.39	22.31	0.170	2	Pass
B2	20		High	1	5	High	24.32	23.24	0.211	2	Pass
B2	20		High	5	1	High	22.07	20.99	0.126	2	Pass

Note: Maximum Gain is -1.08dBi for CAT-M Band 2



Band	BW [MHz]	Modulation	Channel	RB Size	RB Start	NBIndex	Result (dBm)	EIRP (dBm)/(watts)		Limit (watts)	Verdict
B4	1.4	QPSK	Low	1	0	Low	23.84	21.57	0.144	1	Pass
B4	1.4		Low	6	0	Low	22.27	20.00	0.100	1	Pass
B4	3		Low	1	0	Low	23.42	21.15	0.130	1	Pass
B4	3		Low	6	0	Low	24.38	22.11	0.163	1	Pass
B4	5		Low	1	0	Low	23.10	20.83	0.121	1	Pass
B4	5		Low	6	0	Low	22.59	20.32	0.108	1	Pass
B4	10		Low	1	0	Low	23.26	20.99	0.126	1	Pass
B4	10		Low	6	0	Low	22.73	20.46	0.111	1	Pass
B4	15		Low	1	0	Low	22.98	20.71	0.118	1	Pass
B4	15		Low	6	0	Low	24.25	21.98	0.158	1	Pass
B4	20		Low	1	0	Low	24.62	22.35	0.172	1	Pass
B4	20		Low	6	0	Low	23.12	20.85	0.122	1	Pass
B4	1.4	16-QAM	Low	1	0	Low	23.51	21.24	0.133	1	Pass
B4	1.4		Low	5	0	Low	23.42	21.15	0.130	1	Pass
B4	3		Low	1	0	Low	23.02	20.75	0.119	1	Pass
B4	3		Low	5	0	Low	22.42	20.15	0.104	1	Pass
B4	5		Low	1	0	Low	23.42	21.15	0.130	1	Pass
B4	5		Low	5	0	Low	21.58	19.31	0.085	1	Pass
B4	10		Low	1	0	Low	23.72	21.45	0.140	1	Pass
B4	10		Low	5	0	Low	22.36	20.09	0.102	1	Pass
B4	15		Low	1	0	Low	23.09	20.82	0.121	1	Pass
B4	15		Low	5	0	Low	23.74	21.47	0.140	1	Pass
B4	20		Low	1	0	Low	22.80	20.53	0.113	1	Pass
B4	20		Low	5	0	Low	22.47	20.20	0.105	1	Pass
B4	1.4	QPSK	Middle	1	0	Low	22.79	20.52	0.113	1	Pass
B4	1.4		Middle	6	0	Low	23.34	21.07	0.128	1	Pass
B4	3		Middle	1	0	Low	24.34	22.07	0.161	1	Pass
B4	3		Middle	6	0	Low	22.09	19.82	0.096	1	Pass
B4	5		Middle	1	0	Low	23.64	21.37	0.137	1	Pass
B4	5		Middle	6	0	Low	21.61	19.34	0.086	1	Pass
B4	10		Middle	1	0	Low	23.39	21.12	0.129	1	Pass
B4	10		Middle	6	0	Low	22.54	20.27	0.106	1	Pass
B4	15		Middle	1	0	Low	23.40	21.13	0.130	1	Pass
B4	15		Middle	6	0	Low	20.98	18.71	0.074	1	Pass
B4	20		Middle	1	0	Low	23.88	21.61	0.145	1	Pass
B4	20		Middle	6	0	Low	21.53	19.26	0.084	1	Pass
B4	1.4	16-QAM	Middle	1	0	Low	22.95	20.68	0.117	1	Pass
B4	1.4		Middle	5	0	Low	22.65	20.38	0.109	1	Pass
B4	3		Middle	1	0	Low	22.89	20.62	0.115	1	Pass
B4	3		Middle	5	0	Low	22.13	19.86	0.097	1	Pass
B4	5		Middle	1	0	Low	22.98	20.71	0.118	1	Pass
B4	5		Middle	5	0	Low	23.75	21.48	0.141	1	Pass
B4	10		Middle	1	0	Low	21.94	19.67	0.093	1	Pass
B4	10		Middle	5	0	Low	22.84	20.57	0.114	1	Pass
B4	15		Middle	1	0	Low	23.57	21.30	0.135	1	Pass
B4	15		Middle	5	0	Low	23.68	21.41	0.138	1	Pass
B4	20		Middle	1	0	Low	23.96	21.69	0.148	1	Pass
B4	20		Middle	5	0	Low	24.85	22.58	0.181	1	Pass
B4	1.4	QPSK	High	1	5	High	23.28	21.01	0.126	1	Pass
B4	1.4		High	6	0	High	23.49	21.22	0.132	1	Pass
B4	3		High	1	5	High	23.68	21.41	0.138	1	Pass
B4	3		High	6	0	High	21.72	19.45	0.088	1	Pass
B4	5		High	1	5	High	23.15	20.88	0.122	1	Pass
B4	5		High	3	3	High	22.73	20.46	0.111	1	Pass
B4	10		High	1	5	High	22.69	20.42	0.110	1	Pass
B4	10		High	6	0	High	22.47	20.20	0.105	1	Pass
B4	15		High	1	5	High	22.45	20.18	0.104	1	Pass
B4	15		High	6	0	High	21.23	18.96	0.079	1	Pass
B4	20		High	1	5	High	23.75	21.48	0.141	1	Pass
B4	20		High	6	0	High	21.07	18.80	0.076	1	Pass
B4	1.4	16-QAM	High	1	5	High	23.74	21.47	0.140	1	Pass
B4	1.4		High	5	1	High	21.76	19.49	0.089	1	Pass
B4	3		High	1	5	High	23.15	20.88	0.122	1	Pass
B4	3		High	5	1	High	22.30	20.03	0.101	1	Pass
B4	5		High	1	5	High	23.69	21.42	0.139	1	Pass
B4	5		High	3	3	High	21.11	18.84	0.077	1	Pass
B4	10		High	1	5	High	23.95	21.68	0.147	1	Pass

B4	10		High	5	1	High	23.17	20.90	0.123	1	Pass
B4	15		High	1	5	High	23.12	20.85	0.122	1	Pass
B4	15		High	5	1	High	22.34	20.07	0.102	1	Pass
B4	20		High	1	5	High	23.99	21.72	0.149	1	Pass
B4	20		High	5	1	High	23.80	21.53	0.142	1	Pass

Note: Maximum Gain is -2.27dBi for CAT-M Band 4.



Band	BW [MHz]	Modulation	Channel	RB Size	RB Start	NBIndex	Result (dBm)	ERP (dBm) (watts)	Limit (watts)	Verdict
B5	1.4	QPSK	Low	1	0	Low	25.62	18.30 0.068	7	Pass
B5	1.4		Low	6	0	Low	23.62	16.30 0.043	7	Pass
B5	3		Low	1	0	Low	25.59	18.27 0.067	7	Pass
B5	3		Low	6	0	Low	23.64	16.32 0.043	7	Pass
B5	5		Low	1	0	Low	25.19	17.87 0.061	7	Pass
B5	5		Low	6	0	Low	24.56	17.24 0.053	7	Pass
B5	10		Low	1	0	Low	25.20	17.88 0.061	7	Pass
B5	10		Low	6	0	Low	23.70	16.38 0.043	7	Pass
B5	1.4	16-QAM	Low	1	0	Low	24.87	17.55 0.057	7	Pass
B5	1.4		Low	5	0	Low	23.80	16.48 0.044	7	Pass
B5	3		Low	1	0	Low	23.71	16.39 0.044	7	Pass
B5	3		Low	5	0	Low	24.12	16.80 0.048	7	Pass
B5	5		Low	1	0	Low	25.51	18.19 0.066	7	Pass
B5	5		Low	5	0	Low	23.55	16.23 0.042	7	Pass
B5	10		Low	1	0	Low	25.54	18.22 0.066	7	Pass
B5	10		Low	5	0	Low	24.57	17.25 0.053	7	Pass
B5	1.4	QPSK	Middle	1	0	Low	25.65	18.33 0.068	7	Pass
B5	1.4		Middle	6	0	Low	23.33	16.01 0.040	7	Pass
B5	3		Middle	1	0	Low	25.55	18.23 0.067	7	Pass
B5	3		Middle	6	0	Low	23.46	16.14 0.041	7	Pass
B5	5		Middle	1	0	Low	25.14	17.82 0.061	7	Pass
B5	5		Middle	6	0	Low	24.50	17.18 0.052	7	Pass
B5	10		Middle	1	0	Low	25.87	18.55 0.072	7	Pass
B5	10		Middle	6	0	Low	24.33	17.01 0.050	7	Pass
B5	1.4	16-QAM	Middle	1	0	Low	25.30	17.98 0.063	7	Pass
B5	1.4		Middle	5	0	Low	23.28	15.96 0.039	7	Pass
B5	3		Middle	1	0	Low	24.14	16.82 0.048	7	Pass
B5	3		Middle	5	0	Low	23.96	16.64 0.046	7	Pass
B5	5		Middle	1	0	Low	25.62	18.30 0.068	7	Pass
B5	5		Middle	5	0	Low	23.18	15.86 0.039	7	Pass
B5	10		Middle	1	0	Low	25.83	18.51 0.071	7	Pass
B5	10		Middle	5	0	Low	24.29	16.97 0.050	7	Pass
B5	1.4	QPSK	High	1	5	High	25.66	18.34 0.068	7	Pass
B5	1.4		High	6	0	High	23.14	15.82 0.038	7	Pass
B5	3		High	1	5	High	25.83	18.51 0.071	7	Pass
B5	3		High	6	0	High	23.49	16.17 0.041	7	Pass
B5	5		High	1	5	High	24.82	17.50 0.056	7	Pass
B5	5		High	3	3	High	24.70	17.38 0.055	7	Pass
B5	10		High	1	5	High	26.15	18.83 0.076	7	Pass
B5	10		High	6	0	High	23.92	16.60 0.046	7	Pass
B5	1.4	16-QAM	High	1	5	High	24.87	17.55 0.057	7	Pass
B5	1.4		High	5	1	High	23.47	16.15 0.041	7	Pass
B5	3		High	1	5	High	23.80	16.48 0.044	7	Pass
B5	3		High	5	1	High	23.96	16.64 0.046	7	Pass
B5	5		High	1	5	High	25.64	18.32 0.068	7	Pass
B5	5		High	3	3	High	23.71	16.39 0.044	7	Pass
B5	10		High	1	5	High	26.86	19.54 0.090	7	Pass
B5	10		High	5	1	High	24.68	17.36 0.054	7	Pass

Note: Maximum Gain is -5.17dBi for CAT-M Band 5.

Band	BW [MHz]	Modulation	Channel	RB Size	RB Start	NBIndex	Result (dBm)	ERP (dBm) (watts)	Limit (watts)	Verdict
B12	1.4	QPSK	Low	1	0	Low	23.43	16.55 0.045	2	Pass
B12	1.4		Low	6	0	Low	24.51	17.63 0.058	2	Pass
B12	3		Low	1	0	Low	23.74	16.86 0.049	2	Pass
B12	3		Low	6	0	Low	22.46	15.58 0.036	2	Pass
B12	5		Low	1	0	Low	23.31	16.43 0.044	2	Pass
B12	5		Low	6	0	Low	22.60	15.72 0.037	2	Pass
B12	10		Low	1	0	Low	23.03	16.15 0.041	2	Pass
B12	10		Low	6	0	Low	21.68	14.80 0.030	2	Pass
B12	1.4	16-QAM	Low	1	0	Low	22.88	16.00 0.040	2	Pass
B12	1.4		Low	5	0	Low	21.73	14.85 0.031	2	Pass
B12	3		Low	1	0	Low	23.79	16.91 0.049	2	Pass
B12	3		Low	5	0	Low	21.74	14.86 0.031	2	Pass
B12	5		Low	1	0	Low	23.66	16.78 0.048	2	Pass
B12	5		Low	5	0	Low	23.41	16.53 0.045	2	Pass
B12	10		Low	1	0	Low	24.53	17.65 0.058	2	Pass
B12	10		Low	5	0	Low	22.80	15.92 0.039	2	Pass
B12	1.4	QPSK	Middle	1	0	Low	23.65	16.77 0.048	2	Pass
B12	1.4		Middle	6	0	Low	24.50	17.62 0.058	2	Pass
B12	3		Middle	1	0	Low	23.47	16.59 0.046	2	Pass
B12	3		Middle	6	0	Low	21.30	14.42 0.028	2	Pass
B12	5		Middle	1	0	Low	22.98	16.10 0.041	2	Pass
B12	5		Middle	6	0	Low	22.46	15.58 0.036	2	Pass
B12	10		Middle	1	0	Low	23.92	17.04 0.051	2	Pass
B12	10		Middle	6	0	Low	22.11	15.23 0.033	2	Pass
B12	1.4	16-QAM	Middle	1	0	Low	23.08	16.20 0.042	2	Pass
B12	1.4		Middle	5	0	Low	21.24	14.36 0.027	2	Pass
B12	3		Middle	1	0	Low	22.09	15.21 0.033	2	Pass
B12	3		Middle	5	0	Low	21.85	14.97 0.031	2	Pass
B12	5		Middle	1	0	Low	23.42	16.54 0.045	2	Pass
B12	5		Middle	5	0	Low	21.21	14.33 0.027	2	Pass
B12	10		Middle	1	0	Low	23.56	16.68 0.047	2	Pass
B12	10		Middle	5	0	Low	22.28	15.40 0.035	2	Pass
B12	1.4	QPSK	High	1	5	High	23.64	16.76 0.047	2	Pass
B12	1.4		High	6	0	High	21.08	14.20 0.026	2	Pass
B12	3		High	1	5	High	23.97	17.09 0.051	2	Pass
B12	3		High	6	0	High	21.26	14.38 0.027	2	Pass
B12	5		High	1	5	High	22.87	15.99 0.040	2	Pass
B12	5		High	3	3	High	22.66	15.78 0.038	2	Pass
B12	10		High	1	5	High	24.91	18.03 0.064	2	Pass
B12	10		High	6	0	High	22.05	15.17 0.033	2	Pass
B12	1.4	16-QAM	High	1	5	High	22.91	16.03 0.040	2	Pass
B12	1.4		High	5	1	High	24.50	17.62 0.058	2	Pass
B12	3		High	1	5	High	22.02	15.14 0.033	2	Pass
B12	3		High	5	1	High	23.05	16.17 0.041	2	Pass
B12	5		High	1	5	High	23.50	16.62 0.046	2	Pass
B12	5		High	3	3	High	21.42	14.54 0.028	2	Pass
B12	10		High	1	5	High	24.09	17.21 0.053	2	Pass
B12	10		High	5	1	High	22.63	15.75 0.038	2	Pass

Note: Maximum Gain is -4.73dBi for CAT-M Band 12.

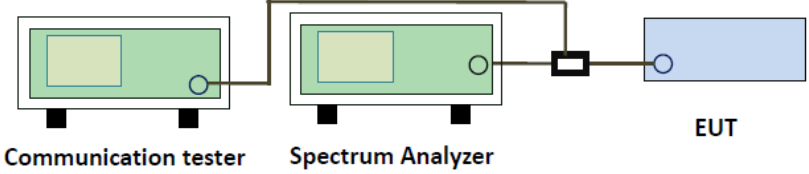
Band	BW [MHz]	Modulation	Channel	RB Size	RB Start	NBIndex	Result (dBm)	EIRP (dBm)(watts)	Limit (watts)	Verdict	
B66	1.4	QPSK	Low	1	0	Low	23.51	21.69	0.148	1	Pass
B66	1.4		Low	6	0	Low	22.77	20.95	0.124	1	Pass
B66	3		Low	1	0	Low	23.75	21.93	0.156	1	Pass
B66	3		Low	6	0	Low	22.76	20.94	0.124	1	Pass
B66	5		Low	1	0	Low	22.73	20.91	0.123	1	Pass
B66	5		Low	6	0	Low	22.14	20.32	0.108	1	Pass
B66	10		Low	1	0	Low	22.69	20.87	0.122	1	Pass
B66	10		Low	6	0	Low	22.06	20.24	0.106	1	Pass
B66	15		Low	1	0	Low	23.10	21.28	0.134	1	Pass
B66	15		Low	6	0	Low	22.09	20.27	0.106	1	Pass
B66	20		Low	1	0	Low	21.95	20.13	0.103	1	Pass
B66	20		Low	6	0	Low	21.40	19.58	0.091	1	Pass
B66	1.4	16-QAM	Low	1	0	Low	23.67	21.85	0.153	1	Pass
B66	1.4		Low	5	0	Low	21.49	19.67	0.093	1	Pass
B66	3		Low	1	0	Low	23.41	21.59	0.144	1	Pass
B66	3		Low	5	0	Low	22.41	20.59	0.115	1	Pass
B66	5		Low	1	0	Low	23.88	22.06	0.161	1	Pass
B66	5		Low	5	0	Low	21.77	19.95	0.099	1	Pass
B66	10		Low	1	0	Low	23.57	21.75	0.150	1	Pass
B66	10		Low	5	0	Low	21.71	19.89	0.097	1	Pass
B66	15		Low	1	0	Low	23.10	21.28	0.134	1	Pass
B66	15		Low	5	0	Low	22.97	21.15	0.130	1	Pass
B66	20		Low	1	0	Low	22.93	21.11	0.129	1	Pass
B66	20		Low	5	0	Low	22.09	20.27	0.106	1	Pass
B66	1.4	QPSK	Middle	1	0	Low	22.83	21.01	0.126	1	Pass
B66	1.4		Middle	6	0	Low	23.51	21.69	0.148	1	Pass
B66	3		Middle	1	0	Low	22.21	20.39	0.109	1	Pass
B66	3		Middle	6	0	Low	22.17	20.35	0.108	1	Pass
B66	5		Middle	1	0	Low	23.49	21.67	0.147	1	Pass
B66	5		Middle	6	0	Low	21.13	19.31	0.085	1	Pass
B66	10		Middle	1	0	Low	23.65	21.83	0.152	1	Pass
B66	10		Middle	6	0	Low	22.45	20.63	0.116	1	Pass
B66	15		Middle	1	0	Low	23.02	21.20	0.132	1	Pass
B66	15		Middle	6	0	Low	20.99	19.17	0.083	1	Pass
B66	20		Middle	1	0	Low	24.11	22.29	0.169	1	Pass
B66	20		Middle	6	0	Low	21.88	20.06	0.101	1	Pass
B66	1.4	16-QAM	Middle	1	0	Low	22.55	20.73	0.118	1	Pass
B66	1.4		Middle	5	0	Low	22.46	20.64	0.116	1	Pass
B66	3		Middle	1	0	Low	23.36	21.54	0.143	1	Pass
B66	3		Middle	5	0	Low	21.82	20.00	0.100	1	Pass
B66	5		Middle	1	0	Low	23.07	21.25	0.133	1	Pass
B66	5		Middle	5	0	Low	21.47	19.65	0.092	1	Pass
B66	10		Middle	1	0	Low	21.38	19.56	0.090	1	Pass
B66	10		Middle	5	0	Low	22.13	20.31	0.107	1	Pass
B66	15		Middle	1	0	Low	23.02	21.20	0.132	1	Pass
B66	15		Middle	5	0	Low	22.19	20.37	0.109	1	Pass
B66	20		Middle	1	0	Low	24.45	22.63	0.183	1	Pass
B66	20		Middle	5	0	Low	22.09	20.27	0.106	1	Pass
B66	1.4	QPSK	High	1	5	High	23.55	21.73	0.149	1	Pass
B66	1.4		High	6	0	High	21.88	20.06	0.101	1	Pass
B66	3		High	1	5	High	23.34	21.52	0.142	1	Pass
B66	3		High	6	0	High	21.71	19.89	0.097	1	Pass
B66	5		High	1	5	High	23.28	21.46	0.140	1	Pass
B66	5		High	3	3	High	22.52	20.70	0.117	1	Pass
B66	10		High	1	5	High	23.37	21.55	0.143	1	Pass
B66	10		High	6	0	High	22.66	20.84	0.121	1	Pass
B66	15		High	1	5	High	22.88	21.06	0.128	1	Pass
B66	15		High	6	0	High	21.19	19.37	0.086	1	Pass
B66	20		High	1	5	High	23.44	21.62	0.145	1	Pass
B66	20		High	6	0	High	21.25	19.43	0.088	1	Pass
B66	1.4	16-QAM	High	1	5	High	23.72	21.90	0.155	1	Pass
B66	1.4		High	5	1	High	21.98	20.16	0.104	1	Pass
B66	3		High	1	5	High	23.22	21.40	0.138	1	Pass
B66	3		High	5	1	High	21.70	19.88	0.097	1	Pass
B66	5		High	1	5	High	23.66	21.84	0.153	1	Pass
B66	5		High	3	3	High	21.42	19.60	0.091	1	Pass

B66	10		High	1	5	High	23.71	21.89	0.155	1	Pass
B66	10		High	5	1	High	21.47	19.65	0.092	1	Pass
B66	15		High	1	5	High	22.95	21.13	0.130	1	Pass
B66	15		High	5	1	High	23.32	21.50	0.141	1	Pass
B66	20		High	1	5	High	23.87	22.05	0.160	1	Pass
B66	20		High	5	1	High	21.86	20.04	0.101	1	Pass

Note: Maximum Gain is -1.82Bi for CAT-M Band 66



4.4 Peak-to-Average Ratio

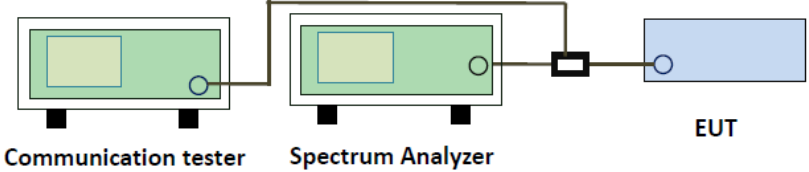
Test Requirement:	FCC part24.232(d) and FCC part27.50(d)(5)/(c) RSS-130 (4.6.1), RSS-133 (5.5), RSS-139(5.5)
Test Method:	ANSI C63.26:2015
Test Limit:	Used complementary cumulative distribution function (CCDF) of analyzer to determine that PAPR will not exceed 13 dB for more than 0.1 percent of the time
Test setup:	 The diagram illustrates the test setup. A 'Communication tester' (green box) is connected to a 'Spectrum Analyzer' (green box) via a cable. The 'Spectrum Analyzer' is then connected to the 'EUT' (Equipment Under Test, blue box) through a power divider (black box). The labels 'Communication tester', 'Spectrum Analyzer', and 'EUT' are placed below their respective components.
Test Procedure:	1. The testing follows FCC KDB 971168 D01 v03r01 Section 5.7. 2. The EUT was connected to spectrum and system simulator via a power divider 3. Using the CCDF measurement of spectrum analyzer; 4. Set $RBW \geq OBW$ or specified reference bandwidth; 5. Set the number of counts to a value that stabilizes the measured CCDF curve; 6. Set the measurement interval as 1ms 7. Record the maximum PAPR level associated with a probability of 0.1%.
Test Instruments:	Refer to section 3 for details
Test mode:	Refer to section 4.1 for details
Test results:	Pass (Please refer to ANNEX for the test results)

Band	Mode	Channel	BW [MHz]	RB Size	RB Start	Result(dB)	Limit(dB)
BAND 2	QPSK	CH Mid	1.4	6	0	5.98	≤13
		CH Mid	3	6	0	6.00	≤13
		CH Mid	5	6	0	5.57	≤13
		CH Mid	10	6	0	5.54	≤13
		CH Mid	15	6	0	6.12	≤13
		CH Mid	20	6	0	5.43	≤13
	16-QAM	CH Mid	1.4	5	0	5.68	≤13
		CH Mid	3	5	0	5.76	≤13
		CH Mid	5	5	0	5.67	≤13
		CH Mid	10	5	0	5.73	≤13
		CH Mid	15	5	0	5.73	≤13
		CH Mid	20	5	0	5.87	≤13
BAND 4	QPSK	CH Mid	1.4	6	0	5.70	≤13
		CH Mid	3	6	0	5.85	≤13
		CH Mid	5	6	0	6.20	≤13
		CH Mid	10	6	0	6.09	≤13
		CH Mid	15	6	0	5.95	≤13
		CH Mid	20	6	0	5.85	≤13
	16-QAM	CH Mid	1.4	5	0	5.98	≤13
		CH Mid	3	5	0	5.81	≤13
		CH Mid	5	5	0	5.96	≤13
		CH Mid	10	5	0	5.84	≤13
		CH Mid	15	5	0	5.67	≤13
		CH Mid	20	5	0	5.78	≤13
BAND 5	QPSK	CH Mid	1.4	6	0	5.73	≤13
		CH Mid	3	6	0	5.75	≤13
		CH Mid	5	6	0	5.93	≤13
		CH Mid	10	6	0	5.75	≤13
	16-QAM	CH Mid	1.4	5	0	6.11	≤13
		CH Mid	3	5	0	6.12	≤13
		CH Mid	5	5	0	5.74	≤13
		CH Mid	10	5	0	6.02	≤13
BAND 12	QPSK	CH Mid	1.4	6	0	5.60	≤13
		CH Mid	3	6	0	5.76	≤13
		CH Mid	5	6	0	5.69	≤13
		CH Mid	10	6	0	5.71	≤13
	16-QAM	CH Mid	1.4	5	0	5.29	≤13
		CH Mid	3	5	0	5.61	≤13
		CH Mid	5	5	0	5.66	≤13
		CH Mid	10	5	0	5.65	≤13

BAND 66	QPSK	CH Mid	1.4	6	0	5.54	≤ 13
		CH Mid	3	6	0	6.00	≤ 13
		CH Mid	5	6	0	5.75	≤ 13
		CH Mid	10	6	0	6.05	≤ 13
		CH Mid	15	6	0	5.87	≤ 13
		CH Mid	20	6	0	5.58	≤ 13
	16-QAM	CH Mid	1.4	5	0	5.74	≤ 13
		CH Mid	3	5	0	5.79	≤ 13
		CH Mid	5	5	0	5.78	≤ 13
		CH Mid	10	5	0	6.21	≤ 13
		CH Mid	15	5	0	5.79	≤ 13
		CH Mid	20	5	0	5.61	≤ 13



4.5 Occupy Bandwidth

Test Requirement:	FCC part 24.232(b) and FCC part 27.53(a) RSS-Gen Issue 5 §6.7
Test Method:	ANSI C63.26:2015
Test setup:	 The diagram illustrates the test setup. On the left is a 'Communication tester' (green box). A cable connects its output to a 'Spectrum Analyzer' (green box). Another cable connects the Spectrum Analyzer to the 'EUT' (blue box). The EUT is labeled 'EUT' below it.
Test Procedure:	1.The EUT's output RF connector was connected with a short cable to the spectrum analyzer, set center frequency to channel center frequency. 2.RBW was set to about 1%-5% of emission OBW, VBW$\geq$ 3 X RBW. 3.Set spectrum analyzer detection mode to peak, and the trace mode to max hold. 4. Use the 99% OBW function, The 99% power OBW can be found on the plot, determine the "-26dB amplitude" as equal to reference value -26dB.
Test Instruments:	Refer to section 3 for details
Test mode:	Refer to section 4.1 for details
Test results:	Pass (Please refer to ANNEX for the test results)

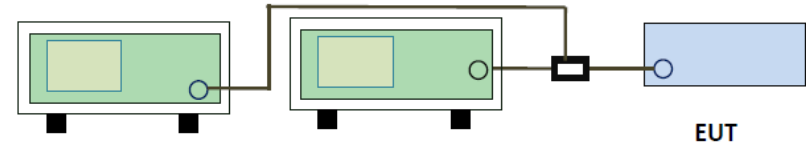
Band	Mode	Channel	BW [MHz]	RB Size	RB Start	26dBc Result (MHz)	99% Result (MHz)
BAND 2	QPSK	CH Mid	1.4	6	0	1.296	1.1207
		CH Mid	3	6	0	1.285	1.1063
		CH Mid	5	6	0	1.281	1.0893
		CH Mid	10	6	0	1.304	1.1069
		CH Mid	15	6	0	1.278	1.0921
		CH Mid	20	6	0	1.289	1.1028
	16-QAM	CH Mid	1.4	5	0	1.293	1.1175
		CH Mid	3	5	0	1.297	1.1049
		CH Mid	5	5	0	1.283	1.0885
		CH Mid	10	5	0	1.287	1.1096
		CH Mid	15	5	0	1.269	1.0929
BAND 4	QPSK	CH Mid	20	5	0	1.294	1.1010
		CH Mid	1.4	6	0	1.318	1.1212
		CH Mid	3	6	0	1.281	1.0899
		CH Mid	5	6	0	1.296	1.1067
		CH Mid	10	6	0	1.278	1.0904
		CH Mid	15	6	0	1.288	1.1092
		CH Mid	20	6	0	1.279	1.1014
	16-QAM	CH Mid	1.4	5	0	1.335	1.1224
		CH Mid	3	5	0	1.277	1.0899
		CH Mid	5	5	0	1.294	1.0971
		CH Mid	10	5	0	1.280	1.0907
		CH Mid	15	5	0	1.299	1.1077
BAND 5	QPSK	CH Mid	20	5	0	1.251	1.0950
		CH Mid	1.4	6	0	1.324	1.1269
		CH Mid	3	6	0	1.296	1.1078
		CH Mid	5	6	0	1.280	1.0975
	16-QAM	CH Mid	10	6	0	1.282	1.0897
		CH Mid	1.4	5	0	1.318	1.1151
		CH Mid	3	5	0	1.295	1.1082
		CH Mid	5	5	0	1.286	1.1004
BAND 12	QPSK	CH Mid	10	5	0	1.266	1.0921
		CH Mid	1.4	6	0	1.289	1.1193
		CH Mid	3	6	0	1.282	1.0980
		CH Mid	5	6	0	1.276	1.0895
	16-QAM	CH Mid	10	6	0	1.286	1.0991
		CH Mid	1.4	5	0	1.305	1.1185
		CH Mid	3	5	0	1.288	1.0978
		CH Mid	5	5	0	1.273	1.0888
BAND 66	QPSK	CH Mid	10	5	0	1.282	1.1009
		CH Mid	1.4	6	0	1.282	1.0909
		CH Mid	3	6	0	1.346	1.0963
		CH Mid	5	6	0	1.481	1.1201
		CH Mid	10	6	0	1.466	1.1169
		CH Mid	15	6	0	1.464	1.1289
	16-QAM	CH Mid	20	6	0	1.470	1.1215
		CH Mid	1.4	5	0	1.158	0.9202
		CH Mid	3	5	0	1.196	0.9249
		CH Mid	5	5	0	1.249	0.9470
		CH Mid	10	5	0	1.368	0.9622
		CH Mid	15	5	0	1.446	0.9668
		CH Mid	20	5	0	1.421	0.9664

4.6 MODULATION CHARACTERISTIC

According to FCC § 2.1047(d), Part 24E & Part 27 there is no specific requirement for digital modulation, therefore modulation characteristic is not presented.

According to RSS-130, RSS-133, RSS-139 the equipment certified under these standards shall employ digital modulation, but there is no specific requirement for digital modulation, therefore modulation characteristic is not presented.

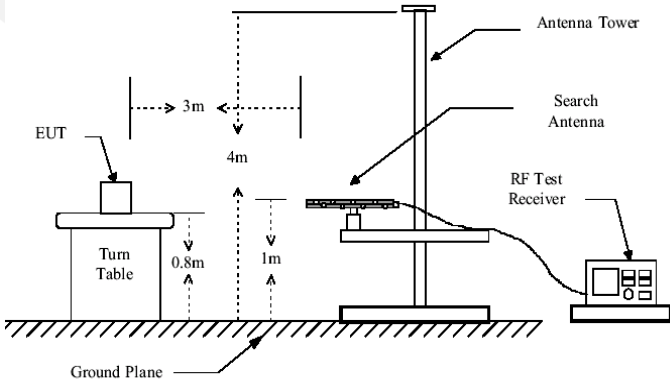
4.7 Out of band emission at antenna terminals

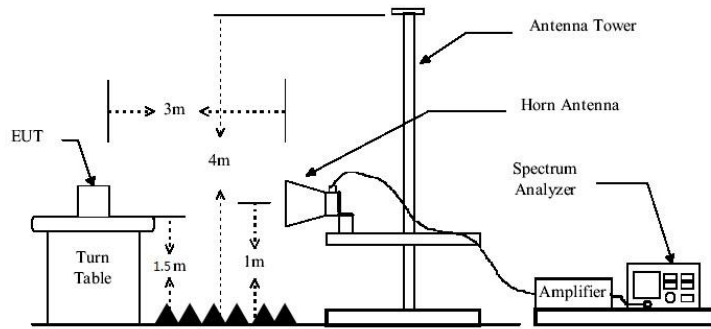
Test Requirement:	FCC part24.238(a), FCC part27.53(h)/(m)/(g) RSS-Gen Issue 5 §6.12, RSS-130 (4.7), RSS-133 (5.6), RSS-139 (5.6)
Test Method:	ANSI C63.26:2015
Limit:	-13dBm $\leq -25\text{dBm}$(LTE Band 7, 41) RSS-130 Issue 2 clause 4.7.1 The unwanted emissions in any 100 kHz bandwidth on any frequency outside the low frequency edge and the high frequency edge of each frequency block range(s), shall be attenuated below the transmitter power, P (dBW), by at least $43 + 10 \log_{10} p$ (watts), dB. However, in the 100 kHz band immediately outside of the equipment's frequency block range, a resolution bandwidth of 30 kHz may be employed. RSS-133 Issue 7 clause 5.6: Equipment shall comply with the limits in (i) and (ii) below. i. In the 1.0 MHz bands immediately outside and adjacent to the equipment's operating frequency block, the emission power per any 1% of the emission bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least $43 + 10 \log_{10} p$(watts). ii. After the first 1.0 MHz, the emission power in any 1 MHz bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least $43 + 10 \log_{10} p$(watts). If the measurement is performed using 1% of the emission bandwidth, power integration over 1.0 MHz is required. RSS-139 Issue 4 clause 5.6: i. In the first 1.0 MHz bands immediately outside and adjacent to the equipment's smallest operating frequency block, Footnote2 which can contain the equipment's occupied bandwidth, the emission power per any 1% of the emission bandwidth shall be attenuated below the transmitter output power P (in dBW) by at least $43 + 10 \log_{10} p$ (watts) dB. ii. After the first 1.0 MHz outside the equipment's smallest operating frequency block, which can contain the equipment's occupied bandwidth, the emission power in any 1 MHz bandwidth shall be attenuated below the transmitter output power P (in dBW) by at least $43 + 10 \log_{10} p$ (watts) dB.
Test setup:	 Communication tester Spectrum Analyzer EUT
Test Procedure:	1 The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation. 2 The resolution bandwidth of the spectrum analyzer was set at 1MHz, sufficient scans were taken to show the out of band Emissions if any up to 10th harmonic. 3 For the out of band: Set the RBW=1MHz, VBW = 3MHz, Start=30MHz, Stop= 10th harmonic. 4 Band Edge Requirements: In the 1 MHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 1 percent of the emission bandwidth of the fundamental emission of the transmitter may be employed to measure the out of

	band Emissions.
Test Instruments:	Refer to section 3 for details
Test mode:	Refer to section 4.1 for details
Test results:	Pass (Please refer to ANNEX for the test results)

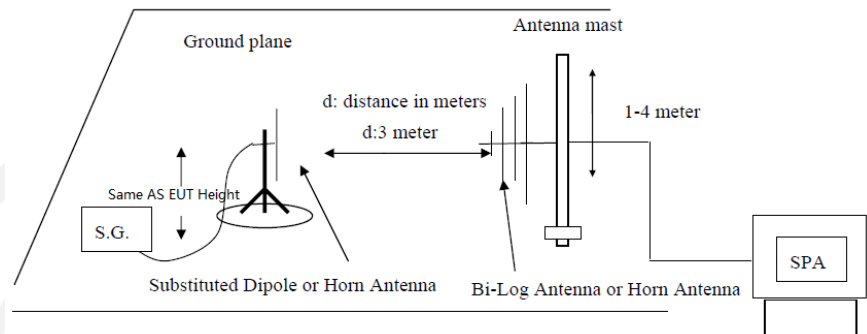


4.8 Field strength of spurious radiation measurement

Test Requirement:	FCC part24.238(a), FCC part27.53(h)/(m)/(g) RSS-Gen Issue 5 §6.12, RSS-130 (4.7), RSS-133 (5.6), RSS-139 (5.6)
Test Method:	ANSI C63.26:2015
Limit:	-13dBm $\leq -25\text{dBm}$(LTE Band 7, 41) RSS-130 Issue 2 clause 4.7.1 The unwanted emissions in any 100 kHz bandwidth on any frequency outside the low frequency edge and the high frequency edge of each frequency block range(s), shall be attenuated below the transmitter power, P (dBW), by at least $43 + 10 \log_{10} p$ (watts), dB. However, in the 100 kHz band immediately outside of the equipment's frequency block range, a resolution bandwidth of 30 kHz may be employed. RSS-133 Issue 7 clause 5.6: Equipment shall comply with the limits in (i) and (ii) below. iii. In the 1.0 MHz bands immediately outside and adjacent to the equipment's operating frequency block, the emission power per any 1% of the emission bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least $43 + 10 \log_{10} p$(watts). iv. After the first 1.0 MHz, the emission power in any 1 MHz bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least $43 + 10 \log_{10} p$(watts). If the measurement is performed using 1% of the emission bandwidth, power integration over 1.0 MHz is required. RSS-139 Issue 4 clause 5.6: iii. In the first 1.0 MHz bands immediately outside and adjacent to the equipment's smallest operating frequency block, Footnote2 which can contain the equipment's occupied bandwidth, the emission power per any 1% of the emission bandwidth shall be attenuated below the transmitter output power P (in dBW) by at least $43 + 10 \log_{10} p$ (watts) dB. iv. After the first 1.0 MHz outside the equipment's smallest operating frequency block, which can contain the equipment's occupied bandwidth, the emission power in any 1 MHz bandwidth shall be attenuated below the transmitter output power P (in dBW) by at least $43 + 10 \log_{10} p$ (watts) dB.
Test setup:	Below 1GHz  Above 1GHz



Substituted method:



Test Procedure:

1. The EUT was placed on an non-conductive turntable using a non-conductive support. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and EMI spectrum analyzer.
2. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.
3. The frequency range up to tenth harmonic was investigated for each of three fundamental frequency (low, middle and high channels). Once spurious emission was identified, the power of the emission was determined using the substitution method.
4. The spurious emissions attenuation was calculated as the difference between radiated power at the fundamental frequency and the spurious emissions frequency.

$$\text{ERP/EIRP} = \text{S.G. output (dBm)} + \text{Antenna Gain(dB/dBi)} - \text{Cable Loss (dB)}$$

Test Instruments:

Refer to section 3 for details

Test mode:

Refer to section 4.1 for details

Test results:

Pass

Measurement Data(Worst case):**QPSK Mode:**

Test mode:	LTE Band 2(1.4MHz)		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3859.95	Vertical	-36.77	-13.00	Pass
5793.49	V	-39.61		
7723.77	V	-37.69		
9652.78	V	-42.90		
11584.20	V	-37.53		
3860.85	Horizontal	-39.46	-13.00	Pass
5791.14	H	-42.41		
7723.55	H	-44.85		
9654.56	H	-45.96		
11583.16	H	-38.42		
Test mode:	LTE Band 2(1.4MHz)		Test channel:	Middle
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3920.38	Vertical	-36.87	-13.00	Pass
5880.08	V	-39.48		
7840.11	V	-37.67		
9799.71	V	-43.01		
11760.54	V	-38.36		
3919.50	Horizontal	-39.21	-13.00	Pass
5879.37	H	-42.82		
7840.33	H	-44.61		
9800.69	H	-45.75		
11759.49	H	-38.03		
Test mode:	LTE Band 2(1.4MHz)		Test channel:	Highest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3978.04	Vertical	-36.46	-13.00	Pass
5967.94	V	-39.68		
7957.68	V	-38.12		
9946.52	V	-43.60		
11936.12	V	-37.62		
3979.31	Horizontal	-39.34	-13.00	Pass
5967.23	H	-42.64		
7957.29	H	-45.08		
9945.98	H	-45.89		
11935.66	H	-37.96		

Test mode:	LTE Band 4(1.4MHz)		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
4221.42	Vertical	-37.01	-13.00	Pass
6332.07	V	-39.63		
8441.99	V	-38.19		
10554.08	V	-43.08		
12664.41	V	-38.30		
4222.74	Horizontal	-38.70	-13.00	Pass
6333.24	H	-42.26		
8442.84	H	-44.53		
10554.94	H	-46.04		
12662.84	H	-38.23		
Test mode:	LTE Band 4(1.4MHz)		Test channel:	Middle
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
4264.90	Vertical	-36.76	-13.00	Pass
6397.89	V	-39.86		
8530.50	V	-38.32		
10663.17	V	-43.39		
12794.75	V	-37.57		
4265.25	Horizontal	-39.43	-13.00	Pass
6397.90	H	-42.96		
8529.74	H	-44.97		
10662.73	H	-46.04		
12795.00	H	-38.48		
Test mode:	LTE Band 4(1.4MHz)		Test channel:	Highest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
4309.02	Vertical	-36.52	-13.00	Pass
6462.56	V	-39.70		
8616.67	V	-37.93		
10771.02	V	-43.79		
12925.26	V	-38.47		
4308.68	Horizontal	-39.55	-13.00	Pass
6462.85	H	-42.94		
8616.53	H	-45.18		
10771.38	H	-45.67		
12926.47	H	-37.84		

Test mode:	LTE Band 5(1.4MHz)		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1738.16	Vertical	-36.53	-13.00	Pass
2610.50	V	-36.65		
3478.95	V	-37.29		
4349.05	V	-38.44		
5217.73	V	-38.21		
1740.16	Horizontal	-36.14	-13.00	Pass
2610.35	H	-37.11		
3478.25	H	-36.97		
4348.31	H	-38.33		
5218.21	H	-38.28		
Test mode:	LTE Band 5(1.4MHz)		Test channel:	Middle
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1762.89	Vertical	-36.41	-13.00	Pass
2644.21	V	-37.06		
3526.49	V	-37.36		
4408.16	V	-38.61		
5289.15	V	-37.82		
1762.49	Horizontal	-36.96	-13.00	Pass
2644.11	H	-37.17		
3525.58	H	-36.99		
4406.99	H	-38.04		
5289.41	H	-37.80		
Test mode:	LTE Band 5(1.4MHz)		Test channel:	Highest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1785.87	Vertical	-36.81	-13.00	Pass
2680.05	V	-37.19		
3573.92	V	-36.61		
4466.20	V	-37.84		
5359.93	V	-37.76		
1786.31	Horizontal	-36.11	-13.00	Pass
2679.34	H	-37.02		
3573.57	H	-36.63		
4466.03	H	-38.63		
5359.28	H	-38.66		

Test mode:	LTE Band 12(1.4MHz)		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1460.67	Vertical	-36.96	-13.00	Pass
2188.41	V	-37.20		
2918.84	V	-36.99		
3649.17	V	-38.64		
4377.11	V	-38.37		
1459.70	Horizontal	-36.83	-13.00	Pass
2187.82	H	-36.54		
2918.05	H	-37.47		
3648.17	H	-37.96		
4379.54	H	-38.65		
Test mode:	LTE Band 12(1.4MHz)		Test channel:	Middle
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1474.88	Vertical	-36.61	-13.00	Pass
2211.97	V	-37.07		
2950.26	V	-37.47		
3687.88	V	-37.74		
4424.59	V	-38.48		
1475.51	Horizontal	-36.82	-13.00	Pass
2212.07	H	-36.51		
2949.75	H	-37.29		
3687.32	H	-38.63		
4424.54	H	-38.41		
Test mode:	LTE Band 12(1.4MHz)		Test channel:	Highest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1490.84	Vertical	-36.49	-13.00	Pass
2235.23	V	-36.70		
2981.89	V	-37.56		
3725.98	V	-37.73		
4471.63	V	-37.71		
1489.94	Horizontal	-36.73	-13.00	Pass
2235.44	H	-37.24		
2981.16	H	-37.03		
3726.23	H	-37.90		
4471.94	H	-38.50		

Test mode:	LTE Band 66(1.4MHz)		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
4221.30	Vertical	-37.13	-13.00	Pass
6333.20	V	-38.96		
8443.58	V	-38.14		
10552.04	V	-43.41		
12663.82	V	-38.67		
4221.59	Horizontal	-39.36	-13.00	Pass
6332.19	H	-42.35		
8443.36	H	-45.18		
10554.12	H	-45.76		
12664.33	H	-38.14		
Test mode:	LTE Band 2(1.4MHz)		Test channel:	Middle
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
4265.40	Vertical	-36.39	-13.00	Pass
6397.92	V	-39.63		
8529.89	V	-37.90		
10662.37	V	-43.58		
12794.57	V	-38.56		
4264.56	Horizontal	-39.39	-13.00	Pass
6397.00	H	-42.81		
8530.72	H	-44.81		
10662.81	H	-45.66		
12794.35	H	-38.59		
Test mode:	LTE Band 2(1.4MHz)		Test channel:	Highest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
4308.82	Vertical	-36.99	-13.00	Pass
6462.99	V	-39.49		
8617.86	V	-37.91		
10771.49	V	-43.20		
12925.80	V	-37.87		
4308.40	Horizontal	-38.59	-13.00	Pass
6463.02	H	-42.70		
8616.62	H	-44.46		
10772.17	H	-46.13		
12926.44	H	-37.77		

Remark :

- 1 The emission behaviour belongs to narrowband spurious emission, all modes investigated and only worst case is reported.
- 2 Remark"---" means that the emission level is too low (20dB lower than the limit) to be measured
- 3 The emission levels of below 1 GHz are very lower (20dB lower than the limit) than the limit and not show in test report.

Measurement Data(Worst case):**16 QAM Mode:**

Test mode:	LTE Band 2 (1.4MHz)		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3860.99	Vertical	-36.98	-13.00	Pass
5792.94	V	-39.34		
7722.91	V	-38.48		
9654.55	V	-42.96		
11583.11	V	-38.43		
3862.13	Horizontal	-38.81	-13.00	Pass
5793.04	H	-43.00		
7722.01	H	-44.51		
9654.90	H	-45.94		
11584.58	H	-38.11		
Test mode:	LTE Band 2 (1.4MHz)		Test channel:	Middle
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3919.82	Vertical	-36.32	-13.00	Pass
5879.31	V	-39.33		
7839.44	V	-38.26		
9800.14	V	-42.99		
11759.60	V	-38.15		
3920.40	Horizontal	-38.78	-13.00	Pass
5880.34	H	-42.19		
7840.35	H	-44.80		
9800.32	H	-45.89		
11760.13	H	-37.58		
Test mode:	LTE Band 2 (1.4MHz)		Test channel:	Highest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3978.87	Vertical	-36.51	-13.00	Pass
5968.10	V	-39.11		
7957.06	V	-37.97		
9947.08	V	-43.03		
11935.49	V	-37.77		
3978.40	Horizontal	-38.72	-13.00	Pass
5967.22	H	-42.84		
7956.58	H	-44.45		
9946.62	H	-46.46		
11935.11	H	-38.42		

Test mode:	LTE Band 4(1.4MHz)		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
4221.48	Vertical	-36.47	-13.00	Pass
6331.22	V	-39.05		
8443.59	V	-38.21		
10554.51	V	-42.96		
12665.08	V	-38.21		
4220.62	Horizontal	-38.95	-13.00	Pass
6332.16	H	-42.40		
8441.95	H	-44.86		
10554.13	H	-46.40		
12663.59	H	-37.88		
Test mode:	LTE Band 4(1.4MHz)		Test channel:	Middle
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
4264.85	Vertical	-37.04	-13.00	Pass
6397.29	V	-39.75		
8529.92	V	-38.27		
10662.94	V	-42.99		
12794.48	V	-37.50		
4265.44	Horizontal	-38.74	-13.00	Pass
6397.50	H	-42.24		
8529.65	H	-44.57		
10662.57	H	-46.32		
12794.82	H	-38.10		
Test mode:	LTE Band 4(1.4MHz)		Test channel:	Highest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
4308.29	Vertical	-36.48	-13.00	Pass
6463.10	V	-39.00		
8617.24	V	-38.03		
10771.00	V	-43.20		
12925.16	V	-38.17		
4308.97	Horizontal	-39.57	-13.00	Pass
6463.03	H	-42.56		
8616.73	H	-45.10		
10771.89	H	-46.05		
12926.37	H	-38.45		

Test mode:	LTE Band 5(1.4MHz)		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1738.05	Vertical	-36.32	-13.00	Pass
2608.19	V	-36.63		
3480.07	V	-37.54		
4348.50	V	-38.28		
5219.03	V	-37.78		
1739.16	Horizontal	-36.93	-13.00	Pass
2610.06	H	-37.33		
3480.02	H	-37.37		
4349.65	H	-38.34		
5217.86	H	-38.70		
Test mode:	LTE Band 5(1.4MHz)		Test channel:	Middle
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1762.69	Vertical	-36.18	-13.00	Pass
2643.91	V	-36.72		
3526.45	V	-36.62		
4406.91	V	-37.95		
5288.48	V	-37.83		
1762.77	Horizontal	-36.76	-13.00	Pass
2644.29	H	-37.23		
3525.94	H	-36.64		
4407.81	H	-38.66		
5289.07	H	-38.29		
Test mode:	LTE Band 5(1.4MHz)		Test channel:	Highest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1786.36	Vertical	-36.24	-13.00	Pass
2680.02	V	-36.67		
3573.62	V	-37.50		
4466.06	V	-38.04		
5359.87	V	-38.07		
1786.92	Horizontal	-36.73	-13.00	Pass
2679.41	H	-37.19		
3572.85	H	-36.83		
4466.85	H	-38.69		
5360.29	H	-37.84		

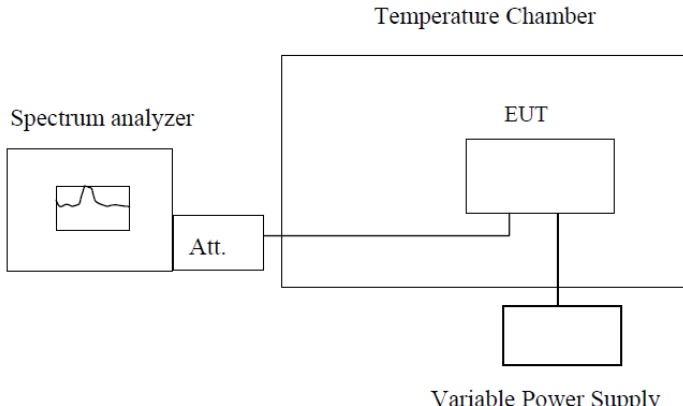
Test mode:	LTE Band 12(1.4MHz)		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1460.09	Vertical	-36.87	-13.00	Pass
2189.11	V	-37.38		
2919.17	V	-37.52		
3648.62	V	-38.42		
4378.76	V	-38.03		
1460.61	Horizontal	-36.15	-13.00	Pass
2189.15	H	-36.61		
2919.61	H	-36.82		
3648.68	H	-38.53		
4378.04	H	-38.26		
Test mode:	LTE Band 12(1.4MHz)		Test channel:	Middle
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1475.42	Vertical	-36.87	-13.00	Pass
2212.64	V	-36.94		
2950.68	V	-36.97		
3686.97	V	-37.98		
4425.68	V	-38.33		
1474.36	Horizontal	-36.33	-13.00	Pass
2211.81	H	-36.78		
2949.57	H	-36.80		
3686.93	H	-37.70		
4424.93	H	-37.86		
Test mode:	LTE Band 12(1.4MHz)		Test channel:	Highest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1490.93	Vertical	-36.28	-13.00	Pass
2235.89	V	-36.94		
2981.53	V	-36.80		
3726.48	V	-37.91		
4471.88	V	-38.37		
1490.83	Horizontal	-36.26	-13.00	Pass
2235.64	H	-36.84		
2981.02	H	-37.29		
3727.14	H	-38.31		
4471.96	H	-38.24		

Test mode:	LTE Band 66 (1.4MHz)		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
4221.82	Vertical	-36.34	-13.00	Pass
6333.27	V	-39.74		
8442.90	V	-37.62		
10554.88	V	-43.14		
12663.62	V	-38.25		
4222.06	Horizontal	-39.56	-13.00	Pass
6331.64	H	-42.73		
8442.79	H	-45.30		
10552.41	H	-45.98		
12663.21	H	-38.70		
Test mode:	LTE Band 66 (1.4MHz)		Test channel:	Middle
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
4265.06	Vertical	-36.70	-13.00	Pass
6396.82	V	-39.43		
8530.34	V	-38.08		
10663.19	V	-43.59		
12794.93	V	-38.56		
4265.62	Horizontal	-39.19	-13.00	Pass
6397.78	H	-42.43		
8529.77	H	-44.74		
10663.04	H	-46.27		
12795.40	H	-37.76		
Test mode:	LTE Band 66 (1.4MHz)		Test channel:	Highest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
4308.67	Vertical	-36.65	-13.00	Pass
6463.16	V	-38.99		
8617.78	V	-38.20		
10772.06	V	-43.45		
12925.07	V	-37.78		
4309.35	Horizontal	-39.52	-13.00	Pass
6462.92	H	-42.93		
8617.06	H	-45.36		
10771.02	H	-45.56		
12925.30	H	-38.38		

Remark :

- 1 The emission behaviour belongs to narrowband spurious emission, all modes investigated and only worst case is reported.
- 2 Remark"---" means that the emission level is too low (20dB lower than the limit) to be measured
- 3 The emission levels of below 1 GHz are very lower (20dB lower than the limit) than the limit and not show in test report.

4.9 Frequency stability

Test Requirement:	FCC Part 2.1055(a)(1)(b), FCC Part 2.1055(d)(1)(2), FCC Part 27.54 RSS-Gen Issue 5 §6.11, RSS-130 (4.5), RSS-133 (5.4), RSS-139 (5.4)
Test Method:	ANSI C63.26:2015
Limit:	Within the authorized bands of operation (Part 24, Part 27, RSS-130, RSS-133, RSS-139)
Test setup:	 Note : Measurement setup for testing on Antenna connector
Test procedure:	1. The equipment under test was connected to an external DC power supply and input rated voltage. 2. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. 3. The EUT was placed inside the temperature chamber. 4. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 25°C operating frequency as reference frequency. 5. Turn EUT off and set the chamber temperature to –20°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. 6. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached.
Test Instruments:	Refer to section 3 for details
Test mode:	Refer to section 4.1 for details
Test results:	Pass

Mode	Voltage (V _{dc})	Frequency error (Hz)	frequency error (ppm)
CAT-M Bnad 2 CH 18900 Fre:1880MHz	4.50V	40.89	0.022
	4.75V	54.30	0.029
	5.00V	63.28	0.034
	5.25V	55.41	0.029
	5.50V	44.44	0.024
CAT-M Bnad 4 CH 20175 Fre:1732.5MHz	4.50V	43.45	0.023
	4.75V	56.49	0.030
	5.00V	65.84	0.035
	5.25V	54.70	0.029
	5.50V	44.33	0.024
CAT-M Bnad 5 CH 20525 Fre: 836.5MHz	4.50V	41.34	0.022
	4.75V	56.94	0.030
	5.00V	64.74	0.034
	5.25V	55.46	0.030
	5.50V	47.71	0.025
CAT-M Bnad 12 CH 23095 Fre:707.5MHz	4.50V	43.15	0.023
	4.75V	54.85	0.029
	5.00V	63.67	0.034
	5.25V	57.80	0.031
	5.50V	45.71	0.024
CAT-M Bnad 66 CH 132322 Fre:1745MHz	4.50V	41.71	0.022
	4.75V	54.51	0.029
	5.00V	65.94	0.035
	5.25V	53.90	0.029
	5.50V	45.89	0.024

Mode	Temperature (°C)	Frequency error (Hz)	frequency error (ppm)
CAT-M Bnad 2 CH 18900 Fre:1880MHz	-20	41.24	0.022
	-10	48.64	0.026
	0	55.23	0.029
	10	65.17	0.035
	20	43.89	0.023
	30	55.23	0.029
	40	55.69	0.030
	50	45.68	0.024
CAT-M Bnad 4 CH 20175 Fre:1732.5MHz	-20	45.26	0.026
	-10	36.73	0.021
	0	80.43	0.046
	10	36.70	0.021
	20	51.66	0.030
	30	76.65	0.044
	40	40.88	0.024
	50	57.41	0.033
CAT-M Bnad 5 CH 20525 Fre: 836.5MHz	-20	65.71	0.079
	-10	55.21	0.066
	0	52.85	0.063
	10	52.05	0.062
	20	85.20	0.102
	30	54.08	0.065
	40	55.13	0.066
	50	81.26	0.097
CAT-M Bnad 12 CH 23095 Fre:707.5MHz	-20	33.44	0.047
	-10	44.27	0.063
	0	69.72	0.099
	10	45.05	0.064
	20	66.72	0.094
	30	80.74	0.114
	40	43.10	0.061
	50	71.48	0.101
CAT-M Bnad 66 CH 132322 Fre:1745MHz	-20	59.70	0.076
	-10	47.55	0.061
	0	62.68	0.080
	10	41.09	0.053
	20	32.84	0.042
	30	66.98	0.086
	40	44.76	0.057
	50	36.23	0.046

5 Photos of test setup

Reference to the **psi2604010-C01-R02 appendix I Test Setup Photo** for details.

6 Photos of EUT

Reference to the **psi2604010-C01-R02 appendix II external photos** and **appendix III internal photos** for details.

----- END OF REPORT-----

