

Report No.: FG0D2204-01C



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Page Number

FCC RADIO TEST REPORT

FCC ID : GKRGBZ4S

Equipment : Wireless Device

: GBZ4S **Model Name**

Applicant : Compal Electronics, Inc.

> No. 581-1 & 581, Ruiguang Rd., Nei-hu District, Taipei City 114, TAIWAN (R.O.C.)

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

The product was received on May 31, 2021 and testing was started from Jul. 01, 2021 and completed on Aug. 09, 2021. 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 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

TEL: 886-3-327-3456

Lunis W/m

Sporton International Inc. EMC & Wireless Communications Laboratory

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)

FAX: 886-3-328-4978 Issued Date : Dec. 28, 2021 : 04

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Appendix A. Test Results of Conducted Test

Appendix B. Test Results of Radiated Test

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History of this test report

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Version	Description	Issued Date
01	Initial issue of report	Sep. 27, 2021
02	 Revise support unit used in test configuration and system in section 2.4 Add remark in section 2.1 Revise 26dB and 99% OBW 15MHz bandwith in appendix A2 Add straddle channel 824MHz output power and ERP 	Dec. 23, 2021
03	 Revise remark in section 2.1 Revise appendix B 	Dec. 27, 2021
04	Revise output power in appendix A	Dec. 28, 2021
	01 02 03	1. Revise support unit used in test configuration and system in section 2.4 2. Add remark in section 2.1 3. Revise 26dB and 99% OBW 15MHz bandwith in appendix A2 4. Add straddle channel 824MHz output power and ERP 1. Revise remark in section 2.1 2. Revise appendix B

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Summary of Test Result

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Report Clause	Ref Std. Clause	Test Items	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	3.4 §2.1049 Secupied Bandwidth and 26c		Reporting only	-	
3.5	§2.1051 Emission masks – §90.691 In-band emissions		Pass	-	
3.6	§2.1051 Emission masks – §90.691 Out of band emissions		Pass	-	
3.7	§2.1055 Frequency Stability for §90.213 Temperature & Voltage		Pass	-	
3.8	§2.1053 §90.691	Field Strength of Spurious Radiation	Pass	Under limit 44.41 dB at 2451.000 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: Avis Chuang Report Producer: Cindy Liu

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1 General Description

1.1 Feature of Equipment Under Test

Product Feature						
Equipment	Wireless Device					
Model Name	GBZ4S					
FCC ID	GKRGBZ4S					
EUT supports Radios application	WCDMA/HSPA/LTE/NFC (Passive) WLAN 11b/g/n HT20 Bluetooth BR/EDR/LE					

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

EUT Information List								
S/N	Performed Test Item							
14151FQEJXR052	Conducted Measurement ERP							
15031FQEJSR008 14231FQEJSR00W	Radiated Spurious Emission							

1.2 Product Specification of Equipment Under Test

Product Specification is subject to this standard						
Tx Frequency	814.7 ~ 823.3 MHz					
Rx Frequency	859.7 ~ 868.3 MHz					
Bandwidth	1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz					
Maximum Output Power to Antenna	<top antenna=""> 23.38 dBm</top>					
Maximum Output Power to Antenna	<bottom antenna=""> 24.08 dBm</bottom>					
Antonna Typo	<top antenna="">: IFA Antenna type</top>					
Antenna Type	<bottom antenna="">: IFA Antenna type</bottom>					
Type of Modulation	QPSK / 16QAM					

<Top Antenna>

Radio Tech	Band Number	Antenna name	Gain		
LTE	B26	Ant. 0	-14.2		

<Bottom Antenna>

Radio Tech	Band Number	Antenna name	Gain
LTE	B26	Ant. 1	-14.0

Remark: The above EUT's information was declared by manufacturer. Please refer to Comments and Explanations in report summary.

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1.3 Modification of EUT

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

1.4 Testing Site

Test Site	Sporton International Inc. EMC & Wireless Communications Laboratory					
Test Site Location	No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978					
Test Site No.	Sporton Site No.					
rest site No.	TH03-HY					
Test Engineer	HaoEn Zhang					
Temperature	22~24.3°ℂ					
Relative Humidity	lumidity 51.2~55%					

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Test Site	Sporton International Inc. Wensan Laboratory							
	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.)							
Test Site Location	TEL: +886-3-327-0868							
	FAX: +886-3-327-0855 Sporton Site No.							
Test Site No.	03CH11-HY (TAF Code: 3786)							
Test Engineer	Harvey Guo and Fu Chen							
Temperature	18.2~26.2℃							
Relative Humidity	53.7~69.4%							
Remark	The Radiated Spurious Emission test item subcontracted to Sport International Inc. Wensan Laboratory.							

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

FCC designation No.: TW1190 and TW3786

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1.5 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:

- 1. All test items were verified and recorded according to the standards and without any deviation during the test.
- 2. The TAF code is not including all the FCC KDB listed without accreditation.

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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, the measured emission level of the EUT was maximized by rotating the EUT on a turntable, adjusting the orientation of the EUT and EUT antenna in three orthogonal axis (X: flat, Y: portrait, Z: landscape), and adjusting the measurement antenna orientation, following C63.26 exploratory test procedures and find <Top Antenna>: Y Plane with Strap 1, Strap 3; <Bottom Antenna>: X Plane with Strap 1, Strap 3 as worst plane.

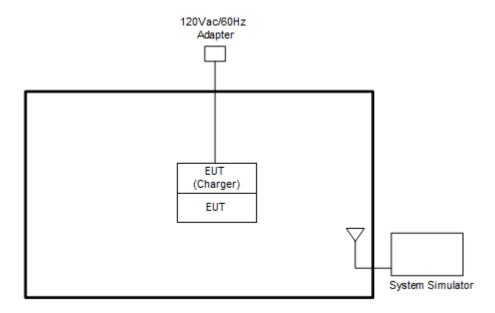
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Frequency range investigated for radiated emission is 30 MHz to 9000 MHz.

Conducted	Band		Bai	ndwid	lth (M	Hz)		Modulation				RB#			Test Channel		
Test Cases		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	256QAM	1	Half	Full	L	М	Н
Max. Output Power	26	٧	v	v	v	v	-	v	v			v	v	v	v	v	v
Peak-to-Average Ratio	26				>		1	>	v					v		>	
26dB and 99% Bandwidth	26	>	v	>	>	>	1	>	v					v	v	>	
Emission masks In-band emissions	26	>	v	٧	٧	٧	•	٧	v			v		v	v		v
Emission masks - Out of band emissions	26	v	v	v	v	v	-	v				v			v	v	v
Frequency Stability	26	i	=		v	v	-	٧						v	v	v	
E.R.P.	26	v	v	v	v	v	-	v	v				ı	Max.	Powe	er	
Radiated Spurious Emission	26							Worst	Case						v	v	v
Remark	 The mark "v" means that this configuration is chosen for testing The mark "-" means that this bandwidth is not supported. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported. 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. For Conducted Test Cases, the tests were performed with Bottom Antenna as worst case. For Radiated Spurious Emission, based on different materials of these strips, do full test with Strap 1 and spot check with Strap 3. 																

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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

Item	Equipment	Brand Name	Model No.	FCC ID	Data Cable	Power Cord
1.	System Simulator	Anritsu	MT8821C	N/A	N/A	Unshielded, 1.8 m
2.	Adapter	N/A	N/A	N/A	N/A	N/A
3.	Wireless Device	N/A	G943M	GKRG943M	N/A	N/A

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 Ch	annel and Frequen	cy List			
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest		
15	Channel	26765	-	-		
15	Frequency	821.5	-	-		
10	Channel	-	26740	-		
	Frequency	-	819	-		
5	Channel	26715	26740	26765		
5	Frequency	816.5	819	821.5		
3	Channel	26705	26740	26775		
3	Frequency	815.5	819	822.5		
1.4	Channel	26697	26740	26783		
1.4	Frequency	814.7	819	823.3		

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	LTE Band 26 Ch	annel and Frequen	cy List	
BW [MHz]	Channel/Frequency(MHz)	-	cross-rule channels	-
45	Channel	-	26790	-
15	Frequency	-	824	-
10	Channel	-	26790	-
10	Frequency	-	824	-
5	Channel	-	26790	-
5	Frequency	-	824	-
3	Channel	-	26790	-
3	Frequency	-	824	-
1.4	Channel	-	26790	-
1.4	Frequency	-	824	-

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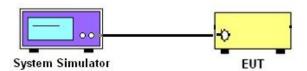
3 Conducted Test Items

3.1 Measuring Instruments

See list of measuring instruments of this test report.

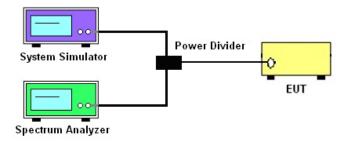
3.1.1 Test Setup

3.1.2 Conducted Output Power

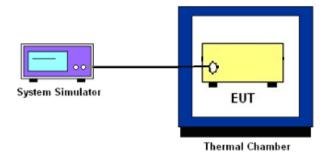


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3.1.3 Peak-to-Average Ratio, Occupied Bandwidth, Conducted Band-Edge, Emission Mask, Emissions Mask – Out Of Band Emissions, and Conducted Spurious Emission



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 100 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

- 1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
- 2. 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 $43 + 10 \text{Log}_{10}(P)$ 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

- 1. 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.
- 2. 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.

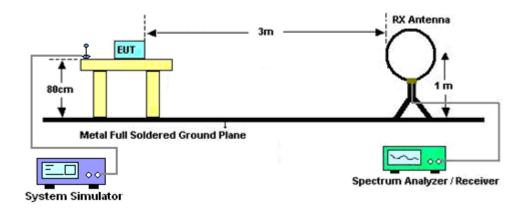
3.8.2 Test Procedures

- 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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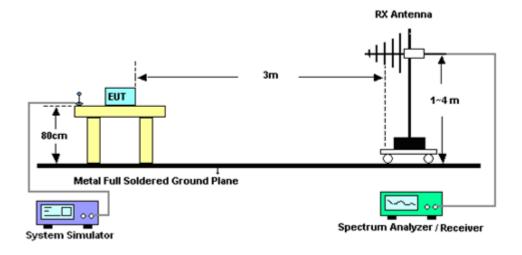
3.8.3 Test Setup

For radiated test below 30MHz



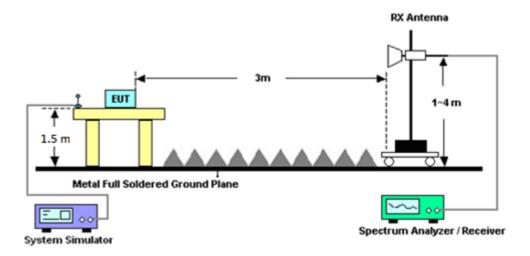
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For radiated test from 30MHz to 1GHz



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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 adequate comparison measurement 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	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Horn Antenna	SCHWARZB ECK	BBHA 9120 D	9120D-1326	1GHz ~ 18GHz	Nov. 03, 2020	Jul. 16, 2021~ Aug. 09, 2021	Nov. 02, 2021	Radiation (03CH11-HY)
Horn Antenna	SCHWARZB ECK	BBHA 9120 D	9120D-1212	1GHz ~ 18GHz	May 18, 2021	Jul. 16, 2021~ Aug. 09, 2021	May 17, 2022	Radiation (03CH11-HY)
Bilog Antenna	TESEQ	CBL 6111D & N-6-06	35414 & AT-N0602	30MHz~1GHz	Oct. 11, 2020	Jul. 16, 2021~ Aug. 09, 2021	Oct. 10, 2021	Radiation (03CH11-HY)
Bilog Antenna	TESEQ	CBL 6111D&00802N1 D01N-06	54682 & AT-N0603	30MHz~1GHz	Sep. 25, 2020	Jul. 16, 2021~ Aug. 09, 2021	Sep. 24, 2021	Radiation (03CH11-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100315	9 kHz~30 MHz	Jan. 04, 2021	Jul. 16, 2021~ Aug. 09, 2021	Jan. 03, 2022	Radiation (03CH11-HY)
Preamplifier	Keysight	83017A	MY53270080	1GHz~26.5GHz	Nov. 12, 2020	Jul. 16, 2021~ Aug. 09, 2021	Nov. 11, 2021	Radiation (03CH11-HY)
Amplifier	SONOMA	310N	187312	9kHz~1GHz	Dec. 02, 2020	Jul. 16, 2021~ Aug. 09, 2021	Dec. 01, 2021	Radiation (03CH11-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200486	10Hz~44GHz	Oct. 23, 2020	Jul. 16, 2021~ Aug. 09, 2021	Oct. 22, 2021	Radiation (03CH11-HY)
Signal Generator	Rohde & Schwarz	SMF100A	101107	100kHz~40GHz	Dec. 14, 2020	Jul. 16, 2021~ Aug. 09, 2021	Dec. 13, 2021	Radiation (03CH11-HY)
Controller	EMEC	EM 1000	N/A	Control Turn table & Ant Mast	N/A	Jul. 16, 2021~ Aug. 09, 2021	N/A	Radiation (03CH11-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1~4m	N/A	Jul. 16, 2021~ Aug. 09, 2021	N/A	Radiation (03CH11-HY)
Turn Table	EMEC	TT 2000	N/A	0~360 Degree	N/A	Jul. 16, 2021~ Aug. 09, 2021	N/A	Radiation (03CH11-HY)
Software	Audix	E3 6.2009-8-24	RK-001053	N/A	N/A	Jul. 16, 2021~ Aug. 09, 2021	N/A	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY9837/4PE	9kHz-30MHz	Mar. 11, 2021	Jul. 16, 2021~ Aug. 09, 2021	Mar. 10, 2022	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	MY2859/2	30MHz-40GHz	Mar. 11, 2021	Jul. 16, 2021~ Aug. 09, 2021	Mar. 10, 2022	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY9837/4PE	30M-18G	Mar. 11, 2021	Jul. 16, 2021~ Aug. 09, 2021	Mar. 10, 2022	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	MY4274/2	30MHz-40GHz	Mar. 11, 2021	Jul. 16, 2021~ Aug. 09, 2021	Mar. 10, 2022	Radiation (03CH11-HY)
Filter	Wainwright	WHKX12-900-100 0-15000-60SS	SN12	1GHz High Pass Filter	Nov. 05, 2020	Jul. 16, 2021~ Aug. 09, 2021	Nov. 04, 2021	Radiation (03CH11-HY)
Filter	Wainwright	WHKX12-2700-30 00-18000-60SS	SN3	3GHz High Pass Filter	Sep. 14, 2020	Jul. 16, 2021~ Aug. 09, 2021	Sep. 13, 2021	Radiation (03CH11-HY)
Hygrometer	TECPEL	DTM-303B	TP140325	N/A	Nov. 18, 2020	Jul. 16, 2021~ Aug. 09, 2021	Nov. 17, 2021	Radiation (03CH11-HY)

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Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Base Station(Measure)	Anritsu	MT8821C	626200253 41	N/A	Oct. 06, 2020	Jul. 01, 2021~ Aug. 04, 2021	Oct. 05, 2021	Conducted (TH03-HY)
Spectrum Analyzer	Rohde & Schwarz	FSV40	101397	10Hz~40GHz	Nov. 27, 2020	Jul. 01, 2021~ Aug. 04, 2021	Nov. 26, 2021	Conducted (TH03-HY)
Thermal Chamber	ESPEC	SU-241	92003713	-30℃ ~95℃	May 21, 2021	Jul. 01, 2021~ Aug. 04, 2021	May 20, 2022	Conducted (TH03-HY)
Programmable Power Supply	GW Instek	PSS-2005	EL890094	1V~20V 0.5A~5A	Oct. 05, 2020	Jul. 01, 2021~ Aug. 04, 2021	Oct. 04, 2021	Conducted (TH03-HY)
Coupler	Warison	20dB 25W SMA Directional Coupler	#B	1-18GHz	Jan. 09, 2021	Jul. 01, 2021~ Aug. 04, 2021	Jan. 08, 2022	Conducted (TH03-HY)

Report No. : FG0D2204-01C

5 Uncertainty of Evaluation

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

Management Ungantainte for a Lavel of	
Measuring Uncertainty for a Level of	3.09 dB
Confidence of 95% (U = 2Uc(y))	3.09 dB

Report No. : FG0D2204-01C

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

Measuring Uncertainty for a Level of	3.56 dB
Confidence of 95% (U = 2Uc(y))	3.30 UB

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Appendix A. Test Results of Conducted Test

Conducted Output Power(Average power&ERP)

<Top Antenna>

VIOP AII		Band 26 Ma	aximum A	verage Pov	ver [dBm]	(GT - LC =	-14.2 dB)	
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
15	1	0		23.38	-	-		
15	1	37		23.29	-	-		
15	1	74		23.29	•	-		
15	36	0	QPSK	22.42	-	-	7.03	0.0050
15	36	20		22.38	-	-		
15	36	39		22.37	-	-		
15	75	0		22.39	-	-		
15	1	0		22.32	•	-		
15	1	37		22.22	•	-		
15	1	74		22.12	•	-		
15	36	0	16-QAM	21.35	•	-	5.97	0.0040
15	36	20		21.32	-	-		
15	36	39	-	21.30	-	-		
15	75	0		21.35	-	-		
Limit	Limit ERP < 7W			Result			ISS	

	LTE E	Band 26 M	aximum A	verage Pov	wer [dBm]	(GT - LC =	-14.2 dB)	
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
10	1	0		-	23.35	-		
10	1	25		-	23.33	-		
10	1	49		-	23.33	-		
10	25	0	QPSK	-	22.46	-	7.00	0.0050
10	25	12		-	22.44	-		
10	25	25		-	22.41	-		
10	50	0		-	22.44	-		
10	1	0		-	22.32	-		
10	1	25		-	22.23	-		
10	1	49		-	22.17	-		
10	25	0	16-QAM	-	21.38	-	5.97	0.0040
10	25	12		-	21.38	-		
10	25	25	-	-	21.35	-		
10	50	0		-	21.42	-]	
Limit		ERP < 7W			Result		Pa	iss



	LTE E	Band 26 M	aximum A	verage Pov	wer [dBm]	(GT - LC =	-14.2 dB)	
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
5	1	0		23.34	23.33	23.33		
5	1	12		23.30	23.25	23.30		
5	1	24		23.28	23.21	23.21		
5	12	0	QPSK	22.36	22.34	22.28	6.99	0.0050
5	12	7		22.35	22.28	22.33		
5	12	13		22.35	22.31	22.25		
5	25	0		22.38	22.28	22.32		
5	1	0		22.28	22.19	22.23		
5	1	12		22.19	22.13	22.18		
5	1	24		22.17	22.11	22.10		
5	12	0	16-QAM	21.30	21.27	21.25	5.93	0.0039
5	12	7		21.31	21.24	21.25		
5	12	13	_	21.30	21.28	21.20		
5	25	0		21.31	21.25	21.24		
Limit		ERP < 7W		Result			Pa	iss

	LTE E	Band 26 M	aximum A	verage Pov	wer [dBm]	(GT - LC =	-14.2 dB)	
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
3	1	0		23.37	23.34	23.32		
3	1	8		23.36	23.34	23.32		
3	1	14		23.37	23.36	23.32		
3	8	0	QPSK	22.39	22.36	22.30	7.02	0.0050
3	8	4		22.37	22.32	22.34		
3	8	7		22.36	22.31	22.31		
3	15	0		22.38	22.28	22.38		
3	1	0		22.32	22.23	22.26		
3	1	8		22.31	22.28	22.21		
3	1	14		22.31	22.30	22.28		
3	8	0	16-QAM	21.33	21.30	21.25	5.97	0.0040
3	8	4		21.32	21.28	21.26		
3	8	7	-	21.36	21.32	21.34		
3	15	0		21.31	21.22	21.24		
Limit ERP < 7W			Result			iss		



	LTE E	Band 26 M	aximum A	verage Pov	wer [dBm]	(GT - LC =	-14.2 dB)	
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
1.4	1	0		23.35	23.35	23.26		
1.4	1	3		23.37	23.35	23.29		
1.4	1	5		23.33	23.30	23.24		
1.4	3	0	QPSK	23.34	23.34	23.28	7.02	0.0050
1.4	3	1		23.36	23.36	23.35		
1.4	3	3		23.34	23.31	23.30		
1.4	6	0		22.33	22.27	22.27		
1.4	1	0		22.40	22.38	22.33		
1.4	1	3		22.40	22.39	22.30		
1.4	1	5		22.38	22.33	22.28		
1.4	3	0	16-QAM	22.27	22.19	22.22	6.05	0.0040
1.4	3	1		22.22	22.15	22.15		
1.4	3	3		22.17	22.11	22.15		
1.4	6	0		21.33	21.31	21.29		
Limit		ERP < 7W			Result	_	Pá	ass

<Bottom Antenna>

-20110111	LTE	Band 26 N	laximum A	verage Po	wer [dBm] (GT - LC :	= -14 dB)	
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
15	1	0		24.08	-	-		
15	1	37		24.03	-	-		
15	1	74		23.98	•	-		
15	36	0	QPSK	23.11	•	-	7.93	0.0062
15	36	20		23.09	•	-		
15	36	39		23.06	•	-		
15	75	0		23.07	•	-		
15	1	0		23.02	•	-		
15	1	37		23.12	ı	-		
15	1	74		23.09	•	-		
15	36	0	16-QAM	22.06	1	-	6.97	0.0050
15	36	20		22.04	•	-		
15	36	39	-	22.02	-	-		
15	75	0		22.05	-	-		
Limit		ERP < 7W			Result		Pa	ass

	LTE	Band 26 N	laximum A	verage Po	wer [dBm]	(GT - LC :	= -14 dB)	
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
10	1	0		-	23.91	-		
10	1	25	-	-	23.08	-		
10	1	49		-	23.09	-		
10	25	0	QPSK	•	22.08	-	7.76	0.0060
10	25	12		•	22.21	-		
10	25	25		-	22.28	-		
10	50	0		-	22.21	-		
10	1	0		•	22.08	-		
10	1	25		•	22.40	-		
10	1	49		•	22.40	-		
10	25	0	16-QAM	-	21.25	-	6.25	0.0042
10	25	12	-	-	21.36	-		
10	25	25		-	21.43	-		
10	50	0		-	21.35	-		
Limit	Limit ERP < 7W				Result		Pa	ass



	LTE	Band 26 N	laximum A	verage Po	wer [dBm] (GT - LC :	= -14 dB)	
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
5	1	0		23.88	23.79	23.78		
5	1	12		23.86	23.79	23.83		
5	1	24		23.83	23.77	23.77		
5	12	0	QPSK	22.04	21.97	22.02	7.73	0.0059
5	12	7		22.07	21.98	21.99		
5	12	13		22.06	22.01	22.05		
5	25	0		22.05	22.02	22.03		
5	1	0		22.19	22.15	22.16		
5	1	12		22.35	22.31	22.26		
5	1	24		22.29	22.25	22.22		
5	12	0	16-QAM	21.21	21.20	21.19	6.20	0.0042
5	12	7		21.27	21.19	21.17		
5	12	13		21.26	21.19	21.19		
5	25	0		21.28	21.27	21.25	1	
Limit ERP < 7W				Result		Pa	iss	

	LTE	Band 26 M	laximum A	verage Po	wer [dBm]	(GT - LC :	= -14 dB)	
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
3	1	0		23.90	23.87	23.81		
3	1	8		23.89	23.84	23.83		
3	1	14		23.90	23.86	23.81		
3	8	0	QPSK	22.14	22.05	22.14	7.75	0.0060
3	8	4		22.18	22.08	22.15		
3	8	7		22.17	22.07	22.16		
3	15	0		22.17	22.08	22.12		
3	1	0		22.29	22.22	22.22		
3	1	8		22.39	22.37	22.30		
3	1	14		22.35	22.28	22.34		
3	8	0	16-QAM	21.37	21.27	21.30	6.24	0.0042
3	8	4		21.43	21.37	21.37		
3	8	7		21.47	21.37	21.47		
3	15	0		21.44	21.40	21.34		
Limit	Limit ERP < 7W				Result		Pa	ass



	LTE	Band 26 N	laximum A	verage Po	wer [dBm] (GT - LC :	= -14 dB)	
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
1.4	1	0		23.11	23.03	23.08		
1.4	1	3		23.16	23.11	23.09		
1.4	1	5		23.17	23.12	23.17		
1.4	3	0	QPSK	23.15	23.08	23.08	7.05	0.0051
1.4	3	1		23.20	23.12	23.20		
1.4	3	3		23.20	23.15	23.13		
1.4	6	0		22.37	22.28	22.33		
1.4	1	0		22.56	22.46	22.52		
1.4	1	3		22.59	22.54	22.50		
1.4	1	5		22.57	22.47	22.50		
1.4	3	0	16-QAM	22.39	22.38	22.31	6.44	0.0044
1.4	3	1	-	22.41	22.38	22.32		
1.4	3	3		22.39	22.36	22.37		
1.4	6	0		21.53	21.50	21.50		
Limit	ERP < 7W				Result		Pa	iss



<Top Antenna>

110p All		Band 26 M	aximum A	verage Pov	wer [dBm]	(GT - LC =	-14.2 dB)	
BW [MHz]	RB Size	RB Offset	Mod	-	cross-rule channels	-	ERP (dBm)	ERP (W)
15	1	0		-	23.22	-		
15	1	37		1	23.25	-		
15	1	74		•	23.16	-		
15	36	0	QPSK	•	22.33	-	6.90	0.0049
15	36	20		•	22.28	-		
15	36	39		•	22.32	-		
15	75	0		•	22.21	-		
15	1	0		•	22.18	-		
15	1	37		•	22.18	-		
15	1	74		-	22.04	-		
15	36	0	16-QAM	•	21.21	-	5.83	0.0038
15	36	20		•	21.24	-		
15	36	39		-	21.16	-	1	
15	75	0		-	21.32	-		
Limit	Limit ERP < 7W				Result		Pa	iss

	LTE E	Band 26 M	aximum A	verage Pov	wer [dBm]	(GT - LC =	-14.2 dB)	
BW [MHz]	RB Size	RB Offset	Mod		cross-rule channels		ERP (dBm)	ERP (W)
10	1	0		-	23.21	-		
10	1	25		-	23.18	•		
10	1	49		-	23.15	•		
10	25	0	QPSK	-	22.35	•	6.86	0.0049
10	25	12		-	22.26	-		
10	25	25		-	22.37	•		
10	50	0		-	22.26	-		
10	1	0		-	22.07	-		
10	1	25		-	21.98	-		
10	1	49		-	21.92	•		
10	25	0	16-QAM	-	21.17	•	5.72	0.0037
10	25	12	-	-	21.14	-		
10	25	25		-	21.20	-		
10	50	0		-	21.26	-		
Limit	Limit ERP < 7W			Result		Pa	ISS	



	LTE E	Band 26 M	aximum A	verage Pov	wer [dBm]	(GT - LC =	-14.2 dB)	
BW [MHz]	RB Size	RB Offset	Mod		cross-rule channels	-	ERP (dBm)	ERP (W)
5	1	0		-	23.17	-		
5	1	12		1	23.28	-		
5	1	24		1	23.23	-		
5	12	0	QPSK	-	22.38	-	6.93	0.0049
5	12	7		•	22.29	-		
5	12	13		•	22.19	-		
5	25	0		1	22.26	-		
5	1	0		•	22.02	-		
5	1	12		•	22.06	-		
5	1	24		•	22.12	-		
5	12	0	16-QAM	1	21.23	-	5.77	0.0038
5	12	7		-	21.14	-		
5	12	13		-	21.32	-	1	
5	25	0		-	21.17	-		
Limit	Limit ERP < 7W				Result	•	Pa	iss

	LTE E	Band 26 M	aximum A	verage Pov	wer [dBm]	(GT - LC =	-14.2 dB)	
BW [MHz]	RB Size	RB Offset	Mod	-	cross-rule channels	-	ERP (dBm)	ERP (W)
3	1	0		-	23.26			
3	1	8		-	23.16	-		
3	1	14		ı	23.32	ı		
3	8	0	QPSK	-	22.37	•	6.97	0.0050
3	8	4		-	22.30	•		
3	8	7		-	22.20	-		
3	15	0		-	22.35	•		
3	1	0		-	22.26	•		
3	1	8		-	22.12	-		
3	1	14		-	22.15	-		
3	8	0	16-QAM	-	21.28	•	5.91	0.0039
3	8	4		-	21.18	-		
3	8	7		-	21.19	-		
3	15	0		-	21.14	-		
Limit ERP < 7W			Result		Pa	ISS		



	LTE E	Band 26 M	aximum A	verage Po	wer [dBm]	(GT - LC =	-14.2 dB)	
BW [MHz]	RB Size	RB Offset	Mod	-	cross-rule channels	-	ERP (dBm)	ERP (W)
1.4	1	0		-	23.06	-		
1.4	1	3		-	23.23	-		
1.4	1	5	QPSK	-	23.14	-		
1.4	3	0		-	23.31	-	6.96	0.0050
1.4	3	1		-	23.18	-		
1.4	3	3		-	23.27	-		
1.4	6	0		-	22.29	-		
1.4	1	0		-	22.22	-		
1.4	1	3		-	22.13	-		
1.4	1	5		-	22.20	-		
1.4	3	0	16-QAM	-	22.08	-	5.87	0.0039
1.4	3	1	-		21.96	-		
1.4	3	3		-	22.13	-	1	
1.4	6	0		-	21.23	-		
Limit					Result		Pa	ass

<Bottom Antenna>

	LTE	Band 26 M	laximum A	verage Po	wer [dBm]	(GT - LC :	= -14 dB)	
BW [MHz]	RB Size	RB Offset	Mod		cross-rule channels	-	ERP (dBm)	ERP (W)
15	1	0		-	23.89	-		
15	1	37		1	23.87	-		
15	1	74		•	23.94	-		
15	36	0	QPSK	•	23.09	-	7.79	0.0060
15	36	20		•	22.91	-		
15	36	39		•	23.03	-		
15	75	0		•	22.98	-		
15	1	0		•	22.88	-		
15	1	37		•	22.92	-		
15	1	74		-	22.96	-		
15	36	0	16-QAM	•	22.05	-	6.81	0.0048
15	36	20		-	22.02	-		
15	36	39		-	21.85	-	1	
15	75	0		-	21.94	-		
Limit	Limit ERP < 7W				Result		Pa	iss

	LTE	Band 26 M	laximum A	verage Po	wer [dBm]	(GT - LC :	= -14 dB)	
BW [MHz]	RB Size	RB Offset	Mod		cross-rule channels		ERP (dBm)	ERP (W)
10	1	0		-	23.11	-		
10	1	25		•	23.13	•		
10	1	49		•	23.72	•		
10	25	0	QPSK	•	22.34	•	7.57	0.0057
10	25	12		•	22.36	•		
10	25	25		•	21.91	•		
10	50	0		•	22.22	•		
10	1	0		•	22.33	•		
10	1	25		-	22.49	-		
10	1	49		•	22.54	•		
10	25	0	16-QAM	•	21.59	•	6.39	0.0044
10	25	12		-	21.46	-		
10	25	25		ı	21.12	-		
10	50	0		-	21.48	-		
Limit ERP < 7W				Result		Pa	ISS	



	LTE	Band 26 N	laximum A	verage Po	wer [dBm]	(GT - LC :	= -14 dB)	
BW [MHz]	RB Size	RB Offset	Mod	-	cross-rule channels	-	ERP (dBm)	ERP (W)
5	1	0		ı	23.11	-		
5	1	12		1	22.90	1		
5	1	24		-	23.67	-		
5	12	0	QPSK	ı	22.25	ı	7.52	0.0056
5	12	7		•	22.20	•		
5	12	13		•	22.07	•		
5	25	0		-	22.18	-		
5	1	0		ı	22.48	ı		
5	1	12		ı	22.48	ı		
5	1	24		•	22.20	•		
5	12	0	16-QAM	ı	21.45	1	6.33	0.0043
5	12	7	-	-	21.23	-		
5	12	13		-	21.17	-		
5	25	0		-	21.29	-		
Limit		ERP < 7W			Result		Pa	iss

LTE Band 26 Maximum Average Power [dBm] (GT - LC = -14 dB)								
BW [MHz]	RB Size	RB Offset	Mod	-	cross-rule channels	-	ERP (dBm)	ERP (W)
3	1	0		-	23.12	-		
3	1	8		-	23.03	-		
3	1	14		ı	23.77	ı		
3	8	0	QPSK	•	22.15	-	7.62	0.0058
3	8	4		•	22.14	-		
3	8	7		•	22.11	-		
3	15	0		•	22.15	-		
3	1	0		•	22.45	-		
3	1	8		-	22.46	-		
3	1	14	16-QAM	-	22.26	-	6.31	0.0043
3	8	0		•	21.52	-		
3	8	4		-	21.50	-		
3	8	7		-	21.52	-		
3	15	0		ı	21.41	-		
Limit	ERP < 7W		Result			Pass		



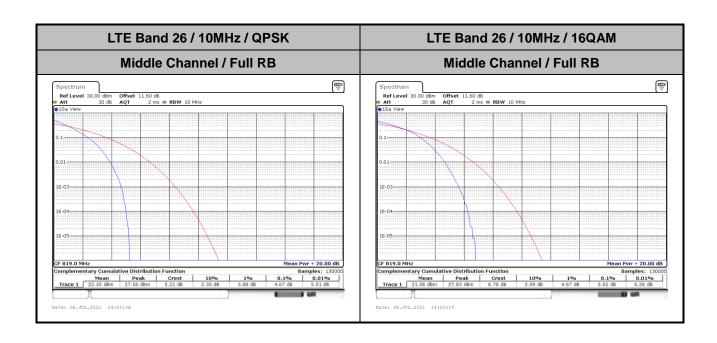
LTE Band 26 Maximum Average Power [dBm] (GT - LC = -14 dB)								
BW [MHz]	RB Size	RB Offset	Mod		cross-rule channels	-	ERP (dBm)	ERP (W)
1.4	1	0		-	23.06	-		
1.4	1	3		-	23.01	-		
1.4	1	5	QPSK	•	22.82	-	6.91	0.0049
1.4	3	0		•	22.98	-		
1.4	3	1		-	23.02	-		
1.4	3	3		-	22.99	-		
1.4	6	0		•	22.20	-		
1.4	1	0	16-QAM	•	22.30	-	6.20	0.0042
1.4	1	3		-	22.35	-		
1.4	1	5		-	22.18	-		
1.4	3	0		-	22.18	-		
1.4	3	1		-	22.27	-		
1.4	3	3		-	22.02	-		
1.4	6	0		-	21.29	-		
Limit	ERP < 7W		Result			Pass		

LTE Band 26

Peak-to-Average Ratio

Mode	LTE Band		
Mod.	QPSK	16QAM	Limit: 13dB
RB Size	Full RB	Full RB	Result
Middle CH	4.67	5.62	PASS

Report No.: FG0D2204-01C



TEL: 886-3-327-3456 Page Number: A2-1 of 24

FAX: 886-3-328-4978

26dB Bandwidth

Mode		LTE Band 26 : 26dB BW(MHz)										
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	-	-	-	-	-	-	-	-	14.84	14.48	-	-
Middle CH	1.31	1.33	3.14	3.07	5.26	5.12	9.99	10.07	-	-	-	-

Report No. : FG0D2204-01C

TEL: 886-3-327-3456 Page Number : A2-2 of 24

LTE Band 26 Middle Channel / 1.4MHz / QPSK Middle Channel / 1.4MHz / 16QAM Ref Level 30.00 dBm Offset 11.60 dB ● RBW 30 kHz
Att 30 dB SWT 63.2 µs ● VBW 100 kHz Mode Auto FFT
SGL Count 100/100
SGL SOUNT 100/100 M1[1] 16.23 dBr 818.51890 MH -10 dBm-30 dBm--50 dBm-CF 819.0 MHz CF 819.0 MHz Span 2.8 MHz 1001 pts Span 2.8 MHz Function Result

1.3287 MHz
26.00 dB
616.4 Function Result 1.3091 MHz
 X-value
 Y-value
 Function

 818.5188 MHz
 16.23 dBm
 nd8 down

 818.3427 MHz
 -9.93 dBm
 nd8

 819.6517 MHz
 -9.66 dBm
 Q factor
 Type Ref Trc Type | Ref | Trc |
 X-value
 Y-value
 Function

 818.9664 MHz
 15.26 dBm
 ndB down
 Date: 26.JUL.2021 11:09:39 Date: 26.JUL.2021 11:10:00 Middle Channel / 3MHz / QPSK Middle Channel / 3MHz / 16QAM 30 dBm Offset 30 dB SWT SGL Count 100/100 11.60 dB • RBW 100 kHz 19 µs • VBW 300 kHz Mode Auto FFT Ref Level 30.00 Offset 11.60 dB ● RBW 100 kHz SWT 19 µs ● VBW 300 kHz Mode Auto FFT 30 dB SGL Count 100/100 17.14 dBm 820.049nn 17.98 dBr 818.64040 MH 26.00 d 3.140900000 MH 260. M1[1] M1[1] 20 dBm dBm-10 dBm -20 dBm--30 dBm -30 dBm-40 dBm -50 dBm-CF 819.0 MHz CF 819.0 MHz Span 6.0 MHz Function Result 3.0749 MHz 26.00 db 266.7
 X-value
 Y-value
 Function

 818.6404 MHz
 17.98 dBm
 ndB down

 817.4476 MHz
 -8.14 dBm
 ndB

 820.5884 MHz
 -8.00 dBm
 Q factor
 Function Result 3.1409 MHz
 Marker
 Trc
 X-value
 Y-value
 Function

 M1
 1
 820.049 MHz
 17.14 d8m
 nd8 down

 T1
 1
 812.4476 MHz
 -8.89 d8m
 nd8

 T2
 1
 820.5225 MHz
 -9.83 d8m
 Q factor
 Type Ref Trc Middle Channel / 5MHz / QPSK Middle Channel / 5MHz / 16QAM 16.11 dBn 819.36000 MH: 26.00 dB 5.255000000 MH: 816.82200 MH 26.00 di 10 dBm 159. 155 10 dBm -10 dBm--30 dBm--50 dBm-60 dBm -60 dBm Span 10.0 MHz Span 10.0 MHz Function Result 5.115 MHz 26.00 dB 159.7 Marker Type | Ref | Trc | Function Result
 Marker
 Y-value
 Y-value
 Function

 M1
 1
 816.822 MHz
 15.06 d8m
 nd8 d9m

 T1
 1
 816.833 MHz
 1.0.93 d8m
 nd8 d9m

 T2
 1
 821.498 MHz
 -10.91 d8m
 Q factor

 X-value
 Y-value
 Function

 819.36 MHz
 16.11 dBm
 nd8 down

 915.383 MHz
 -10.05 dBm
 nd8

 821.637 MHz
 -10.01 dBm
 Q factor
 Date: 26.JUL.2021 14:11:53

Report No.: FG0D2204-01C

LTE Band 26 Middle Channel / 10MHz / QPSK Middle Channel / 10MHz / 16QAM Ref Level 30.00 dBm Offset 11.60 dB = RBW 300 kHz att 30 dB sWT 12.6 ps = V8W 1 MHz Mode Auto FFT Sol. (Count 100/100 att 100/ Ref Level 30.00 dBm Offset 11.60 dB ● RBW 300 kHz
Att 30 dB SWT 12.6 µs ● VBW 1 MHz Mode Auto FFT
SGL Count 100/100
SGL SOUNT 100/100 17.52 dBr 821.0980 MH M1 NndB -10 dBm -20 dBm--30 dBm--50 dBm-CF 819.0 MHz CF 819.0 MHz Span 20.0 MHz Span 20.0 MHz Function Result 9.99 MHz 26.00 dB 82.1 Function Result

10.07 MHz

26.00 dB

81.5
 X-value
 Y-value
 Function

 820.379 MHz
 17.32 dBm
 ndB down

 813.925 MHz
 -8.60 dBm
 ndB

 823.915 MHz
 -8.63 dBm
 Q factor
 Type | Ref | Trc |
 X-value
 Y-value
 Function

 821.098 MHz
 17.52 dBm
 ndB down
 Date: 26.JUL.2021 14:16:16 Date: 26.JUL.2021 14:16:38 LTE Band 26 Lowest Channel / 15MHz / 16QAM Lowest Channel / 15MHz / QPSK Ref Level 30.00 d8m Offset 11.60 d8 • RBW 300 kHz
Att 30 d8 SWT 12.6 µs • VBW 1 MHz Mode Auto FFT
SGL Count 100/100
100 kM - VBW 1 MHz Mode Auto FFT 15.62 dBn 817.0940 MH 26.00 dE 14.835000000 MH -10 dBm -50 dBm-Function Result 14,476 MHz 26,00 dB 56.7 Function Result 14.835 MHz 26.00 dB 55.1 Marker
Type Ref Trc Type Ref Trc Date: 26.JUL.2021 11:59:05

Report No.: FG0D2204-01C

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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	-	-	-	-	-	-	-	-	13.49	13.40	-	-
Middle CH	1.10	1.11	2.76	2.74	4.56	4.52	8.99	9.13	ı	-	1	-

Report No.: FG0D2204-01C

TEL: 886-3-327-3456 Page Number : A2-5 of 24

Date: 26.JUL.2021 14:11:07

FAX: 886-3-328-4978

LTE Band 26 Middle Channel / 1.4MHz / QPSK Middle Channel / 1.4MHz / 16QAM 17.18 dBr 818.84340 MH 1.099300699 MH M1[1] M1[1] -10 dBm--10 dBm--20 dBm--20 dBm-30 dBm— 30 dBm -50 dBm-50 dBm -60 dBm-CF 819.0 MH: CF 819.0 MHz Marker Type | Ref | Trc |
 X-value
 Y-value
 Function

 818.9434 MHz
 17.18 dBm

 818.45455 MHz
 11.75 dBm
 Occ Bw

 819.55385 MHz
 9.56 dBm
 Occ Bw

 X-value
 Y-value
 Function

 819.1622 MHz
 16.07 dBm
 6.07 dBm

 819.4935 MHz
 6.72 dBm
 Occ Bw

 819.55105 MHz
 8.59 dBm
 Type | Ref | Trc | Function Result Function Result 1.099300699 MHz 1.107692308 MHz Middle Channel / 3MHz / QPSK Middle Channel / 3MHz / 16QAM Ref Level 30.00 dBm Offset 11.60 dB @ RBW 100 kHz at 10.00 dBm SWT 19 µs @ VBW 300 kHz Mode Auto FFT SGL Count 100/100 17.38 dBn 817.72930 MHz 2.739260739 MHz 18.25 dBi 819.77920 MF 2.757242757 MF dBm--10 dBm -20 dBm--20 dBm -30 dBm-40 dBm -50 dBm -50 dBm-CF 819.0 MHz CF 819.0 MHz Span 6.0 MHz Function Result 2.757242757 MHz 2.739260739 MHz Date: 26.JUL.2021 14:06:14 Date: 26.JUL.2021 14:06:37 Middle Channel / 5MHz / QPSK Middle Channel / 5MHz / 16QAM Spectrum

Ref Level 30.00 dBm Offset 11.60 dB = RBW 100 kHz

Att 30 dB SWT 19 µs = VBW 300 kHz Mode Auto FFT

SGL Count 100/100

1Pk Max 16.45 dBn 817.15200 MH 4.555444557 20 dBm 10 dBm--10 dBm -20 dBm--30 dBm -50 dBm--50 dBm -60 dBm-CF 819.0 MHz CF 819.0 MHz 1001 pts Span 10.0 MHz 1001 pts Span 10.0 MHz
 Markor
 Y-value
 Y-value
 Function
 Function Result

 M1
 1
 817.152 MHz
 1.6.45 dbm
 5.64 dbm
 5.75 dbm

 T1
 1
 1816.73227 MHz
 9.13 dbm
 Occ Bw
 4.555444

 T2
 1
 821.28771 MHz
 9.29 dbm
 4.555444

 Marker
 Trc
 X-value
 Y-value
 Function

 M1
 1
 819.48 MHz
 15.72 dBm
 15.72 dBm

 T1
 1
 915.75225 MHz
 8.76 dBm
 Occ Bw

 T2
 1
 821.26773 MHz
 7.97 dBm
 Occ Bw
 Function Result 4.555444555 MHz 4.515484515 MHz

Report No.: FG0D2204-01C

TEL: 886-3-327-3456 Page Number : A2-6 of 24

Date: 26.JUL.2021 14:11:30

LTE Band 26 Middle Channel / 10MHz / QPSK Middle Channel / 10MHz / 16QAM Ref Level 30.00 dBm Offset 11.60 dB ● RBW 300 kHz
Att 30 dB SWT 12.6 µs ● VBW 1 MHz Mode Auto FFT
SGL Count 100/100
SGL SOUNT 100/100 M1[1] -10 dBm 20 dBm -20 dBm--30 dBm -30 dBm--50 dBm-CF 819.0 MHz CF 819.0 MHz Span 20.0 MHz 1001 pts Span 20.0 MHz
 X-value
 Y-value
 Function

 815.603 MHz
 17.75 dBm

 814.5245 MHz
 11.49 dBm
 Occ Bw

 823.5155 MHz
 11.63 dBm
 Type | Ref | Trc | Function Result X-value Y-value Function 819.559 MHz 15.99 dBm Function Result 15.99 dBm 8.33 dBm Occ Bw 10.45 dBm 8.991008991 MHz 9.130869131 MHz Date: 26.JUL.2021 14:15:30 Date: 26.JUL.2021 14:15:53 LTE Band 26 Lowest Channel / 15MHz / QPSK Lowest Channel / 15MHz / 16QAM Ref Level 30.00 dBm
Att 30 dB
SGL Count 100/100 Ref Level 30.00 dBm
Att 30 dB
SGL Count 100/100 15.48 dBn 826.8050 MH 13.486513487 MH 14.46 dBn 823.9880 MH 13.396603397 MH 10 dBm -10 dBm -10 dBm 40 dBm--40 dBm--60 dBm-1001 pts Span 30.0 MHz 1001 pts Span 30.0 MHz
 X-value
 Y-value
 Function

 826,805 MHz
 15.48 dBm
 814.7867 MHz
 9.99 dBm
 Occ Bw

 828,2732 MHz
 10.30 dBm
 Occ Bw
 0cc Bw Type Ref Trc Function Result Type Ref Trc Function Function Result

Report No.: FG0D2204-01C

Occ Bw

13.396603397 MHz

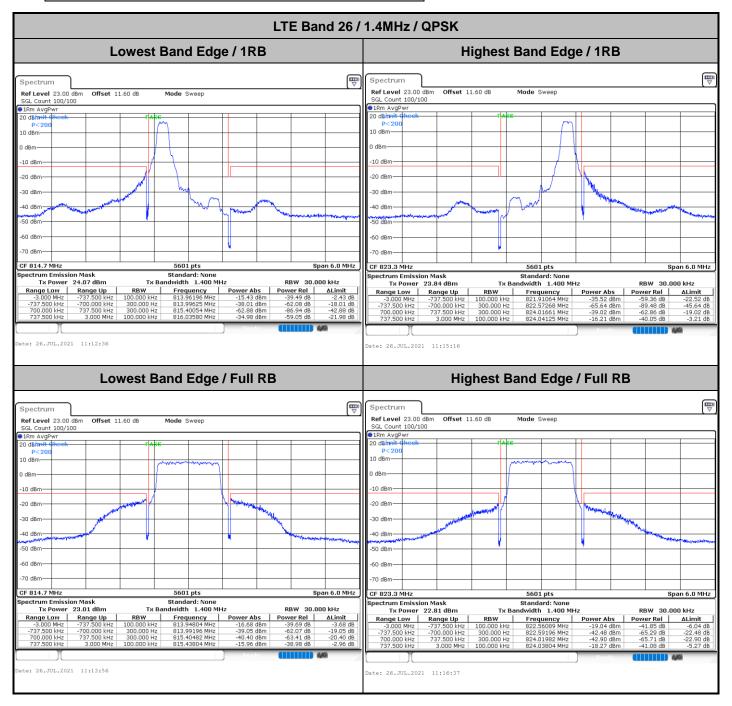
TEL: 886-3-327-3456 Page Number : A2-7 of 24

13.486513487 MHz

FAX: 886-3-328-4978

Date: 26.JUL.2021 11:58:42

Emission masks - In-band emissions



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LTE Band 26 / 1.4MHz / 16QAM Lowest Band Edge / 1 RB Highest Band Edge / 1 RB Spectrum Ref Level 23.00 dBm Offset 11.60 dB Mode Sweep Ref Level 23.00 SGL Count 100/1 Offset 11.60 dB Mode Sweep SGL Count 100/100 ●1Rm AvgPwr -10 dBm -10 dBm 20 dBr -20 dBm -50 dBr CF 814.7 MHz 5601 pts n 6.0 MHz Span 6.0 MHz CF 823.3 MHz 5601 pts Standard: None Tx Bandwidth 1.400 MHz Spectrum Emission Mask Standard: None Tx Power 22.40 dBm

nge Low Range Up

-3.000 MHz -737.500 kHz Tx Bandwidth 1.400 MHz RBW 30.000 kHz Range Low Range Up
-3.000 MHz -737.500 kHz
-737.500 kHz -700.000 kHz
700.000 kHz 737.500 kHz
737.500 kHz 3.000 MHz Frequency Power Abs
2 813.95339 MHz -16.33 dBm
5 813.99732 MHz -40.21 dBm
6 815.40268 MHz -65.59 dBm
7 816.08079 MHz -25.81 dBm
 Power Rel
 ALimit

 n
 -38.81 dB
 -3.33

 n
 -62.69 dB
 -20.21

 n
 -88.07 dB
 -45.59

 n
 -48.29 dB
 -12.81
 te: 26.JUL.2021 11:13:16 ate: 26.JUL.2021 11:15:56 Lowest Band Edge / Full RB **Highest Band Edge / Full RB** Spectrum Offset 11.60 dB Ref Level 23.00 dBm Offset 11.60 dB Mode Sweep SGL Count 100/100 1Rm AvgPwr GL Count 100/100 20 dBim 10 dBm -10 dBm -10 dBm -20 dBm -20 dBm 30 dBn 30 dBm 40 dBm 60 dBn -60 dBm 70 dBm CF 823.3 MHz

spectrum Emis som Mask
Tx Power 21.88 dBm
Range Low Range Up
-3,000 MHz -737.500 kHz 100.000 kHz
-737.500 kHz -737.500 kHz 300.000 Hz
-700.000 kHz 737.500 kHz 300.000 Hz
-700.000 kHz 737.500 kHz 100.000 kHz 5601 pts Span 6.0 MHz 5601 pts Span 6.0 MHz ctrum Emission Mask Standard: None Tx Bandwidth 1.400 MHz Standard: None dwidth 1.400 MHz RBW 30.000 kHz Tx Power 21.88 dBm Тх Ва RBW 30.000 kHz ALimit -4.44 dB -21.83 dB -22.24 dB -6.18 dB Frequency 813.96196 MHz Frequency Power Abs 822.56196 MHz -21.29 dB 822.59411 MHz -42.66 dB Power Rel | ALimit

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Date: 26.JUL.2021 11:17:17

FAX: 886-3-328-4978

te: 26.JUL.2021 11:14:36

LTE Band 26 / 3MHz / QPSK Lowest Band Edge / 1RB Highest Band Edge / 1 RB Spectrum Ref Level 23.00 dBm Offset 11.60 dB Mode Sweep Ref Level 23.00 dBm SGL Count 100/100 Offset 11.60 dB Mode Sweep SGL Count 100/100 SGL C. ●1Rm AvgPwr -10 dBm 10 dBm 20 dBr -20 dBm -50 dBn Span 10.0 MHz 5601 pts 10.0 MHz CF 822.5 MHz 5601 pts ectrum Emission Mask Tx Power 23.75 dBm Standard: None Tx Bandwidth 3.000 MHz Spectrum Emission Mask Standard: None Tx Power 24.03 dBm

nge Low Range Up

-5.000 MHz -1.538 MHz Tx Bandwidth 3.000 MHz | Range Low | Range Up | -5.000 MHz | -1.538 MHz | -1.500 MHz | 1.538 MHz | 1.538 MHz | 1.538 MHz | 5.000 MHz | 5.
 Frequency
 Power Abs

 813.96161 MHz
 -16.34 dBm

 813.99911 MHz
 -36.86 dBm

 817.02768 MHz
 -68.43 dBm

 819.28304 MHz
 -36.62 dBm
 te: 26.JUL.2021 11:21:01 ate: 26.JUL.2021 14:24:13 Lowest Band Edge / Full RB **Highest Band Edge / Full RB** Spectrum Offset 11.60 dB Ref Level 23.00 dBm Offset 11.60 dB Mode Sweep SGL Count 100/100 GL Count 100/100 20 dBim 10 dBm -10 dBm -10 dBm -20 dBm -20 dBm 30 dBr -40 dBm -50 dBm -50 dBm -60 dBn 5601 pts Span 10.0 MHz CF 822.5 MHz 5601 pts Span 10.0 MHz GF 822.5 MHz

pectrum Emission Mask
Tx Power 23.06 dBm

Range Low Range Up
-5.000 MHz -1.538 MHz
-1.538 MHz -1.500 MHz
1.538 MHz -1.538 MHz
1.538 MHz 5.000 MHz ctrum Emission Mask Standard: None Tx Bandwidth 3.000 MHz Standard: None dwidth 3.000 MHz Tx Power 23.11 dBm RBW 30.000 kHz Тх Ва RBW 30.000 kHz RBW 100.000 kHz 300.000 Hz 300.000 Hz 100.000 kHz
 Frequency
 Power Abs

 820.92768 MHz
 -18.13 dB

 820.99911 MHz
 -42.84 dB
 Power Rel | ALimit te: 26.JUL.2021 11:22:22 Date: 26.JUL.2021 11:25:04

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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 11.60 dB Mode Sweep Ref Level 23.00 dBm SGL Count 100/100 Offset 11.60 dB Mode Sweep SGL Count 100/100 SGL C. ●1Rm AvgPwr -10 dBm -10 dBm 20 dBr -20 dBm -50 d8m Span 10.0 MHz 5601 pts 10.0 MHz CF 822.5 MHz 5601 pts ectrum Emission Mask Tx Power 22.49 dBm Standard: None Tx Bandwidth 3.000 MHz Spectrum Emission Mask Standard: None Tx Power 22.30 dBm

nge Low Range Up

-5.000 MHz -1.538 MHz Tx Bandwidth 3.000 MHz RBW 30.000 kHz | Range Low | Range Up | -5.000 MHz | -1.538 MHz | -1.500 MHz | 1.538 MHz | 1.538 MHz | 1.538 MHz | 5.000 MHz | 5. Frequency Power Abs
2 813.96161 MHz -15.89 dBm
813.99911 MHz -37.88 dBm
2 817.02768 MHz -69.02 dBm
2 819.12946 MHz -27.63 dBm
 Power Rel
 ALimit

 n
 -38.38 dB
 -2.89

 n
 -60.37 dB
 -17.88

 n
 -91.51 dB
 -49.02

 n
 -50.13 dB
 -14.63

 Power Rel
 ALimit

 -55.48 dB
 -20.19 dB

 -90.42 dB
 -48.12 dB

 -61.75 dB
 -19.45 dB

 -37.95 dB
 -2.65 dB
 te: 26.JUL.2021 11:21:41 ate: 26.JUL.2021 11:24:23 Lowest Band Edge / Full RB **Highest Band Edge / Full RB** Spectrum Offset 11.60 dB Ref Level 23.00 dBm Offset 11.60 dB Mode Sweep SGL Count 100/100 1Rm AvgPwr GL Count 100/100 20 dBim 10 dBm -10 dBm -10 dBm -20 dBm -20 dBm 30 dBn 30 dBm 40 dBm 40 dBm--50 dBm -50 dBm -60 dBm -60 dBm 5601 pts Span 10.0 MHz CF 822.5 MHz 5601 pts Span 10.0 MHz GF 822.5 MHz
spectrum Emission Mask
Tx Power 21.87 dBm
Range Low Range Up
-5.000 MHz -1.538 MHz
-1.538 MHz -1.500 MHz
1.538 MHz -1.538 MHz
1.538 MHz 5.000 MHz ctrum Emission Mask Standard: None Tx Bandwidth 3.000 MHz Standard: None dwidth 3.000 MHz Tx Power 21.60 dBm RBW 30.000 kHz Tx Ba RBW 30.000 kHz RBW 100.000 kHz 300.000 Hz 300.000 Hz 100.000 kHz
 Frequency
 Power Abs

 820.95804 MHz
 -21.38 dB
 Power Rel | ALimit -43.25 dB -66.19 dB -65.88 dB -42.49 dB te: 26.JUL.2021 11:23:02 Date: 26.JUL.2021 11:25:44

Report No.: FG0D2204-01C

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te: 26.JUL.2021 11:29:18

FAX: 886-3-328-4978

LTE Band 26 / 5MHz / QPSK Lowest Band Edge / 1 RB Highest Band Edge / 1 RB Spectrum Ref Level 23.00 dBm Offset 11.60 dB Mode Sweep Ref Level 23.00 dBm SGL Count 100/100 Offset 11.60 dB Mode Sweep SGL Count 100/100 ●1Rm AvgPwr -10 dBm 10 dBm -20 dBm -50 d8m 5601 pts 15.0 MHz Span 15.0 MHz CF 821.5 MHz 5601 pts Dectrum Emission Mask
Tx Power 23.70 dBm
Range Low Range Up
-7.500 MHz -2.538 MHz
-2.530 MHz -2.500 MHz
2.530 MHz 7.500 MHz
2.538 MHz 7.500 MHz Standard: None Tx Bandwidth 5.000 MHz Spectrum Emission Mask Standard: None Tx Power 23.54 dBm

nge Low Range Up

-7.500 MHz -2.538 MH Tx Bandwidth 5.000 MHz RBW 50.000 kHz Frequency Power Abs
2 813.96116 MHz -19.39 dBm
813.99866 MHz -42.76 dBm
2 819.03080 MHz -71.35 dBm
2 822.96168 MHz -35.45 dBm Frequency 815.00081 MHz te: 26.JUL.2021 11:27:57 Date: 26.JUL.2021 11:30:38 Lowest Band Edge / Full RB **Highest Band Edge / Full RB** Spectrum Offset 11.60 dB Ref Level 23.00 dBm Offset 11.60 dB Mode Sweep SGL Count 100/100 1Rm AvgPwr GL Count 100/100 20 dBim 10 dBm -10 dBm -10 dBm -20 dBm -20 dBm 40 dB -50 dBm -50 dBm -60 dBn 70 dBm 5601 pts Span 15.0 MHz CF 821.5 MHz 5601 pts Span 15.0 MHz GF 821.5 MHz
spectrum Emission Mask
Tx Power 23.02 dBm
Range Low Range Up
7.500 MHz 2.538 MHz
2.538 MHz -2.500 MHz
2.538 MHz 2.538 MHz
2.538 MHz 7.500 MHz ctrum Emission Mask Standard: None Tx Bandwidth 5.000 MHz Standard: None dwidth 5.000 MHz Tx Power 23.00 dBm RBW 50.000 kHz Тх Ва RBW 50.000 kHz Range Up -2 538 MH; RBW 100.000 kHz 300.000 Hz 300.000 Hz 100.000 kHz
 Frequency
 Power Abs

 818.96116 MHz
 -21.06 dB
 Power Rel | ALimit

Report No.: FG0D2204-01C

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Date: 26.JUL.2021 11:31:58

LTE Band 26 / 5MHz / 16QAM Lowest Band Edge / 1RB Highest Band Edge / 1 RB Spectrum Ref Level 23.00 dBm Offset 11.60 dB Mode Sweep Ref Level 23.00 dBm SGL Count 100/100 Offset 11.60 dB Mode Sweep SGL Count 100/100 ●1Rm AvgPwr -10 dBm 10 dBm 20 dBr -20 dBm 50 dBm-5601 pts 15.0 MHz Span 15.0 MHz CF 821.5 MHz 5601 pts ectrum Emission Mask Tx Power 22.39 dBm Standard: None Tx Bandwidth 5.000 MHz Spectrum Emission Mask Standard: None RBW 50.000 kHz Tx Power 22.26 dBm

nge Low Range Up

-7.500 MHz -2.538 MH Tx Bandwidth 5.000 MHz RBW 50.000 kHz
 Range Low
 Range Up

 -7.500 MHz
 -2.538 MHz

 -2.538 MHz
 -2.500 MHz

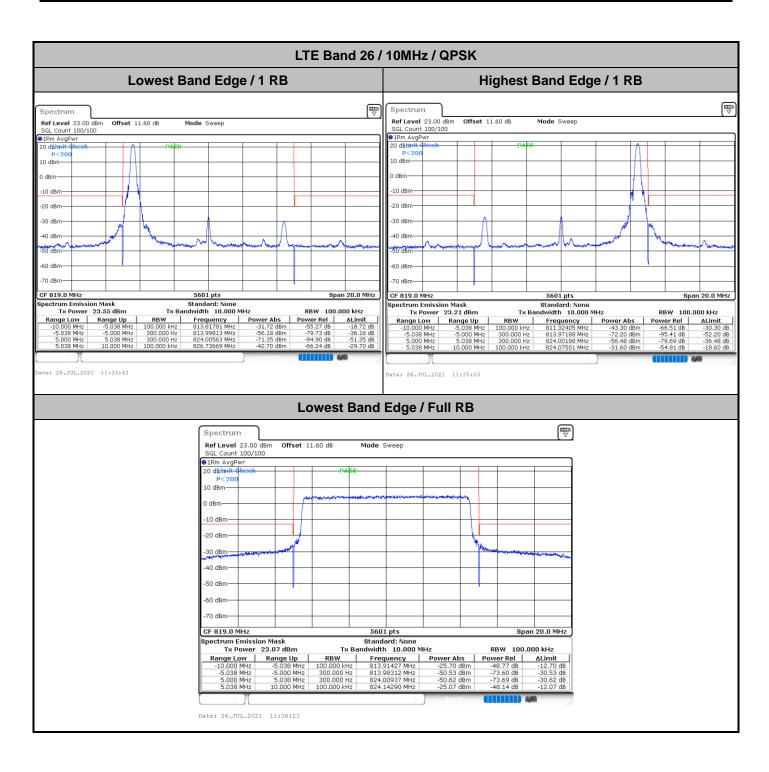
 2.500 MHz
 2.530 MHz

 2.538 MHz
 7.500 MHz
 Frequency Power Abs
2 813.94508 MHz -21.81 dBm
813.99866 MHz -43.91 dBm
2 819.03348 MHz -71.93 dBm
2 822.92953 MHz -30.03 dBm Frequency 814.86415 MHz te: 26.JUL.2021 11:28:37 ate: 26.JUL.2021 11:31:18 Lowest Band Edge / Full RB **Highest Band Edge / Full RB** Spectrum Offset 11.60 dB Ref Level 23.00 dBm Offset 11.60 dB Mode Sweep SGL Count 100/100 GL Count 100/100 20 dBim 10 dBm -10 dBm -10 dBm -20 dBm -20 dBm 30 dBn 40 dBm 40 dBm -50 dBm--50 dBm -60 dBm -60 dBm 5601 pts Span 15.0 MHz Span 15.0 MHz CF 821.5 MHz 5601 pts ctrum Emission Mask Standard: None Tx Bandwidth 5.000 MHz Standard: None dwidth 5.000 MHz Tx Power 22.00 dBm RBW 50.000 kHz Tx Ba RBW 50.000 kHz RBW 100.000 kHz 300.000 Hz 300.000 Hz 100.000 kHz Frequency 813.89149 MHz
 Frequency
 Power Abs

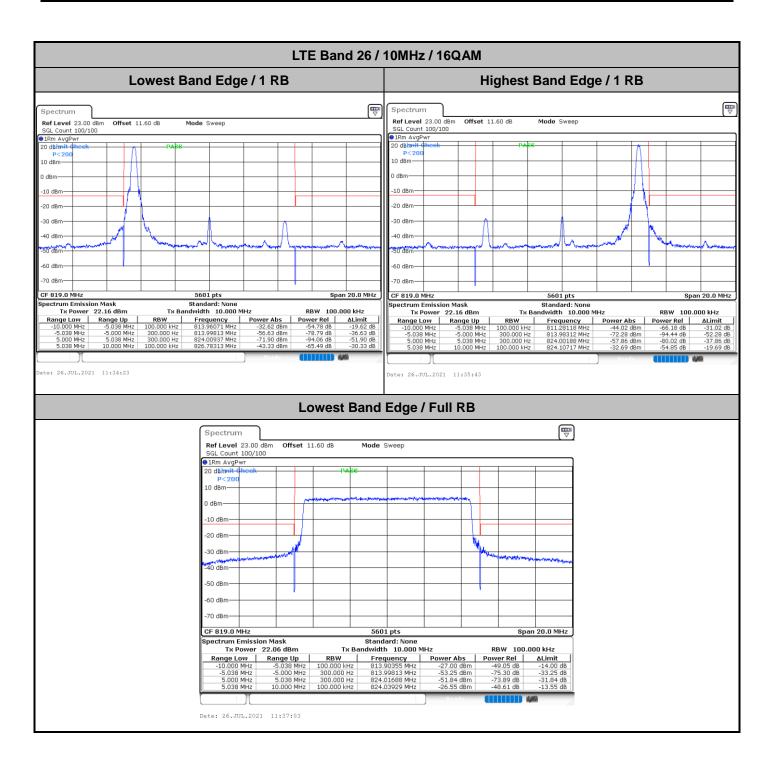
 818.94776 MHz
 -22.93 dB
 Power Rel | ALimit te: 26.JUL.2021 11:29:58 Date: 26.JUL.2021 11:32:38

Report No.: FG0D2204-01C

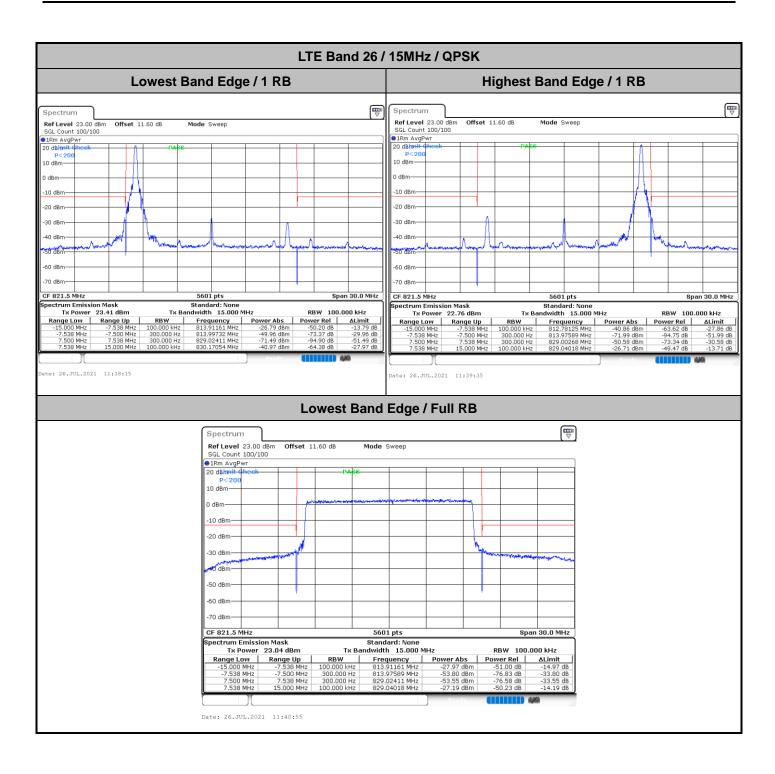
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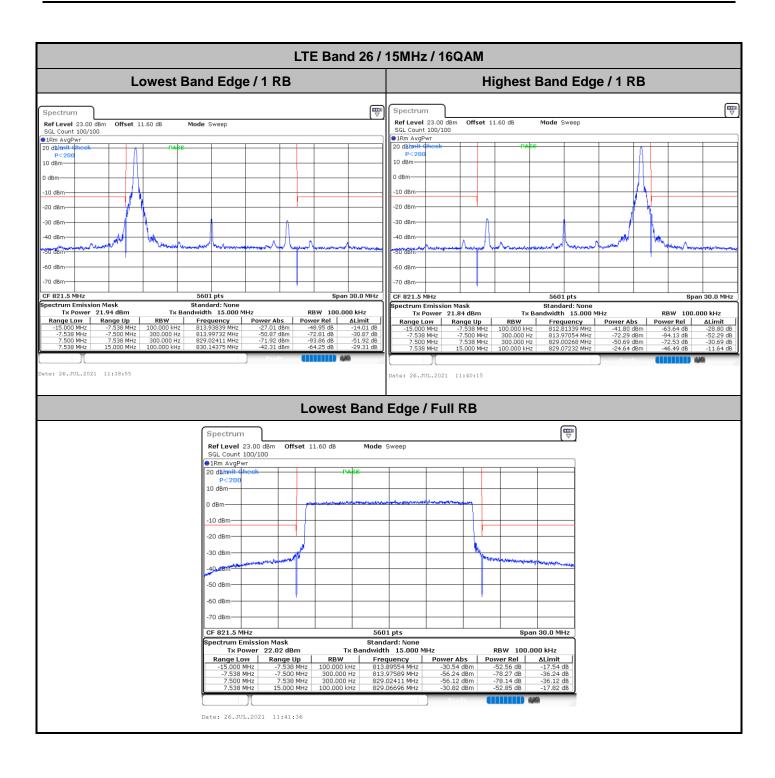
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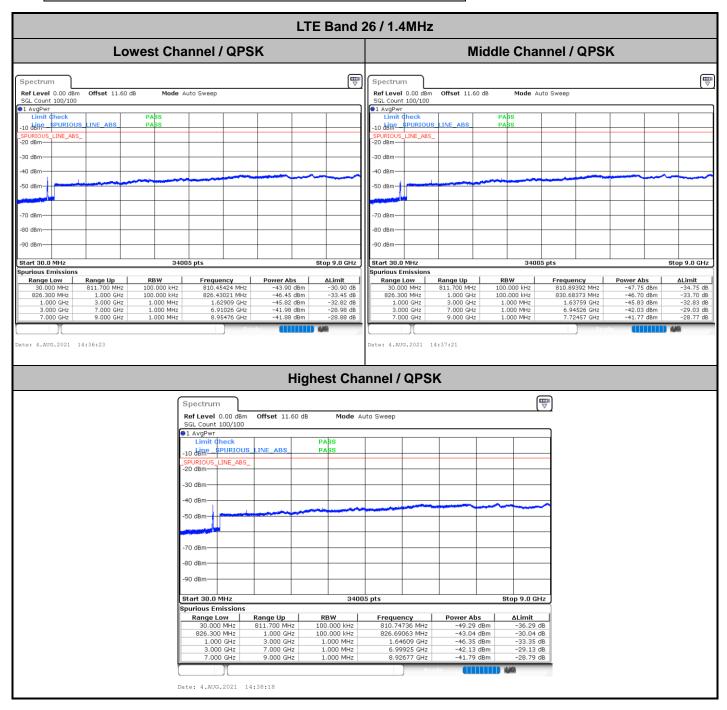


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Emission masks - Out of band emissions



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LTE Band 26 / 3MHz **Lowest Channel / QPSK** Middle Channel / QPSK Spectrum Spectrum Ref Level 0.00 dBm Offset 11.60 dB Mode Auto Sweep Ref Level 0.00 dBm Offset 11.60 dB Mode Auto Sweep SGL Count 100/100
1 AvgPwr
Limit Check Count 100/100 1 AvgPwr 10 dam _ SPURIOUS_LINE_ABS -10 dem SPURIOUS 20 dBm 30 dBm -30 dBm-40 dBm -40 dBm--50 dBm -50 dBm 70 dBm 70 dBm 90 dBm-Stop 9.0 GHz ırious Emissions Spurious Emission: 809.25616 MHz 829.61207 MHz 1.62909 GHz 6.91626 GHz 7.70857 GHz Power Abs -41.25 dBm -50.38 dBm -45.33 dBm -41.98 dBm -41.72 dBm -28.25 dB -37.38 dB -32.33 dB -28.98 dB -28.72 dB RBW 100.000 kHz 100.000 kHz 1.000 MHz 1.000 MHz 1.000 MHz Power Abs -46.94 dBm -46.34 dBm -45.17 dBm -42.07 dBm -41.80 dBm ΔLimit
-33.94 dB
-33.34 dB
-32.17 dB
-29.07 dB
-28.80 dB RBW 100.000 kHz 100.000 kHz Range Low 30.000 MHz 827.500 MHz 810.08539 MHz 829.95690 MHz 1.63559 GHz 6.90526 GHz 7.72257 GHz Range Up 810.500 MHz Range Low 30.000 MHz Range Up 810.500 MHz 1.000 GHz 1.000 GHz 3.000 GHz 7.000 GHz 9.000 GHz 0.500 MHz 1.000 GHz 3.000 GHz 7.000 GHz 9.000 GHz 827.500 MHz 1.000 MHz 1.000 MHz 1.000 MHz 1.000 GHz 3.000 GHz 7.000 GHz te: 4.AUG.2021 15:09:44 Date: 4.AUG.2021 15:10:52 **Highest Channel / QPSK** Spectrum Ref Level 0.00 dBm SGL Count 100/100 Offset 11.60 dB Mode Auto Sweep ●1 AvgPwr -10 dem SPURIOUS LINE ABS -30 dBm-40 dBm -50 dBm— -80 dBm--90 dBm-Start 30.0 MHz 34005 pts Stop 9.0 GHz Spurious Emissions Range Low

30.000 MHz
827.500 MHz
1.000 GHz
3.000 GHz Range Up 810.500 MHz 1.000 GHz 3.000 GHz 7.000 GHz RBW 100.000 kHz 100.000 kHz 1.000 MHz 1.000 MHz Power Abs -50.70 dBm -45.43 dBm -45.77 dBm -41.72 dBm -41.59 dBm 809.10982 MHz 828.92241 MHz 1.64309 GHz 6.92926 GHz 8.91877 GHz Date: 4.AUG.2021 15:11:58

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LTE Band 26 / 5MHz **Lowest Channel / QPSK** Middle Channel / QPSK Spectrum Spectrum Ref Level 0.00 dBm Offset 11.60 dB Mode Auto Sweep Ref Level 0.00 dBm Offset 11.60 dB Mode Auto Sweep SGL Count 100/100
1 AvgPwr
Limit Check Count 100/100 1 AvgPwr 10 dam _ SPURIOUS_LINE_ABS -10 dem SPURIOUS 20 dBm 30 dBm -30 dBm--40 dBm-40 dBm -50 dBm -50 dBm 70 dBm 70 dBm 90 dBm-Stop 9.0 GHz ırious Emissions Spurious Emission: 808.63487 MHz 809.72639 MHz 1.62909 GHz 6.92376 GHz 8.93277 GHz Power Abs -50.37 dBm -47.47 dBm -45.25 dBm -41.64 dBm -41.92 dBm ΔLimit
-37.37 dB
-34.47 dB
-32.25 dB
-28.64 dB
-28.92 dB RBW 100.000 kHz 100.000 kHz 1.000 MHz 1.000 MHz 1.000 MHz Power Abs -42.60 dBm -45.46 dBm -45.06 dBm -42.23 dBm -41.87 dBm ΔLimit
-29.60 dB
-32.46 dB
-32.06 dB
-29.23 dB
-28.87 dB RBW 100.000 kHz 100.000 kHz Range Low 30.000 MHz 829.000 MHz Frequency 808.29408 MHz 829.04273 MHz 1.63409 GHz 6.92376 GHz 8.93877 GHz Range Low 30.000 MHz Range Up 809.000 MHz Range Up 809.000 MHz 1.000 MHz 1.000 GHz 3.000 GHz 7.000 GHz 9.000 GHz 829.000 MHz 1.000 MHz 1.000 MHz 1.000 MHz 1.000 GHz 3.000 GHz 7.000 GHz te: 4.AUG.2021 14:43:36 Date: 4.AUG.2021 14:44:34 **Highest Channel / QPSK** Spectrum Ref Level 0.00 dBm SGL Count 100/100 Offset 11.60 dB Mode Auto Sweep ●1 AvgPwr Limit (-10 dem SPURIOUS LINE ABS -30 dBm-40 dBm--50 dBm--80 dBm -90 dBm-Start 30.0 MHz 34005 pts Stop 9.0 GHz Spurious Emissions Range Low

30.000 MHz
829.000 MHz
1.000 GHz
3.000 GHz RBW 100.000 kHz 100.000 kHz 1.000 MHz 1.000 MHz 807.27170 MHz 831.52099 MHz 1.63909 GHz 6.97675 GHz

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Date: 4.AUG.2021 14:45:35

-41.64 dBm

Date: 4.AUG.2021 14:46:54

LTE Band 26 / 10MHz Middle Channel / QPSK Spectrum Ref Level 0.00 dBm Offset 11.60 dB SGL Count 100/100

1 AvgPwr
Limit check Mode Auto Sweep PASS PASS -10 dBm SPURIOUS LINE_ABS_
-20 dBm SPURIOUS_LINE_ABS_ -30 dBm--50 dBm -70 dBm--80 dBm -90 dBm-Stop 9.0 GHz Start 30.0 MHz 34005 pts Range Up 809.000 MHz 1.000 GHz 3.000 GHz 7.000 GHz 9.000 GHz RBW 100.000 kHz 100.000 kHz 1.000 MHz 1.000 MHz 1.000 MHz 808.14802 MHz 832.29010 MHz 1.62959 GHz 6.91026 GHz 7.71257 GHz Power Abs
-51.26 dBm
-35.22 dBm
-45.54 dBm
-42.09 dBm
-41.84 dBm ΔLimit
-38.26 dB
-22.22 dB
-32.54 dB
-29.09 dB
-28.84 dB Range Low 30.000 MHz 829.000 MHz 1.000 GHz 3.000 GHz 7.000 GHz

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Date: 4.AUG.2021 14:48:13

LTE Band 26 / 15MHz Middle Channel / QPSK Spectrum Ref Level 0.00 dBm Offset 11.60 dB SGL Count 100/100

1 AvgPwr
Limit check Mode Auto Sweep PASS PASS -10 dBm SPURIOUS LINE_ABS_
-20 dBm SPURIOUS_LINE_ABS_ -30 dBm--50 dBm--70 dBm -80 dBm -90 dBm-Stop 9.0 GHz Start 30.0 MHz 34005 pts Range Up 806.500 MHz 1.000 GHz 3.000 GHz 7.000 GHz 9.000 GHz RBW 100.000 kHz 100.000 kHz 1.000 MHz 1.000 MHz 1.000 MHz 798.75975 MHz 841.52511 MHz 1.63009 GHz 5.87789 GHz 7.73407 GHz Power Abs
-57.43 dBm
-36.06 dBm
-45.25 dBm
-41.90 dBm
-41.78 dBm ΔLimit
-44.43 dB
-23.06 dB
-32.25 dB
-28.90 dB
-28.78 dB Range Low 30.000 MHz 836.500 MHz 1.000 GHz 3.000 GHz 7.000 GHz

Report No.: FG0D2204-01C

TEL: 886-3-327-3456 Page Number: A2-22 of 24

Frequency Stability

Test (Conditions	LTE Band 26 (QPSK) / Middle Channel	Limit					
Temperature	Voltage	Voltage BW 15MHz						
(°C)	(Volt)	Deviation (ppm)	Result					
50	Normal Voltage	0.0033						
40	Normal Voltage	0.0007						
30	Normal Voltage	0.0011						
20(Ref.)	Normal Voltage	0.0000						
10	Normal Voltage	0.0049						
0	Normal Voltage	0.0029	DAGG					
-10	Normal Voltage	0.0002	PASS					
-20	Normal Voltage	0.0013						
-30	Normal Voltage	0.0004						
20	Maximum Voltage	0.0011						
20	Normal Voltage	0.0000						
20	Battery End Point	0.0054						

Report No.: FG0D2204-01C

Note:

- 1. Normal Voltage =3.85 V.; Battery End Point (BEP) =3.5 V.; Maximum Voltage =4.3 V.
- 2. The frequency fundamental emissions stay within the authorized frequency block.

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Test (Conditions	LTE Band 26 (QPSK) / Low Channel	Limit			
_ ,		BW 10MHz	Note 2.			
Temperature (°C)	Voltage (Volt)	Deviation (ppm)	Result			
50	Normal Voltage	0.0083				
40	Normal Voltage	Voltage 0.0037				
30	Normal Voltage	0.0026				
20(Ref.)	Normal Voltage	0.0000				
10	Normal Voltage	0.0007	_			
0	Normal Voltage	0.0016	DACC			
-10	Normal Voltage	0.0045	- PASS			
-20	Normal Voltage	0.0012				
-30	Normal Voltage	0.0021				
20	Maximum Voltage	0.0084				
20	Normal Voltage	0.0000				
20	Battery End Point	0.0035				

Note:

- 1. Normal Voltage =3.85 V.; Battery End Point (BEP) =3.5 V.; Maximum Voltage =4.3 V.
- 2. The frequency fundamental emissions stay within the authorized frequency block.

TEL: 886-3-327-3456 Page Number : A2-24 of 24

LTE Band 26_824MHz

Peak-to-Average Ratio

Mode	LTE Band		
Mod.	QPSK	16QAM	Limit: 13dB
RB Size	Full RB	Full RB	Result
Middle CH	4.96	5.62	PASS

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26dB Bandwidth

Mode		LTE Band 26 : 26dB BW(MHz)										
BW	1.4MHz 3MHz		lHz	5MHz		10MHz		15MHz		20MHz		
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	1.30	1.35	3.15	3.13	5.34	5.05	10.05	10.21	14.21	14.78	-	-

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Date: 4.AUG.2021 15:27:09

FAX: 886-3-328-4978

LTE Band 26 Middle Channel / 1.4MHz / QPSK Middle Channel / 1.4MHz / 16QAM Ref Level 30.00 dBm Offset 11.60 dB ● RBW 30 kHz
Att 30 dB SWT 63.2 µs ● VBW 100 kHz Mode Auto FFT
SGL Count 100/100
SGL SOUNT 100/100 15.45 dBn 824.40280 MHz 26.00 dB 1.348300000 MV 18.29 dBr 824.40560 MH ndB 1 611. -10 dBm-20 dBm-30 dBm -50 dBm-CF 824.0 MHz CF 824.0 MHz Span 2.8 MHz 1001 pts Span 2.8 MHz Function Result
1.3483 MHz
26.00 dB
611.5 Function Result 1.2979 MHz
 X-value
 Y-value
 Function

 824.4056 MHz
 18.29 dBm
 nd8 down

 823.3706 MHz
 -7.69 dBm
 nd8

 824.6685 MHz
 -7.83 dBm
 Q factor
 Type | Ref | Trc | Type Ref Trc
 X-value
 Y-value
 Function

 824.4028 MHz
 15.45 dBm
 ndB down
 823.3119 MHz 824.6601 MHz Date: 4.AUG.2021 15:23:27 Date: 4.AUG.2021 15:23:48 Middle Channel / 3MHz / QPSK Middle Channel / 3MHz / 16QAM 30 dBm Offset 30 dB SWT SGL Count 100/100 11.60 dB • RBW 100 kHz 19 µs • VBW 300 kHz Mode Auto FFT Ref Level 30.00 Offset 11.60 dB ● RBW 100 kHz SWT 19 µs ● VBW 300 kHz Mode Auto FFT 30 dB SGL Count 100/100 M1[1] 17.36 dBr 824.66530 MH M1[1] 17.64 dBn 824.33570 MH 20 dBm dBm-10 dBm -30 dBm -30 dBm-40 dBm -50 dBm-CF 824.0 MHz CF 824.0 MHz Function Result 3.1349 MHz 26.00 dB 263.0
 X-value
 Y-value
 Function

 824.6653 MHz
 17.36 dBm
 ndB down

 822.4296 MHz
 -8.48 dBm
 ndB

 825.5824 MHz
 -8.77 dBm
 Q factor
 Function Result 3.1528 MHz
 Marker
 Trc
 X-value
 Y-value
 Function

 M1
 1
 824.3357 MHz
 17.64 dbm
 nd8 down

 T1
 1
 824.116 MHz
 -8.47 dbm
 nd8

 T2
 1
 825.5465 MHz
 -8.20 dbm
 Q factor
 Type Ref Trc Middle Channel / 5MHz / QPSK Middle Channel / 5MHz / 16QAM Ref Level 30.00 dBm Offset 11.60 dB • RBW 100 kHz
• Att 30 db • SWT 19 µs • VBW 300 kHz Mode Auto FFT
• 1Pk Max 16.48 dBn 825.26900 MH: 26.00 dB 5.335000000 MH: 822.79100 MH 26.00 di 10 dBm 163. 154 10 dBm -10 dBm--50 dBm-60 dBm -60 dBm-Span 10.0 MHz Span 10.0 MHz Function Result 5.045 MHz 26.00 dB 163.1 Marker Type | Ref | Trc | Function Result
 Marker
 Trc
 X-value
 Y-value
 Function

 M1
 1
 882.791 MHz
 15.58 d8m
 nd8 down

 T1
 1
 821.252 MHz
 -10.55 d8m
 nd8 down

 T2
 1
 825.567 MHz
 -10.45 d8m
 Q factor

 X-value
 Y-value
 Function

 825.269 MHz
 16.48 dBm
 ndB down

 821.193 MHz
 -9.59 dBm
 ndB

 826.527 MHz
 -9.54 dBm
 Q factor

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LTE Band 26 Middle Channel / 10MHz / QPSK Middle Channel / 10MHz / 16QAM Ref Level 30.00 dBm Offset 11.60 dB ● RBW 300 kHz
Att 30 dB SWT 12.6 µs ● VBW 1 MHz Mode Auto FFT
SGL Count 100/100
SGL SOUNT 100/100 16.79 dBm 823.4410 MHz 26.00 dB 10.210000000 ML** 16.75 dBn 822.7610 MH -10 dBm -20 dBs -30 dBm--30 dBm--50 dBm-CF 824.0 MHz CF 824.0 MHz Span 20.0 MHz 1001 pts Span 20.0 MHz Function Result 10.05 MHz 26.00 dB 81.9 Function Result 10.21 MHz 26.00 dB 80.7
 X-value
 Y-value
 Function

 822.761 MHz
 16.75 dBm
 ndB down

 918.905 MHz
 -9.41 dBm
 ndB

 828.955 MHz
 -9.35 dBm
 Q factor
 Type | Ref | Trc |
 X-value
 Y-value
 Function

 823.441 MHz
 16.79 dBm
 ndB down
 Date: 4.AUG.2021 15:29:04 Date: 4.AUG.2021 15:29:26 Middle Channel / 15MHz / QPSK Middle Channel / 15MHz / 16QAM Ref Level 30.00 Att Offset 11.60 dB ● RBW 300 kHz SWT 12.6 µs ● VBW 1 MHz Mode Auto FFT 30 dB SGL Count 100/100 16.32 dBn 827.2370 MH 26.00 dl 14.206000000 MH 58. 16.30 dBn 825.0790 MH: 26.00 dE 14.775000000 MH: 55.1 M1[1] M1[1] dBm-10 dBm 30 dBm 30 dBm-40 dBm -50 dBm-CF 824.0 MHz CF 824.0 MHz Span 30.0 MHz Function Result 14.775 MHz 26.00 db 55.8
 X-value
 Y-value
 Function

 827,237 MHz
 16.32 dBm
 ndB down

 816,927 MHz
 -9.75 dBm
 ndB

 931.133 MHz
 -9.43 dBm
 Q factor

 Marker
 Trc
 X-value
 Y-value
 Function

 M1
 1
 825.079 MHz
 16.30 dBm
 nd8 down

 T1
 1
 916.777 MHz
 -9.57 dBm
 nd8

 T2
 1
 831.552 MHz
 -9.59 dBm
 Q factor
 Type Ref Trc Function Result 14.206 MHz

Date: 4.AUG.2021 15:31:31

Report No.: FG0D2204-01C

TEL: 886-3-327-3456 Page Number : A3-4 of 10

FAX: 886-3-328-4978

Date: 4.AUG.2021 15:31:10

Occupied Bandwidth

Mode		LTE Band 26 : 99%OBW(MHz)										
BW	1.41	1.4MHz 3MHz		lHz	5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	1.09	1.09	2.72	2.71	4.50	4.50	9.03	9.07	13.40	13.40	-	-

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