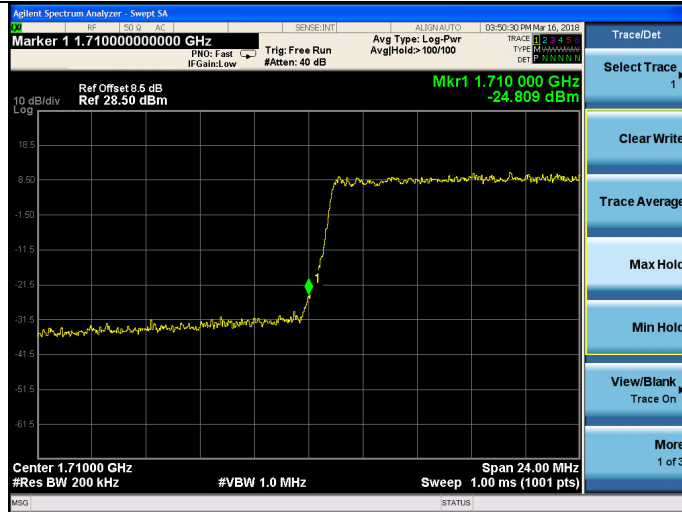


Band 4 QPSK:

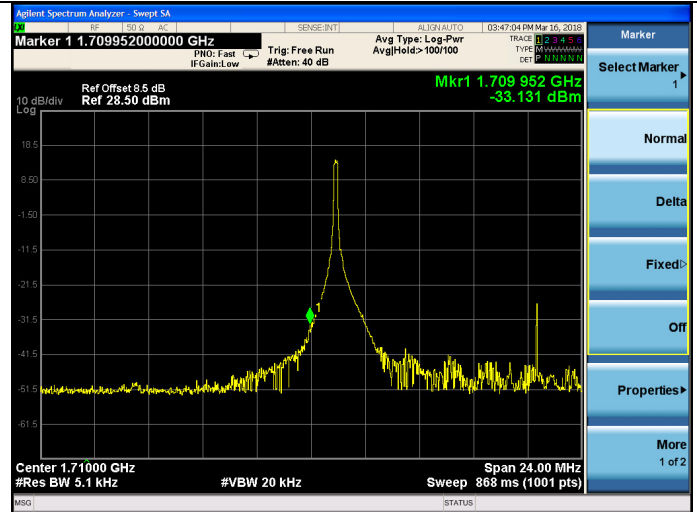
Full RB

Low Ch



1RB

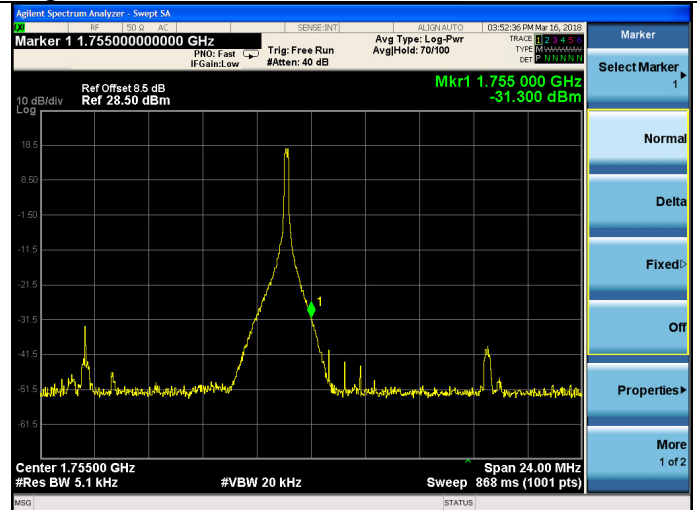
Low Ch



High Ch



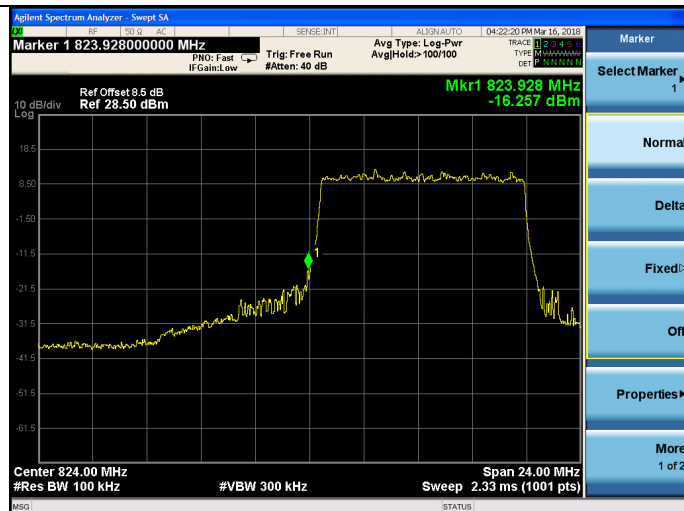
High Ch



Band 5 QPSK:

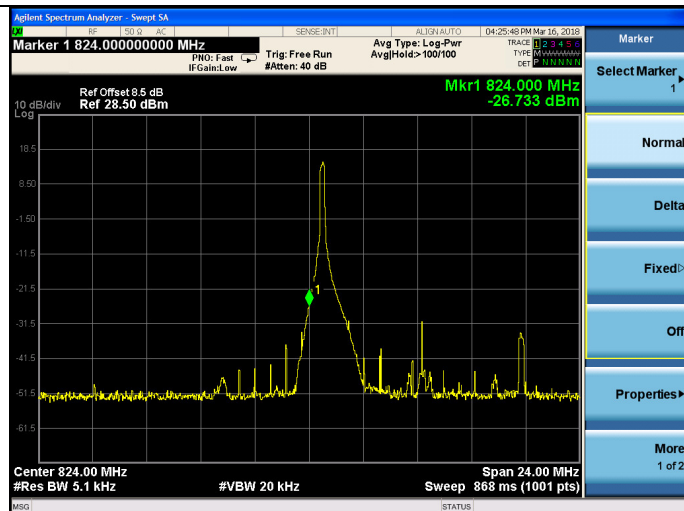
Full RB

Low Ch

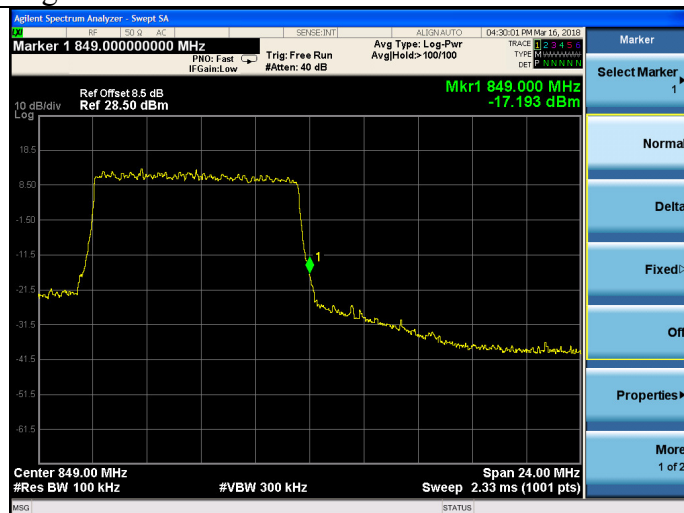


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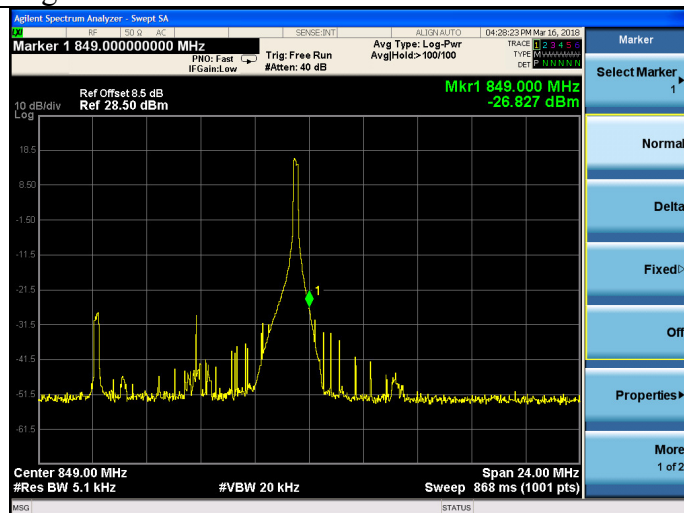
Low Ch



High Ch



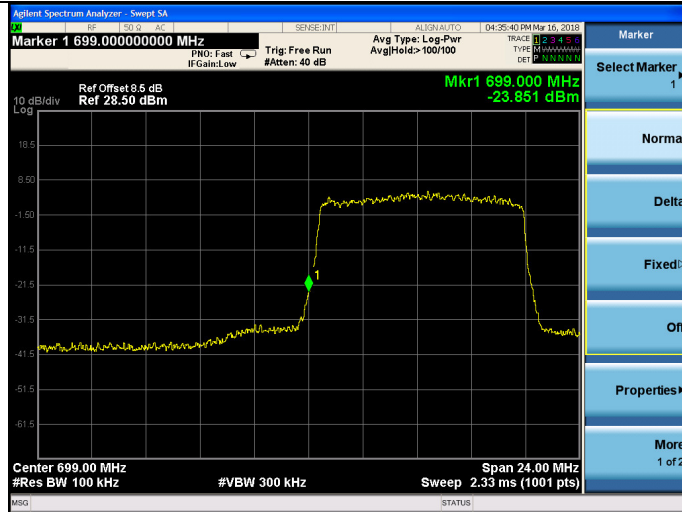
High Ch



Band 12 QPSK:

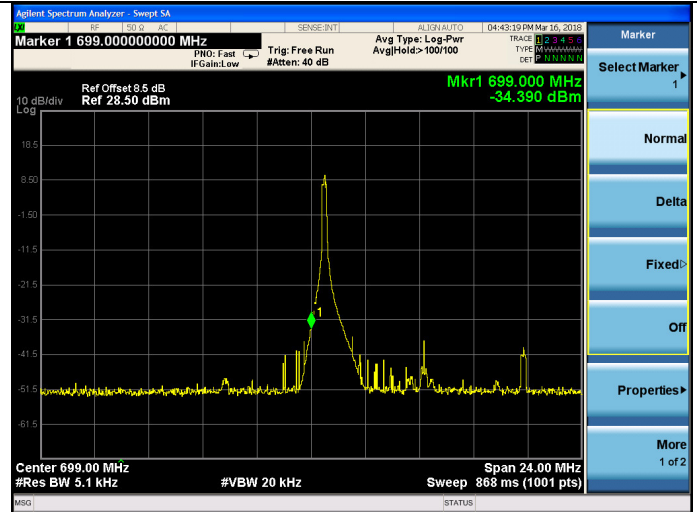
Full RB

Low Ch

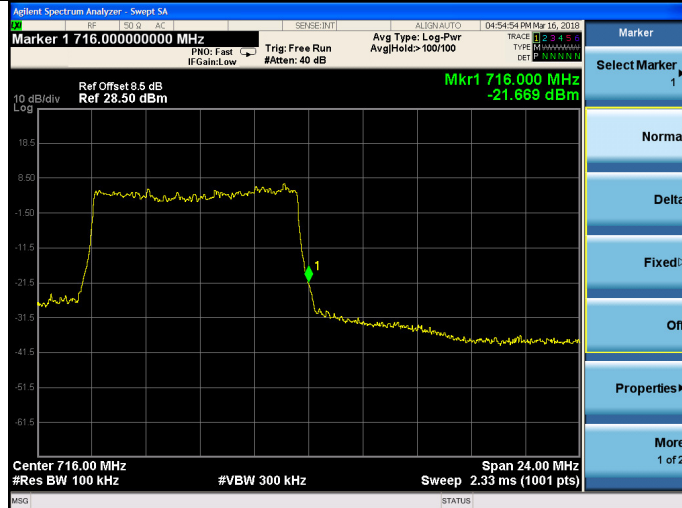


1RB

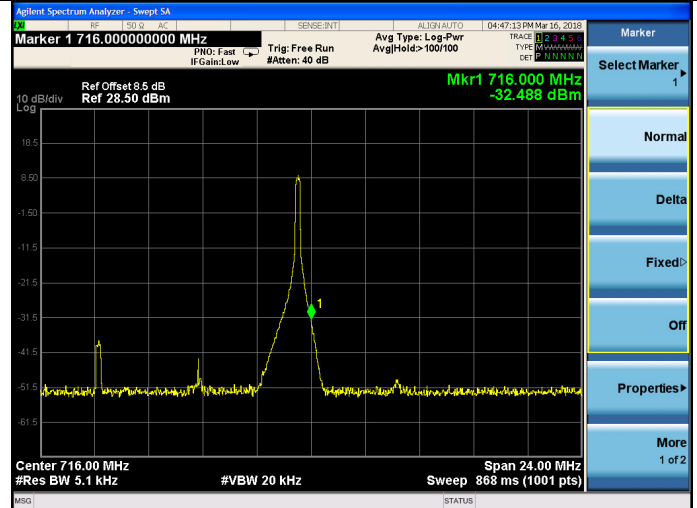
Low Ch



High Ch



High Ch



Band 17 QPSK:

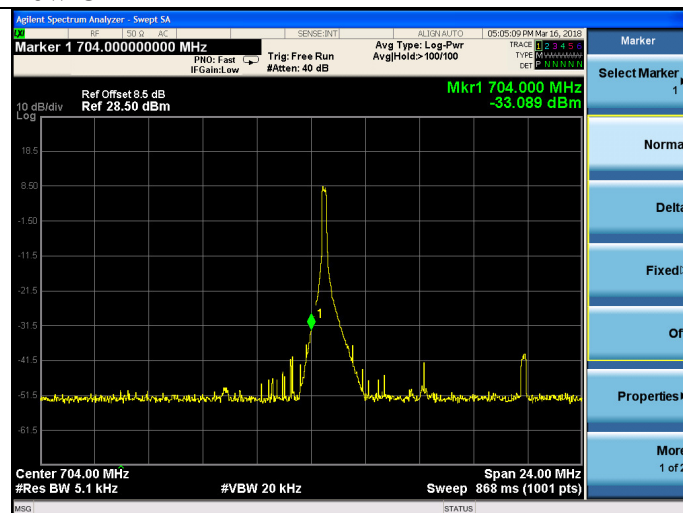
Full RB

Low Ch

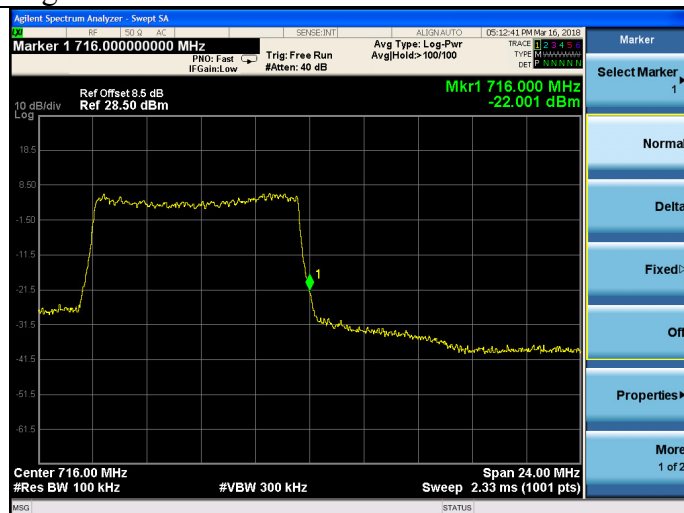


1RB

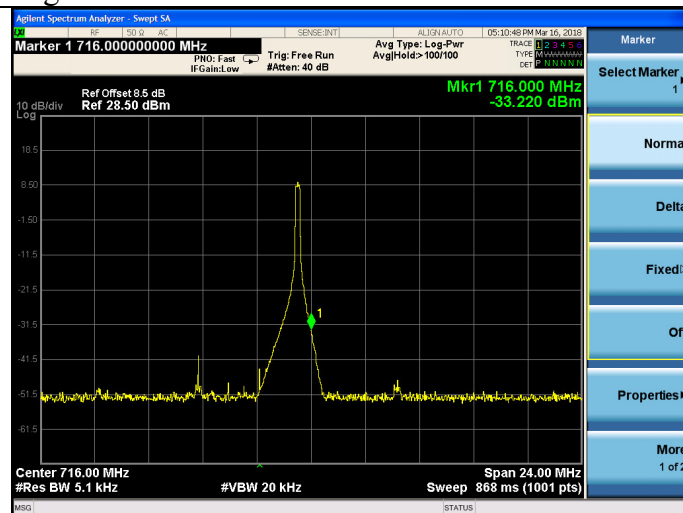
Low Ch



High Ch



High Ch



Note: According to the Output Power and pre-test, choose the worse case mode for the test to each band.

6. FREQUENCY STABILITY V.S. TEMPERATURE AND VOLTAGE TEST

6.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	PXA Signal Analyzer	Agilent	N9030A	MY53311015	Oct.15,17	1 Year
2.	HF Cable	Hubersuhner	Sucoflex104	274094/4	Apr.22,17	1 Year
3.	Attenuator (10dB)	Mini-Circuits	VAT-10+	NO.1	NCR	NCR
4.	Temperature controller	Terchy	MHQ-120cluB	A60223	Apr.23,17	1 Year

Note: NCR means no calibration required(calibrated with system).

6.1. Limit

FCC Part 22.355,

The carrier frequency shall not depart from the reference frequency in excess of ± 2.5 ppm mobile stations.

FCC Part 24.235, 27.54

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

6.2. Test procedure

The equipment under test was connected to an external DC power supply and input rated voltage. Reference power supply voltage for these tests is DC 12V. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the Spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 25 degree operating frequency as reference frequency. Turn EUT off and set the chamber temperature to -20 degree. After the temperature stabilized for approximately 30 minutes record the frequency. Repeat step measure with 10 degree per stage until the highest temperature of 50 degree reached.

6.3. Test Result

LTE Band 2, 20MHz bandwidth (Worst case of all bandwidths)

Frequency Error vs. Voltage

Voltage (V)	Frequency error(Hz)		Frequency error(ppm)	
	QPSK	16QAM	QPSK	16QAM
3.5	9	19.2	0.005	0.010
3.8	3.2	10.6	0.002	0.006
4.2	11.3	19.5	0.006	0.010

Frequency Error vs. Temperature

Temperature (°C)	Frequency error(Hz)		Frequency error(ppm)	
	QPSK	16QAM	QPSK	16QAM
50	5.2	19.5	0.003	0.010
40	4.5	18.2	0.002	0.010
30	7.6	16.6	0.004	0.009
20	5.5	12.5	0.003	0.007
10	5.3	9.6	0.003	0.005
0	4.8	15.4	0.003	0.008
-10	5.9	14.5	0.003	0.008
-20	9.8	12.6	0.005	0.007
-30	12	10.7	0.006	0.006

LTE Band 4, 20MHz bandwidth (Worst case of all bandwidths)
Frequency Error vs. Voltage

Voltage (V)	Frequency error(Hz)		Frequency error(ppm)	
	QPSK	16QAM	QPSK	16QAM
3.5	12.6	-15	0.007	-0.009
3.8	7.5	-8.6	0.004	-0.005
4.2	5.7	-8.1	0.003	-0.005

Frequency Error vs. Temperature

Temperature (°C)	Frequency error(Hz)		Frequency error(ppm)	
	QPSK	16QAM	QPSK	16QAM
50	11.7	-7.3	0.007	-0.004
40	10.1	-9.8	0.006	-0.006
30	3.4	-13.8	0.002	-0.008
20	7.9	-10.7	0.005	-0.006
10	9.7	-15.4	0.006	-0.009
0	2.9	-9.8	0.002	-0.006
-10	8.9	-6.8	0.005	-0.004
-20	10.9	-12	0.006	-0.007
-30	6	-15	0.003	-0.009

LTE Band 5, 5MHz bandwidth (Worst case of all bandwidths)
Frequency Error vs. Voltage

Voltage (V)	Frequency error(Hz)		Frequency error(ppm)	
	QPSK	16QAM	QPSK	16QAM
3.5	7.5	4.6	0.009	0.005
3.8	4.2	6.5	0.005	0.008
4.2	10.3	9.4	0.012	0.011

Frequency Error vs. Temperature

Temperature (°C)	Frequency error(Hz)		Frequency error(ppm)	
	QPSK	16QAM	QPSK	16QAM
50	5.7	7.9	0.007	0.009
40	8.2	9.9	0.010	0.012
30	6.4	6.3	0.008	0.008
20	15.4	12.5	0.018	0.015
10	12	11.9	0.014	0.014
0	13.5	13	0.016	0.016
-10	14.4	18.1	0.017	0.022
-20	10.7	14.3	0.013	0.017
-30	11	12.6	0.013	0.015

LTE Band 12, 5MHz bandwidth (Worst case of all bandwidths)
Frequency Error vs. Voltage

Voltage (V)	Frequency error(Hz)		Frequency error(ppm)	
	QPSK	16QAM	QPSK	16QAM
3.5	-8.9	12.1	-0.012	0.017
3.8	-5.7	6.6	-0.008	0.009
4.2	6.7	7.8	0.009	0.011

Frequency Error vs. Temperature

Temperature (°C)	Frequency error(Hz)		Frequency error(ppm)	
	QPSK	16QAM	QPSK	16QAM
50	-10.8	11.4	-0.015	0.016
40	-5.9	7.4	-0.008	0.010
30	-7.5	5.9	-0.011	0.008
20	-10.5	9.1	-0.015	0.013
10	-2.1	8.8	-0.003	0.012
0	-9.4	8.4	-0.013	0.012
-10	-8.2	10.4	-0.011	0.015
-20	-6.8	12.5	-0.010	0.018
-30	-7	12.7	-0.010	0.018

LTE Band 17, 5MHz bandwidth (Worst case of all bandwidths)
Frequency Error vs. Voltage

Voltage (V)	Frequency error(Hz)		Frequency error(ppm)	
	QPSK	16QAM	QPSK	16QAM
3.5	5.5	-9.4	0.008	-0.013
3.8	-3.2	-7.5	-0.004	-0.011
4.2	-9.4	-14.7	-0.013	-0.021

Frequency Error vs. Temperature

Temperature (°C)	Frequency error(Hz)		Frequency error(ppm)	
	QPSK	16QAM	QPSK	16QAM
50	9.8	3.4	0.014	0.005
40	5.8	-5.8	0.008	-0.008
30	-4	-10.6	-0.006	-0.015
20	-7.2	-12.7	-0.010	-0.018
10	6.6	-15.4	0.009	-0.022
0	10.9	-8	0.015	-0.011
-10	12.4	-11.3	0.017	-0.016
-20	12.8	-9.4	0.018	-0.013
-30	11.2	-8.6	0.016	-0.012

7. EFFECTIVE ISOTROPIC RADIATED POWER TEST

7.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	PXA Signal Analyzer	Agilent	N9030A	MY53311015	Oct.15,17	1 Year
2.	Preamplifier	HP	8449B	3008A02495	Apr.22.17	1 Year
3.	Preamplifier	Agilent	8447D	2944A11159	Apr.22,17	1Year
4.	Trilog-Broadband Antenna	SCHWARZB ECK	VULB 9168	493	Jun.27.17	1 Year
5.	Horn Antenna	ETC	MCTD 1209	DRH15F03006	May.15,17	1 Year
6.	Horn Antenna	EMCO	3116	0062643	Oct.10,17	1 Year
7.	Antenna and turn table controller	CT	SC100	CT-0091	N/A	N/A
8.	RF Cable	Hubersuhner	SUCOFLEX104	274094/4	Apr.22,17	1 Year
9.	Test Software	AUDIX	e3	6.2009-5-21a(n)	N/A	N/A

Note: N/A means Not applicable.

7.1. Limit

Part 22.913(a)

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

Part 24.232(c)

Mobile and portable stations are limited to 2 watts EIRP and the equipment must employ a means for limiting power to the minimum necessary for successful communications.

Part 27.50(b)(10)

Portable stations (hand-held devices) transmitting in the 746-757 MHz, 776-788 MHz, and 805-806 MHz bands are limited to 3 watts ERP.

Part 27.50(c)(10)

Portable stations (hand-held devices) in the 600 MHz uplink band and the 698-746 MHz band, and fixed and mobile stations in the 600 MHz uplink band are limited to 3 watts ERP.

Part 27.50(d)(4)

Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP. Fixed stations operating in the 1710-1755MHz band are limited to a maximum antenna height of 10 meters above ground. Mobile and portable stations operating in these bands must employ a means for limiting power to the minimum necessary for successful communications.

7.2. Test Procedure

The EUT was placed on a 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. During the measurement, the EUT was communication with the station. The highest emission was recorded with the rotation of the turntable and lowering of the test antenna from 4m to 1m. The reading was recorded and the field strength(E in dBuV/m) was calculated.

ERP were measured using substitution method. The EUT was replaced by dipole antenna connected, the S.G. output was recorded and ERP was calculated as follow:

EIRP were measured using a substitution method. The EUT was replaced by a horn antenna connected, the S.G. output was recorded and EIRP was calculated as follows:

ERP=S.G. output (dBm) + Antenna Gain (dBd) - Cable Loss(dB)

EIRP= S.G. output (dBm) + Antenna Gain (dBi) - Cable Loss(dB)

dBd=dBi-2.15dB

7.3. Test Result

Band 2-QPSK:

Test Mode	Frequency (MHz)	CH	Antenna Pol.	SPA Reading (dBuv)	Receive Antenna Factor (dB/m)	Receive Cable Loss (dB)	Field Strength (dBuv/m)
Band 2 1.4MHz	1850.7	18607	V	98.22	26.40	9.02	133.64
			H	98.18	26.40	9.02	133.60
	1880	18900	V	97.78	26.53	9.14	133.45
			H	97.75	26.53	9.14	133.42
	1909.3	19193	V	97.48	26.60	9.20	133.28
			H	97.38	26.60	9.20	133.18

S.G. output (dBm)	Antenna Gain (dBd)	Tx Cable loss (dB)	Result ERP/EIRP (dBm)	Limit
				ERP/EIRP(dBm)
26.89	3.15	6.10	23.94	33
26.85	3.15	6.10	23.9	33
26.78	3.15	6.19	23.74	33
26.76	3.15	6.19	23.72	33
26.81	3.15	6.24	23.72	33
26.77	3.15	6.24	23.68	33

Test Mode	Frequency (MHz)	CH	Antenna Pol.	SPA Reading (dBuv)	Receive Antenna Factor (dB/m)	Receive Cable Loss (dB)	Field Strength (dBuv/m)
Band 2 3MHz	1851.5	18615	V	99.44	26.40	9.02	134.86
			H	99.39	26.40	9.02	134.81
	1880	18900	V	98.55	26.53	9.14	134.22
			H	98.17	26.53	9.14	133.84
	1908.5	19185	V	98.35	26.60	9.20	134.15
			H	97.94	26.60	9.20	133.74

S.G. output (dBm)	Antenna Gain (dBd)	Tx Cable loss (dB)	Result ERP/EIRP (dBm)	Limit
				ERP/EIRP(dBm)
27.07	3.15	6.10	24.12	33
27	3.15	6.10	24.05	33
26.9	3.15	6.19	23.86	33
26.79	3.15	6.19	23.75	33
26.86	3.15	6.24	23.77	33
26.63	3.15	6.24	23.54	33

Test Mode	Frequency (MHz)	CH	Antenna Pol.	SPA Reading (dBuv)	Receive Antenna Factor (dB/m)	Receive Cable Loss (dB)	Field Strength (dBuv/m)
Band 2 5MHz	1852.5	18625	V	100.3	26.40	9.02	135.72
			H	100.22	26.40	9.02	135.64
	1880	18900	V	99.83	26.53	9.14	135.5
			H	99.36	26.53	9.14	135.03
	1907.5	19175	V	99.42	26.60	9.20	135.22
			H	99.09	26.60	9.20	134.89

S.G. output (dBm)	Antenna Gain (dBd)	Tx Cable loss (dB)	Result ERP/EIRP (dBm)	Limit
				ERP/EIRP(dBm)
27.01	3.15	6.10	24.06	33
26.97	3.15	6.10	24.02	33
26.95	3.15	6.19	23.91	33
26.75	3.15	6.19	23.71	33
26.89	3.15	6.24	23.8	33
26.71	3.15	6.24	23.62	33

Test Mode	Frequency (MHz)	CH	Antenna Pol.	SPA Reading (dBuv)	Receive Antenna Factor (dB/m)	Receive Cable Loss (dB)	Field Strength (dBuv/m)
Band 2 10MHz	1855	18650	V	100.17	26.41	9.03	135.61
			H	99.83	26.41	9.03	135.27
	1880	18900	V	99.52	26.53	9.14	135.19
			H	99.4	26.53	9.14	135.07
	1905	19150	V	99.28	26.59	9.19	135.06
			H	99.06	26.59	9.19	134.84

S.G. output (dBm)	Antenna Gain (dBd)	Tx Cable loss (dB)	Result ERP/EIRP (dBm)	Limit
				ERP/EIRP(dBm)
26.73	3.15	6.11	23.77	33
26.57	3.15	6.11	23.61	33
26.53	3.15	6.19	23.49	33
26.16	3.15	6.19	23.12	33
26.16	3.15	6.23	23.08	33
25.94	3.15	6.23	22.86	33

Test Mode	Frequency (MHz)	CH	Antenna Pol.	SPA Reading (dBuv)	Receive Antenna Factor (dB/m)	Receive Cable Loss (dB)	Field Strength (dBuv/m)
Band 2 15MHz	1857.5	18675	V	99.28	26.41	9.03	134.72
			H	99.07	26.41	9.03	134.51
	1880	18900	V	98.52	26.53	9.14	134.19
			H	98.14	26.53	9.14	133.81
	1902.5	19125	V	98.34	26.59	9.19	134.12
			H	97.98	26.59	9.19	133.76

S.G. output (dBm)	Antenna Gain (dBd)	Tx Cable loss (dB)	Result ERP/EIRP (dBm)	Limit
				ERP/EIRP(dBm)
26.47	3.15	6.11	23.51	33
26.02	3.15	6.11	23.06	33
26.36	3.15	6.19	23.32	33
25.89	3.15	6.19	22.85	33
26.19	3.15	6.23	23.11	33
25.8	3.15	6.23	22.72	33

Test Mode	Frequency (MHz)	CH	Antenna Pol.	SPA Reading (dBuv)	Receive Antenna Factor (dB/m)	Receive Cable Loss (dB)	Field Strength (dBuv/m)
Band 2 20MHz	1860	18700	V	100.67	26.42	9.04	136.13
			H	100.56	26.42	9.04	136.02
	1880	18900	V	100.27	26.53	9.14	135.94
			H	100.05	26.53	9.14	135.72
	1900	19100	V	99.9	26.58	9.18	135.66
			H	99.41	26.58	9.18	135.17

S.G. output (dBm)	Antenna Gain (dBd)	Tx Cable loss (dB)	Result ERP/EIRP (dBm)	Limit
				ERP/EIRP(dBm)
27.56	3.15	6.12	24.59	33
27.35	3.15	6.12	24.38	33
27.36	3.15	6.19	24.32	33
27.3	3.15	6.19	24.26	33
27.25	3.15	6.22	24.18	33
27.01	3.15	6.22	23.94	33

Band 4-QPSK:

Test Mode	Frequency (MHz)	CH	Antenna Pol.	SPA Reading (dBuv)	Receive Antenna Factor (dB/m)	Receive Cable Loss (dB)	Field Strength (dBuv/m)
Band 4 1.4MHz	1710.7	19957	V	99.65	26.32	8.67	134.64
			H	99.52	26.32	8.67	134.51
	1732.5	20175	V	99.44	26.39	8.72	134.55
			H	99.03	26.39	8.72	134.14
	1754.3	20393	V	99.61	26.45	8.77	134.83
			H	99.33	26.45	8.77	134.55

S.G. output (dBm)	Antenna Gain (dBd)	Tx Cable loss (dB)	Result ERP/EIRP (dBm)	Limit
				ERP/EIRP(dBm)
26.42	3.15	5.69	23.88	30
25.78	3.15	5.69	23.24	30
26.41	3.15	5.77	23.79	30
25.73	3.15	5.77	23.11	30
26.56	3.15	5.82	23.89	30
25.69	3.15	5.82	23.02	30

Test Mode	Frequency (MHz)	CH	Antenna Pol.	SPA Reading (dBuv)	Receive Antenna Factor (dB/m)	Receive Cable Loss (dB)	Field Strength (dBuv/m)
Band 4 3MHz	1711.5	19965	V	100.03	26.32	8.67	135.02
			H	99.85	26.32	8.67	134.84
	1732.5	20175	V	100.23	26.39	8.72	135.34
			H	100.01	26.39	8.72	135.12
	1753.5	20385	V	99.67	26.45	8.77	134.89
			H	99.15	26.45	8.77	134.37

S.G. output (dBm)	Antenna Gain (dBd)	Tx Cable loss (dB)	Result ERP/EIRP (dBm)	Limit
				ERP/EIRP(dBm)
26.85	3.15	5.69	24.31	30
26.38	3.15	5.69	23.84	30
26.64	3.15	5.77	24.02	30
26.33	3.15	5.77	23.71	30
26.54	3.15	5.82	23.87	30
26.36	3.15	5.82	23.69	30

Test Mode	Frequency (MHz)	CH	Antenna Pol.	SPA Reading (dBuv)	Receive Antenna Factor (dB/m)	Receive Cable Loss (dB)	Field Strength (dBuv/m)
Band 4 5MHz	1712.5	19975	V	100.25	26.32	8.67	135.24
			H	100.02	26.32	8.67	135.01
	1732.5	20175	V	100.26	26.39	8.72	135.37
			H	99.75	26.39	8.72	134.86
	1752.5	20375	V	100	26.45	8.77	135.22
			H	99.75	26.45	8.77	134.97

S.G. output (dBm)	Antenna Gain (dBd)	Tx Cable loss (dB)	Result ERP/EIRP (dBm)	Limit
				ERP/EIRP(dBm)
27.28	3.15	5.69	24.74	30
27.15	3.15	5.69	24.61	30
27.31	3.15	5.77	24.69	30
26.96	3.15	5.77	24.34	30
27.44	3.15	5.82	24.77	30
26.73	3.15	5.82	24.06	30

Test Mode	Frequency (MHz)	CH	Antenna Pol.	SPA Reading (dBuv)	Receive Antenna Factor (dB/m)	Receive Cable Loss (dB)	Field Strength (dBuv/m)
Band 4 10MHz	1715	20000	V	99.97	26.32	8.67	134.96
			H	99.58	26.32	8.67	134.57
	1732.5	20175	V	99.77	26.39	8.72	134.88
			H	99.53	26.39	8.72	134.64
	1750	20350	V	99.52	26.45	8.77	134.74
			H	98.83	26.45	8.77	134.05

S.G. output (dBm)	Antenna Gain (dBd)	Tx Cable loss (dB)	Result ERP/EIRP (dBm)	Limit
				ERP/EIRP(dBm)
26.69	3.15	5.69	24.15	30
26.38	3.15	5.69	23.84	30
26.68	3.15	5.77	24.06	30
26.5	3.15	5.77	23.88	30
26.91	3.15	5.82	24.24	30
26.36	3.15	5.82	23.69	30

Test Mode	Frequency (MHz)	CH	Antenna Pol.	SPA Reading (dBuv)	Receive Antenna Factor (dB/m)	Receive Cable Loss (dB)	Field Strength (dBuv/m)
Band 4 15MHz	1717.5	20025	V	99.07	26.32	8.67	134.06
			H	98.82	26.32	8.67	133.81
	1732.5	20175	V	98.75	26.39	8.72	133.86
			H	98.18	26.39	8.72	133.29
	1747.5	20325	V	98.83	26.45	8.77	134.05
			H	98.59	26.45	8.77	133.81

S.G. output (dBm)	Antenna Gain (dBd)	Tx Cable loss (dB)	Result ERP/EIRP (dBm)	Limit
				ERP/EIRP(dBm)
26.2	3.15	5.69	23.66	30
25.78	3.15	5.69	23.24	30
26.29	3.15	5.77	23.67	30
25.67	3.15	5.77	23.05	30
26.12	3.15	5.82	23.45	30
25.78	3.15	5.82	23.11	30

Test Mode	Frequency (MHz)	CH	Antenna Pol.	SPA Reading (dBuv)	Receive Antenna Factor (dB/m)	Receive Cable Loss (dB)	Field Strength (dBuv/m)
Band 4 20MHz	1720	20050	V	101.17	26.32	8.67	136.16
			H	100.86	26.32	8.67	135.85
	1732.5	20175	V	101.1	26.39	8.72	136.21
			H	100.31	26.39	8.72	135.42
	1745	20300	V	101.48	26.45	8.75	136.68
			H	100.79	26.45	8.75	135.99

S.G. output (dBm)	Antenna Gain (dBd)	Tx Cable loss (dB)	Result ERP/EIRP (dBm)	Limit
				ERP/EIRP(dBm)
27.41	3.15	5.69	24.87	30
26.8	3.15	5.69	24.26	30
27.17	3.15	5.77	24.55	30
26.68	3.15	5.77	24.06	30
27.63	3.15	5.81	24.97	30
26.84	3.15	5.81	24.18	30

Band 5-QPSK:

Test Mode	Frequency (MHz)	CH	Antenna Pol.	SPA Reading (dBuv)	Receive Antenna Factor (dB/m)	Receive Cable Loss (dB)	Field Strength (dBuv/m)
Band 5 1.4MHz	824.7	20407	V	94.51	28.69	4.66	127.86
			H	93.99	28.69	4.66	127.34
	836.5	20525	V	94.38	28.84	4.72	127.94
			H	93.7	28.84	4.72	127.26
	848.3	20643	V	93.87	28.93	4.78	127.58
			H	93.32	28.93	4.78	127.03

S.G. output (dBm)	Antenna Gain (dBd)	Tx Cable loss (dB)	Result ERP/EIRP (dBm)	Limit
				ERP/EIRP(dBm)
20.52	1	3.68	17.84	38.45
20.28	1	3.68	17.6	38.45
20.7	1	3.74	17.96	38.45
19.95	1	3.74	17.21	38.45
20.29	1	3.74	17.55	38.45
19.76	1	3.74	17.02	38.45

Test Mode	Frequency (MHz)	CH	Antenna Pol.	SPA Reading (dBuv)	Receive Antenna Factor (dB/m)	Receive Cable Loss (dB)	Field Strength (dBuv/m)
Band 5 3MHz	825.5	20413	V	94.34	28.69	4.66	127.69
			H	93.67	28.69	4.66	127.02
	836.5	20525	V	94.19	28.84	4.72	127.75
			H	93.57	28.84	4.72	127.13
	847.5	20635	V	93.95	28.93	4.78	127.66
			H	93.42	28.93	4.78	127.13

S.G. output (dBm)	Antenna Gain (dBd)	Tx Cable loss (dB)	Result ERP/EIRP (dBm)	Limit
				ERP/EIRP(dBm)
20.54	1	3.68	17.86	38.45
20.19	1	3.68	17.51	38.45
20.64	1	3.74	17.9	38.45
19.76	1	3.74	17.02	38.45
20.13	1	3.74	17.39	38.45
19.85	1	3.74	17.11	38.45

Test Mode	Frequency (MHz)	CH	Antenna Pol.	SPA Reading (dBuv)	Receive Antenna Factor (dB/m)	Receive Cable Loss (dB)	Field Strength (dBuv/m)
Band 5 5MHz	826.5	20425	V	94.37	28.69	4.66	127.72
			H	93.96	28.69	4.66	127.31
	836.5	20525	V	94.14	28.84	4.72	127.7
			H	93.57	28.84	4.72	127.13
	846.5	20625	V	93.88	28.93	4.78	127.59
			H	93.62	28.93	4.78	127.33

S.G. output (dBm)	Antenna Gain (dBd)	Tx Cable loss (dB)	Result ERP/EIRP (dBm)	Limit
				ERP/EIRP(dBm)
20.62	1	3.68	17.94	38.45
20.09	1	3.68	17.41	38.45
20.66	1	3.74	17.92	38.45
20.03	1	3.74	17.29	38.45
20.47	1	3.74	17.73	38.45
19.83	1	3.74	17.09	38.45

Test Mode	Frequency (MHz)	CH	Antenna Pol.	SPA Reading (dBuv)	Receive Antenna Factor (dB/m)	Receive Cable Loss (dB)	Field Strength (dBuv/m)
Band 5 10MHz	829	20450	V	93.54	28.69	4.66	126.89
			H	93.1	28.69	4.66	126.45
	836.5	20525	V	93.22	28.84	4.72	126.78
			H	92.63	28.84	4.72	126.19
	844	20600	V	92.95	28.93	4.78	126.66
			H	92.2	28.93	4.78	125.91

S.G. output (dBm)	Antenna Gain (dBd)	Tx Cable loss (dB)	Result ERP/EIRP (dBm)	Limit
				ERP/EIRP(dBm)
20.43	1	3.68	17.75	38.45
19.94	1	3.68	17.26	38.45
20.41	1	3.74	17.67	38.45
19.95	1	3.74	17.21	38.45
20.46	1	3.74	17.72	38.45
20.08	1	3.74	17.34	38.45

Band 12-QPSK:

Test Mode	Frequency (MHz)	CH	Antenna Pol.	SPA Reading (dBuv)	Receive Antenna Factor (dB/m)	Receive Cable Loss (dB)	Field Strength (dBuv/m)
Band 12 1.4MHz	699.7	23017	V	93.76	27.10	4.20	125.06
			H	92.92	27.10	4.20	124.22
	707.5	23095	V	94.01	27.20	4.24	125.45
			H	92.62	27.20	4.24	124.06
	715.3	23173	V	93.5	27.30	4.30	125.1
			H	93.42	27.30	4.30	125.02

S.G. output (dBm)	Antenna Gain (dBd)	Tx Cable loss (dB)	Result ERP/EIRP (dBm)	Limit
				ERP/EIRP(dBm)
19.61	1	3.19	17.42	34.8
19.24	1	3.19	17.05	34.8
19.8	1	3.25	17.55	34.8
19.39	1	3.25	17.14	34.8
19.27	1	3.3	16.97	34.8
18.68	1	3.3	16.38	34.8

Test Mode	Frequency (MHz)	CH	Antenna Pol.	SPA Reading (dBuv)	Receive Antenna Factor (dB/m)	Receive Cable Loss (dB)	Field Strength (dBuv/m)
Band 12 3MHz	700.5	23025	V	94.42	27.10	4.20	125.72
			H	93.2	27.10	4.20	124.5
	707.5	23095	V	94.22	27.20	4.24	125.66
			H	93.62	27.20	4.24	125.06
	714.5	23165	V	93.94	27.30	4.30	125.54
			H	92.7	27.30	4.30	124.3

S.G. output (dBm)	Antenna Gain (dBd)	Tx Cable loss (dB)	Result ERP/EIRP (dBm)	Limit
				ERP/EIRP(dBm)
19.94	1	3.19	17.75	34.8
19.21	1	3.19	17.02	34.8
20.06	1	3.25	17.81	34.8
19.46	1	3.25	17.21	34.8
19.55	1	3.3	17.25	34.8
19.5	1	3.3	17.2	34.8

Test Mode	Frequency (MHz)	CH	Antenna Pol.	SPA Reading (dBuv)	Receive Antenna Factor (dB/m)	Receive Cable Loss (dB)	Field Strength (dBuv/m)
Band 12 5MHz	701.5	23035	V	95.27	27.10	4.20	126.57
			H	94	27.10	4.20	125.3
	707.5	23095	V	95.27	27.20	4.24	126.71
			H	94.64	27.20	4.24	126.08
	713.5	23155	V	94.98	27.27	4.29	126.54
			H	93.52	27.27	4.29	125.08

S.G. output (dBm)	Antenna Gain (dBd)	Tx Cable loss (dB)	Result ERP/EIRP (dBm)	Limit
				ERP/EIRP(dBm)
20.48	1	3.19	18.29	34.8
20.22	1	3.19	18.03	34.8
20.37	1	3.25	18.12	34.8
20.07	1	3.25	17.82	34.8
20.37	1	3.28	18.09	34.8
20.12	1	3.28	17.84	34.8

Test Mode	Frequency (MHz)	CH	Antenna Pol.	SPA Reading (dBuv)	Receive Antenna Factor (dB/m)	Receive Cable Loss (dB)	Field Strength (dBuv/m)
Band 12 10MHz	704	23060	V	94.72	27.18	4.20	126.1
			H	93.67	27.18	4.20	125.05
	707.5	23095	V	94.78	27.20	4.24	126.22
			H	93.96	27.20	4.24	125.4
	711	23130	V	94.59	27.24	4.26	126.09
			H	93.36	27.24	4.26	124.86

S.G. output (dBm)	Antenna Gain (dBd)	Tx Cable loss (dB)	Result ERP/EIRP (dBm)	Limit
				ERP/EIRP(dBm)
19.91	1	3.22	17.69	34.8
19.23	1	3.22	17.01	34.8
20.13	1	3.25	17.88	34.8
18.53	1	3.25	16.28	34.8
19.54	1	3.28	17.26	34.8
18.38	1	3.28	16.1	34.8

Band 17-QPSK:

Test Mode	Frequency (MHz)	CH	Antenna Pol.	SPA Reading (dBuv)	Receive Antenna Factor (dB/m)	Receive Cable Loss (dB)	Field Strength (dBuv/m)
Band 17 5MHz	706.5	23755	V	96.58	27.15	4.21	127.94
			H	96.19	27.15	4.21	127.55
	710	23790	V	97.04	27.22	4.25	128.51
			H	96.16	27.22	4.25	127.63
	713.5	23825	V	97.29	27.28	4.29	128.86
			H	96.59	27.28	4.29	128.16

S.G. output (dBm)	Antenna Gain (dBd)	Tx Cable loss (dB)	Result ERP/EIRP (dBm)	Limit
				ERP/EIRP(dBm)
20.44	1	3.19	18.25	34.8
20.24	1	3.19	18.05	34.8
20.74	1	3.25	18.49	34.8
20.28	1	3.25	18.03	34.8
21.24	1	3.3	18.94	34.8
20.63	1	3.3	18.33	34.8

Test Mode	Frequency (MHz)	CH	Antenna Pol.	SPA Reading (dBuv)	Receive Antenna Factor (dB/m)	Receive Cable Loss (dB)	Field Strength (dBuv/m)
Band 17 10MHz	709	23780	V	95.48	27.15	4.21	126.84
			H	94.74	27.15	4.21	126.1
	710	23790	V	95.23	27.22	4.25	126.7
			H	94.83	27.22	4.25	126.3
	711	23800	V	94.62	27.28	4.29	126.19
			H	93.85	27.28	4.29	125.42

S.G. output (dBm)	Antenna Gain (dBd)	Tx Cable loss (dB)	Result ERP/EIRP (dBm)	Limit
				ERP/EIRP(dBm)
20.3	1	3.19	18.11	34.8
20.13	1	3.19	17.94	34.8
20.29	1	3.25	18.04	34.8
19.93	1	3.25	17.68	34.8
20.29	1	3.3	17.99	34.8
19.84	1	3.3	17.54	34.8

Band 2-16QAM:

Test Mode	Frequency (MHz)	CH	Antenna Pol.	SPA Reading (dBuv)	Receive Antenna Factor (dB/m)	Receive Cable Loss (dB)	Field Strength (dBuv/m)
Band 2 1.4MHz	1850.7	18607	V	96.88	26.40	9.02	132.3
			H	96.24	26.40	9.02	131.66
	1880	18900	V	96.56	26.53	9.14	132.23
			H	96.7	26.53	9.14	132.37
	1909.3	19193	V	95.76	26.60	9.20	131.56
			H	95.54	26.60	9.20	131.34

S.G. output (dBm)	Antenna Gain (dBd)	Tx Cable loss (dB)	Result ERP/EIRP (dBm)	Limit
				ERP/EIRP(dBm)
25.68	3.15	6.10	22.73	33
25.83	3.15	6.10	22.88	33
25.33	3.15	6.19	22.29	33
25.45	3.15	6.19	22.41	33
25.59	3.15	6.24	22.5	33
25.62	3.15	6.24	22.53	33

Test Mode	Frequency (MHz)	CH	Antenna Pol.	SPA Reading (dBuv)	Receive Antenna Factor (dB/m)	Receive Cable Loss (dB)	Field Strength (dBuv/m)
Band 2 3MHz	1851.5	18615	V	98.38	26.40	9.02	133.8
			H	98.24	26.40	9.02	133.66
	1880	18900	V	97.31	26.53	9.14	132.98
			H	96.99	26.53	9.14	132.66
	1908.5	19185	V	96.78	26.60	9.20	132.58
			H	96	26.60	9.20	131.8

S.G. output (dBm)	Antenna Gain (dBd)	Tx Cable loss (dB)	Result ERP/EIRP (dBm)	Limit
				ERP/EIRP(dBm)
25.92	3.15	6.10	22.97	33
25.59	3.15	6.10	22.64	33
25.56	3.15	6.19	22.52	33
25.24	3.15	6.19	22.2	33
25.55	3.15	6.24	22.46	33
25.54	3.15	6.24	22.45	33

Test Mode	Frequency (MHz)	CH	Antenna Pol.	SPA Reading (dBuv)	Receive Antenna Factor (dB/m)	Receive Cable Loss (dB)	Field Strength (dBuv/m)
Band 2 5MHz	1852.5	18625	V	99.15	26.40	9.02	134.57
			H	98.95	26.40	9.02	134.37
	1880	18900	V	98.77	26.53	9.14	134.44
			H	97.65	26.53	9.14	133.32
	1907.5	19175	V	97.85	26.60	9.20	133.65
			H	97.43	26.60	9.20	133.23

S.G. output (dBm)	Antenna Gain (dBd)	Tx Cable loss (dB)	Result ERP/EIRP (dBm)	Limit
				ERP/EIRP(dBm)
25.93	3.15	6.10	22.98	33
25.73	3.15	6.10	22.78	33
25.31	3.15	6.19	22.27	33
25.48	3.15	6.19	22.44	33
25.7	3.15	6.24	22.61	33
25.17	3.15	6.24	22.08	33

Test Mode	Frequency (MHz)	CH	Antenna Pol.	SPA Reading (dBuv)	Receive Antenna Factor (dB/m)	Receive Cable Loss (dB)	Field Strength (dBuv/m)
Band 2 10MHz	1855	18650	V	98.53	26.41	9.03	133.97
			H	98.49	26.41	9.03	133.93
	1880	18900	V	98.31	26.53	9.14	133.98
			H	97.56	26.53	9.14	133.23
	1905	19150	V	98.22	26.59	9.19	134
			H	97.82	26.59	9.19	133.6

S.G. output (dBm)	Antenna Gain (dBd)	Tx Cable loss (dB)	Result ERP/EIRP (dBm)	Limit
				ERP/EIRP(dBm)
25.18	3.15	6.11	22.22	33
25.3	3.15	6.11	22.34	33
25.35	3.15	6.19	22.31	33
24.92	3.15	6.19	21.88	33
24.7	3.15	6.23	21.62	33
24.53	3.15	6.23	21.45	33

Test Mode	Frequency (MHz)	CH	Antenna Pol.	SPA Reading (dBuv)	Receive Antenna Factor (dB/m)	Receive Cable Loss (dB)	Field Strength (dBuv/m)
Band 2 15MHz	1857.5	18675	V	98.23	26.41	9.03	133.67
			H	97.89	26.41	9.03	133.33
	1880	18900	V	97.28	26.53	9.14	132.95
			H	96.57	26.53	9.14	132.24
	1902.5	19125	V	96.5	26.59	9.19	132.28
			H	96.61	26.59	9.19	132.39

S.G. output (dBm)	Antenna Gain (dBd)	Tx Cable loss (dB)	Result ERP/EIRP (dBm)	Limit
				ERP/EIRP(dBm)
25.31	3.15	6.11	22.35	33
24.99	3.15	6.11	22.03	33
25.12	3.15	6.19	22.08	33
24.78	3.15	6.19	21.74	33
24.95	3.15	6.23	21.87	33
24.42	3.15	6.23	21.34	33

Test Mode	Frequency (MHz)	CH	Antenna Pol.	SPA Reading (dBuv)	Receive Antenna Factor (dB/m)	Receive Cable Loss (dB)	Field Strength (dBuv/m)
Band 2 20MHz	1860	18700	V	98.83	26.42	9.04	134.29
			H	98.63	26.42	9.04	134.09
	1880	18900	V	98.32	26.53	9.14	133.99
			H	98.38	26.53	9.14	134.05
	1900	19100	V	98.34	26.58	9.18	134.1
			H	98.03	26.58	9.18	133.79

S.G. output (dBm)	Antenna Gain (dBd)	Tx Cable loss (dB)	Result ERP/EIRP (dBm)	Limit
				ERP/EIRP(dBm)
26.05	3.15	6.12	23.08	33
25.71	3.15	6.12	22.74	33
25.53	3.15	6.19	22.49	33
26.09	3.15	6.19	23.05	33
25.68	3.15	6.22	22.61	33
25.39	3.15	6.22	22.32	33

Band 4-16QAM:

Test Mode	Frequency (MHz)	CH	Antenna Pol.	SPA Reading (dBuv)	Receive Antenna Factor (dB/m)	Receive Cable Loss (dB)	Field Strength (dBuv/m)
Band 4 1.4MHz	1710.7	19957	V	98.14	26.32	8.67	133.13
			H	98.5	26.32	8.67	133.49
	1732.5	20175	V	98.07	26.39	8.72	133.18
			H	97.54	26.39	8.72	132.65
	1754.3	20393	V	98.09	26.45	8.77	133.31
			H	98.06	26.45	8.77	133.28

S.G. output (dBm)	Antenna Gain (dBd)	Tx Cable loss (dB)	Result ERP/EIRP (dBm)	Limit
				ERP/EIRP(dBm)
25.08	3.15	5.69	22.54	30
24.52	3.15	5.69	21.98	30
25.16	3.15	5.77	22.54	30
24.68	3.15	5.77	22.06	30
25.37	3.15	5.82	22.7	30
24.32	3.15	5.82	21.65	30

Test Mode	Frequency (MHz)	CH	Antenna Pol.	SPA Reading (dBuv)	Receive Antenna Factor (dB/m)	Receive Cable Loss (dB)	Field Strength (dBuv/m)
Band 4 3MHz	1711.5	19965	V	98.59	26.32	8.67	133.58
			H	98.61	26.32	8.67	133.6
	1732.5	20175	V	98.51	26.39	8.72	133.62
			H	98.35	26.39	8.72	133.46
	1753.5	20385	V	98.09	26.45	8.77	133.31
			H	97.9	26.45	8.77	133.12

S.G. output (dBm)	Antenna Gain (dBd)	Tx Cable loss (dB)	Result ERP/EIRP (dBm)	Limit
				ERP/EIRP(dBm)
25.7	3.15	5.69	23.16	30
24.74	3.15	5.69	22.2	30
25.03	3.15	5.77	22.41	30
25.09	3.15	5.77	22.47	30
25.32	3.15	5.82	22.65	30
24.81	3.15	5.82	22.14	30

Test Mode	Frequency (MHz)	CH	Antenna Pol.	SPA Reading (dBuv)	Receive Antenna Factor (dB/m)	Receive Cable Loss (dB)	Field Strength (dBuv/m)
Band 4 5MHz	1712.5	19975	V	98.87	26.32	8.67	133.86
			H	98.92	26.32	8.67	133.91
	1732.5	20175	V	99.06	26.39	8.72	134.17
			H	98.16	26.39	8.72	133.27
	1752.5	20375	V	98.09	26.45	8.77	133.31
			H	98.65	26.45	8.77	133.87

S.G. output (dBm)	Antenna Gain (dBd)	Tx Cable loss (dB)	Result ERP/EIRP (dBm)	Limit
				ERP/EIRP(dBm)
25.97	3.15	5.69	23.43	30
25.58	3.15	5.69	23.04	30
25.86	3.15	5.77	23.24	30
25.62	3.15	5.77	23	30
26.15	3.15	5.82	23.48	30
25.02	3.15	5.82	22.35	30

Test Mode	Frequency (MHz)	CH	Antenna Pol.	SPA Reading (dBuv)	Receive Antenna Factor (dB/m)	Receive Cable Loss (dB)	Field Strength (dBuv/m)
Band 4 10MHz	1715	20000	V	98.07	26.32	8.67	133.06
			H	97.69	26.32	8.67	132.68
	1732.5	20175	V	98.22	26.39	8.72	133.33
			H	97.76	26.39	8.72	132.87
	1750	20350	V	98.42	26.45	8.77	133.64
			H	96.97	26.45	8.77	132.19

S.G. output (dBm)	Antenna Gain (dBd)	Tx Cable loss (dB)	Result ERP/EIRP (dBm)	Limit
				ERP/EIRP(dBm)
24.83	3.15	5.69	22.29	30
24.62	3.15	5.69	22.08	30
25.01	3.15	5.77	22.39	30
24.66	3.15	5.77	22.04	30
25.36	3.15	5.82	22.69	30
25.02	3.15	5.82	22.35	30

Test Mode	Frequency (MHz)	CH	Antenna Pol.	SPA Reading (dBuv)	Receive Antenna Factor (dB/m)	Receive Cable Loss (dB)	Field Strength (dBuv/m)
Band 4 15MHz	1717.5	20025	V	97.51	26.32	8.67	132.5
			H	96.88	26.32	8.67	131.87
	1732.5	20175	V	96.99	26.39	8.72	132.1
			H	96.34	26.39	8.72	131.45
	1747.5	20325	V	96.94	26.45	8.77	132.16
			H	95.83	26.45	8.77	131.05

S.G. output (dBm)	Antenna Gain (dBd)	Tx Cable loss (dB)	Result ERP/EIRP (dBm)	Limit
				ERP/EIRP(dBm)
25.01	3.15	5.69	22.47	30
24.16	3.15	5.69	21.62	30
24.92	3.15	5.77	22.3	30
23.85	3.15	5.77	21.23	30
24.88	3.15	5.82	22.21	30
24.58	3.15	5.82	21.91	30

Test Mode	Frequency (MHz)	CH	Antenna Pol.	SPA Reading (dBuv)	Receive Antenna Factor (dB/m)	Receive Cable Loss (dB)	Field Strength (dBuv/m)
Band 4 20MHz	1720	20050	V	99.41	26.32	8.67	134.4
			H	99.05	26.32	8.67	134.04
	1732.5	20175	V	99.53	26.39	8.72	134.64
			H	98.72	26.39	8.72	133.83
	1745	20300	V	99.82	26.45	8.75	135.04
			H	99.18	26.45	8.75	134.4

S.G. output (dBm)	Antenna Gain (dBd)	Tx Cable loss (dB)	Result ERP/EIRP (dBm)	Limit
				ERP/EIRP(dBm)
25.56	3.15	5.69	23.02	30
24.98	3.15	5.69	22.44	30
25.49	3.15	5.77	22.87	30
25.02	3.15	5.77	22.4	30
25.94	3.15	5.81	23.27	30
25.12	3.15	5.81	22.45	30

Band 5-16QAM:

Test Mode	Frequency (MHz)	CH	Antenna Pol.	SPA Reading (dBuv)	Receive Antenna Factor (dB/m)	Receive Cable Loss (dB)	Field Strength (dBuv/m)
Band 5 1.4MHz	824.7	20407	V	93.46	28.69	4.66	126.81
			H	92.87	28.69	4.66	126.22
	836.5	20525	V	93.16	28.84	4.72	126.72
			H	92.35	28.84	4.72	125.91
	848.3	20643	V	92.41	28.93	4.78	126.12
			H	91.61	28.93	4.78	125.32

S.G. output (dBm)	Antenna Gain (dBd)	Tx Cable loss (dB)	Result ERP/EIRP (dBm)	Limit
				ERP/EIRP(dBm)
19.18	1	3.68	16.5	38.45
18.97	1	3.68	16.29	38.45
19.42	1	3.74	16.68	38.45
18.61	1	3.74	15.87	38.45
18.81	1	3.74	16.07	38.45
18.19	1	3.74	15.45	38.45

Test Mode	Frequency (MHz)	CH	Antenna Pol.	SPA Reading (dBuv)	Receive Antenna Factor (dB/m)	Receive Cable Loss (dB)	Field Strength (dBuv/m)
Band 5 3MHz	825.5	20413	V	93.03	28.69	4.66	126.38
			H	92.29	28.69	4.66	125.64
	836.5	20525	V	92.77	28.84	4.72	126.33
			H	92.12	28.84	4.72	125.68
	847.5	20635	V	92.34	28.93	4.78	126.05
			H	91.7	28.93	4.78	125.41

S.G. output (dBm)	Antenna Gain (dBd)	Tx Cable loss (dB)	Result ERP/EIRP (dBm)	Limit
				ERP/EIRP(dBm)
19.35	1	3.68	16.67	38.45
18.88	1	3.68	16.2	38.45
19.35	1	3.74	16.61	38.45
18.48	1	3.74	15.74	38.45
18.56	1	3.74	15.82	38.45
18.24	1	3.74	15.5	38.45

Test Mode	Frequency (MHz)	CH	Antenna Pol.	SPA Reading (dBuv)	Receive Antenna Factor (dB/m)	Receive Cable Loss (dB)	Field Strength (dBuv/m)
Band 5 5MHz	826.5	20425	V	92.95	28.69	4.66	126.3
			H	92.4	28.69	4.66	125.75
	836.5	20525	V	92.41	28.84	4.72	125.97
			H	91.77	28.84	4.72	125.33
	846.5	20625	V	91.93	28.93	4.78	125.64
			H	91.66	28.93	4.78	125.37

S.G. output (dBm)	Antenna Gain (dBd)	Tx Cable loss (dB)	Result ERP/EIRP (dBm)	Limit
				ERP/EIRP(dBm)
19.27	1	3.68	16.59	38.45
18.67	1	3.68	15.99	38.45
19	1	3.74	16.26	38.45
18.3	1	3.74	15.56	38.45
18.66	1	3.74	15.92	38.45
17.95	1	3.74	15.21	38.45

Test Mode	Frequency (MHz)	CH	Antenna Pol.	SPA Reading (dBuv)	Receive Antenna Factor (dB/m)	Receive Cable Loss (dB)	Field Strength (dBuv/m)
Band 5 10MHz	829	20450	V	91.9	28.69	4.66	125.25
			H	91.38	28.69	4.66	124.73
	836.5	20525	V	91.34	28.84	4.72	124.9
			H	90.71	28.84	4.72	124.27
	844	20600	V	90.89	28.93	4.78	124.6
			H	90.08	28.93	4.78	123.79

S.G. output (dBm)	Antenna Gain (dBd)	Tx Cable loss (dB)	Result ERP/EIRP (dBm)	Limit
				ERP/EIRP(dBm)
18.84	1	3.68	16.16	38.45
18.28	1	3.68	15.6	38.45
18.69	1	3.74	15.95	38.45
18.22	1	3.74	15.48	38.45
18.56	1	3.74	15.82	38.45
18.1	1	3.74	15.36	38.45

Band 12-16QAM:

Test Mode	Frequency (MHz)	CH	Antenna Pol.	SPA Reading (dBuv)	Receive Antenna Factor (dB/m)	Receive Cable Loss (dB)	Field Strength (dBuv/m)
Band 12 1.4MHz	699.7	23017	V	92.36	27.10	4.20	123.66
			H	91.41	27.10	4.20	122.71
	707.5	23095	V	92.77	27.20	4.24	124.21
			H	90.9	27.20	4.24	122.34
	715.3	23173	V	92.21	27.30	4.30	123.81
			H	91.94	27.30	4.30	123.54

S.G. output (dBm)	Antenna Gain (dBd)	Tx Cable loss (dB)	Result ERP/EIRP (dBm)	Limit
				ERP/EIRP(dBm)
18.35	1	3.19	16.16	34.8
17.93	1	3.19	15.74	34.8
18.4	1	3.25	16.15	34.8
17.87	1	3.25	15.62	34.8
17.88	1	3.3	15.58	34.8
17.26	1	3.3	14.96	34.8

Test Mode	Frequency (MHz)	CH	Antenna Pol.	SPA Reading (dBuv)	Receive Antenna Factor (dB/m)	Receive Cable Loss (dB)	Field Strength (dBuv/m)
Band 12 3MHz	700.5	23025	V	92.83	27.10	4.20	124.13
			H	91.56	27.10	4.20	122.86
	707.5	23095	V	92.5	27.20	4.24	123.94
			H	91.82	27.20	4.24	123.26
	714.5	23165	V	92	27.30	4.30	123.6
			H	90.8	27.30	4.30	122.4

S.G. output (dBm)	Antenna Gain (dBd)	Tx Cable loss (dB)	Result ERP/EIRP (dBm)	Limit
				ERP/EIRP(dBm)
18.59	1	3.19	16.4	34.8
17.76	1	3.19	15.57	34.8
18.6	1	3.25	16.35	34.8
17.88	1	3.25	15.63	34.8
17.94	1	3.3	15.64	34.8
17.82	1	3.3	15.52	34.8

Test Mode	Frequency (MHz)	CH	Antenna Pol.	SPA Reading (dBuv)	Receive Antenna Factor (dB/m)	Receive Cable Loss (dB)	Field Strength (dBuv/m)
Band 12 5MHz	701.5	23035	V	93.73	27.10	4.20	125.03
			H	92.4	27.10	4.20	123.7
	707.5	23095	V	93.63	27.20	4.24	125.07
			H	92.93	27.20	4.24	124.37
	713.5	23155	V	93.39	27.27	4.29	124.95
			H	91.74	27.27	4.29	123.3

S.G. output (dBm)	Antenna Gain (dBd)	Tx Cable loss (dB)	Result ERP/EIRP (dBm)	Limit
				ERP/EIRP(dBm)
19.42	1	3.19	17.23	34.8
19.11	1	3.19	16.92	34.8
19.16	1	3.25	16.91	34.8
18.73	1	3.25	16.48	34.8
19.02	1	3.28	16.74	34.8
18.67	1	3.28	16.39	34.8

Test Mode	Frequency (MHz)	CH	Antenna Pol.	SPA Reading (dBuv)	Receive Antenna Factor (dB/m)	Receive Cable Loss (dB)	Field Strength (dBuv/m)
Band 12 10MHz	704	23060	V	93.02	27.18	4.20	124.4
			H	91.83	27.18	4.20	123.21
	707.5	23095	V	93.09	27.20	4.24	124.53
			H	92.11	27.20	4.24	123.55
	711	23130	V	92.82	27.24	4.26	124.32
			H	91.57	27.24	4.26	123.07

S.G. output (dBm)	Antenna Gain (dBd)	Tx Cable loss (dB)	Result ERP/EIRP (dBm)	Limit
				ERP/EIRP(dBm)
18.66	1	3.22	16.44	34.8
17.89	1	3.22	15.67	34.8
18.68	1	3.25	16.43	34.8
17.03	1	3.25	14.78	34.8
17.86	1	3.28	15.58	34.8
16.66	1	3.28	14.38	34.8

Band 17-16QAM:

Test Mode	Frequency (MHz)	CH	Antenna Pol.	SPA Reading (dBuv)	Receive Antenna Factor (dB/m)	Receive Cable Loss (dB)	Field Strength (dBuv/m)
Band 17 5MHz	706.5	23755	V	95.27	27.15	4.21	126.63
			H	94.6	27.15	4.21	125.96
	710	23790	V	95.59	27.22	4.25	127.06
			H	94.44	27.22	4.25	125.91
	713.5	23825	V	95.93	27.28	4.29	127.5
			H	95.04	27.28	4.29	126.61

S.G. output (dBm)	Antenna Gain (dBd)	Tx Cable loss (dB)	Result ERP/EIRP (dBm)	Limit
				ERP/EIRP(dBm)
19.05	1	3.19	16.86	34.8
18.84	1	3.19	16.65	34.8
19.32	1	3.25	17.07	34.8
18.76	1	3.25	16.51	34.8
19.79	1	3.3	17.49	34.8
19.02	1	3.3	16.72	34.8

Test Mode	Frequency (MHz)	CH	Antenna Pol.	SPA Reading (dBuv)	Receive Antenna Factor (dB/m)	Receive Cable Loss (dB)	Field Strength (dBuv/m)
Band 17 10MHz	709	23780	V	94.32	27.15	4.21	125.68
			H	93.49	27.15	4.21	124.85
	710	23790	V	93.89	27.22	4.25	125.36
			H	93.38	27.22	4.25	124.85
	711	23800	V	93.07	27.28	4.29	124.64
			H	92.24	27.28	4.29	123.81

S.G. output (dBm)	Antenna Gain (dBd)	Tx Cable loss (dB)	Result ERP/EIRP (dBm)	Limit
				ERP/EIRP(dBm)
18.79	1	3.19	16.6	34.8
18.61	1	3.19	16.42	34.8
18.89	1	3.25	16.64	34.8
18.32	1	3.25	16.07	34.8
18.59	1	3.3	16.29	34.8
18.35	1	3.3	16.05	34.8

8. PEAK-TO-AVERAGE POWER RATIO TEST

8.1. Limit

FCC: CFR 24.232:

- (d) Power measurements for transmissions by stations authorized under this section may be made either in accordance with a Commission-approved average power technique or in compliance with paragraph (e) of this section. In both instances, equipment employed must be authorized in accordance with the provisions of §24.51. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.
- (e) Peak transmit power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage. The measurement results shall be properly adjusted for any instrument limitations, such as detector response times, limited resolution bandwidth capability when compared to the emission bandwidth, sensitivity, etc., so as to obtain a true peak measurement for the emission in question over the full bandwidth of the channel.

FCC: CFR 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.

8.2. Test Procedure

According to KDB 971168:

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

8.3. Test Result

LTE Band	Bandwidth (MHz)	Frequency (MHz)	Power (dBm)	
			QPSK	16QAM
Band 2	20	1860	8.41	8.72
Band 4	20	1745	8.22	8.61
Band 5	5	836.5	8.06	8.56
Band 12	5	713.5	8.11	8.65
Band 17	5	713.5	8.31	8.72

9. FIELD STRENGTH OF RADIATED SPURIOUS EMISSIONS TEST

9.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	PXA Signal Analyzer	Agilent	N9030A	MY53311015	Oct.15,17	1 Year
2.	Preamplifier	HP	8449B	3008A02495	Apr.22.17	1 Year
3.	Preamplifier	Agilent	8447D	2944A11159	Apr.22,17	1Year
4.	Trilog-Broadband Antenna	SCHWARZBECK	VULB 9168	493	Jun.27.17	1 Year
5.	Horn Antenna	ETC	MCTD 1209	DRH15F03006	May.15,17	1 Year
6.	Horn Antenna	EMCO	3116	0062643	Oct.10,17	1 Year
7.	Antenna and turn table controller	CT	SC100	CT-0091	N/A	N/A
8.	RF Cable	Hubersuhner	SUCOFLEX104	274094/4	Apr.22,17	1 Year
9.	Test Software	AUDIX	e3	6.2009-5-21a(n)	N/A	N/A

Note: N/A means Not applicable.

9.2. Limit

FCC part 22.917(a), 24.238(a) the magnitude of each spurious and harmonic emission that can be detected when the equipment is operated under the conditions specification in the instruction manual and/or alignment procedure, shall not be less than $43+10\log(\text{Mean power in watts})$ dBc below the mean power output outside a license's frequency block(-13dBm).

FCC part 27.53(g) state that for operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43 + 10 \log (P)$ dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

FCC part 27.53(h) state that on any frequency outside frequency band of the US Cellular/PCS spectrum, the power of any emission shall be attenuated below the transmitter power (P, in Watts) by at least $43+10\log (P)$ dB. For all power levels +30 dBm to 0 dBm, this becomes a constant specification limit of -13 dBm.

9.3. Test Procedure

The EUT was placed on a 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. During the measurement, the EUT was communication with the station. The highest emission was recorded with the rotation of the turntable and lowering of the test antenna from 4m to 1m.

ERP in frequency band 824.2-848.8MHz were measured using substitution method. The EUT was replaced by dipole antenna connected, the S.G. output was recorded and ERP was calculated as follow: EIRP in frequency band 1850.5-1909.8MHz were measured using a substitution method. The EUT was replaced by a horn antenna connected, the S.G. output was recorded and EIRP was calculated as follows:

ERP=S.G. output (dBm) + Antenna Gain (dBd)-Cable Loss (dB)

EIRP=S.G. output (dBm) + Antenna Gain (dBi)-Cable Loss (dB)

9.4. Test Result

Spurious emissions								
EUT: Gemini								
M/N: Gemini 4G								
Test Date: 2018-03-15			Test site: RF Chamber			Tested by: Alice_yang		
Temperature: 22.5±0.6℃			Humidity: 52.2±3.0%			Pressure: 102.1±1.0kpa		
Test result								
Test Mode : LTE Band 2 TX CH Low QPSK 20MHz Mode 1860MHz								
Frequency (MHz)	Antenna polarization	S.G Output (dBm)	Antenna Gain (dBi/dBd)	Cable Loss (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Conclusion
203.54	H	-58.99	2.8	1.33	-57.52	-13	44.52	PASS
629.05	H	-58.77	5.2	3.06	-56.63	-13	43.63	PASS
851.81	H	-59.7	5.6	3.87	-57.97	-13	44.97	PASS
972.17	H	-60.23	5.9	4.22	-58.55	-13	45.55	PASS
2479	H	-49.87	9.5	7.47	-47.84	-13	34.84	PASS
3720	H	-42.41	9.6	8.95	-41.76	-13	28.76	PASS
5580	H	-40.96	10.6	9.85	-40.21	-13	27.21	PASS
203.54	V	-66.14	2.8	1.33	-64.67	-13	51.67	PASS
629.05	V	-66.58	5.2	3.06	-64.44	-13	51.44	PASS
851.81	V	-65.17	5.6	3.87	-63.44	-13	50.44	PASS
972.17	V	-65.7	5.9	4.22	-64.02	-13	51.02	PASS
2479	V	-49	9.5	7.47	-46.97	-13	33.97	PASS
3720	V	-41.05	9.6	8.95	-40.4	-13	27.4	PASS
5580	V	-40.96	10.6	9.85	-40.21	-13	27.21	PASS

Test Mode : LTE Band 2 TX CH Middle QPSK 20MHz Mode 1880MHz

221.16	H	-60.37	2.8	1.34	-58.91	-13	45.91	PASS
633.51	H	-57.78	5.2	3.10	-55.68	-13	42.68	PASS
876.8	H	-59.31	5.7	3.86	-57.47	-13	44.47	PASS
981.23	H	-59.62	5.9	4.22	-57.94	-13	44.94	PASS
2581	H	-51.01	9.6	7.71	-49.12	-13	36.12	PASS
3760	H	-45.72	9.5	8.96	-45.18	-13	32.18	PASS
5640	H	-40.07	10.6	9.85	-39.32	-13	26.32	PASS
221.16	V	-63.82	2.8	1.34	-62.36	-13	49.36	PASS
633.51	V	-64.13	5.2	3.10	-62.03	-13	49.03	PASS
876.8	V	-65.69	5.7	3.86	-63.85	-13	50.85	PASS
981.23	V	-69.2	5.9	4.22	-67.52	-13	54.52	PASS
2581	V	-46.08	9.6	7.71	-44.19	-13	31.19	PASS
3760	V	-42.43	9.5	8.96	-41.89	-13	28.89	PASS
5640	V	-39.98	10.6	9.85	-39.23	-13	26.23	PASS

Test Mode : LTE Band 2 TX CH High QPSK 20MHz Mode 1900MHz

199.84	H	-60.68	2.7	1.33	-59.31	-13	46.31	PASS
645.12	H	-59.68	5.3	3.07	-57.45	-13	44.45	PASS
879.32	H	-61.34	5.7	3.87	-59.51	-13	46.51	PASS
950.2	H	-61.71	5.9	4.20	-60.01	-13	47.01	PASS
3060	H	-47.16	9.6	8.63	-46.19	-13	33.19	PASS
3800	H	-42.72	9.7	8.99	-42.01	-13	29.01	PASS
5700	H	-41.63	10.7	9.89	-40.82	-13	27.82	PASS
199.84	V	-64.68	2.7	1.33	-63.31	-13	50.31	PASS
645.12	V	-63.51	5.3	3.07	-61.28	-13	48.28	PASS
879.32	V	-64.31	5.7	3.87	-62.48	-13	49.48	PASS
950.2	V	-64.78	5.9	4.20	-63.08	-13	50.08	PASS
3060	V	-47.15	9.6	8.63	-46.18	-13	33.18	PASS
3800	V	-43.18	9.7	8.99	-42.47	-13	29.47	PASS
5700	V	-41.4	10.7	9.89	-40.59	-13	27.59	PASS

Remark: All the emission were detected belong to narrowband spurious emission

Spurious emissions

EUT: Gemini

M/N: Gemini 4G

Test Date: 2018-03-15

Test site: RF Chamber

Tested by: Alice_yang

Temperature: 22.5±0.6℃

Humidity: 52.2±3.0%

Pressure: 102.1±1.0kpa

Test result

Test Mode : LTE Band 4 TX CH Low QPSK 20MHz Mode 1720MHz

Frequency (MHz)	Antenna polarization	S.G Output (dBm)	Antenna Gain (dBi/dBd)	Cable Loss (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Conclusion
226.15	H	-59.2	2.9	1.34	-57.64	-13	44.64	PASS
633.51	H	-58.9	5.2	3.06	-56.76	-13	43.76	PASS
850.19	H	-59.67	5.6	3.85	-57.92	-13	44.92	PASS
990.62	H	-61.02	5.9	4.23	-59.35	-13	46.35	PASS
2406	H	-51.17	9.5	7.31	-48.98	-13	35.98	PASS
3440	H	-42.68	9.6	8.82	-41.9	-13	28.9	PASS
5160	H	-41.62	10.6	9.63	-40.65	-13	27.65	PASS
226.15	V	-65.56	2.9	1.34	-64	-13	51	PASS
633.51	V	-66.45	5.2	3.06	-64.31	-13	51.31	PASS
850.19	V	-64.64	5.6	3.85	-62.89	-13	49.89	PASS
990.62	V	-66.02	5.9	4.23	-64.35	-13	51.35	PASS
2406	V	-49.84	9.5	7.31	-47.65	-13	34.65	PASS
3440	V	-41.55	9.6	8.82	-40.77	-13	27.77	PASS
5160	V	-41.68	10.6	9.63	-40.71	-13	27.71	PASS

Test Mode : LTE Band 4 TX CH Middle QPSK 20MHz Mode 1732.5MHz

193.56	H	-60.47	2.8	1.33	-59	-13	46	PASS
612.82	H	-58.77	5.2	3.06	-56.63	-13	43.63	PASS
878.92	H	-60.03	5.7	3.87	-58.2	-13	45.2	PASS
988.34	H	-60.56	5.9	4.21	-58.87	-13	45.87	PASS
2593	H	-50.47	9.6	7.55	-48.42	-13	35.42	PASS
3465	H	-44.99	9.5	8.82	-44.31	-13	31.31	PASS
5197.5	H	-40.73	10.6	9.71	-39.84	-13	26.84	PASS
193.56	V	-62.82	2.8	1.33	-61.35	-13	48.35	PASS
612.82	V	-64.13	5.2	3.06	-61.99	-13	48.99	PASS
878.92	V	-64.06	5.7	3.87	-62.23	-13	49.23	PASS
988.34	V	-67.9	5.9	4.21	-66.21	-13	53.21	PASS
2593	V	-45.77	9.6	7.55	-43.72	-13	30.72	PASS
3465	V	-42.36	9.5	8.82	-41.68	-13	28.68	PASS
5197.5	V	-40.26	10.6	9.71	-39.37	-13	26.37	PASS

Test Mode : LTE Band 4 TX CH High QPSK 20MHz Mode 1745MHz

202.66	H	-60.5	2.7	1.33	-59.13	-13	46.13	PASS
677.18	H	-60.32	5.3	3.08	-58.1	-13	45.1	PASS
879.03	H	-62.91	5.7	3.87	-61.08	-13	48.08	PASS
950.9	H	-63.84	5.9	4.18	-62.12	-13	49.12	PASS
2492	H	-46.87	9.6	7.52	-44.79	-13	31.79	PASS
3490	H	-43.13	9.7	8.83	-42.26	-13	29.26	PASS
5235	H	-40.62	10.6	9.80	-39.82	-13	26.82	PASS
202.66	V	-65.18	2.7	1.33	-63.81	-13	50.81	PASS
677.18	V	-63.13	5.3	3.08	-60.91	-13	47.91	PASS
879.03	V	-63.9	5.7	3.87	-62.07	-13	49.07	PASS
950.9	V	-64.47	5.9	4.18	-62.75	-13	49.75	PASS
2492	V	-46.78	9.6	7.52	-44.7	-13	31.7	PASS
3490	V	-43.49	9.7	8.83	-42.62	-13	29.62	PASS
5235	V	-41.55	10.6	9.80	-40.75	-13	27.75	PASS

Remark: All the emission were detected belong to narrowband spurious emission

Spurious emissions								
EUT: Gemini								
M/N: Gemini 4G								
Test Date: 2018-03-15			Test site: RF Chamber			Tested by: Alice_yang		
Temperature: 22.5±0.6℃			Humidity: 52.2±3.0%			Pressure: 102.1±1.0kpa		
Test result								
Test Mode : LTE Band 5 TX CH Low QPSK 5MHz Mode 826.5MHz								
Frequency (MHz)	Antenna polarization	S.G Output (dBm)	Antenna Gain (dBi/dBd)	Cable Loss (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Conclusion
202.5	H	-59.32	2.6	1.33	-58.05	-13	45.05	PASS
627.6	H	-58.06	5.2	3.06	-55.92	-13	42.92	PASS
879.69	H	-32.77	5.7	3.87	-30.94	-13	17.94	PASS
963.51	H	-60.09	5.9	4.21	-58.4	-13	45.4	PASS
1653	H	-50.18	7.9	5.68	-47.96	-13	34.96	PASS
2479.5	H	-49.88	9.5	7.47	-47.85	-13	34.85	PASS
3678	H	-41.53	9.7	8.92	-40.75	-13	27.75	PASS
202.5	V	-66.46	2.6	1.33	-65.19	-13	52.19	PASS
627.6	V	-61.94	5.2	3.06	-59.8	-13	46.8	PASS
879.69	V	-59.32	5.5	3.87	-57.69	-13	44.69	PASS
963.51	V	-35.74	5.8	4.21	-34.15	-13	21.15	PASS
1653	V	-47.43	7.9	5.68	-45.21	-13	32.21	PASS
2479.5	V	-49.17	9.5	7.47	-47.14	-13	34.14	PASS
3678	V	-43.88	9.7	8.92	-43.1	-13	30.1	PASS

Test Mode : LTE Band 5 TX CH Middle QPSK 5MHz Mode 836.5MHz								
198.98	H	-60.49	2.8	1.33	-59.02	-13	46.02	PASS
632.59	H	-58.35	5.2	3.06	-56.21	-13	43.21	PASS
902.55	H	-31.71	5.7	3.88	-29.89	-13	16.89	PASS
959.73	H	-60	5.9	4.21	-58.31	-13	45.31	PASS
1673	H	-44.02	7.9	5.70	-41.82	-13	28.82	PASS
2509.5	H	-43.21	9.6	7.50	-41.11	-13	28.11	PASS
3365	H	-42.11	9.6	8.77	-41.28	-13	28.28	PASS
198.98	V	-61.2	2.8	1.33	-59.73	-13	46.73	PASS
632.59	V	-52.67	5.5	3.06	-50.23	-13	37.23	PASS
902.55	V	-38.27	5.7	3.88	-36.45	-13	23.45	PASS
959.73	V	-57.4	5.8	4.21	-55.81	-13	42.81	PASS
1673	V	-50.19	7.9	5.70	-47.99	-13	34.99	PASS
2509.5	V	-50.54	9.6	7.50	-48.44	-13	35.44	PASS
3365	V	-41.3	9.6	8.77	-40.47	-13	27.47	PASS
Test Mode : LTE Band 5 TX CH High QPSK 5MHz Mode 846.5MHz								
201.69	H	-59.15	2.7	1.33	-57.78	-13	44.78	PASS
635.71	H	-57.38	5.2	3.06	-55.24	-13	42.24	PASS
816.2	H	-55.3	5.5	3.63	-53.43	-13	40.43	PASS
899.53	H	-29.36	5.7	3.87	-27.53	-13	14.53	PASS
1693	H	-49.28	7.9	5.80	-47.18	-13	34.18	PASS
2539.5	H	-47.82	9.6	7.55	-45.77	-13	32.77	PASS
3386	H	-42.51	9.6	8.79	-41.7	-13	28.7	PASS
201.69	V	-66.14	2.6	1.33	-64.87	-13	51.87	PASS
635.71	V	-65.1	5.2	3.06	-62.96	-13	49.96	PASS
816.2	V	-54.43	5.5	3.63	-52.56	-13	39.56	PASS
899.53	V	-39.58	5.7	3.87	-37.75	-13	24.75	PASS
1693	V	-48.59	7.9	5.80	-46.49	-13	33.49	PASS
2539.5	V	-48.61	9.6	7.55	-46.56	-13	33.56	PASS
3386	V	-42.91	9.6	8.79	-42.1	-13	29.1	PASS
Remark: All the emission were detected belong to narrowband spurious emission								

Spurious emissions

EUT: Gemini

M/N: Gemini 4G

Test Date: 2018-03-15

Test site: RF Chamber

Tested by: Alice_yang

Temperature: 22.5±0.6℃

Humidity: 52.2±3.0%

Pressure: 102.1±1.0kpa

Test result

Test Mode : LTE Band 12 TX CH Low QPSK 5MHz Mode 701.5MHz

Frequency (MHz)	Antenna polarization	S.G Output (dBm)	Antenna Gain (dBi/dBd)	Cable Loss (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Conclusion
212	H	-59.52	2.6	1.34	-58.26	-13	45.26	PASS
555.14	H	-56.72	5.0	3.04	-54.76	-13	41.76	PASS
778.68	H	-32.11	5.7	3.67	-30.08	-13	17.08	PASS
996.5	H	-60.24	5.9	4.28	-58.62	-13	45.62	PASS
1403	H	-51.26	7.9	5.68	-49.04	-13	36.04	PASS
2104.5	H	-50.01	9.5	7.32	-47.83	-13	34.83	PASS
3525	H	-41.26	9.7	8.80	-40.36	-13	27.36	PASS
212	V	-65.61	2.6	1.34	-64.35	-13	51.35	PASS
555.14	V	-61.61	5.0	3.04	-59.65	-13	46.65	PASS
778.68	V	-58.49	5.7	3.67	-56.46	-13	43.46	PASS
996.5	V	-35.74	5.9	4.28	-34.12	-13	21.12	PASS
1403	V	-46.84	7.9	5.68	-44.62	-13	31.62	PASS
2104.5	V	-48.55	9.5	7.32	-46.37	-13	33.37	PASS
3525	V	-43.09	9.7	8.80	-42.19	-13	29.19	PASS

Test Mode : LTE Band 12 TX CH Middle QPSK 5MHz Mode 707.5MHz

187.5	H	-61.47	2.8	1.32	-59.99	-13	46.99	PASS
611.42	H	-58.51	5.1	3.05	-56.46	-13	43.46	PASS
792.1	H	-32.32	5.5	3.72	-30.54	-13	17.54	PASS
976.15	H	-60.65	5.9	4.19	-58.94	-13	45.94	PASS
1415	H	-44.52	7.9	5.68	-42.3	-13	29.3	PASS
2122.5	H	-45.36	9.6	7.33	-43.09	-13	30.09	PASS
3142	H	-42.75	9.6	8.71	-41.86	-13	28.86	PASS
187.5	V	-61.7	2.8	1.32	-60.22	-13	47.22	PASS
611.42	V	-53.19	5.1	3.05	-51.14	-13	38.14	PASS
792.1	V	-37.44	5.5	3.72	-35.66	-13	22.66	PASS
976.15	V	-57.51	5.9	4.19	-55.8	-13	42.8	PASS
1415	V	-49.36	7.9	5.68	-47.14	-13	34.14	PASS
2122.5	V	-49.54	9.6	7.33	-47.27	-13	34.27	PASS
3142	V	-41.37	9.6	8.71	-40.48	-13	27.48	PASS

Test Mode : LTE Band 12 TX CH High QPSK 5MHz Mode 713.5MHz

191.42	H	-60.46	2.7	1.32	-59.08	-13	46.08	PASS
579.38	H	-59.74	5.2	3.01	-57.55	-13	44.55	PASS
620.2	H	-31.45	5.3	3.06	-29.21	-13	16.21	PASS
877.17	H	-49.71	5.6	3.87	-47.98	-13	34.98	PASS
1427	H	-49.38	7.9	5.68	-47.16	-13	34.16	PASS
2140.5	H	-48.71	9.6	7.34	-46.45	-13	33.45	PASS
3085	H	-43.55	9.6	8.70	-42.65	-13	29.65	PASS
191.42	V	-66.6	2.7	1.32	-65.22	-13	52.22	PASS
579.38	V	-64.88	5.2	3.01	-62.69	-13	49.69	PASS
620.2	V	-55.74	5.3	3.06	-53.5	-13	40.5	PASS
877.17	V	-41.81	5.6	3.87	-40.08	-13	27.08	PASS
1427	V	-50.12	7.9	5.68	-47.9	-13	34.9	PASS
2140.5	V	-49.11	9.6	7.34	-46.85	-13	33.85	PASS
3085	V	-39.7	9.6	8.70	-38.8	-13	25.8	PASS

Remark: All the emission were detected belong to narrowband spurious emission

Spurious emissions								
EUT: Gemini								
M/N: Gemini 4G								
Test Date: 2018-03-15			Test site: RF Chamber			Tested by: Alice_yang		
Temperature: 22.5±0.6℃			Humidity: 52.2±3.0%			Pressure: 102.1±1.0kpa		
Test result								
Test Mode : LTE Band 17 TX CH Low QPSK 5MHz Mode 706.5MHz								
Frequency (MHz)	Antenna polarization	S.G Output (dBm)	Antenna Gain (dBi/dBd)	Cable Loss (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Conclusion
210.28	H	-60	2.6	1.33	-58.73	-13	45.73	PASS
540.15	H	-57.86	5.1	3.00	-55.76	-13	42.76	PASS
668.16	H	-32.74	5.5	3.16	-30.4	-13	17.4	PASS
969.03	H	-59.84	5.9	4.21	-58.15	-13	45.15	PASS
1413	H	-50.64	7.9	5.68	-48.42	-13	35.42	PASS
2119.5	H	-51.03	9.5	7.33	-48.86	-13	35.86	PASS
3551	H	-41.7	9.7	8.86	-40.86	-13	27.86	PASS
210.28	V	-65.72	2.6	1.33	-64.45	-13	51.45	PASS
540.15	V	-62.76	5.1	3.00	-60.66	-13	47.66	PASS
668.16	V	-59.38	5.5	3.16	-57.04	-13	44.04	PASS
969.03	V	-36.79	5.9	4.21	-35.1	-13	22.1	PASS
1413	V	-47.43	7.9	5.68	-45.21	-13	32.21	PASS
2119.5	V	-48.66	9.5	7.33	-46.49	-13	33.49	PASS
3551	V	-43.04	9.7	8.86	-42.2	-13	29.2	PASS

Test Mode : LTE Band 17 TX CH Middle QPSK 5MHz Mode 710.0MHz								
197.55	H	-60.7	2.8	1.33	-59.23	-13	46.23	PASS
558.64	H	-58.43	5.2	3.04	-56.27	-13	43.27	PASS
782.09	H	-31.85	5.5	3.73	-30.08	-13	17.08	PASS
929.11	H	-62.2	5.8	4.17	-60.57	-13	47.57	PASS
1420	H	-45.62	7.9	5.68	-43.4	-13	30.4	PASS
2130	H	-44.16	9.6	7.35	-41.91	-13	28.91	PASS
3499	H	-42.46	9.6	8.83	-41.69	-13	28.69	PASS
197.55	V	-60.81	2.8	1.33	-59.34	-13	46.34	PASS
558.64	V	-53.28	5.2	3.04	-51.12	-13	38.12	PASS
782.09	V	-37.86	5.5	3.73	-36.09	-13	23.09	PASS
929.11	V	-56.82	5.8	4.17	-55.19	-13	42.19	PASS
1420	V	-48.87	7.9	5.68	-46.65	-13	33.65	PASS
2130	V	-48.81	9.6	7.35	-46.56	-13	33.56	PASS
3499	V	-41.18	9.6	8.83	-40.41	-13	27.41	PASS
Test Mode : LTE Band 17 TX CH High QPSK 5MHz Mode 713.5MHz								
205.64	H	-60.21	2.7	1.33	-58.84	-13	45.84	PASS
592.2	H	-58.4	5.1	3.02	-56.32	-13	43.32	PASS
788.15	H	-57.49	5.5	3.73	-55.72	-13	42.72	PASS
885.6	H	-29.92	5.7	3.87	-28.09	-13	15.09	PASS
1427	H	-51.54	7.9	5.68	-49.32	-13	36.32	PASS
2140.5	H	-48.65	9.6	7.35	-46.4	-13	33.4	PASS
3488	H	-44.15	9.6	8.83	-43.38	-13	30.38	PASS
205.64	V	-67.88	2.7	1.33	-66.51	-13	53.51	PASS
592.2	V	-65.13	5.1	3.02	-63.05	-13	50.05	PASS
788.15	V	-55.05	5.5	3.73	-53.28	-13	40.28	PASS
885.6	V	-40.41	5.7	3.87	-38.58	-13	25.58	PASS
1427	V	-49.22	7.9	5.68	-47	-13	34	PASS
2140.5	V	-49.6	9.6	7.35	-47.35	-13	34.35	PASS
3488	V	-39.84	9.6	8.83	-39.07	-13	26.07	PASS
Remark: All the emission were detected belong to narrowband spurious emission								

Note: Choose the worse case mode for the test to each band.

10.DEVIATION TO TEST SPECIFICATIONS

[NONE]