RF TEST REPORT

Applicant	ZTE Corporation
FCC ID	SRQ-ZTEN9519
Product	LTE/CDMA/WCDMA/GSM(GPRS) Multi-Mode Digital Mobile Phone
Model	N9519
Report No.	RXA1601-0005RF06R1
Issue Date	March 29, 2016

TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC CFR47 Part 2/ FCC CFR 47 Part 90S**. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Performed by: Changxu Wan

Reviewed by: Lingling Kang

Approved by: Kai Xu

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TABLE OF CONTENT

1. Test Laboratory 4
1.1. Notes of the Test Report 4
1.2. Test facility 4
1.3. Testing Location 5
2. General Description of Equipment under Test 6
3. Applied Standards 7
4. Test Configuration 8
5. Test Case Results 10
5.1. RF Power Output 10
5.2. Effective Radiated Power 14
5.3. Occupied Bandwidth 18
5.4. Emission Mask. 25
5.5. Frequency Stability 31
5.6. Spurious Emissions at Antenna Terminals 35
5.7. Radiates Spurious Emission 42
6. Main Test Instruments 51

Summary of measurement results

No.	Test Type	Clause in FCC rules	Verdict
1	RF power output	2.1046/90.635(b)	PASS
2	Effective Radiated Power	90.635(b)	PASS
3	Occupied Bandwidth	2.1049/ 90.209	PASS
4	Emission Masks	2.1051 / 90.691	PASS
6	Frequency Stability	2.1055 / 90.213	PASS
7	Spurious Emissions at Antenna Terminals	2.1051 / 90.691	PASS
8	Radiates Spurious Emission	2.1053 /90.691	PASS
Date of Testing: January 4, 2016~ March 24, 2016			

1. Test Laboratory

1.1. Notes of the Test Report

This report shall not be reproduced in full or partial, without the written approval of **TA technology (shanghai) co., Ltd).**The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein .Measurement Uncertainties were not taken into account and are published for informational purposes only. This report is written to support regulatory compliance of the applicable standards stated above. This report must not be used by the client to claim product certification, approval, or endorsement by CNAS or any government agencies.

1.2. Test facility

CNAS (accreditation number:L2264)

TA Technology (Shanghai) Co., Ltd. has obtained the accreditation of China National Accreditation Service for Conformity Assessment (CNAS).

FCC (recognition number is 428261)

TA Technology (Shanghai) Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

IC (recognition number is 8510A)

TA Technology (Shanghai) Co., Ltd. has been listed by industry Canada to perform electromagnetic emission measurement.

VCCI (recognition number is C-4595, T-2154, R-4113, G-766)

TA Technology (Shanghai) Co., Ltd. has been listed by industry Japan to perform electromagnetic emission measurement.

A2LA (Certificate Number: 3857.01)

TA Technology (Shanghai) Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform electromagnetic emission measurement.

1.3. Testing Location

Company:	TA Technology (Shanghai) Co., Ltd.
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2. General Description of Equipment under Test

Client Information

Applicant	ZTE Corporation
Applicant address	ZTE Plaza, #55 Keji Road South, Hi-Tech, Industrial Park, Nanshan District Shenzhen, Guangdong, P.R.China
Manufacturer	ZTE Corporation
Manufacturer address	ZTE Plaza, #55 Keji Road South, Hi-Tech, Industrial Park, Nanshan District Shenzhen, Guangdong, P.R.China

General Information

Model:	N9519	
Product MEID:	99000677000320	
Hardware Version:	cuhA	
Software Version:	N9519V1.0.0B01	
Power Supply:	Battery/AC adapter	
Antenna Type:	Internal Antenna	
Test Mode(s):	CDMA BCBC10; LTE Band 26;	
Test Modulation:	CDMA)QPSK; (LTE)QPSK 16QAM;	
GPRS/ EGPRS Multislot Class:	33	
HSDPA UE Category:	24	
HSUPA UE Category:	4	
Maximum E.R.P.	CDMA BC10: 19.55dBm LTE Band 26: 18.75dBm	
Rated Power Supply Voltage:	3.8V	
Extreme Voltage:	Minimum: 3.6V Maximum: 4.35V	
Extreme Temperature:	Lowest: -10°C Highest: +55°C	
Operating Frequency Range(s)	Band	Tx (MHz)
	CDMA BC10	817 ~ 824
	LTE Band 26	814 ~ 824
EUT Accessory		
Battery	Manufacturer: SCUD(FUJIAN)ELECTRONICS Model: Li3831T43P4h826247 Power Rating: DC 3.8V, Li-ion	
Adapter	Manufacturer: Salcomp Model: STC-A515A-Z	
Note: The information of the EUT is declared by the manufacturer. Please refer to the specifications or user manual for details.		

3. Applied Standards

According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC CFR47 Part 2 (2014)

FCC CFR 47 Part 90S (2014)

ANSI/TIA-603-D (2010)

4. Test Configuration

There is more than one SIM card slot, each one should be applied throughout the compliance test re spectively, and however, only the worst case (SIM 1) will be recorded in this report.

Radiated measurements are performed by rotating the EUT in three different orthogonal test planes. EUT stand-up position (Z axis), lie-down position (X, Y axis). Receiver antenna polarization (horizontal and vertical), the worst emission was found in position (Z axis, vertical polarization) and the worst case was recorded.

All mode and data rates and positions were investigated.
The following testing inCDMA/LTE is set based on the maximum RF Output Power.
Test modes are chosen to be reported as the worst case configuration below:

	Test items	**Modes/Modulation**
		CDMA BC10
Conducted Test cases	RF power output	1xRTT EV-DO Rev.0 EV-DO Rev.A
	Occupied Bandwidth	EV-DO Rev.0
	Emission Masks	EV-DO Rev.0
	Frequency Stability	EV-DO Rev.0
	Spurious Emissions at Antenna Terminals	EV-DO Rev.0
Radiated Test cases	Effective Radiated Power	1xRTT EV-DO Rev.0
	Radiates Spurious Emission	EV-DO Rev.0

Test modes are chosen as the worst case configuration below for LTE Band 26

Test items	Bandwidth (MHz)				Modulation		RB			Test Channel		
	1.4	3	5	10	QPSK	16QAM	1	50%	100%	L	M	H
RF power output	O	O	O	O	O	O	O	O	O	O	O	O
Effective Isotropic Radiated power	O	O	O	O	O	O	-	-	O	O	O	O
Occupied Bandwidth	O	O	O	O	O	O	-	-	O	O	O	O
Emission Mask	O	O	O	O	O	O	-	-	O	O	O	O
Frequency Stability	O	O	O	O	O	O	-	-	O	-	O	-
Spurious Emissions at Antenna Terminals	O	O	O	O	O	-	O	-	-	O	O	O
Radiates Spurious Emission	O	O	O	O	O	-	O	-	-	O	O	O
Note	1. The mark “O” means that this configuration is chosen for testing. 2. The mark “-” means that this configuration is not testing.											

5. Test Case Results

5.1. RF Power Output

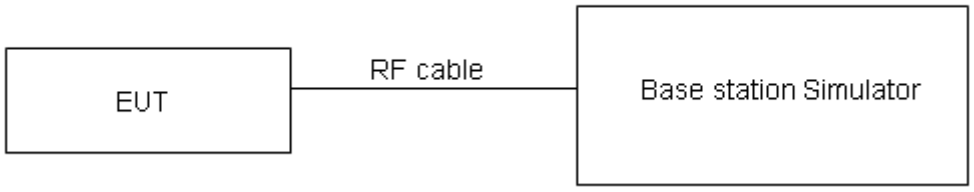
Ambient condition

Temperature	Relative humidity
21°C ~25°C	40%~60%

Methods of Measurement

During the process of the testing, The EUT is controlled by the Base Station Simulator to ensure max power transmission and proper modulation.

Test Setup



The loss between RF output port of the EUT and the input port of the tester has been taken into consideration.

Limits

No specific RF power output requirements in part 2.1046.

Part 90.635 (b) The maximum output power of the transmitter for mobile stations is 100 watts (20 dBw).

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2, U= 0.4 dB.

Test Results

CDMA BC10			AV Conducted Power(dBm)		
			Channel 476	Channel 580	Channel 684
			817.9(MHz)	820.5(MHz)	823.1(MHz)
1xRTT	RC1	SO55 (Loopback)	23.47	23.60	23.48
	RC3	SO55 (Loopback)	23.46	23.55	23.46
		TDSO32 (FCH+SCH)	23.52	23.57	23.49
		TDSO32 (FCH)	23.53	23.61	23.47
EV-DO	Rev 0	RTAP	**23.48**	**23.65**	**23.46**
	Rev A	RETAP	23.49	23.54	23.41
Note: 1) The maximum RF Output Power numbers are marks in bold. 2) The following testing in Rev 0 based on the maximum RF Output Power.					

LTE FDD Band 26				Conducted Power(dBm)		
BW	Modulation	RB size	RB offset	Channel/Frequency(MHz)		
				26697/814.7	26740/819	26783/823.3
1.4MHz	QPSK	1	0	23.67	23.89	23.84
		1	2	23.54	23.52	23.85
		1	5	23.69	23.78	23.78
		3	0	23.29	22.65	22.69
		3	2	23.20	22.51	22.59
		3	3	23.22	22.73	22.61
		6	0	22.51	22.66	22.73
	16QAM	1	0	23.16	22.32	22.84
		1	2	22.57	22.69	22.53
		1	5	22.69	22.10	22.12
		3	0	22.78	22.23	22.29
		3	2	22.26	22.09	22.22
		3	3	22.18	22.19	22.29
		6	0	21.42	21.50	21.65
BW	Modulation	RB size	RB offset	Channel/Frequency(MHz)		
				26705/815.5	26740/819	26775/822.5
3MHz	QPSK	1	0	23.62	23.76	23.71
		1	13	23.49	23.39	23.72
		1	24	23.64	23.65	23.65
		8	0	22.53	22.52	22.56
		8	6	22.45	22.42	22.50
		8	13	21.46	22.63	22.53
		15	0	22.46	22.53	22.60
	16QAM	1	0	23.11	22.19	22.71
		1	13	22.52	22.56	22.40
		1	24	22.64	21.97	21.99
		8	0	21.52	21.48	21.54
		8	6	21.40	21.34	21.47
		8	13	21.42	21.44	21.54
		15	0	21.37	21.37	21.52

BW	Modulation	RB size	RB offset	Channel/Frequency(MHz)		
				26715/816.5	26740/819	26765/822.5
5MHz	QPSK	1	0	23.75	23.78	23.73
		1	13	23.80	23.41	23.74
		1	24	23.64	23.67	23.67
		12	0	22.71	22.54	22.58
		12	6	22.62	22.44	22.52
		12	13	22.62	22.65	22.55
		25	0	22.62	22.55	22.62
	16QAM	1	0	22.60	22.21	22.73
		1	13	22.52	22.58	22.42
		1	24	22.74	21.99	22.01
		12	0	21.80	21.50	21.56
		12	6	21.72	21.36	21.49
		12	13	21.65	21.46	21.56
		25	0	21.64	21.39	21.54
BW	Modulation	RB size	RB offset	Channel/Frequency(MHz)		
					26740/819	
10MHz	QPSK	1	0		23.68	
		1	25		23.78	
		1	49		23.49	
		25	0		22.34	
		25	13		22.24	
		25	25		22.67	
		50	0		22.75	
	16QAM	1	0		22.31	
		1	25		22.37	
		1	49		22.19	
		25	0		22.21	
		25	13		21.76	
		25	25		21.56	
		50	0		21.29	

5.2. Effective Radiated Power

Ambient condition

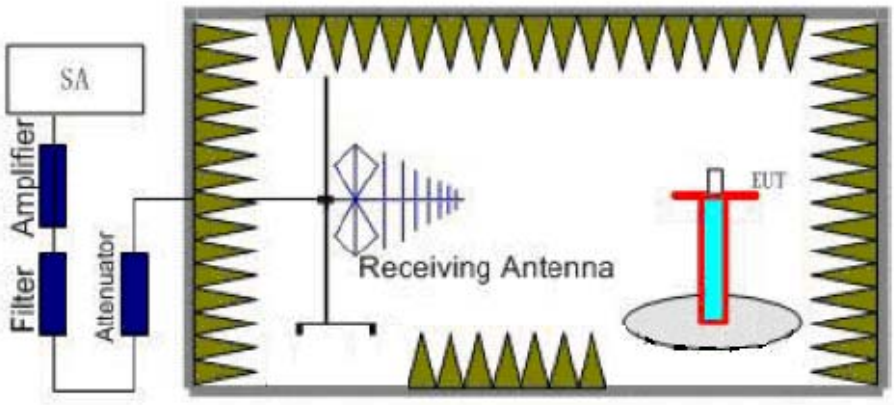
Temperature	Relative humidity
21°C ~25°C	40%~60%

Methods of Measurement

The measurement procedures in TIA- 603-D are used.
1. The EUT was placed on a turntable with 1.5 meter height in a fully anechoic chamber.
2. The EUT was set at 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. GSM operating modes: Set RBW= 1MHz, VBW= 3MHz, RMS detector over burst;
UMTS operating modes: Set RBW= 100 KHz, VBW= 300 KHz, RMS detector over frame, and use channel power option with bandwidth=5MHz, per section 4.0 of KDB 971168 D01.
4. The table was rotated 360 degrees to determine the position of the highest radiated power.
5. The height of the receiving antenna is adjusted to look for the maximum ERP/EIRP.
6. Taking the record of maximum ERP/EIRP.
7. A dipole antenna was substituted in place of the EUT and was driven by a signal generator.
8. The conducted power at the terminal of the dipole antenna is measured.
9. Repeat step 3 to step 5 to get the maximum ERP/EIRP of the substitution antenna.
10. ERP/EIRP = Ps + Et – Es + Gs = Ps + Rt – Rs + Gs
Ps (dBm)：Input power to substitution antenna.
Gs (dBi or dBd)：Substitution antenna Gain.
Et = Rt + AF
Es = Rs + AF
AF (dB/m)：Receive antenna factor
Rt：The highest received signal in spectrum analyzer for EUT.
Rs：The highest received signal in spectrum analyzer for substitution antenna.

EIRP= E.R.P+2.15

Test Setup



Limits

Rule Part 90.635(b) specifies that “The maximum output power of the transmitter for mobile stations is 100 watts”.

Limit	≤ 100 W (50 dBm)

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2, U= 1.19 dB

Test Results:

Mode	Polarization	Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	ERP (dBm)	Conclusion
CDMA BC10 1xRTT	H	817.9	-28.95	-47.48	0	0.91	19.44	Pass
	H	820.5	-28.73	-47.27	0	1.01	19.55	Pass
	H	823.1	-28.73	-47.12	0	1.05	19.44	Pass
	V	817.9	-34.22	-47.13	0	0.91	13.82	Pass
	V	820.5	-34.28	-47.03	0	1.01	13.76	Pass
	V	823.1	-34.54	-46.95	0	1.05	13.46	Pass
CDMA BC10 EVDO	H	817.9	-28.90	-47.48	0	0.91	19.49	Pass
	H	820.5	-30.56	-47.27	0	1.01	17.72	Pass
	H	823.1	-29.45	-47.12	0	1.05	18.72	Pass
	V	817.9	-33.70	-47.13	0	0.91	14.34	Pass
	V	820.5	-35.10	-47.03	0	1.01	12.94	Pass
	V	823.1	-35.31	-46.95	0	1.05	12.69	Pass

LTE Band 26								
bandwidth	Polarization	Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	ERP (dBm)	Conclusion
1.4 MHz (QPSK)	H	814.7	-31.10	-47.87	0.00	0.90	17.67	Pass
	H	819	-30.91	-47.71	0.00	1.00	17.79	Pass
	H	823.3	-30.88	-47.62	0.00	1.06	17.80	Pass
	V	814.7	-35.51	-47.78	0.00	0.90	13.17	Pass
	V	819	-35.37	-47.51	0.00	1.00	13.14	Pass
	V	823.3	-34.90	-47.33	0.00	1.06	13.49	Pass
1.4 MHz (16QAM)	H	814.7	-30.87	-47.87	0.00	0.90	17.90	Pass
	H	819	-30.84	-47.71	0.00	1.00	17.86	Pass
	H	823.3	-30.75	-47.62	0.00	1.06	17.93	Pass
	V	814.7	-35.36	-47.78	0.00	0.90	13.32	Pass
	V	819	-35.39	-47.51	0.00	1.00	13.12	Pass
	V	823.3	-35.39	-47.33	0.00	1.06	13.00	Pass
3 MHz (QPSK)	H	815.5	-29.98	-47.83	0.00	0.90	18.75	Pass
	H	819	-30.02	-47.71	0.00	1.00	18.68	Pass
	H	822.5	-30.11	-47.64	0.00	1.06	18.59	Pass
	V	815.5	-35.30	-47.71	0.00	0.90	13.31	Pass
	V	819	-34.88	-47.51	0.00	1.00	13.63	Pass
	V	822.5	-34.75	-47.36	0.00	1.06	13.67	Pass
3 MHz (16QAM)	H	815.5	-30.96	-47.83	0.00	0.90	17.77	Pass
	H	819	-31.07	-47.71	0.00	1.00	17.63	Pass
	H	822.5	-31.21	-47.64	0.00	1.06	17.49	Pass
	V	815.5	-35.45	-47.71	0.00	0.90	13.16	Pass
	V	819	-35.18	-47.51	0.00	1.00	13.33	Pass
	V	822.5	-35.23	-47.36	0.00	1.06	13.19	Pass

LTE Band 26								
bandwidth	Polarization	Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	ERP (dBm)	Conclusion
5 MHz (QPSK)	H	816.5	-30.69	-47.78	0.00	0.90	17.99	Pass
	H	819	-30.62	-47.71	0.00	1.00	18.08	Pass
	H	821.5	-30.43	-47.65	0.00	1.00	18.22	Pass
	V	816.5	-34.91	-47.65	0.00	0.90	13.64	Pass
	V	819	-34.54	-47.51	0.00	1.00	13.97	Pass
	V	821.5	-34.65	-47.41	0.00	1.00	13.76	Pass
5 MHz (16QAM)	H	816.5	-31.61	-47.78	0.00	0.90	17.07	Pass
	H	819	-31.31	-47.71	0.00	1.00	17.39	Pass
	H	821.5	-31.42	-47.65	0.00	1.00	17.23	Pass
	V	816.5	-35.57	-47.65	0.00	0.90	12.98	Pass
	V	819	-34.99	-47.51	0.00	1.00	13.52	Pass
	V	821.5	-34.78	-47.41	0.00	1.00	13.63	Pass
10 MHz (QPSK)	H	819	-30.31	-47.71	0.00	1.00	18.39	Pass
	V	819	-34.35	-47.51	0.00	1.00	14.16	Pass
10 MHz (16QAM)	H	819	-30.73	-47.71	0.00	1.00	17.97	Pass
	V	819	-34.54	-47.51	0.00	1.00	13.97	Pass

5.3. Occupied Bandwidth

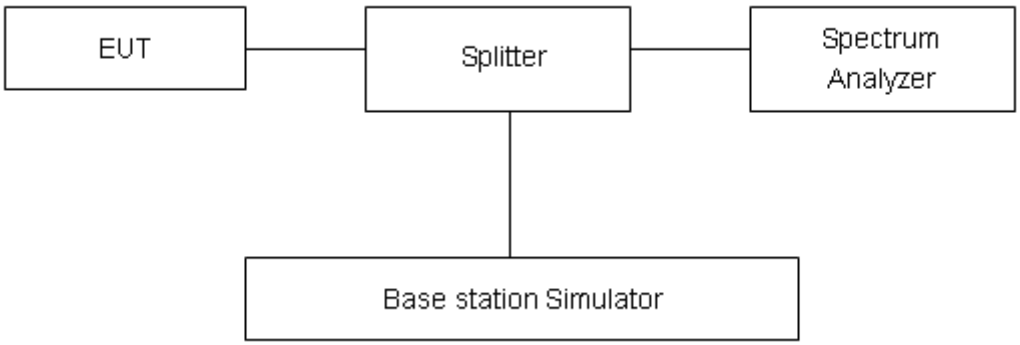
Ambient condition

Temperature	Relative humidity
21°C ~25°C	40%~60%

Method of Measurement

The EUT was connected to Spectrum Analyzer and Base Station Simulator via power Splitter. The occupied bandwidth is measured using spectrum analyzer.
RBW is set to 15kHz, VBW is set to 51kHz for CDMA BC10,
RBW is set to 51 kHz, VBW is set to 160 kHz for LTE Band 26 (1.4MHz),
RBW is set to 100 kHz, VBW is set to 300 kHz for LTE Band 26 (3MHz/5MHz),
RBW is set to 300 kHz, VBW is set to 1 MHz for LTE Band 26 (10MHz).
99% power and -26dBc occupied bandwidths are recorded. Spectrum analyzer plots are included on the following pages.

Test Setup



Limits

No specific occupied bandwidth requirements in part 2.1049.

Part 90.209 (a) Each authorization issued to a station licensed under this part will show an emission designator representing the class of emission authorized. The designator will be prefixed by a specified necessary bandwidth. This number does not necessarily indicate the bandwidth occupied by the emission at any instant. In those cases where part 2.202 of this chapter does not provide a formula for the computation of necessary bandwidth, the occupied bandwidth, as defined in part 2 of this chapter, may be used in lieu of the necessary bandwidth.

Measurement Uncertainty

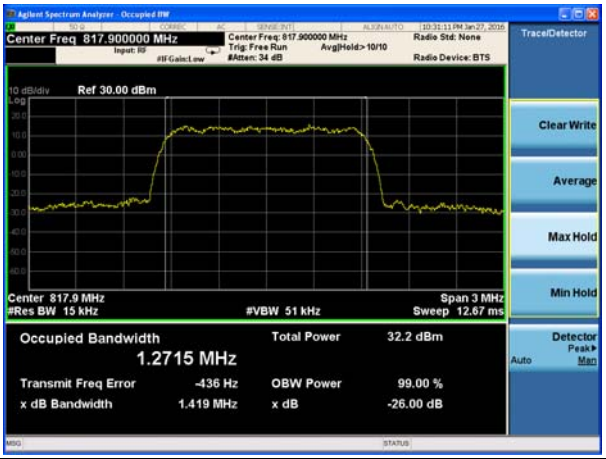
The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2, U= 624Hz.

Test Result

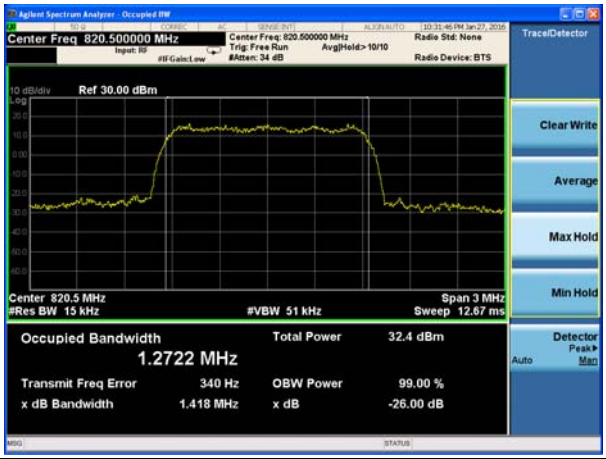
Mode	Channel	Frequency (MHz)	99% Power Bandwidth (MHz)	-26dBc Bandwidth(MHz)
CDMA BC10 EVDO	476	817.9	1.2715	1.419
	580	820.5	1.2722	1.418
	684	823.1	1.2683	1.415

LTE Band 26						
RB	Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	99% Power Bandwidth(MHz)	-26dBc Bandwidth(MHz)
100 %	QPSK	1.4	26697	814.7	1.1190	1.337
			26740	819	1.1315	1.339
			26783	823.3	1.1203	1.342
		3	26705	815.5	2.7398	3.065
			26740	819	2.7487	3.052
			26775	822.5	2.7415	3.060
		5	26715	816.5	4.5176	4.990
			26740	819	4.5211	5.015
			26765	822.5	4.5180	5.007
		10	26740	819	9.0648	10.21
	16QAM	1.4	26697	814.7	1.1161	1.315
			26740	819	1.1218	1.345
			26783	823.3	1.1208	1.340
		3	26705	815.5	2.7362	3.066
			26740	819	2.7387	3.051
			26775	822.5	2.7386	3.056
		5	26715	816.5	4.5381	4.988
			26740	819	4.5239	5.027
			26765	822.5	4.5313	5.027
		10	26740	819	9.0596	10.07

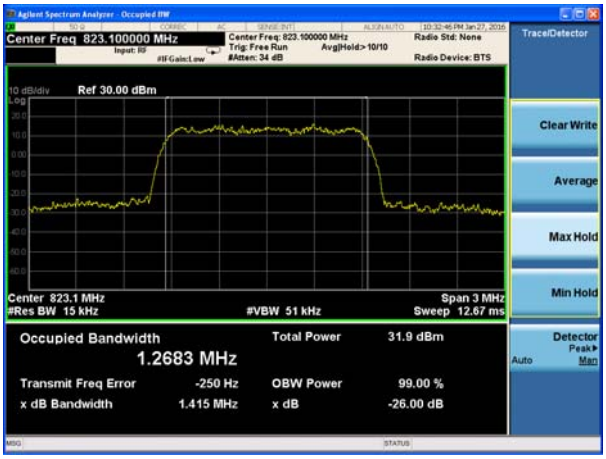
CDMA EVDO(REV 0) BC10 CH476



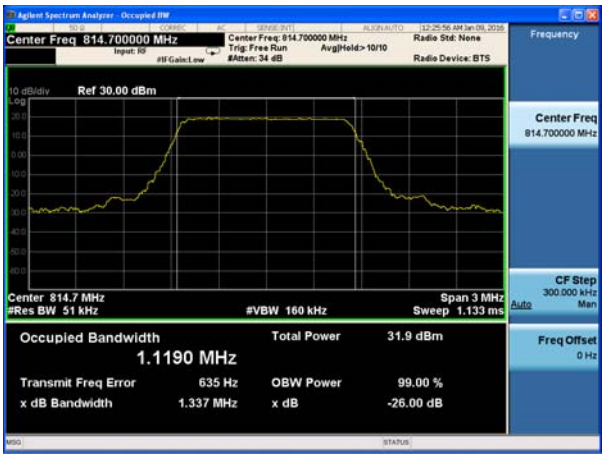
CDMA EVDO(REV 0) BC10 CH580



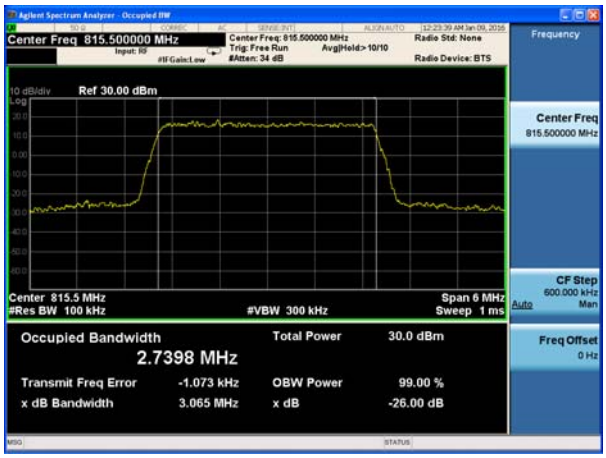
CDMA EVDO(REV 0) BC10 CH684



LTE Band 26 QPSK 1.4MHz CH26697

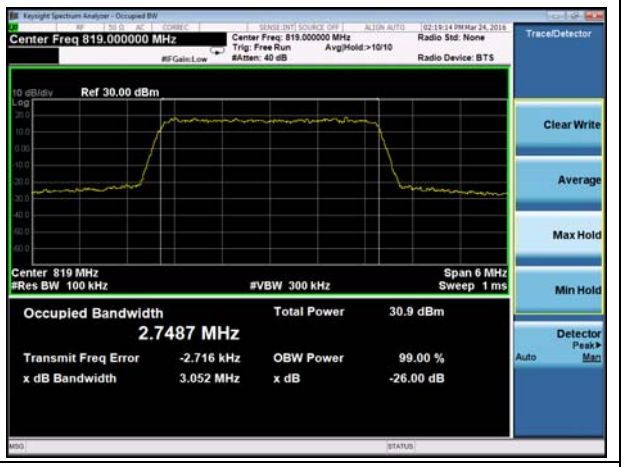


LTE Band 26 QPSK 3MHz CH26705

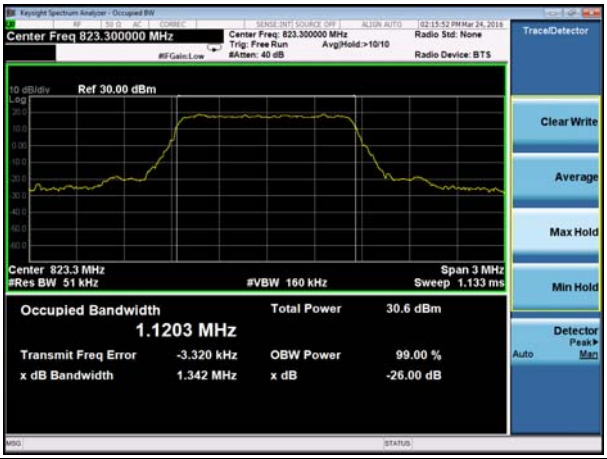


LTE Band 26 QPSK 1.4MHz CH26740

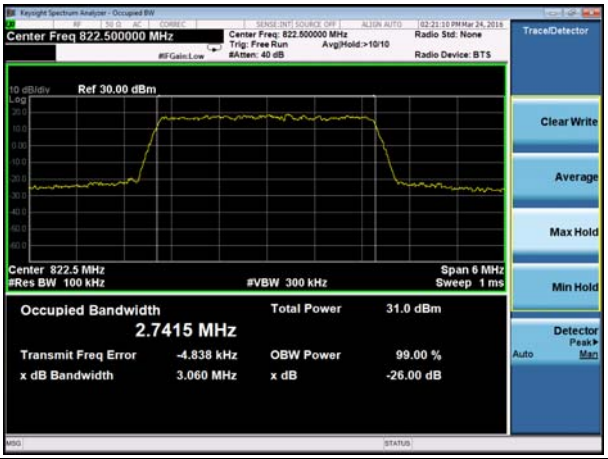
LTE Band 26 QPSK 3MHz CH26740



LTE Band 26 QPSK 1.4MHz CH26783

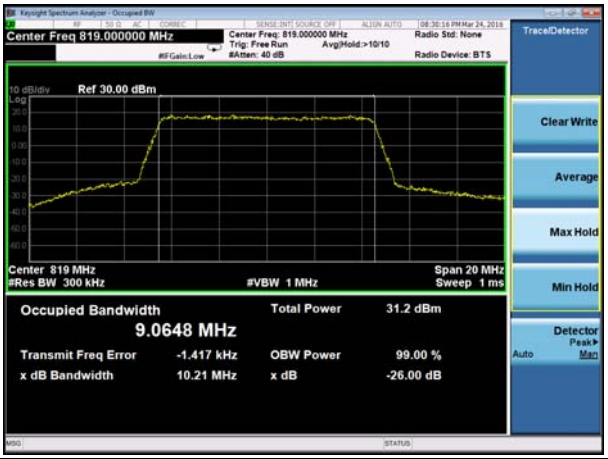


LTE Band 26 QPSK 3MHz CH26775



LTE Band 26 QPSK 5MHz CH26715

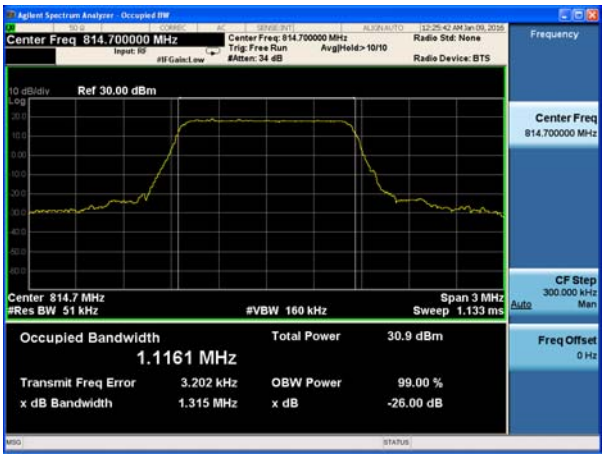
LTE Band 26 QPSK 10MHz CH26740



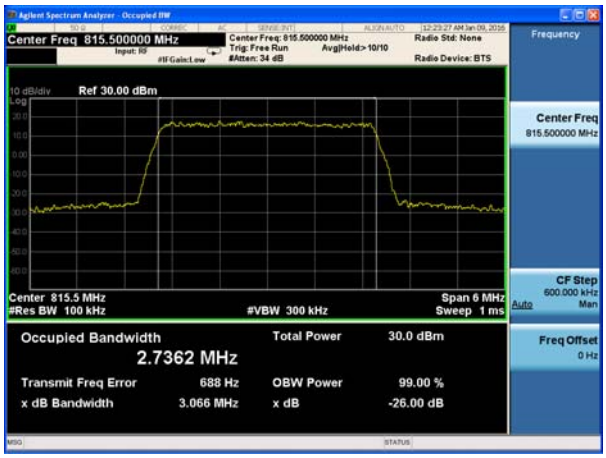
LTE Band 26 QPSK 5MHz CH26740

LTE Band 26 QPSK 5MHz CH26765

LTE Band 26 16QAM 1.4MHz CH26697

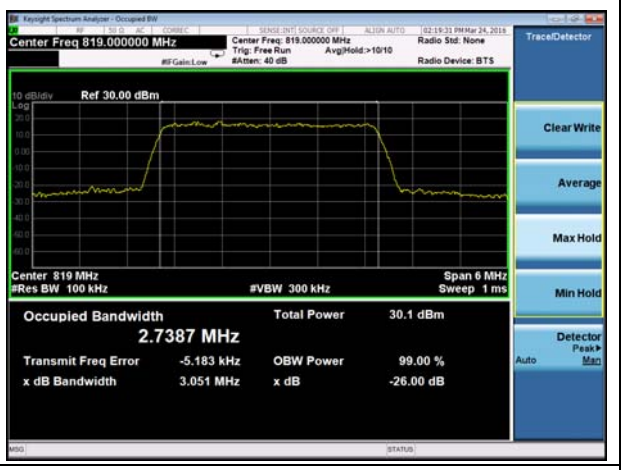


LTE Band 26 16QAM 3MHz CH26705

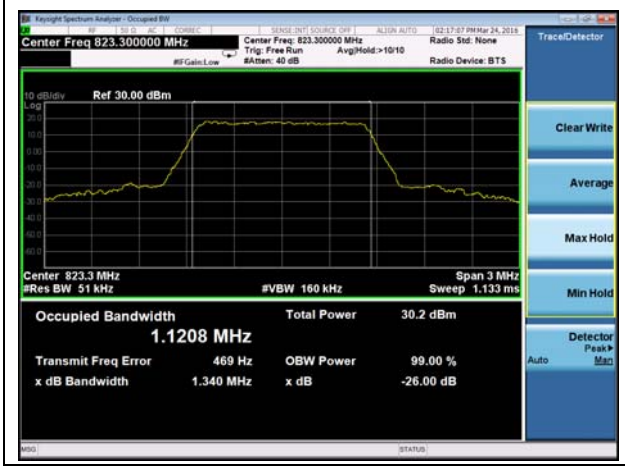


LTE Band 26 16QAM 1.4MHz CH26740

LTE Band 26 16QAM 3MHz CH26740

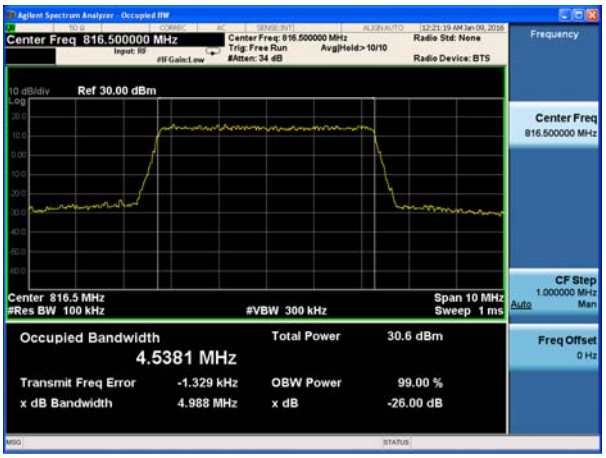


LTE Band 26 16QAM 1.4MHz CH26783



LTE Band 26 16QAM 3MHz CH26775

LTE Band 26 16QAM 5MHz CH26715



LTE Band 26 16QAM 10MHz CH26750

LTE Band 26 16QAM 5MHz CH26740

LTE Band 26 16QAM 5MHz CH26765

5.4. Emission Mask.

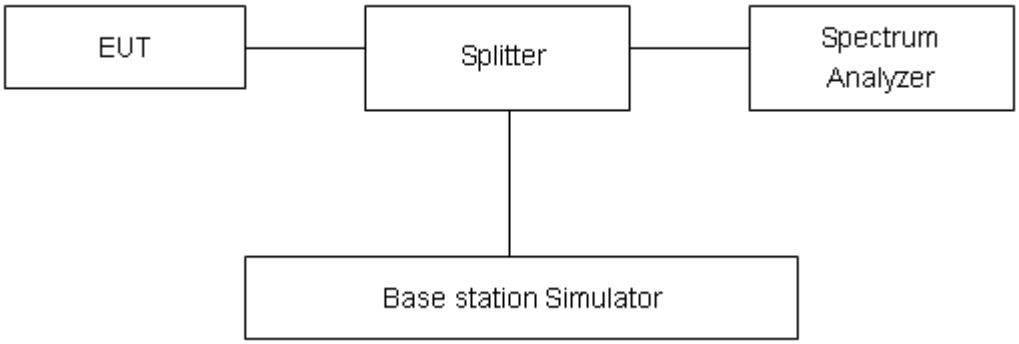
Ambient condition

Temperature	Relative humidity
21°C ~25°C	40%~60%

Method of Measurement

The EUT was connected to Spectrum Analyzer and Base Station Simulator via power Splitter. The band edge of the lowest and highest channels were measured. The average detector is used.
RBW is set to 100kHz,VBW is set to 300kHz.
Spectrum analyzer plots are included on the following pages.

Test Setup



Limits

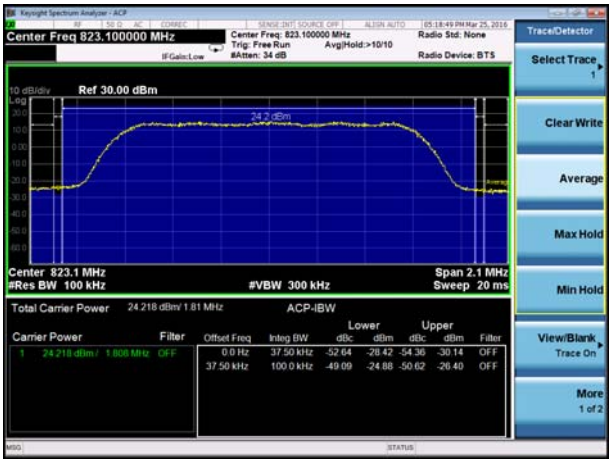
Rule Part 90.691(a) specifies that " For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 116 $Log_{10}(f/6.1)$ decibels or 50 + 10 $Log_{10}(P)$ decibels or 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."

Measurement Uncertainty

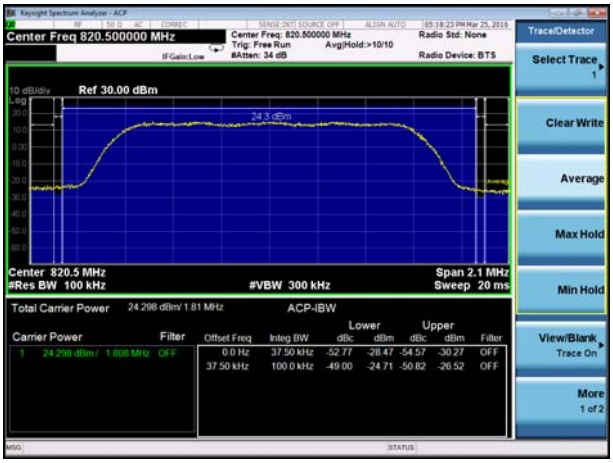
The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 1.96, U=0.684dB.

Test Result:

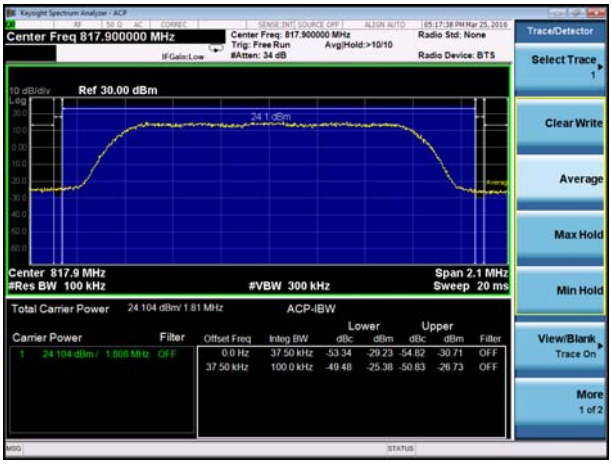
CDMA 10 CH High EVDO Rev.0



CDMA 10 CH Middle EVDO Rev.0

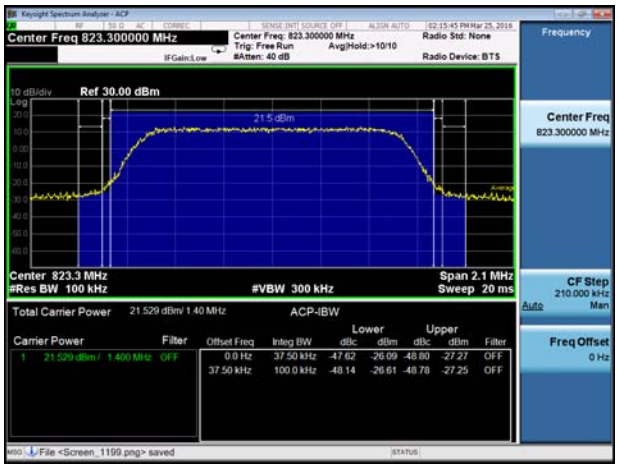


CDMA 10 CH Low EVDO Rev.0



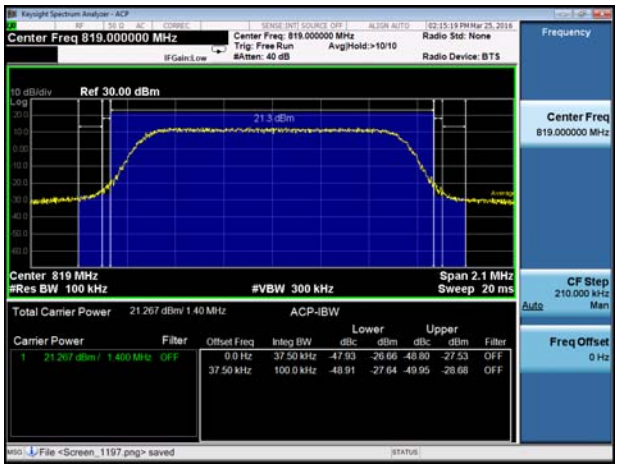
LTE Band 41 QPSK CH High 1.4M

LTE Band 41 16QAM CH High 1.4M

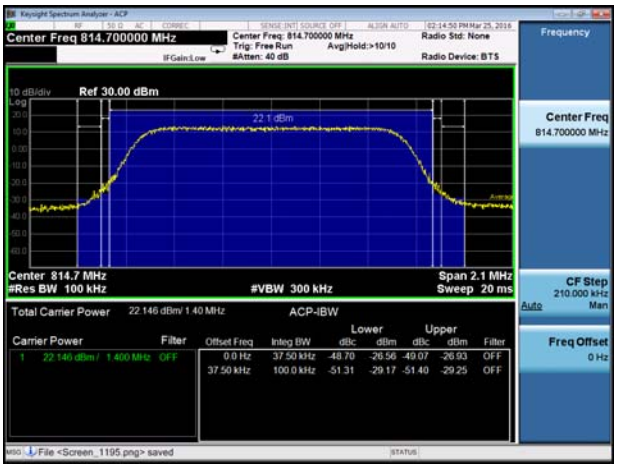


LTE Band 41 QPSK CH Middle 1.4M

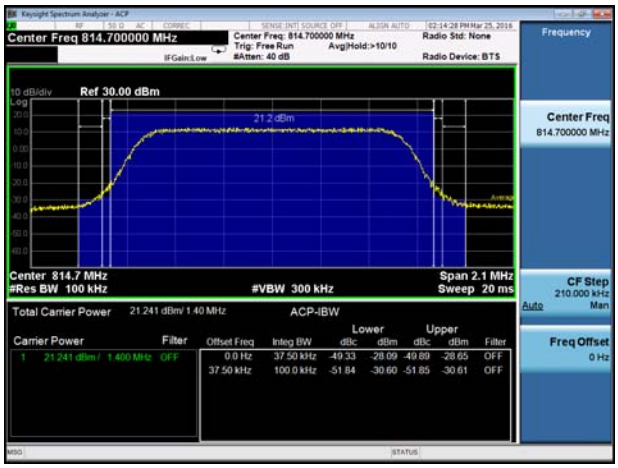
LTE Band 41 16QAM CH Middle 1.4M



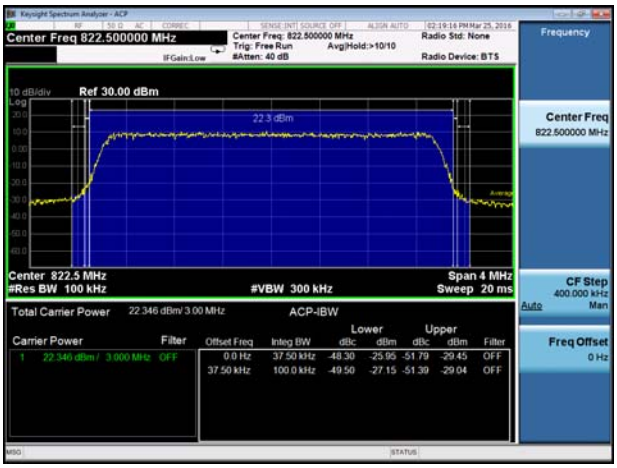
LTE Band 41 QPSK CH Low 1.4M



LTE Band 41 16QAM CH Low 1.4M

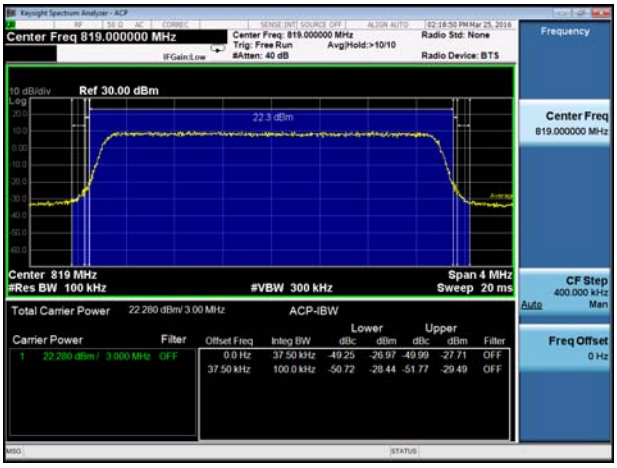


LTE Band 41 QPSK CH High 3M

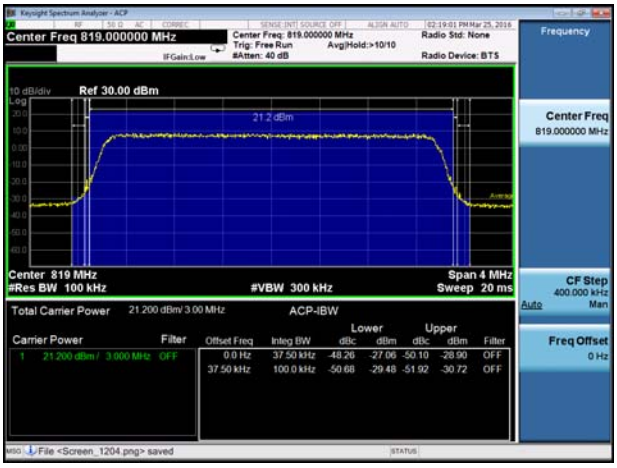


LTE Band 41 16QAM CH High 3M

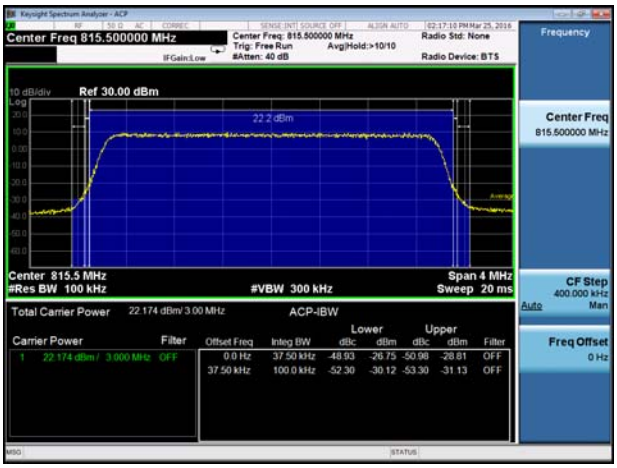
LTE Band 41 QPSK CH Middle 3M



LTE Band 41 16QAM CH Middle 3M

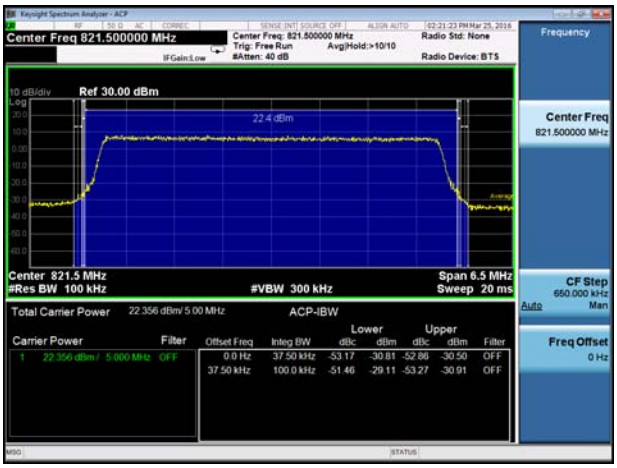


LTE Band 41 QPSK CH Low 3M

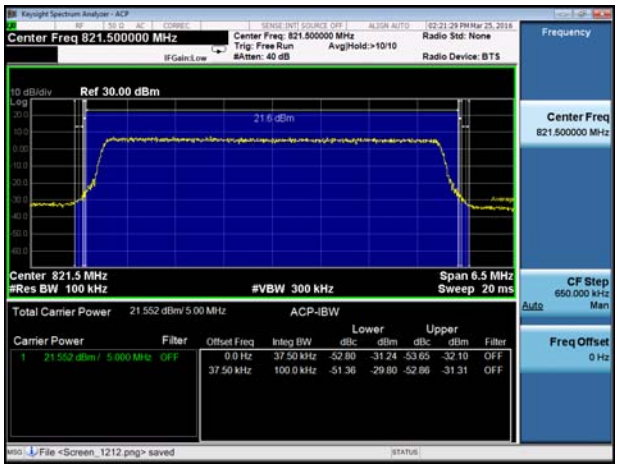


LTE Band 41 16QAM CH Low 3M

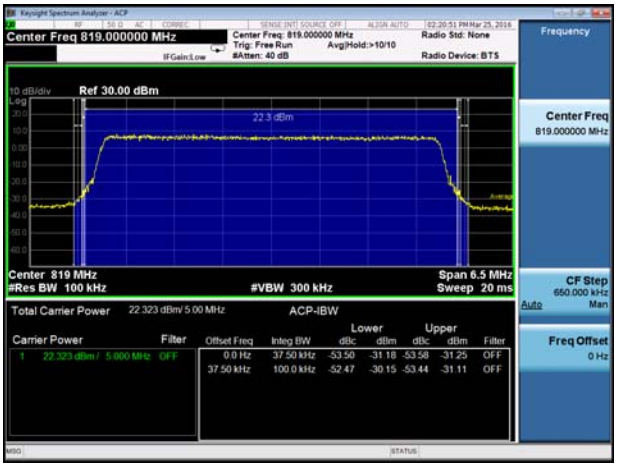
LTE Band 41 QPSK CH High 5M



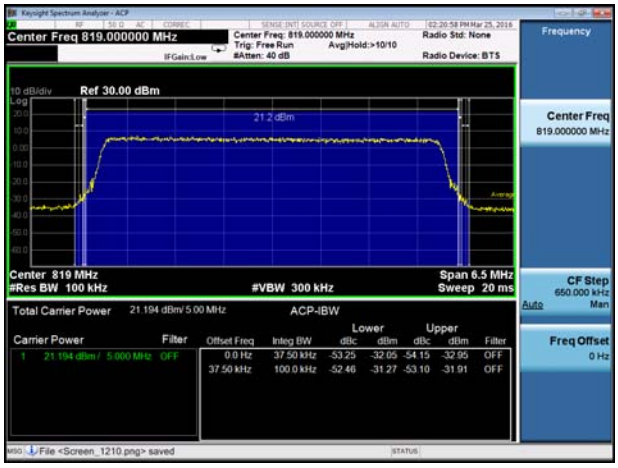
LTE Band 41 16QAM CH High 5M



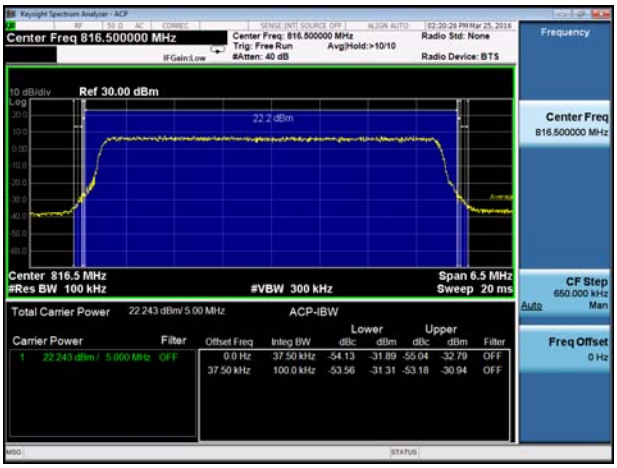
LTE Band 41 QPSK CH Middle 5M



LTE Band 41 16QAM CH Middle 5M



LTE Band 41 QPSK CH Low 5M



LTE Band 41 16QAM CH Low 5M

LTE Band 41 QPSK CH Middle 10M	LTE Band 41 16QAM CH Middle 10M
	

5.5. Frequency Stability

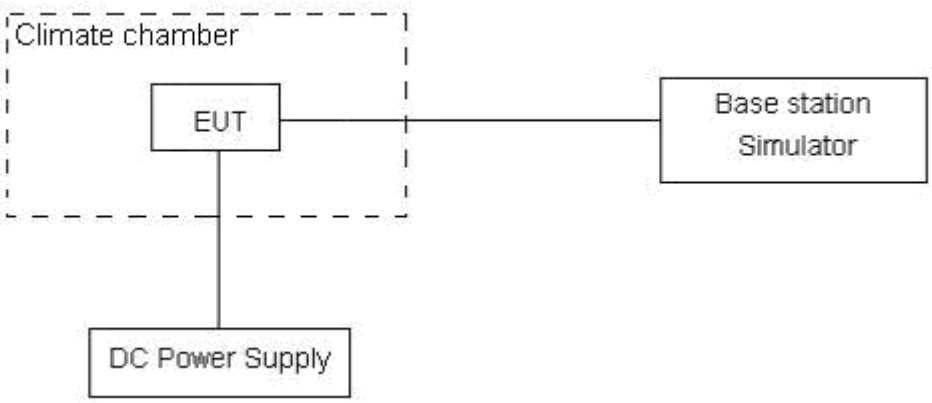
Ambient condition

Temperature	Relative humidity
21°C ~25°C	40%~60%

Method of Measurement

1. Frequency Stability (Temperature Variation)
   The temperature inside the climate chamber is varied from -30°C to +50°C in 10°C step size,
   (1) With all power removed, the temperature was decreased to 0°C and permitted to stabilize for three hours.
   (2) Measure the carrier frequency with the test equipment in a “call mode”. These measurements should be made within 1 minute of powering up the mobile station, to prevent significant self warming.
   (3) Repeat the above measurements at 10°C increments from -30°C to +50°C. Allow at least 1.5 hours at each temperature, un-powered, before making measurements.
2. Frequency Stability (Voltage Variation)
   The frequency stability shall be measured with variation of primary supply voltage as follows:
   (1) Vary primary supply voltage from 85 to 115 percent of the nominal value for other than hand carried battery equipment.
   (2) For hand carried, battery powered equipment, reduce primary supply voltage to the battery-operating end point which shall be specified by the manufacturer.
   This transceiver is specified to operate with an input voltage of between 3.6 V and 4.35 V, with a nominal voltage of 3.8V.

Test setup



Limits

According to the Sec. 90.213,(a) Unless noted elsewhere, transmitters used in the services governed by this part must have a minimum frequency stability as specified in the following table.

Minimum Frequency Stability

[Parts per million (ppm)]

Frequency range (MHz)	Fixed and base stations	Mobile stations	
		Over 2 watts output power	2 watts or less output power
809-824	1.5	2.5	2.5

Measurement Uncertainty

The assessed measurement uncertainty to ensure 99.75％ confidence level for the normal distribution is with the coverage factor *k* = 3,*U*= 0.01ppm.

Test Result

Mode	Test status	Test Results (ppm)	Conclusion
		EV-DO (Rev.0)	
CDMA BC10 Channel 580	-30°C/3.8 V	-0.00095	PASS
	-20°C/3.8 V	-0.00026	PASS
	-10° C/3.8 V	-0.00134	PASS
	0° C/3.8 V	-0.00037	PASS
	10° C/3.8 V	-0.00107	PASS
	20° C/3.8 V	-0.00032	PASS
	30° C/3.8 V	-0.00009	PASS
	40° C/3.8 V	-0.00172	PASS
	50° C/3.8 V	-0.00116	PASS
	20° C/3.6 V	-0.00074	PASS
	20° C/4.35 V	-0.00079	PASS

Bandwidth	Test status	LTE Band 26 Channel 26740 Test Results (ppm)		
		QPSK	16QAM	Conclusion
1.4MHz	-30°C/3.8 V	-0.0006	-0.00045	PASS
	-20°C/3.8 V	0.00066	-0.00094	PASS
	-10°C/3.8 V	0.00004	-0.00004	PASS
	0°C/3.8 V	-0.00082	0.0005	PASS
	10°C/3.8 V	-0.00061	-0.00061	PASS
	20°C/3.8 V	-0.00038	-0.00192	PASS
	30°C/3.8 V	0.00001	-0.00011	PASS
	40°C/3.8 V	0.00005	-0.00061	PASS
	50°C/3.8 V	0.00024	-0.00049	PASS
	20°C/3.6 V	-0.00066	0.00032	PASS
	20°C/4.35 V	-0.00007	-0.00033	PASS
3MHz	-30°C/3.8 V	-0.00214	-0.0006	PASS
	-20°C/3.8 V	0.00011	0.00028	PASS
	-10°C/3.8 V	-0.00009	-0.00155	PASS
	0°C/3.8 V	-0.00038	0.00021	PASS
	10°C/3.8 V	-0.00044	-0.00017	PASS
	20°C/3.8 V	-0.00057	-0.00089	PASS
	30°C/3.8 V	-0.00012	-0.00138	PASS
	40°C/3.8 V	-0.00054	-0.00072	PASS
	50°C/3.8 V	-0.00021	-0.00009	PASS
	20°C/3.6 V	-0.00016	0.00009	PASS
	20°C/4.35 V	0.00029	0.00012	PASS
5MHz	-30°C/3.8 V	-0.00056	-0.00109	PASS
	-20°C/3.8 V	0.00103	0.00084	PASS
	-10°C/3.8 V	-0.00101	-0.00016	PASS
	0°C/3.8 V	-0.00076	-0.00142	PASS
	10°C/3.8 V	-0.0005	-0.00117	PASS
	20°C/3.8 V	-0.00004	-0.00072	PASS
	30°C/3.8 V	0.00011	-0.00138	PASS
	40°C/3.8 V	0.00005	-0.00023	PASS
	50°C/3.8 V	0.00035	-0.00137	PASS
	20°C/3.6 V	-0.00011	0.00065	PASS
	20°C/4.35 V	-0.00017	-0.00037	PASS
10MHz	-30°C/3.8 V	0.00020	0.00170	PASS
	-20°C/3.8 V	-0.00090	0.00133	PASS
	-10°C/3.8 V	0.00223	0.00138	PASS

	0°C/3.8 V	-0.00063	0.00020	PASS
	10°C/3.8 V	0.00013	-0.00007	PASS
	20°C/3.8 V	-0.00126	-0.00145	PASS
	30°C/3.8 V	0.00035	0.00016	PASS
	40°C/3.8 V	0.0009	0.00084	PASS
	50°C/3.8 V	0.00158	0.00161	PASS
	20°C/3.6 V	0.00023	-0.00028	PASS
	20°C/4.35 V	0.00164	0.00211	PASS

5.6. Spurious Emissions at Antenna Terminals

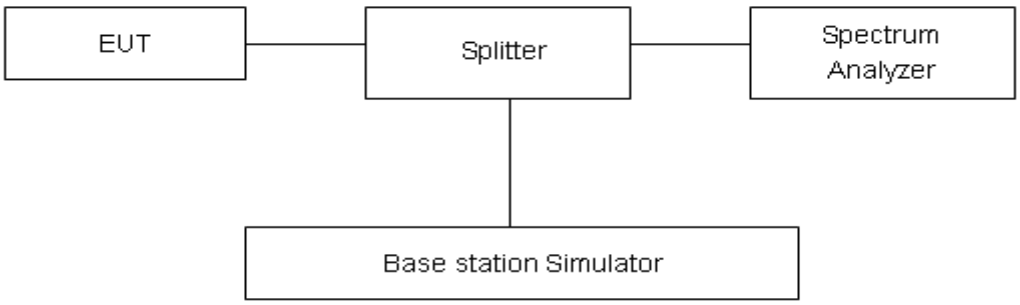
Ambient condition

Temperature	Relative humidity
21°C ~25°C	40%~60%

Method of Measurement

The EUT was connected to Spectrum Analyzer and Base Station Simulator via power Splitter. The measurement is carried out using a spectrum analyzer. The spectrum analyzer scans from 30MHz to the 10th harmonic of the carrier. The peak detector is used. RBW and VBW are set to 100 kHz, Sweep is set to ATUO.

Test setup



Limits

Rule Part 90.691 specifies that “The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB.”

Limit	-13 dBm

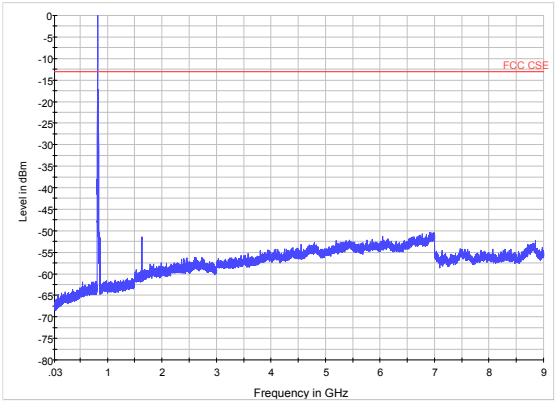
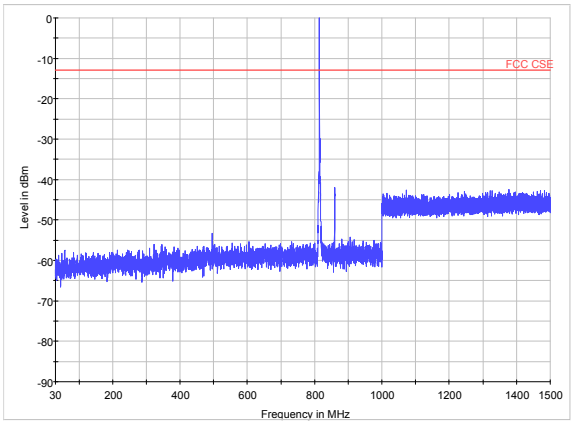
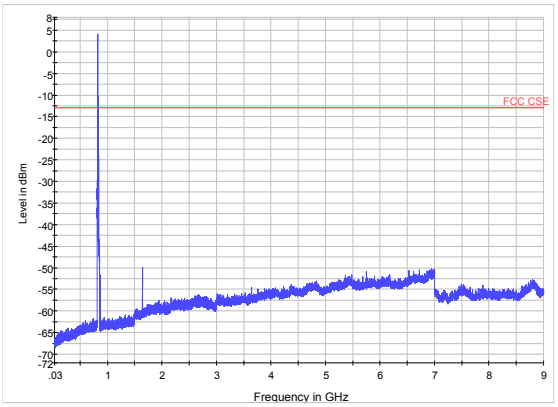
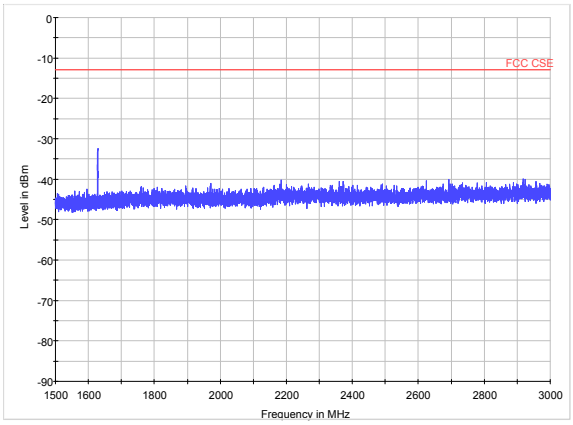
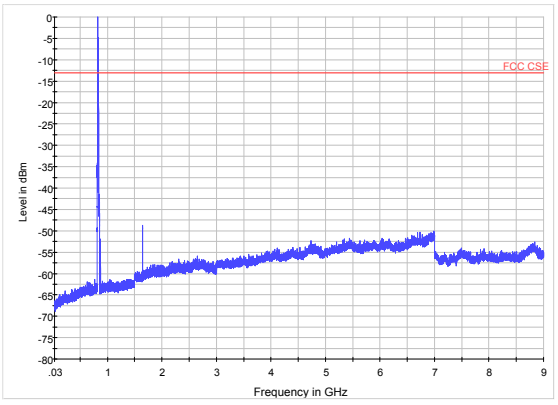
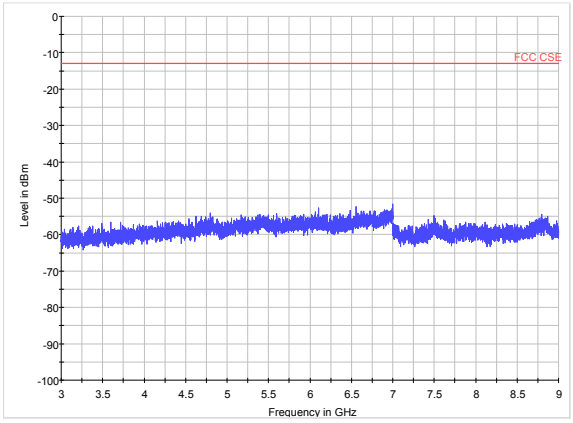
Measurement Uncertainty

The assessed measurement uncertainty to ensure 99.75% confidence level for the normal distribution is with the coverage factor *k* = 1.96.

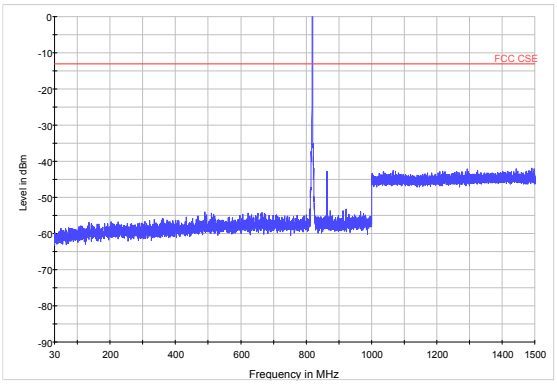
Frequency	Uncertainty
100kHz-2GHz	0.684 dB
2GHz-12.75GHz	1.407 dB

Test Result

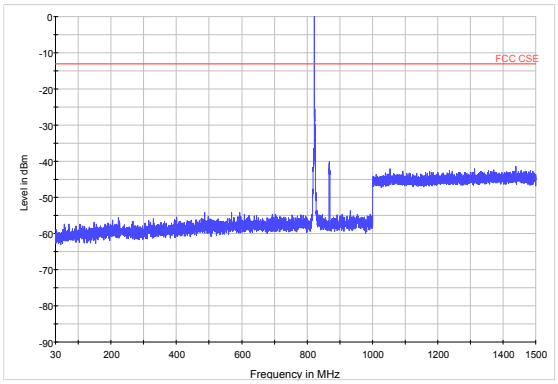
If disturbances were found more than 20dB below limit line, the mark is not required for the EUT. The signal beyond the limit is carrier.

CDMA EVDO BC10 CH476 30MHz~9GHz	LTE Band 26 1.4MHz CH26697 30MHz~1.5GHz
	
CDMA EVDO BC10 CH580 30MHz~9GHz	LTE Band 26 1.4MHz CH26697 1.5GHz~3GHz
	
CDMA EVDO BC10 CH684 30MHz~9GHz	LTE Band 26 1.4MHz CH26697 3GHz~9GHz
	

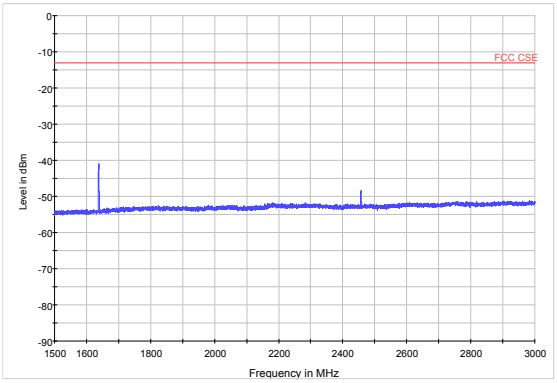
LTE Band 26 1.4MHz CH26740 30MHz~1.5GHz



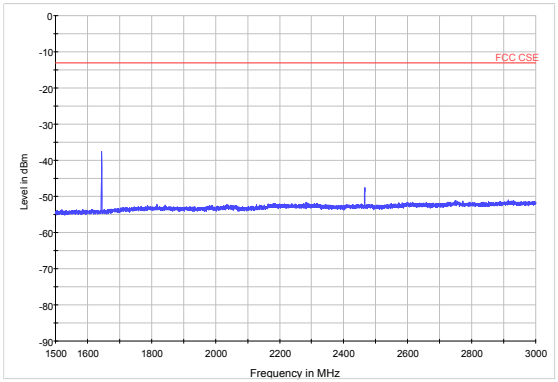
LTE Band 26 1.4MHz CH26783 30MHz~1.5GHz



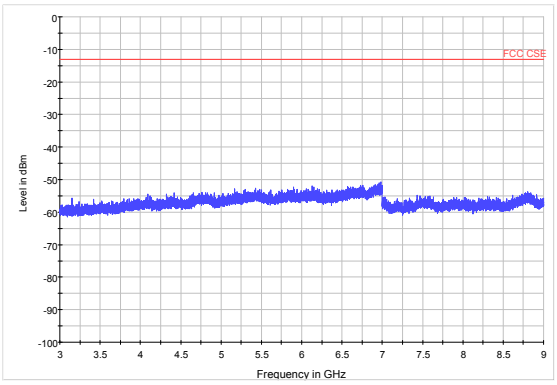
LTE Band 26 1.4MHz CH26740 1.5GHz~3GHz



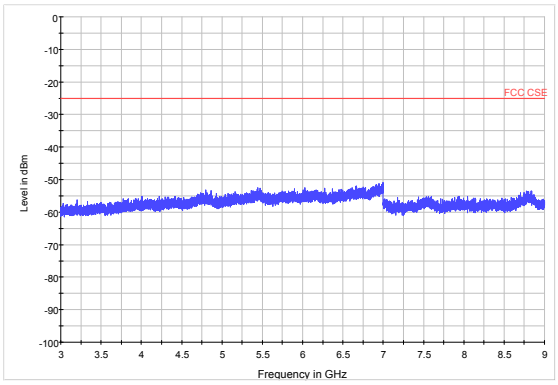
LTE Band 26 1.4MHz CH26783 1.5GHz~3GHz



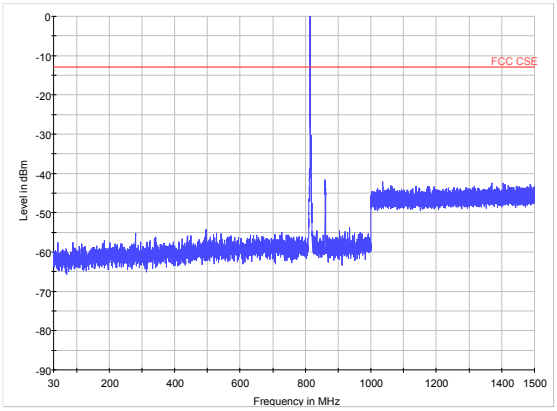
LTE Band 26 1.4MHz CH26740 3GHz~9GHz



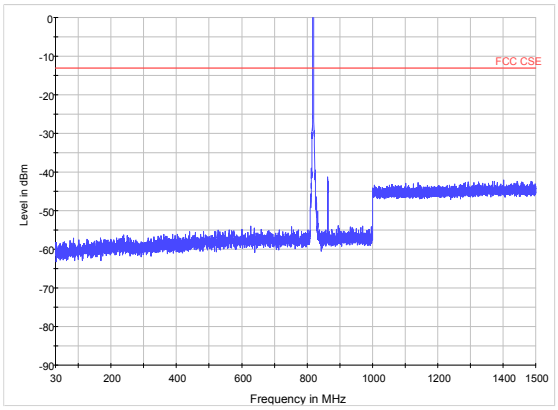
LTE Band 26 1.4MHz CH26783 3GHz~9GHz



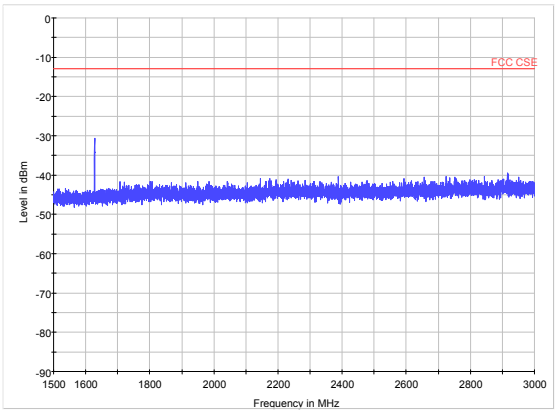
LTE Band 26 3MHz CH26705 30MHz~1.5GHz



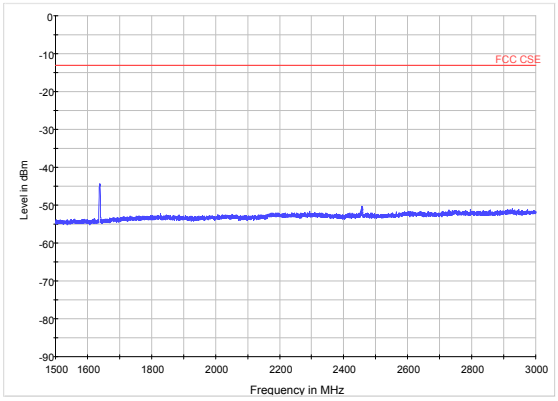
LTE Band 26 3MHz CH26740 30MHz~1.5GHz



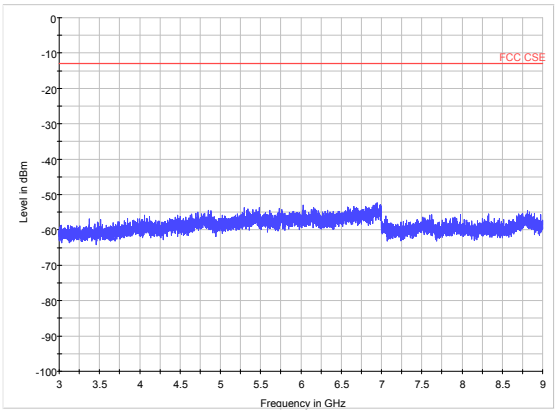
LTE Band 26 3MHz CH26705 1.5GHz~3GHz



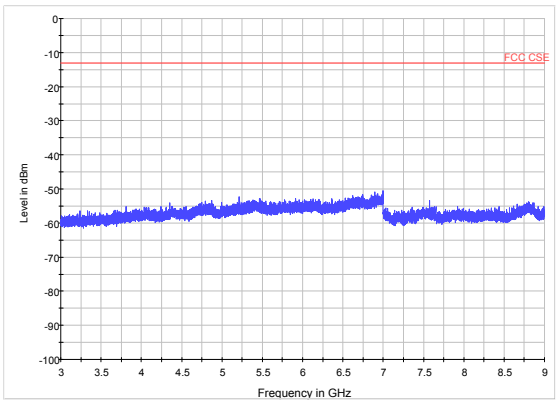
LTE Band 26 3MHz CH26740 1.5GHz~3GHz



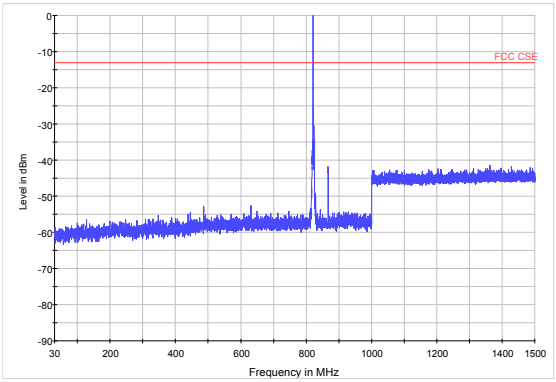
LTE Band 26 3MHz CH26705 3GHz~9GHz



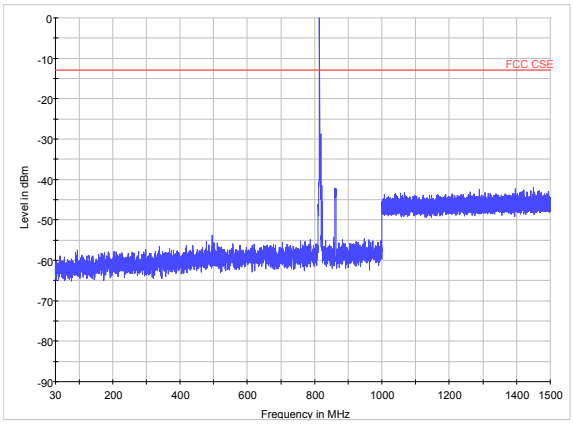
LTE Band 26 3MHz CH26740 3GHz~9GHz



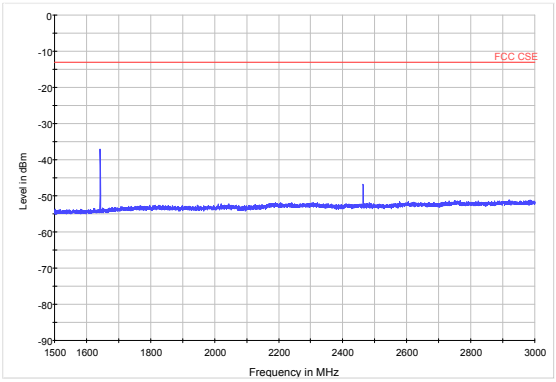
LTE Band 26 3MHz CH26775 30MHz~1.5GHz



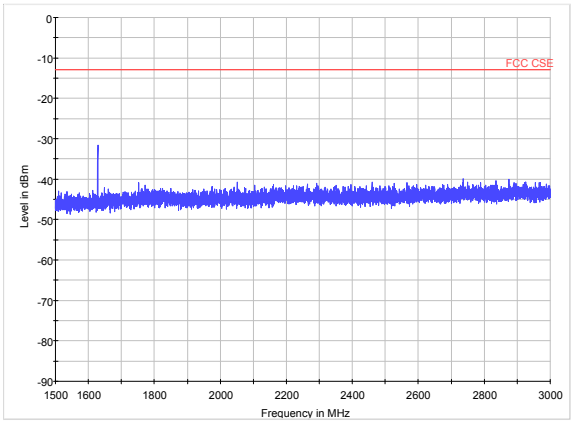
LTE Band 26 5MHz CH26715 30MHz~1.5GHz



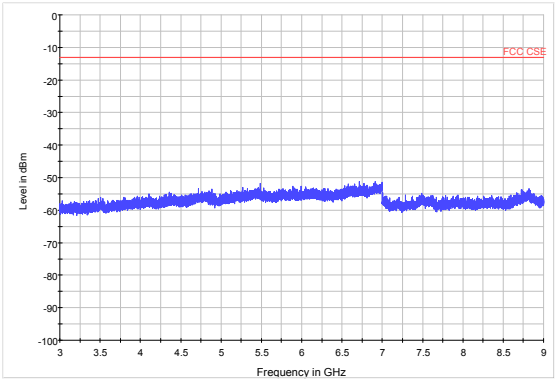
LTE Band 26 3MHz CH26775 1.5GHz~3GHz



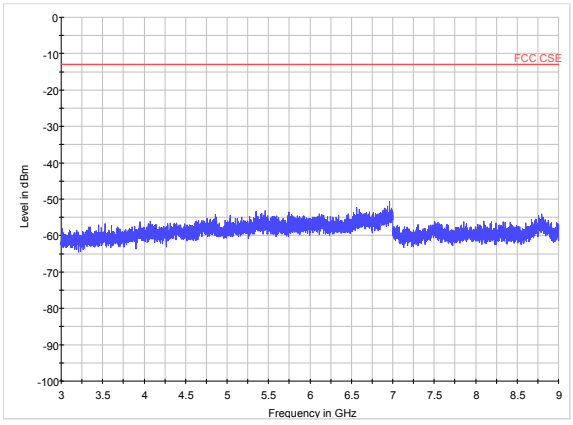
LTE Band 26 5MHz CH26715 1.5GHz~3GHz



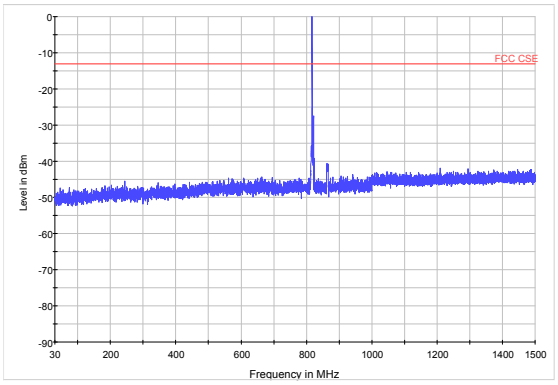
LTE Band 26 3MHz CH26775 3GHz~9GHz



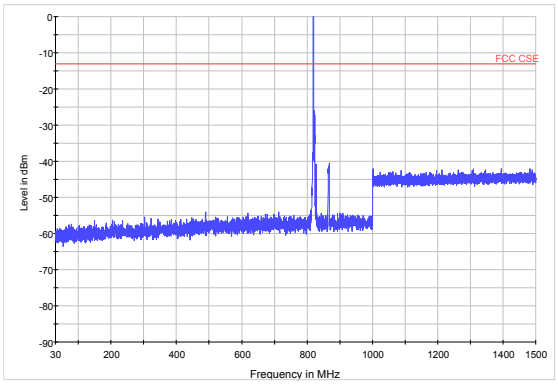
LTE Band 26 5MHz CH26715 3GHz~9GHz



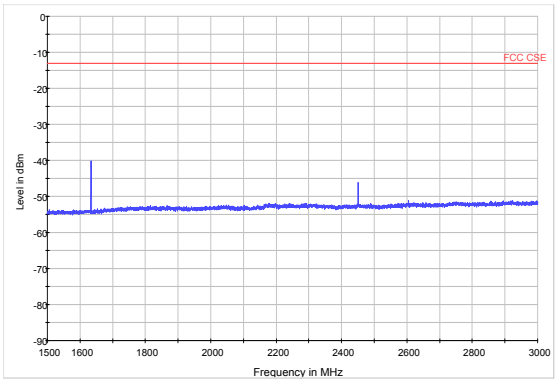
LTE Band 26 5MHz CH26740 30MHz~1.5GHz



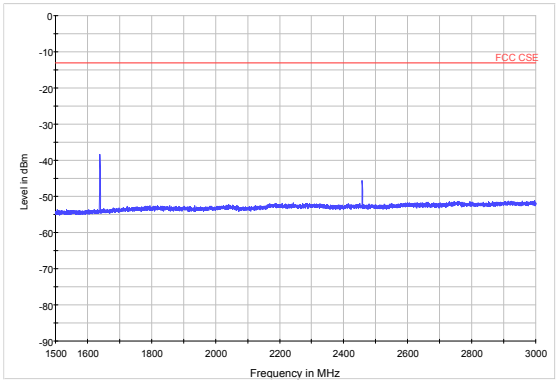
LTE Band 26 5MHz CH26765 30MHz~1.5GHz



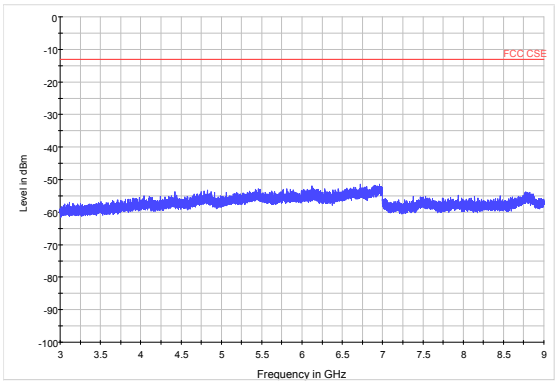
LTE Band 26 5MHz CH26740 1.5GHz~3GHz



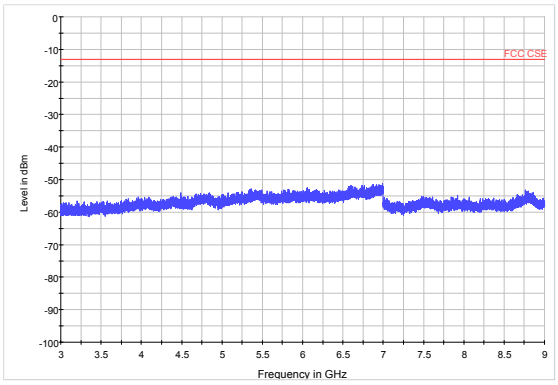
LTE Band 26 5MHz CH26765 1.5GHz~3GHz



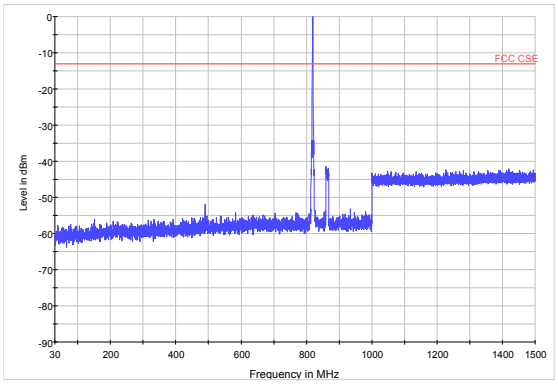
LTE Band 26 5MHz CH26740 3GHz~9GHz



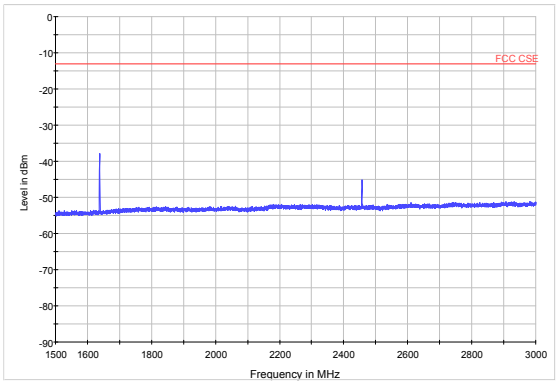
LTE Band 26 5MHz CH26765 3GHz~9GHz



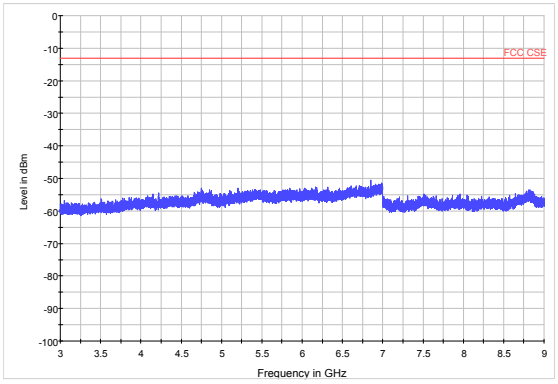
LTE Band 26 10MHz CH26740 30MHz~1.5GHz



LTE Band 26 10MHz CH26740 1.5GHz~3GHz



LTE Band 26 10MHz CH26740 3GHz~9GHz



5.7. Radiates Spurious Emission

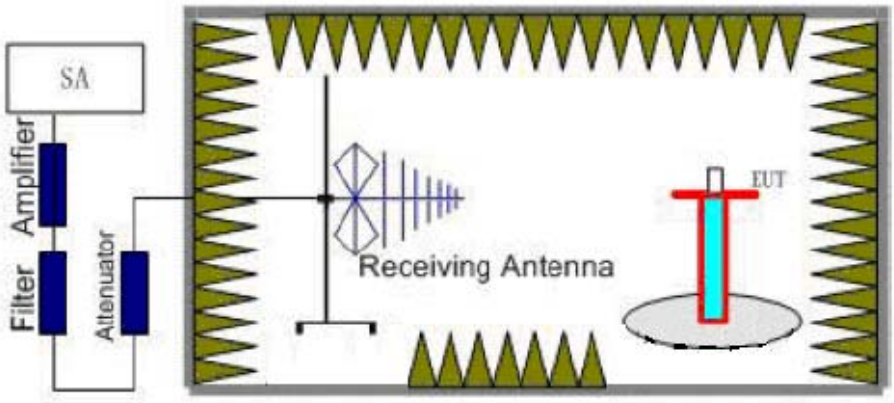
Ambient condition

Temperature	Relative humidity
21°C ~25°C	40%~60%

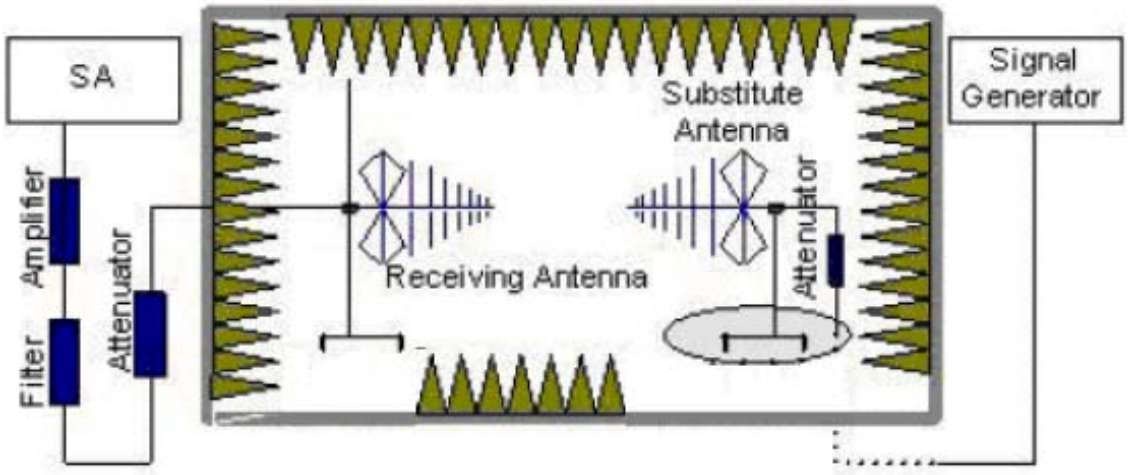
Method of Measurement

The measurements procedures in TIA -603-D are used.
The spectrum was scanned from 30 MHz to the 10th harmonic of the highest frequency generated within the equipment.
The emissions less than 20 dB below the permissible value are reported.

The procedure of Radiates Spurious Emission is as follows:
Step 1:
The measurement is carried out in the semi-anechoic chamber. EUT was placed on a 1.5 meters high non-conductive table at a 3 meters test distance from the test receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the EUT. A radio link shall be established between EUT and Tester. The output power of the cell signal of the tester will be decreased until the output power of the EUT reach a maximum value. A peak detector is used while RBW and VBW are both set to 100 kHz. During the measurement, the highest emission was recorded from analyzer power level (LVL) from the 360 degrees rotation of the turntable and the test antenna moved up and down over a range from 1 to 4 meters in both horizontally and vertically polarized orientations. The test setup refers to figure below.



Step 2:
A dipole antenna shall be substituted in place of the EUT. The antenna will be driven by a signal generator with a adjustable S.G. applied through a Tx cable. Adjust the level of the signal generator output until the value of the receiver reach the previously recorded analyzer power level (LVL).Then The E.R.P. /E.I.R.P. of the EUT can be calculated through the level of the signal generator, Tx cable loss and the gain of the substitution antenna. The test setup refers to figure below.



E.R.P（peak power）=S.G. - Tx Cable loss + Substitution antenna gain – 2.15.
EIRP= E.R.P+2.15

Limits

Rule Part 90.691 specifies that “The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.”

Limit	-13 dBm

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95％ confidence level for the normal distribution is with the coverage factor *k* = 1.96, *U*= 3.55 dB.

Test Result

Receiver antenna polarization (horizontal and vertical), the worst emission was found in vertical polarization，and the worst case in vertical polarization was recorded.

CDMA BC10 CH476

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1634.50	-68.33	2	10.15	Vertical	-60.18	-13.00	47.18	225
3	2451.75	-64.44	2.51	11.35	Vertical	-55.60	-13.00	42.60	225
4	3269.00	-62.96	4.2	10.85	Vertical	-56.31	-13.00	43.31	0
5	4086.25	-63.14	5.2	11.35	Vertical	-56.99	-13.00	43.99	45
6	4903.50	-60.80	5.5	11.95	Vertical	-54.35	-13.00	41.35	180
7	5720.75	-62.29	5.7	13.55	Vertical	-54.44	-13.00	41.44	90
8	6538.00	-59.93	6.3	13.75	Vertical	-52.48	-13.00	39.48	225
9	7355.25	-59.85	6.8	13.85	Vertical	-52.80	-13.00	39.80	270
10	8172.50	-60.33	6.9	14.25	Vertical	-52.98	-13.00	39.98	180

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

CDMA BC10 CH580

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1641.50	-70.28	2	10.75	Vertical	-61.53	-13.00	48.53	225
3	2462.25	-62.92	2.51	11.05	Vertical	-54.38	-13.00	41.38	225
4	3283.00	-64.32	4.2	11.15	Vertical	-57.37	-13.00	44.37	135
5	4103.75	-62.98	5.2	11.15	Vertical	-57.03	-13.00	44.03	0
6	4924.50	-60.39	5.5	11.95	Vertical	-53.94	-13.00	40.94	45
7	5745.25	-63.09	5.7	13.55	Vertical	-55.24	-13.00	42.24	90
8	6566.00	-60.02	6.3	13.75	Vertical	-52.57	-13.00	39.57	180
9	7386.75	-59.32	6.8	13.85	Vertical	-52.27	-13.00	39.27	90
10	8207.50	-59.43	6.9	14.25	Vertical	-52.08	-13.00	39.08	225

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

CDMA BC10 CH684

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1646.50	-68.82	2	10.15	Vertical	-60.67	-13.00	47.67	90
3	2469.75	-63.75	2.51	11.05	Vertical	-55.21	-13.00	42.21	135
4	3293.00	-63.88	4.2	11.15	Vertical	-56.93	-13.00	43.93	270
5	4116.25	-62.09	5.2	11.15	Vertical	-56.14	-13.00	43.14	0
6	4939.50	-61.16	5.5	11.95	Vertical	-54.71	-13.00	41.71	180
7	5762.75	-62.04	5.7	13.55	Vertical	-54.19	-13.00	41.19	90
8	6586.00	-62.07	6.3	13.75	Vertical	-54.62	-13.00	41.62	225
9	7409.25	-59.05	6.8	13.85	Vertical	-52.00	-13.00	39.00	270
10	8232.50	-60.75	6.9	14.25	Vertical	-53.40	-13.00	40.40	135

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

LTE Band 26 1.4MHz CH26697

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1629.40	-57.07	2.00	10.75	vertical	-48.32	-13.00	35.32	225
3	2444.10	-50.88	2.51	11.05	vertical	-42.34	-13.00	29.34	90
4	3258.80	-51.42	4.20	11.15	vertical	-44.47	-13.00	31.47	0
5	4073.50	-56.44	5.20	11.15	vertical	-50.49	-13.00	37.49	90
6	4888.20	-56.32	5.50	11.95	vertical	-49.87	-13.00	36.87	45
7	5702.90	-50.50	5.70	13.55	vertical	-42.65	-13.00	29.65	0
8	6517.60	-52.04	6.30	13.75	vertical	-44.59	-13.00	31.59	135
9	7332.30	-48.74	6.80	13.85	vertical	-41.69	-13.00	28.69	90
10	8147.00	-52.73	6.90	14.25	vertical	-45.38	-13.00	32.38	225

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.
2.The worst emission was found in the antenna is vertical position.

LTE Band 26 1.4MHz CH26740

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1638.00	-53.33	2.00	10.75	vertical	-44.58	-13.00	31.58	0
3	2457.00	-59.68	2.51	11.05	vertical	-51.14	-13.00	38.14	180
4	3276.00	-60.50	4.20	11.15	vertical	-53.55	-13.00	40.55	180
5	4095.00	-56.13	5.20	11.15	vertical	-50.18	-13.00	37.18	270
6	4914.00	-56.91	5.50	11.95	vertical	-50.46	-13.00	37.46	45
7	5733.00	-51.53	5.70	13.55	vertical	-43.68	-13.00	30.68	225
8	6552.00	-50.91	6.30	13.75	vertical	-43.46	-13.00	30.46	90
9	7371.00	-49.30	6.80	13.85	vertical	-42.25	-13.00	29.25	135
10	8190.00	-51.54	6.90	14.25	vertical	-44.19	-13.00	31.19	180

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.
2.The worst emission was found in the antenna is vertical position.

LTE Band 26 1.4MHz CH26783

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1646.60	-51.34	2.00	10.75	vertical	-42.59	-13.00	29.59	180
3	2469.90	-58.89	2.51	11.05	vertical	-50.35	-13.00	37.35	90
4	3293.20	-52.63	4.20	11.15	vertical	-45.68	-13.00	32.68	180
5	4116.50	-56.30	5.20	11.15	vertical	-50.35	-13.00	37.35	135
6	4939.80	-56.33	5.50	11.95	vertical	-49.88	-13.00	36.88	225
7	5763.10	-52.51	5.70	13.55	vertical	-44.66	-13.00	31.66	180
8	6586.40	-50.50	6.30	13.75	vertical	-43.05	-13.00	30.05	135
9	7409.70	-49.52	6.80	13.85	vertical	-42.47	-13.00	29.47	315
10	8233.00	-53.19	6.90	14.25	vertical	-45.84	-13.00	32.84	315

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.
2.The worst emission was found in the antenna is vertical position.

LTE Band 26 3MHz CH26705

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1631.00	39.69	2.00	10.75	vertical	48.44	-13.00	-61.44	45
3	2446.50	-59.89	2.51	11.05	vertical	-51.35	-13.00	38.35	135
4	3262.00	-52.63	4.20	11.15	vertical	-45.68	-13.00	32.68	135
5	4077.50	-56.39	5.20	11.15	vertical	-50.44	-13.00	37.44	135
6	4893.00	-56.08	5.50	11.95	vertical	-49.63	-13.00	36.63	180
7	5708.50	-52.43	5.70	13.55	vertical	-44.58	-13.00	31.58	270
8	6524.00	-51.10	6.30	13.75	vertical	-43.65	-13.00	30.65	270
9	7339.50	-49.97	6.80	13.85	vertical	-42.92	-13.00	29.92	90
10	8155.00	-52.62	6.90	14.25	vertical	-45.27	-13.00	32.27	315

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.
2.The worst emission was found in the antenna is vertical position.

LTE Band 26 3MHz CH26740

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1638.00	-57.76	2.00	10.75	vertical	-49.01	-13.00	36.01	45
3	2457.00	-59.11	2.51	11.05	vertical	-50.57	-13.00	37.57	45
4	3276.00	-50.43	4.20	11.15	vertical	-43.48	-13.00	30.48	180
5	4095.00	-56.76	5.20	11.15	vertical	-50.81	-13.00	37.81	270
6	4914.00	-57.29	5.50	11.95	vertical	-50.84	-13.00	37.84	270
7	5733.00	-51.69	5.70	13.55	vertical	-43.84	-13.00	30.84	90
8	6552.00	-51.37	6.30	13.75	vertical	-43.92	-13.00	30.92	90
9	7371.00	-49.32	6.80	13.85	vertical	-42.27	-13.00	29.27	135
10	8190.00	-52.27	6.90	14.25	vertical	-44.92	-13.00	31.92	90

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.
2.The worst emission was found in the antenna is vertical position.

LTE Band 26 3MHz CH26775

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1645.00	-56.10	2.00	10.75	vertical	-47.35	-13.00	34.35	225
3	2467.50	-58.88	2.51	11.05	vertical	-50.34	-13.00	37.34	225
4	3290.00	-51.42	4.20	11.15	vertical	-44.47	-13.00	31.47	180
5	4112.50	-56.60	5.20	11.15	vertical	-50.65	-13.00	37.65	90
6	4935.00	-56.06	5.50	11.95	vertical	-49.61	-13.00	36.61	90
7	5757.50	-50.39	5.70	13.55	vertical	-42.54	-13.00	29.54	90
8	6580.00	-52.21	6.30	13.75	vertical	-44.76	-13.00	31.76	180
9	7402.50	-48.64	6.80	13.85	vertical	-41.59	-13.00	28.59	90
10	8225.00	-51.72	6.90	14.25	vertical	-44.37	-13.00	31.37	45

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.
2.The worst emission was found in the antenna is vertical position.

LTE Band 26 5MHz CH26715

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1633.00	-56.12	2.00	10.75	vertical	-47.37	-13.00	34.37	180
3	2449.50	-60.00	2.51	11.05	vertical	-51.46	-13.00	38.46	225
4	3266.00	-52.23	4.20	11.15	vertical	-45.28	-13.00	32.28	135
5	4082.50	-56.88	5.20	11.15	vertical	-50.93	-13.00	37.93	135
6	4899.00	-55.82	5.50	11.95	vertical	-49.37	-13.00	36.37	270
7	5715.50	-52.65	5.70	13.55	vertical	-44.80	-13.00	31.80	270
8	6532.00	-50.50	6.30	13.75	vertical	-43.05	-13.00	30.05	45
9	7348.50	-49.69	6.80	13.85	vertical	-42.64	-13.00	29.64	225
10	8165.00	-52.87	6.90	14.25	vertical	-45.52	-13.00	32.52	135

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.
2.The worst emission was found in the antenna is vertical position.

LTE Band 26 5MHz CH26740

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1638.00	-59.73	2.00	10.75	vertical	-50.98	-13.00	37.98	270
3	2457.00	-59.26	2.51	11.05	vertical	-50.72	-13.00	37.72	135
4	3276.00	-50.02	4.20	11.15	vertical	-43.07	-13.00	30.07	180
5	4095.00	-56.30	5.20	11.15	vertical	-50.35	-13.00	37.35	90
6	4914.00	-56.80	5.50	11.95	vertical	-50.35	-13.00	37.35	270
7	5733.00	-51.20	5.70	13.55	vertical	-43.35	-13.00	30.35	135
8	6552.00	-50.62	6.30	13.75	vertical	-43.17	-13.00	30.17	90
9	7371.00	-49.87	6.80	13.85	vertical	-42.82	-13.00	29.82	315
10	8190.00	-51.73	6.90	14.25	vertical	-44.38	-13.00	31.38	180

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.
2.The worst emission was found in the antenna is vertical position.

LTE Band 26 5MHz CH26765

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1645.00	-59.40	2.00	10.75	vertical	-50.65	-13.00	37.65	225
3	2467.50	-59.48	2.51	11.05	vertical	-50.94	-13.00	37.94	270
4	3290.00	-51.87	4.20	11.15	vertical	-44.92	-13.00	31.92	135
5	4112.50	-56.47	5.20	11.15	vertical	-50.52	-13.00	37.52	315
6	4935.00	-55.51	5.50	11.95	vertical	-49.06	-13.00	36.06	270
7	5757.50	-50.77	5.70	13.55	vertical	-42.92	-13.00	29.92	90
8	6580.00	-51.69	6.30	13.75	vertical	-44.24	-13.00	31.24	90
9	7402.50	-48.11	6.80	13.85	vertical	-41.06	-13.00	28.06	135
10	8225.00	-52.25	6.90	14.25	vertical	-44.90	-13.00	31.90	270

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.
2.The worst emission was found in the antenna is vertical position.

LTE Band 26 10MHz CH26740

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1638.00	-59.03	2.00	10.75	vertical	-50.28	-13.00	37.28	180
3	2457.00	-60.41	2.51	11.05	vertical	-51.87	-13.00	38.87	270
4	3276.00	-58.64	4.20	11.15	vertical	-51.69	-13.00	38.69	225
5	4095.00	-57.37	5.20	11.15	vertical	-51.42	-13.00	38.42	45
6	4914.00	-56.60	5.50	11.95	vertical	-50.15	-13.00	37.15	225
7	5733.00	-55.87	5.70	13.55	vertical	-48.02	-13.00	35.02	90
8	6552.00	-52.40	6.30	13.75	vertical	-44.95	-13.00	31.95	225
9	7371.00	-49.10	6.80	13.85	vertical	-42.05	-13.00	29.05	90
10	8190.00	39.00	6.90	14.25	vertical	46.35	-13.00	-59.35	135

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.
2.The worst emission was found in the antenna is vertical position.

6. Main Test Instruments

Name	Type	Manufacturer	Serial Number	Calibration Date	Expiration Time
Base Station Simulator	CMW500	R&S	113645	2015-05-22	2016-05-21
Power Splitter	SHX-GF2-2-13	Hua Xiang	10120101	NA	NA
Spectrum Analyzer	E4445A	Agilent	MY46181146	2015-05-22	2016-05-21
Spectrum Analyzer	N9010A	Agilent	MY47191109	2015-05-22	2016-05-21
Universal Radio Communication Tester	E5515C	Agilent	MY48367192	2015-12-17	2016-12-16
Signal Analyzer	FSV30	R&S	100815	2015-12-17	2016-12-16
Signal generator	SMB 100A	R&S	102594	2015-05-22	2016-05-21
Signal generator	SMR27	R&S	100365	2015-05-22	2016-05-21
EMI Test Receiver	ESCI	R&S	100948	2015-05-22	2016-05-21
Trilog Antenna	VUBL 9163	SCHWARZBECK	9163-201	2014-12-06	2017-12-05
Trilog Antenna	VUBL 9163	SCHWARZBECK	9163-391	2014-12-06	2017-12-05
Horn Antenna	HF907	R&S	100126	2014-12-06	2017-12-05
Horn Antenna	HF907	R&S	100125	2014-12-06	2017-12-05
Climatic Chamber	PT-30B	Re Ce	20101891	2015-07-18	2016-07-17
RF Cable	SMA 15cm	Agilent	0001	2016-01-09	2016-03-08

*******END OF REPORT *******