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Page Number

FCC RADIO TEST REPORT

FCC ID : GKRGWT9R

Equipment : Wireless Device

: GWT9R **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 04, 2021 and testing was started from May 23, 2021 and completed on Sep. 22, 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. 15, 2021 Report Version : 02

Report Template No.: BU5-FGLTE90S Version 2.4

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Appendix B. Test Results of Radiated Test

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Issued Date : Dec. 15, 2021

Report No. : FG142875C

Report Version : 02

History of this test report

Report No. : FG142875C

Report No.	Version	Description	Issued Date
FG142875C	01	Initial issue of report	Sep. 27, 2021
FG142875C	02	 Revise support unit used in test configuration and system in section 2.4 Revise 26dB 15MHz bandwith in appendix A2 Add straddle channel 824MHz output power and ERP Revise test mode in section 2.1 	Dec. 15, 2021

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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 §90.691	Field Strength of Spurious Radiation	Pass	Under limit 41.33 dB at 2458.000 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	GWT9R						
FCC ID	GKRGWT9R						
	WCDMA/HSPA/LTE/NFC(Passive)						
EUT supports Radios application	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						
14151FQEJXN01R	Conducted Measurement ERP						
15041FQEJSN00C 14261FQEJSN05P	Radiated Spurious Emission						

1.2 Product Specification of Equipment Under Test

Product Specification subjective 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=""> 23.19 dBm</top>					
Maximum Output Power to Antenna	<bottom antenna=""> 23.98 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	Benjamin Lin						
Temperature	23.5~25.5℃						
Relative Humidity	49.7~52.8%						

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Test Site	Sporton International Inc. Wensan Laboratory							
	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist.,							
Test Site Location	Taoyuan City 333010, Taiwan (R.O.C.) TEL: +886-3-327-0868							
	FAX: +886-3-327-0000							
Took Site No	Sporton Site No.							
Test Site No.	03CH11-HY (TAF Code: 3786)							
Test Engineer	Harvey Guo, Fu Chen and Troye Hsieh							
Temperature	18.3~26.2°ℂ							
Relative Humidity	53.7~69.3%							
Remark	The Radiated Spurious Emission test item subcontracted to Sporton 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:

- 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>: X Plane with Strap 1, Strap 3; <Bottom Antenna>: Y Plane with Strap 1, Strap 3 as worst plane.

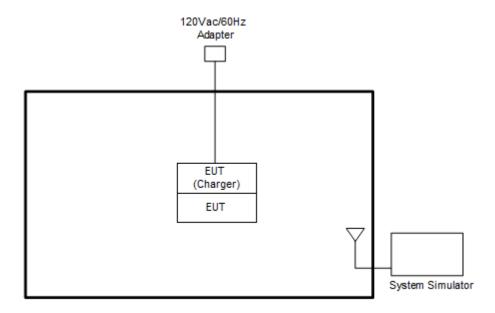
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Frequency range investigated for radiated emission is 30 MHz to 9000 MHz.

Conducted Test Cases	Band		Bai	ndwid	lth (M	Hz)			Modu	ılation			RB#		С	Test hann	el
lest Cases		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	256QAM	1	Half	Full	L	M	Н
Max. Output Power	26	>	>	>	v	>	ı	٧	v			v	v	v	v	>	v
Peak-to-Average Ratio	26				v		ı	v	v					v		٧	
26dB and 99% Bandwidth	26	>	>	>	v	>	1	>	v					v	v	>	
Emission masks In-band emissions	26	>	٧	>	v	>	-	v	v			v		v	v		v
Emission masks - Out of band emissions	26	>	>	>	v	>	1	٧				v			v	>	v
Frequency Stability	26	-	ı		v	v	-	v						v	v	v	
E.R.P.	26	v	v	v	v	v	-	v	v				ı	Max.	Power		
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. 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. Radiated Spurious Emission full test on EUT with Strap 1 and spot check the worst case with Strap 3 on each antenna. 																

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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	MT8820C	N/A	N/A	Unshielded, 1.8 m
2.	System Simulator	Anritsu	MT8821C	N/A	N/A	Unshielded, 1.8 m
3.	Adapter	N/A	N/A	N/A	N/A	N/A
4.	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	-	-	
40	Channel	-	26740	-	
10	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	-
15	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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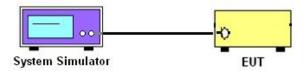
3 Conducted Test Items

3.1 Measuring Instruments

See list of measuring instruments of this test report.

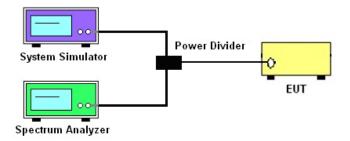
3.1.1 Test Setup

3.1.2 Conducted Output Power

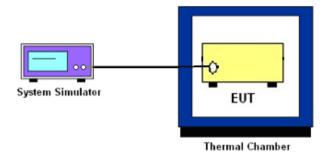


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3.1.3 Peak-to-Average Ratio, Occupied Bandwidth, Conducted Band-Edge, Emission Mask, Emissions Mask – Out Of Band Emissions, and Conducted Spurious Emission



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.

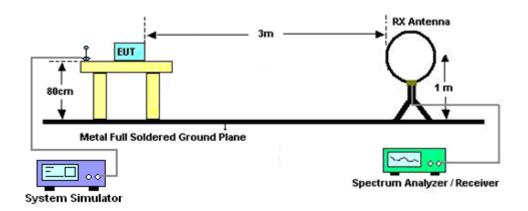
3.8.2 Test Procedures

- 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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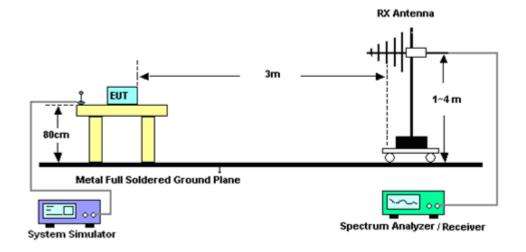
3.8.3 Test Setup

For radiated test below 30MHz



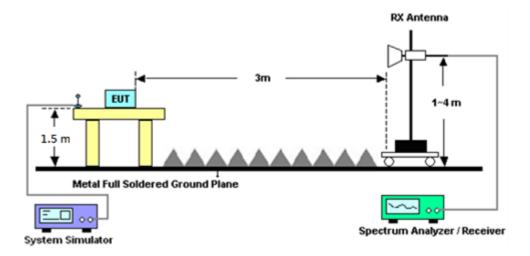
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For radiated test from 30MHz to 1GHz



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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	Jun. 02, 2021~ Sep. 22, 2021	Nov. 02, 2021	Radiation (03CH11-HY)
Horn Antenna	SCHWARZB ECK	BBHA 9120 D	9120D-1212	1GHz~18GHz	May 18, 2021	Jun. 02, 2021~ Sep. 22, 2021	May 17, 2022	Radiation (03CH11-HY)
Bilog Antenna	TESEQ	CBL 6111D & N-6-06	35414 & AT-N0602	30MHz~1GHz	Oct. 11, 2020	Jun. 02, 2021~ Sep. 22, 2021	Oct. 10, 2021	Radiation (03CH11-HY)
Bilog Antenna	TESEQ	CBL 6111D&00802N1 D01N-06	54682 & AT-N0603	30MHz~1GHz	Sep. 25, 2020	Jun. 02, 2021~ Sep. 22, 2021	Sep. 24, 2021	Radiation (03CH11-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100315	9 kHz~30 MHz	Jan. 04, 2021	Jun. 02, 2021~ Sep. 22, 2021	Jan. 03, 2022	Radiation (03CH11-HY)
Preamplifier	Keysight	83017A	MY53270080	1GHz~26.5GHz	Nov. 12, 2020	Jun. 02, 2021~ Sep. 22, 2021	Nov. 11, 2021	Radiation (03CH11-HY)
Amplifier	SONOMA	310N	187312	9kHz~1GHz	Dec. 02, 2020	Jun. 02, 2021~ Sep. 22, 2021	Dec. 01, 2021	Radiation (03CH11-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200486	10Hz~44GHz	Oct. 23, 2020	Jun. 02, 2021~ Sep. 22, 2021	Oct. 22, 2021	Radiation (03CH11-HY)
Signal Generator	Rohde & Schwarz	SMF100A	101107	100kHz~40GHz	Dec. 14, 2020	Jun. 02, 2021~ Sep. 22, 2021	Dec. 13, 2021	Radiation (03CH11-HY)
Controller	EMEC	EM 1000	N/A	Control Turn table & Ant Mast	N/A	Jun. 02, 2021~ Sep. 22, 2021	N/A	Radiation (03CH11-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1~4m	N/A	Jun. 02, 2021~ Sep. 22, 2021	N/A	Radiation (03CH11-HY)
Turn Table	EMEC	TT 2000	N/A	0~360 Degree	N/A	Jun. 02, 2021~ Sep. 22, 2021	N/A	Radiation (03CH11-HY)
Software	Audix	E3 6.2009-8-24	RK-001053	N/A	N/A	Jun. 02, 2021~ Sep. 22, 2021	N/A	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY9837/4PE	9kHz-30MHz	Mar. 11, 2021	Jun. 02, 2021~ Sep. 22, 2021	Mar. 10, 2022	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	MY2859/2	30MHz-40GHz	Mar. 11, 2021	Jun. 02, 2021~ Sep. 22, 2021	Mar. 10, 2022	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY9837/4PE	30M-18G	Mar. 11, 2021	Jun. 02, 2021~ Sep. 22, 2021	Mar. 10, 2022	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	MY4274/2	30MHz-40GHz	Mar. 11, 2021	Jun. 02, 2021~ Sep. 22, 2021	Mar. 10, 2022	Radiation (03CH11-HY)
Filter	Wainwright	WHKX12-900-100 0-15000-60SS	SN12	1GHz High Pass Filter	Nov. 05, 2020	Jun. 02, 2021~ Sep. 22, 2021	Nov. 04, 2021	Radiation (03CH11-HY)
Filter	Wainwright	WHKX12-2700-30 00-18000-60SS	SN3	3GHz High Pass Filter	Sep. 14, 2020	Jun. 02, 2021~ Sep. 12, 2021	Sep. 13, 2021	Radiation (03CH11-HY)
Filter	Wainwright	WHKX12-2700-30 00-18000-60SS	SN3	3GHz High Pass Filter	Sep. 13, 2021	Sep. 14, 2021~ Sep. 22, 2021	Sep. 12, 2022	Radiation (03CH11-HY)
Hygrometer	TECPEL	DTM-303B	TP140325	N/A	Nov. 18, 2020	Jun. 02, 2021~ Sep. 22, 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
Radio Communication Analyzer	Anritsu	MT8821C	626200253 41	LTE FDD/TDD LTE-2CC ULCA/DLCA	Oct. 06, 2020	May 23, 2021~ Aug. 01, 2021	Oct. 05, 2021	Conducted (TH03-HY)
Spectrum Analyzer	Rohde & Schwarz	FSV40	101397	10Hz~40GHz	Nov. 27, 2020	May 23, 2021~ Aug. 01, 2021	Nov. 26, 2021	Conducted (TH03-HY)
Thermal Chamber	Ten Billion	TTH-D3SP	TBN-9307 01	N/A	Aug. 05, 2020	May 23, 2021~ Aug. 01, 2021	Aug. 04, 2021	Conducted (TH03-HY)
Programmable Power Supply	GW Instek	PSS-2005	EL890094	1V~20V 0.5A~5A	Oct. 05, 2020	May 23, 2021~ Aug. 01, 2021	Oct. 04, 2021	Conducted (TH03-HY)
Coupler	Warison	20dB 25W SMA Directional Coupler	#B	1-18GHz	Jan. 09, 2021	May 23, 2021~ Aug. 01, 2021	Jan. 08, 2022	Conducted (TH03-HY)

5 Uncertainty of Evaluation

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

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

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.56 dB
Confidence of 35 % (C = 200(y))	

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Appendix A. Test Results of Conducted Test

Conducted Output Power(Average power & ERP)

<Top Antenna>

TOP AII		Band 26 Ma	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)
15	1	0		23.17	-	-		
15	1	37		23.18	-	-		
15	1	74		23.13	-	-		
15	36	0	QPSK	22.26	-	-	6.83	0.0048
15	36	20		22.24	-	-		
15	36	39		22.21	-	-		
15	75	0		22.22	-	-		i
15	1	0		22.03	-	-		
15	1	37		21.94	-	-		
15	1	74		21.88	-	-		
15	36	0	16-QAM	21.18	-	-	5.68	0.0037
15	36	20		21.16	-	-		
15	36	39	-	21.15	-	-]	
15	75	0		21.18				
Limit	nit 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		-	23.02	-		
10	1	25		-	23.01	-		
10	1	49		-	22.97	-		
10	25	0	QPSK	-	22.06	-	6.67	0.0046
10	25	12		-	22.06	-		
10	25	25		-	22.05	-		
10	50	0		-	22.06	-		
10	1	0		-	21.91	-		
10	1	25		-	21.82	-		
10	1	49		-	21.81	-		
10	25	0	16-QAM	-	21.02	-	5.56	0.0036
10	25	12		-	21.00	-		
10	25	25			20.99	-		
10	50	0		-	21.05	-	1	
Limit ERP < 7W					Result		Pá	ass



	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		23.14	23.19	23.14		
5	1	12		23.13	23.18	23.11		
5	1	24		23.11	23.17	23.06		
5	12	0	QPSK	22.18	22.22	22.18	6.84	0.0048
5	12	7		22.18	22.21	22.16		
5	12	13		22.17	22.20	22.14		
5	25	0		22.19	22.22	22.18		
5	1	0		22.09	22.10	22.05		
5	1	12		21.91	22.09	22.03		
5	1	24		21.88	22.11	22.00		
5	12	0	16-QAM	21.13	21.11	21.12	5.76	0.0038
5	12	7		21.13	21.13	21.10		
5	12	13		21.12	21.17	21.09		
5	25	0		21.14	21.16	21.11	1	
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		23.09	23.07	23.02		
3	1	8		23.10	23.04	22.96	1	
3	1	14		23.10	23.04	22.97	1	
3	8	0	QPSK	22.11	22.07	21.99	6.75	0.0047
3	8	4		22.09	22.08	21.98	1	
3	8	7		22.09	22.07	21.96	1	
3	15	0		22.11	22.09	21.98		
3	1	0		22.12	22.01	21.93		
3	1	8		22.00	21.98	21.91		
3	1	14		22.05	21.98	21.89	1	
3	8	0	16-QAM	21.07	21.03	20.94	5.77	0.0038
3	8	4		21.07	21.04	20.91	1	
3	8	7	-	21.07	21.01	20.90		
3	15	0		21.06	21.01	20.93	1	
Limit		ERP < 7W			Result			ass



	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		23.03	23.02	22.90		
1.4	1	3		23.05	23.04	22.89		
1.4	1	5		23.06	23.04	22.89		
1.4	3	0	QPSK	23.11	23.08	22.96	6.77	0.0048
1.4	3	1		23.11	23.09	22.98		
1.4	3	3		23.12	23.08	22.97		
1.4	6	0		22.12	22.07	21.95		
1.4	1	0		21.94	21.92	22.03		
1.4	1	3		21.85	21.96	22.02		
1.4	1	5		21.90	21.92	21.97		
1.4	3	0	16-QAM	21.96	21.96	21.84	5.68	0.0037
1.4	3	1		21.96	21.94	21.83		
1.4	3	3		21.99	21.91	21.77		
1.4	6	0		21.04	21.00	20.94	1	
Limit		ERP < 7W			Result		Pa	ass

<Bottom Antenna>

	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		23.98	-	-		
15	1	37		23.94	-	-		
15	1	74		23.92	-	-		
15	36	0	QPSK	23.05	-	-	7.83	0.0061
15	36	20		23.04	-	-		
15	36	39		23.02	-	-		
15	75	0		23.05	-	-		
15	1	0		22.82	-	-		
15	1	37		22.80	-	-		
15	1	74		22.81	ı	-		
15	36	0	16-QAM	22.00	-	-	6.67	0.0046
15	36	20		21.98	-	-		
15	36	39	_	21.98	-	-]	
15	75	0		22.03	-	-		
Limit	mit ERP < 7W			Result			iss	



	LTE Band 26 Maximum Average Power [dBm] (GT - LC = -14 dB)									
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)		
10	1	0		-	23.88	-				
10	1	25		-	23.92	-				
10	1	49		-	23.90	-				
10	25	0	QPSK	-	22.94	-	7.77	0.0060		
10	25	12		-	22.97	-				
10	25	25		-	22.96	-				
10	50	0		-	22.99	-				
10	1	0		-	22.88	-				
10	1	25		-	22.79	-				
10	1	49		-	22.79	-				
10	25	0	16-QAM	-	21.92	-	6.73	0.0047		
10	25	12		-	21.90	-				
10	25	25			21.90					
10	50	0		-	21.94	-				
Limit		ERP < 7W			Result		Pa	iss		



	LTE Band 26 Maximum Average Power [dBm] (GT - LC = -14 dB)										
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)			
5	1	0		23.90	23.91	23.93					
5	1	12		23.86	23.89	23.89					
5	1	24		23.89	23.89	23.39					
5	12	0	QPSK	22.98	22.96	22.96	7.78	0.0060			
5	12	7		22.96	22.96	22.96					
5	12	13		22.95	22.94	22.94					
5	25	0		22.95	22.97	22.97					
5	1	0		22.79	22.76	22.84					
5	1	12		22.81	22.73	22.80					
5	1	24		22.81	22.75	22.71	İ	0.0047			
5	12	0	16-QAM	21.88	21.88	21.88	6.69				
5	12	7		21.90	21.88	21.84					
5	12	13		21.89	21.86	21.83					
5	25	0		21.91	21.89	21.89					
Limit	Limit ERP < 7W			Result			Pass				



LTE Band 26 Maximum Average Power [dBm] (GT - LC = -14 dB)										
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)		
3	1	0		23.92	23.90	23.96				
3	1	8		23.95	23.97	23.92				
3	1	14		23.97	23.92	23.30				
3	8	0	QPSK	23.01	22.99	22.97	7.82	0.0061		
3	8	4		22.99	23.01	22.95				
3	8	7		22.99	23.00	22.95				
3	15	0		23.00	23.01	22.95				
3	1	0		22.95	23.01	22.92				
3	1	8		22.93	22.90	22.84				
3	1	14		22.91	22.86	22.69	1	0.0049		
3	8	0	16-QAM	21.91	21.91	21.87	6.86			
3	8	4		21.93	21.92	21.86				
3	8	7		21.93	21.90	21.86				
3	15	0		21.93	21.88	21.90				
Limit	it ERP < 7W			Result			Pass			



LTE Band 26 Maximum Average Power [dBm] (GT - LC = -14 dB)										
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)		
1.4	1	0		23.95	23.90	23.86				
1.4	1	3		23.97	23.90	23.84				
1.4	1	5		23.97	23.89	23.70				
1.4	3	0	QPSK	23.94	23.95	23.90	7.82	0.0061		
1.4	3	1		23.94	23.96	23.91				
1.4	3	3		23.94	23.97	23.74				
1.4	6	0		23.05	22.96	22.93				
1.4	1	0		23.02	22.98	22.92				
1.4	1	3		22.97	22.98	22.83				
1.4	1	5		22.97	22.93	22.82	1	0.0049		
1.4	3	0	16-QAM	22.85	22.75	22.80	6.87			
1.4	3	1		22.80	22.74	22.83	1			
1.4	3	3		22.83	22.74	22.78				
1.4	6	0		22.01	21.95	21.91				
Limit		FRP < 7W		Result			Pass			



<Straddle channel 824MHz>

<Top Antenna>

LTE Band 26 Maximum Average Power [dBm] (GT - LC = -14.2 dB)											
	LTE Daliu 20 Maximum Average Power [ubin] (GT - LG - 14.2 ub)										
BW [MHz]	RB Size	RB Offset	Mod	-	cross-rule channels	-	ERP (dBm)	ERP (W)			
15	1	0		1	23.13	-					
15	1	37		•	23.02	-					
15	1	74		•	23.05	-		0.0048			
15	36	0	QPSK	•	22.21	-	6.78				
15	36	20		-	22.20	-					
15	36	39		•	22.02	-					
15	75	0		-	22.15	-					
15	1	0		-	21.91	-	5.56	0.0036			
15	1	37		-	21.82	-					
15	1	74		-	21.70	-					
15	36	0	16-QAM	•	21.05	-					
15	36	20		-	21.08	-					
15	36	39		-	21.00	-					
15	75	0		-	21.00	-					
Limit		ERP < 7W			Result		Pa	ISS			



LTE Band 26 Maximum Average Power [dBm] (GT - LC = -14.2 dB)									
BW [MHz]	RB Size	RB Offset	Mod	-	cross-rule channels	-	ERP (dBm)	ERP (W)	
10	1	0		-	22.84	-			
10	1	25		-	23.00	-			
10	1	49	QPSK	-	22.85	-	6.65	0.0046	
10	25	0		-	22.04	-			
10	25	12		-	21.88	-			
10	25	25		-	22.00	-			
10	50	0		-	22.02	-			
10	1	0		-	21.90	-	5.55	0.0036	
10	1	25		-	21.80	-			
10	1	49		-	21.80	-			
10	25	0	16-QAM	-	20.83	-			
10	25	12		-	20.98	-			
10	25	25		-	20.97	-			
10	50	0		-	21.04	-			
Limit ERP < 7W				Result		Pa	ISS		



LTE Band 26 Maximum Average Power [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	-		0.0048	
5	1	12	-	-	23.02				
5	1	24		-	23.11	-	6.82		
5	12	0	QPSK	-	22.11	•			
5	12	7		-	22.09	•			
5	12	13		-	22.13	-			
5	25	0		-	22.04	•			
5	1	0		-	22.01	•	5.68	0.0037	
5	1	12		-	21.92	•			
5	1	24		-	22.03	-			
5	12	0	16-QAM	-	21.07	-			
5	12	7		-	21.02	-			
5	12	13		-	21.04	-			
5	25	0		-	21.10	-			
Limit ERP < 7W				Result		Pa	ass		



	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		-	22.93	-			
3	1	8		-	22.90	-		0.0046	
3	1	14		-	23.00	-			
3	8	0	QPSK	-	21.90	-	6.65		
3	8	4		-	22.00	-			
3	8	7		-	21.98	-			
3	15	0		-	22.09	-			
3	1	0		-	21.88	-			
3	1	8		-	21.97	-			
3	1	14		-	21.92	-			
3	8	0	16-QAM	-	20.90	-	5.62	0.0036	
3	8	4		-	20.91	-			
3	8	7		-	20.90	-			
3	15	0		-	20.91	-			
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)	
1.4	1	0		ı	22.86	-			
1.4	1	3		1	22.86	-		0.0047	
1.4	1	5		•	22.84	-			
1.4	3	0	QPSK	•	23.04	-	6.69		
1.4	3	1	-	•	23.03	-			
1.4	3	3		•	22.89	-			
1.4	6	0		•	21.95	-			
1.4	1	0		•	21.80	-			
1.4	1	3		-	21.78	-			
1.4	1	5		-	21.82	-			
1.4	3	0	16-QAM	-	21.90	-	5.55	0.0036	
1.4	3	1			21.83	-			
1.4	3	3		-	21.81	-	1	İ	
1.4	6	0		-	20.87	-			
Limit		ERP < 7W			Result		Pa	iss	

<Bottom Antenna>

	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)	
15	1	0		-	23.94				
15	1	37		1	23.80	-]	0.0060	
15	1	74		•	23.78	•			
15	36	0	QPSK	•	22.87	•	7.79		
15	36	20		•	22.88	•			
15	36	39		•	22.97	-			
15	75	0		•	22.96	•			
15	1	0		•	22.80	•		0.0046	
15	1	37		•	22.68	•			
15	1	74		-	22.62	-			
15	36	0	16-QAM	•	21.97	•	6.65		
15	36	20		•	21.97	•			
15	36	39		-	21.80	-			
15	75	0		ı	21.88	-			
Limit					Result		Pa	iss	

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	LTE	Band 26 N	laximum <i>A</i>	verage Po	ower [dBm] (GT - LC :	= -14 dB)		
BW [MHz]	RB Size	RB Offset	Mod	-	cross-rule channels	-	ERP (dBm)	ERP (W)	
10	1	0		-	23.83	-			
10	1	25		-	23.82	-		0.0059	
10	1	49		-	23.79	-			
10	25	0	QPSK	-	22.76	-	7.68		
10	25	12		-	22.96	-			
10	25	25		-	22.89	-			
10	50	0		-	22.85	-			
10	1	0		-	22.88	-			
10	1	25		-	22.63	-			
10	1	49		-	22.73	-			
10	25	0	16-QAM	-	21.76	-	6.73	0.0047	
10	25	12		-	21.70				
10	25	25		-	21.86	-			
10	50	0		-	21.86	-			
Limit		ERP < 7W			Result		Pa	iss	



	LTE	Band 26 N	laximum <i>A</i>	verage Po	ower [dBm]] (GT - LC :	= -14 dB)		
BW [MHz]	RB Size	RB Offset	Mod	-	cross-rule channels	-	ERP (dBm)	ERP (W)	
5	1	0		-	23.77	-			
5	1	12		-	23.80	-		0.0058	
5	1	24		-	23.74	-			
5	12	0	QPSK	-	22.77	-	7.65		
5	12	7		-	22.78	-			
5	12	13		-	22.78	-			
5	25	0		-	22.84	-			
5	1	0		-	22.65	-			
5	1	12		-	22.65	-			
5	1	24		-	22.71	-			
5	12	0	16-QAM	-	21.80	-	6.56	0.0045	
5	12	7		-	21.79	-			
5	12	13		-	21.66	-			
5	25	0		-	21.74	-			
Limit		ERP < 7W			Result		Pa	iss	



	LTE	Band 26 N	laximum <i>A</i>	verage Po	ower [dBm]] (GT - LC :	= -14 dB)		
BW [MHz]	RB Size	RB Offset	Mod	-	cross-rule channels	-	ERP (dBm)	ERP (W)	
3	1	0		-	23.89	-			
3	1	8		-	23.82	-		0.0059	
3	1	14		-	23.86	-			
3	8	0	QPSK	-	22.85	-	7.74		
3	8	4		-	22.95	-			
3	8	7		-	22.81	-			
3	15	0		-	22.93	-			
3	1	0		-	22.83	-			
3	1	8		-	22.73	-			
3	1	14		-	22.81	-			
3	8	0	16-QAM	-	21.75	-	6.68	0.0047	
3	8	4		-	21.80	-			
3	8	7		-	21.86	-			
3	15	0		-	21.72	-			
Limit		ERP < 7W			Result		Pa	iss	



	LTE	Band 26 N	laximum A	verage Po	ower [dBm]] (GT - LC :	= -14 dB)		
BW [MHz]	RB Size	RB Offset	Mod	-	cross-rule channels	-	ERP (dBm)	ERP (W)	
1.4	1	0		-	23.85	-			
1.4	1	3		-	23.72	-		0.0060	
1.4	1	5		-	23.79	-			
1.4	3	0	QPSK	-	23.93	-	7.78		
1.4	3	1		-	23.79	-			
1.4	3	3		-	23.87	-			
1.4	6	0		-	22.81	-			
1.4	1	0		-	22.95	-			
1.4	1	3		-	22.81	-			
1.4	1	5		-	22.83	-			
1.4	3	0	16-QAM	-	22.63	-	6.8	0.0048	
1.4	3	1		-	22.54	-			
1.4	3	3		-	22.73	-			
1.4	6	0		-	21.85	-			
Limit		ERP < 7W			Result		Pass		

LTE Band 26

Peak-to-Average Ratio

Mode										
Mod.	QPSK	QPSK 16QAM 64QAM 256QAM I								
RB Size	Full RB	Full RB	Full RB	Full RB	Result					
Middle CH	4.81	5.74	-	-	PASS					

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26dB Bandwidth

Mode		LTE Band 26 : 26dB BW(MHz)										
BW	1.41	1.4MHz 3MHz 5MHz 10MHz 15MHz 20MHz								ИHz		
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Low CH	-	-	-	-	-	-	-	-	14.45	14.78	-	-
Middle CH	1.31	1.31	3.12	3.09	5.21	5.29	10.09	10.35	-	-	-	-

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LTE Band 26 Middle Channel / 1.4MHz / QPSK Middle Channel / 1.4MHz / 16QAM Ref Level 30.00 dBm Offset 10.90 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 15.94 dBm 818.59440 MH; 26.00 dE 1.314700000 MH; 17.30 dBn 819.25170 MH M1[1] ~~~ -10 dBm 30-d8m -50 dBm-CF 819.0 MHz CF 819.0 MHz Span 2.8 MHz 1001 pts Span 2.8 MHz Function Result
1.3147 MHz
26.00 dB
622.7 Function Result Type | Ref | Trc |
 X-value
 Y-value
 Function

 819.2517 MHz
 17.30 dBm
 ndB down
 Type Ref Trc
 X-value
 Y-value
 Function

 818.5944 MHz
 15.94 dBm
 ndB down
 Date: 1.AUG.2021 10:18:30 Date: 1.AUG.2021 10:18:52 Middle Channel / 3MHz / QPSK Middle Channel / 3MHz / 16QAM 30 dBm Offset 30 dB SWT SGL Count 100/100 10.90 dB • RBW 100 kHz 19 µs • VBW 300 kHz Mode Auto FFT Ref Level 30.00 Offset 10.90 dB • RBW 100 kHz SWT 19 μs • VBW 300 kHz Mode Auto FFT 30 dB SGL Count 100/100 16.65 dBn 819.05990 MH: 26.00 di 3.122900000 MH: 262.3 M1[1] M1[1] 17.11 dBr 818.28670 MH 20 dBm 26.00 dl 3.092900000 MH 264. dBm-10 dBm -20 dBm -30 dBm -30 dBm-40 dBm--50 dBm-CF 819.0 MHz CF 819.0 MHz Function Result 3.0929 MHz 26.00 dB 264.6 Type Ref Trc
 X-value
 Y-value
 Function

 819.0599 MHz
 10.65 dBm
 nd8 down

 817.4535 MHz
 -9.35 dBm
 nd8

 820.5764 MHz
 -9.20 dBm
 Q factor
 Function Result 3.1229 MHz
 X-value
 Y-value
 Function

 818.2867 MHz
 17.11 dBm
 nd8 down

 817.4595 MHz
 -9.04 dBm
 nd8

 820.5524 MHz
 -8.76 dBm
 Q factor
 Type Ref Trc Date: 1.AUG.2021 10:46:42 Date: 1.AUG.2021 10:47:04 Middle Channel / 5MHz / QPSK Middle Channel / 5MHz / 16QAM Ref Level 30.00 dBm Offset 10.90 dB RBW 100 kHz Att 30 db SWT 19 µs WBW 300 kHz Mode Auto FFT SGL Count 100/100
 Ref Level
 30.00 dBm
 Offset
 10.90 dB • RBW
 100 kHz
 100 kHz
 Att
 30 dB
 SWT
 19 μs • VBW
 300 kHz
 Mode
 Auto FFT
 M1[1] M1[1] 14.98 dB 819.84900 MF 13.65 dBr 817.93100 MH dBm--10 dBm -30 dBm— 30 dBm--50 dBm CF 819.0 MHz Function Result
5.285 MHz
26.00 dB
154.8 Function Result 5.205 MHz Type Ref Trc
 X-value
 Y-value
 Function

 819.849 MHz
 14.98 dBm
 ndB down

 Type
 Ref
 Trc
 X-value
 Y-value
 Function

 M1
 1
 817.931 MHz
 13.65 dBm
 ndB down
 Date: 1.AUG.2021 11:10:56 Date: 1.AUG.2021 11:11:17

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LTE Band 26 Middle Channel / 10MHz / QPSK Middle Channel / 10MHz / 16QAM Ref Level 30.00 dBm Offset 10.90 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 15.89 dBn 819.6990 MH 26.00 di 16.39 dBn 819.7990 MH -30 dBm -30 dBm -50 dBm-CF 819.0 MHz CF 819.0 MHz Span 20.0 MHz Span 20.0 MHz Function Result 10.09 MHz 26.00 dB 81.2 Function Result

10.35 MHz
26.00 dB
79.2
 X-value
 Y-value
 Function

 819.799 MHz
 16.39 dBm
 nd8 down

 813.885 MHz
 -9.51 dBm
 nd8

 823.975 MHz
 -9.48 dBm
 Q factor
 Type | Ref | Trc |
 X-value
 Y-value
 Function

 819.699 MHz
 15.89 dBm
 ndB down
 Date: 1.AUG.2021 11:13:41 Date: 1.AUG.2021 11:14:02 Low Channel / 15MHz / QPSK Low Channel / 15MHz / 16QAM Ref Level 30.00 d8m Offset 10.90 d8 ← RBW 300 kHz att 20.00 d8m SWT 12.6 μs ← VBW 1 MHz Mode Auto FFT SGL Count 100/100 ← 1Pk Max
 Ref Level
 30.00 dBm
 Offset
 10.90 dB
 RBW
 300 kHz

 Att
 30 dB
 SWT
 12.6 µs
 VBW
 1 MHz
 Mode
 Auto FFT
 30 SGL Count 100/100 15.05 dBn 822.7290 MH 26.00 di 14.446000000 MH M1[1] 10 dBm 57. 55. -10 dBm--10 dBm 20 dBn 30 dBm -40 dBm 60 dBm-CF 821.5 MHz Span 30.0 MHz CF 821.5 MHz Span 30.0 MHz Function Result 14.775 MHz 26.00 dB 55.6 Function Result 14.446 MHz 26.00 dB 57.0
 Y-value
 Function

 z
 15.05 dBm
 ndB down

 z
 -12.12 dBm
 ndB

 z
 -11.00 dBm
 Q factor
 Type | Ref | Trc | Type | Ref | Trc |
 Y-value
 Function

 z
 14.23 dBm
 ndB down

 z
 -11.99 dBm
 ndB

 z
 -11.85 dBm
 Q factor
 X-value 822.729 MHz 814.427 MHz 828.873 MHz X-value 820.871 MHz 814.187 MHz 828.963 MHz

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Occupied Bandwidth

Mode		LTE Band 26 : 99%OBW(MHz)										
BW	1.41	1.4MHz 3MHz 5MHz 10MHz 15MHz 20MHz								ИHz		
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Low CH	-	-	-	-	-	-	-	-	13.46	14.81	-	-
Middle CH	1.10	1.10	2.74	2.75	4.53	4.52	8.99	9.07	-	-	-	-

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LTE Band 26 Middle Channel / 1.4MHz / QPSK Middle Channel / 1.4MHz / 16QAM 16.09 dBn 818.71190 MH 1.096503497 MH 14.83 dBn 818.90210 MH: .099300699 MH: M1[1] M1[1] nn -10 dBm -20 dBm-30 d8m--50 dBm-50 dBm -60 dBm-CF 819.0 MHz
 X-value
 Y-value
 Function

 818.7119 MHz
 16.09 d8m

 818.45455 MHz
 8.94 d8m
 Occ Bw

 819.55105 MHz
 8.62 d8m
 Marker Type | Ref | Trc |
 X-value
 Y-value
 Function

 818.9021 MHz
 14.83 dBm

 818.45175 MHz
 6.17 dBm
 Occ Bw

 819.55105 MHz
 7.07 dBm
 Type | Ref | Trc | Function Result Function Result 1.096503497 MHz 1.099300699 MHz Middle Channel / 3MHz / QPSK Middle Channel / 3MHz / 16QAM 15.88 dBm 819.68330 MHz 2.751248751 MHz 17.41 dBi 818.77220 MF 2.739260739 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 2.739260739 MHz 2.751248751 MHz Date: 1.AUG.2021 10:45:59 Date: 1.AUG.2021 10:46:21 Middle Channel / 5MHz / QPSK Middle Channel / 5MHz / 16QAM Spectrum

Ref Level 30.00 dBm Offset 10.90 dB = RBW 100 kHz

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

SGL Count 100/100

1Pk Max 14.90 dBr 819.64900 MH 4.525474525 MH 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
 Marker
 Y-value
 Function

 M1
 1
 819.649 MHz
 1.4 90 dBm

 T1
 1
 816.7227 MHz
 7.36 dBm
 Occ BW

 T2
 1
 821.25774 MHz
 10.60 dBm
 Occ BW

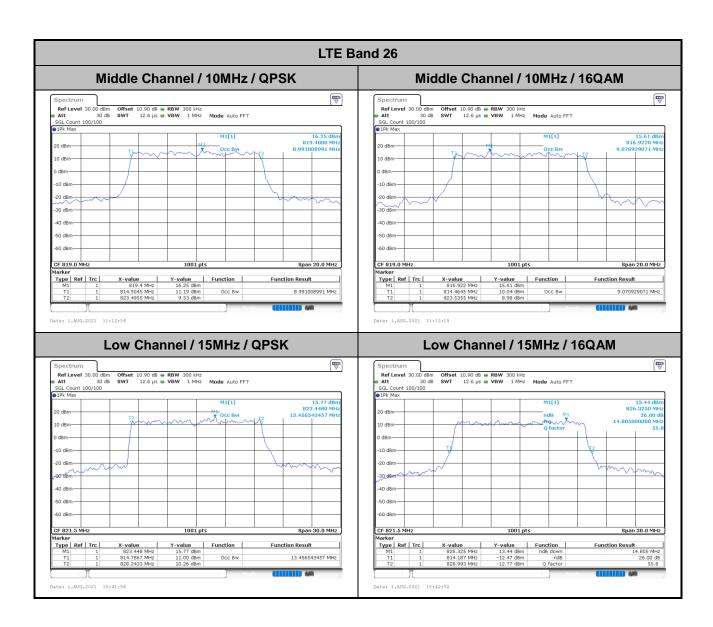
 Marker
 Trc
 X-value
 Y-value
 Function

 M1
 1
 820.658 MHz
 14.34 dem
 14.34 dem

 T1
 1
 815.74226 MHz
 7.65 dem
 Occ Bw

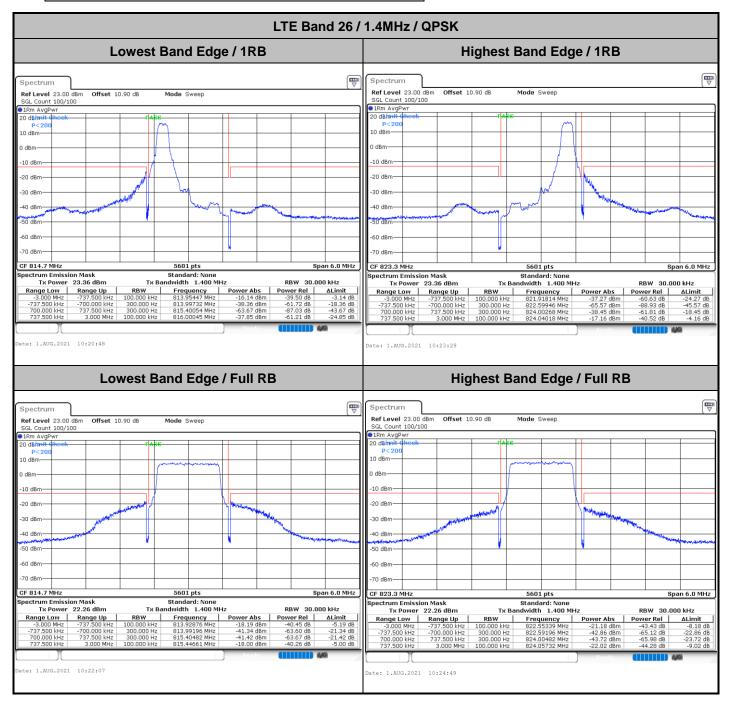
 T2
 1
 821.25774 MHz
 7.74 dBm
 Occ Bw
 Function Result Function Result 4.525474525 MHz 4.515484515 MHz Date: 1.AUG.2021 11:10:13

Report No.: FG142875C



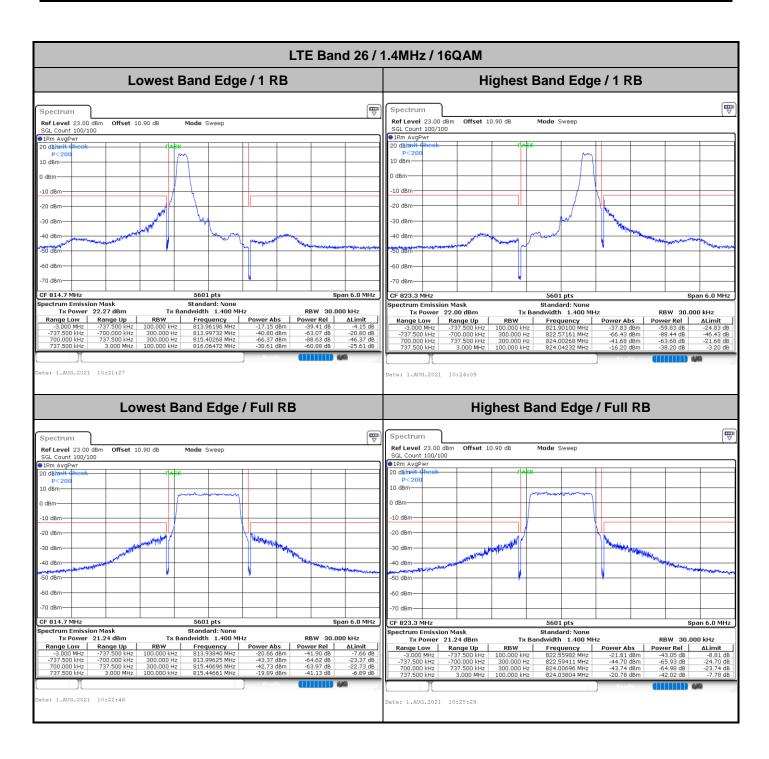
TEL: 886-3-327-3456 Page Number: A2-7 of 24

Emission masks - In-band emissions

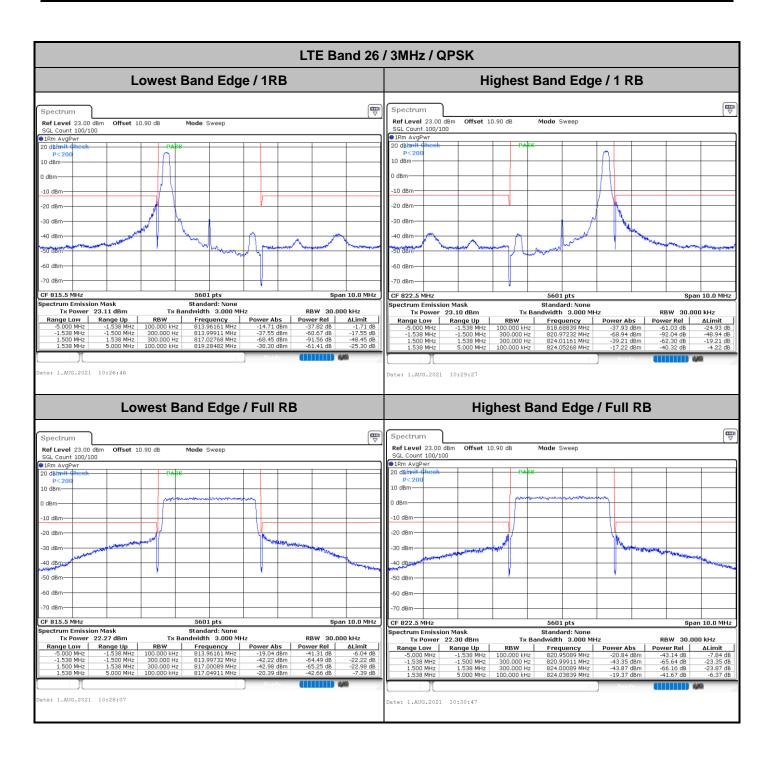


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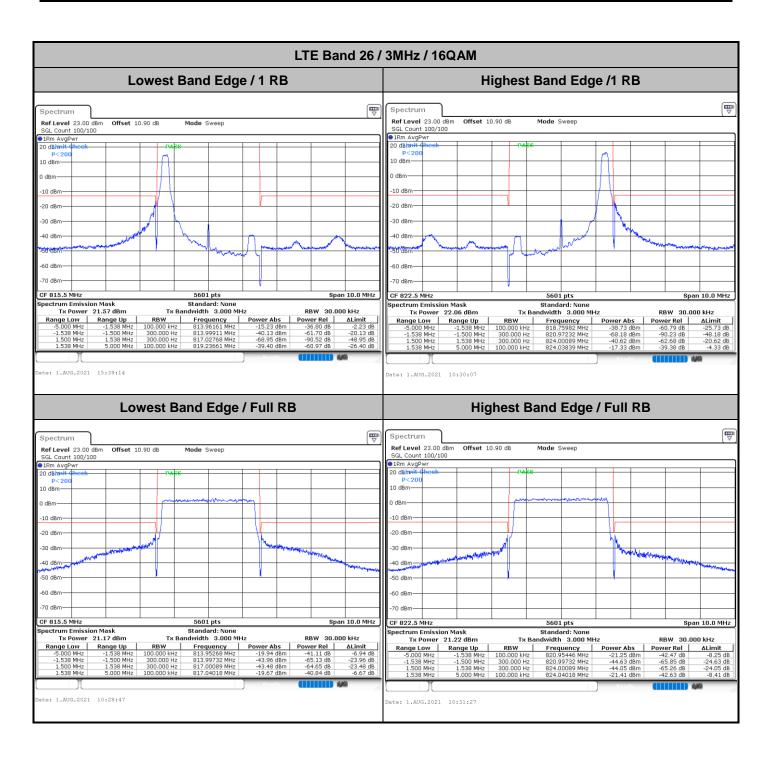
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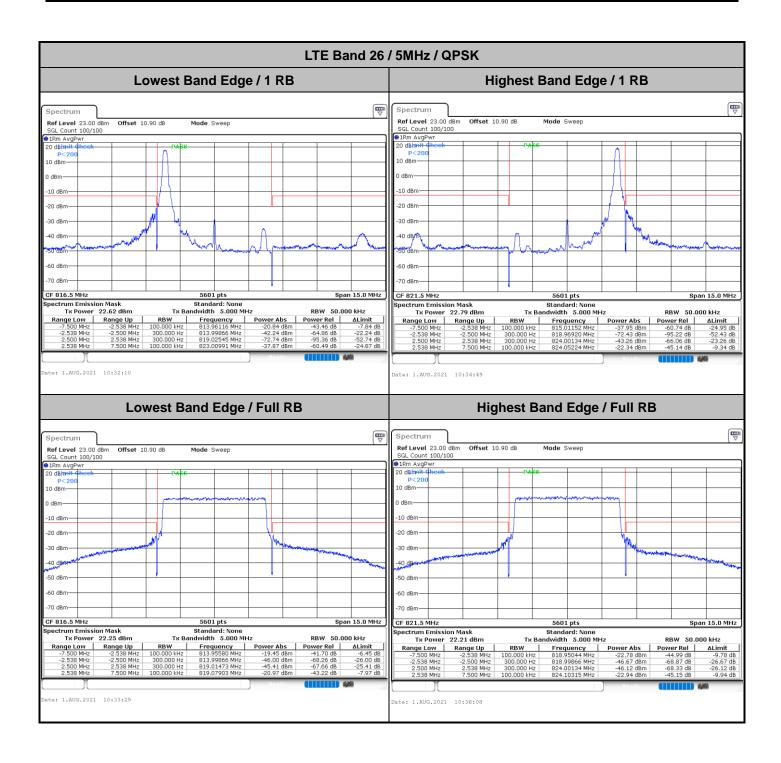
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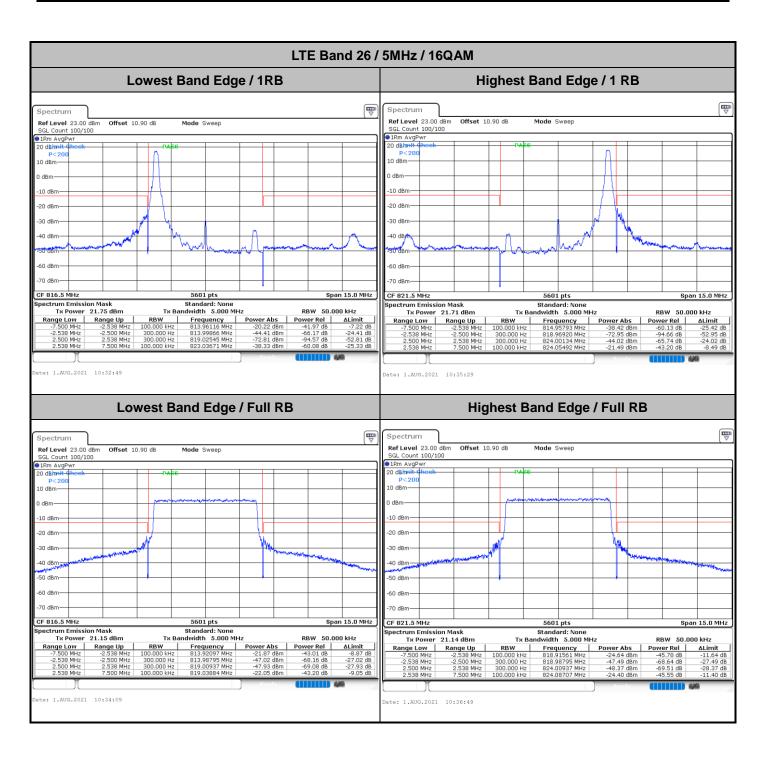
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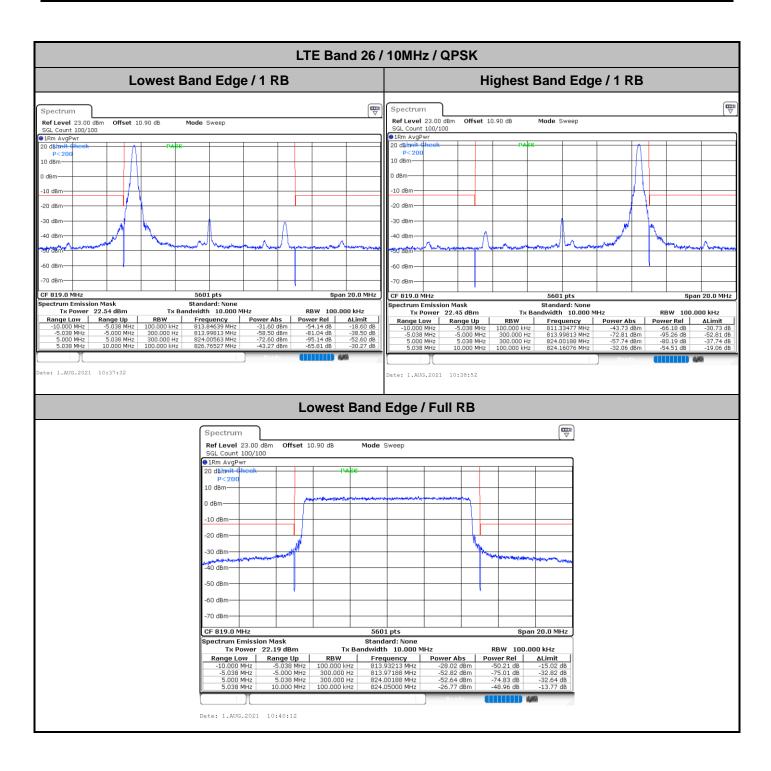
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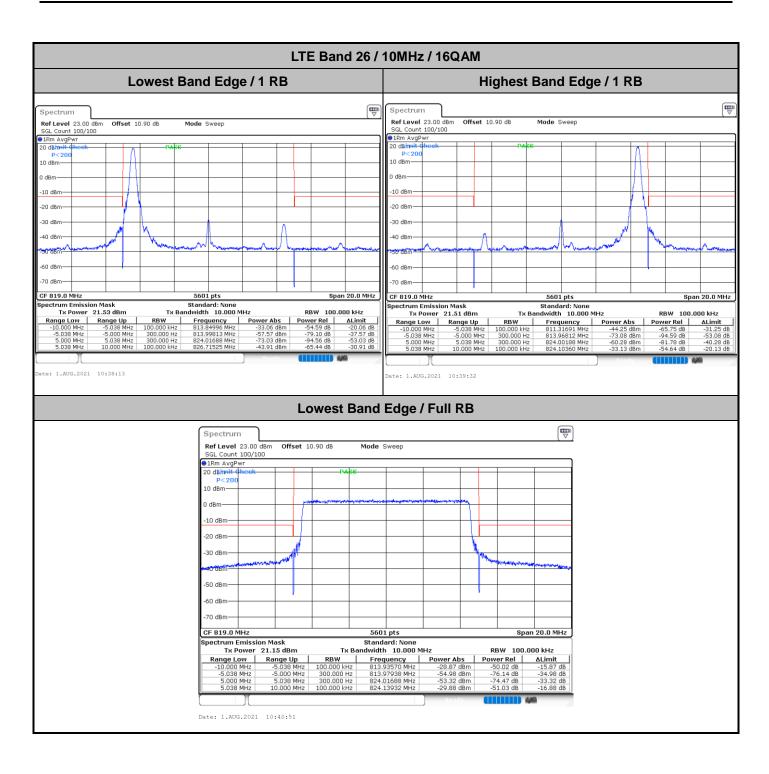
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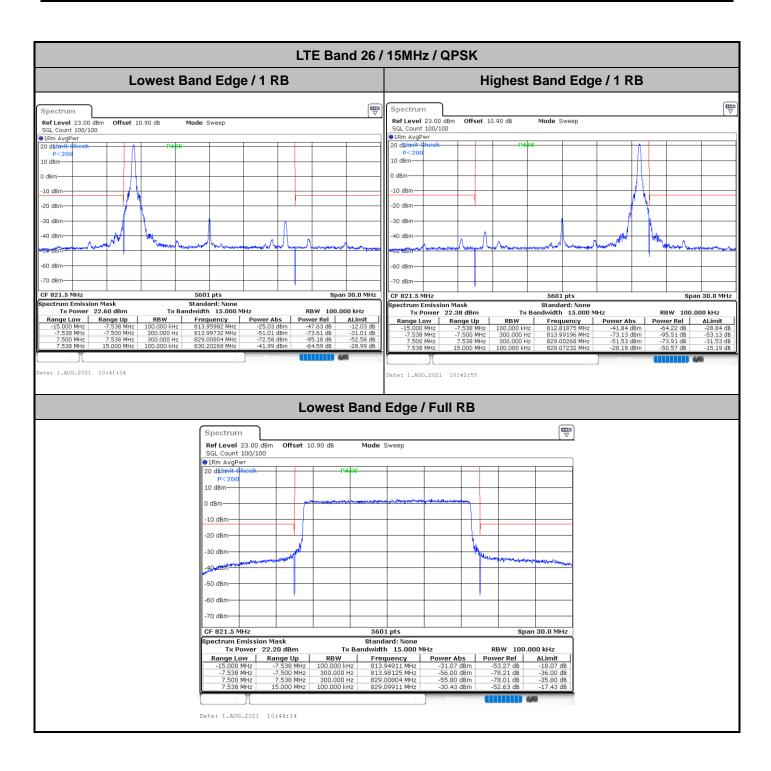
TEL: 886-3-327-3456 Page Number : A2-13 of 24



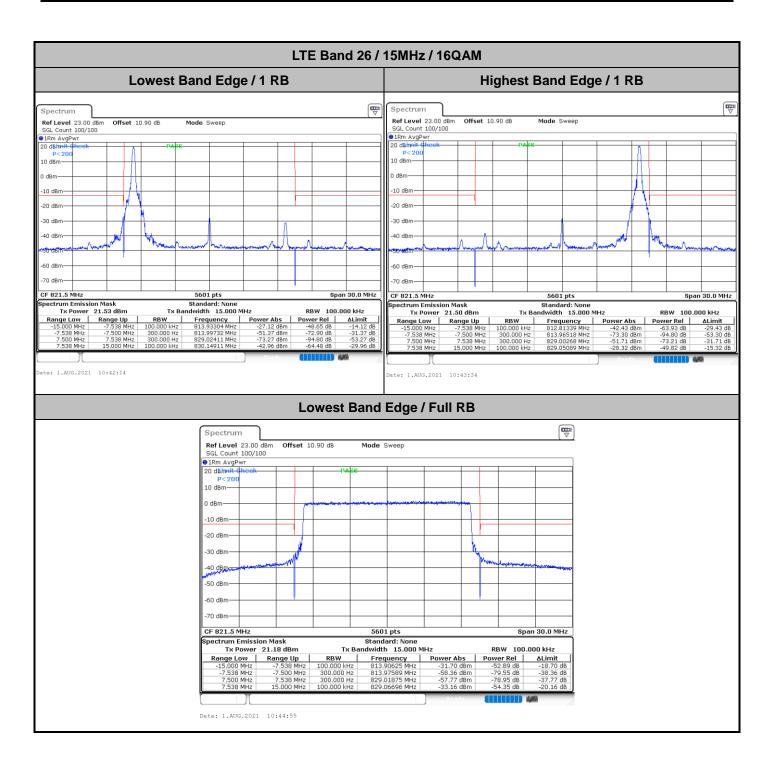
TEL: 886-3-327-3456 Page Number : A2-14 of 24



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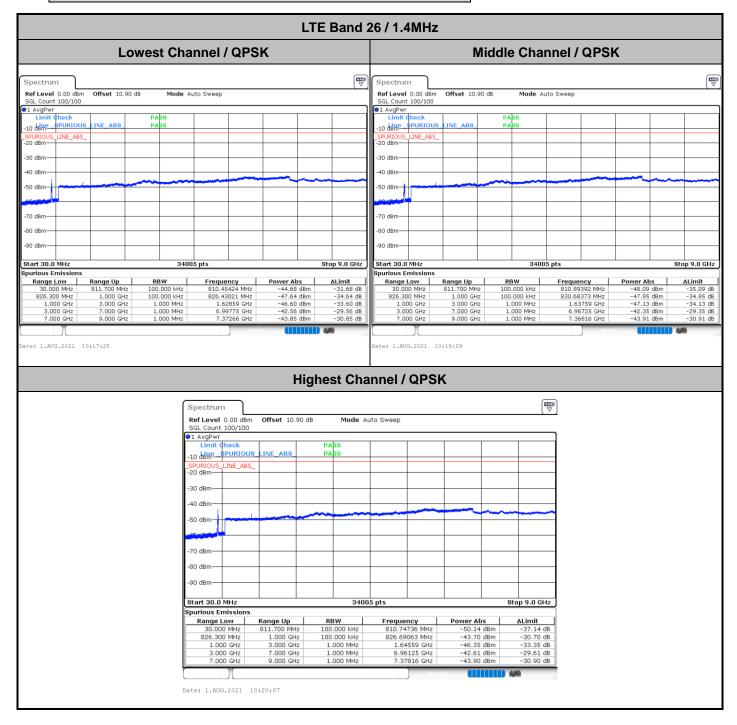


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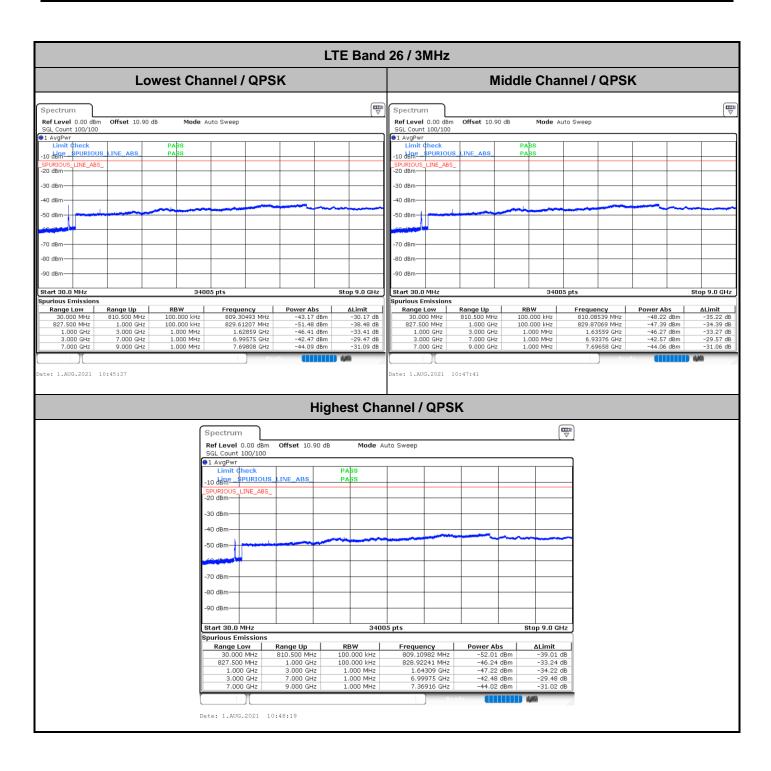
TEL: 886-3-327-3456 Page Number : A2-17 of 24

Emission masks - Out of band emissions

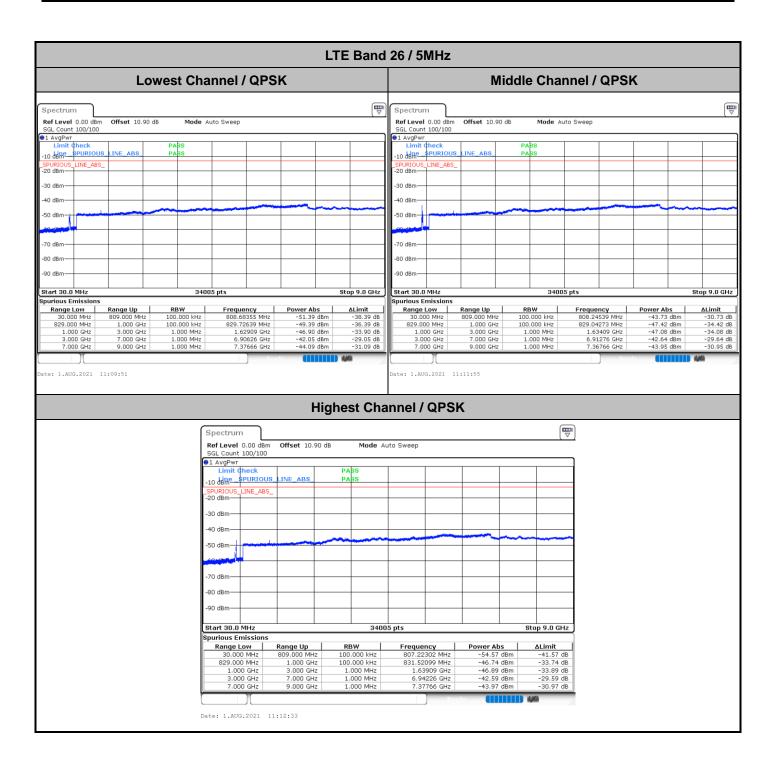


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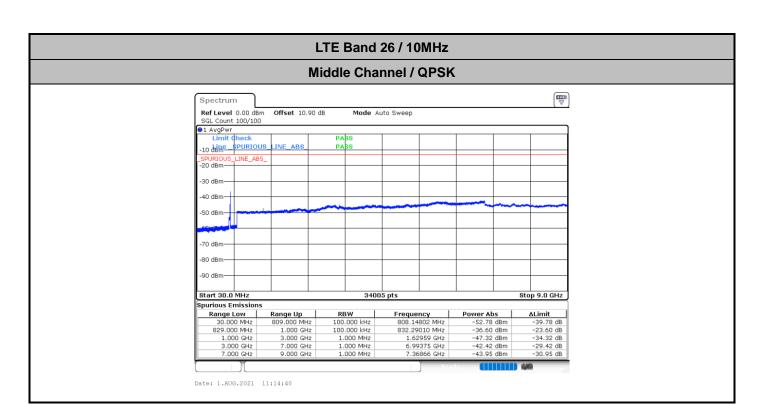
TEL: 886-3-327-3456 Page Number : A2-18 of 24



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