FCC Test Report
(Part 90 Subpart S)

Report No.:	RF190130C26-5
FCC ID:	2ASPU-HERA51
Test Model:	HERA51
Received Date:	Jan. 30, 2019
Test Date:	Feb. 13 ~ Mar. 13, 2019
Issued Date:	Mar. 13, 2019
Applicant:	mPLUS Technology Co., Ltd.
Address:	22F, 333 Dunhua S. Rd. Sec. 2, Taipei, Taiwan
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan (R.O.C.)
Test Location:	No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)
FCC Registration / Designation Number:	788550 / TW0003

Testing Laboratory
2021

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Release Control Record

Issue No.	Description	Date Issued
RF190130C26-5	Original release	Mar. 13, 2019

1 Certificate of Conformity

Product: mobile POS

Brand: mPLUS

Test Model: HERA51

Sample Status: Engineering sample

Applicant: mPLUS Technology Co., Ltd.

Test Date: Feb. 13 ~ Mar. 13, 2019

Standards: FCC Part 90, Subpart S
FCC Part 2

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

Prepared by : _____ , **Date:** Mar. 13, 2019
Polly Chien / Specialist

Approved by : _____ , **Date:** Mar. 13, 2019
Bruce Chen / Project Engineer

2 Summary of Test Results

Applied Standard: FCC Part 90 & Part 2			
FCC Clause	Test Item	Result	Remarks
2.1046 90.635(b)	Maximum Peak Output Power Limit: max. 100 watts e.r.p peak power	Pass	Meet the requirement of limit.
2.1047	Modulation Characteristics	Pass	Meet the requirement.
2.1055 90.213	Frequency Stability	Pass	Meet the requirement of limit.
2.1049 90.209	Occupied Bandwidth	Pass	Meet the requirement of limit.
2.1051 90.691	Emission Masks	Pass	Meet the requirement of limit.
2.1051 90.691	Conducted Spurious Emissions	Pass	Meet the requirement of limit.
2.1053 90.691	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -23.7dB at 51.34MHz.

Note:

Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.04 dB
	30MHz ~ 200MHz	3.63 dB
	200MHz ~1000MHz	3.64 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	2.29 dB
	18GHz ~ 40GHz	2.29 dB

2.2 Test Site and Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCI	100424	Jan. 03, 2019	Jan. 02, 2020
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100040	Sep. 25, 2018	Sep. 24, 2019
BILOG Antenna SCHWARZBECK	VULB9168	9168-155	Nov. 21, 2018	Nov. 20, 2019
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-1170	Nov. 25, 2018	Nov. 24, 2019
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Nov. 25, 2018	Nov. 24, 2019
Loop Antenna TESEQ	HLA 6121	45745	Jun. 14, 2018	Jun. 13, 2019
Preamplifier Agilent (Below 1GHz)	8447D	2944A10631	Aug. 08, 2018	Aug. 07, 2019
Preamplifier KEYSIGHT (Above 1GHz)	83017A	MY53270295	Jul. 02, 2018	Jul. 01, 2019
RF signal cable HUBER+SUHNER	SUCOFLEX 104	MY 13380+295012/04	Aug. 08, 2018	Aug. 07, 2019
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH4-03 (250724)	Aug. 08, 2018	Aug. 07, 2019
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	010303	NA	NA
Antenna Tower Controller BV ADT	AT100	AT93021703	NA	NA
Turn Table BV ADT	TT100	TT93021703	NA	NA
Turn Table Controller BV ADT	SC100	SC93021703	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
WIT Standard Temperature And Humidity Chamber	TH-4S-C	W981030	Jun. 04, 2018	Jun. 03, 2019
JFW 20dB attenuation	50HF-020-SMA	NA	NA	NA

Note:
1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Chamber 4.
3. The FCC Designation Number is TW0003. The number will be varied with the Lab location and scope as attached.
4. The IC Site Registration No. is 7450F-4.

3 General Information

3.1 General Description of EUT

Product	mobile POS		
Brand	mPLUS		
Test Model	HERA51		
Sample Status	Engineering sample		
Power Supply Rating	5Vdc (adapter) 3.75Vdc (battery)		
Modulation Type	CDMA: QPSK, OQPSK, HPSK LTE: QPSK, 16QAM		
Operating Frequency	CDMA BC10	817.9~823.1MHz	
	LTE Band 26 (Channel Bandwidth 1.4MHz)	814.7~823.3MHz	
	LTE Band 26 (Channel Bandwidth 3MHz)	815.5~822.5MHz	
	LTE Band 26 (Channel Bandwidth 5MHz)	816.5~821.5MHz	
	LTE Band 26 (Channel Bandwidth 10MHz)	819.0MHz	
Max. ERP Power	CDMA BC10	87.096mW (19.4dBm)	
		QPSK	16QAM
	LTE Band 26 (Channel Bandwidth 1.4MHz)	173.780mW (22.4dBm)	117.490mW (20.7dBm)
	LTE Band 26 (Channel Bandwidth 3MHz)	151.356mW (21.8dBm)	123.027mW (20.9dBm)
	LTE Band 26 (Channel Bandwidth 5MHz)	151.356mW (21.8dBm)	123.027mW (20.9dBm)
	LTE Band 26 (Channel Bandwidth 10MHz)	141.254mW (21.5dBm)	114.815mW (20.6dBm)
Emission Designator	CDMA BC10	1M28F9W	
		QPSK	16QAM
	LTE Band 26 (Channel Bandwidth 1.4MHz)	1M09G7D	1M09D7W
	LTE Band 26 (Channel Bandwidth 3MHz)	2M70G7D	2M69D7W
	LTE Band 26 (Channel Bandwidth 5MHz)	4M48G7D	4M48D7W
	LTE Band 26 (Channel Bandwidth 10MHz)	8M93G7D	8M94D7W
Antenna Type	Refer to Note		
Antenna Connector	Refer to Note		
Accessory Device	Refer to Note		
Cable Supplied	1.45m non-shielded snapon cable with one core		

Note:

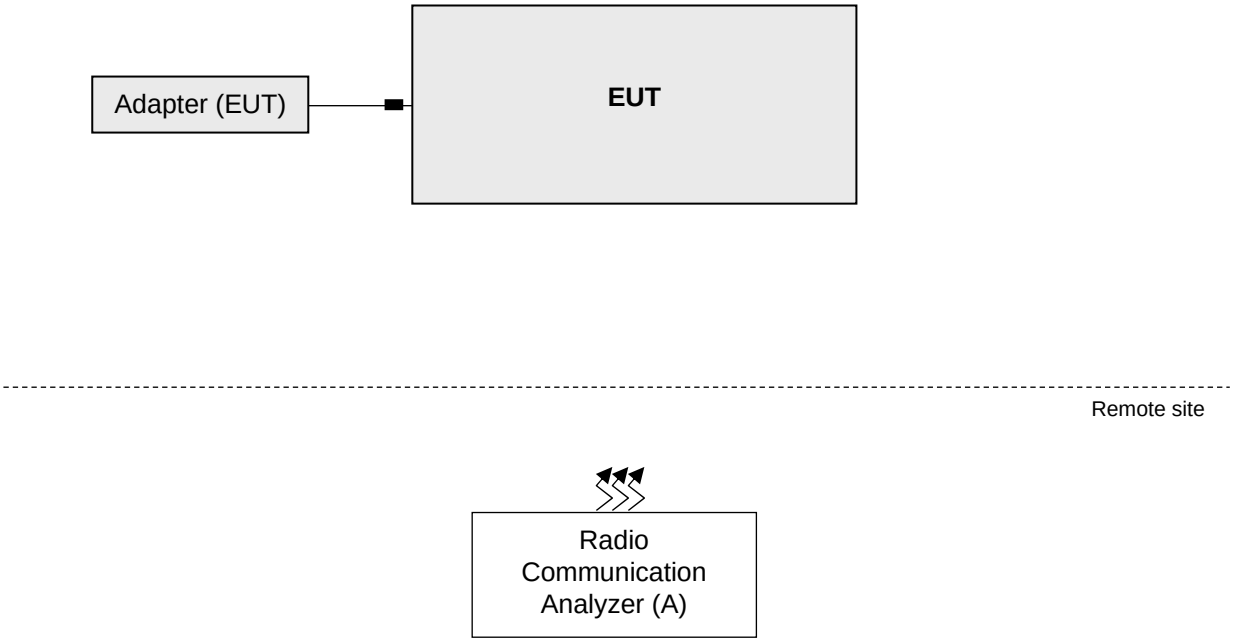
1. The EUT uses following antennas (support units).

Antenna Type	Antenna Connector	Antenna Gain (dBi)		
		Ant.	Main (TX/RX)	Diversity (RX)
PIFA	Spring	CDMA BC10	2.9	-4.0
		LTE Band 26	2.9	-4.0

2. The EUT uses following accessory devices.

Component	Vendor	Model	Specification
Adapter	Sunny COMPUTER TECHNOLOGY CO.,LTD.	SYS1561-1005	I/P: 100-240Vac, 1.0A MAX, 50-60Hz O/P: +5Vdc, 2A, 10W MAX.
Battery	CIPHERLAB	BA-0115A3	Rating: 3.75Vdc, 5300mAh, 19.88Wh

3.2 Configuration of System under Test



3.2.1 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Radio Communication Analyzer	Anritsu	MT8860C	1702001	NA	-

Note:

1. All power cords of the above support units are non-shielded (1.8m).
2. Item A acted as a communication partner to transfer data.

3.3 Test Mode Applicability and Tested Channel Detail

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis and antenna ports. The worst case was found when positioned on Z-plane. Following channel(s) was (were) selected for the final test as listed below.

CDMA

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Mode
-	ERP	476 to 684	476(817.9MHz), 580(820.5MHz), 684(823.1MHz)	RC3+SO55
-	Modulation Characteristics	476 to 684	476(817.9MHz)	RC1+SO03
-	Frequency Stability	476 to 684	476(817.9MHz), 684(823.1MHz)	RC3+SO55
-	Occupied Bandwidth	476 to 684	476(817.9MHz), 580(820.5MHz), 684(823.1MHz)	RC3+SO55
-	Emission Mask	476 to 684	476(817.9MHz), 684(823.1MHz)	RC3+SO55
-	Conducted Emission	476 to 684	476(817.9MHz), 580(820.5MHz), 684(823.1MHz)	RC3+SO55
-	Radiated Emission Below 1GHz	476 to 684	476(817.9MHz)	RC3+SO55
-	Radiated Emission Above 1GHz	476 to 684	476(817.9MHz), 580(820.5MHz), 684(823.1MHz)	RC3+SO55

LTE Band 26

EUT Configure Mode	Test item	Available channel	Tested channel	Channel Bandwidth	Modulation	Mode
-	ERP	26697 to 26783	26697 (814.7MHz), 26740 (819.0MHz), 26783 (823.3MHz)	1.4MHz	QPSK / 16QAM	1 RB / 0 RB Offset
		26705 to 26775	26705 (815.5MHz), 26740 (819.0MHz), 26775 (822.5MHz)	3MHz	QPSK / 16QAM	1 RB / 0 RB Offset
		26715 to 26765	26715 (816.5MHz), 26740 (819.0MHz), 26765 (821.5MHz)	5MHz	QPSK / 16QAM	1 RB / 0 RB Offset
		26740	26740 (819.0MHz)	10MHz	QPSK / 16QAM	1 RB / 0 RB Offset
-	Modulation Characteristics	26740	26740 (819.0MHz)	10MHz	QPSK / 16QAM	1 RB / 0 RB Offset
-	Frequency Stability	26697 to 26783	26697 (814.7MHz), 26783 (823.3MHz)	1.4MHz	QPSK	1 RB / 0 RB Offset
		26705 to 26775	26705 (815.5MHz), 26775 (822.5MHz)	3MHz	QPSK	1 RB / 0 RB Offset
		26715 to 26765	26715 (816.5MHz), 26765 (821.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset
		26740	26740 (819.0MHz)	10MHz	QPSK	1 RB / 0 RB Offset
-	Occupied Bandwidth	26697 to 26783	26697 (814.7MHz), 26740 (819.0MHz), 26783 (823.3MHz)	1.4MHz	QPSK / 16QAM	1 RB / 0 RB Offset
		26705 to 26775	26705 (815.5MHz), 26740 (819.0MHz), 26775 (822.5MHz)	3MHz	QPSK / 16QAM	1 RB / 0 RB Offset
		26715 to 26765	26715 (816.5MHz), 26740 (819.0MHz), 26765 (821.5MHz)	5MHz	QPSK / 16QAM	1 RB / 0 RB Offset
		26740	26740 (819.0MHz)	10MHz	QPSK / 16QAM	1 RB / 0 RB Offset
-	Emission Masks	26697 to 26783	26697 (814.7MHz), 26783 (823.3MHz)	1.4MHz	QPSK / 16QAM	1 RB / 0 RB Offset 6 RB / 0 RB Offset
		26705 to 26775	26705 (815.5MHz), 26775 (822.5MHz)	3MHz	QPSK / 16QAM	1 RB / 0 RB Offset 15 RB / 0 RB Offset
		26715 to 26765	26715 (816.5MHz), 26765 (821.5MHz)	5MHz	QPSK / 16QAM	1 RB / 0 RB Offset 25 RB / 0 RB Offset
		26740	26740 (819.0MHz)	10MHz	QPSK / 16QAM	1 RB / 0 RB Offset 50 RB / 0 RB Offset
-	Conducted Emission	26697 to 26783	26697 (814.7MHz), 26740 (819.0MHz), 26783 (823.3MHz)	1.4MHz	QPSK	1 RB / 0 RB Offset
		26705 to 26775	26705 (815.5MHz), 26740 (819.0MHz), 26775 (822.5MHz)	3MHz	QPSK	1 RB / 0 RB Offset
		26715 to 26765	26715 (816.5MHz), 26740 (819.0MHz), 26765 (821.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset
		26740	26740 (819.0MHz)	10MHz	QPSK	1 RB / 0 RB Offset
-	Radiated Emission Below 1GHz	26715 to 26765	26715 (816.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset
-	Radiated Emission Above 1GHz	26697 to 26783	26697 (814.7MHz), 26740 (819.0MHz), 26783 (823.3MHz)	1.4MHz	QPSK	1 RB / 0 RB Offset
		26715 to 26765	26715 (816.5MHz), 26740 (819.0MHz), 26765 (821.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset
		26740	26740 (819.0MHz)	10MHz	QPSK	1 RB / 0 RB Offset

Note:
1. For radiated emission below 1GHz, low, mid and high channels were pre-tested in chamber. Low channel was the worst case for all final tests.
2. The conducted output power for QPSK and 16QAM, measured value of QPSK is higher than 16QAM mode. Therefore, only occupied bandwidth and Peak to average ratio items had been tested under QPSK and 16QAM modes, the other test items were performed under QPSK mode only.

Test Condition:

Test Item	Environmental Conditions	Input Power	Tested By
ERP	25deg. C, 70%RH 22deg. C, 66%RH	120Vac, 60Hz	Noah Chang, Greg Lin, Han Wu
Modulation characteristics	24deg. C, 64%RH	120Vac, 60Hz	Noah Chang
Frequency Stability	24deg. C, 64%RH	120Vac, 60Hz	Noah Chang
Occupied Bandwidth	24deg. C, 64%RH	120Vac, 60Hz	Noah Chang
Emission Mask	24deg. C, 64%RH	120Vac, 60Hz	Noah Chang
Conducted Emission	24deg. C, 64%RH	120Vac, 60Hz	Noah Chang
Radiated Emission	25deg. C, 70%RH	120Vac, 60Hz	Luis Lee Noah Chang

3.4 EUT Operating Conditions

The EUT makes a call to the communication simulator. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency

3.5 General Description of Applied Standards

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC 47 CFR Part 2

FCC 47 CFR Part 90

KDB 971168 D02 Misc Rev Approv License Devices v02r01

ANSI/TIA/EIA-603-E 2016

ANSI 63.26-2015

All test items have been performed and recorded as per the above standards.

4 Test Types and Results

4.1 Output Power Measurement

4.1.1 Limits of Output Power Measurement

The radiated peak output power shall be according to the specific rule Part 90.635 that “Mobile station are limited to 100 watts e.r.p”.

4.1.2 Test Procedures

EIRP / ERP Measurement:

a. All measurements were done at low, middle and high operational frequency range. RWB is 1MHz and VBW is 3MHz.

b. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m(below or equal 1GHz) and/or 1.5m(above 1GHz) height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The “Read Value” is the spectrum reading the maximum power value.

c. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to “Read Value“ of step b. Record the power level of S.G

d. EIRP = Output power level of S.G – TX cable loss + Antenna gain of substitution horn.E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole, E.R.P power = E.I.R.P power - 2.15dBi.

Where:

$ERP/EIRP = P_{Meas} + G_T - L_C$

P_{Meas} : Measure transmitter output power.
G_T : Gain of the transmitting antenna.
L_C : signal attenuation in the connecting cable between the transmitter and antenna.

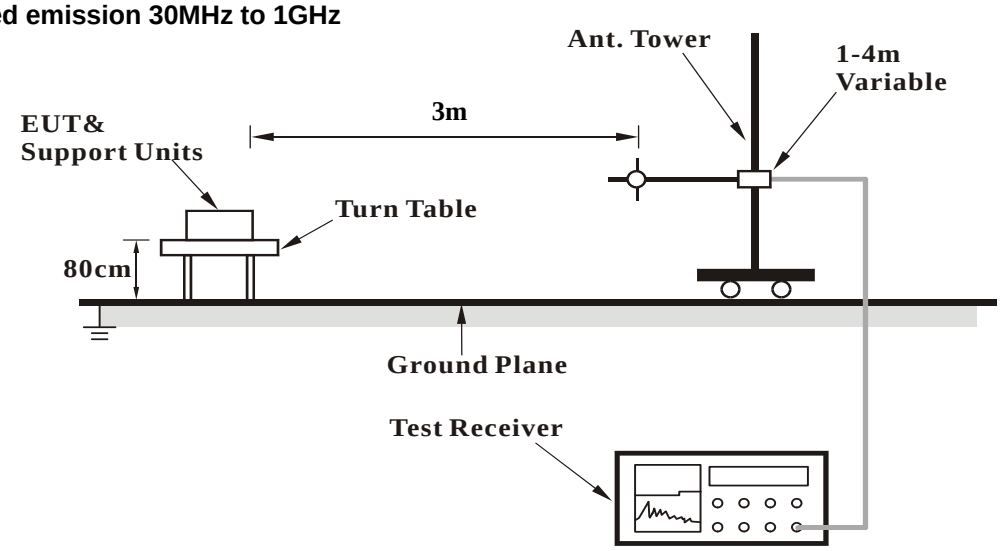
Conducted Power Measurement:

The EUT was set up for the maximum power with CDMA and LTE link data modulation and link up with simulator. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

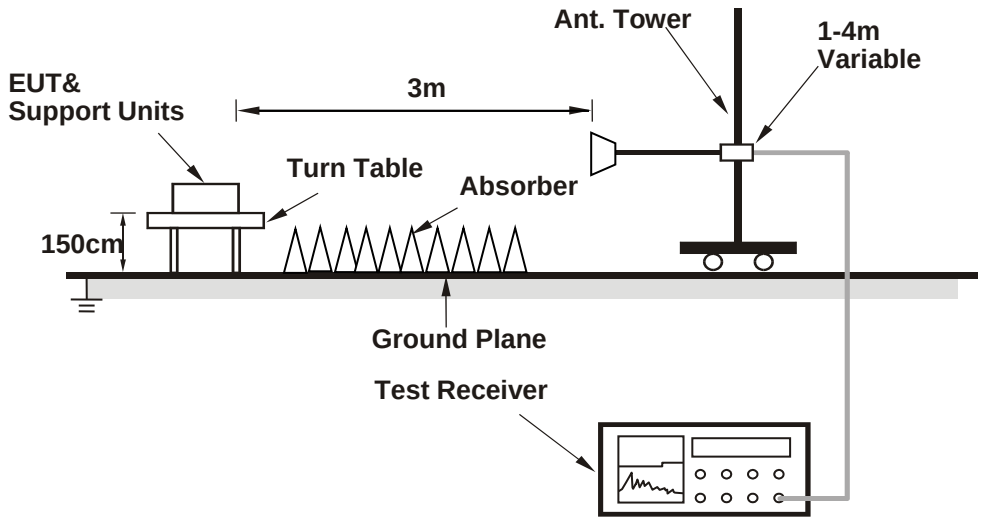
4.1.3 Test Setup

EIRP / ERP Measurement:

For radiated emission 30MHz to 1GHz



For radiated emission above 1GHz



For the actual test configuration, please refer to the attached file (Test Setup Photo).

Conducted Power Measurement:

For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.1.4 Test Results

Conducted Output Power (dBm)

Band	CDMA2000 BC10		
Channel	476	580	684
Frequency (MHz)	817.9	820.5	823.1
RC1+SO55	23.89	24.12	24.21
RC3+SO55	24.13	24.36	24.39
RC3+SO32(+ F-SCH)	23.87	24.10	24.19
RC3+SO32(+SCH)	23.62	23.85	23.94
RC1+SO3, 1/8 Rate	23.86	24.09	24.18
RTAP 153.6	23.87	24.10	24.19
RETAP 4096	23.82	24.05	24.14

LTE Band 26						
BW	MCS Index	RB Size	RB Offset	Mid	3GPP MPR (dB)	Max. Tune-up (dBm)
		Channel		26740		
		Frequency (MHz)		819		
10M	QPSK	1	0	22.28	0	23.5
		1	24	22.65	0	23.5
		1	49	22.32	0	23.5
		25	0	21.31	1	22.5
		25	12	21.22	1	22.5
		25	25	21.32	1	22.5
		50	0	21.21	1	22.5
	16QAM	1	0	21.01	1	22.5
		1	24	21.12	1	22.5
		1	49	21.05	1	22.5
		25	0	20.14	2	21.5
		25	12	20.15	2	21.5
		25	25	20.14	2	21.5
		50	0	20.09	2	21.5

BW	MCS Index	Channel		26715	26740	26765	3GPP MPR	Max. Tune-up
		Frequency (MHz)		816.5	819	821.5		
5M	QPSK	1	0	22.17	22.28	22.32	0	23.5
		1	12	22.69	22.65	22.73	0	23.5
		1	24	22.21	22.32	22.40	0	23.5
		12	0	21.25	21.31	21.32	1	22.5
		12	6	21.02	21.22	21.27	1	22.5
		12	13	21.26	21.32	21.35	1	22.5
		25	0	21.12	21.21	21.28	1	22.5
	16QAM	1	0	21.04	21.01	21.09	1	22.5
		1	12	21.01	21.12	21.12	1	22.5
		1	24	21.03	21.05	21.13	1	22.5
		12	0	19.96	20.14	20.17	2	21.5
		12	6	20.06	20.15	20.20	2	21.5
		12	13	20.07	20.14	20.17	2	21.5
		25	0	19.95	20.09	20.15	2	21.5

LTE Band 26								
BW	**MCS Index**	**Channel**		**26705**	**26740**	**26775**	**3GPP MPR**	**Max. Tune-up**
		Frequency (MHz)		**815.5**	**819**	**822.5**		
3M	QPSK	1	0	22.16	22.14	22.25	0	23.5
		1	7	22.59	22.55	22.61	0	23.5
		1	14	22.19	22.29	22.25	0	23.5
		8	0	21.13	21.19	21.22	1	22.5
		8	3	21.13	21.15	21.24	1	22.5
		8	7	21.23	21.19	21.31	1	22.5
		15	0	21.08	21.21	21.25	1	22.5
	16QAM	1	0	21.02	20.97	21.00	1	22.5
		1	7	20.91	21.05	21.10	1	22.5
		1	14	20.89	20.98	20.99	1	22.5
		8	0	20.09	20.08	20.13	2	21.5
		8	3	20.16	20.07	20.18	2	21.5
		8	7	20.00	20.01	20.05	2	21.5
		15	0	19.92	20.05	20.13	2	21.5
BW	**MCS Index**	**Channel**		**26697**	**26740**	**26783**	**3GPP MPR**	**Max. Tune-up**
		Frequency (MHz)		**814.7**	**819**	**823.3**		
1.4M	QPSK	1	0	22.19	22.13	22.26	0	23.5
		1	2	22.68	22.57	22.71	0	23.5
		1	5	22.31	22.27	22.38	0	23.5
		3	0	22.24	22.20	22.27	0	23.5
		3	1	22.13	22.16	22.26	0	23.5
		3	3	22.16	22.27	22.30	0	23.5
		6	0	21.03	21.19	21.14	1	22.5
	16QAM	1	0	20.95	20.94	21.08	1	22.5
		1	2	20.88	21.11	20.98	1	22.5
		1	5	21.11	20.90	21.08	1	22.5
		3	0	21.09	21.04	21.11	1	22.5
		3	1	21.07	21.11	21.09	1	22.5
		3	3	20.99	20.99	21.09	1	22.5
		6	0	20.04	19.94	20.01	2	21.5

ERP Power

CDMA

MODE		TX channel 476					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	817.90	-15.4	15.9	-0.2	15.7	50.0	-34.3
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	817.90	-12.7	19.4	-0.2	19.2	50.0	-30.8

MODE		TX channel 580					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	820.50	-15.0	16.2	-0.1	16.1	50.0	-33.9
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	820.50	-13.0	19.1	-0.1	19.0	50.0	-31.0

MODE		TX channel 684					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	823.10	-15.4	15.9	-0.1	15.8	50.0	-34.2
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	823.10	-12.5	19.5	-0.1	**19.4**	50.0	-30.6

Note: EIRP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

Modulation Type: QPSK

LTE Band 26, Channel Bandwidth 1.4MHz

MODE		TX channel 26697					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	814.70	-17.1	9.7	3.9	13.6	50.0	-36.4
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	814.70	-10.6	17.2	3.9	21.1	50.0	-28.9

MODE		TX channel 26740					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	819.00	-17.2	10.0	3.9	13.9	50.0	-36.1
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	819.00	-10.3	17.8	3.9	21.7	50.0	-28.3

MODE		TX channel 26783					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	823.30	-17.7	9.9	3.9	13.8	50.0	-36.2
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	823.30	-9.9	18.5	3.9	**22.4**	50.0	-27.6

Note: ERP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

LTE Band 26, Channel Bandwidth 3MHz

MODE		TX channel 26705					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	815.50	-17.2	9.8	3.9	13.7	50.0	-36.3
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	815.50	-10.6	17.2	3.9	21.1	50.0	-28.9

MODE		TX channel 26740					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	819.00	-17.4	9.8	3.9	13.7	50.0	-36.3
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	819.00	-10.4	17.7	3.9	21.6	50.0	-28.4

MODE		TX channel 26775					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	822.50	-17.2	10.2	3.9	14.1	50.0	-35.9
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	822.50	-10.3	17.9	3.9	**21.8**	50.0	-28.2

Note: ERP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

LTE Band 26, Channel Bandwidth 5MHz

MODE		TX channel 26715					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	816.50	-17.7	9.3	3.9	13.2	50.0	-36.8
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	816.50	-10.1	17.9	3.9	**21.8**	50.0	-28.2

MODE		TX channel 26740					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	819.00	-17.5	9.7	3.9	13.6	50.0	-36.4
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	819.00	-10.7	17.4	3.9	21.3	50.0	-28.7

MODE		TX channel 26765					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	821.50	-17.4	10.0	3.9	13.9	50.0	-36.1
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	821.50	-10.3	17.9	3.9	**21.8**	50.0	-28.2

Note: ERP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

LTE Band 26, Channel Bandwidth 10MHz

MODE		TX channel 26740					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	819.00	-17.6	9.6	3.9	13.5	50.0	-36.5
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	819.00	-10.5	17.6	3.9	**21.5**	50.0	-28.5

Note: ERP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

Modulation Type: 16QAM

LTE Band 26, Channel Bandwidth 1.4MHz

MODE		TX channel 26697					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	814.70	-18.1	8.7	3.9	12.6	50.0	-37.4
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	814.70	-11.1	16.8	3.9	**20.7**	50.0	-29.3

MODE		TX channel 26740					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	819.00	-18.6	8.6	3.9	12.5	50.0	-37.5
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	819.00	-11.6	16.5	3.9	20.4	50.0	-29.6

MODE		TX channel 26783					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	823.30	-19.0	8.6	3.9	12.5	50.0	-37.5
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	823.30	-11.9	16.5	3.9	20.4	50.0	-29.6

Note: ERP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

LTE Band 26, Channel Bandwidth 3MHz

MODE		TX channel 26705					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	815.50	-18.2	8.7	3.9	12.6	50.0	-37.4
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	815.50	-10.9	17.0	3.9	**20.9**	50.0	-29.1

MODE		TX channel 26740					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	819.00	-18.2	9.0	3.9	12.9	50.0	-37.1
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	819.00	-11.5	16.6	3.9	20.5	50.0	-29.5

MODE		TX channel 26775					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	822.50	-18.8	8.7	3.9	12.6	50.0	-37.4
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	822.50	-11.3	16.9	3.9	20.8	50.0	-29.2

Note: ERP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

LTE Band 26, Channel Bandwidth 5MHz

MODE		TX channel 26715					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	816.50	-18.4	8.6	3.9	12.5	50.0	-37.5
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	816.50	-11.0	17.0	3.9	**20.9**	50.0	-29.1

MODE		TX channel 26740					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	819.00	-18.6	8.6	3.9	12.5	50.0	-37.5
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	819.00	-11.2	16.9	3.9	20.8	50.0	-29.2

MODE		TX channel 26765					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	821.50	-18.6	8.7	3.9	12.6	50.0	-37.4
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	821.50	-11.8	16.5	3.9	20.4	50.0	-29.6

Note: ERP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

LTE Band 26, Channel Bandwidth 10MHz

MODE		TX channel 26740					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	819.00	-18.5	8.7	3.9	12.6	50.0	-37.4
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	819.00	-11.4	16.7	3.9	**20.6**	50.0	-29.4

Note: ERP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

4.2 Modulation Characteristics Measurement

4.2.1 Limits of Modulation Characteristics

N/A

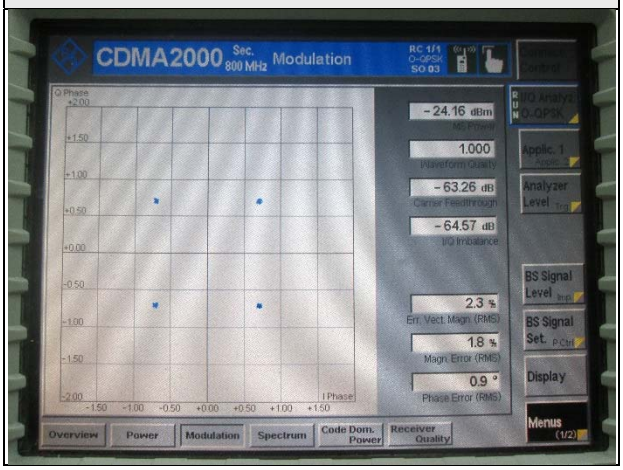
4.2.2 Test Procedure

Connect the EUT to Communication Simulator via the antenna connector, The frequency band is set as EUT supported Modulation and Channels, the EUT output is matched with 50 ohm load, the waveform quality and constellation of the EUT was tested.

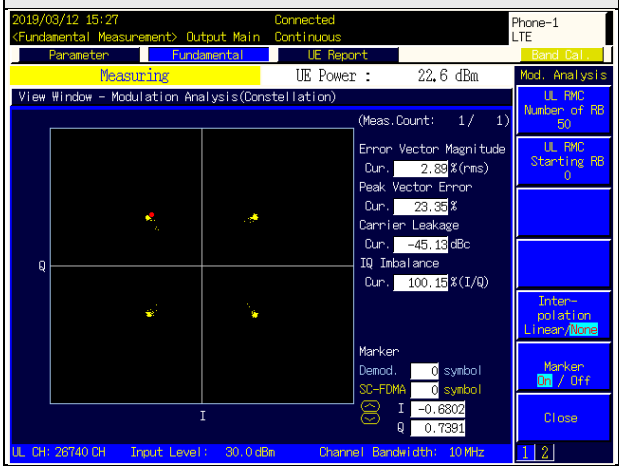
4.2.3 Test Setup

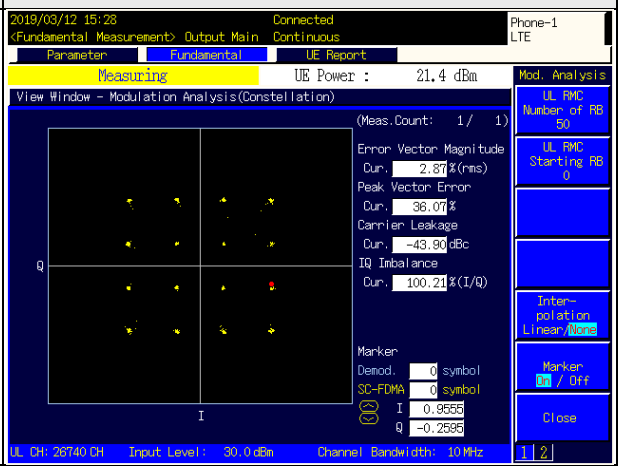
4.2.4 Test Results

CDMA
Spectrum Plot of Measurement Value
Channel: 476 / Frequency (MHz): 817.9MHz



LTE Band 26	
Spectrum Plot of Measurement Value	
Channel: 26740 / Frequency (MHz): 819.0MHz	
Channel Bandwidth 10MHz / QPSK	Channel Bandwidth 10MHz / 16QAM





4.3 Frequency Stability Measurement

4.3.1 Limits of Frequency Stability Measurement

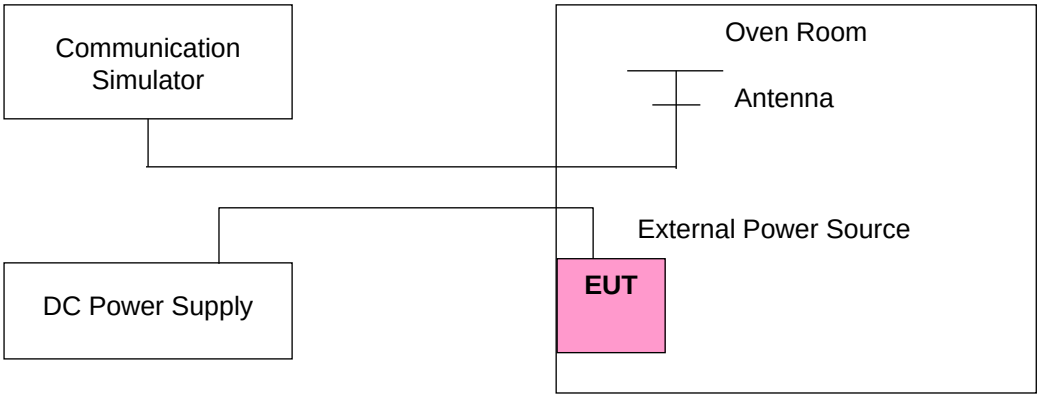
1.5 ppm is for base and fixed station. 2.5 ppm is for mobile station.

4.3.2 Test Procedure

a. Device is placed at the oven room. The oven room could control the temperatures and humidity. Power warm up is at least 15 min and power applied should perform before recording frequency error.
b. EUT is connected the external power supply to control the DC input power. The test voltage range is from minimum to maximum working voltage. Each step shall be record the frequency error rate.
c. The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the ±0.5 ℃ during the measurement testing. The each temperature step shall be at least 0.5 hours, consider the EUT could be test under the stability condition.

Note: The frequency error was recorded frequency error from the communication simulator.

4.3.3 Test Setup



4.3.4 Test Results

Frequency Error vs. Voltage

Voltage (Volts)	CDMA				Limit (ppm)
	Low Channel		High Channel		
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)	
3.75	817.900004	0.004	823.100003	0.004	2.5
3.20	817.900002	0.002	823.100001	0.002	2.5
4.30	817.900002	0.003	823.100004	0.005	2.5

Note: The applicant defined the normal working voltage is from 3.20Vdc to 4.30Vdc.

Frequency Error vs. Temperature

Temp. (℃)	CDMA				Limit (ppm)
	Low Channel		High Channel		
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)	
-30	817.900003	0.003	823.100003	0.004	2.5
-20	817.900002	0.003	823.100002	0.003	2.5
-10	817.900002	0.003	823.100001	0.001	2.5
0	817.900001	0.001	823.100004	0.005	2.5
10	817.900003	0.004	823.100001	0.002	2.5
20	817.899998	-0.002	823.099999	-0.001	2.5
30	817.899998	-0.003	823.099998	-0.002	2.5
40	817.899997	-0.004	823.099997	-0.004	2.5
50	817.899998	-0.003	823.099999	-0.001	2.5
55	817.899998	-0.003	823.099998	-0.002	2.5

Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 26				Limit (ppm)
	Channel Bandwidth: 1.4 MHz				
	Low Channel		High Channel		
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)	
3.75	814.700003	0.004	823.300000	0.003	2.5
3.20	814.700004	0.004	823.300000	0.002	2.5
4.30	814.700003	0.004	823.300000	0.001	2.5

Note: The applicant defined the normal working voltage is from 3.20Vdc to 4.30Vdc.

Frequency Error vs. Temperature

Temp. (℃)	LTE Band 26				Limit (ppm)
	Channel Bandwidth: 1.4 MHz				
	Low Channel		High Channel		
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)	
-30	814.700004	0.004	823.300000	0.004	2.5
-20	814.700002	0.003	823.300000	0.001	2.5
-10	814.700004	0.004	823.300000	0.003	2.5
0	814.700004	0.004	823.300000	0.004	2.5
10	814.700001	0.001	823.300000	0.002	2.5
20	814.699996	-0.005	823.300000	-0.004	2.5
30	814.699999	-0.001	823.300000	-0.002	2.5
40	814.699999	-0.002	823.300000	-0.003	2.5
50	814.699996	-0.005	823.300000	-0.002	2.5
55	814.699998	-0.002	823.300000	-0.002	2.5

Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 26				Limit (ppm)
	Channel Bandwidth: 3 MHz				
	Low Channel		High Channel		
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)	
3.75	815.500002	0.003	822.500000	0.001	2.5
3.20	815.500004	0.005	822.500000	0.003	2.5
4.30	815.500004	0.005	822.500000	0.003	2.5

Note: The applicant defined the normal working voltage is from 3.20Vdc to 4.30Vdc.

Frequency Error vs. Temperature

Temp. (℃)	LTE Band 26				Limit (ppm)
	Channel Bandwidth: 3 MHz				
	Low Channel		High Channel		
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)	
-30	815.500003	0.004	822.500000	0.005	2.5
-20	815.500003	0.003	822.500000	0.003	2.5
-10	815.500002	0.003	822.500000	0.003	2.5
0	815.500001	0.001	822.500000	0.004	2.5
10	815.500003	0.004	822.500000	-0.003	2.5
20	815.499996	-0.005	822.500000	-0.005	2.5
30	815.499998	-0.003	822.500000	-0.003	2.5
40	815.499996	-0.004	822.500000	-0.004	2.5
50	815.499998	-0.002	822.500000	-0.004	2.5
55	815.499999	-0.002	822.500000	0.005	2.5

Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 26				Limit (ppm)
	Channel Bandwidth: 5 MHz				
	Low Channel		High Channel		
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)	
3.75	816.500002	0.002	821.500000	0.004	2.5
3.20	816.500002	0.003	821.500000	0.003	2.5
4.30	816.500003	0.004	821.500000	0.002	2.5

Note: The applicant defined the normal working voltage is from 3.20Vdc to 4.30Vdc.

Frequency Error vs. Temperature

Temp. (℃)	LTE Band 26				Limit (ppm)
	Channel Bandwidth: 5 MHz				
	Low Channel		High Channel		
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)	
-30	816.500003	0.004	821.500000	0.005	2.5
-20	816.500004	0.005	821.500000	0.004	2.5
-10	816.500002	0.003	821.500000	0.002	2.5
0	816.500002	0.003	821.500000	0.003	2.5
10	816.499996	-0.005	821.500000	0.002	2.5
20	816.499998	-0.003	821.500000	-0.003	2.5
30	816.499999	-0.002	821.500000	-0.003	2.5
40	816.499998	-0.003	821.500000	-0.002	2.5
50	816.499997	-0.004	821.500000	-0.005	2.5
55	816.500003	0.004	821.500000	-0.002	2.5

Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 26		Limit (ppm)
	Channel Bandwidth: 10 MHz		
	Frequency (MHz)	Frequency Error (ppm)	
3.75	819.000002	0.002	2.5
3.20	819.000004	0.005	2.5
4.30	819.000004	0.004	2.5

Note: The applicant defined the normal working voltage is from 3.20Vdc to 4.30Vdc.

Frequency Error vs. Temperature

Temp. (℃)	LTE Band 13		Limit (ppm)
	Channel Bandwidth: 10 MHz		
	Frequency (MHz)	Frequency Error (ppm)	
-30	819.000004	0.004	2.5
-20	819.000003	0.004	2.5
-10	819.000004	0.005	2.5
0	819.000003	0.003	2.5
10	819.000004	0.004	2.5
20	818.999996	-0.004	2.5
30	818.999996	-0.005	2.5
40	818.999998	-0.003	2.5
50	818.999998	-0.002	2.5
55	818.999998	-0.002	2.5

4.4 Occupied Bandwidth Measurement

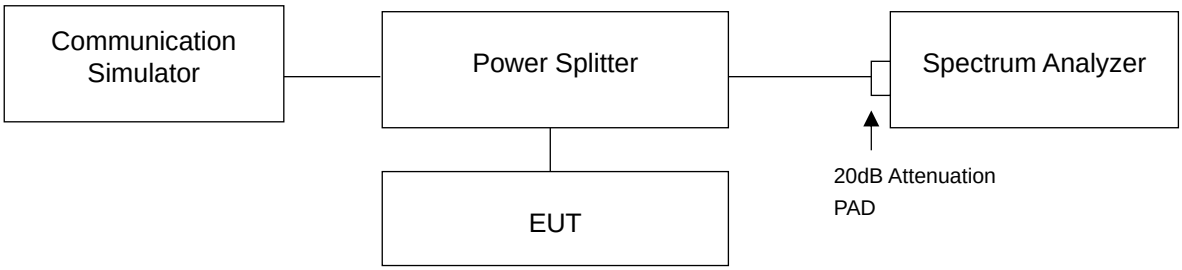
4.4.1 Limits of Occupied Bandwidth Measurement

The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 %of the total mean power of a given emission.

4.4.2 Test Procedure

The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 %of the total mean power of a given emission.

4.4.3 Test Setup

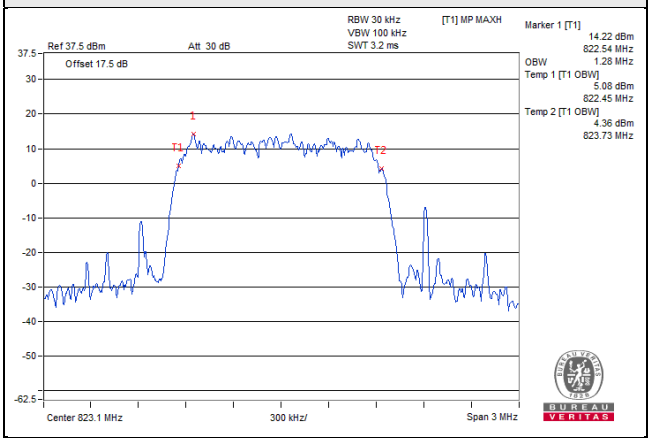


4.4.4 Test Result

Occupied Bandwidth

Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)
		CDMA
476	817.9	1.27
580	820.5	1.27
684	823.1	1.28

Spectrum Plot of Worst Value
CDMA



LTE Band 26, Channel Bandwidth 1.4MHz			
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	
		QPSK	16QAM
26697	814.7	1.09	1.09
26740	819.0	1.09	1.09
26783	823.3	1.09	1.09

LTE Band 26, Channel Bandwidth 3MHz			
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	
		QPSK	16QAM
26705	815.5	2.70	2.69
26740	819.0	2.70	2.69
26775	822.5	2.70	2.69

LTE Band 26, Channel Bandwidth 5MHz			
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	
		QPSK	16QAM
26715	816.5	4.48	4.48
26740	819.0	4.48	4.48
26765	821.5	4.48	4.48

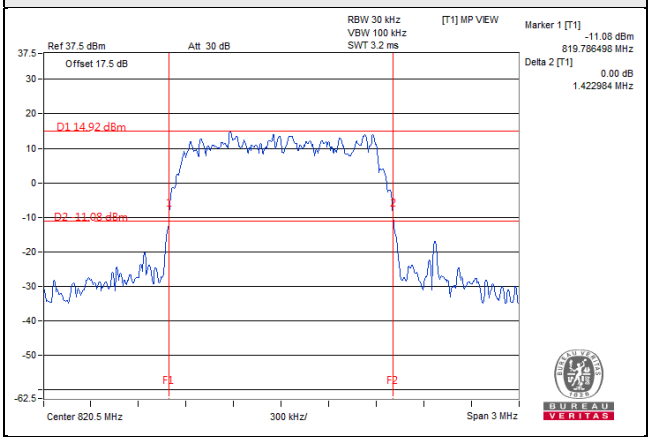
LTE Band 26, Channel Bandwidth 10MHz			
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	
		QPSK	16QAM
26740	819.0	8.93	8.94

Spectrum Plot of Worst Value	
1.4MHz / 16QAM	3MHz / QPSK
5MHz / 16QAM	10MHz / 16QAM

26dB Bandwidth

Channel	Frequency (MHz)	26dB Bandwidth (MHz)
		CDMA
476	817.9	1.41
580	820.5	1.42
684	823.1	1.40

Spectrum Plot of Worst Value
CDMA



LTE Band 26, Channel Bandwidth 1.4MHz			
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	
		QPSK	16QAM
26697	814.7	1.26	1.26
26740	819.0	1.26	1.26
26783	823.3	1.27	1.25

LTE Band 26, Channel Bandwidth 3MHz			
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	
		QPSK	16QAM
26705	815.5	2.91	2.92
26740	819.0	2.91	2.93
26775	822.5	2.93	2.92

LTE Band 26, Channel Bandwidth 5MHz			
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	
		QPSK	16QAM
26715	816.5	4.79	4.81
26740	819.0	4.80	4.81
26765	821.5	4.78	4.81

LTE Band 26, Channel Bandwidth 10MHz			
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	
		QPSK	16QAM
26740	819.0	9.49	9.51

Spectrum Plot of Worst Value	
1.4MHz / QPSK	3MHz / QPSK
5MHz / 16QAM	10MHz / 16QAM

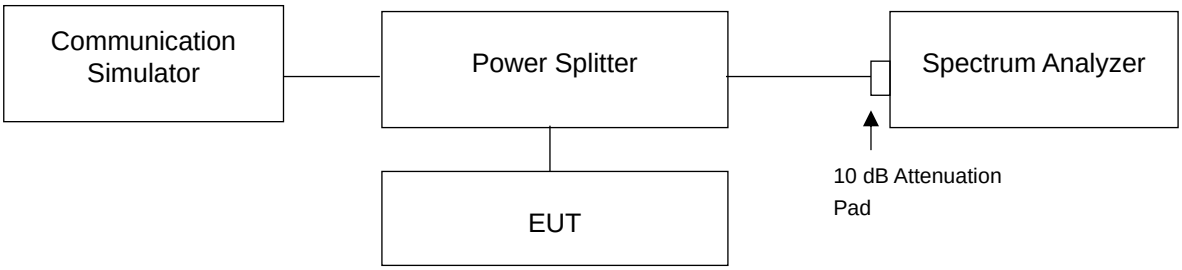
4.5 Emission Mask Measurement

4.5.1 Limits of Emission Mask Measurement

According to FCC part 90.691 shall be tested the emission mask. For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 116 Log_{10}(f/6.1) decibels or 50 + 10Log_{10}(P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz.
For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 43 + 10Log_{10}(P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz.

Refer KDB 971168 D02 Misc Rev Approv License Devices v02r01
For § 90.691(a), RBW=300 Hz for offset less than 37.5 kHz from channel edge and RBW=100 kHz for offsets greater than 37.5 kHz is allowed.

4.5.2 Test Setup

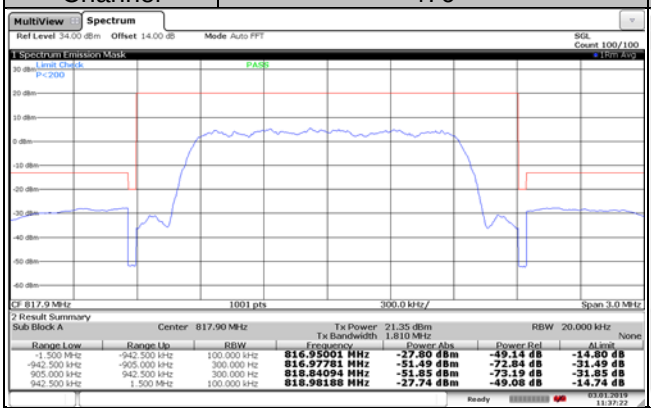


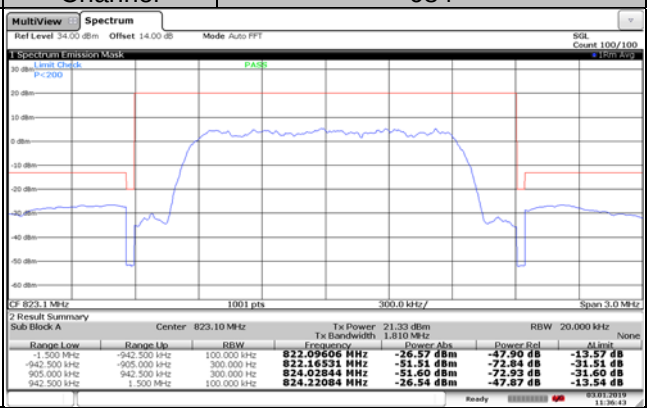
4.5.3 Test Procedures

a. The measurement used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.
b. Record the test plot.

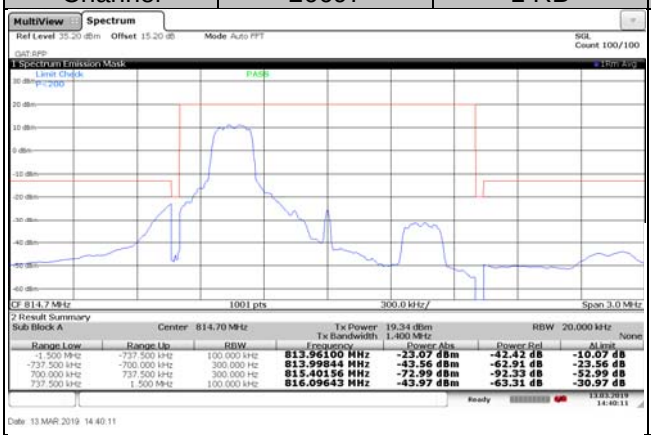
4.5.4 Test Results

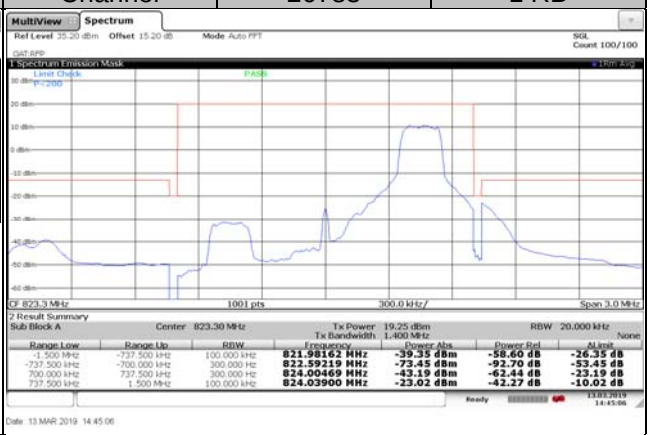
CDMA			
Channel	476	Channel	684



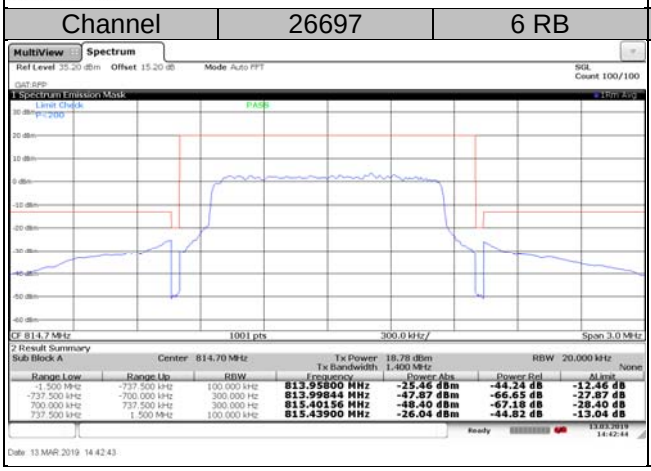


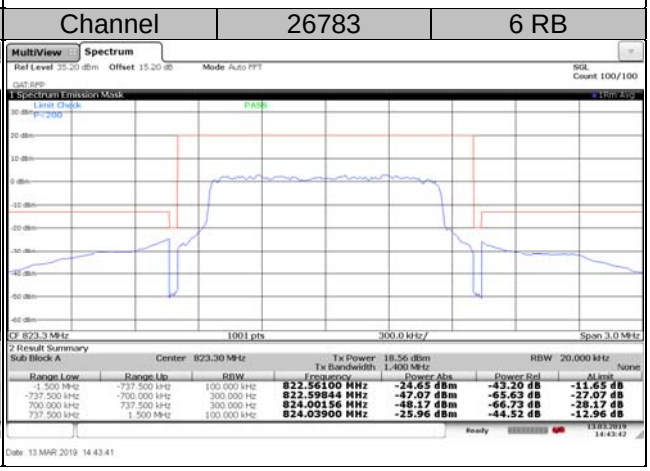
LTE Band 26					
Channel Bandwidth: 1.4 MHz / QPSK					
Channel	26697	1 RB	Channel	26783	1 RB



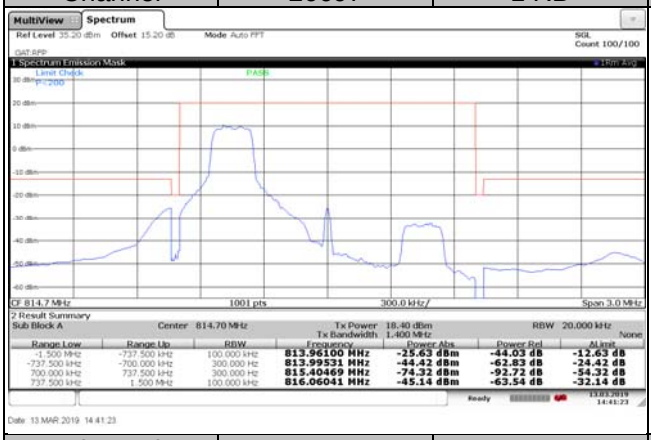


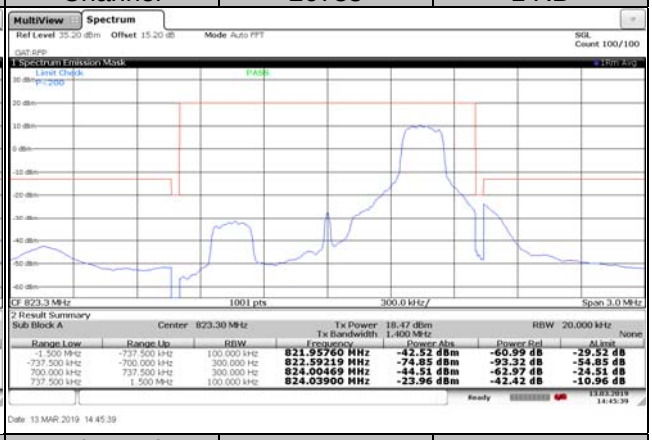
Channel	26697	6 RB	Channel	26783	6 RB



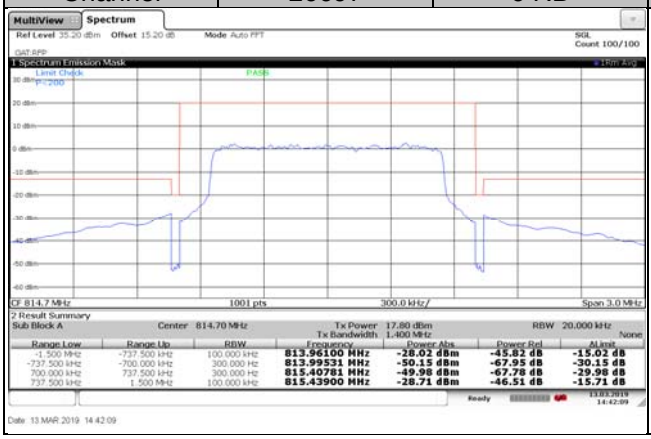


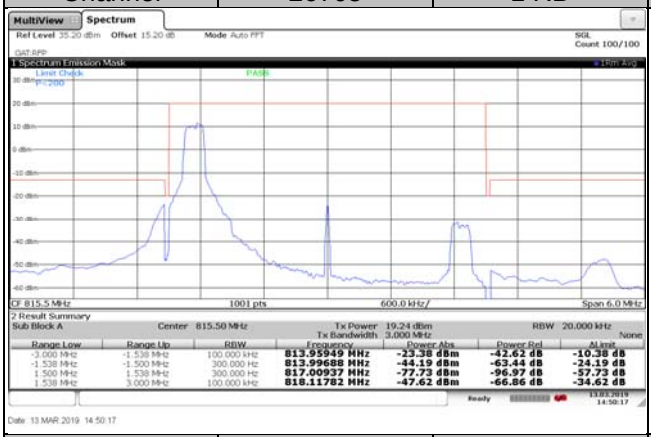
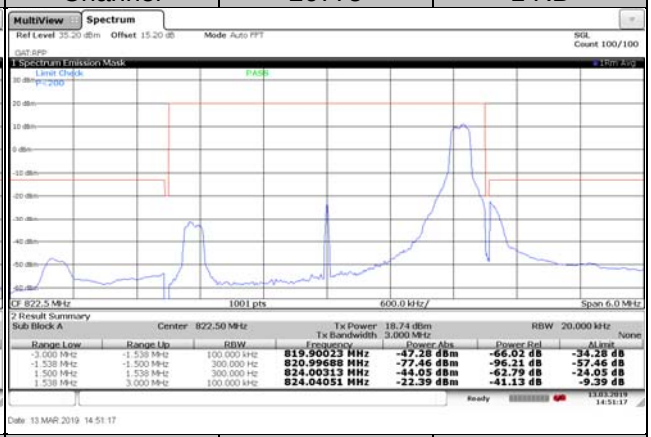
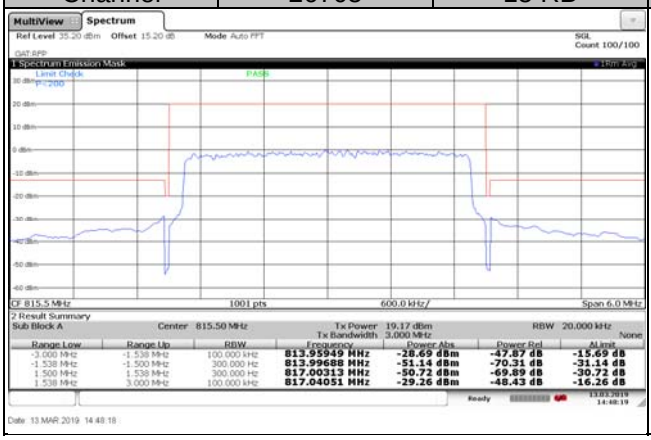
LTE Band 26					
Channel Bandwidth: 1.4 MHz / 16QAM					
Channel	26697	1 RB	Channel	26783	1 RB



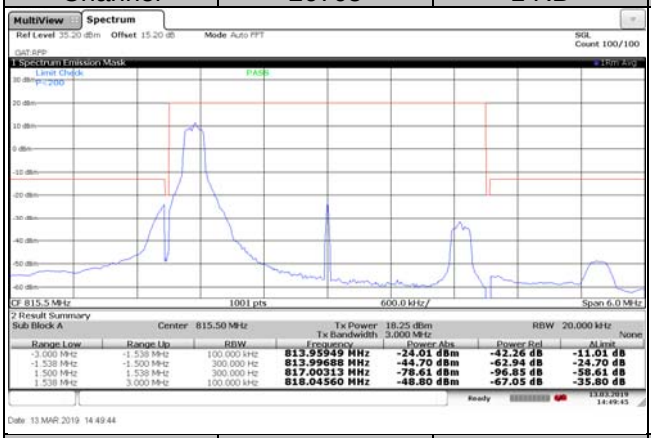


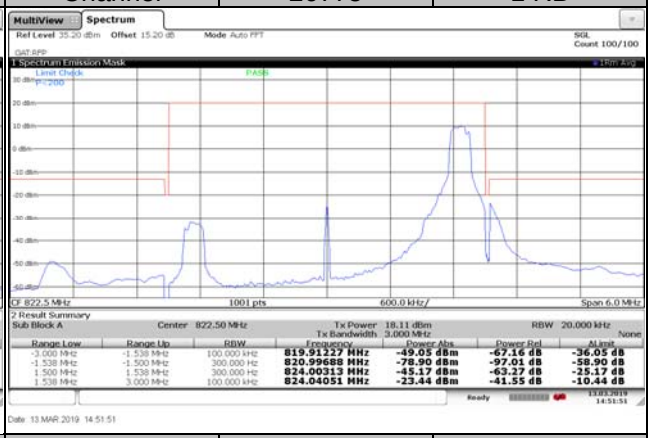
Channel	26697	6 RB	Channel	26783	6 RB



LTE Band 26					
Channel Bandwidth: 3 MHz / QPSK					
Channel	26705	1 RB	Channel	26775	1 RB
					
Channel	26705	15 RB	Channel	26775	15 RB
					

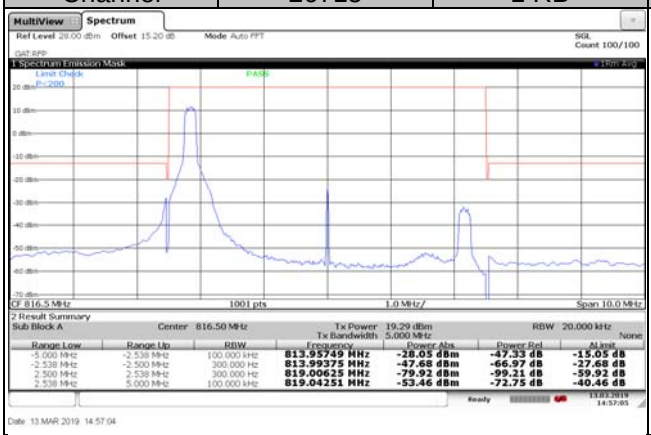
LTE Band 26					
Channel Bandwidth: 3 MHz / 16QAM					
Channel	26705	1 RB	Channel	26775	1 RB

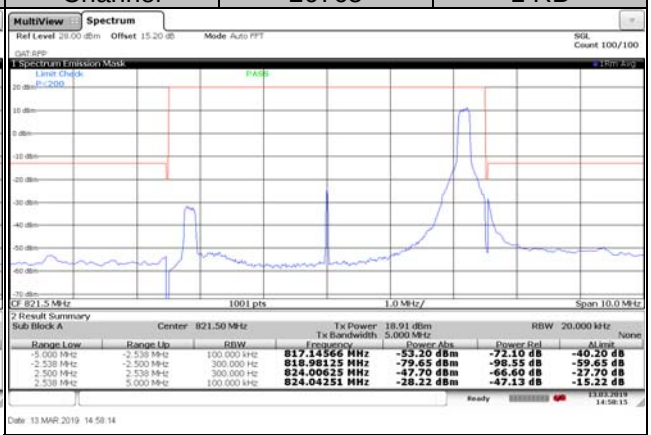




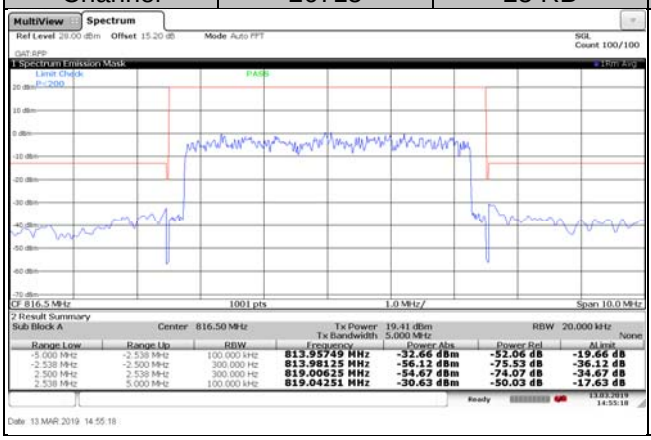
Channel	26705	15 RB	Channel	26775	15 RB

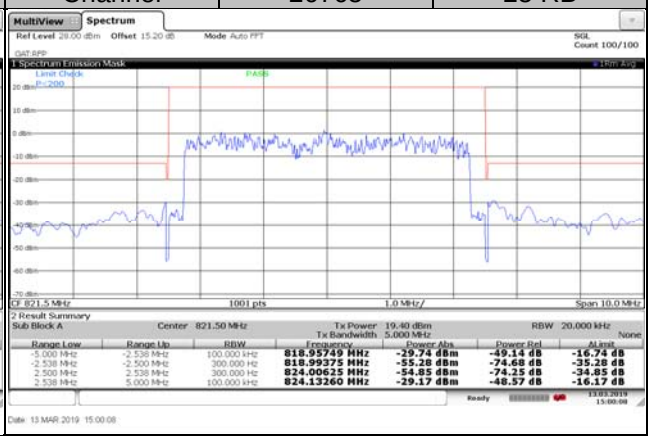
LTE Band 26					
Channel Bandwidth: 5 MHz / QPSK					
Channel	26715	1 RB	Channel	26765	1 RB



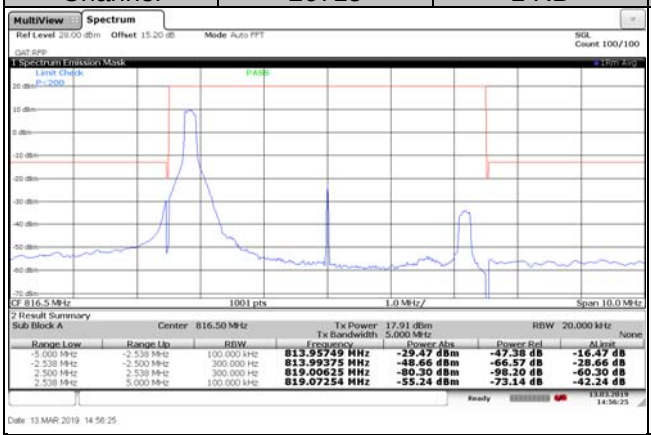


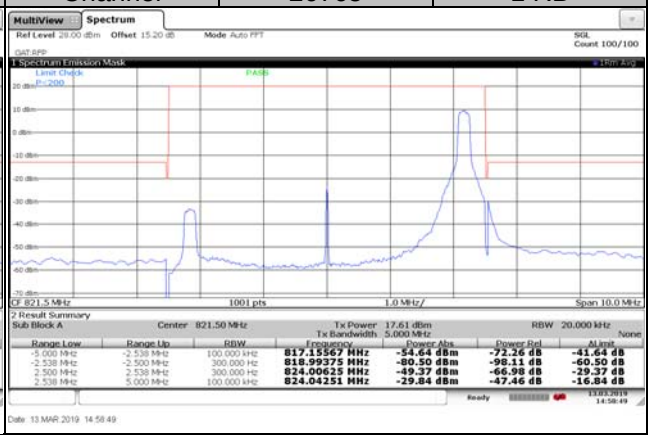
Channel	26715	25 RB	Channel	26765	25 RB



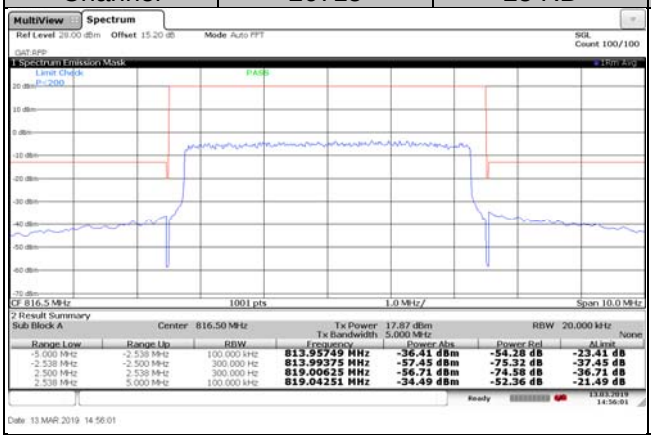


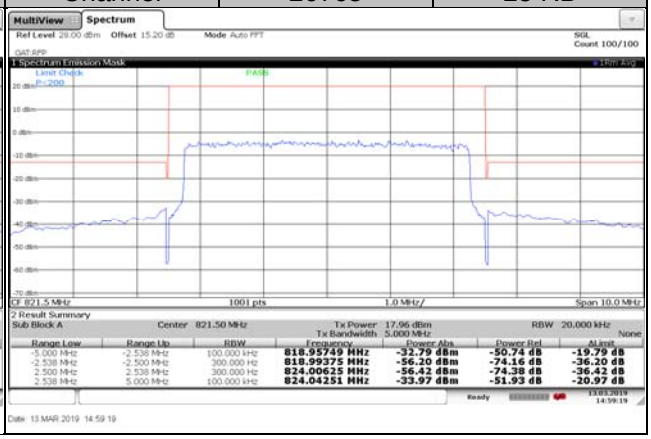
LTE Band 26					
Channel Bandwidth: 5 MHz / 16QAM					
Channel	26715	1 RB	Channel	26765	1 RB



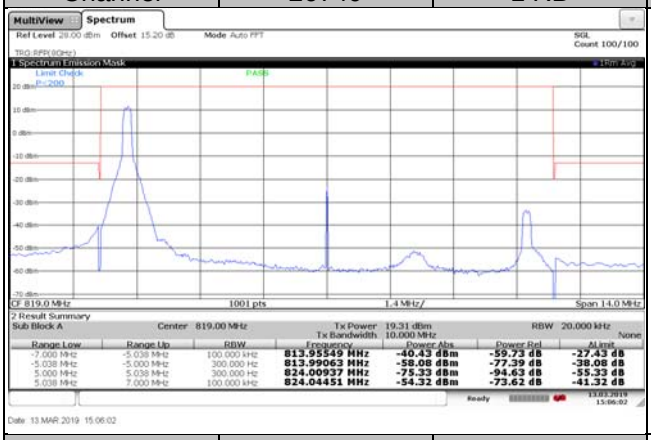


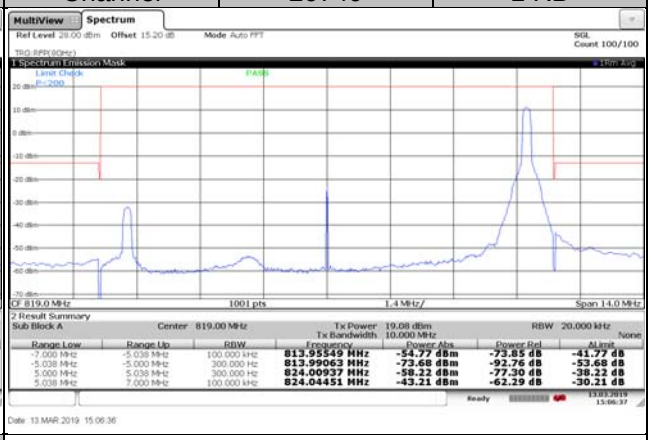
Channel	26715	25 RB	Channel	26765	25 RB



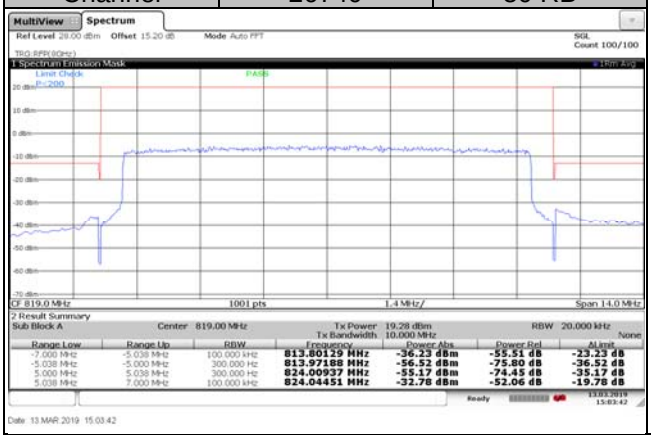


LTE Band 26					
Channel Bandwidth: 10 MHz / QPSK					
Channel	26740	1 RB	Channel	26740	1 RB

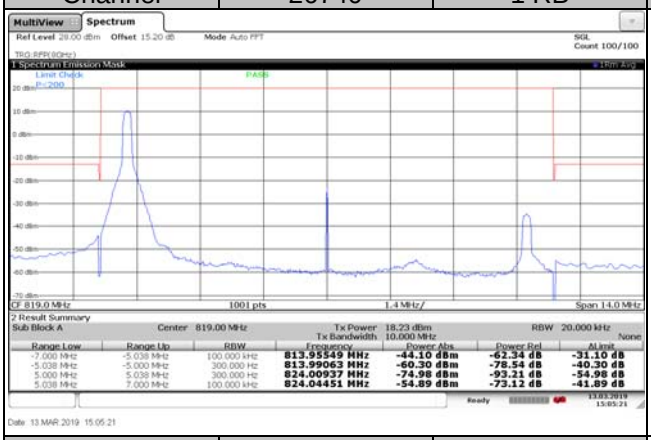


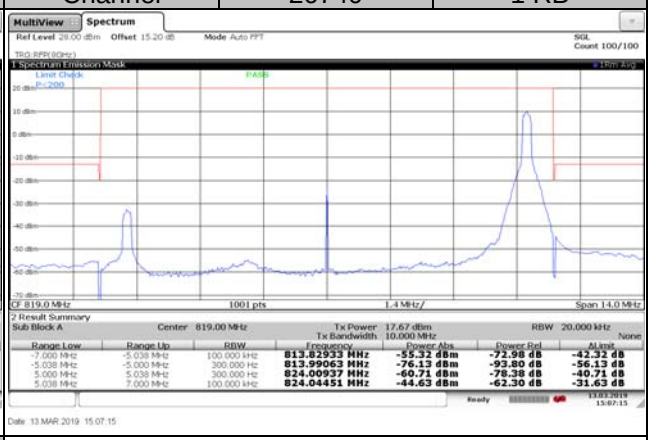


Channel	26740	50 RB

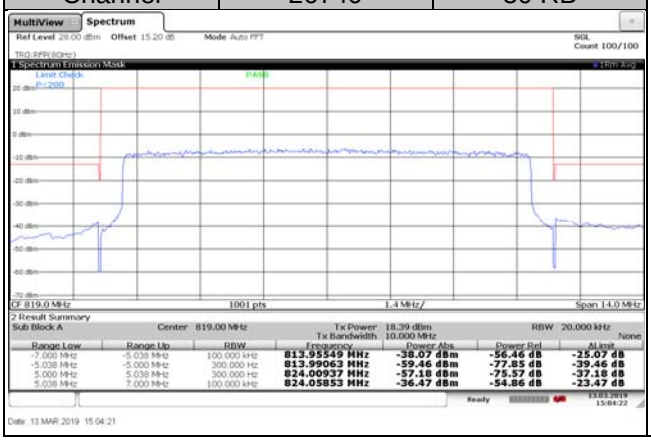


LTE Band 26					
Channel Bandwidth: 10 MHz / 16QAM					
Channel	26740	1 RB	Channel	26740	1 RB





Channel	26740	50 RB

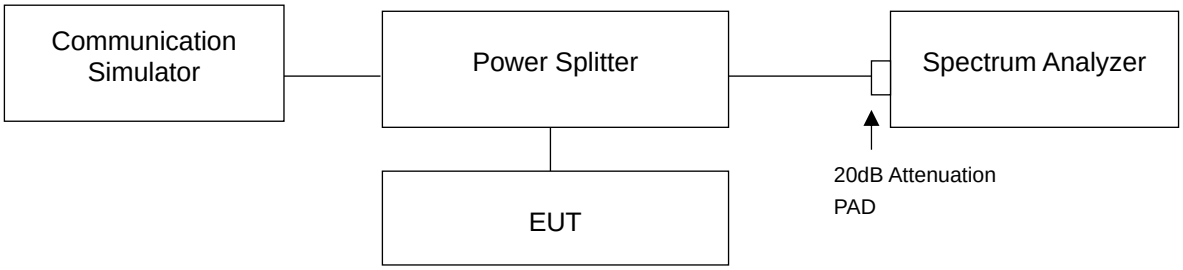


4.6 Conducted Spurious Emissions

4.6.1 Limits of Conducted Spurious Emissions Measurement

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 43 +10 log10(P) dB. The limit of emission equal to –13dBm.

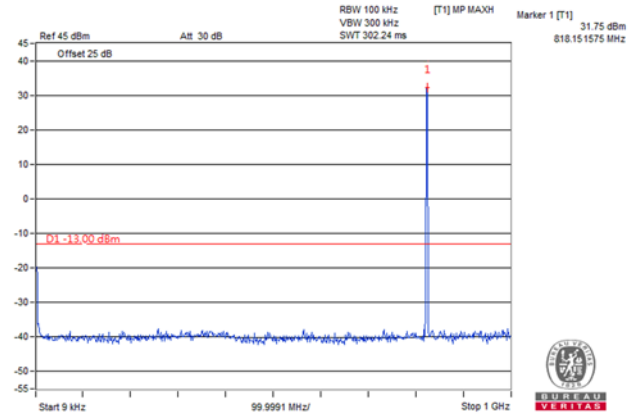
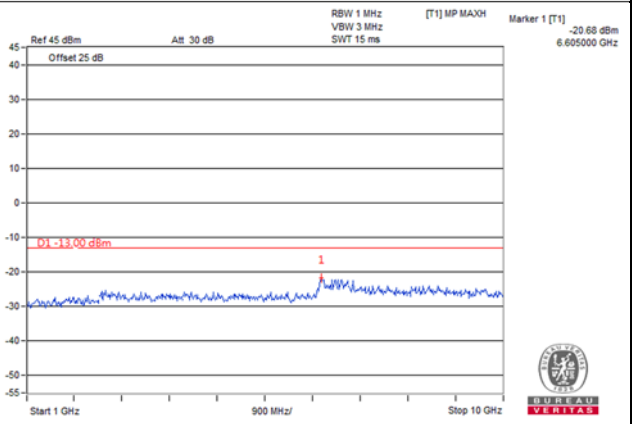
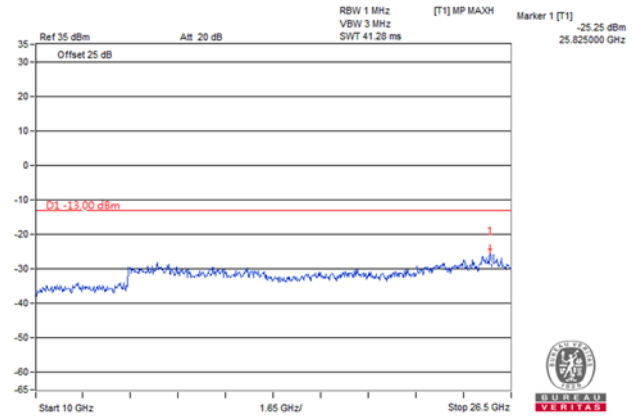
4.6.2 Test Setup

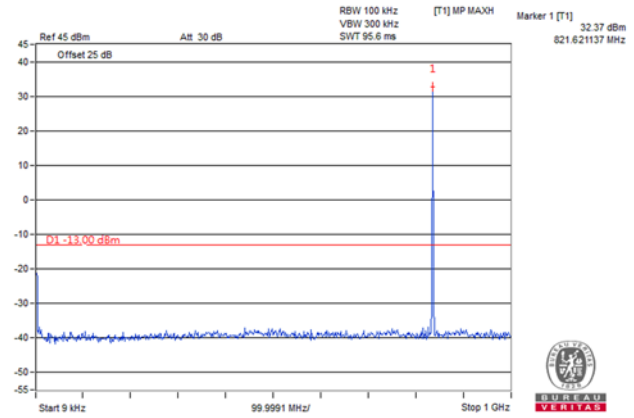
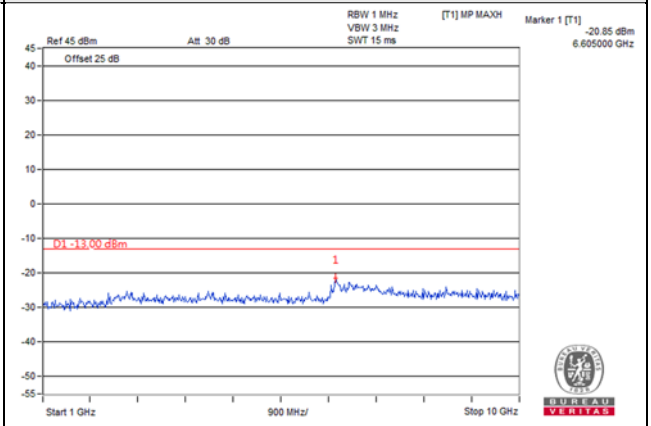
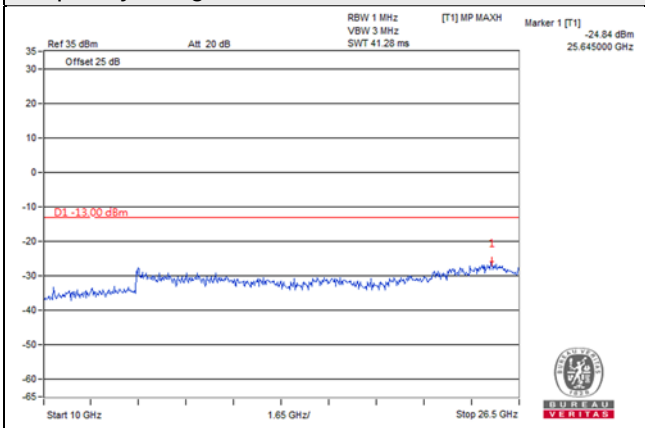


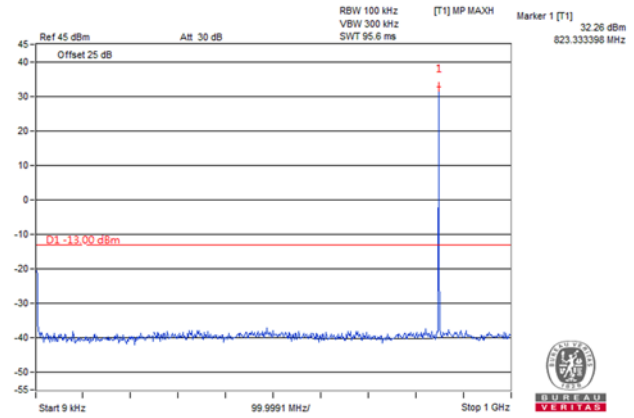
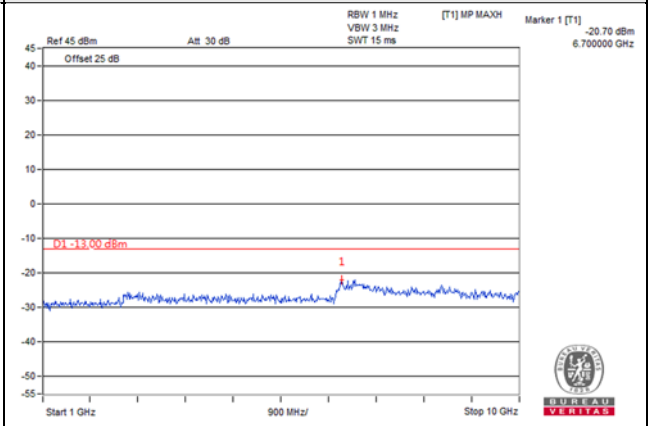
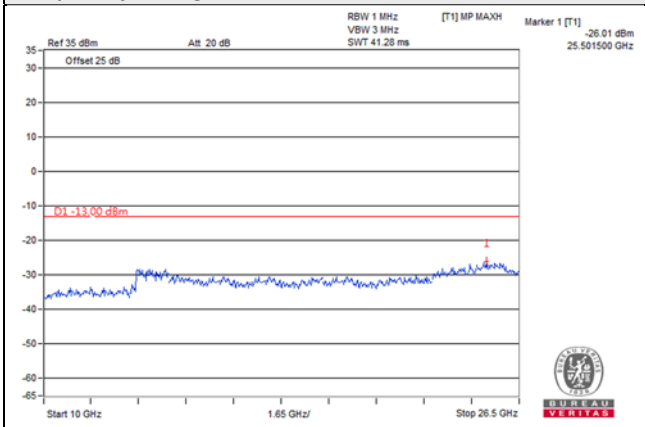
4.6.3 Test Procedure

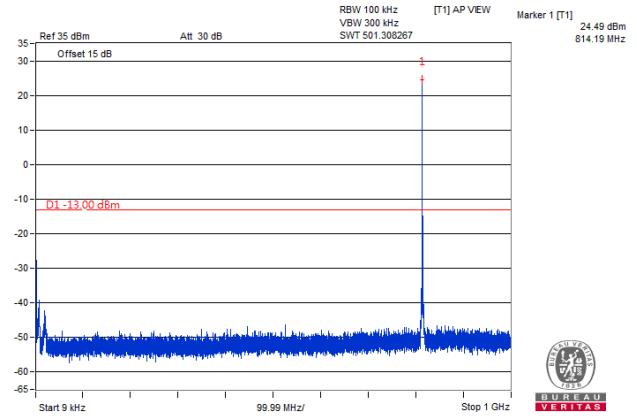
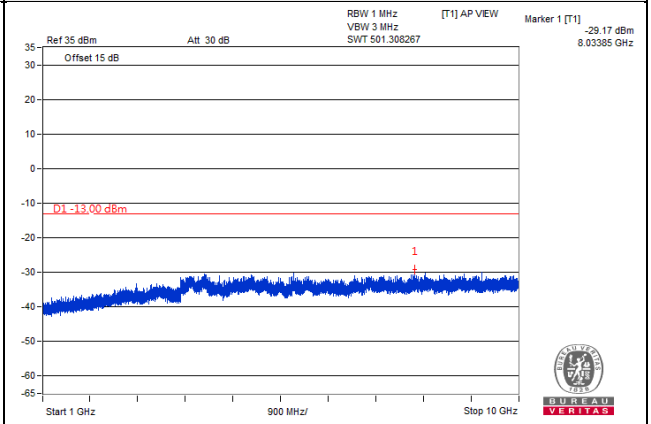
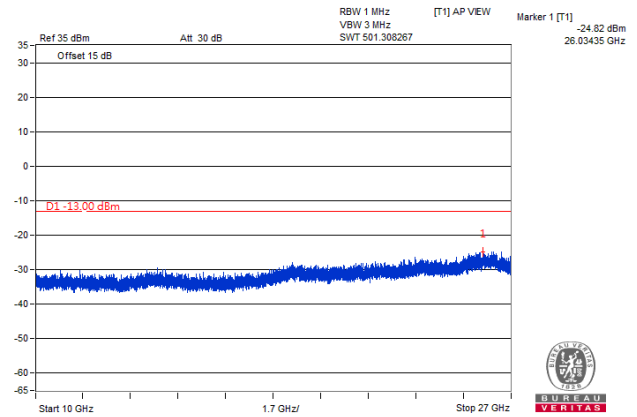
a. The EUT was set up for the maximum peak power with LTE link data modulation. The power was measured with Agilent Spectrum Analyzer.
b. The conducted spurious emission used the power splitter via EUT RF power connector between signal generator and spectrum analyzer.
c. When the spectrum scanned from 9 kHz to 1GHz. 10 dB attenuation pad is connected with spectrum. RBW = 100 kHz and VBW = 300 kHz for 10GHz to 27GHz and RBW = 1 MHz and VBW = 3 MHz for 1 GHz to 10 GHz are used for conducted emission measurement.

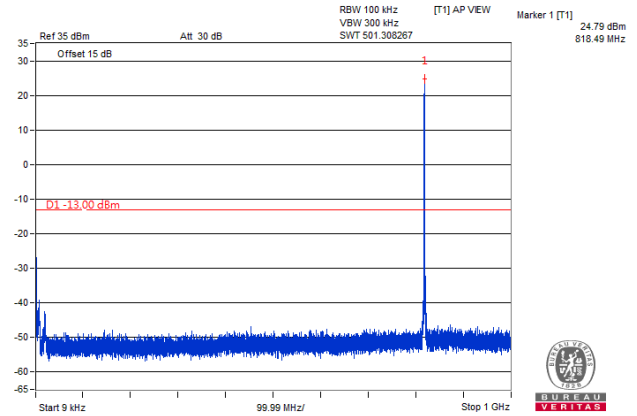
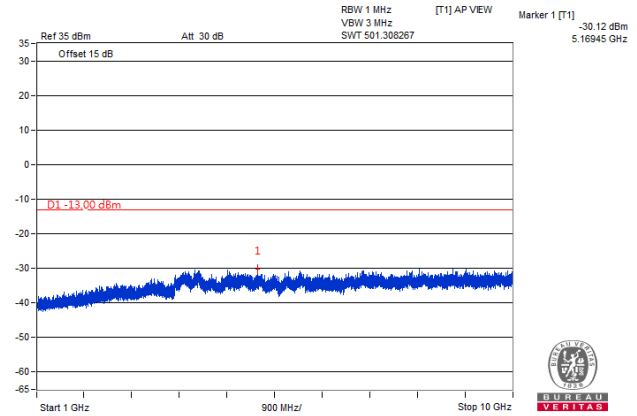
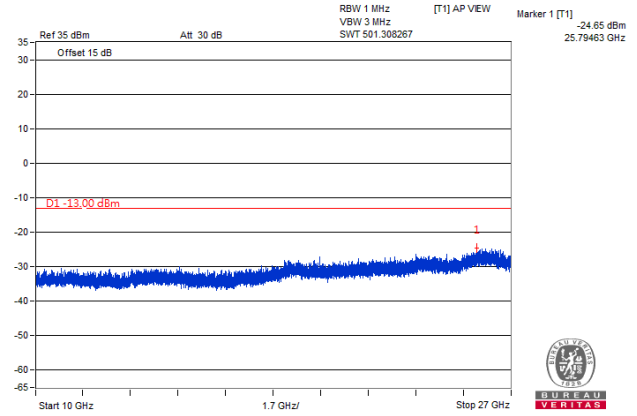
4.6.4 Test Results

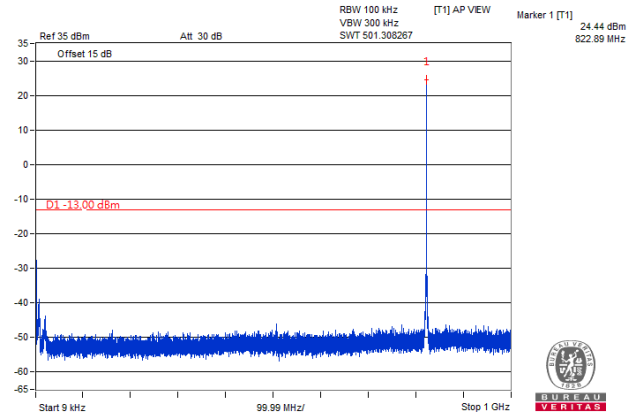
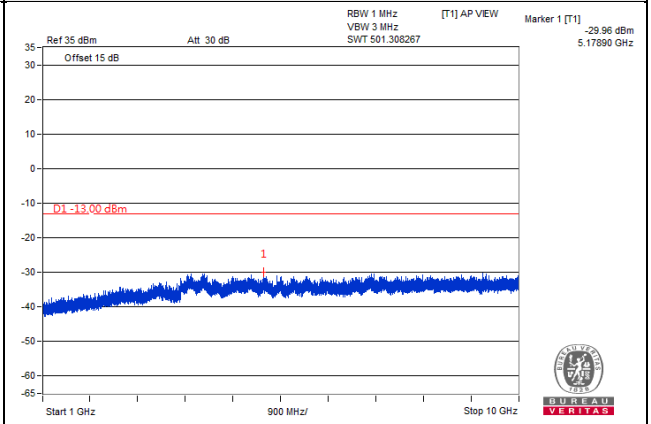
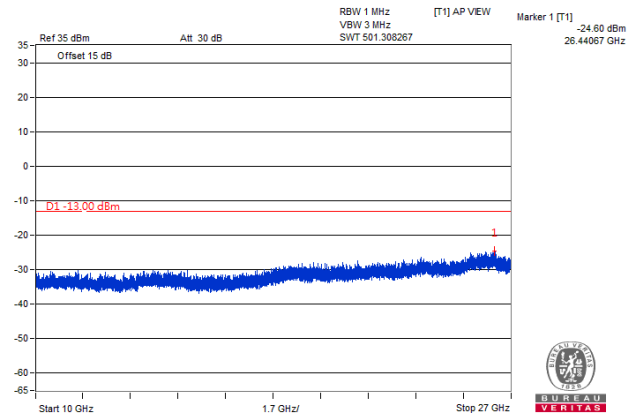
CDMA	
Channel 476 (817.9MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

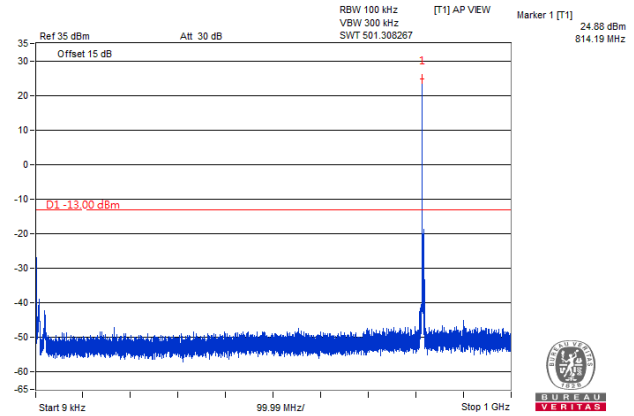
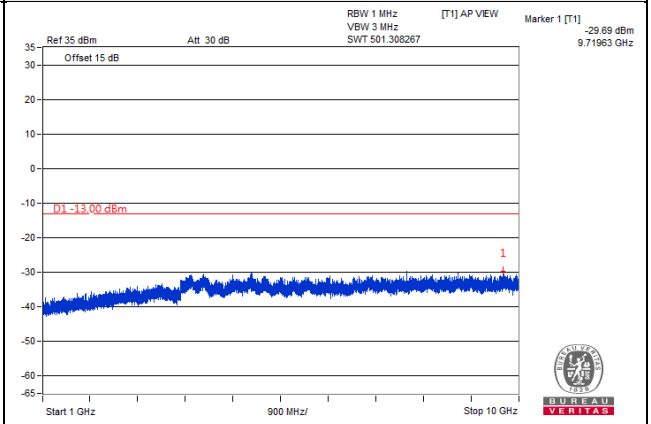
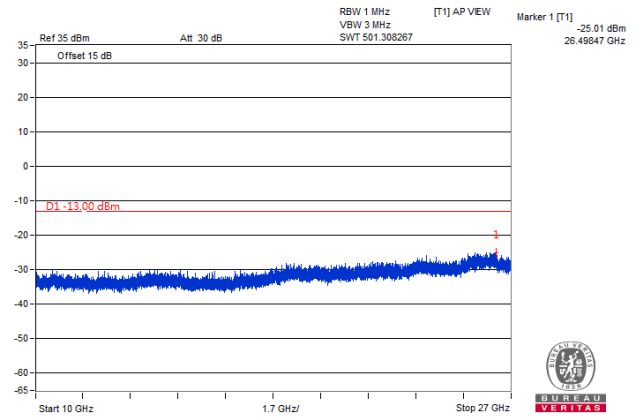
CDMA	
Channel 580 (820.5MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

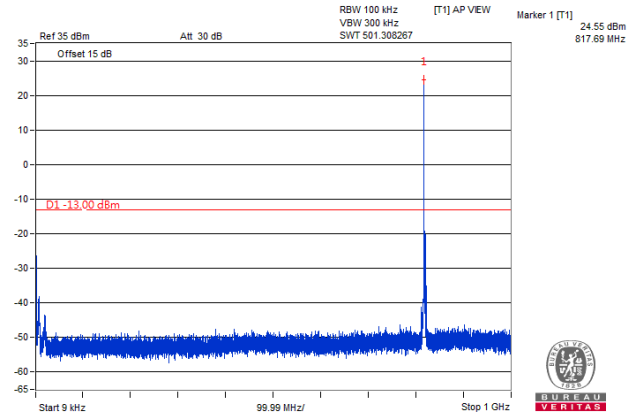
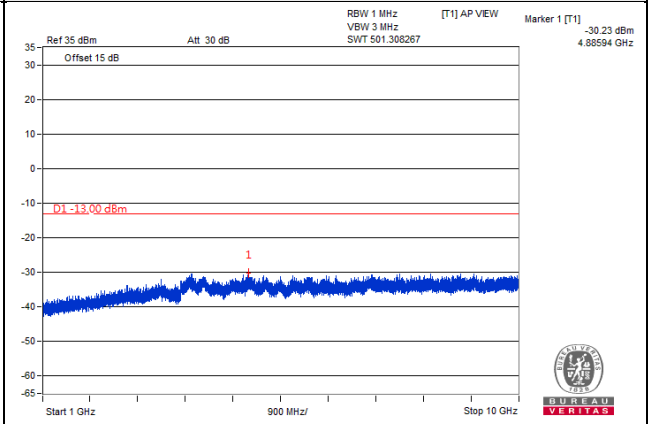
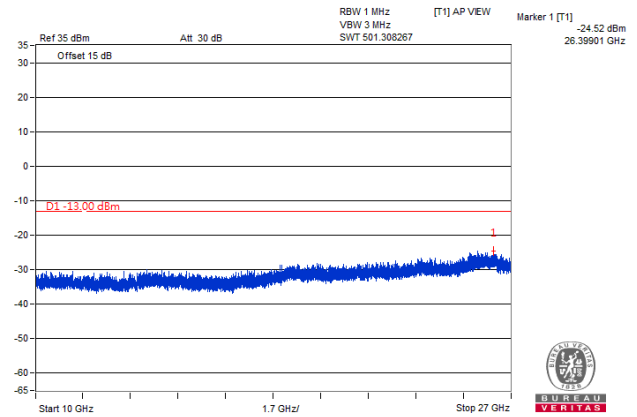
CDMA	
Channel 684 (823.1MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~26.5GHz	
	

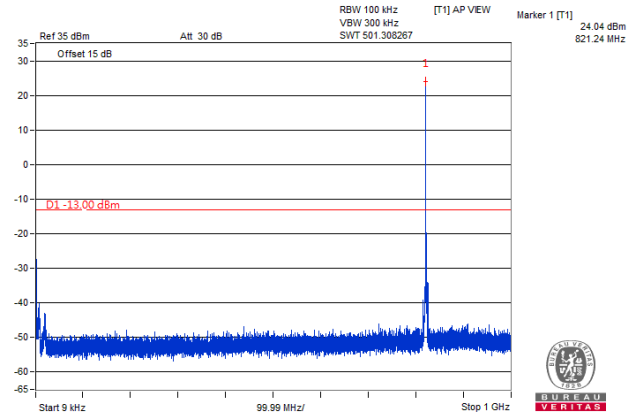
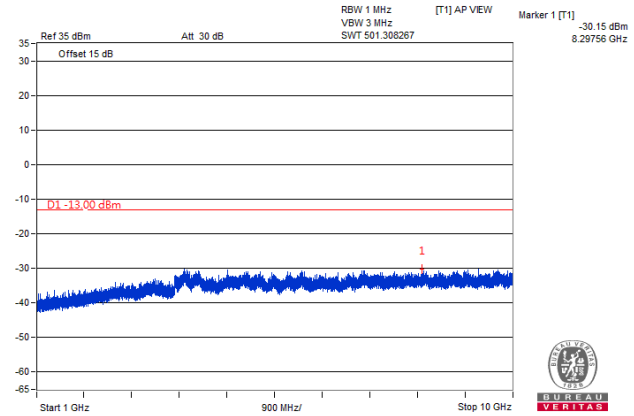
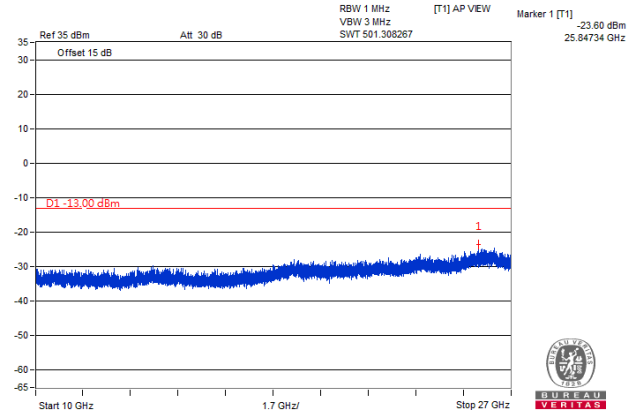
LTE Band 26, Channel Bandwidth 1.4MHz	
Channel 26697 (814.7MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~27GHz	
	

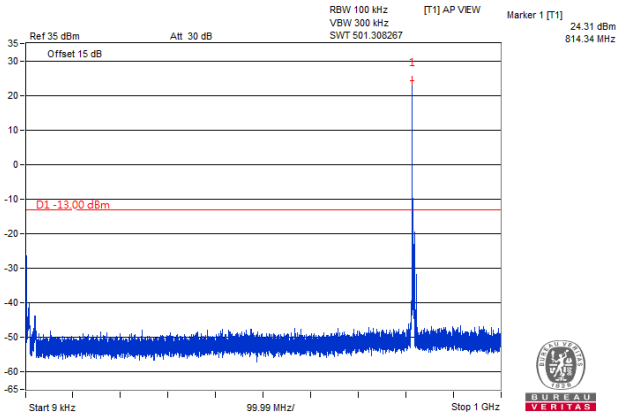
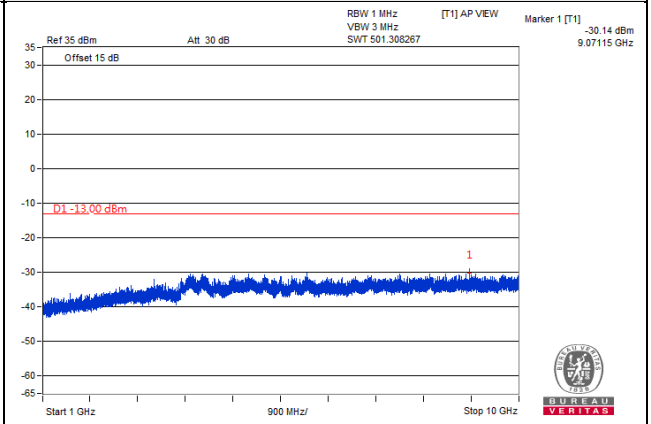
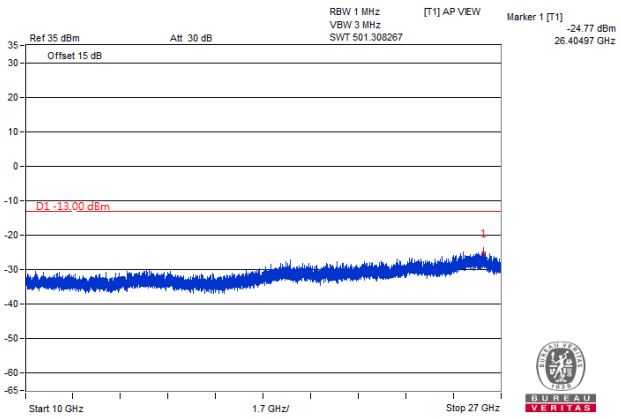
LTE Band 26, Channel Bandwidth 1.4MHz	
Channel 26740 (819.0MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~27GHz	
	

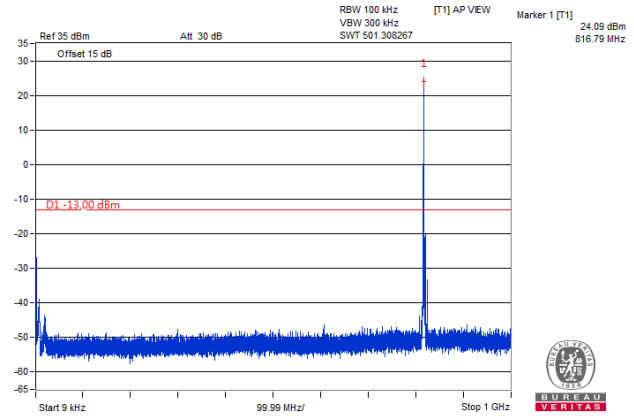
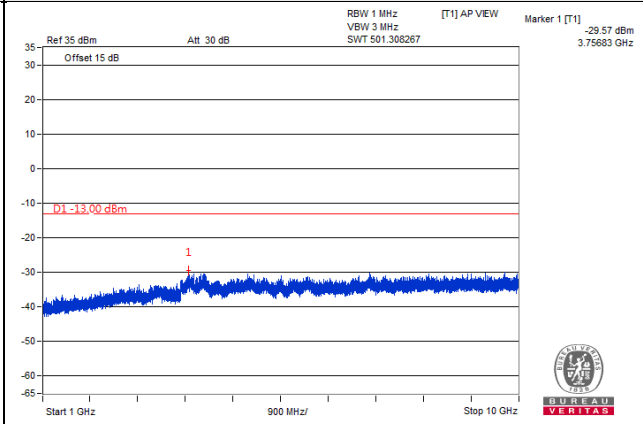
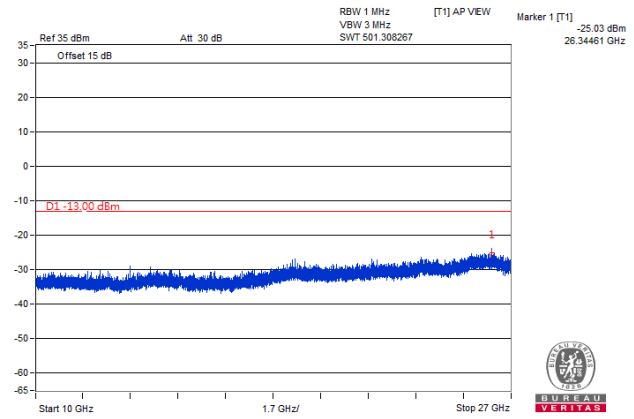
LTE Band 26, Channel Bandwidth 1.4MHz	
Channel 26783 (823.3MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~27GHz	
	

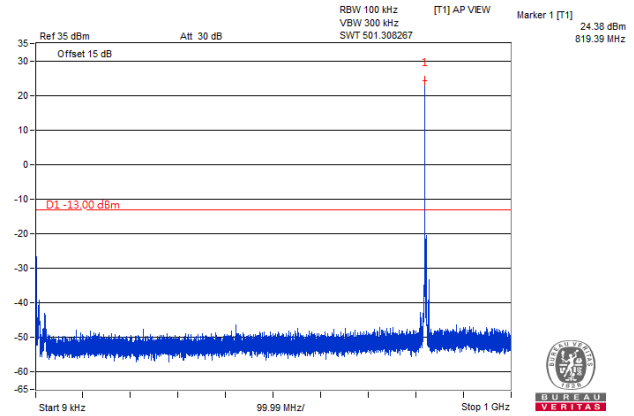
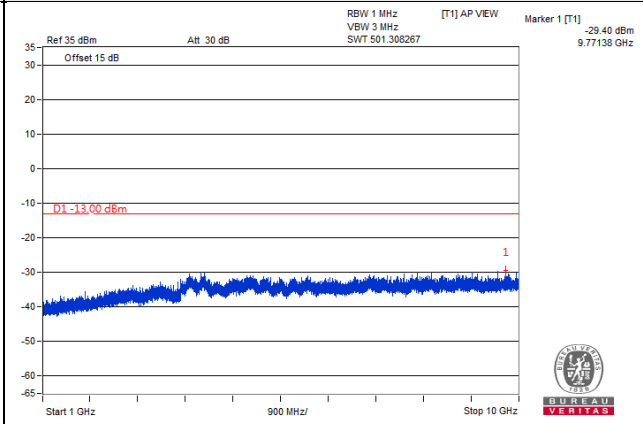
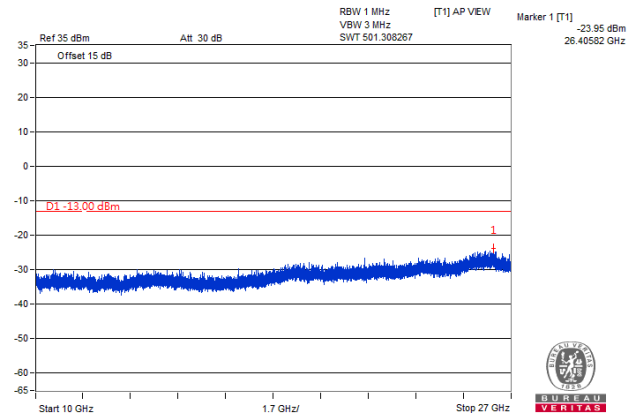
LTE Band 26, Channel Bandwidth 3MHz	
Channel 26705 (815.5MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~27GHz	
	

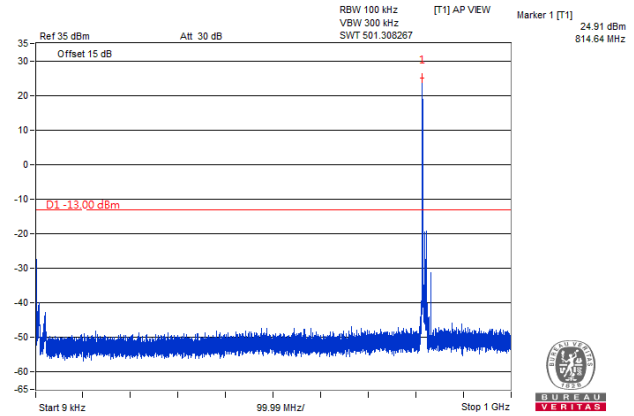
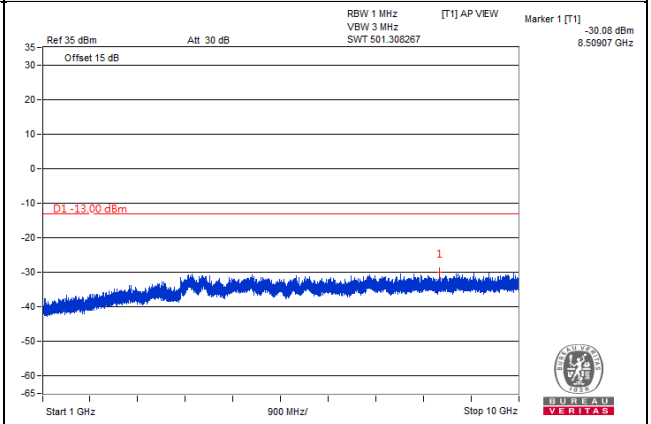
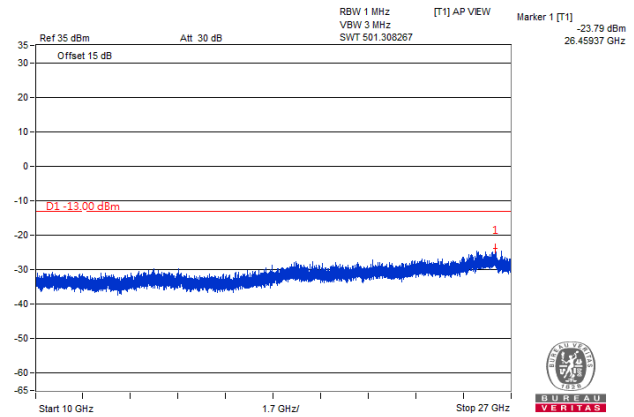
LTE Band 26, Channel Bandwidth 3MHz	
Channel 26740 (819.0MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~27GHz	
	

LTE Band 26, Channel Bandwidth 3MHz	
Channel 26775 (822.5MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~27GHz	
	

LTE Band 26, Channel Bandwidth 5MHz	
Channel 26715 (816.5MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~27GHz	
	

LTE Band 26, Channel Bandwidth 5MHz	
Channel 26740 (819.0MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~27GHz	
	

LTE Band 26, Channel Bandwidth 5MHz	
Channel 26765 (821.5MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~27GHz	
	

LTE Band 26, Channel Bandwidth 10MHz	
Channel 26740 (819.0MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~27GHz	
	

4.7 Radiated Emission Measurement

4.7.1 Limits of Radiated Emission Measurement

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 43 +10 log10(P) dB. The limit of emission equal to –13dBm.

4.7.2 Test Procedure

a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The “Read Value” is the spectrum reading the maximum power value.
b. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to “Read Value” of step a. Record the power level of S.G
c. EIRP = Output power level of S.G – TX cable loss + Antenna gain of substitution horn.
d. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole, E.R.P power = E.I.R.P power - 2.15dBi.

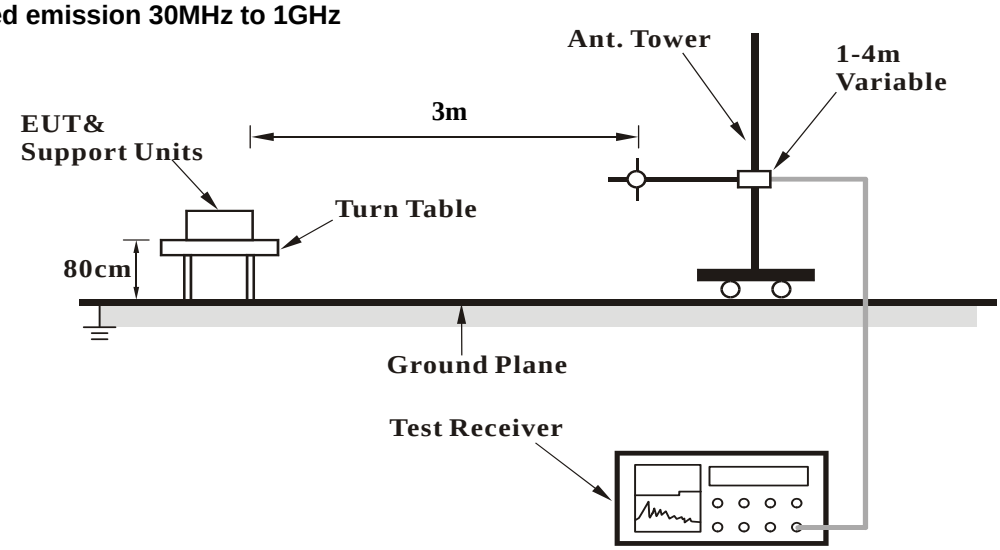
NOTE: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

4.7.3 Deviation from Test Standard

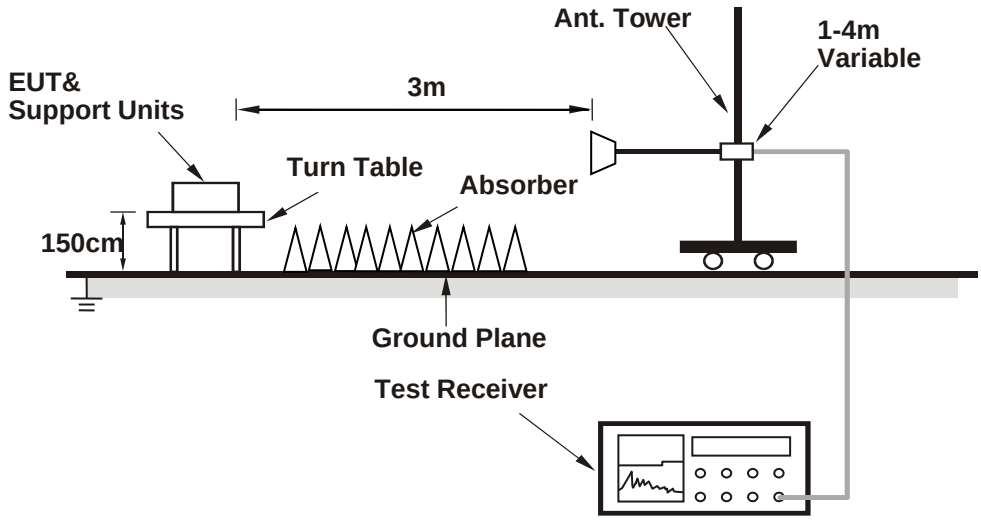
No deviation.

4.7.4 Test Setup

For radiated emission 30MHz to 1GHz



For radiated emission above 1GHz



For the actual test configuration, please refer to the attached file (Test Setup Photo).

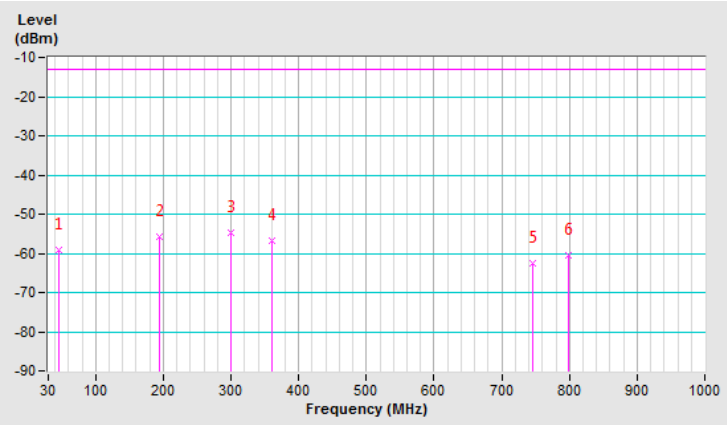
4.7.5 Test Results

Below 1GHz
CDMA

Mode	TX channel 476 (817.9MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Luis Lee		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	45.52	-58.4	-49.1	-10.0	-59.1	-13.0	-46.1
2	194.90	-44.5	-60.5	4.9	-55.6	-13.0	-42.6
3	299.66	-49.2	-60.0	5.1	-54.9	-13.0	-41.9
4	359.80	-52.0	-62.1	5.2	-56.9	-13.0	-43.9
5	745.86	-63.9	-67.1	4.7	-62.4	-13.0	-49.4
6	798.24	-63.5	-64.4	4.0	-60.4	-13.0	-47.4

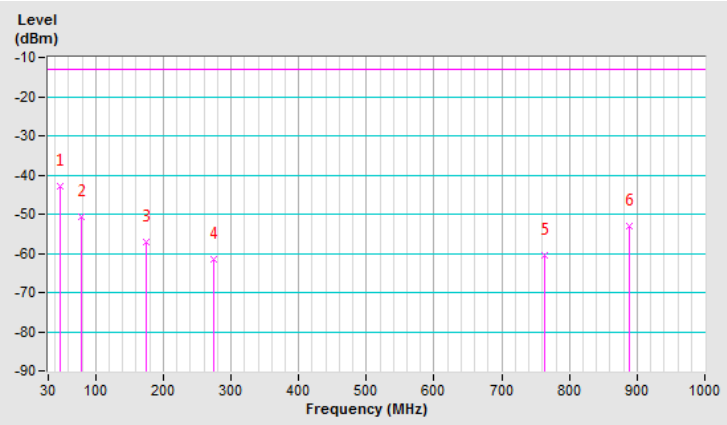
Remarks:
1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) - Cable Loss (dB).



Mode	TX channel 476 (817.9MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Luis Lee		

Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	47.46	-34.9	-33.3	-9.7	-43.0	-13.0	-30.0
2	78.50	-44.6	-48.4	-2.2	-50.6	-13.0	-37.6
3	175.50	-54.5	-59.4	2.3	-57.1	-13.0	-44.1
4	274.44	-61.9	-66.7	5.3	-61.4	-13.0	-48.4
5	763.32	-64.4	-65.1	4.5	-60.6	-13.0	-47.6
6	889.42	-57.8	-57.0	3.9	-53.1	-13.0	-40.1

Remarks:
1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) - Cable Loss (dB).

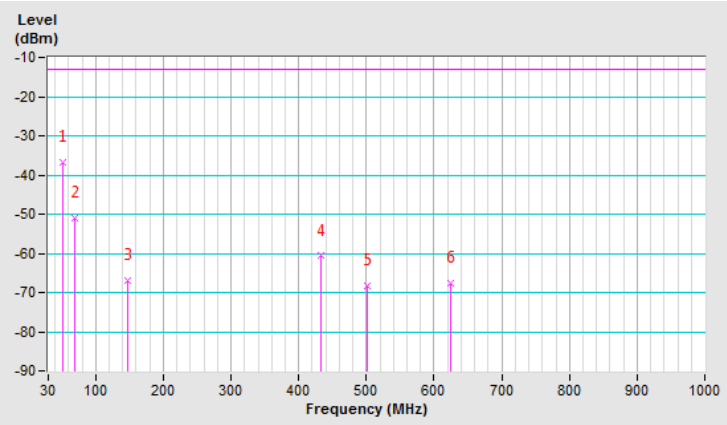


LTE Band 26, Channel Bandwidth 5MHz

Mode	TX channel 26715 (816.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Luis Lee		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	**51.34**	**-33.4**	**-27.8**	**-8.9**	**-36.7**	**-13.0**	**-23.7**
2	68.80	-42.9	-45.8	-5.3	-51.1	-13.0	-38.1
3	146.40	-60.4	-66.7	-0.2	-66.9	-13.0	-53.9
4	433.52	-57.2	-65.9	5.2	-60.7	-13.0	-47.7
5	501.42	-65.1	-73.3	4.9	-68.4	-13.0	-55.4
6	623.64	-66.7	-72.4	4.7	-67.7	-13.0	-54.7

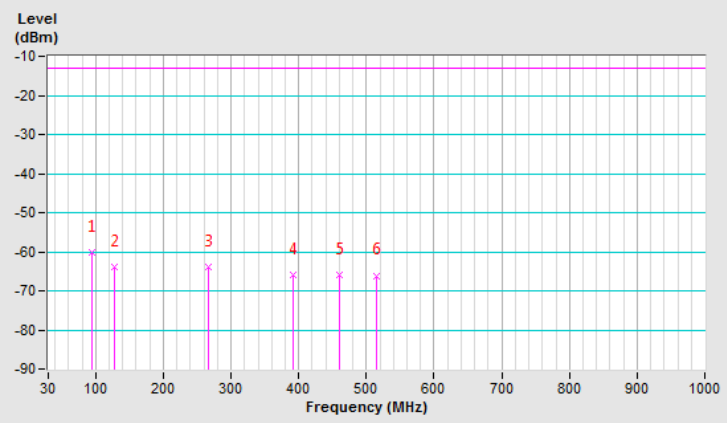
Remarks:
1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) - Cable Loss (dB).



Mode	TX channel 26715 (816.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Luis Lee		

Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	94.02	-52.7	-61.1	1.0	-60.1	-13.0	-47.1
2	127.00	-56.1	-63.9	0.0	-63.9	-13.0	-50.9
3	266.68	-64.8	-69.2	5.3	-63.9	-13.0	-50.9
4	390.84	-62.9	-71.2	5.2	-66.0	-13.0	-53.0
5	460.68	-62.8	-71.0	5.0	-66.0	-13.0	-53.0
6	515.00	-63.6	-70.9	4.8	-66.1	-13.0	-53.1

Remarks:
1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) - Cable Loss (dB).



Above 1GHz
CDMA

Mode	TX channel 476 (817.9MHz)	Frequency Range	1GHz~10GHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1635.80	-59.1	-62.6	5.5	-57.1	-13.0	-44.1
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1635.80	-58.1	-59.5	5.5	-54.0	-13.0	-41.0

Remarks:
1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) - Cable Loss (dB).

Mode	TX channel 580 (820.5MHz)	Frequency Range	1GHz~10GHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1641.00	-58.9	-62.3	5.5	-56.8	-13.0	-43.8
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1641.00	-58.8	-60.0	5.5	-54.5	-13.0	-41.5

Remarks:
1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) - Cable Loss (dB).

Mode	TX channel 684 (823.1MHz)	Frequency Range	1GHz~10GHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1646.20	-58.9	-62.1	5.5	-56.6	-13.0	-43.6
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1646.20	-58.6	-59.7	5.5	-54.2	-13.0	-41.2

Remarks:
1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) - Cable Loss (dB).

LTE Band 26, Channel Bandwidth 1.4MHz

Mode	TX channel 26697 (814.7MHz)	Frequency Range	1GHz~10GHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1629.40	-55.5	-58.9	5.4	-53.5	-13.0	-40.5
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1629.40	-55.8	-57.2	5.4	-51.8	-13.0	-38.8

Remarks:
1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) - Cable Loss (dB).

Mode	TX channel 26740 (819.0MHz)	Frequency Range	1GHz~10GHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1638.00	-55.9	-59.2	5.5	-53.7	-13.0	-40.7
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1638.00	-56.5	-57.7	5.5	-52.2	-13.0	-39.2

Remarks:
1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) - Cable Loss (dB).

Mode	TX channel 26783 (823.3MHz)	Frequency Range	1GHz~10GHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1646.60	-55.4	-58.6	5.5	-53.1	-13.0	-40.1
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1646.60	-56.1	-57.3	5.5	-51.8	-13.0	-38.8

Remarks:
1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) - Cable Loss (dB).

LTE Band 26, Channel Bandwidth 5MHz

Mode	TX channel 26715 (816.5MHz)	Frequency Range	1GHz~10GHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1633.00	-55.3	-58.8	5.5	-53.3	-13.0	-40.3
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1633.00	-56.5	-57.9	5.5	-52.4	-13.0	-39.4

Remarks:
1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) - Cable Loss (dB).

Mode	TX channel 26740 (819MHz)	Frequency Range	1GHz~10GHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1638.00	-55.9	-59.2	5.5	-53.7	-13.0	-40.7
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1638.00	-56.4	-57.6	5.5	-52.1	-13.0	-39.1

Remarks:
1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) - Cable Loss (dB).

Mode	TX channel 26765 (821.5MHz)	Frequency Range	1GHz~10GHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1643.00	-55.1	-58.5	5.5	-53.0	-13.0	-40.0
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1643.00	-56.5	-57.7	5.5	-52.2	-13.0	-39.2

Remarks:
1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) - Cable Loss (dB).

LTE Band 26, Channel Bandwidth 10MHz

Mode	TX channel 26740 (819.0MHz)	Frequency Range	1GHz~10GHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1638.00	-55.5	-58.9	5.5	-53.4	-13.0	-40.4
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1638.00	-56.4	-57.6	5.5	-52.1	-13.0	-39.1

Remarks:
1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) - Cable Loss (dB).

5 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).

Appendix – Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

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The address and road map of all our labs can be found in our web site also.

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