



FCC TEST REPORT

FCC ID: 2A6VB-J2-4GW

Product Name	:	mobile dvr
Model Name	:	J2-4GW,J2-WS,J1,J912,J1-WS,J1-4G,J1-4GW,J2,J2-4G, J2-4GW,J3,J3-WS,J3-4GW,T1,T14G,T2,T2-4G,X3,X3-4GW,X4, X4-4GW,B1,B1-WS,B1-4GW
Brand Name	:	JOINLGO
Report No.	:	PTC22021102602E-FC01
Sample ID	:	PTC22021102602-01#
Prepared for		
Shenzhen joinlgo Technology Co.,Ltd.		
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Prepared by		
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TEST RESULT CERTIFICATION

Applicant's name : Shenzhen joinlgo Technology Co.,Ltd.
Address : LongHuaQu, GuanHuJieDao, XinTianSheQu, HuanGuanNanLu 72-6
Ha ChuangKeDaSha 532,Shenzhen Guangdong 518110

Manufacture's name : Shenzhen joinlgo Technology Co.,Ltd.
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Product name : mobile dvr
Model name : J2-4GW,J2-WS,J1, J912,J1-WS,J1-4G,J1-4GW,J2,J2-4G,J2-4GW,J3,J3-WS,J3-4GW,T1,T14G,T2,T2-4G,X3,X3-4GW,X4,X4-4GW,B1,B1-WS,B1-4GW

Standards : FCC CFR47 Part 22, Part 24, Part 27

Test procedure : ANSI C63.26:2015

Test Date : Mar. 10, 2022 to May. 10, 2022

Date of Issue : May. 12, 2022

Test Result : Pass

This device described above has been tested by PTC, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Test Engineer:

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1 General information

1.1 Feature of equipment under test (EUT)

Product name:	mobile dvr
Model name:	J2-4GW,J2-WS,J1,J912,J1-WS,J1-4G,J1-4GW,J2,J2-4G,J2-4GW,J3,J3-WS,J3-4GW,T1,T14G,T2,T2-4G,X3,X3-4GW,X4,X4-4GW,B1,B1-WS,B1-4GW
Operating frequency range:	LTE FDD Band 2: 1850.7 - 1909.3MHz
Modulation type:	QPSK,16QAM
Antenna type:	Ext Antenna
Antenna gain:	Gain: 2dBi
Power supply:	DC 12V from battery
Hardware Version:	AHD_G2308_V2.1
Software Version:	D2020052881

1.2 Test frequency channel

LTE Band	Channel	Channel Bandwidth (MHz)	Channel No.	Frequency (MHz)
LTE Band 2	Low	1.4	18607	1850.7
		3	18615	1851.5
		5	18625	1852.5
		10	18650	1855
		15	18675	1857.5
		20	18700	1860
	Middle	1.4/3/5/10/15/20	18900	1880
	High	1.4	19193	1909.3
		3	19185	1908.5
		5	19175	1907.5
		10	19150	1905
		15	19125	1902.5
		20	19100	1900

1.3 EUT operation mode

LTE band 2	Keep the EUT in data communicating mode on LTE band 2. (LTE band2(1.4MHz), LTE band2(3MHz), LTE band2(5MHz), LTE band2(10MHz), LTE band2(15MHz), LTE band2(20MHz))
Note: Only the worst case data were shown in the report.	

1.4 Ancillary equipment list

Equipment	Model	S/N	Manufacturer	Certificate type
		/	/	/

2 Summary of test results

Item	FCC Part No.	Description of Test	Result
1	part2.1046 Part 24.232 (c) Part 27.50 (c)(10) Part 27.50 (d)(4) Part 27.50 (h)(2)	RF Output Power	Pass
2	part 22.913(a)(2) part 24.232(c.2) part 27.50(h)(2) part 27.50(b)(10) part 27.50(c)(10) part 27.50(d)(4) part 27.50(a)(3)	Radiated Power (ERP/EIRP)	Pass
3	Part 27.50(d)(5)	Peak-to-Average Ratio	Pass
4	Part 2.1049 Part 24.238(b) Part 27.53(g) Part 27.53(h) Part 27.53(m)	99% and -26 dB Occupied Bandwidth	Pass
5	part 2.1051 part 22.917(a) part 24.238(a) part 24.50(d) part 27.53 (g)(h)	Spurious emissions at antenna terminals	Pass
6	part 2.1051 part 22.917(a) part 24.238(a) part 27.53(c)(2)(4) part 27.53(g) part 27.53(h)	Band edge at antenna terminals	Pass
7	Part 2.1053 Part 24.238 (a) Part 27.53 (g) Part 27.53 (h) Part 27.53(m)	Field strength of spurious radiation measurement	Pass
8	Part 24.235 Part 27.54 Part 2.1055(a)(1)(b) Part 2.1055(d)(2)	Frequency Stability for Temperature & Voltage	Pass

3 Test facilities and accreditations

3.1 Test laboratory

Dongguan Precise Testing & Certification Corp., Ltd.

Address: Building 1, No.6 Tongxin Road, Dongcheng Street, Dongguan, China

FCC Registration Number: 790290

A2LA Certificate No.: 4408.01

IC Registration Number: 12191A-1

Designation Number: CN1219

3.2 Environmental conditions

Temperature:	15°C~35°C
Humidity	20%~75%
Atmospheric pressure	98kPa~101kPa

3.3 Measurement uncertainty

Measurement Uncertainty for a Level of Confidence of 95 %, $U=2 \times U_c(y)$

Parameter	Uncertainty
RF output power, conducted	$\pm 1.0\text{dB}$
Power Spectral Density, conducted	$\pm 2.2\text{dB}$
Radio Frequency	$\pm 1 \times 10^{-6}$
Bandwidth	$\pm 1.5 \times 10^{-6}$
Time	$\pm 2\%$
Duty Cycle	$\pm 2\%$
Temperature	$\pm 1^\circ\text{C}$
Humidity	$\pm 5\%$
DC and low frequency voltages	$\pm 3\%$
Conducted Emissions (150kHz~30MHz)	$\pm 3.64\text{dB}$
Radiated Emission(30MHz~1GHz)	$\pm 5.03\text{dB}$
Radiated Emission(1GHz~25GHz)	$\pm 4.74\text{dB}$
Remark: The coverage Factor ($k=2$), and measurement Uncertainty for a level of Confidence of 95%	

3.4 Test software

Software Name	Manufacturer	Model	Version
LTE	Shenzhen JS tonscent co.,ltd	JS1120-1	2.6.8.0518

4 LIST OF TEST EQUIPMENT

Equipment Name	Manufacturer	Model	Serial No.	Last Cal.	Calibration Due	Cal. Interval
EMI Test Receiver	Rohde&schwarz	ESPI7	100314	Aug. 21, 2021	Aug. 20, 2022	1 Year
TRILOG Broadband Antenna	Schwarzbeck	VULB 9163	9163-872	Aug. 21, 2021	Aug. 20, 2022	1 Year
amplifier	Hewlett-Packard	8447D	3113A06150	Aug. 21, 2021	Aug. 20, 2022	1 Year
Single path vehicle AMN(LISN)	Schwarzbeck	NNBM 8124	01175	Aug. 21, 2021	Aug. 20, 2022	1 Year
Low noise active vertical monopole antenna	Schwarzbeck	VAMP 9243	#565	Aug. 21, 2021	Aug. 20, 2022	1 Year
Biconical antenna	Schwarzbeck	BBA 9106	#164	Aug. 21, 2021	Aug. 20, 2022	1 Year
MXG Vector Signal Generator	Agilent	N5182A	MY49060455	Aug. 21, 2021	Aug. 20, 2022	1 Year
ESG Series Analog signal generator	Agilent	E4421B	GB40051240	Aug. 21, 2021	Aug. 20, 2022	1 Year
Thermometer clock humidity monitor	-	HTC-1	/	Aug. 21, 2021	Aug. 20, 2022	1 Year
Log Periodic Antenna	Schwarzbeck	VUSLP 9111B	#312	Aug. 21, 2021	Aug. 20, 2022	1 Year
Log Periodic Dipole Array Antenna	ETS-LINDGREN	3148B	00224524	Aug. 21, 2021	Aug. 20, 2022	1 Year
Amplifier	EMtrace	RP06A	00117	Aug. 21, 2021	Aug. 20, 2022	1 Year
Comprehensive test instrument	Rohde&schwarz	CMW500	149155	Aug. 21, 2021	Aug. 20, 2022	1 Year
Spectrum Analyzer	Rohde&Schwarz	FSU26	1166.1660.26	Aug. 21, 2021	Aug. 20, 2022	1 year
PXA Signal Analyzer	Agilent	N9030A	MY51350296	Aug. 21, 2021	Aug. 20, 2022	1 Year
EMI Test Receiver	Rohde&schwarz	ESIB26	100273	Aug. 21, 2021	Aug. 20, 2022	1 Year
Synthesized Sweeper	Agilent	83752A	3610A01957	Aug. 21, 2021	Aug. 20, 2022	1 Year
DC Power Supply	Agilent	E3632A	MY40027695	Aug. 21, 2021	Aug. 20, 2022	1 Year
Artificial mains network	3ctest	LISN J50	ES3911805	Aug. 21, 2021	Aug. 20, 2022	1 Year
Power amplifier	Space-Dtronics	EWLNA0118G-P40	1852001	Aug. 21, 2021	Aug. 20, 2022	1 Year
Current Probe	SOLAR ELECTRONICS CO.	9207-1	220095-1	Aug. 21, 2021	Aug. 20, 2022	1 Year
Loop Sensor	SOLAR ELECTRONICS CO.	7334-1	220095-2	Aug. 21, 2021	Aug. 20, 2022	1 Year
Note: the calibration interval of the above test instruments is 12 or 24 months and the calibrations are traceable to international system unit (SI).						

5 Test result

5.1 RF output power

5.1.1 Limit

For FCC Part 22.913(a)(2):

The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

For FCC Part 24.232(c):

The EIRP of mobile transmitters and auxiliary test transmitters must not exceed 2 Watts.

For FCC Part 27.50(d):

The EIRP of mobile transmitters and auxiliary test transmitters must not exceed 1 Watt.

For FCC Part 27.50(c):

The ERP of mobile transmitters and auxiliary test transmitters must not exceed 3 Watts.

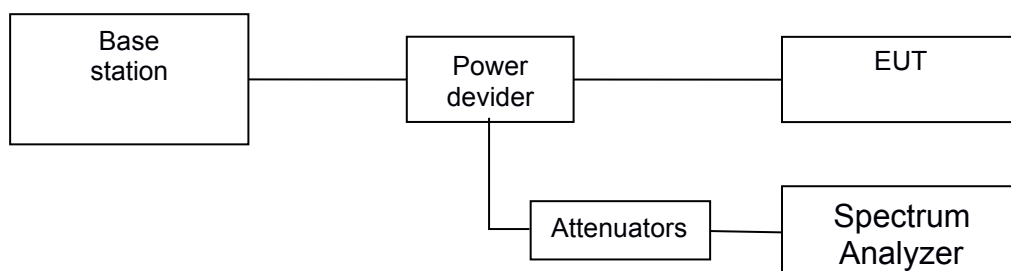
For FCC Part 27.50(a)(3):

For mobile and portable stations transmitting in the 2305-2315 MHz band or the 2350-2360 MHz band, the average EIRP must not exceed 50 milliwatts within any 1 megahertz of authorized bandwidth, except that for mobile and portable stations compliant with 3GPP LTE standards or another advanced mobile broadband protocol that avoids concentrating energy at the edge of the operating band the average EIRP must not exceed 250 milliwatts within any 5 megahertz of authorized bandwidth but may exceed 50 milliwatts within any 1 megahertz of authorized bandwidth.

5.1.2 Test procedure

- 1) The EUT's RF output port was connected to base station.
- 2) A call is set up by the SS according to the generic call set up procedure.
- 3) Set EUT at maximum power level through base station by power level command.
- 4) Measure the maximum output power of EUT at each frequency band and mode by base station.
- 5) The EUT was set up for the max output power with pseudo random data modulation.
- 6) These measurements were done at 3 frequencies (bottom, middle and top of operational frequency range) for each bandwidth.

5.1.3 Test setup



5.1.4 Test results

The following table shows the conducted power measured:

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Verdict
Band2	1.4MHz	QPSK	18607	6RB#0	22.37	PASS
Band2	1.4MHz	QPSK	18900	6RB#0	22.94	PASS
Band2	1.4MHz	QPSK	19193	6RB#0	21.95	PASS
Band2	1.4MHz	16QAM	18607	6RB#0	21.90	PASS
Band2	1.4MHz	16QAM	18900	6RB#0	22.20	PASS
Band2	1.4MHz	16QAM	19193	6RB#0	21.32	PASS
Band2	3MHz	QPSK	18615	15RB#0	22.09	PASS
Band2	3MHz	QPSK	18900	15RB#0	22.48	PASS
Band2	3MHz	QPSK	19185	15RB#0	21.67	PASS
Band2	3MHz	16QAM	18615	15RB#0	21.64	PASS
Band2	3MHz	16QAM	18900	15RB#0	21.84	PASS
Band2	3MHz	16QAM	19185	15RB#0	21.10	PASS
Band2	5MHz	QPSK	18625	25RB#0	22.43	PASS
Band2	5MHz	QPSK	18900	25RB#0	22.69	PASS
Band2	5MHz	QPSK	19175	25RB#0	22.13	PASS
Band2	5MHz	16QAM	18625	25RB#0	21.86	PASS
Band2	5MHz	16QAM	18900	25RB#0	21.86	PASS
Band2	5MHz	16QAM	19175	25RB#0	21.28	PASS
Band2	10MHz	QPSK	18650	50RB#0	22.81	PASS
Band2	10MHz	QPSK	18900	50RB#0	22.74	PASS
Band2	10MHz	QPSK	19150	50RB#0	22.50	PASS
Band2	15MHz	QPSK	18675	75RB#0	22.95	PASS
Band2	15MHz	QPSK	18900	75RB#0	22.85	PASS
Band2	15MHz	QPSK	19125	75RB#0	22.67	PASS
Band2	15MHz	16QAM	18675	75RB#0	22.42	PASS
Band2	15MHz	16QAM	18900	75RB#0	22.18	PASS
Band2	15MHz	16QAM	19125	75RB#0	22.01	PASS
Band2	20MHz	QPSK	18700	100RB#0	23.08	PASS
Band2	20MHz	QPSK	18900	100RB#0	23.10	PASS
Band2	20MHz	QPSK	19100	100RB#0	23.07	PASS
Band2	20MHz	16QAM	18700	100RB#0	22.40	PASS
Band2	20MHz	16QAM	18900	100RB#0	22.30	PASS
Band2	20MHz	16QAM	19100	100RB#0	22.28	PASS

5.2 Radiated Power (ERP/EIRP)

5.2.1 Limit

- 1) 22.913(a) - The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.
- 2) 27.50 (c) (10) the following power and antenna height requirements apply to stations transmitting in the 698–746 MHz band, the portable stations (hand-held devices) are limited to 3 watts ERP.
- 3) 27.50 (b)(10) Portable stations (hand-held devices) transmitting in the 746–757 MHz, 758–763 MHz, 776–793 MHz, and 805–806 MHz bands are limited to 3 watts ERP.
- 4) 27.50 (d)(4) The following power and antenna height requirements apply to stations transmitting in the 1710–1755 MHz and 2110–2155 MHz bands: Fixed, mobile, and portable (hand-held) stations operating in the 1710–1755 MHz band are limited to 1 watt EIRP.
- 5) 27.50(h) The following power limits shall apply in the BRS and EBS:
(2) Mobile and other user stations. Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.
- 6) 27.50(a)(3): For mobile and portable stations transmitting in the 2305-2315 MHz band or the 2350-2360 MHz band, the average EIRP must not exceed 50 milliwatts within any 1 megahertz of authorized bandwidth, except that for mobile and portable stations compliant with 3GPP LTE standards or another advanced mobile broadband protocol that avoids concentrating energy at the edge of the operating band the average EIRP must not exceed 250 milliwatts within any 5 megahertz of authorized bandwidth but may exceed 50 milliwatts within any 1 megahertz of authorized bandwidth.

5.2.2 Test procedure

1. The EUT was placed on an non-conductive turntable using a nonconductive support. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and EMI spectrum analyzer.
2. During the measurement, the EUT was communication with the station. The highest emission was recorded with the rotation of the turntable and the lowering of the test antenna from 4m to 1m. The reading was recorded and the field strength (E in dBuV/m) was calculated.
3. ERP in frequency band below 1GHz were measured using a substitution method. The EUT was replaced by dipole antenna connected, the S.G. output was recorded and ERP was calculated as follows:

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

4. EIRP in frequency band above 1GHz were measured using a substitution method. The EUT was replaced by or horn antenna connected, the S.G. output was recorded and EIRP was calculated as follows:

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

5. The worse case was relating to the conducted output power.

5.2.3 Test setup

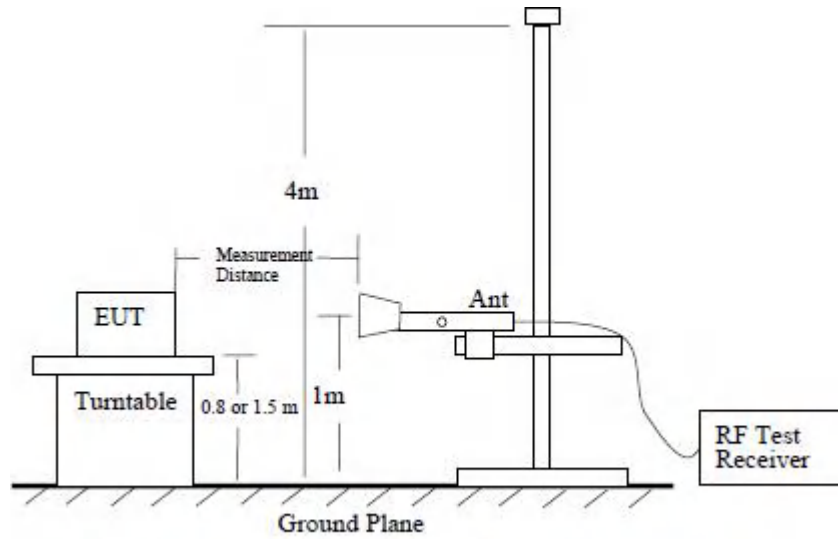


Figure 6—Test site-up for radiated ERP and/or EIRP measurements

5.2.4 Test results

Radiated Spurious Measurement: LTE Band 2

Radiated Power (EIRP) for Band 2									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	6/0	1850.7	1.81	3.76	25.24	23.29	188.429	Horizontal	Pass
		1880	1.44	3.91	25.22	22.75	188.874	Horizontal	Pass
		1909.3	1.50	3.93	25.28	22.85	190.276	Horizontal	Pass
1.4MHz Band 16 QAM	6/0	1850.7	1.68	3.76	25.24	23.16	204.934	Horizontal	Pass
		1880	1.79	3.91	25.22	23.10	178.164	Horizontal	Pass
		1909.3	1.64	3.93	25.28	22.99	175.350	Horizontal	Pass
3.0MHz Band QPSK	15/0	1851.5	1.03	3.77	25.23	22.49	221.150	Horizontal	Pass
		1880	1.75	3.91	25.24	23.08	183.476	Horizontal	Pass
		1908.5	1.15	3.94	25.25	22.46	177.465	Horizontal	Pass
3.0MHz Band 16 QAM	15/0	1851.5	1.39	3.77	25.23	22.85	190.656	Horizontal	Pass
		1880	1.20	3.91	25.24	22.53	182.696	Horizontal	Pass
		1908.5	1.52	3.94	25.25	22.83	203.552	Horizontal	Pass
5.0MHz Band QPSK	25/0	1852.5	1.50	3.77	25.31	23.04	201.786	Horizontal	Pass
		1880	1.06	3.91	25.22	22.37	192.952	Horizontal	Pass
		1907.5	1.76	3.94	25.32	23.14	216.329	Horizontal	Pass
5.0MHz Band 16 QAM	25/0	1852.5	1.28	3.77	25.31	22.82	185.107	Horizontal	Pass
		1880	1.96	3.91	25.22	23.27	184.786	Horizontal	Pass
		1907.5	1.67	3.94	25.32	23.05	194.362	Horizontal	Pass
10.0MHz Band QPSK	50/0	1855	1.44	3.79	25.33	22.98	181.749	Horizontal	Pass
		1880	1.67	3.95	25.22	22.94	181.840	Horizontal	Pass
		1905	1.21	3.97	25.19	22.43	199.601	Horizontal	Pass
10.0MHz Band 16 QAM	50/0	1855	1.31	3.79	25.33	22.85	214.645	Horizontal	Pass
		1880	1.72	3.95	25.22	22.99	177.137	Horizontal	Pass
		1905	1.07	3.97	25.19	22.29	182.280	Horizontal	Pass
15.0MHz Band QPSK	75/0	1857.5	1.63	3.79	25.34	23.18	195.961	Horizontal	Pass
		1880	1.41	3.95	25.22	22.68	189.232	Horizontal	Pass
		1902.5	1.94	3.97	25.18	23.15	190.189	Horizontal	Pass

15.0MHz	75/0	1857.5	1.47	3.79	25.34	23.02	200.842	Horizontal	Pass
Band 16		1880	1.28	3.95	25.22	22.55	208.868	Horizontal	Pass
QAM		1902.5	1.04	3.97	25.18	22.25	188.147	Horizontal	Pass
20.0MHz	100/0	1860	1.67	3.81	25.35	23.21	206.135	Horizontal	Pass
Band		1880	1.57	3.96	25.22	22.83	209.500	Horizontal	Pass
QPSK		1900	1.45	4	25.16	22.61	173.864	Horizontal	Pass
20.0MHz	100/0	1860	1.05	3.81	25.35	22.59	214.668	Horizontal	Pass
Band 16		1880	1.74	3.96	25.22	23.00	197.836	Horizontal	Pass
QAM		1900	1.61	4	25.16	22.77	177.207	Horizontal	Pass

Radiated Power (EIRP) for Band 2									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz	6/0	1850.7	1.73	3.76	25.24	23.21	209.484	Vertical	Pass
Band		1880	1.80	3.91	25.22	23.11	204.486	Vertical	Pass
QPSK		1909.3	1.00	3.93	25.28	22.35	171.851	Vertical	Pass
1.4MHz	6/0	1850.7	1.05	3.76	25.24	22.53	178.988	Vertical	Pass
Band 16		1880	1.47	3.91	25.22	22.78	189.592	Vertical	Pass
QAM		1909.3	1.74	3.93	25.28	23.09	203.878	Vertical	Pass
3.0MHz	15/0	1851.5	1.15	3.77	25.23	22.61	182.444	Vertical	Pass
Band		1880	1.09	3.91	25.24	22.42	174.518	Vertical	Pass
QPSK		1908.5	1.65	3.94	25.25	22.96	197.719	Vertical	Pass
3.0MHz	15/0	1851.5	1.13	3.77	25.23	22.59	181.396	Vertical	Pass
Band 16		1880	1.29	3.91	25.24	22.62	182.816	Vertical	Pass
QAM		1908.5	1.07	3.94	25.25	22.38	172.893	Vertical	Pass
5.0MHz	25/0	1852.5	1.65	3.77	25.31	23.19	208.469	Vertical	Pass
Band		1880	1.85	3.91	25.22	23.16	206.803	Vertical	Pass
QPSK		1907.5	1.49	3.94	25.32	22.87	193.735	Vertical	Pass
5.0MHz	25/0	1852.5	1.86	3.77	25.31	23.40	218.981	Vertical	Pass
Band 16		1880	1.73	3.91	25.22	23.04	201.225	Vertical	Pass
QAM		1907.5	1.58	3.94	25.32	22.96	197.759	Vertical	Pass
10.0MHz	50/0	1855	1.23	3.79	25.33	22.77	189.035	Vertical	Pass
Band		1880	1.81	3.95	25.22	23.08	203.345	Vertical	Pass
QPSK		1905	1.53	3.97	25.19	22.75	188.314	Vertical	Pass

10.0MHz	50/0	1855	1.47	3.79	25.33	23.01	200.137	Vertical	Pass
Band 16		1880	1.87	3.95	25.22	23.14	205.925	Vertical	Pass
QAM		1905	1.68	3.97	25.19	22.90	195.146	Vertical	Pass
15.0MHz	75/0	1857.5	1.38	3.79	25.34	22.93	196.261	Vertical	Pass
Band		1880	1.79	3.95	25.22	23.06	202.179	Vertical	Pass
QPSK		1902.5	1.14	3.97	25.18	22.35	171.755	Vertical	Pass
15.0MHz	75/0	1857.5	1.59	3.79	25.34	23.14	206.037	Vertical	Pass
Band 16		1880	1.08	3.95	25.22	22.35	171.633	Vertical	Pass
QAM		1902.5	1.87	3.97	25.18	23.08	203.058	Vertical	Pass
20.0MHz	100/0	1860	1.25	3.81	25.35	22.79	189.989	Vertical	Pass
Band		1880	1.51	3.96	25.22	22.77	189.218	Vertical	Pass
QPSK		1900	1.42	4	25.16	22.58	181.078	Vertical	Pass
20.0MHz	100/0	1860	1.98	3.81	25.35	23.52	224.689	Vertical	Pass
Band 16		1880	1.59	3.96	25.22	22.85	192.593	Vertical	Pass
QAM		1900	1.74	4	25.16	22.90	194.849	Vertical	Pass

5.3 Peak-to-Average Ratio

5.3.1 Limit

Not exceed 13 dB

5.3.2 Test procedure

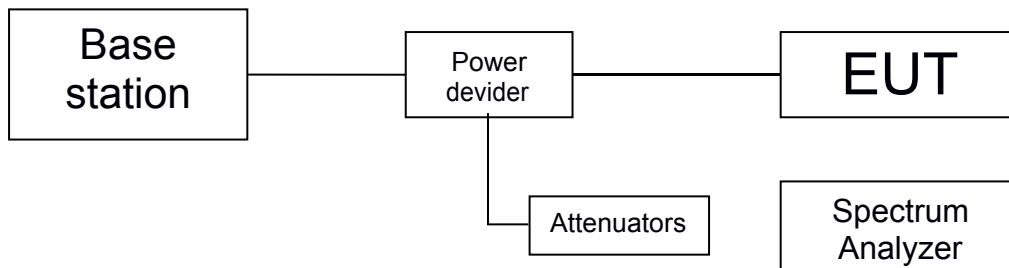
FCC: CFR Part 24.232 (d), 27.50(a)

The peak-to-average power ratio (PAPR) of the transmitter output power must not exceed 13 dB. The PAPR measurements should be made using either an instrument with complementary cumulative distribution function (CCDF) capabilities to determine that PAPR will not exceed 13 dB for more than 0.1 percent of the time or other Commission approved procedure. The measurement must be performed using a signal corresponding to the highest PAPR expected during periods of continuous transmission.

According to KDB 971168 5.7.1:

- Refer to instrument's analyzer instruction manual for details on how to use the power statistics/CCDF function;
- Set resolution/measurement bandwidth $\geq$ signal's occupied bandwidth;
- Set the number of counts to a value that stabilizes the measured CCDF curve;
- Set the measurement interval to 1 ms
- Record the maximum PAPR level associated with a probability of 0.1%

5.3.3 Test setup



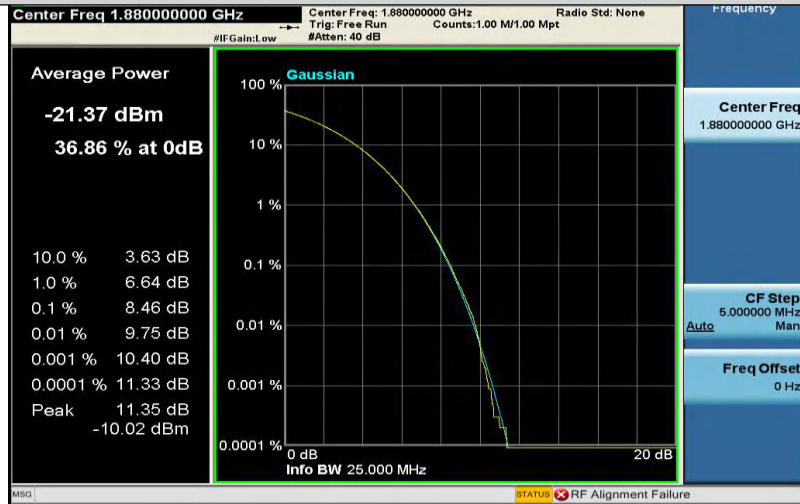
5.3.4 Test results

Note: All mode has been tested, only worst data (Max. bandwidth, Middle channel) shown in this report.

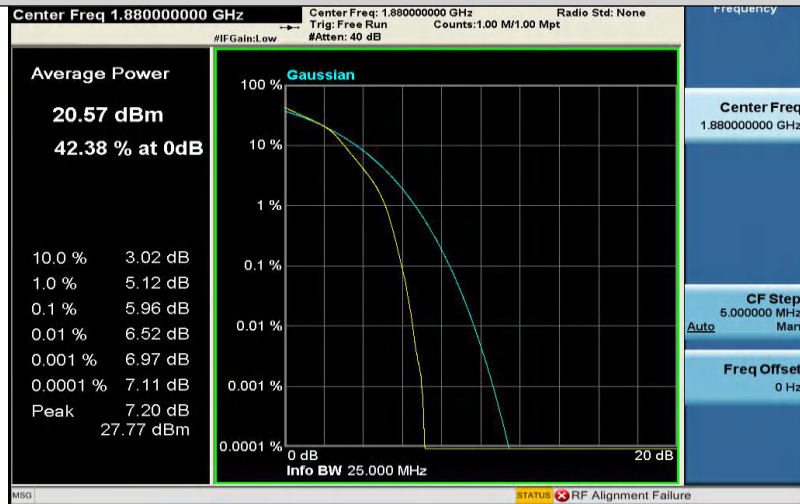
Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band2	1.4MHz	QPSK	18900	6RB#0	5.38	13	PASS
Band2	1.4MHz	16QAM	18900	6RB#0	8.46	13	PASS
Band2	3MHz	QPSK	18900	15RB#0	5.52	13	PASS
Band2	3MHz	16QAM	18900	15RB#0	5.96	13	PASS
Band2	5MHz	QPSK	18900	25RB#0	5.55	13	PASS
Band2	5MHz	16QAM	18900	25RB#0	5.97	13	PASS
Band2	10MHz	QPSK	18900	50RB#0	5.60	13	PASS
Band2	10MHz	16QAM	18900	50RB#0	7.83	13	PASS
Band2	15MHz	QPSK	18900	75RB#0	5.80	13	PASS
Band2	15MHz	16QAM	18900	75RB#0	6.01	13	PASS
Band2	20MHz	QPSK	18900	100RB#0	5.65	13	PASS
Band2	20MHz	16QAM	18900	100RB#0	5.93	13	PASS

Test plots

Band2-1.4MHz-16QAM-18900-6RB#0



Band2-3MHz-16QAM-18900-15RB#0



Band2-5MHz-16QAM-18900-25RB#0



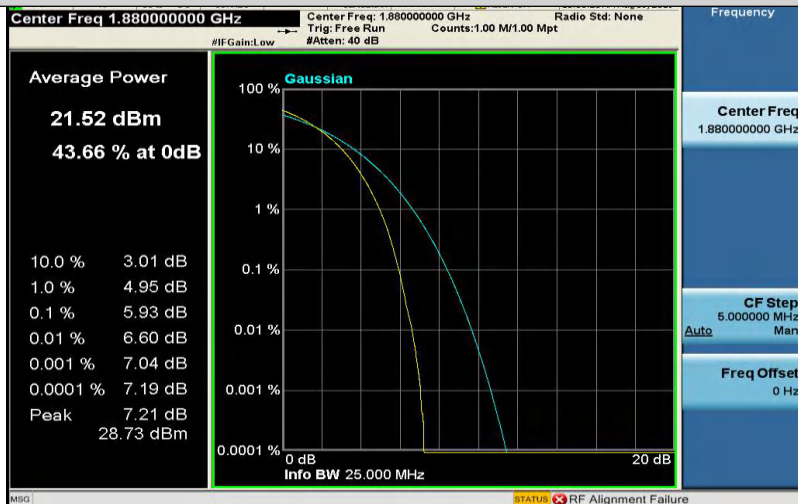
Band2-10MHz-16QAM-18900-50RB#0



Band2-15MHz-16QAM-18900-75RB#0



Band2-20MHz-16QAM-18900-100RB#0



5.4 99% and -26 dB Occupied Bandwidth

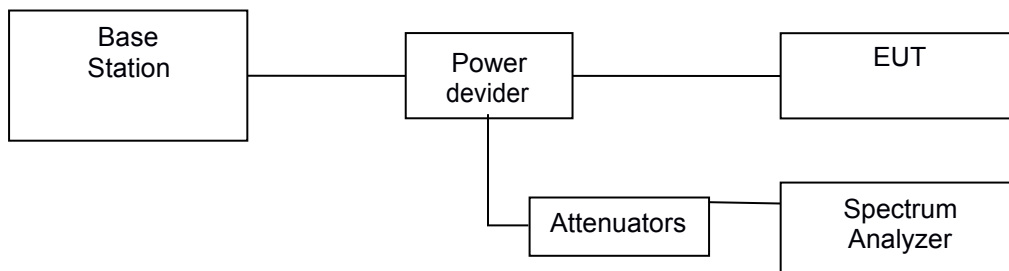
5.4.1 Limit

N/A

5.4.2 Test procedure

1. The EUT' RF output port was connected to Spectrum Analyzer and Base Station via power divider.
2. Spectrum analyzer's occupied bandwidth measure function was used to measure 99% bandwidth and -26dBc bandwidth

5.4.3 Test setup



5.4.4 Test results

Note1: all modes of RB configurations have been tested, and only worst configuration data listed.

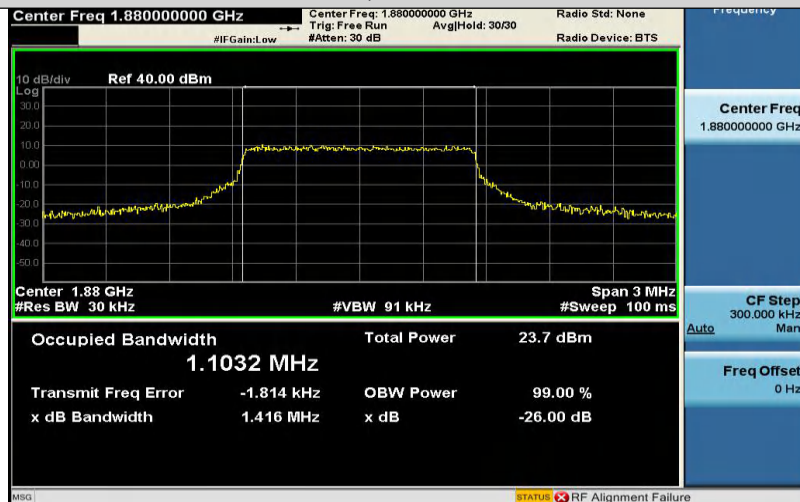
Band	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band2	1.4MHz	QPSK	18607	6RB#0	1.0970	1.405	PASS
Band2	1.4MHz	QPSK	18900	6RB#0	1.0987	1.420	PASS
Band2	1.4MHz	QPSK	19193	6RB#0	1.0945	1.396	PASS
Band2	1.4MHz	16QAM	18607	6RB#0	1.0988	1.459	PASS
Band2	1.4MHz	16QAM	18900	6RB#0	1.1032	1.416	PASS
Band2	1.4MHz	16QAM	19193	6RB#0	1.1028	1.592	PASS
Band2	3MHz	QPSK	18615	15RB#0	2.6998	2.957	PASS
Band2	3MHz	QPSK	18900	15RB#0	2.7021	2.985	PASS
Band2	3MHz	QPSK	19185	15RB#0	2.7043	2.981	PASS
Band2	3MHz	16QAM	18615	15RB#0	2.6974	2.974	PASS
Band2	3MHz	16QAM	18900	15RB#0	2.7035	2.967	PASS
Band2	3MHz	16QAM	19185	15RB#0	2.7018	2.971	PASS
Band2	5MHz	QPSK	18625	25RB#0	4.5096	5.007	PASS
Band2	5MHz	QPSK	18900	25RB#0	4.5102	5.005	PASS
Band2	5MHz	QPSK	19175	25RB#0	4.5167	4.998	PASS
Band2	5MHz	16QAM	18625	25RB#0	4.5141	5.027	PASS
Band2	5MHz	16QAM	18900	25RB#0	4.5160	5.019	PASS
Band2	5MHz	16QAM	19175	25RB#0	4.5192	5.013	PASS
Band2	10MHz	QPSK	18650	50RB#0	8.9315	9.922	PASS
Band2	10MHz	QPSK	18900	50RB#0	8.9531	9.862	PASS
Band2	10MHz	QPSK	19150	50RB#0	8.9565	9.873	PASS
Band2	15MHz	QPSK	18675	75RB#0	13.505	14.63	PASS
Band2	15MHz	QPSK	18900	75RB#0	13.523	14.71	PASS
Band2	15MHz	QPSK	19125	75RB#0	13.515	14.83	PASS
Band2	15MHz	16QAM	18675	75RB#0	13.491	14.76	PASS
Band2	15MHz	16QAM	18900	75RB#0	13.528	14.57	PASS
Band2	15MHz	16QAM	19125	75RB#0	13.539	15.06	PASS
Band2	20MHz	QPSK	18700	100RB#0	17.958	19.09	PASS
Band2	20MHz	QPSK	18900	100RB#0	18.019	19.05	PASS
Band2	20MHz	QPSK	19100	100RB#0	17.967	19.14	PASS
Band2	20MHz	16QAM	18700	100RB#0	17.957	19.20	PASS
Band2	20MHz	16QAM	18900	100RB#0	18.050	19.05	PASS
Band2	20MHz	16QAM	19100	100RB#0	17.975	19.12	PASS

Test plots

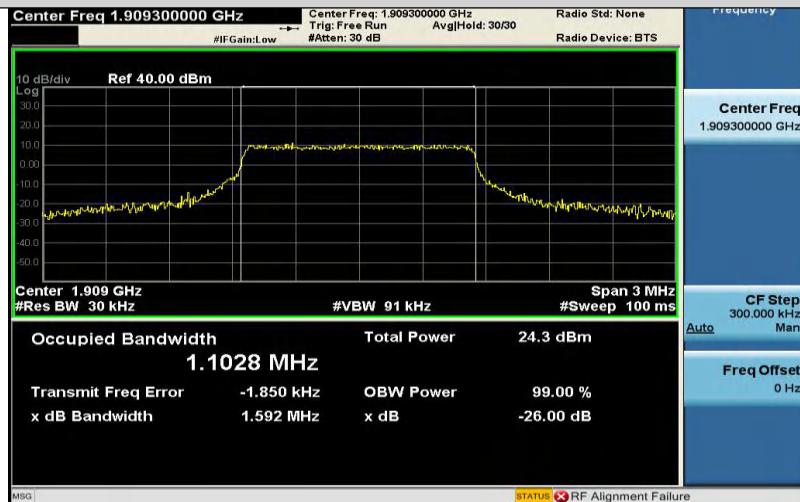
Band2-1.4MHz-16QAM-18607-6RB#0-1.0988



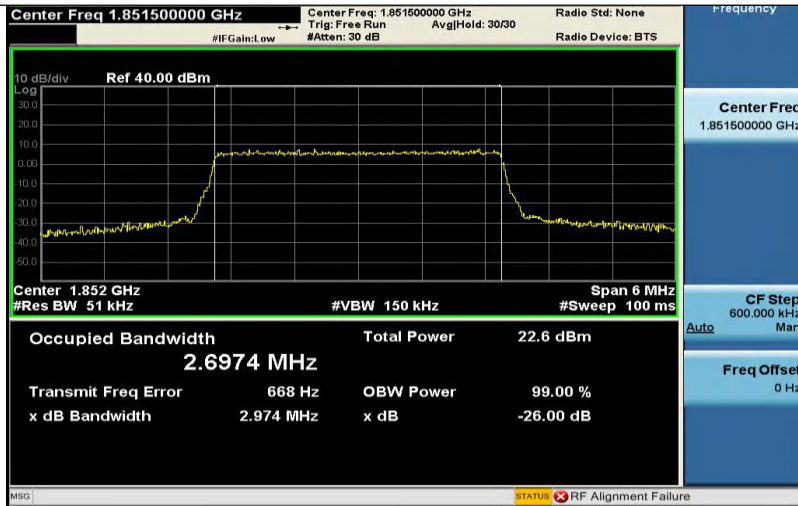
Band2-1.4MHz-16QAM-18900-6RB#0-1.1032



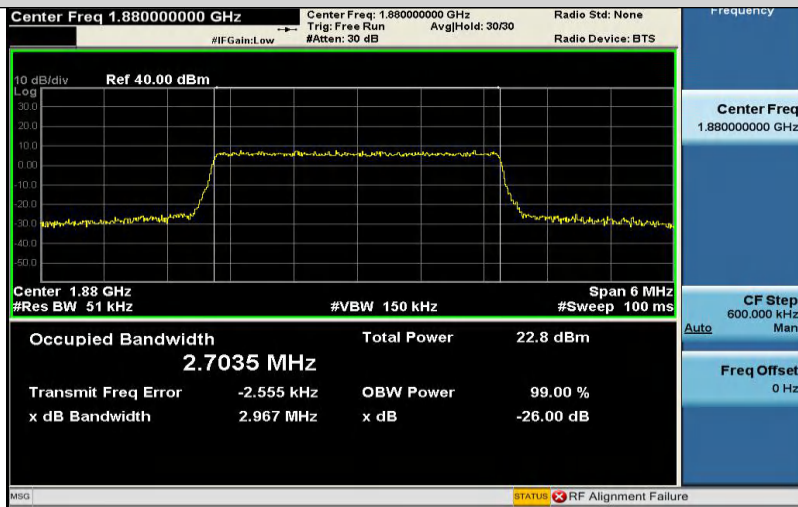
Band2-1.4MHz-16QAM-19193-6RB#0-1.1028



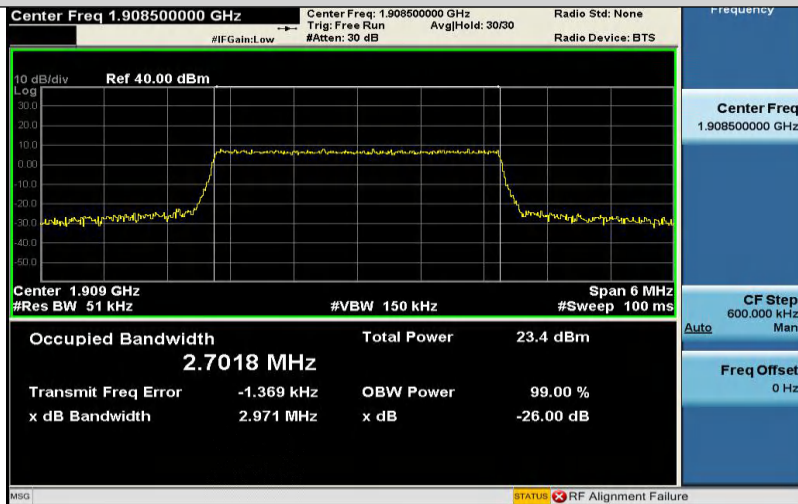
Band2-3MHz-16QAM-18615-15RB#0-2.6974



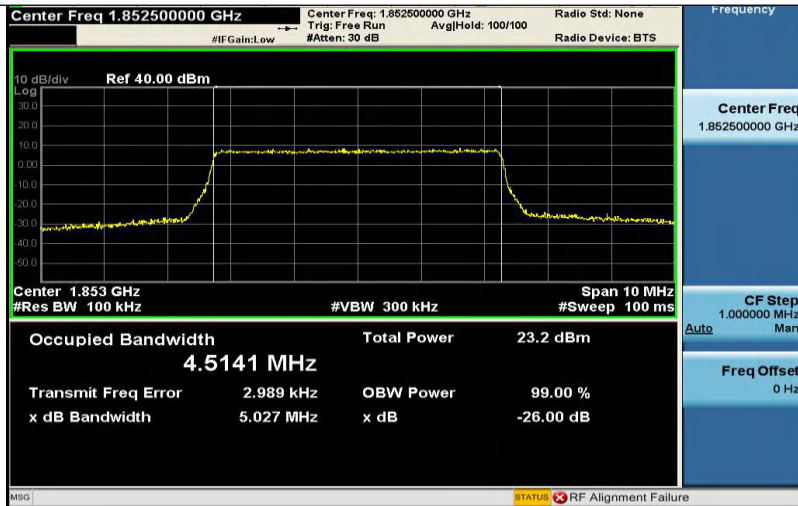
Band2-3MHz-16QAM-18900-15RB#0-2.7035



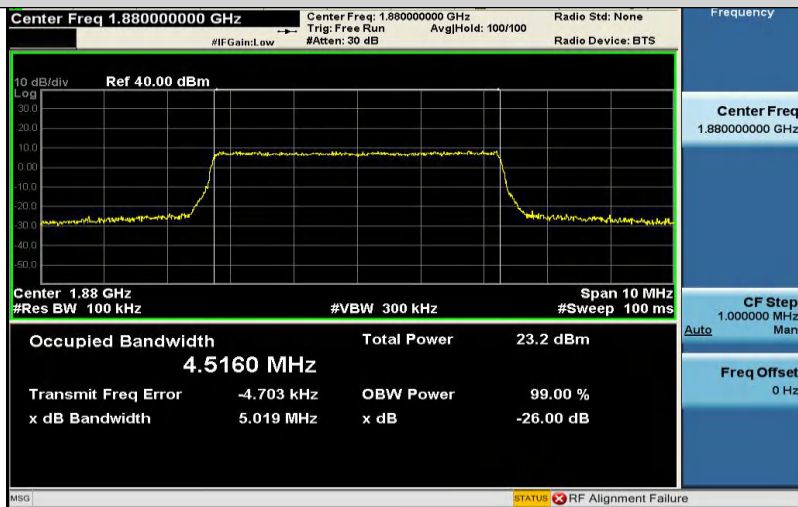
Band2-3MHz-16QAM-19185-15RB#0-2.7018



Band2-5MHz-16QAM-18625-25RB#0-4.5141



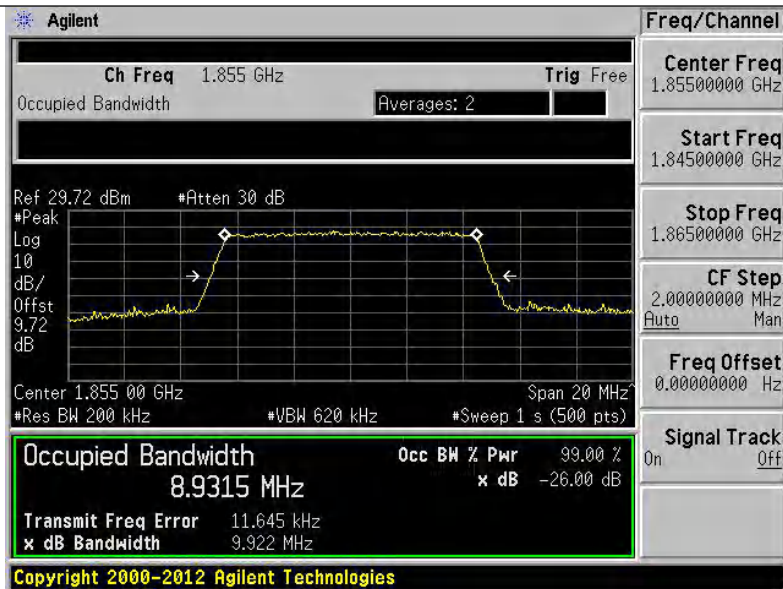
Band2-5MHz-16QAM-18900-25RB#0-4.5160



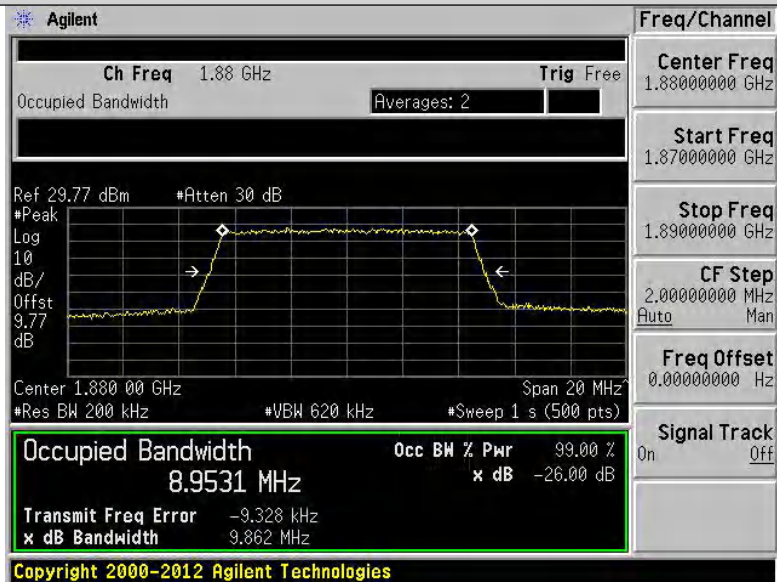
Band2-5MHz-16QAM-19175-25RB#0-4.5192



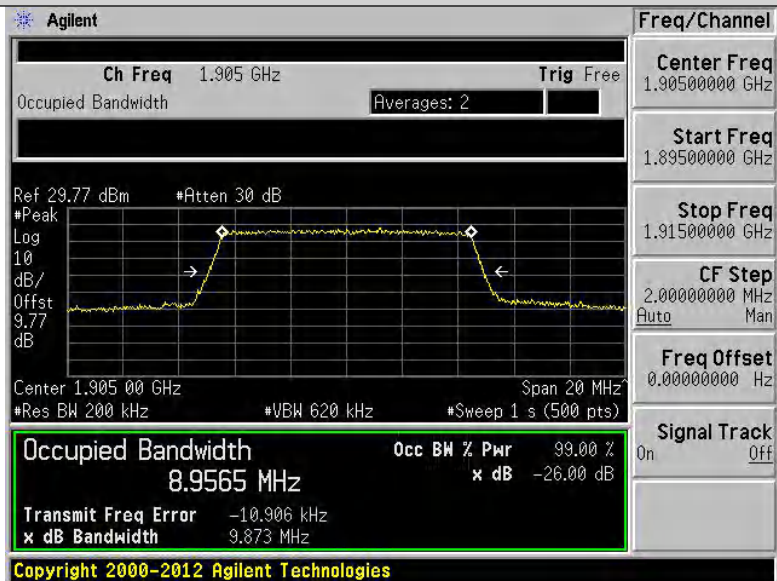
Band2-10MHz-QPSK-18650-50RB#0-8.9315



Band2-10MHz-QPSK-18900-50RB#0-8.9531



Band2-10MHz-QPSK-19150-50RB#0-8.9565



Band2-15MHz-16QAM-18675-75RB#0-13.491



Band2-15MHz-16QAM-18900-75RB#0-13.528



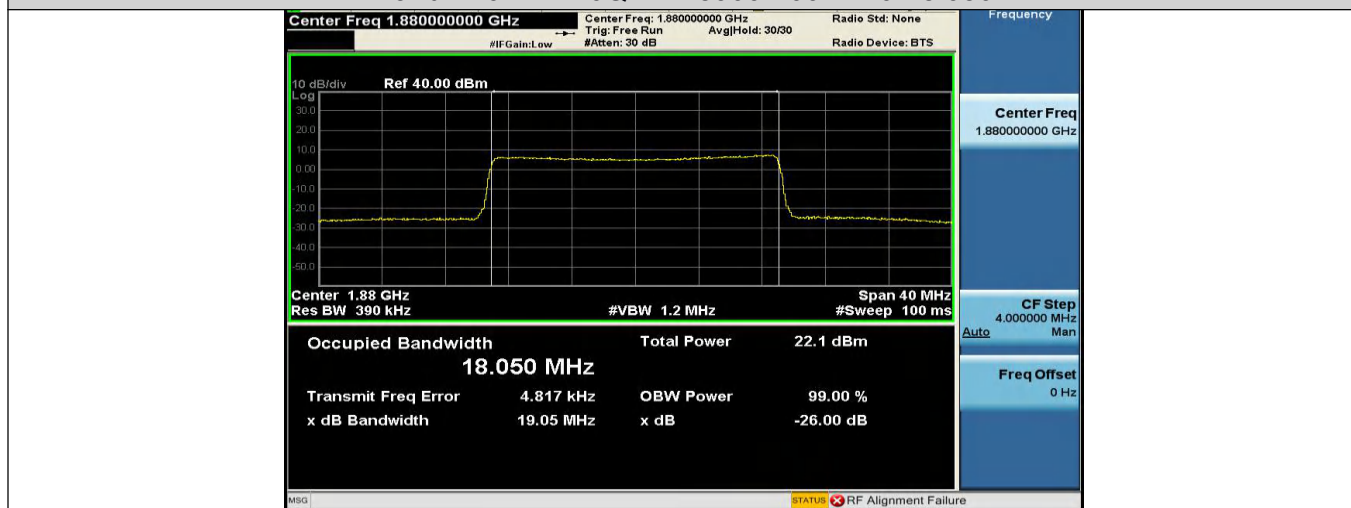
Band2-15MHz-16QAM-19125-75RB#0-13.539



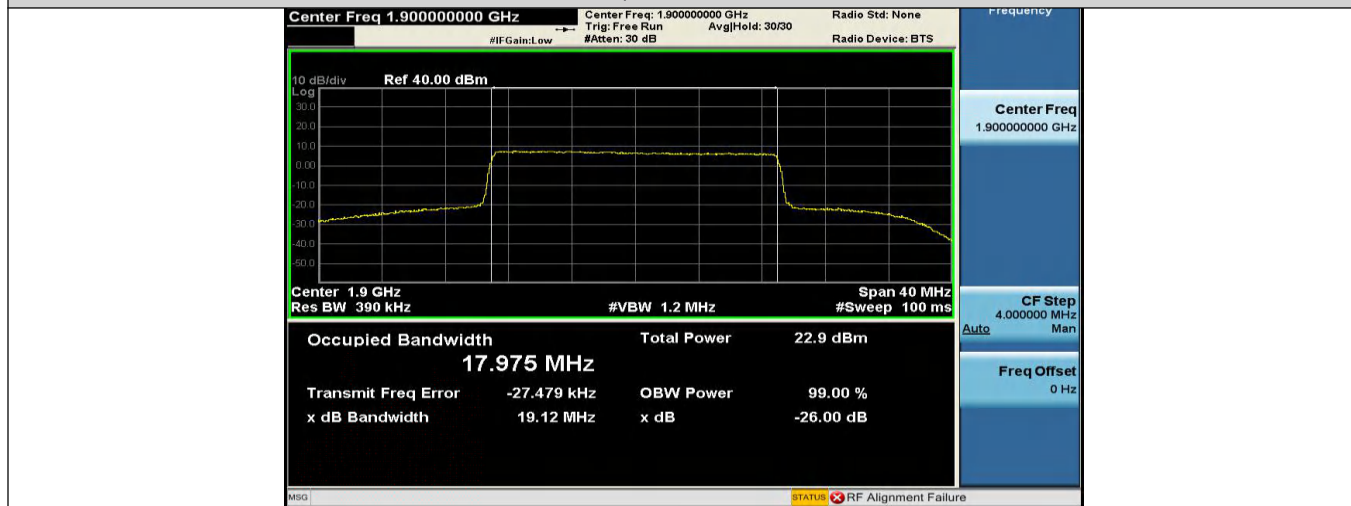
Band2-20MHz-16QAM-18700-100RB#0-17.957



Band2-20MHz-16QAM-18900-100RB#0-18.050



Band2-20MHz-16QAM-19100-100RB#0-17.975



5.5 SPURIOUS EMISSIONS AT ANTENNA TERMINALS

5.5.1 Limit

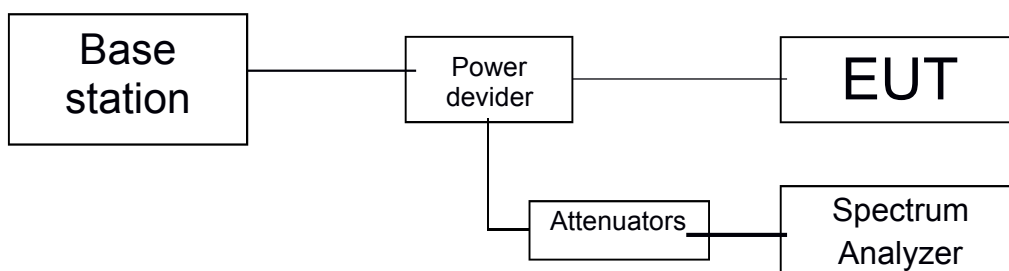
The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10}(P)$ dB (-13 dBm).

Band7: For mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log(P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log(P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log(P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that $43 + 10 \log(P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log(P)$ dB at or below 2490.5 MHz.

5.5.2 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 100 kHz when below 1GHz, 1MHz when above 1 GHz; 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=100 kHz, VBW=300 kHz when below 1 GHz, RBW =1 MHz, VBW=3 MHz when above 1 GHz, 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.
5. All model was tested and 16QAM was worst case and was record.

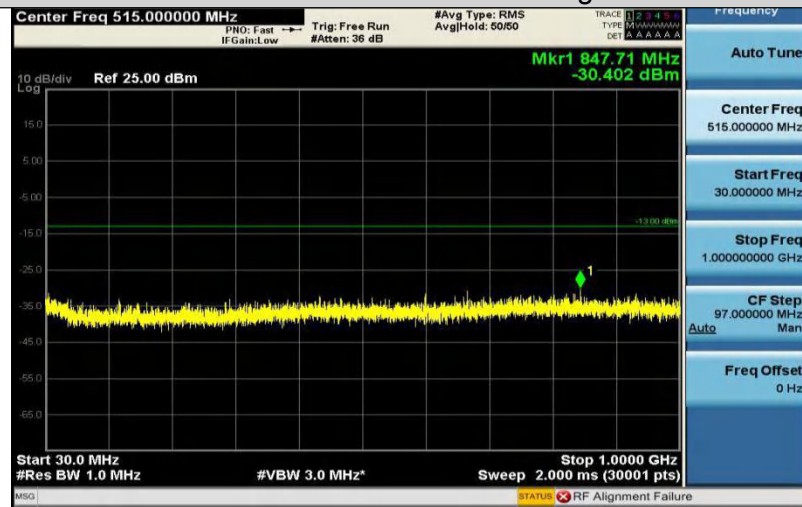
5.5.3 Test setup



5.5.4 Test results

Note: All mode has been tested, only worst data(Middle channel) was shown in this report.

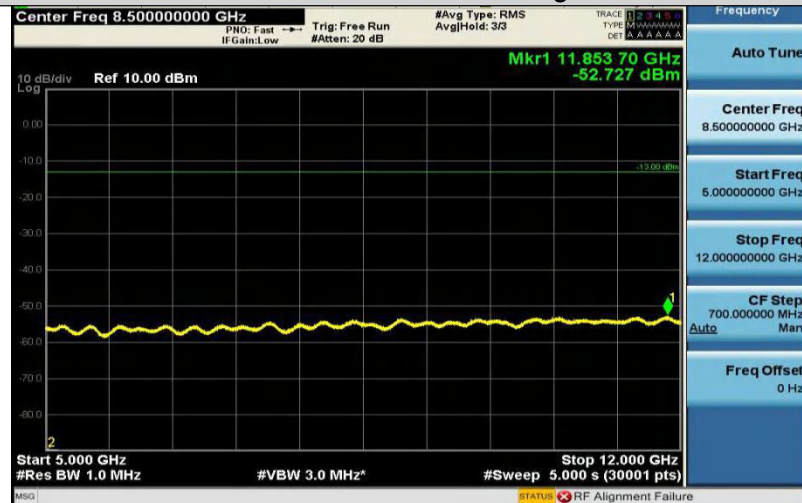
Band2-1.4MHz-16QAM-18900-1RB#0-Range1:30~1000MHz



Band2-1.4MHz-16QAM-18900-1RB#0-Range2:1000~5000MHz



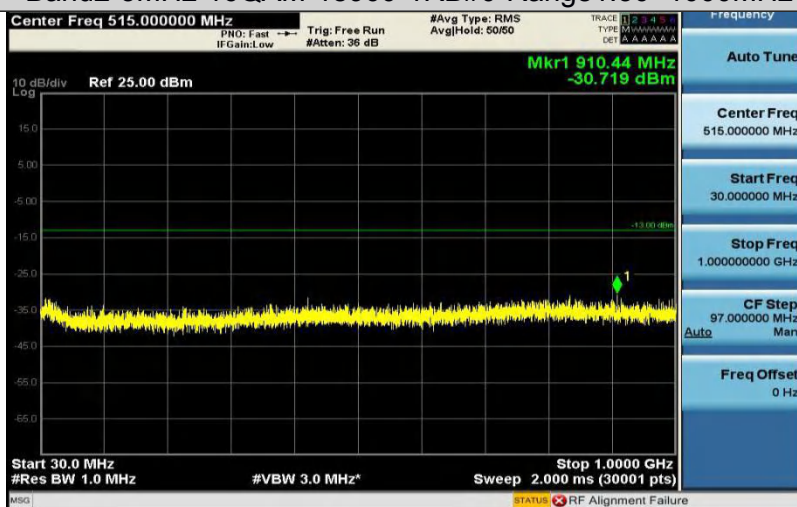
Band2-1.4MHz-16QAM-18900-1RB#0-Range3:5000~12000MHz



Band2-1.4MHz-16QAM-18900-1RB#0-Range4:12000~26500MHz



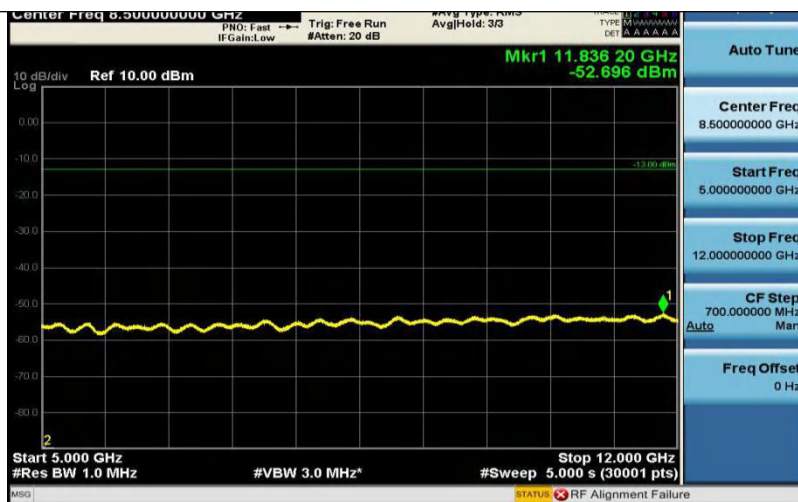
Band2-3MHz-16QAM-18900-1RB#0-Range1:30~1000MHz



Band2-3MHz-16QAM-18900-1RB#0-Range2:1000~5000MHz



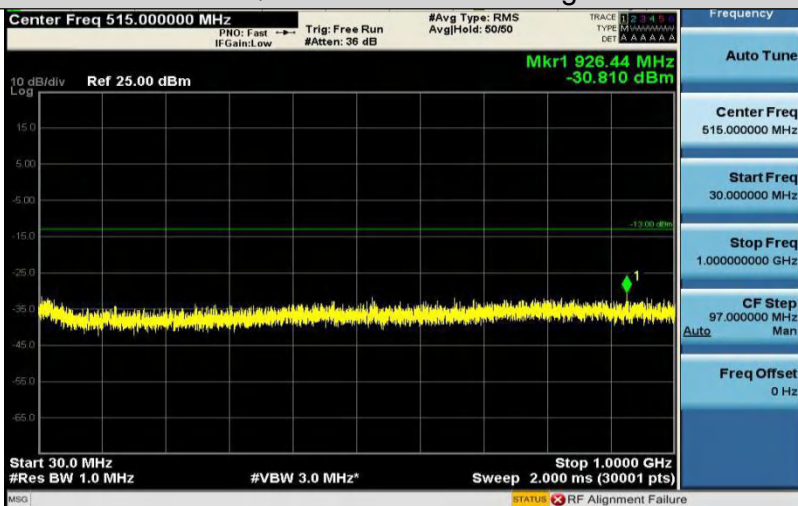
Band2-3MHz-16QAM-18900-1RB#0-Range3:5000~12000MHz



Band2-3MHz-16QAM-18900-1RB#0-Range4:12000~26500MHz



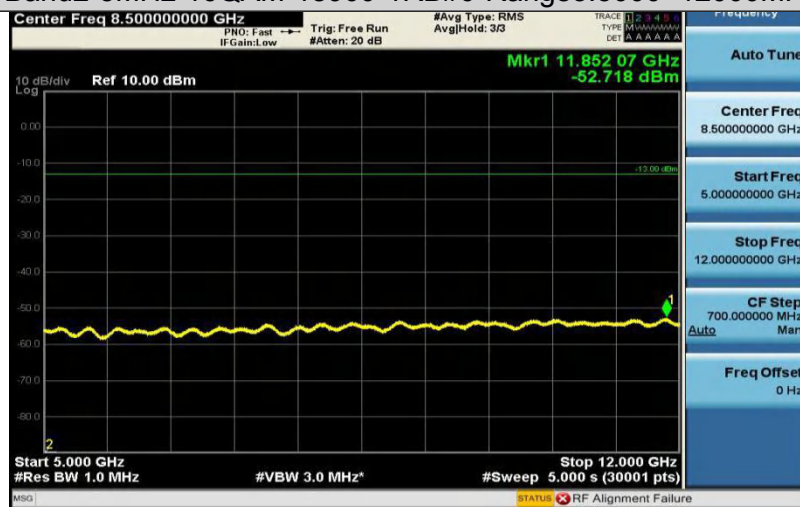
Band2-5MHz-16QAM-18900-1RB#0-Range1:30~1000MHz



Band2-5MHz-16QAM-18900-1RB#0-Range2:1000~5000MHz



Band2-5MHz-16QAM-18900-1RB#0-Range3:5000~12000MHz



Band2-5MHz-16QAM-18900-1RB#0-Range4:12000~26500MHz



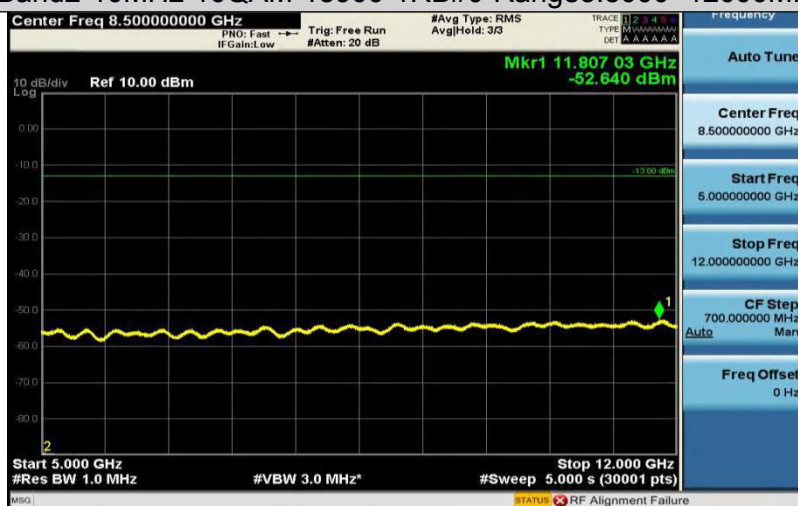
Band2-10MHz-16QAM-18900-1RB#0-Range1:30~1000MHz



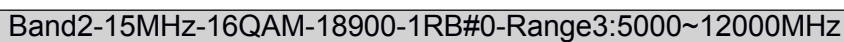
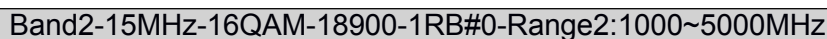
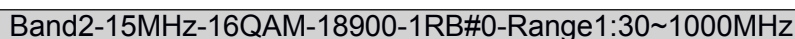
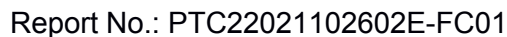
Band2-10MHz-16QAM-18900-1RB#0-Range2:1000~5000MHz

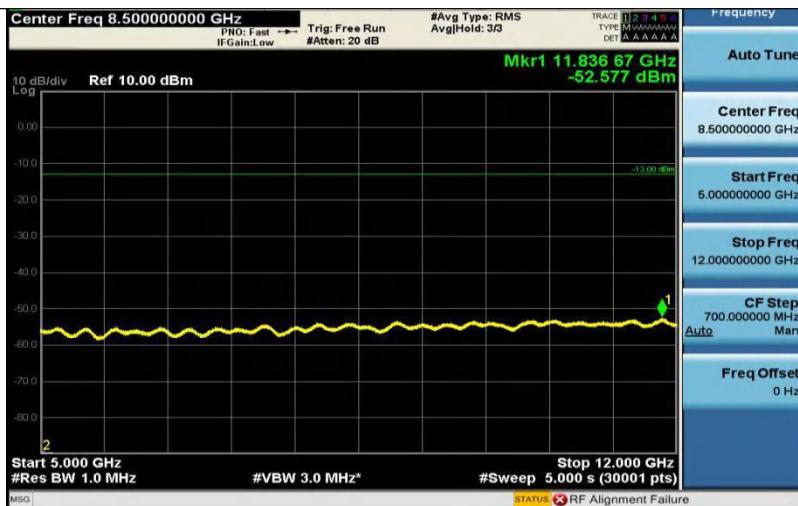


Band2-10MHz-16QAM-18900-1RB#0-Range3:5000~12000MHz



Band2-10MHz-16QAM-18900-1RB#0-Range4:12000~26500MHz

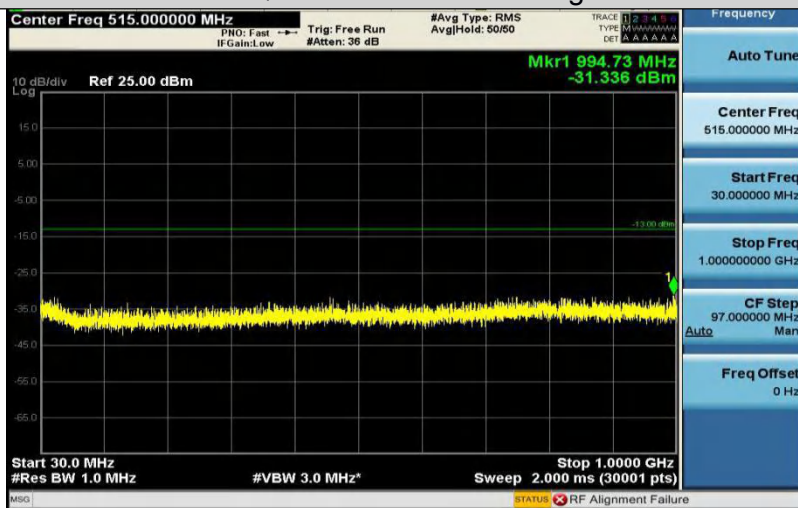




Band2-15MHz-16QAM-18900-1RB#0-Range4:12000~26500MHz



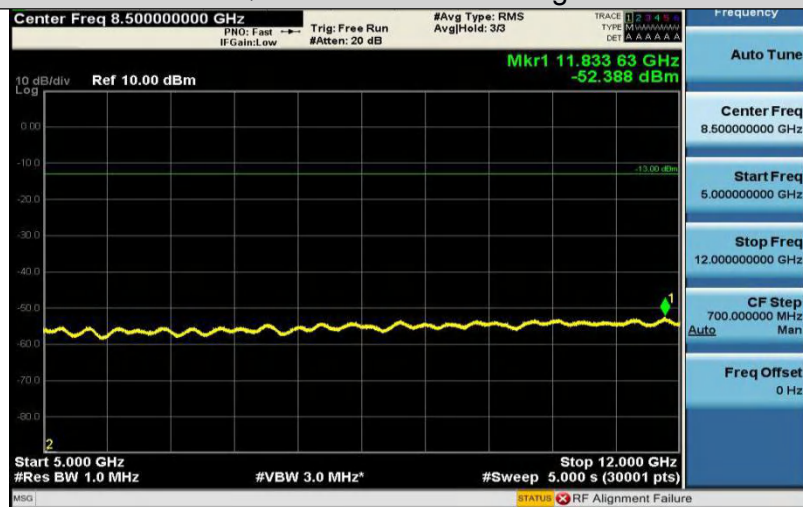
Band2-20MHz-16QAM-18900-1RB#0-Range1:30~1000MHz



Band2-20MHz-16QAM-18900-1RB#0-Range2:1000~5000MHz



Band2-20MHz-16QAM-18900-1RB#0-Range3:5000~12000MHz



Band2-20MHz-16QAM-18900-1RB#0-Range4:12000~26500MHz



5.6 Band edge at antenna terminals

5.6.1 Limit

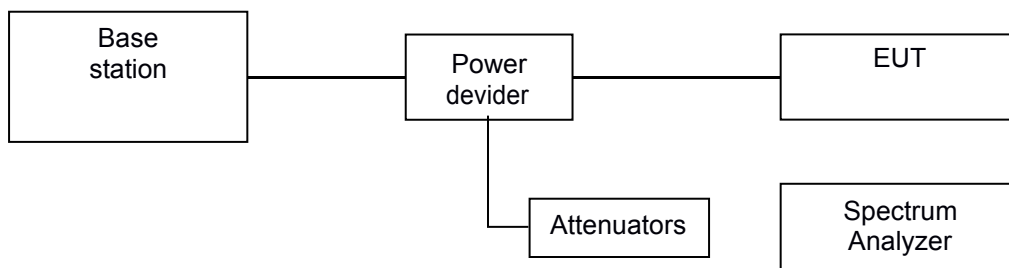
The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB.

It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its 10th harmonic.

5.6.2 Test procedure

- 1 The testing follows FCC KDB 971168 v03 Section 6.0.
- 2 The EUT was connected to spectrum analyzer and system simulator via a power divider.
- 3 The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator.
- 4 The path loss was compensated to the results for each measurement.
- 5 The middle channel for the highest RF power within the transmitting frequency was measured.
- 6 The conducted spurious emission for the whole frequency range was taken.
- 7 Make the measurement with the spectrum analyzer's RBW = 200kHz, VBW = 620kHz.
- 8 Set spectrum analyzer with RMS detector.
- 9 Taking the record of maximum spurious emission.
- 10 The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
- 11 The limit line is derived from $43 + 10 \log (P)$ dB below the transmitter power P(Watts)
 - = $P(W) - [43 + 10 \log (P)]$ (dB)
 - = $[30 + 10 \log (P)]$ (dBm) - $[43 + 10 \log (P)]$ (dB)
 - = -13dBm.

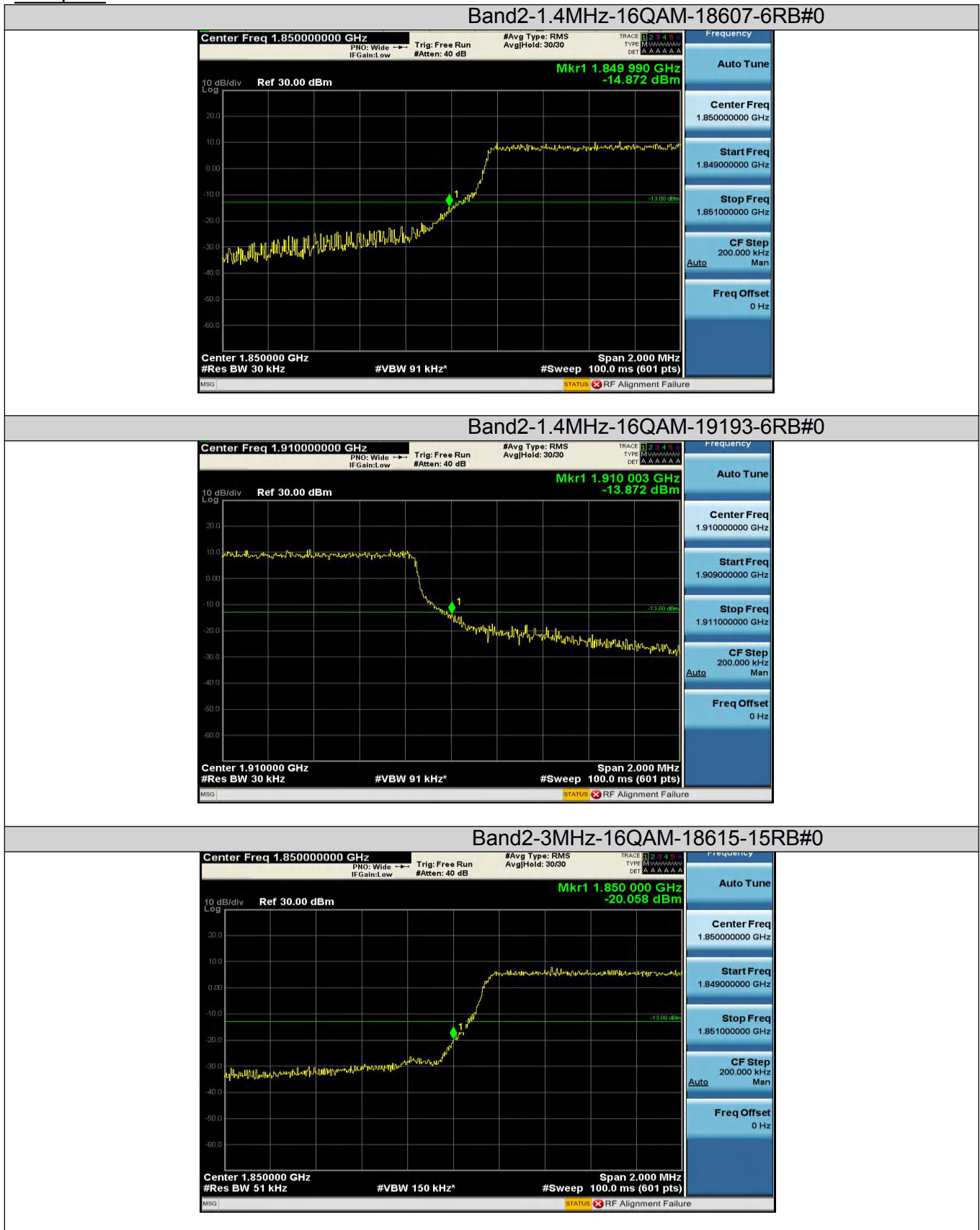
5.6.3 Test setup

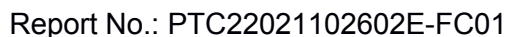


5.6.4 Test results

Note: All mode has been tested, only worst data shown in this report.

Test plots

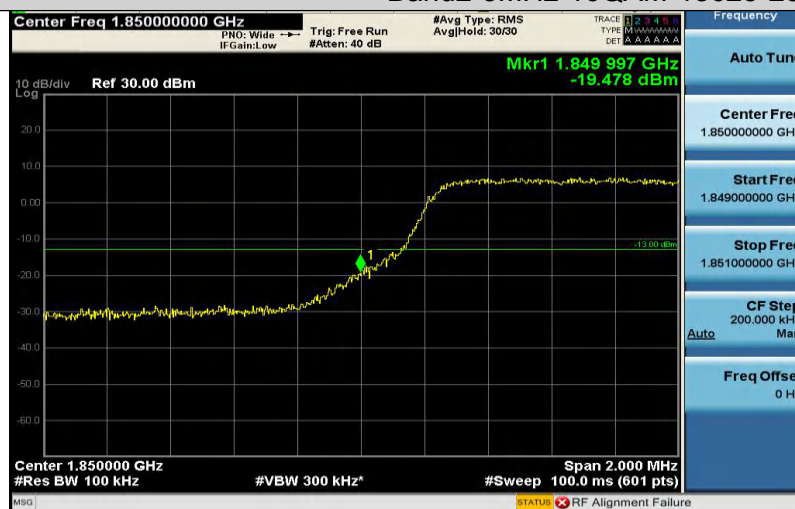




Band2-3MHz-16QAM-19185-15RB#0



Band2-5MHz-16QAM-18625-25RB#0



Band2-5MHz-16QAM-19175-25RB#0



Band2-10MHz-16QAM-18650-50RB#0



Band2-10MHz-16QAM-19150-50RB#0



Band2-15MHz-16QAM-18675-75RB#0



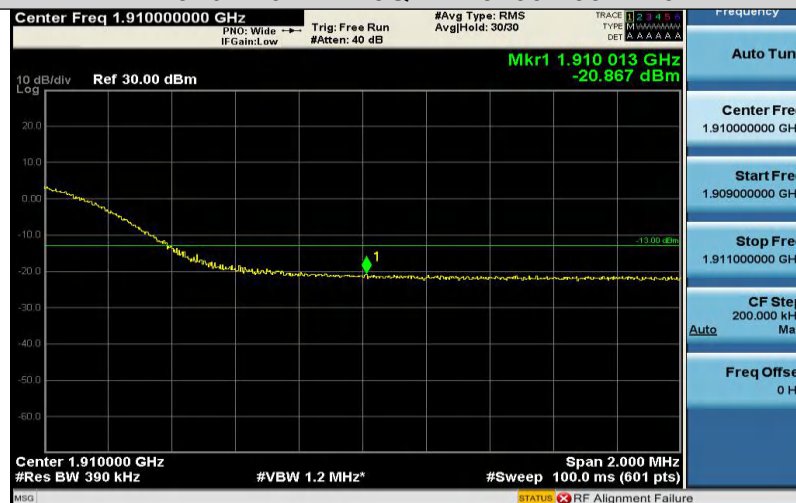
Band2-15MHz-16QAM-19125-75RB#0



Band2-20MHz-16QAM-18700-100RB#0



Band2-20MHz-16QAM-19100-100RB#0



5.7 Field strength of spurious radiation measurement

5.7.1 Limit

LTE Band 2: -13dBm

5.7.2 Test procedure

1 The EUT was placed on a non-conductive turntable using a nonconductive support. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and EMI spectrum analyzer.

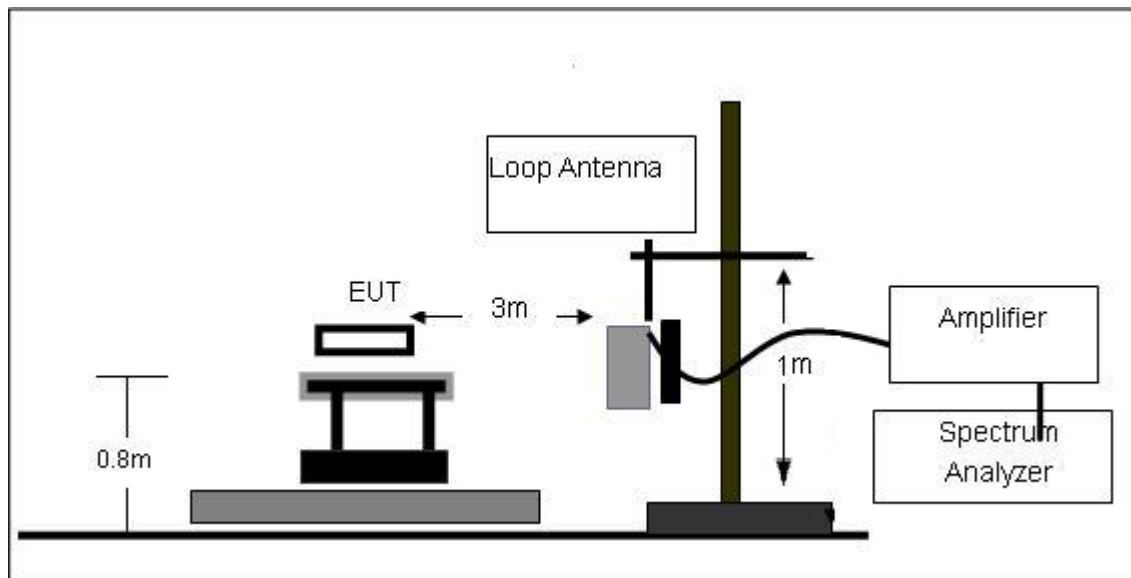
2 The frequency range up to tenth harmonic was investigated for each of three fundamental frequency (low, middle and high channels). Once spurious emission was identified, the power of the emission was determined using the substitution method.

3 The spurious emissions attenuation was calculated as the difference between radiated power at the fundamental frequency and the spurious emissions frequency. $ERP / EIRP = S.G. \text{ output (dBm)} + \text{Antenna Gain(dB/dBi)} - \text{Cable Loss (dB)}$.

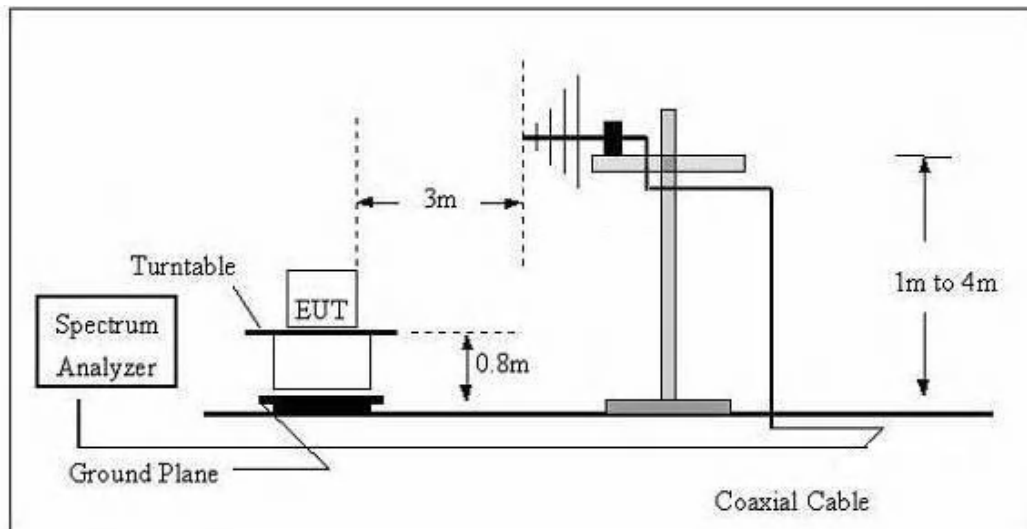
6 During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

5.7.3 Test setup

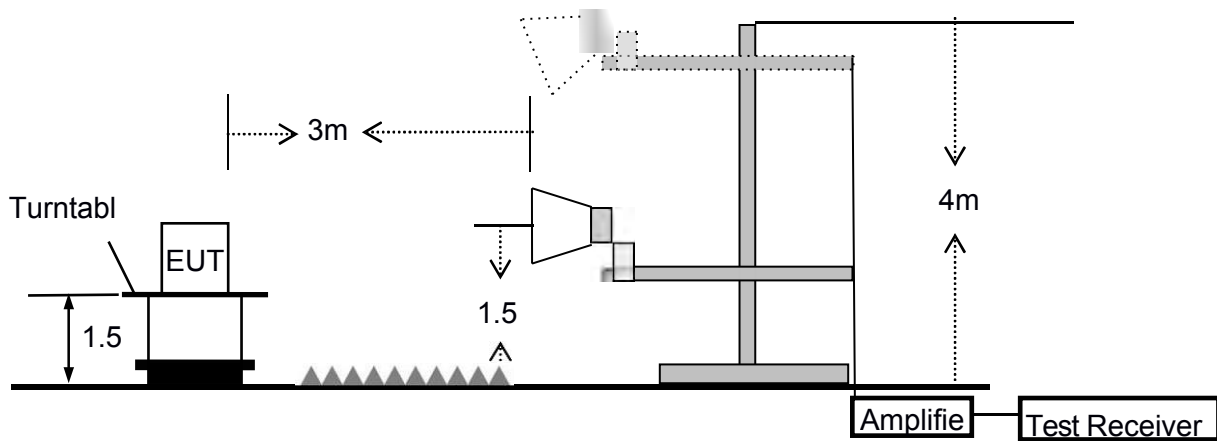
Radiated emission test-up frequency below 30MHz



Radiated emission test-up frequency 30MHz~1GHz



Radiated emission test-up frequency above 1GHz



5.7.4 Test results

Note: All the configuration was tested and only the worse case was reported band 2 20MHz Bandwidth CH18900

LTE Band 2 (30MHz – 19GHz)

No	Frequency (MHz)	Reading Level(dBm)	Correct Factor(dB)	Measurement (dBm)	Limit (dBm)	Margin	Polarization	Result
1	277.0935	-64.71	16.13	-48.58	-13	-35.58	H	Pass
2	410.3824	-64.32	19.5	-44.82	-13	-31.82	H	Pass
3	603.5392	-63.44	21.6	-41.84	-13	-28.84	H	Pass
4	12404.81	-64.73	13.15	-51.58	-13	-38.58	H	Pass
5	14905.81	-58.19	16.21	-41.98	-13	-28.98	H	Pass
6	15851.7	-60.55	4.08	-56.47	-13	-43.47	H	Pass

No.	Frequency (MHz)	Reading Level(dBm)	Correct Factor(dB)	Measurement (dBm)	Limit (dBm)	Margin	Polarization	Result
1	100.2286	-64.10	14.67	-49.43	-13	-36.43	V	Pass
2	148.441	-64.58	12.37	-52.21	-13	-39.21	V	Pass
3	478.8455	-61.86	20.86	-41.00	-13	-28.00	V	Pass
4	11282.57	-59.85	9.96	-49.89	-13	-36.89	V	Pass
5	12340.68	-62.14	11.01	-51.13	-13	-38.13	V	Pass
6	12965.93	-62.26	12.01	-50.25	-13	-37.25	V	Pass
7	17965.3	-61.19	10.36	-50.83	-13	-37.83	V	Pass
8	17984.9	-58.49	11.52	-46.97	-13	-33.97	V	Pass

5.8 Frequency Stability

5.8.1 Limit

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. As this transceiver is considered "Hand carried, battery powered equipment" Section 2.1055(d) (2) applies. This requires that the lower voltage for frequency stability testing be specified by the manufacturer. This transceiver is specified to operate with an input voltage of between 3.5VDC and 4.4VDC, with a nominal voltage of 3.85VDC. Operation above or below these voltage limits is prohibited by transceiver software in order to prevent improper operation as well as to protect components from over stress. These voltages represent a tolerance from -5.4% to 10.8%. For the purposes of measuring frequency stability these voltage limits are to be used.

5.8.2 Test procedure

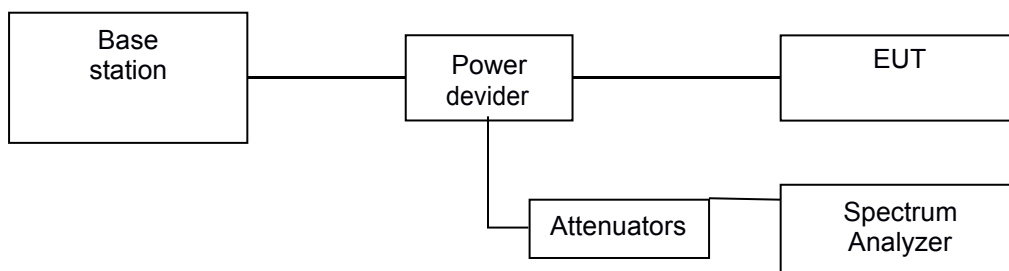
Test Procedures for Temperature Variation:

- The EUT was set up in the thermal chamber and connected with the system simulator.
- With power OFF, the temperature was decreased to -30°C and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.
- With power OFF, the temperature was raised in 10°C step up to 50°C. The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.

Test Procedures for Voltage Variation

- 6 The testing follows FCC KDB 971168 v02r02 Section 9.0.
- 7 The EUT was placed in a temperature chamber at $25 \pm 5^\circ \text{C}$ and connected with the system simulator.
- 8 The power supply voltage to the EUT was varied from 85% to 115% of the nominal value measured at the input to the EUT.
- 9 The variation in frequency was measured QPSK and 16QAM, 16QAM was record for the worst case.

5.8.3 Test setup



5.8.4 Test results

Voltage(16QAM)										
Band	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band2	1.4MHz	16QAM	18900	6RB#0	VL	NT	-18.32	-0.009745	±2.5	PASS
Band2	1.4MHz	16QAM	18900	6RB#0	VN	NT	-13.78	-0.007330	±2.5	PASS
Band2	1.4MHz	16QAM	18900	6RB#0	VH	NT	-17.74	-0.009436	±2.5	PASS
Band2	1.4MHz	16QAM	18900	6RB#0	VL	-30° C	-18.11	-0.009633	±2.5	PASS
Band2	1.4MHz	16QAM	18900	6RB#0	VN	-30° C	-13.71	-0.007293	±2.5	PASS
Band2	1.4MHz	16QAM	18900	6RB#0	VH	-30° C	-17.55	-0.009335	±2.5	PASS
Band2	1.4MHz	16QAM	18900	6RB#0	VL	-20° C	-18.09	-0.009622	±2.5	PASS
Band2	1.4MHz	16QAM	18900	6RB#0	VN	-20° C	-13.22	-0.007032	±2.5	PASS
Band2	1.4MHz	16QAM	18900	6RB#0	VH	-20° C	-17.15	-0.009122	±2.5	PASS
Band2	1.4MHz	16QAM	18900	6RB#0	VL	-10° C	-18.32	-0.009746	±2.5	PASS
Band2	1.4MHz	16QAM	18900	6RB#0	VN	-10° C	-13.69	-0.007282	±2.5	PASS
Band2	1.4MHz	16QAM	18900	6RB#0	VH	-10° C	-17.53	-0.009324	±2.5	PASS
Band2	1.4MHz	16QAM	18900	6RB#0	VL	0° C	-18.23	-0.009697	±2.5	PASS
Band2	1.4MHz	16QAM	18900	6RB#0	VN	0° C	-13.71	-0.007293	±2.5	PASS
Band2	1.4MHz	16QAM	18900	6RB#0	VH	0° C	-17.65	-0.009388	±2.5	PASS
Band2	1.4MHz	16QAM	18900	6RB#0	VL	10° C	-18.43	-0.009803	±2.5	PASS
Band2	1.4MHz	16QAM	18900	6RB#0	VN	10° C	-13.59	-0.007229	±2.5	PASS
Band2	1.4MHz	16QAM	18900	6RB#0	VH	10° C	-17.67	-0.009399	±2.5	PASS
Band2	1.4MHz	16QAM	18900	6RB#0	VL	20° C	-18.94	-0.010074	±2.5	PASS
Band2	1.4MHz	16QAM	18900	6RB#0	VN	20° C	-13.94	-0.007415	±2.5	PASS
Band2	1.4MHz	16QAM	18900	6RB#0	VH	20° C	-17.81	-0.009473	±2.5	PASS
Band2	1.4MHz	16QAM	18900	6RB#0	VL	30° C	-18.62	-0.009904	±2.5	PASS
Band2	1.4MHz	16QAM	18900	6RB#0	VN	30° C	-13.31	-0.007080	±2.5	PASS
Band2	1.4MHz	16QAM	18900	6RB#0	VH	30° C	-17.96	-0.009553	±2.5	PASS
Band2	1.4MHz	16QAM	18900	6RB#0	VL	40° C	-18.15	-0.009654	±2.5	PASS
Band2	1.4MHz	16QAM	18900	6RB#0	VN	40° C	-13.44	-0.007149	±2.5	PASS
Band2	1.4MHz	16QAM	18900	6RB#0	VH	40° C	-17.51	-0.009314	±2.5	PASS
Band2	1.4MHz	16QAM	18900	6RB#0	VL	50° C	-18.06	-0.009606	±2.5	PASS
Band2	1.4MHz	16QAM	18900	6RB#0	VN	50° C	-13.51	-0.007186	±2.5	PASS
Band2	1.4MHz	16QAM	18900	6RB#0	VH	50° C	-17.41	-0.009261	±2.5	PASS
Band2	1.4MHz	16QAM	18900	6RB#0	VL	NT	-13.62	-0.007245	±2.5	PASS
Band2	1.4MHz	16QAM	18900	6RB#0	VN	NT	-23.15	-0.012314	±2.5	PASS
Band2	1.4MHz	16QAM	18900	6RB#0	VH	NT	-18.24	-0.009702	±2.5	PASS
Band2	3MHz	16QAM	18900	15RB#0	VL	-30° C	23.57	0.012537	±2.5	PASS
Band2	3MHz	16QAM	18900	15RB#0	VN	-30° C	26.21	0.013941	±2.5	PASS
Band2	3MHz	16QAM	18900	15RB#0	VH	-30° C	-18.13	-0.009644	±2.5	PASS
Band2	3MHz	16QAM	18900	15RB#0	VL	-20° C	-17.54	-0.009330	±2.5	PASS
Band2	3MHz	16QAM	18900	15RB#0	VN	-20° C	9.53	0.005069	±2.5	PASS
Band2	3MHz	16QAM	18900	15RB#0	VH	-20° C	-16.51	-0.008782	±2.5	PASS
Band2	3MHz	16QAM	18900	15RB#0	VL	-10° C	23.48	0.012489	±2.5	PASS
Band2	3MHz	16QAM	18900	15RB#0	VN	-10° C	26.24	0.013957	±2.5	PASS
Band2	3MHz	16QAM	18900	15RB#0	VH	-10° C	-18.34	-0.009755	±2.5	PASS
Band2	3MHz	16QAM	18900	15RB#0	VL	0° C	-17.31	-0.009207	±2.5	PASS
Band2	3MHz	16QAM	18900	15RB#0	VN	0° C	9.32	0.004957	±2.5	PASS



Band2	3MHz	16QAM	18900	15RB#0	VH	0° C	-16.87	-0.008973	±2.5	PASS
Band2	3MHz	16QAM	18900	15RB#0	VL	10° C	23.39	0.012441	±2.5	PASS
Band2	3MHz	16QAM	18900	15RB#0	VN	10° C	26.14	0.013904	±2.5	PASS
Band2	3MHz	16QAM	18900	15RB#0	VH	10° C	-18.52	-0.009851	±2.5	PASS
Band2	3MHz	16QAM	18900	15RB#0	VL	20° C	-17.23	-0.009165	±2.5	PASS
Band2	3MHz	16QAM	18900	15RB#0	VN	20° C	9.34	0.004968	±2.5	PASS
Band2	3MHz	16QAM	18900	15RB#0	VH	20° C	-16.27	-0.008654	±2.5	PASS
Band2	3MHz	16QAM	18900	15RB#0	VL	30° C	23.35	0.012420	±2.5	PASS
Band2	3MHz	16QAM	18900	15RB#0	VN	30° C	26.31	0.013995	±2.5	PASS
Band2	3MHz	16QAM	18900	15RB#0	VH	30° C	-18.25	-0.009707	±2.5	PASS
Band2	3MHz	16QAM	18900	15RB#0	VL	40° C	-17.22	-0.009160	±2.5	PASS
Band2	3MHz	16QAM	18900	15RB#0	VN	40° C	9.15	0.004867	±2.5	PASS
Band2	3MHz	16QAM	18900	15RB#0	VH	40° C	-16.91	-0.008995	±2.5	PASS
Band2	3MHz	16QAM	18900	15RB#0	VL	50° C	23.42	0.012457	±2.5	PASS
Band2	3MHz	16QAM	18900	15RB#0	VN	50° C	26.49	0.014090	±2.5	PASS
Band2	3MHz	16QAM	18900	15RB#0	VH	50° C	-18.28	-0.009723	±2.5	PASS
Band2	5MHz	16QAM	18900	25RB#0	VL	NT	8.37	0.004452	±2.5	PASS
Band2	5MHz	16QAM	18900	25RB#0	VN	NT	9.45	0.005027	±2.5	PASS
Band2	5MHz	16QAM	18900	25RB#0	VH	NT	-11.57	-0.006154	±2.5	PASS
Band2	5MHz	16QAM	18900	25RB#0	VL	-30° C	8.65	0.004601	±2.5	PASS
Band2	5MHz	16QAM	18900	25RB#0	VN	-30° C	9.26	0.004926	±2.5	PASS
Band2	5MHz	16QAM	18900	25RB#0	VH	-30° C	-11.19	-0.005952	±2.5	PASS
Band2	5MHz	16QAM	18900	25RB#0	VL	-20° C	8.59	0.004569	±2.5	PASS
Band2	5MHz	16QAM	18900	25RB#0	VN	-20° C	9.56	0.005085	±2.5	PASS
Band2	5MHz	16QAM	18900	25RB#0	VH	-20° C	-11.34	-0.006032	±2.5	PASS
Band2	5MHz	16QAM	18900	25RB#0	VL	-10° C	8.43	0.004484	±2.5	PASS
Band2	5MHz	16QAM	18900	25RB#0	VN	-10° C	9.57	0.005090	±2.5	PASS
Band2	5MHz	16QAM	18900	25RB#0	VH	-10° C	-11.72	-0.006234	±2.5	PASS
Band2	5MHz	16QAM	18900	25RB#0	VL	0° C	8.46	0.004500	±2.5	PASS
Band2	5MHz	16QAM	18900	25RB#0	VN	0° C	9.62	0.005117	±2.5	PASS
Band2	5MHz	16QAM	18900	25RB#0	VH	0° C	-11.46	-0.006096	±2.5	PASS
Band2	5MHz	16QAM	18900	25RB#0	VL	10° C	8.38	0.004457	±2.5	PASS
Band2	5MHz	16QAM	18900	25RB#0	VN	10° C	9.64	0.005128	±2.5	PASS
Band2	5MHz	16QAM	18900	25RB#0	VH	10° C	-11.56	-0.006149	±2.5	PASS
Band2	5MHz	16QAM	18900	25RB#0	VL	20° C	8.31	0.004420	±2.5	PASS
Band2	5MHz	16QAM	18900	25RB#0	VN	20° C	9.87	0.005250	±2.5	PASS
Band2	5MHz	16QAM	18900	25RB#0	VH	20° C	-11.59	-0.006165	±2.5	PASS
Band2	5MHz	16QAM	18900	25RB#0	VL	30° C	8.13	0.004324	±2.5	PASS
Band2	5MHz	16QAM	18900	25RB#0	VN	30° C	9.28	0.004936	±2.5	PASS
Band2	5MHz	16QAM	18900	25RB#0	VH	30° C	-11.67	-0.006207	±2.5	PASS
Band2	5MHz	16QAM	18900	25RB#0	VL	40° C	8.55	0.004548	±2.5	PASS
Band2	5MHz	16QAM	18900	25RB#0	VN	40° C	9.19	0.004888	±2.5	PASS
Band2	5MHz	16QAM	18900	25RB#0	VH	40° C	-11.93	-0.006346	±2.5	PASS
Band2	5MHz	16QAM	18900	25RB#0	VL	50° C	8.26	0.004394	±2.5	PASS
Band2	5MHz	16QAM	18900	25RB#0	VN	50° C	-11.25	-0.005984	±2.5	PASS
Band2	5MHz	16QAM	18900	25RB#0	VH	50° C	-18.49	-0.009835	±2.5	PASS
Band2	10MHz	16QAM	18900	50RB#0	VL	NT	-10.13	-0.005388	±2.5	PASS
Band2	10MHz	16QAM	18900	50RB#0	VN	NT	-22.45	-0.011941	±2.5	PASS

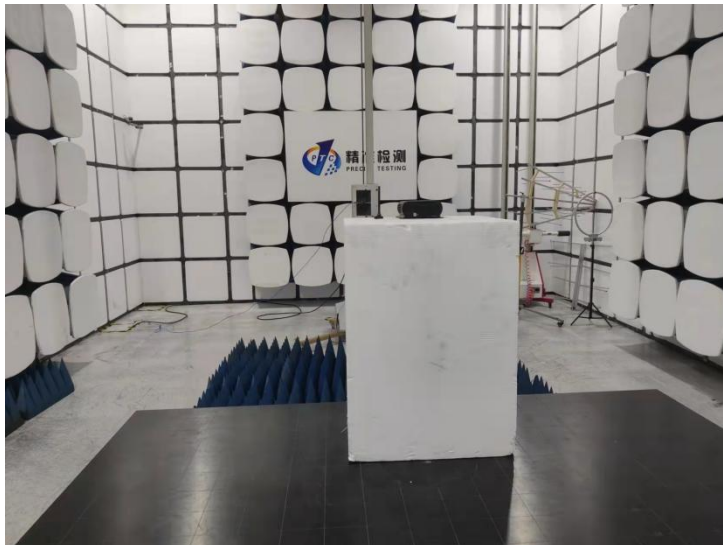
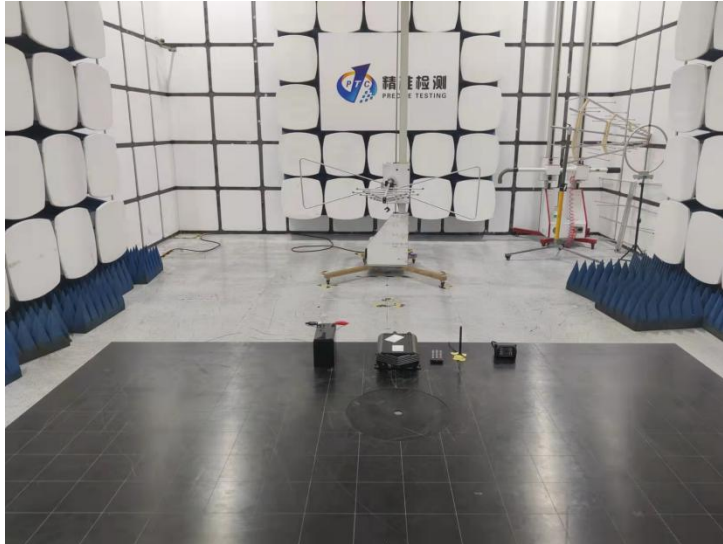


Band2	10MHz	16QAM	18900	50RB#0	VH	NT	14.14	0.007521	±2.5	PASS
Band2	10MHz	16QAM	18900	50RB#0	VL	-30° C	-15.93	-0.008473	±2.5	PASS
Band2	10MHz	16QAM	18900	50RB#0	VN	-30° C	-22.31	-0.011867	±2.5	PASS
Band2	10MHz	16QAM	18900	50RB#0	VH	-30° C	14.54	0.007734	±2.5	PASS
Band2	10MHz	16QAM	18900	50RB#0	Band2	-20° C	-10.73	-0.005707	±2.5	PASS
Band2	10MHz	16QAM	18900	50RB#0	Band2	-20° C	-22.53	-0.011984	±2.5	PASS
Band2	10MHz	16QAM	18900	50RB#0	Band2	-20° C	14.31	0.007612	±2.5	PASS
Band2	10MHz	16QAM	18900	50RB#0	Band2	-10° C	-10.46	-0.005564	±2.5	PASS
Band2	10MHz	16QAM	18900	50RB#0	Band2	-10° C	-22.58	-0.012011	±2.5	PASS
Band2	10MHz	16QAM	18900	50RB#0	Band2	-10° C	14.00	0.007447	±2.5	PASS
Band2	10MHz	16QAM	18900	50RB#0	Band2	0° C	-10.49	-0.005580	±2.5	PASS
Band2	10MHz	16QAM	18900	50RB#0	Band2	0° C	-22.83	-0.012144	±2.5	PASS
Band2	10MHz	16QAM	18900	50RB#0	Band2	0° C	14.53	0.007729	±2.5	PASS
Band2	10MHz	16QAM	18900	50RB#0	Band2	10° C	-10.76	-0.005723	±2.5	PASS
Band2	10MHz	16QAM	18900	50RB#0	Band2	10° C	-22.92	-0.012191	±2.5	PASS
Band2	10MHz	16QAM	18900	50RB#0	Band2	10° C	14.58	0.007755	±2.5	PASS
Band2	10MHz	16QAM	18900	50RB#0	Band2	20° C	-10.43	-0.005548	±2.5	PASS
Band2	10MHz	16QAM	18900	50RB#0	Band2	20° C	-22.18	-0.011798	±2.5	PASS
Band2	10MHz	16QAM	18900	50RB#0	Band2	20° C	14.86	0.007904	±2.5	PASS
Band2	10MHz	16QAM	18900	50RB#0	Band2	30° C	-10.19	-0.005420	±2.5	PASS
Band2	10MHz	16QAM	18900	50RB#0	Band2	30° C	-22.96	-0.012213	±2.5	PASS
Band2	10MHz	16QAM	18900	50RB#0	Band2	30° C	14.59	0.007761	±2.5	PASS
Band2	10MHz	16QAM	18900	50RB#0	Band2	40° C	-10.25	-0.005452	±2.5	PASS
Band2	10MHz	16QAM	18900	50RB#0	Band2	40° C	-22.67	-0.012059	±2.5	PASS
Band2	10MHz	16QAM	18900	50RB#0	Band2	40° C	14.65	0.007793	±2.5	PASS
Band2	10MHz	16QAM	18900	50RB#0	Band2	50° C	-10.37	-0.005516	±2.5	PASS
Band2	10MHz	16QAM	18900	50RB#0	Band2	50° C	-22.68	-0.012064	±2.5	PASS
Band2	10MHz	16QAM	18900	50RB#0	Band2	50° C	14.67	0.007803	±2.5	PASS
Band2	15MHz	16QAM	18900	75RB#0	VL	NT	24.34	0.012947	±2.5	PASS
Band2	15MHz	16QAM	18900	75RB#0	VN	NT	21.68	0.011532	±2.5	PASS
Band2	15MHz	16QAM	18900	75RB#0	VH	NT	37.13	0.019750	±2.5	PASS
Band2	15MHz	16QAM	18900	75RB#0	VL	-30° C	40.57	0.021580	±2.5	PASS
Band2	15MHz	16QAM	18900	75RB#0	VN	-30° C	28.19	0.014995	±2.5	PASS
Band2	15MHz	16QAM	18900	75RB#0	VH	-30° C	50.14	0.026670	±2.5	PASS
Band2	15MHz	16QAM	18900	75RB#0	VL	-20° C	40.61	0.021601	±2.5	PASS
Band2	15MHz	16QAM	18900	75RB#0	VN	-20° C	28.28	0.015043	±2.5	PASS
Band2	15MHz	16QAM	18900	75RB#0	VH	-20° C	50.31	0.026761	±2.5	PASS
Band2	15MHz	16QAM	18900	75RB#0	VL	-10° C	40.83	0.021718	±2.5	PASS
Band2	15MHz	16QAM	18900	75RB#0	VN	-10° C	28.48	0.015149	±2.5	PASS
Band2	15MHz	16QAM	18900	75RB#0	VH	-10° C	50.39	0.026803	±2.5	PASS
Band2	15MHz	16QAM	18900	75RB#0	VL	0° C	40.76	0.021681	±2.5	PASS
Band2	15MHz	16QAM	18900	75RB#0	VN	0° C	28.43	0.015122	±2.5	PASS
Band2	15MHz	16QAM	18900	75RB#0	VH	0° C	50.17	0.026686	±2.5	PASS
Band2	15MHz	16QAM	18900	75RB#0	VL	10° C	40.69	0.021644	±2.5	PASS
Band2	15MHz	16QAM	18900	75RB#0	VN	10° C	28.38	0.015096	±2.5	PASS
Band2	15MHz	16QAM	18900	75RB#0	VH	10° C	50.82	0.027032	±2.5	PASS
Band2	15MHz	16QAM	18900	75RB#0	VL	20° C	40.53	0.021559	±2.5	PASS
Band2	15MHz	16QAM	18900	75RB#0	VN	20° C	28.62	0.015223	±2.5	PASS

Band2	15MHz	16QAM	18900	75RB#0	VH	20° C	50.89	0.027069	±2.5	PASS
Band2	15MHz	16QAM	18900	75RB#0	VL	30° C	40.23	0.021399	±2.5	PASS
Band2	15MHz	16QAM	18900	75RB#0	VN	30° C	28.61	0.015218	±2.5	PASS
Band2	15MHz	16QAM	18900	75RB#0	VH	30° C	50.72	0.026979	±2.5	PASS
Band2	15MHz	16QAM	18900	75RB#0	VL	40° C	40.26	0.021415	±2.5	PASS
Band2	15MHz	16QAM	18900	75RB#0	VN	40° C	28.47	0.015144	±2.5	PASS
Band2	15MHz	16QAM	18900	75RB#0	VH	40° C	50.34	0.026777	±2.5	PASS
Band2	15MHz	16QAM	18900	75RB#0	VL	50° C	40.28	0.021426	±2.5	PASS
Band2	15MHz	16QAM	18900	75RB#0	VN	50° C	28.51	0.015165	±2.5	PASS
Band2	15MHz	16QAM	18900	75RB#0	VH	50° C	50.86	0.027053	±2.5	PASS
Band2	20MHz	16QAM	18900	100RB#0	VL	NT	-42.38	-0.022543	±2.5	PASS
Band2	20MHz	16QAM	18900	100RB#0	VN	NT	-36.87	-0.019612	±2.5	PASS
Band2	20MHz	16QAM	18900	100RB#0	VH	NT	-42.34	-0.022521	±2.5	PASS
Band2	20MHz	16QAM	18900	100RB#0	VL	-30° C	-42.74	-0.022734	±2.5	PASS
Band2	20MHz	16QAM	18900	100RB#0	VN	-30° C	-36.86	-0.019606	±2.5	PASS
Band2	20MHz	16QAM	18900	100RB#0	VH	-30° C	-42.62	-0.022670	±2.5	PASS
Band2	20MHz	16QAM	18900	100RB#0	VL	-20° C	-42.29	-0.022495	±2.5	PASS
Band2	20MHz	16QAM	18900	100RB#0	VN	-20° C	-36.93	-0.019644	±2.5	PASS
Band2	20MHz	16QAM	18900	100RB#0	VH	-20° C	-42.78	-0.022755	±2.5	PASS
Band2	20MHz	16QAM	18900	100RB#0	VL	-10° C	-42.96	-0.022851	±2.5	PASS
Band2	20MHz	16QAM	18900	100RB#0	VN	-10° C	-36.31	-0.019314	±2.5	PASS
Band2	20MHz	16QAM	18900	100RB#0	VH	-10° C	-42.98	-0.022862	±2.5	PASS
Band2	20MHz	16QAM	18900	100RB#0	VL	0° C	-42.64	-0.022681	±2.5	PASS
Band2	20MHz	16QAM	18900	100RB#0	VN	0° C	-36.44	-0.019383	±2.5	PASS
Band2	20MHz	16QAM	18900	100RB#0	VH	0° C	-42.69	-0.022707	±2.5	PASS
Band2	20MHz	16QAM	18900	100RB#0	VL	10° C	-42.24	-0.022468	±2.5	PASS
Band2	20MHz	16QAM	18900	100RB#0	VN	10° C	-36.91	-0.019633	±2.5	PASS
Band2	20MHz	16QAM	18900	100RB#0	VH	10° C	-42.56	-0.022638	±2.5	PASS
Band2	20MHz	16QAM	18900	100RB#0	VL	20° C	-42.19	-0.022441	±2.5	PASS
Band2	20MHz	16QAM	18900	100RB#0	VN	20° C	-36.95	-0.019654	±2.5	PASS
Band2	20MHz	16QAM	18900	100RB#0	VH	20° C	-42.72	-0.022723	±2.5	PASS
Band2	20MHz	16QAM	18900	100RB#0	VL	30° C	-42.26	-0.022479	±2.5	PASS
Band2	20MHz	16QAM	18900	100RB#0	VN	30° C	-36.53	-0.019431	±2.5	PASS
Band2	20MHz	16QAM	18900	100RB#0	VH	30° C	-42.48	-0.022596	±2.5	PASS
Band2	20MHz	16QAM	18900	100RB#0	VL	40° C	-42.68	-0.022702	±2.5	PASS
Band2	20MHz	16QAM	18900	100RB#0	VN	40° C	-36.67	-0.019505	±2.5	PASS
Band2	20MHz	16QAM	18900	100RB#0	VH	40° C	-42.82	-0.022777	±2.5	PASS
Band2	20MHz	16QAM	18900	100RB#0	VL	50° C	-28.31	-0.015059	±2.5	PASS
Band2	20MHz	16QAM	18900	100RB#0	VN	50° C	-30.34	-0.016138	±2.5	PASS
Band2	20MHz	16QAM	18900	100RB#0	VH	50° C	-27.96	-0.014872	±2.5	PASS

6 Photographs of the Test Setup

Radiated
emission



7 Photographs of the EUT

Please reference “Ext photos” and “Int photos”.

----END OF REPORT----