

Report No.: FG9D0635-01D



FCC RADIO TEST REPORT

FCC ID : IHDT56YJ2

Equipment : Mobile Cellular Phone

Brand Name : Motorola Model Name : XT2061-3

Applicant : Motorola Mobility, LLC

222 W Merchandise Mart Plaza, Suite 1800,

Chicago, IL 60654, United States

Manufacturer : Motorola Mobility, LLC

222 W Merchandise Mart Plaza, Suite 1800,

Chicago, IL 60654, United States

Standard : FCC 47 CFR Part 2, and 90(S)

The product was received on Dec. 06, 2019 and testing was started from Jan. 28, 2020 and completed on Feb. 28, 2020. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI / TIA-603-E and has been in compliance with the applicable technical standards.

The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Approved by: Louis Wu

Lunis Win

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)

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History of this test report

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Report No.	Version	Description	Issued Date
FG9D0635-01D	01	Initial issue of report	Mar. 31, 2020

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Summary of Test Result

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Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark	
3.2	§2.1046 §90.635	Conducted Output Power and Effective Radiated Power	Pass	-	
3.3	-	Peak-to-Average Ratio	Reporting only	-	
3.4	§2.1049 §90.209	Occupied Bandwidth and 26dB Bandwidth	Reporting only	-	
3.5	§2.1051 §90.691	Emission masks – In-band emissions	Pass	-	
3.6	§2.1051 Emission masks – §90.691 Out of band emissions		Pass	-	
3.7	§2.1055 §90.213	Frequency Stability for Temperature & Voltage	Pass	-	
3.8	\$2,1053		Pass	Under limit 34.36 dB at 2443.000 MHz	

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: Wii Chang
Report Producer: Ann Lee

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1 General Description

1.1 Feature of Equipment Under Test

Product Feature								
Equipment	Mobile Cellular Phone							
Brand Name	Motorola							
Model Name	XT2061-3							
FCC ID	IHDT56YJ2							
IMEI Code	Conducted: IMEI: 359124100005409							
INIEI Code	Radiation : IMEI: 359124100005367							
EUT supports Radios application	CDMA/EV-DO/GSM/EGPRS/WCDMA/HSPA/LTE/5G NR/ GNSS/NFC/WPC WLAN 11b/g/n HT20 WLAN 11a/n HT20/HT40 WLAN 11ac VHT20/VHT40/VHT80 WLAN 11ax HE20/HE40/HE80 Bluetooth BR/EDR/LE							
HW Version	DVT2							
EUT Stage	Identical Prototype							

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Remark: The above EUT's information was declared by manufacturer.

Accessory List							
	Brand Name:	Motorola					
AC Adapter 1	Model Name :	SC-51 (SA18C30116)					
	Manufacturer:	Chenyang					
	Brand Name:	Motorola					
AC Adapter 2	Model Name:	SC-51 (SA18C62985)					
	Manufacturer:	Acbel					
Battery	Brand Name:	ATL					
Batter y	Model Name:	LW50					
	Brand Name:	Motorola					
USB Cable 1	Model Name:	SC18C24367					
	Manufacturer:	Saibao					
	Brand Name:	Motorola					
USB Cable 2	Model Name :	SC18C24368					
	Manufacturer:	Luxshare					

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1.2 Product Specification of Equipment Under Test

Product Specification subjective to this standard						
Tx Frequency	LTE Band 26 : 814.7 ~ 823.3 MHz					
Rx Frequency	LTE Band 26: 859.7 ~ 868.3 MHz					
Bandwidth	1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz					
Maximum Output Power to Antenna	22.96 dBm					
Antenna Type	Fixed Internal Antenna					
Antenna Gain	-3.4 dBi					
Type of Modulation	QPSK / 16QAM / 64QAM					

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1.3 Modification of EUT

No modifications are made to the EUT during all test items.

1.4 Emission Designator

L	TE Band 26	QPSK			16QAM			64QAM			
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	
1.4	814.7~823.3	1M10G7D	-	ī	1M09W7D	-	ı	1M09W7D	ı	-	
3	815.5~822.5	2M72G7D	-	ı	2M72W7D	-	ı	2M71W7D	-	-	
5	816.5~821.5	4M50G7D	-	ı	4M51W7D	-	ı	4M50W7D	-	-	
10	819.0	9M03G7D	0.0278	ı	8M99W7D	-	-	8M99W7D	-	-	
15	821.5	13M5G7D	0.0197	0.1968	13M5W7D	-	0.1718	13M4W7D	-	0.1321	

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1.5 Testing Site

Test Site	SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory				
Test Site Location	No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978				
Test Site No.	Sporton Site No.				
lest site No.	TH05-HY				
Test Engineer	Aking Chang				
Temperature	24~26 ℃				
Relative Humidity	54~58 %				

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Note: The test site complies with ANSI C63.4 2014 requirement.

Test Site	SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory						
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855						
Test Site No.	Sporton Site No.						
rest site No.	03CH12-HY						
Test Engineer	Chuan Chu						
Temperature	22.3~25.3 °C						
Relative Humidity	55.7~61.9 %						

Note: The test site complies with ANSI C63.4 2014 requirement.

FCC Designation No.: TW1190 and TW0007

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1.6 Applied Standards

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

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- FCC 47 CFR Part 2, 90
- ANSI / TIA-603-E
- ANSI C63.26-2015
- FCC KDB 971168 D01 Power Meas. License Digital Systems v03r01
- FCC KDB 412172 D01 Determining ERP and EIRP v01r01
- FCC KDB 414788 D01 Radiated Test Site v01r01
- Interim Guidance for Equipment Authorization of Devices with Channel Bandwidths Combined Across Two Contiguous Service Rule Allocations OET/Lab/EACB, June 6, 2013

Remark:

- All test items were verified and recorded according to the standards and without any deviation during the test.
- 2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

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2 Test Configuration of Equipment Under Test

2.1 Test Mode

During all testing, EUT is in link mode with base station emulator at maximum power level.

For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (Y plane) were recorded in this report.

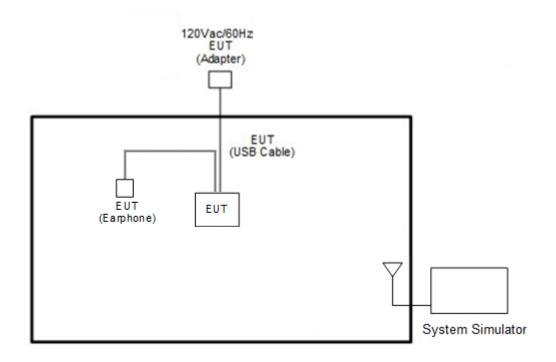
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Frequency range investigated for radiated emission is 30 MHz to 9000 MHz.

Conducted		Bandwidth (MHz)				Modulation			RB#			Test Channel				
Test Cases	Band	1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Half	Full	L	М	Н
Max. Output Power	26	v	v	v	v	v	-	V	v	v	>	v	v	٧	٧	v
Peak-to-Average Ratio	26					v	•	v	v	v	>		v	>	>	v
26dB and 99% Bandwidth	26	V	V	v	V	v	-	v	v	v			v	٧	>	v
Emission masks In-band emissions	26	V	V	v	V	v	ı	v	v	v	>		v	>		v
Emission masks – Out of band emissions	26	v	v	v	v	v	-	v	v	v	v			V	v	v
Frequency Stability	26	-	-		v	v	-	v	v	v			v		v	
E.R.P.	26	v	v	v	v	v	-	v	v	v	٧	v		٧	v	v
Radiated Spurious Emission	Worst Case					٧	>	v								
Remark	 The mark "v " means that this configuration is chosen for testing The mark "-" means that this bandwidth is not supported. LTE Band26 transmit frequency for part22 rule is 824MHz-849MHz, for part90 rule is 814MHz-824MHz. ERP over 15MHz bandwidth complies the ERP limit line of part22 rule, therefore ERP of the partial frequency spectrum which falls within part 22 also complies. All the radiated test cases were performed with Adapter 1 and USB Cable 1. 															

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2.2 Connection Diagram of Test System



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2.3 Support Unit used in test configuration and system

Iten	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord	
1.	System Simulator	Anritsu	MT8821C	N/A	N/A	Unshielded, 1.8 m	

2.4 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between RF conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level will be exactly the RF output level.

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

The following shows an offset computation example with RF cable loss 4.2 dB and a 10dB attenuator.

Example:

 $Offset(dB) = RF\ cable\ loss(dB)\ +\ attenuator\ factor(dB).$

= 4.2 + 10 = 14.2 (dB)

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2.5 Frequency List of Low/Middle/High Channels

LTE Band 26 Channel and Frequency List									
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest					
15	Channel	26765	-	-					
15	Frequency	821.5	-	-					
40	Channel	-	26740	-					
10	Frequency	-	819.0	-					
5	Channel	26715	26740	26765					
5	Frequency	816.5	819.0	821.5					
3	Channel	26705	26740	26775					
3	Frequency	815.5	819.0	822.5					
1.4	Channel	26697	26740	26783					
1.4	Frequency	814.7	819.0	823.3					

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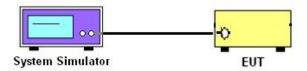
3 Conducted Test Items

3.1 Measuring Instruments

See list of measuring instruments of this test report.

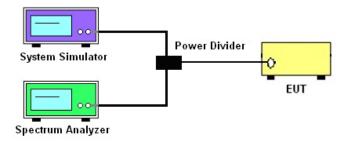
3.1.1 Test Setup

3.1.2 Conducted Output Power

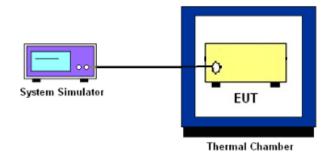


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3.1.3 Peak-to-Average Ratio, Occupied Bandwidth, Conducted Band-Edge, Emission Mask, Emissions Mask – Out Of Band Emissions, and Conducted Spurious Emission



3.1.4 Frequency Stability



3.1.5 Test Result of Conducted Test

Please refer to Appendix A.

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3.2 Conducted Output Power Measurement and ERP Measurement

3.2.1 Description of the Conducted Output Power Measurement and ERP Measurement

A system simulator was used to establish communication with the EUT. Its parameters were set to enforce EUT transmitting at the maximum power. The measured power in the radio frequency on the transmitter output terminals shall be reported.

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The ERP of mobile transmitters must not exceed 7 Watts for LTE Band 26.

According to KDB 412172 D01 Power Approach,

 $EIRP = P_T + G_T - L_C$, where

 P_T = transmitter output power in dBm

 G_T = gain of the transmitting antenna in dBi

L_C = signal attenuation in the connecting cable between the transmitter and antenna in dB

3.2.2 Test Procedures

- 1. The transmitter output port was connected to the system simulator.
- 2. Set EUT at maximum power through system simulator.
- 3. Select lowest, middle, and highest channels for each band and different modulation.
- 4. Measure and record the power level from the system simulator.

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3.3 Peak-to-Average Ratio

3.3.1 Description of the PAR Measurement

Reporting only

3.3.2 Test Procedures

- 1. The EUT was connected to spectrum and system simulator via a power divider.
- 2. Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.

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- 3. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1 %.
- 4. Record the deviation as Peak to Average Ratio.

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3.4 99% Occupied Bandwidth and 26dB Bandwidth Measurement

3.4.1 Description of (Occupied) Bandwidth Limitations Measurement

The 99% occupied bandwidth is 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 transmitted power.

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The emission bandwidth is defined as the width of the signal between two points, located at the 2 sides of the carrier frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

3.4.2 Test Procedures

- The EUT was connected to spectrum analyzer and system simulator via a power divider.
- The 26dB and 99% occupied bandwidth (BW) of the middle channel for the highest RF power with full RB sizes were measured.

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3.5 Emissions Mask Measurement

3.5.1 Description of Emissions Mask Measurement

Equipment used in this licensed to EA or non-EA systems shall comply with the emission mask provisions of FCC Part 90.691.(a)

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- (a) Out-of-band emission requirement shall apply only to the "outer" channels included in an EA license and to spectrum adjacent to interior channels used by incumbent licensees. The emission limits are as follows:
- (1) 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.
- (2) 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 $43 + 10 \log_{10}(P)$ 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 37.5 kHz.

3.5.2 Test Procedures

- The EUT was connected to spectrum analyzer and base station via power divider.
- 2. The emissions mask of low and high channels for the highest RF powers were measured.
- 3. Set RBW and VBW 3 times of RBW to make the measurement with the spectrum analyzer's, and according to KDB 971168 D02 Misc Rev Approve License Devices v02r01 standards, set RBW = 300 Hz to make offsets less than 37.5 kHz from a channel edge, RBW = 100 kHz to make offsets greater than 37.5 kHz, that is allowed.
- 4. The test results were shown below plots with a correction offset factor including cable loss, insertion loss of power divider.

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3.6 Emissions Mask - Out Of Band Emissions Measurement

3.6.1 Description of Conducted Emissions Out of band emissions measurement

The power of any emission FCC Part 90.691 (a)(2) on any frequency removed from the assigned frequency by out of the authorized bandwidth at least 43 + 10 log (P) dB. It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its 10th harmonic.

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3.6.2 Test Procedures

- 1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
- 2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
- 3. The middle channel for the highest RF power within the transmitting frequency was measured.
- 4. The conducted spurious emission for the whole frequency range was taken.
- 5. For testing below 1GHz, make the measurement with the spectrum analyzer's RBW = 100 kHz, VBW = 3MHz, taking the record of maximum spurious emission.
- 6. For testing above 1GHz, make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
- The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
- 8. The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)

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3.7 Frequency Stability Measurement

3.7.1 Description of Frequency Stability Measurement

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

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3.7.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.7.3 Test Procedures for Temperature Variation

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

3.7.4 Test Procedures for Voltage Variation

- 1. The EUT was placed in a temperature chamber at 20±5° C and connected with the base station.
- The power supply voltage to the EUT was varied from BEP to 115% of the nominal value measured at the input to the EUT.
- 3. The variation in frequency was measured for the worst case.

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3.8 Field Strength of Spurious Radiation Measurement

3.8.1 Description of Field Strength of Spurious Radiated Measurement

The radiated spurious emission was measured by substitution method according to ANSI / TIA-603-E. The power of any emission FCC Part 90.691 on any frequency removed from the assigned frequency by more than 250 percent of the authorized bandwidth at least 43 + 10 log (P) dB. The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

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The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least 43+10log₁₀(P[Watts]) dB. The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

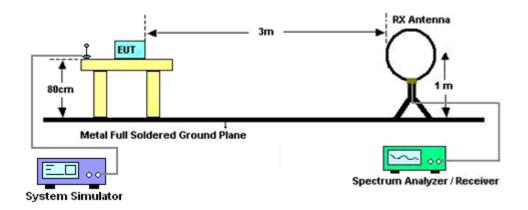
3.8.2 Test Procedures

- 1. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
- 2. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
- 3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
- 4. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
- 5. For testing below 1GHz, make the measurement with the spectrum analyzer's RBW = 100 kHz, VBW = 3MHz, Sweep = 500ms, Taking the record of maximum spurious emission.
- 6. For testing above 1GHz, make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, Sweep = 500ms, Taking the record of maximum spurious emission.
- 7. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
- 8. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
- 9. Taking the record of output power at antenna port.
- 10. Repeat step 7 to step 8 for another polarization.
- 11. EIRP (dBm) = S.G. Power Tx Cable Loss + Tx Antenna Gain
- 12. ERP (dBm) = EIRP 2.15
- 13. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
- 14. The limit line is derived from 43 + 10log(P) dB below the transmitter power P(Watts)

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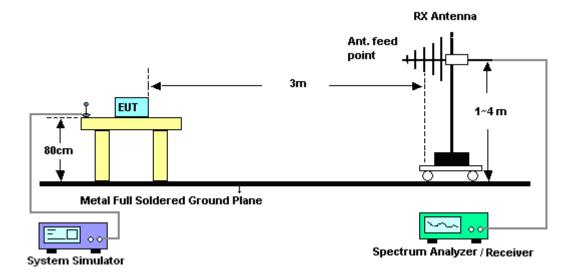
3.8.3 Test Setup

For radiated emissions below 30MHz



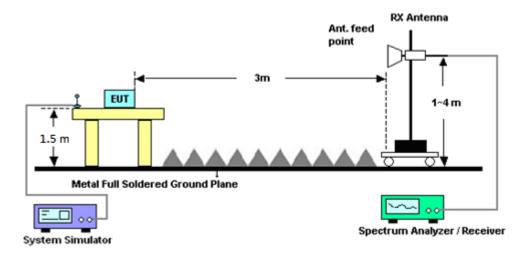
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For radiated test from 30MHz to 1GHz



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For radiated test above 1GHz



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3.8.4 Test Result of Field Strength of Spurious Radiated

Please refer to Appendix B.

Note:

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

There is a comparison data of both open-field test site and alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result came out very similar.

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4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100315	9 kHz~30 MHz	Dec. 26, 2019	Jan. 28, 2020~ Feb. 02, 2020	Dec. 25, 2020	Radiation (03CH12-HY)
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01N -06	41912 & 05	30MHz~1GHz	Feb. 12, 2019	Jan. 28, 2020~ Feb. 02, 2020	Feb. 11, 2020	Radiation (03CH12-HY)
Horn Antenna	SCHWARZBE CK	BBHA 9120D	9120D-1328	1GHz ~ 18GHz	Nov. 14, 2019	Jan. 28, 2020~ Feb. 02, 2020	Nov. 13, 2020	Radiation (03CH12-HY)
SHF-EHF Horn Antenna	SCHWARZBE CK	BBHA 9170	BBHA917058 4	18GHz ~ 40GHz	Dec. 10, 2019	Jan. 28, 2020~ Feb. 02, 2020	Dec. 09, 2020	Radiation (03CH12-HY)
Preamplifier	COM-POWER	PA-103	161075	10MHz~1GHz	Mar. 25, 2019	Jan. 28, 2020~ Feb. 02, 2020	Mar. 24, 2020	Radiation (03CH12-HY)
Preamplifier	Jet-Power	JPA00101800- 30-10P	1601180002	1GHz~18GHz	Aug. 01, 2019	Jan. 28, 2020~ Feb. 02, 2020	Jul. 01, 2020	Radiation (03CH12-HY)
Preamplifier	EMEC	EM18G40G	060715	18GHz ~ 40GHz	Dec. 13, 2019	Jan. 28, 2020~ Feb. 02, 2020	Dec. 12, 2020	Radiation (03CH12-HY)
Preamplifier	Agilent	8449B	3008A02375	1GHz~26.5GHz	May 27, 2019	Jan. 28, 2020~ Feb. 02, 2020	May 26, 2020	Radiation (03CH12-HY)
Spectrum Analyzer	Keysight	N9010A	MY55370526	10Hz~44GHz	Mar. 19, 2019	Jan. 28, 2020~ Feb. 02, 2020	Mar. 18, 2020	Radiation (03CH12-HY)
Signal Generator	Rohde & Schwarz	SMB100A	101107	100kHz~40GHz	Aug. 27, 2019	Jan. 28, 2020~ Feb. 02, 2020	Aug. 26, 2020	Radiation (03CH12-HY)
Hygrometer	TECPEL	DTM-303B	TP161243	N/A	May 11, 2019	Jan. 28, 2020~ Feb. 02, 2020	May 10, 2020	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 126E	0058/126E	30M-18G	Mar. 13, 2019	Jan. 28, 2020~ Feb. 02, 2020	Mar. 12, 2020	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	505134/2	30M~40GHz	Feb. 26, 2019	Jan. 28, 2020~ Feb. 02, 2020	Feb. 25, 2020	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	800740/2	30M~40GHz	Feb. 26, 2019	Jan. 28, 2020~ Feb. 02, 2020	Feb. 25, 2020	Radiation (03CH12-HY)
Base Station	Anritsu	MT8821C	6201432816	GSM / GPRS /WCDMA / LTE FDD/TDD with 44) /LTE-3CC DLCA,2CC ULCA	May 05, 2019	Jan. 28, 2020~ Feb. 02, 2020	May 04, 2020	Radiation (03CH12-HY)
Controller	EMEC	EM1000	N/A	Control Turn table & Ant Mast	N/A	Jan. 28, 2020~ Feb. 02, 2020	N/A	Radiation (03CH12-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1m~4m	N/A	Jan. 28, 2020~ Feb. 02, 2020	N/A	Radiation (03CH12-HY)
Turn Table	EMEC	TT2000	N/A	0~360 Degree	N/A	Jan. 28, 2020~ Feb. 02, 2020	N/A	Radiation (03CH12-HY)
Software	Audix	E3 6.2009-8-24	RK-000989	N/A	N/A	Jan. 28, 2020~ Feb. 02, 2020	N/A	Radiation (03CH12-HY)

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Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Base Station(Measure)	Anritsu	MT8821C	620166475 5	GSM / GPRS /WCDMA / LTE FDD/TDD with 44) /LTE-3CC DLCA,2CC ULCA	Mar. 03, 2019	Feb. 03, 2020~ Feb. 28, 2020	Mar. 02, 2020	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSV30	101749	10Hz~30GHz	Jan. 10, 2020	Feb. 03, 2020~ Feb. 28, 2020	Jan. 09, 2021	Conducted (TH05-HY)
Temperature Chamber	ESPEC	SH-641	92013720	-40°C~90°C	Sep. 02, 2019	Feb. 03, 2020~ Feb. 28, 2020	Sep. 01, 2020	Conducted (TH05-HY)
Programmable Power Supply	GW Instek	PSS-2005	EL890094	1V~20V 0.5A~5A	Oct. 09, 2019	Feb. 03, 2020~ Feb. 28, 2020	Oct. 08, 2020	Conducted (TH05-HY)
Coupler	Warison	20dB 25W SMA Directional Coupler	#A	1-18GHz	Jan. 13, 2020	Feb. 03, 2020~ Feb. 28, 2020	Jan. 12, 2021	Conducted (TH05-HY)

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5 Uncertainty of Evaluation

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of	3.24
Confidence of 95% (U = 2Uc(y))	3.24

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Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of	3.62
Confidence of 95% (U = 2Uc(y))	3.02

<u>Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)</u>

Measuring Uncertainty for a Level of	4.06
Confidence of 95% (U = 2Uc(y))	4.06

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Appendix A. Test Results of Conducted Test

Conducted Output Power(Average power)

LTE Band 26 Maximum Average Power [dBm]										
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest				
15	1	0		22.87	-	-				
15	1	37		22.94	-	-				
15	1	74		22.86	-	-				
15	36	0	QPSK	21.95	-	-				
15	36	20		22.09	-	-				
15	36	39		22.19	-	-				
15	75	0		21.99	-	-				
15	1	0		22.28	-	-				
15	1	37		22.24	-	-				
15	1	74		22.35	-	-				
15	36	0	16-QAM	21.11	-	-				
15	36	20		21.04	-	-				
15	36	39		21.18	-	-				
15	75	0		21.17	-	-				
15	1	0		21.09	-	-				
15	1	37		21.05	-	-				
15	1	74		21.21	-	-				
15	36	0	64-QAM	20.17	-	-				
15	36	20		20.10	-	-				
15	36	39		20.21	-	-				
15	75	0		20.05	-	-				
10	1	0		-	22.67	-				
10	1	25	-	-	22.86	-				
10	1	49		-	22.79	-				
10	25	0	QPSK	-	21.76	-				
10	25	12		-	21.84	-				
10	25	25		-	21.83	-				
10	50	0		-	21.79	-				
10	1	0		-	22.01	-				
10	1	25		-	22.18	-				
10	1	49		-	22.29	-				
10	25	0	16-QAM	-	20.86	-				
10	25	12		-	20.90	-				
10	25	25		-	20.90	-				
10	50	0		-	20.78	-				
10	1	0		-	20.86	-				
10	1	25		-	21.10	_				
10	1	49		-	21.06	-				
10	25	0	64-QAM	-	19.84	-				
10	25	12		-	19.94	-				
10	25	25		-	19.94	_				
10	50	0		-	19.87	-				



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	LTE Band 26 Maximum Average Power [dBm]									
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest				
5	1	0		22.86	22.72	22.85				
5	1	12		22.73	22.76	22.79				
5	1	24		22.64	22.71	22.75				
5	12	0	QPSK	21.89	21.84	22.01				
5	12	7		21.94	21.99	21.86				
5	12	13		21.88	21.85	21.85				
5	25	0		21.77	21.83	21.97				
5	1	0		22.18	22.18	22.24				
5	1	12		22.12	22.09	22.10				
5	1	24	16-QAM	22.08	22.16	22.13				
5	12	0		21.04	20.87	21.06				
5	12	7		20.93	20.85	20.95				
5	12	13		20.87	20.81	20.75				
5	25	0		20.97	20.85	20.84				
5	1	0		21.17	21.03	21.14				
5	1	12		20.92	21.07	21.13				
5	1	24	64-QAM	21.05	21.04	21.01				
5	12	0		19.92	19.93	19.94				
5	12	7		19.85	20.06	19.88				
5	12	13		19.93	19.97	19.83				
5	25	0		19.86	19.89	20.01				
3	1	0		22.77	22.72	22.96				
3	1	8		22.81	22.86	22.82				
3	1	14		22.69	22.86	22.67				
3	8	0	QPSK	21.91	21.86	21.91				
3	8	4		21.92	21.96	21.89				
3	8	7		21.77	21.80	21.86				
3	15	0		21.83	21.87	21.96				
3	1	0		22.11	22.03	22.18				
3	1	8		22.19	22.23	22.30				
3	1	14		21.97	22.16	22.02				
3	8	0	16-QAM	21.02	20.92	20.96				
3	8	4		20.85	21.08	20.86				
3	8	7		20.81	21.03	20.97				
3	15	0		21.02	20.94	20.95				
3	1	0		21.01	21.07	21.20				
3	1	8		21.11	21.07	21.11				
3	1	14		20.94	21.21	21.07				
3	8	0	64-QAM	19.93	19.98	20.06				
3	8	4		20.09	19.99	19.98				
3	8	7		19.91	20.01	19.78				
3	15	0		19.99	19.89	19.83				

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	LTE Band 26 Maximum Average Power [dBm]									
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest				
1.4	1	0		22.74	22.70	22.67				
1.4	1	3		22.88	22.82	22.68				
1.4	1	5		22.69	22.67	22.74				
1.4	3	0	QPSK	22.72	22.67	22.67				
1.4	3	1		22.90	22.70	22.69				
1.4	3	3		22.81	22.83	22.73				
1.4	6	0		21.82	21.85	21.89				
1.4	1	0	16-QAM	22.08	21.99	22.03				
1.4	1	3		22.00	22.21	22.10				
1.4	1	5		21.99	22.13	22.06				
1.4	3	0		21.95	21.78	21.86				
1.4	3	1		21.91	21.97	21.88				
1.4	3	3		21.74	21.81	21.71				
1.4	6	0		20.88	20.92	20.88				
1.4	1	0		21.06	20.85	20.94				
1.4	1	3		20.99	21.03	21.12				
1.4	1	5		20.95	20.91	21.04				
1.4	3	0	64-QAM	21.00	20.82	20.88				
1.4	3	1		21.01	21.01	20.97				
1.4	3	3		21.06	20.92	20.93				
1.4	6	0		19.83	19.98	19.75				

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LTE Band 26

Peak-to-Average Ratio

Mode		LTE Band 26 / 10MHz								
Mod.	QP	SK	16	Limit: 13dB						
RB Size	1RB	Full RB	1RB	Full RB	Result					
Lowest CH	-	-	-	-						
Middle CH	3.68	5.07	5.54	5.91	PASS					
Highest CH	-	-	-	-						
Mode		LTE Band 26 / 10MHz								
Mod.	64C	AM			Limit: 13dB					
RB Size	1RB	Full RB			Result					
Lowest CH	-	-	-	-						
Lowest CH Middle CH	6.26	6.46	-	-	PASS					

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 momplementary Cumulative Distribution Function

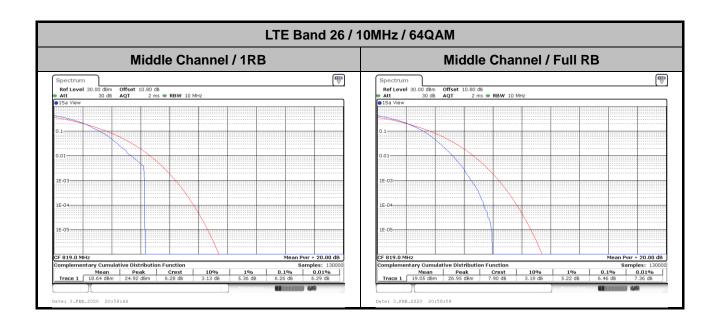
 Mean
 Peak
 Crest

 Trace 1
 20.10 dBm
 26.86 dBm
 6.76 dB

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Samples: 130000 1% 0.1% 0.01% 0.01% 5.42 dB 5.54 dB 5.57 dR



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26dB Bandwidth

Mode		LTE Band 26 : 26dB BW(MHz)										
BW	1.4	ИНz	3MHz		5N	5MHz		10MHz		ЛHz	20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.23	1.22	3.00	2.97	4.96	4.89	-	-	14.39	14.15	-	-
Middle CH	1.23	1.23	3.02	3.03	4.88	4.84	9.81	9.87	-	-	-	-
Highest CH	1.23	1.23	2.98	3.03	4.95	4.91	-	-	-	-	-	-
Mode					LTE Ba	and 26 : :	26dB BV	V(MHz)				
BW	1.4	ИНz	3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	1.21	-	3.04	-	4.91	-	-	-	14.42	-	-	-
Middle CH	1.23	-	3.03	-	4.89	-	9.95	-	-	-	-	-
Highest CH	1.22	-	2.99	-	4.88	-	-	-	-	-	-	-

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LTE Band 26 Lowest Channel / 1.4MHz / QPSK Lowest Channel / 1.4MHz / 16QAM 14.70 dB 814.77550 MF 26.00 d 1.230800000 MF -10 dBm -20 dBm 40. dBm-Span 2.8 MHz CF 814.7 MHz Span 2.8 MHz X-value 814.3615 MHz 814.093 MHz 815.3154 MHz Middle Channel / 1.4MHz / QPSK Middle Channel / 1.4MHz / 16QAM 40 dBm -50 d8m-Function Result 1.2252 MHz 26.00 dB 668.3 Type Ref Trc Type Ref Trc Date: 3.FEB.2020 20:31:39 Highest Channel / 1.4MHz / QPSK Highest Channel / 1.4MHz / 16QAM Offset 10.80 dB ● RBW 30 kHz SWT 63.2 µs ● VBW 100 kHz Mode Auto FFT 14.77 dB 823.44270 MF 15.01 dB 823.07620 MF

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Type Ref Trc

 X-value
 Y-value
 Function

 823.4427 MHz
 14.77 dBm
 ndB down

Function Result

FAX: 886-3-328-4978

 X-value
 Y-value
 Function

 823.0762 MHz
 15.01 dBm
 ndB down

LTE Band 26 Lowest Channel / 3MHz / QPSK Lowest Channel / 3MHz / 16QAM Ref Level 30.00 dBm
Att 30 dB
SGL Count 100/100 16.72 dBi 815.78770 MF 26.00 d 2.997000000 MF 272 274 -10 dBm -20 dBm 40 dBm 40 dBm Span 6.0 MHz CF 815.5 MHz Span 6.0 MHz Type Ref Trc -10.30 dBm -10.20 dBm Middle Channel / 3MHz / QPSK Middle Channel / 3MHz / 16QAM 3.021000000 MF 271 dBm-40 dBm-CF 819.0 MHz Function Result 3.021 MHz 26.00 dB 271.4
 X-value
 Y-value
 Function

 819.9351 MHz
 16.22 dBm
 nd8 down

 817.4835 MHz
 -10.00 dBm
 nd8

 820.5045 MHz
 -9.70 dBm
 Q factor
 Type Ref Trc Function Result Type Ref Trc Highest Channel / 3MHz / 16QAM Highest Channel / 3MHz / QPSK 15.80 dBn 821.32520 MH 26.00 d 16.75 dBr 823.58490 MH M1[1] -10 dBm

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Type Ref Trc

 X-value
 Y-value
 Function

 821.3252 MHz
 15.80 dBm
 ndB down

Function Result 2.979 MHz

 X-value
 Y-value
 Function

 823.5849 MHz
 16.75 dBm
 ndb down

 820.9995 MHz
 -9.01 dBm
 ndb

 823.9665 MHz
 -9.62 dBm
 Q factor

Type | Ref | Trc |

FAX: 886-3-328-4978

LTE Band 26 Lowest Channel / 5MHz / QPSK Lowest Channel / 5MHz / 16QAM Ref Level 30.00 dBm

Att 30 dB

SGL Count 100/100

1Pk Max 14.74 dBi 817.22900 MF 26.00 d 4.955000000 MF 164 167 -10 dBm 40 dBm Span 10.0 MHz CF 816.5 MHz Span 10.0 MHz Y-value 14.74 dBm -11.04 dBm -10.94 dBm -12.39 dBm -12.70 dBm Middle Channel / 5MHz / QPSK Middle Channel / 5MHz / 16QAM 14.57 d 817.52100 M 26.00 40 dBm--40 dBm -50 dBm Function Result

4.835 MHz
26.00 dB
169.1 Function Result 4.875 MH Type Ref Trc Type Ref Trc Highest Channel / 5MHz / QPSK Highest Channel / 5MHz / 16QAM ▽ Offset 10.80 dB ● RBW 100 kHz SWT 19 µs ● VBW 300 kHz Mode Auto FFT Att 30 dB
 SGL Count 100/100
 1Pk Max 15.01 dB 821.77000 MF 13.40 dB 822.24900 MF 40 dBm-

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Type Ref Trc

Function Result
4.945 MHz

FAX: 886-3-328-4978

Type | Ref | Trc |

 X-value
 Y-value
 Function

 821.77 MHz
 15.01 dBm
 ndB down

LTE Band 26 Middle Channel / 10MHz / QPSK Middle Channel / 10MHz / 16QAM Ref Level 30.00 dBm
Att 30 dB
SGL Count 100/100 9.81000000 -10 dBm -20 dBm 40 dBm CF 819.0 MHz Span 20.0 MHz CF 819.0 MHz Span 20.0 MHz X-value 821.797 MHz 814.085 MHz 823.955 MHz Type Ref Trc Lowest Channel / 15MHz / QPSK Lowest Channel / 15MHz / 16QAM
 Ref Level
 30.00 dBm
 Offset
 10.80 dB
 RBW
 300 kHz

 Att
 30 dB
 SWT
 12.6 µs
 ¥ BW
 1 MHz
 Mode
 Auto FFT
 dBm-40 dBm -50 dBm-Function Result 14.386 MHz 26.00 dB 57.2 Function Result 14.146 MHz 26.00 dB 58.3
 Y-value
 Function

 2
 14.61 dBm
 ndB down

 2
 -11.57 dBm
 ndB

 :
 -11.70 dBm
 Q factor
 Type Ref Trc

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LTE Band 26 Lowest Channel / 1.4MHz / 64QAM Lowest Channel / 3MHz / 64QAM Ref Level 30.00 dBm

Att 30 dB

SGL Count 100/100

1Pk Max 14.24 dB 814.94340 MF 26.00 d 1.214000000 MF 671 -10 dBm Span 2.8 MHz CF 815.5 MHz 6.0 MHz Y-value 14.52 dBm -11.52 dBm -11.09 dBm Middle Channel / 1.4MHz / 64QAM Middle Channel / 3MHz / 64QAM Function Result 1.2252 MHz 26.00 dB 468.7 Type Ref Trc Type Ref Trc Highest Channel / 1.4MHz / 64QAM Highest Channel / 3MHz / 64QAM Offset 10.80 dB ● RBW 100 kHz SWT 19 µs ● VBW 300 kHz Mode Auto FFT Att 30 dB
SGL Count 100/100
1Pk Max 15.00 dB 822.50600 MH 14.12 dE 823.53220 M

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Type Ref Trc

 X-value
 Y-value
 Function

 822.506 MHz
 15.00 dBm
 ndB down

Function Result

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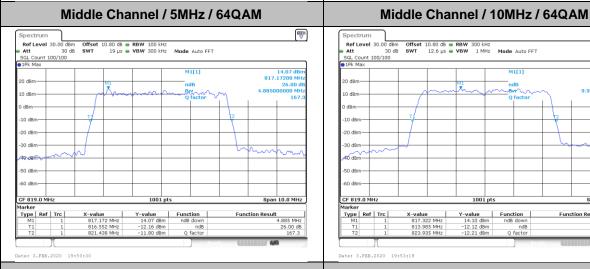
 X-value
 Y-value
 Function

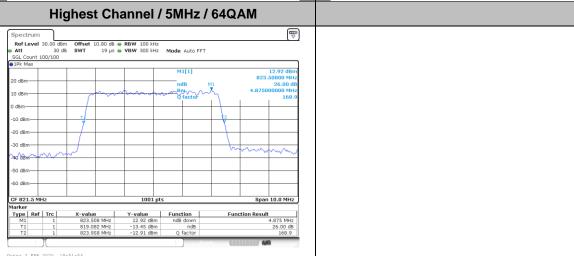
 823.5322 MHz
 14.12 dBm
 ndB down

 822.6846 MHz
 -11.78 dBm
 ndB

 823.907 MHz
 -11.76 dBm
 Q factor

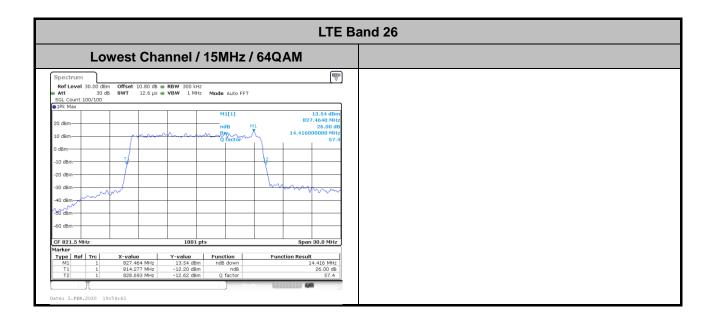
Report No.: FG9D0635-01D LTE Band 26 Lowest Channel / 5MHz / 64QAM Span 10.0 MHz





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Occupied Bandwidth

Mode	LTE Band 26 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.09	1.09	2.72	2.71	4.48	4.51	-	-	13.52	13.52	-	-
Middle CH	1.09	1.09	2.72	2.70	4.49	4.48	9.03	8.99	-	-	-	-
Highest CH	1.10	1.09	2.71	2.72	4.50	4.48	-	-	-	-	-	-
Mode	LTE Band 26 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	1.09	-	2.71	-	4.50	-	-	-	13.43	-	-	-
Middle CH	1.09	-	2.71	-	4.49	-	8.99	-	-	-	-	-
Highest CH	1.09	-	2.71	-	4.46	-	-	-	-	-	-	-

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LTE Band 26 Lowest Channel / 1.4MHz / QPSK Lowest Channel / 1.4MHz / 16QAM Ref Level 30.00 dBm Att 30 dB SGL Count 100/100 -20 dBm -20 dBm-40 dBm CF 814.7 MHz
 X-value
 Y-value
 Function

 814.6776 MHz
 15.14 dBm
 814.14898

 814.14995 MHz
 8.37 dBm
 Occ Bw

 815.24266 MHz
 9.61 dBm

 X-value
 Y-value
 Function

 814.3615 MHz
 15.46 dBm
 914.15455 MHz
 7.93 dBm
 Occ Bw

 915.24545 MHz
 8.55 dBm
 0cc Bw
 0cc Bw
 0cc Bw
 0cc Bw
 Type Ref Trc **Function Result** Type Ref Trc 1.093706294 MHz 1.090909091 MHz Middle Channel / 1.4MHz / QPSK Middle Channel / 1.4MHz / 16QAM 15.82 dB 819.29370 MH 1.088111888 MH -10 dBm -30 dBm-4e 'dBm' -50 dBm-Type Ref Trc
 X-value
 Y-value
 Function

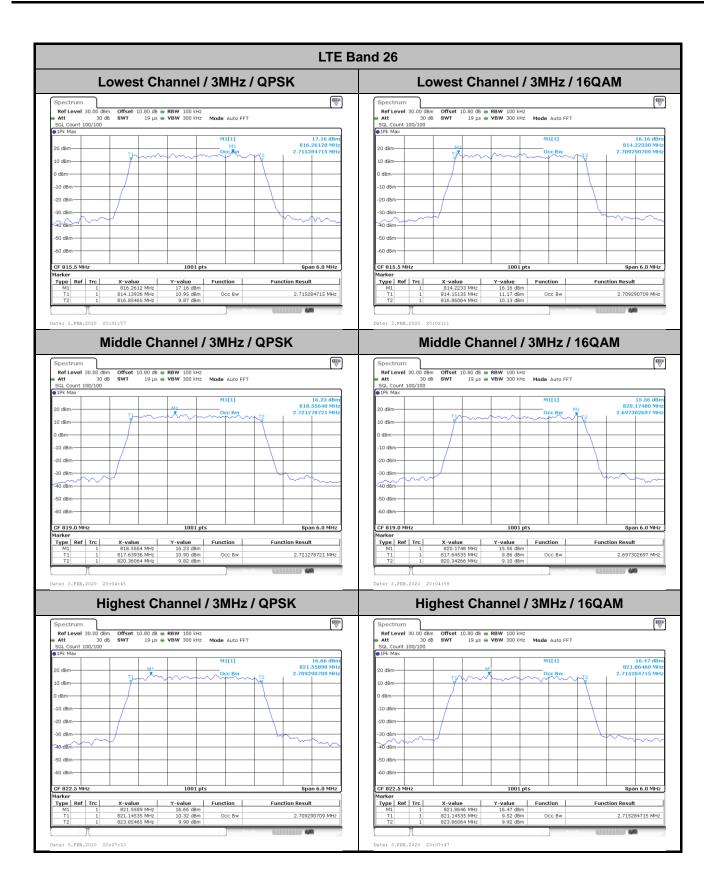
 819.2937 MHz
 15.82 dBm
 Type Ref Trc Function Result Function 7.80 dBm Occ Bw 8.04 dBm 8.58 dBm Occ Bw 9.63 dBm 1.088111888 MHz 1.088111888 MHz Highest Channel / 1.4MHz / QPSK Highest Channel / 1.4MHz / 16QAM ■ Att 30.00 dBm ■ Att 30 dB SGL Count 100/100 ■ 1Pk Max 15.75 dBi 823.59090 MF 1.096503497 MF M1[1] 16.01 dBr 10 dBm-10 dBm--10 dBm 40 dam--60 dBm-60 dBm-Type Ref Trc

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1.088111888 MHz

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LTE Band 26 Lowest Channel / 5MHz / QPSK Lowest Channel / 5MHz / 16QAM Ref Level 30.00 dBm
Att 30 dB
SGL Count 100/100 -10 dBn -10 dBm -20 dBm-40.08m-CF 816.5 MHz 1001 pts Span 10.0 MHz
 Y-value
 Function

 14.85 dBm
 9.77 dBm
 Occ Bw

 10.08 dBm
 Occ Bw
 X-value 818.158 MHz 814.24226 MHz 818.74775 MHz Y-value 14.41 dBm 9.28 dBm 8.73 dBm Type Ref Trc Type Ref Trc Middle Channel / 5MHz / QPSK Middle Channel / 5MHz / 16QAM 0 dBm Offset 10.80 dB • RBW 100 kHz 30 dB SWT 19 µs • VBW 300 kHz Mode Auto FFT SGL Count 100/100 dBm-40′dB⋒≃ -40,d8m--50 d8m-CF 819.0 MHz
 X-value
 Y-value
 Function

 819.819 MHz
 15.06 dBm
 816.76224 MHz
 10.19 dBm
 Occ Bw

 821.24775 MHz
 8.60 dBm
 0cc Bw
 0cc Bw

 X-value
 Y-value
 Function

 818.59 MHz
 14.23 dBm

 816.77223 MHz
 7.37 dBm
 Occ Bw

 821.24775 MHz
 8.97 dBm
 Type Ref Trc Type Ref Trc **Function Result Function Result** 4.485514486 MHz 4.475524476 MHz Highest Channel / 5MHz / QPSK Highest Channel / 5MHz / 16QAM Ref Level 30.00 dBm Offset 10.80 dB ● RBW 100 kHz ■ Att 30 db SWT 19 µs ● VBW 300 kHz Mode Auto FFT SGL Count 100/100
■ 1Pk Max 14.46 dB 821.43000 MH 4.495504496 MH 20 dBm dBm--10 dBm -30 dBm-40 dBm--50 dBm-

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4.495504496 MHz

 Type
 Ref
 Trc
 X-value
 Y-value
 Function

 M1
 1
 823.178 MHz
 14.61 dBm

Occ Bw

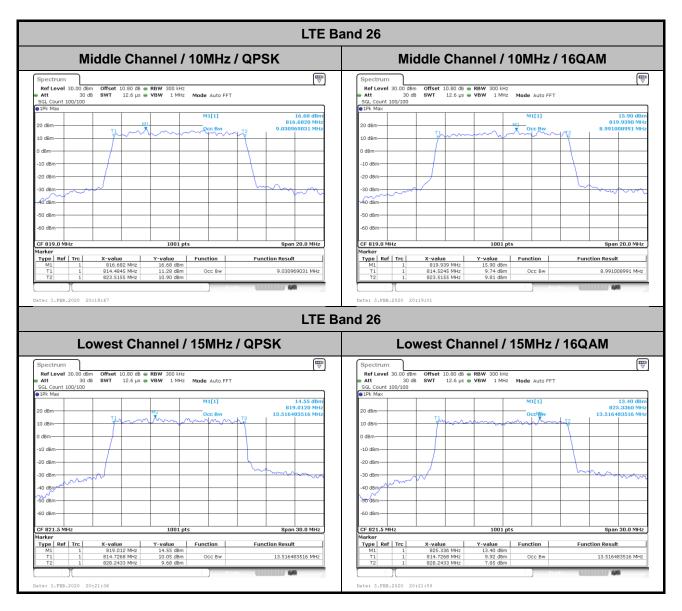
4.475524476 MHz

FAX: 886-3-328-4978

 Type
 Ref
 Trc
 X-value
 Y-value
 Function

 M1
 1
 821.43 MHz
 14.46 dBm

8.04 dBm Occ Bw 9.41 dBm Report No. : FG9D0635-01D



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LTE Band 26 Lowest Channel / 1.4MHz / 64QAM Lowest Channel / 3MHz / 64QAM
 Ref Level
 30.00 dBm
 Offset

 Att
 30 dB
 SWT

 SGL Count
 100/100
 14.31 dB 814.80350 Mi 1.090909091 Mi -20 dBm-240 den ∩ 40 dBm CF 815.5 MHz
 X-value
 Y-value
 Function

 814.8035 MHz
 14.31 dBm
 0cc Bw

 814.15734 MHz
 8.11 dBm
 0cc Bw

 815.24825 MHz
 7.36 dBm
 0cc Bw
 Type Ref Trc
 X-value
 Y-value
 Function

 814.3132 MHz
 15.40 dBm
 914.15135 MHz

 914.15135 MHz
 9.26 dBm
 Occ Bw

 916.86064 MHz
 9.29 dBm
 Type Ref Trc **Function Result** 1.090909091 MHz 2.709290709 MHz Middle Channel / 1.4MHz / 64QAM Middle Channel / 3MHz / 64QAM Ref Level 30.00 dBm
Att 30 dB
SGL Count 100/100
Pk Max
 Ref Level
 30.00 dBm
 Offset
 10.80 dB ⊕ RBW
 30 kHz

 Att
 30 dB
 SWT
 63.2 μs
 ♥ VBW
 100 kHz
 Mode
 Auto FFT
 14.04 dB 819.31610 MH 1.09370627 M1[1] -10 dBm -30 dBm-40 dBm--50 dBm-Type Ref Trc
 X-value
 Y-value
 Function

 819.3161 MHz
 14.04 dBm
 819.3161 MHz

 818.45455 MHz
 7.55 dBm
 Occ Bw

 819.54825 MHz
 6.59 dBm
 Type Ref Trc 817.65135 MHz 820.36064 MHz 8.70 dBm Occ Bw 9.55 dBm 1.093706294 MHz 2.709290709 MHz Highest Channel / 1.4MHz / 64QAM Highest Channel / 3MHz / 64QAM Ref Level 30.00 dBm
Att 30 dB
SGL Count 100/100 M1[1] 10 dBm-10 dBm--10 dBm an dan -60 dBm-Type Ref Trc Type Ref Trc

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2.709290709 MHz

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1.093706294 MHz

 Type
 Ref
 Trc
 X-value
 Y-value
 Function

 M1
 1
 821.49 MHz
 14.29 dBm

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9.08 dBm Occ Bw 7.74 dBm

Report No.: FG9D0635-01D LTE Band 26 Lowest Channel / 5MHz / 64QAM X-value 816.35 MHz 814.25225 MHz 818.74775 MHz Y-value Function

12.69 dBm

7.05 dBm Occ Bw

7.34 dBm Middle Channel / 5MHz / 64QAM Middle Channel / 10MHz / 64QAM dBm-40 dBm-Ag,dsh -50 d8m-CF 819.0 MHz
 X-value
 Y-value
 Function

 819.559 MHz
 12.45 dBm

 816.76224 MHz
 8.32 dBm
 Occ Bw

 821.24775 MHz
 7.72 dBm

 X-value
 Y-value
 Function

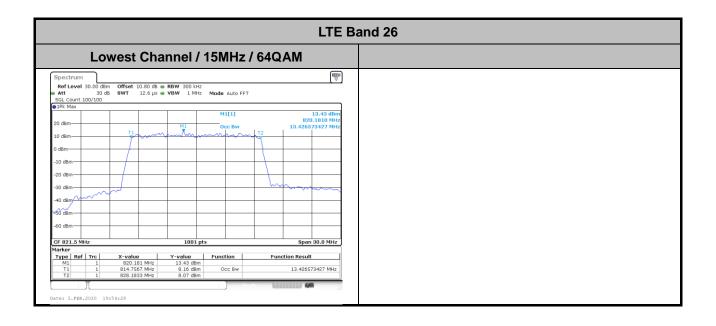
 821,637 MHz
 15.56 dBm

 814.5045 MHz
 8.73 dBm
 Occ Bw

 823.4955 MHz
 8.64 dBm
 Type Ref Trc Function Result Function Result 4.485514486 MHz 8.991008991 MHz Date: 3.FEB.2020 19:53:05 Highest Channel / 5MHz / 64QAM M1[1]

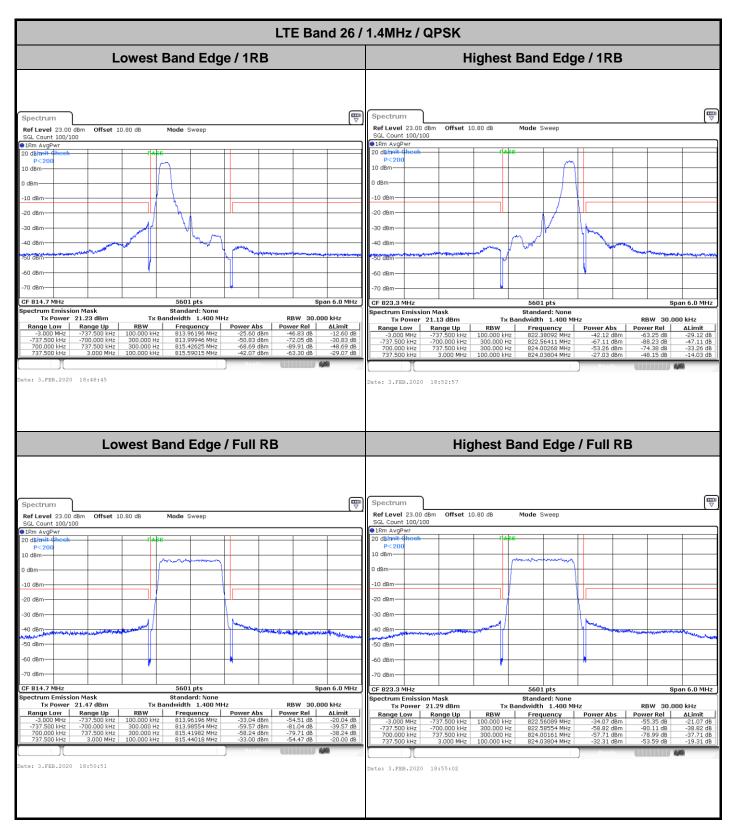
4.455544456 MHz





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Conducted Band Edge



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Report No.: FG9D0635-01D LTE Band 26 / 1.4MHz / 16QAM Highest Band Edge / 1 RB Lowest Band Edge / 1 RB Spectrum Ref Level 23.00 dBm Offset 10.80 dB Ref Level 23.00 dBm Offset 10.80 dB Mode Sweep GL Count 100/100 Span 6.0 MHz Span 6.0 MHz 5601 pts CF 823.3 MHz 5601 pts ctrum Emission Mask Standard: None Tx Bandwidth 1.400 MHz Tx Power 21.53 dBm RBW 30.000 kHz RBW 30.000 kHz | Power Rel | ALimit | | -47.04 dB | -12.51 dB | | -69.90 dB | -28.37 dB | | -89.56 dB | -48.03 dB | | -63.20 dB | -28.68 dB | Frequency 40985 MHz Power Abs Date: 3.FEB.2020 18:53:59 Lowest Band Edge / Full RB **Highest Band Edge / Full RB** Spectrum Spectrum Offset 10.80 dB Ref Level 23.00 dBm Offset 10.80 dB SGL Count 100/100 Mode Sweep 1Rm AvgPwr ●1Rm AvgPw 10 dBm dBm 10 dBm -10 dBm 20 dBm -20 dBm 30 dBm -30 dBm 40 dBm 40 dBm 50 dBm 50 dBm 60 dBm 70 dBm-70 dBm-CF 814.7 MHz Span 6.0 MHz Span 6.0 MHz 5601 pts CF 823.3 MHz 5601 pts ectrum Emission Mask
Tx Power 20.79 dBm

Range Low Range Up
-3.000 MHz -737 500 kH Standard: None Tx Bandwidth 1.400 MHz RBW 30.000 kHz
 RBW
 Frequency
 Power Abs

 0.000 kHz
 813.95339 MHz
 -34.11 dBr

 Power Rel
 ALimit

 -54.90 dB
 -21.11 dB

 -79.79 dB
 -39.00 dB

 -79.10 dB
 -38.32 dB

 -54.78 dB
 -21.00 dB
 Frequency 822.56196 MHz -3.000 MHz -737.500 ki Power Abs -33.86 dB ate: 3.FEB.2020 18:56:05

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Report No.: FG9D0635-01D LTE Band 26 / 1.4MHz / 64QAM Highest Band Edge / 1 RB Lowest Band Edge / 1 RB Spectrum Offset 10.80 dB Mode Sweep Offset 10.80 dB Ref Level 23.00 dBm Mode Sweep GL Count 100/100 SGL Count 100/100 1Rm AvgPwr -10 dBm 20 dBm -20 dBm 30 dBm CF 814.7 MHz 5601 pts Span 6.0 MHz CF 823.3 MHz ectrum Emission Mask
Tx Power 20.62 dBm

Range Low Range Up
-3.000 MHz -737.500 kH Standard: None Tx Bandwidth 1.400 MHz Standard: None ndwidth 1.400 MHz RBW 30.000 kHz
 Frequency
 Power Abs

 813.96196 MHz
 -24.81 dBn

 813.99411 MHz
 -52.33 dBn

 815.43589 MHz
 -68.34 dBn

 815.66407 MHz
 -42.45 dBn
 RBW 100.000 kHz 300.000 Hz 300.000 Hz 100.000 kHz
 Frequency
 Power Abs

 822.37342 MHz
 -42.11 dBm

 822.56839 MHz
 -69.48 dBm

 824.00696 MHz
 -53.45 dBm

 824.00911 MHz
 -25.57 dBm
 -62.96 dB -89.34 dB -74.30 dB -46.43 dB ΔLimit -29.11 dB -48.48 dB -33.45 dB -12.57 dB ate: 3.FEB.2020 19:26:34 Date: 3.FEB.2020 19:28:39 **Highest Band Edge / Full RB** Lowest Band Edge / Full RB Spectrum Spectrum Ref Level 23.00 dBm Offset 10.80 dB Mode Sweep Ref Level 23.00 dBm Offset 10.80 dB Mode Sweep SGL Count 100/100 ●1Rm AvgPwr CF 814.7 MHz 5601 pts 5601 pts ectrum Emission Mask Tx Power 19.68 dBm Standard: None Tx Bandwidth 1.400 MHz ectrum Emission Mask Standard: None Tx Bandwidth 1.400 MHz Tx Power 19.64 dBm RBW 30,000 kHz Frequency 813.96196 MHz Range Low | Range Up -3.000 MHz | -737.500 kHz Range Low Range Up | Power Rel | ΔLimit | -54.51 dB | -21.83
 Frequency
 Power Abs

 822.56196 MHz
 -32.97 dBn

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Date: 3.FEB.2020 19:29:42

FAX: 886-3-328-4978

te: 3.FEB.2020 19:27:37

LTE Band 26 / 3MHz / QPSK Highest Band Edge / 1 RB Lowest Band Edge / 1RB Spectrum Offset 10.80 dB Mode Sweep Offset 10.80 dB Mode Sweep Ref Level 23.00 dBm GL Count 100/100 SGL Count 100/100 1Rm AvgPwr -10 dBm 20 dBn -20 dBm 30 dBm CF 815.5 MHz Span 10.0 MHz | Retrievable | 5601 pts Standard: None Tx Bandwidth 3.000 MHz Standard: None ndwidth 3.000 MHz RBW 30.000 kHz | Frequency | Power Abs | S13.95089 MHz | -18.96 dBn | 813.95089 MHz | -40.84 dBn | 817.00446 MHz | -68.20 dBn | 818.02768 MHz | -43.87 dBn | RBW 100.000 kHz 300.000 Hz 300.000 Hz 100.000 kHz
 Frequency
 Power Abs

 820.96161 MHz
 -43.10 dBm

 820.99196 MHz
 -55.81 dBm

 824.02768 MHz
 -41.51 dBm

 824.04375 MHz
 -16.81 dBm

 Power Rel
 ALimit

 -64.12 dB
 -30.10 dB

 -86.84 dB
 -45.81 dB

 -62.53 dB
 -21.51 dB

 -37.83 dB
 -3.81 dB
 ate: 3.FEB.2020 18:57:10 Date: 3.FEB.2020 19:01:27 **Highest Band Edge / Full RB** Lowest Band Edge / Full RB Spectrum Spectrum Ref Level 23.00 dBm Offset 10.80 dB Mode Sweep Ref Level 23.00 dBm Offset 10.80 dB Mode Sweep SGL Count 100/100 ●1Rm AvgPwr CF 815.5 MHz 5601 pts 5601 pts ectrum Emission Mask Tx Power 21.34 dBm Standard: None Tx Bandwidth 3.000 MHz ectrum Emission Mask Standard: None Tx Bandwidth 3.000 MHz Tx Power 21.41 dBm RBW 30,000 kHz Range Low Range Up Frequency 813.96161 MHz Power Rel ΔLimit
-45.39 dB -11.05 te: 3.FEB.2020 18:59:19 Date: 3.FEB.2020 19:03:36

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LTE Band 26 / 3MHz / 16QAM Lowest Band Edge / 1 RB Highest Band Edge /1 RB Spectrum Ref Level 23.00 dBm Offset 10.80 dB Mode Sweep Offset 10.80 dB Mode Sweep Ref Level 23.00 dBm GL Count 100/100 SGL Count 100/100 1Rm AvgPwr -10 dBm 20 dBn -20 dBm 30 dBm CF 815.5 MHz Span 10.0 MHz 5601 pts Standard: None Tx Bandwidth 3.000 MHz Standard: None ndwidth 3.000 MHz RBW 30.000 kHz | Number | N RBW 100.000 kHz 300.000 Hz 300.000 Hz 100.000 kHz
 Frequency
 Power Abs

 820.92411 MHz
 -44.25 dBm

 820.99018 MHz
 -68.11 dBm

 824.00089 MHz
 -42.18 dBm

 824.04196 MHz
 -18.47 dBm

 Power Rel
 ALimit

 -65.58 dB
 -31.25 dB

 -89.44 dB
 -48.11 dB

 -63.51 dB
 -22.18 dB

 -39.80 dB
 -5.47 dB
 ate: 3.FEB.2020 18:58:15 Date: 3.FEB.2020 19:02:31 **Highest Band Edge / Full RB** Lowest Band Edge / Full RB Spectrum Spectrum Ref Level 23.00 dBm Offset 10.80 dB Mode Sweep Ref Level 23.00 dBm Offset 10.80 dB Mode Sweep SGL Count 100/100 ●1Rm AvgPwr CF 815.5 MHz 5601 pts 5601 pts ectrum Emission Mask Tx Power 20.78 dBm Standard: None Tx Bandwidth 3.000 MHz ectrum Emission Mask Standard: None Tx Bandwidth 3.000 MHz Tx Power 20.72 dBm RBW 30,000 kHz Frequency 913 95446 MHz Range Low Range Up Power Rel ALimit | Range Low | Range Up | -5.000 MHz | -1.538 MHz te: 3.FEB.2020 19:00:23 Date: 3.FEB.2020 19:04:39

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LTE Band 26 / 3MHz / 64QAM Lowest Band Edge / 1 RB Highest Band Edge /1 RB Spectrum Offset 10.80 dB Mode Sweep Offset 10.80 dB Mode Sweep Ref Level 23.00 dBm GL Count 100/100 SGL Count 100/100 1Rm AvgPwr -10 dBm 20 dBn -20 dBm -30 dBm CF 815.5 MHz Span 10.0 MHz 5601 pts r 815.5 mHz
ectrum Emission Mask
Tx Power 20.26 dBm
Range Low Range Up
-5.000 MHz -1.538 MH. Standard: None Tx Bandwidth 3.000 MHz Standard: None ndwidth 3.000 MHz RBW 30.000 kHz | Width | 3.000 MHz | Frequency | Power Abs | 813.96161 MHz | -20.17 dBn | 813.99911 MHz | -42.86 dBn | 817.02054 MHz | -70.22 dBn | 817.99196 MHz | -44.19 dBn | RBW 100.000 kHz 300.000 Hz 300.000 Hz 100.000 kHz
 Frequency
 Power Abs

 819.94732 MHz
 -46.70 dBm

 820.96696 MHz
 -69.72 dBm

 824.00446 MHz
 -42.97 dBm

 824.03839 MHz
 -19.26 dBm

 Power Rel
 ALimit

 -67.26 dB
 -33.70 dB

 -90.27 dB
 -49.72 dB

 -63.53 dB
 -22.97 dB

 -39.82 dB
 -6.26 dB
 ate: 3.FEB.2020 19:30:48 Date: 3.FEB.2020 19:32:56 **Highest Band Edge / Full RB** Lowest Band Edge / Full RB Spectrum Spectrum Ref Level 23.00 dBm Offset 10.80 dB Mode Sweep Ref Level 23.00 dBm Offset 10.80 dB Mode Sweep SGL Count 100/100 ●1Rm AvgPwr CF 815.5 MHz 5601 pts 5601 pts ectrum Emission Mask Tx Power 19.77 dBm Standard: None Tx Bandwidth 3.000 MHz ectrum Emission Mask Standard: None Tx Bandwidth 3.000 MHz Tx Power 19.73 dBm RBW 30,000 kHz Frequency 012 95982 MHz Range Low Range Up te: 3.FEB.2020 19:31:52 Date: 3.FEB.2020 19:34:00

Report No.: FG9D0635-01D

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