



Report No.: FG1D2414I

## **FCC RADIO TEST REPORT**

FCC ID : PKRISGM3000A

Equipment : M3000A
Brand Name : Inseego
Model Name : M3000A
Marketing Name : M3000

Applicant : Inseego Corp.

9710 Scranton Road Suite 200, San Diego,, CA 92121

Manufacturer : Inseego Corp.

9710 Scranton Road Suite 200, San Diego,, CA 92121

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

The product was received on Mar. 29, 2022 and testing was performed from Apr. 20, 2022 to May 31, 2022. 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

Louis Win

Sporton International Inc. EMC & Wireless Communications Laboratory

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

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## History of this test report

Report No. : FG1D2414I

Report No.	Version	Description	Issued Date
FG1D2414I	01	Initial issue of report	Jun. 15, 2022

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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 §90.691	Emission masks – Out of band emissions	Pass	-
3.7	§2.1055 §90.213	Frequency Stability for Temperature & Voltage	Pass	-
3.8	\$2 1053		Pass	Under limit 43.89 dB at 3256.000 MHz

#### **Declaration of Conformity:**

- The test results (PASS/FAIL) with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
   It's means measurement values may risk exceeding the limit of regulation standards, if measurement uncertainty is include in test results.
- 2. The measurement uncertainty please refer to this report "Uncertainty of Evaluation".

#### **Comments and Explanations:**

The product specifications of the EUT presented in the report are declared by the manufacturer who shall take full responsibility for the authenticity.

Reviewed by: William Chen Report Producer: Ruby Zou

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## 1 General Description

## 1.1 Feature of Equipment Under Test

3G-WCDMA, 4G-LTE, 5G-FR1 & FR2, Wi-Fi 2.4GHz 802.11b/g/n/ax, Wi-Fi 5GHz 802.11a/n/ac/ax and GNSS.

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Product Feature					
Test Antenna Type	WWAN: Fixed Internal Antenna				
Test Antenna Gain	0.8 dBi				

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

#### 1.2 Modification of EUT

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

## 1.3 Testing Site

Test Site	Sporton International Inc. EMC & Wireless Communications Laboratory					
Test Site Location	No.52, Huaya 1st Rd., Guisha TEL: +886-3-327-3456 FAX: +886-3-328-4978	an Dist., Taoyuan City 333, Taiwan (R.O.C.)				
Test Site No.	Sporton Site No.					
Test Site No.	TH03-HY	03CH07-HY				
Test Engineer	Jacky Wang	Jesse Wang, Stan Hsieh and Ken Wu				
Temperature (°C)	23.2~25.8	22.9~26.6				
Relative Humidity (%)	55.6~58.2 56.3~61.5					

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

FCC Designation No.: TW1190

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## 1.4 Applied Standards

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

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

#### Remark:

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

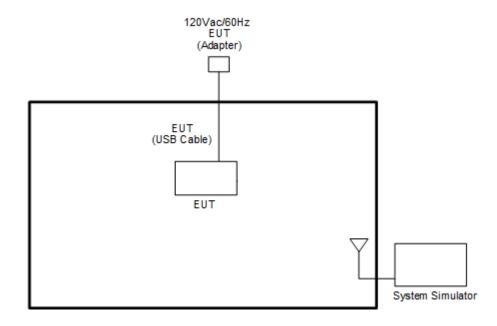
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Frequency range investigated for radiated emission is 30 MHz to 9000 MHz.

Conducted			Ва	ndwid	th (MI	Hz)			Modu	ılation			RB#		Test Channel		
Test Cases	Band	1.4	3	5	10	15	20	QPSK	16QAM	64QAM	256QAM	1	Half	Full	L	М	Н
Max. Output Power	26	v	v	v	v	v	-	v	v	v	v	V	v	v	٧	v	V
Peak-to-Average Ratio	26				v		-	v	V	v	v	v		٧		V	
26dB and 99% Bandwidth	26	٧	v	v	v	v	-	v	v	v	v			٧		v	
Emission masks In-band emissions	26	٧	v	v	v	v	-	v	v	v	v	V		>	<b>&gt;</b>		>
Emission masks – Out of band emissions	26	V	v	v	v	v	-	v	v	v	v	v			٧	V	>
Frequency Stability	26	ı	-		v	v	-	v						٧		v	
E.R.P.	26					v	-	v	v	v	v		N	/lax.	Powe	er	
Radiated Spurious Emission	26	26 Worst Case V V V							>								
Remark	<ol> <li>The mark "v" means that this configuration is chosen for testing</li> <li>The mark "-" means that this bandwidth is not supported.</li> <li>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.</li> <li>One representative bandwidth is selected to perform PAR and frequency stability.</li> </ol>																

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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

## 2.4 Measurement Results Explanation Example

#### For all conducted test items:

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

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

Offset = RF cable loss + attenuator factor.

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

#### Example:

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

$$= 4.2 + 10 = 14.2 (dB)$$

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## 2.5 Frequency List of Low/Middle/High Channels

	LTE Band 26 Channel and Frequency List										
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest							
15	Channel	26765	-	-							
15	Frequency	821.5	-	-							
10	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 Channel and Frequency 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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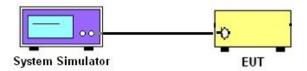
### 3 Conducted Test Items

## 3.1 Measuring Instruments

See list of measuring instruments of this test report.

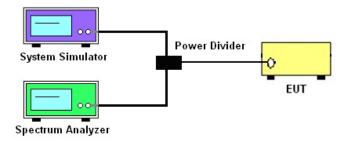
## 3.1.1 Test Setup

#### 3.1.2 Conducted Output Power

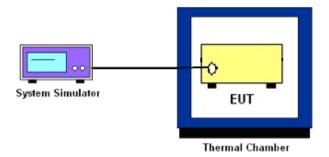


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# 3.1.3 Peak-to-Average Ratio, Occupied Bandwidth, Conducted Band-Edge, Emission Mask, Emissions Mask – Out Of Band Emissions, and Conducted Spurious Emission



## 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 conducted output power 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<sub>T</sub> = gain of the transmitting antenna in dBi

L<sub>C</sub> = 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 10<sup>th</sup> 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+10log<sub>10</sub>(P[Watts]) dB. The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

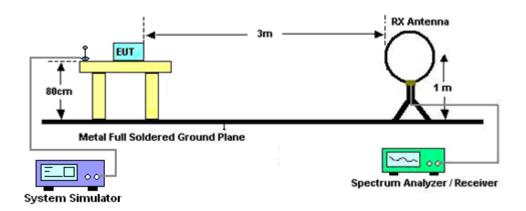
#### 3.8.2 Test Procedures

- 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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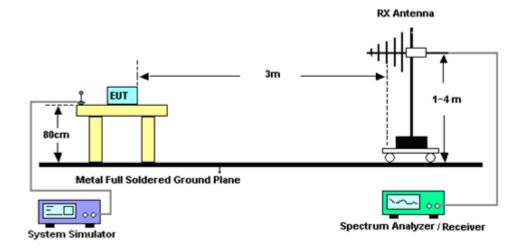
## 3.8.3 Test Setup

#### For radiated test below 30MHz



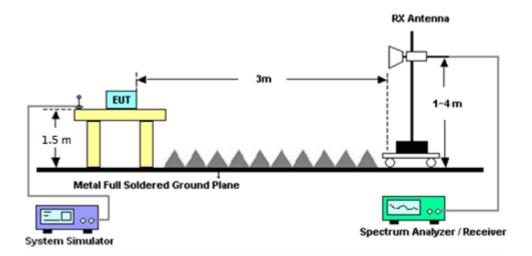
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#### For radiated test from 30MHz to 1GHz



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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

			0 : 111	<b>a</b>	Calibration	D .		
Instrument	Brand Name	Model No.	Serial No.	Characteristics	Date	Test Date	Due Date	Remark
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01 N-06	35419 & 03	30MHz~1GHz	Apr. 24, 2022	May 06, 2022~ May 30, 2022	Apr. 23, 2023	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	00075962	1GHz ~ 18GHz	Dec. 03, 2021	May 06, 2022~ May 30, 2022	Dec. 02, 2022	Radiation (03CH07-HY)
Preamplifier	MITEQ	AMF-7D-0010 1800-30-10P	1590075	1GHz~18GHz	Apr. 21, 2022	May 06, 2022~ May 30, 2022	Apr. 20, 2023	Radiation (03CH07-HY)
Preamplifier	COM-POWER	PA-103A	161241	10MHz~1GHz	Oct. 04, 2021	May 06, 2022~ May 30, 2022	Oct. 03, 2022	Radiation (03CH07-HY)
Preamplifier	Agilent	8449B	3008A023 62	1GHz~26.5GHz	Oct. 04, 2021	May 06, 2022~ May 30, 2022	Oct. 03, 2022	Radiation (03CH07-HY)
Preamplifier	EMEC	EM18G40G	0600789	18-40GHz	Jul. 23, 2021	May 06, 2022~ May 30, 2022	Jul. 22, 2022	Radiation (03CH07-HY)
Spectrum Analyzer	Agilent	N9030A	MY523502 76	3Hz~44GHz	Jul. 22, 2021	May 06, 2022~ May 30, 2022	Jul. 21, 2022	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY15682/ 4	30MHz to 18GHz	Feb. 23, 2022	May 06, 2022~ May 30, 2022	Feb. 22, 2023	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY24971/ 4	9kHz to 18GHz	Feb. 23, 2022	May 06, 2022~ May 30, 2022	Feb. 22, 2023	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY28655/ 4	9kHz to 18GHz	Feb. 23, 2022	May 06, 2022~ May 30, 2022	Feb. 22, 2023	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 126	532078/12 6E	30MHz~18GHz	Sep. 17, 2021	May 06, 2022~ May 30, 2022	Sep. 16, 2022	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	MY2858/2	18GHz~40GHz	Feb. 23, 2022	May 06, 2022~ May 30, 2022	Feb. 22, 2023	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	801606/2	9KHz ~ 40GHz	Apr. 14, 2022	May 06, 2022~ May 30, 2022	Apr. 13, 2023	Radiation (03CH07-HY)
Controller	EMEC	EM1000	N/A	Control Ant Mast	N/A	May 06, 2022~ May 30, 2022	N/A	Radiation (03CH07-HY)
Controller	MF	MF-7802	N/A	Control Turn table	N/A	May 06, 2022~ May 30, 2022	N/A	Radiation (03CH07-HY)
Antenna Mast	EMEC	AM-BS-4500E	N/A	Boresight mast 1M~4M	N/A	May 06, 2022~ May 30, 2022	N/A	Radiation (03CH07-HY)
Turn Table	ChainTek	Chaintek 3000	N/A	0~360 Degree	N/A	May 06, 2022~ May 30, 2022	N/A	Radiation (03CH07-HY)
Software	Audix	E3	N/A	N/A	N/A	May 06, 2022~ May 30, 2022	N/A	Radiation (03CH07-HY)
USB Data Logger	TECPEL	TR-32	HE17XB24 95	N/A	Mar. 07, 2022	May 06, 2022~ May 30, 2022	Mar. 06, 2023	Radiation (03CH07-HY)
Horn Antenna	EMCO	3117	00143261	1GHz~18GHz	Feb. 11, 2022	May 06, 2022~ May 30, 2022	Feb. 10, 2023	Radiation (03CH07-HY)
SHF-EHF Horn Antenna	SCHWARZBE CK	BBHA 9170	BBHA9170 251	18GHz~40GHz	Nov. 30, 2021	May 06, 2022~ May 30, 2022	Nov. 29, 2022	Radiation (03CH07-HY)
Signal Generator	Rohde & Schwarz	SMF100A	101107	100kHz~40GHz	Dec. 08, 2021	May 06, 2022~ May 30, 2022	Dec. 07, 2022	Radiation (03CH07-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	6201664755	2/3/4G/LTE FDD/TDD with44)/LTE-3C C DLCA/2CC ULCA, CatM1/NB1/NB2	Jul. 21, 2021	Apr. 20, 2022~ May 31, 2022	Jul. 20, 2022	Conducted (TH03-HY)
Spectrum Analyzer	Rohde & Schwarz	FSV40	101908	10Hz~40GHz	Oct. 01, 2021	Apr. 20, 2022~ May 31, 2022	Sep. 30, 2022	Conducted (TH03-HY)
Thermal Chamber	ESPEC	SH-641	92013720	-40℃ ~90℃	Sep. 09, 2021	Apr. 20, 2022~ May 31, 2022	Sep. 08, 2022	Conducted (TH03-HY)
DC Power Supply	GW Instek	GPP-2323	GES906037	0V~64V ; 0A~6A	Jan. 06, 2022	Apr. 20, 2022~ May 31, 2022	Jan. 05, 2023	Conducted (TH03-HY)
Coupler	Warison	20dB 25W SMA Directional Coupler	#B	1-18GHz	Jan. 07, 2022	Apr. 20, 2022~ May 31, 2022	Jan. 06, 2023	Conducted (TH03-HY)

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## 5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of	2.40 40
Confidence of 95% (U = 2Uc(y))	3.16 dB

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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))	3.71 dB

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## **Appendix A. Test Results of Conducted Test**

## Conducted Output Power(Average power & ERP)

	LTE	Band 26 N	Maximum A	verage Po	wer [dBm	] (GT - LC :	= 0.8 dB)	
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
15	1	0		23.66	-	-		
15	1	37		23.77	-	-		
15	1	74		23.75	-	-		
15	36	0	QPSK	22.79	-	-	22.42	0.1746
15	36	20		22.85	-	-		
15	36	39		22.85	-	-		
15	75	0		22.87	-	-		
15	1	0		22.78	-	-		
15	1	37		22.83	-	-		
15	1	74		22.83	-	-		0.1406
15	36	0	16-QAM	21.81	-	-	21.48	
15	36	20		21.88	-	-		
15	36	39		21.86	-	-		
15	75	0		21.88	-	-		
15	1	0		21.97	-	-		
15	1	37		21.98	-	-		
15	1	74		21.96	-	-		
15	36	0	64-QAM	20.81	-	-	20.63	0.1156
15	36	20		20.87	-	-		
15	36	39		20.88	-	-		
15	75	0		20.87	-	-		
15	1	0		18.83	-	-	_	_
15	1	37		18.80	-	-		
15	1	74		18.79	-	-		
15	36	0	256-QAM	18.83	-		17.65	0.0582
15	36	20		19.00	-	-		
15	36	39		18.72	-	-		
15	75	0		18.75	-	-		
Limit	P	ower < 100'	W		Result		Pa	ISS

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	LTE	Band 26 N	/laximum A	verage Po	wer [dBm	] (GT - LC :	= 0.8 dB)		
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)	
10	1	0		•	23.86	-			
10	1	25		1	23.88	-			
10	1	49		1	23.86	-		0.1791	
10	25	0	QPSK	1	22.98	-	22.53		
10	25	12		1	22.96	-			
10	25	25		1	23.00	-			
10	50	0		1	22.95	-			
10	1	0		1	23.00	-			
10	1	25		1	22.93	-			
10	1	49		1	22.86	-		0.1462	
10	25	0	16-QAM	1	21.98	-	21.65		
10	25	12		1	21.97	-			
10	25	25		1	22.00	-			
10	50	0		1	21.97	-			
10	1	0		1	21.87	-			
10	1	25		1	21.97	-			
10	1	49		ı	21.88	-			
10	25	0	64-QAM	1	20.98	-	20.62	0.1153	
10	25	12		1	20.97	-			
10	25	25		1	21.00	-			
10	50	0		1	20.94	-			
10	1	0		1	18.97	-			
10	1	25		1	19.44	-			
10	1	49		1	19.00	-			
10	25	0	256-QAM	1	18.96	-	18.09	0.0644	
10	25	12		1	18.94	-			
10	25	25		1	18.97	-			
10	50	0		1	18.92	-			
Limit	Р	ower < 100'	W		Result		Pa	iss	

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	LTE	Band 26 N	Maximum A	verage Po	wer [dBm	] (GT - LC :	= 0.8 dB)	
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
5	1	0		23.83	23.92	23.89		
5	1	12		23.84	23.79	23.83		
5	1	24		23.83	23.75	23.90		0.1807
5	12	0	QPSK	22.86	22.94	22.84	22.57	
5	12	7		22.94	22.95	22.97		
5	12	13		22.92	22.97	22.98		
5	25	0		22.91	22.93	22.83		
5	1	0		22.92	22.90	22.83		
5	1	12		22.94	22.96	22.93		
5	1	24		22.93	23.00	22.88		0.1462
5	12	0	16-QAM	21.79	21.75	21.69	21.65	
5	12	7		21.90	21.86	22.00		
5	12	13		21.88	21.80	21.89		
5	25	0		21.83	21.85	21.79		
5	1	0		21.82	21.92	21.79		0.1140
5	1	12		21.81	21.75	21.86		
5	1	24		21.76	21.80	21.75		
5	12	0	64-QAM	20.89	20.85	20.89	20.57	
5	12	7		20.93	20.95	20.98		
5	12	13		20.94	20.94	20.93		
5	25	0		20.90	20.97	20.82		
5	1	0		18.89	18.97	18.80		
5	1	12		18.95	18.96	18.86		
5	1	24		18.97	18.92	19.01		
5	12	0	256-QAM	18.81	18.79	18.76	17.66	0.0583
5	12	7		18.87	18.84	18.86		
5	12	13		18.84	18.90	18.85		
5	25	0		18.83	18.83	18.75		
Limit	Р	ower < 100'	W	Result			Pa	ISS

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	LTE	Band 26 N	Maximum A	verage Po	wer [dBm	] (GT - LC :	= 0.8 dB)	
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
3	1	0		23.77	23.68	23.70		
3	1	8		23.86	23.78	23.85		
3	1	14		23.75	23.83	23.66		
3	8	0	QPSK	22.92	23.00	22.83	22.51	0.1782
3	8	4		22.92	22.88	22.88		
3	8	7		22.91	22.82	22.88		
3	15	0		22.88	22.79	22.98		
3	1	0		22.84	22.87	22.88		
3	1	8		22.96	22.91	22.97		
3	1	14		22.87	22.81	22.93		0.1452
3	8	0	16-QAM	21.91	21.99	22.01	21.62	
3	8	4		21.90	21.99	21.85		
3	8	7		21.88	21.90	21.93		
3	15	0		21.82	21.89	21.87		
3	1	0		21.80	21.70	21.78		
3	1	8		21.88	21.83	21.92		
3	1	14		21.78	21.84	21.68		
3	8	0	64-QAM	20.98	20.88	21.03	20.57	0.1140
3	8	4		20.95	20.92	20.85		
3	8	7		20.94	20.92	21.04		
3	15	0		20.92	20.99	20.89		
3	1	0		18.73	18.73	18.67		
3	1	8		19.00	18.93	19.08		
3	1	14		18.87	18.95	18.86		
3	8	0	256-QAM	18.88	18.97	18.91	17.73	0.0593
3	8	4		18.85	18.93	18.90		
3	8	7		18.84	18.87	18.77		
3	15	0		18.86	18.79	18.88		
Limit	P	ower < 100'	W		Result		Pa	ISS

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	LTE	Band 26 N	Maximum A	verage Po	wer [dBm	] (GT - LC :	= 0.8 dB)	
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
1.4	1	0		23.83	23.85	23.83		
1.4	1	3		23.85	23.87	23.75		
1.4	1	5		23.82	23.79	23.84		0.1795
1.4	3	0	QPSK	23.86	23.83	23.89	22.54	
1.4	3	1		23.86	23.84	23.86		
1.4	3	3		23.86	23.84	23.87		
1.4	6	0		22.87	22.97	22.81		
1.4	1	0		22.88	22.89	22.80		
1.4	1	3		22.95	23.01	22.96		
1.4	1	5		22.87	22.89	22.82		0.1466
1.4	3	0	16-QAM	22.71	22.74	22.74	21.66	
1.4	3	1		22.73	22.72	22.80		
1.4	3	3		22.70	22.76	22.64		
1.4	6	0		21.94	21.96	21.87		
1.4	1	0		21.84	21.82	21.76		
1.4	1	3		21.87	21.90	21.83		
1.4	1	5		21.83	21.74	21.86		
1.4	3	0	64-QAM	21.77	21.76	21.70	20.55	0.1135
1.4	3	1		21.79	21.73	21.81		
1.4	3	3		21.75	21.85	21.80		
1.4	6	0		20.94	20.96	20.87		
1.4	1	0		18.90	18.87	18.89		
1.4	1	3		18.94	18.93	18.90		
1.4	1	5		18.82	18.81	18.83		
1.4	3	0	256-QAM	18.87	18.91	18.78	17.59	0.0574
1.4	3	1		18.81	18.75	18.89		
1.4	3	3		18.82	18.85	18.88		
1.4	6	0		18.82	18.79	18.90		
Limit	P	ower < 100'	W		Result	·	Pa	ISS

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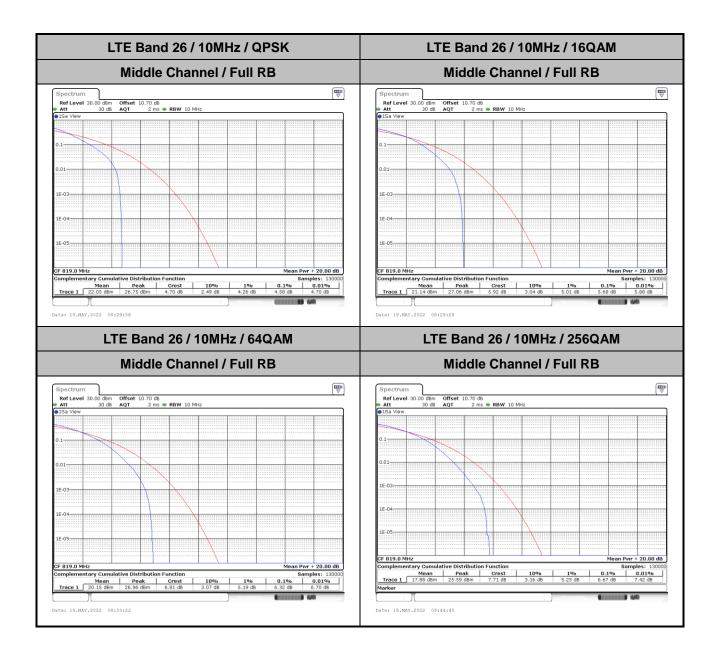
## LTE Band 26

## Peak-to-Average Ratio

Mode		LTE Band 26 / 10MHz								
Mod.	QPSK	256QAM	Limit: 13dB							
RB Size	Full RB	Full RB	Full RB	Full RB	Result					
Middle CH	4.58	5.68	6.32	6.67	PASS					

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## 26dB Bandwidth

Mode		LTE Band 26 : 26dB BW(MHz)										
BW	1.4MHz 3MHz				5MHz 10MH		/Hz 15N		ЛHz	20MHz		
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Low CH	-	-	-	-	-	-	-	-	14.57	14.60	-	-
Middle CH	1.33	1.34	3.07	3.02	4.99	4.99	9.91	9.79	-	-	-	-
Mode					LTE Ba	and 26 :	26dB BV	V(MHz)				
BW	1.4	ИНz	3M	lHz	5M	lHz	101	ЛHz	15MHz		20MHz	
Mod.	64QAM	256	64QAM	256	64QAM	256	64QAM	256	64QAM	256	64QAM	256
Wod.	07QAIII	QAM	OTQAN	QAM	OTQAIN	QAM	OTQAIN	QAM	OTQAIN	QAM	OTQAIN	QAM
Low CH	-	-	-	-	-	-	-	-	14.57	14.45	-	-
Middle CH	1.30	1.32	3.10	3.09	4.84	4.92	10.07	9.65	-	-	-	-

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LTE Band 26 Middle Channel / 1.4MHz / QPSK Middle Channel / 1.4MHz / 16QAM Ref Level 30.00 dBm Offset 10.70 dB = RBW 30 kHz = Att 30 dB SWT 63.2 µs = VBW 100 kHz Mode Auto FFT SQL COUNT 100/100 Ref Level 30.00 dBm Offset 10.70 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 16.87 dBr 819.16220 MH M1 ndB 612. -10 dBm 20 dBm -20 dBm--30 dBm 30 dBm -50 dBm-50 dBm CF 819.0 MHz CF 819.0 MHz Span 2.8 MHz 1001 pts Span 2.8 MHz Function Result
1.3371 MHz
26.00 dB
612.6 
 X-value
 Y-value
 Function

 819.1622 MHz
 16.87 dBm
 ndB down

 818.3259 MHz
 -9.14 dBm
 ndB

 819.6601 MHz
 -9.02 dBm
 Q factor
 Function Result 1.3343 MHz Type | Ref | Trc | 
 X-value
 Y-value
 Function

 819.0587 MHz
 15.71 dBm
 ndB down
 Date: 19.MAY.2022 07:10:25 Date: 19.MAY.2022 07:10:55 Middle Channel / 3MHz / QPSK Middle Channel / 3MHz / 16QAM Ref Level 30.00 dBm Offset 10.70 dB RBW 100 kHz

Att 30 db SWT 19 µs VBW 300 kHz Mode Auto FFT

SGL Count 100/100

GIFF Max 17.95 dBm 819.80920 MHz 26.00 dB 3.015000000 ML\*\* 19.57 dBm 819.86310 MHz 26.00 dE 3.074900000 MHz ) factor 266 271. -10 dBm--10 dBm--50 dBm 50 dBm -60 dBm -60 dBm Marker Type | Ref | Trc | Marker Type | Ref | Trc | Date: 19.MAY.2022 07:41:38 Middle Channel / 5MHz / QPSK Middle Channel / 5MHz / 16QAM Ref Level 30.00 dBm Offset Att 30 dB SWT SGL Count 100/100 16.32 dBn 820.68800 MH: 26.00 dB 4.985000000 MH 10 dBm 164 164 -10 dBm -20 dBn -20 dBm 40 dBm 40 dBm-CF 819.0 MHz CF 819.0 MH Span 10.0 MHz Span 10.0 MHz Function Result 4.985 MHz 26.00 dB 164.6 Function Result 4.985 MHz 26.00 dB 164.3 
 X-value
 Y-value
 Function

 820,688 MHz
 16.32 dBm
 nd8 down

 816,572 MHz
 -9.58 dBm
 nd8

 821,557 MHz
 -9.51 dBm
 Q factor

 X-value
 Y-value
 Function

 818.98 MHz
 14.75 dBm
 ndB down

 816.473 MHz
 -11.09 dBm
 ndB

 821.458 MHz
 -11.14 dBm
 Q factor
 Type Ref Trc Type Ref Trc Date: 19.MAY.2022 08:05:19 Date: 19.MAY.2022 08:05:49

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LTE Band 26 Middle Channel / 10MHz / QPSK Middle Channel / 10MHz / 16QAM Ref Level 30.00 dBm Offset 10.70 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] 18.03 dBn 817.6410 MH: 16.91 dBr 815.6030 MH -10 dBm -20 dBm 30 dBm 30 dBm -50 dBm-CF 819.0 MHz CF 819.0 MHz Span 20.0 MHz Span 20.0 MHz Function Result 9.91 MHz 26.00 dB 82.5 Marker Type Ref Trc 
 X-value
 Y-value
 Function

 817.641 MHz
 18.03 dBm
 nd8 down

 813.905 MHz
 -8.06 dBm
 nd8

 823.815 MHz
 -7.34 dBm
 Q factor

 X-value
 Y-value
 Function

 815.603 MHz
 16.91 dBm
 ndB down

 814.185 MHz
 -8.73 dBm
 ndB

 823.975 MHz
 -9.28 dBm
 Q factor
 **Function Result** Date: 19.MAY.2022 08:27:24 Date: 19.MAY.2022 08:27:48 Low Channel / 15MHz / QPSK Low Channel / 15MHz / 16QAM 17.86 dBn 825.9060 MH 26.00 di 14.64 dBn 826.6250 MH -10 dBm--30 dBm Function Result 14,565 MHz 26,00 dB 56,7 
 X-value
 Y-value

 826.625 MHz
 14.64 dBm

 813.978 MHz
 -11.20 dBm

 828.573 MHz
 -12.51 dBm
 Function ndB down Function ndB down Date: 19.MAY.2022 08:50:50

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Date: 19.MAY.2022 08:49:13

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LTE Band 26 Middle Channel / 1.4MHz / 64QAM Middle Channel / 3MHz / 64QAM Ref Level 30.00 dBm Offset 10.70 dB • RBW 100 kHz 
• Att 30 dB SWT 19 µs • VBW 300 kHz Mode Auto FFT 
• SGL Count 100/100 
• 1Pk Max dBm--50 dBm-CF 819.0 MHz CF 819.0 MH Span 2.8 MHz 1001 pt Type | Ref | Trc | Function Result Function Result Date: 19.MAY.2022 07:07:36 Date: 19.MAY.2022 07:39:54 Middle Channel / 5MHz / 64QAM Middle Channel / 10MHz / 64QAM Ref Level 30.00 Ref Level 30.00 dBm Att 30 dB Offset 10.70 dB ● RBW 100 kHz SWT 19 µs ● VBW 300 kHz Mode Auto FFT Att 30 dB SGL Count 100/100 Offset 10.70 dB ● RBW 300 kHz SWT 12.6 µs ● VBW 1 MHz Offse Att 30 dB SWT SGL Count 100/100 Mode Auto FFT 15.13 dE 818.39100 M CF 819.0 MHz 1001 pts Span 10.0 MHz CF 819.0 MHz Span 20.0 MHz 1001 pts Type | Ref | Trc | Type | Ref | Trc | **Function Result Function Result** Date: 19.MAY.2022 08:26:12 Low Channel / 15MHz / 64QAM M1[1] 30.0 MHz Type | Ref | Trc |

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LTE Band 26 Middle Channel / 1.4MHz / 256QAM Middle Channel / 3MHz / 256QAM Ref Level 30.00 dBm Offset 10.70 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 12.95 dBn 818.32870 MH: 26.00 dE M1[1] 13.27 dBn 818.92450 MH M1[1] -10 dBm -30 dBm -50 dBm-CF 819.0 MHz CF 819.0 MHz Span 2.8 MHz 1001 pts Span 6.0 MHz Function Result 1.3175 MHz 26.00 dB 621.6 Function Result
3.0869 MHz
26.00 dB
265.1 
 X-value
 Y-value
 Function

 818.9245 MHz
 13.27 dBm
 ndB down

 818.3483 MHz
 -12.68 dBm
 ndB

 819.6657 MHz
 -12.73 dBm
 Q factor
 Type | Ref | Trc | 
 X-value
 Y-value
 Function

 818.3287 MHz
 12.95 dBm
 ndB down
 Date: 19.MAY.2022 09:03:07 Date: 19.MAY.2022 09:10:12 Middle Channel / 5MHz / 256QAM Middle Channel / 10MHz / 256QAM Ref Level 30.00 dBm Offset 10.70 dB RBW 300 kHz
Att 30 db SWT 12.6 µs VBW 1 MHz Mode Auto FFT
SGL Count 100/100

1Pk Max 14.26 dBn 817.3620 MH 26.00 dl 12.29 dBr 819.46000 MH dBm--20 dBm--50 dBm -50 dBm--60 dBm-CF 819.0 MHz CF 819.0 MHz Marker Span 20.0 MHz 1001 pt Span 10.0 MHz 1001 pts Y-value 2 12.29 dBm 2 -13.54 dBm 2 -13.95 dBm Y-value 12 14.26 dBm 12 -11.77 dBm 12 -12.26 dBm Type Ref Trc Function
mdB down
mdB down
mdB
m ndB
m Q factor Function
n ndB down
n ndB
n Q factor X-value 819.46 MHz 816.572 MHz 821.488 MHz X-value 817.362 MHz 814.185 MHz 823.835 MHz Function Result Function Result Date: 19.MAY.2022 09:17:54 Date: 19.MAY.2022 09:25:04 Low Channel / 15MHz / 256QAM 
 Spectrum
 Ref Level 30.00 dBm
 Offset 10.70 dB ■ RBW 300 kHz

 Att
 30 dB
 SWT
 12.6 µs ■ VBW
 1 MHz
 Mode Auto FFT

 SGL Count 100/100
 30 dB
 30 dB M1[1] CF 821.5 MHz Function Result 14,446 MHz 26.00 dB 57.0 Span 30.0 MHz Type Ref Trc Y-value z 12.64 dBm z -13.28 dBm z -12.44 dBm X-value 823.718 MHz 814.097 MHz 828.543 MHz Function m ndB down Date: 19.MAY.2022 09:40:43

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## **Occupied Bandwidth**

Mode		LTE Band 26 : 99%OBW(MHz)										
BW	1.4MHz 3MHz			lHz	5M	Hz	10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Low CH	-	-	-	-	-	-	-	-	13.40	13.46	-	-
Middle CH	1.10	1.12	2.72	2.73	4.49	4.50	9.01	9.15	-	-	-	-
Mode					LTE Ba	and 26 :	99%OBV	V(MHz)				
BW	1.4	ИНz	3M	lHz	5MHz 10MHz			15MHz		20MHz		
Mod.	64QAM	256	64QAM	256	64QAM	256	64QAM	256	64QAM	256	64QAM	256
WOG.	i. 04QAIVI	QAM	UHQAW	QAM	UHQAW	QAM	UHQAW	QAM	UHQAW	QAM	04QAIVI	QAM
Low CH	-	-	-	-	-	-	-	-	13.37	13.46	-	-
Middle CH	1.09	1.09	2.73	2.73	4.52	4.49	8.99	8.95	-	-	-	-

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LTE Band 26 Middle Channel / 1.4MHz / QPSK Middle Channel / 1.4MHz / 16QAM Ref Level 30.00 dBm
Att 30 dB
SGL Count 100/100
Pk Max 16.21 dBr 819.45590 MH 1.121678322 MH 10 dBm -10 dBm -10 dBn -20 dBm--40 dBm 40 dBm -60 dBm-Span 2.8 MHz CF 819.0 MHz Span 2.8 MHz CF 819.0 MHz 1001 pts X-value 819.4559 MHz 818.44336 MHz 819.56503 MHz Y-value 2 16.21 dBm 2 7.81 dBm 2 6.81 dBm X-value 818.9608 MHz 818.45175 MHz 819.55105 MHz Type Ref Trc **Function Result** Type Ref Trc Middle Channel / 3MHz / QPSK Middle Channel / 3MHz / 16QAM SGL Count 100/100 17.76 dE 818.51450 M 2.721278721 M 0 dBm--20 dBm-30 dBm 40 dBn -40 dBm--50 d8m-CF 819.0 MH CF 819.0 MHz 1001 pts Type | Ref | Trc | 
 X-value
 Y-value
 Function

 818.5145 MHz
 17.76 dBm
 818.5145 MHz

 817.63936 MHz
 11.95 dBm
 Occ Bw

 820.36064 MHz
 10.58 dBm
 Function Result Function **Function Result** 2.721278721 MHz 2.727272727 MHz Middle Channel / 5MHz / QPSK Middle Channel / 5MHz / 16QAM Ref Level 30.00 dBm Offset 10.70 dB RBW 100 kHz Att 30 db SWT 19 µs VBW 300 kHz Mode Auto FFT SGL Count 100/100 Ref Level 30.0 Att 16.28 dBr 816.89200 MH 4.485514486 MH 16.19 dBn 817.67100 MH 4.495504496 MH M1[1] M1[1] -10 dBm -30 dBm--60 dBm-CF 819.0 MHz | Marker | Trpe | Ref | Trc | X-value | Y-value | Function | M1 | 1 | 816.892 MHz | 16.28 dsm | T1 | 1 | 816.76224 MHz | 10.44 dsm | Occ Bw | T2 | 1 | 821.24775 MHz | 11.02 dsm | 
 Type
 Ref
 Trc
 X-value
 Y-value
 Function

 M1
 1
 817.671 MHz
 16.19 dBm
 **Function Result** 817.671 MHz 16.19 dBm 816.75225 MHz 10.95 dBm Occ Bw 821.24775 MHz 9.67 dBm 4.485514486 MHz 4.495504496 MHz 1111111 4/8

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LTE Band 26 Middle Channel / 10MHz / QPSK Middle Channel / 10MHz / 16QAM 16.53 dB 10 dBm--10 dBm--10 dBm 30 dBm 40 dBm--50 dBm--60 dBm--60 dBm-9.010989011 MHz 9.150849151 MHz Low Channel / 15MHz / QPSK Low Channel / 15MHz / 16QAM 15.45 dBi 822.4290 MF 13.396603397 MF 14.54 dBm 818.9530 MHz 13.456543457 MHz 10 dBmdBm--20 dBm--40 dBm--40 dBm -50 dBm-CF 821.5 MHz 1001 pts Span 30.0 MHz 1001 pts Span 30.0 MHz 
 X-value
 Y-value
 Function

 818.958 MHz
 14.55 dBm
 Occ Bw

 814.7867 MHz
 9.44 dBm
 Occ Bw

 828.2433 MHz
 10.12 dBm
 Type Ref Trc **Function Result Function Result** 13.396603397 MHz 13.456543457 MHz

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Date: 19.MAY.2022 08:50:26

LTE Band 26 Middle Channel / 1.4MHz / 64QAM Middle Channel / 3MHz / 64QAM Ref Level 30.00 dbm Offset 10.70 db e RBW 30 kHz
Act 30 db SWT 63.2 µs e VBW 100 kHz Mode Auto FFT
SGL COUNT 100/100
13Pk Max m 10 dBm--10 dBm 30 dBm-40 dBm -50 dBm-50 dBm -60 dBm CF 819.0 MHz
Marker
Type | Ref | Trc | 
 X-value
 Y-value
 Function

 819.1986 MHz
 14.89 dBm

 818.45455 MHz
 7.62 dBm
 Occ Bw

 819.54545 MHz
 8.42 dBm

 X-value
 Y-value
 Function

 819.5275 MHz
 15.98 dBm

 817.63337 MHz
 10.28 dBm
 Occ Bw

 820.36663 MHz
 10.41 dBm
 1.090909091 MHz 2.733266733 MHz Middle Channel / 5MHz / 64QAM Middle Channel / 10MHz / 64QAM Ref Level 30.00 dBm Offset 10.70 dB = RBW 300 kHz = Att 30 dB SWT 12.6 µs = VBW 1 MHz Mode Auto FFT SGL Count 100/100 
 Ref Level
 30.00 dBm
 Offset
 10.70 dB ● RBW
 100 kHz

 Att
 30 dB
 SWT
 19 μs ● VBW
 300 kHz
 Mode
 Auto FFT
 17.31 dBm 822.0970 MHz 8.991008991 MHz 13.76 dBn 820.28900 MH: 4.515484515 MH: MITII M1[1] -10 dBm--30 dBm--50 dBm -60 dBm-CF 819.0 MHz
Marker
Type | Ref | Trc | CF 819.0 MH Y-value Function
13.76 dBm
7.61 dBm Occ Bw
8.95 dBm Type | Ref | Trc | Y-value Function
17.31 dBm
2 9.93 dBm Occ Bw
2 9.21 dBm 8.991008991 MHz Low Channel / 5MHz / 64QAM 13.60 dBr 824.7370 MH 13.366633367 MH M1[1] -20 dBm -40 d**B**m 50 dBm-CF 821.5 MHz Span 30.0 MHz 13.366633367 MHz

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Date: 19.MAY.2022 08:48:50

LTE Band 26 Middle Channel / 1.4MHz / 256QAM Middle Channel / 3MHz / 256QAM Ref Level 30.00 dbm Offset 10.70 db e RBW 30 kHz
Act 30 db SWT 63.2 µs e VBW 100 kHz Mode Auto FFT
SGL COUNT 100/100
13Pk Max 13.56 dBr 819.15660 MH 1.088111889 13.72 dBn 819.61140 MH 2.733266733 M 10 dBm--10 dBm -30 dBm 30.dBm -40 d8m-40 dBm -50 dBm--50 dBm -60 dBm CF 819.0 MHz
Marker
Type | Ref | Trc | 
 X-value
 Y-value
 Function

 819.1566 MHz
 13.56 dBm

 818.45455 MHz
 6.37 dBm
 Occ Bw

 819.54266 MHz
 6.39 dBm

 X-value
 Y-value
 Function

 819.6114 MHz
 13.72 dBm
 817.6273 MHz

 817.6273 MHz
 8.11 dBm
 Occ Bw

 820.36064 MHz
 7.65 dBm
 1.088111888 MHz 2.733266733 MHz Middle Channel / 5MHz / 256QAM Middle Channel / 10MHz / 256QAM Ref Level 30.00 dBm Offset 10.70 dB RBW 300 kHz

Att 30 db SWT 12.6 µs VBW 1 MHz Mode Auto FFT

SGL Count 100/100

1Pk Max RefLevel 30.00 dbm Offset 10.70 dB ● RBW 100 kHz
Att 30 dB SWT 19 μs ● VBW 300 kHz Mode Auto FFT
SGL Count 100/100
10k Max 11.78 dBr 820.59800 MH 4.485514486 MH 13.95 dBn 819.6590 MH: 8.951048951 MH: M1[1] -10 dBm -30 dBm-40 dBm--50 dBm -50 dBm CF 819.0 MHz 
 Marker
 Tre
 X-value
 Y-value
 Function

 M1
 1
 819,659 MHz
 13,95 dBm
 13,95 dBm

 T1
 1
 814,5245 MHz
 8.36 dBm
 Occ Bw

 T2
 1
 823,4755 MHz
 7,13 dBm
 Occ Bw

 Marker
 Trc
 X-value
 Y-value
 Function

 M1
 1
 820.598 MHz
 11.78 d8m
 11.78 d8m

 T1
 1
 816.76224 MHz
 6.02 d8m
 Occ 8w

 T2
 1
 821.24775 MHz
 6.49 d8m
 Occ 8w
 4.485514486 MHz 8.951048951 MHz Low Channel / 15MHz / 256QAM 
 Ref Level
 30.00 dBm
 Offset
 10.70 dB
 ■ RBW
 300 kHz
 ■ Att
 30 dB
 SWT
 12.6 μs
 ■ VBW
 1 MHz
 Mode
 Auto FFT

 SGL Count 100/100
 ■ Pk Max
 11.46 dBn 823.0880 MH: 13.456543457 MH: M1[1] 10 dBm--10 dBm -60 dBm-1001 pt: 
 X-value
 Y-value
 Function

 823.088 MHz
 11.46 dBm
 0.00 dBm

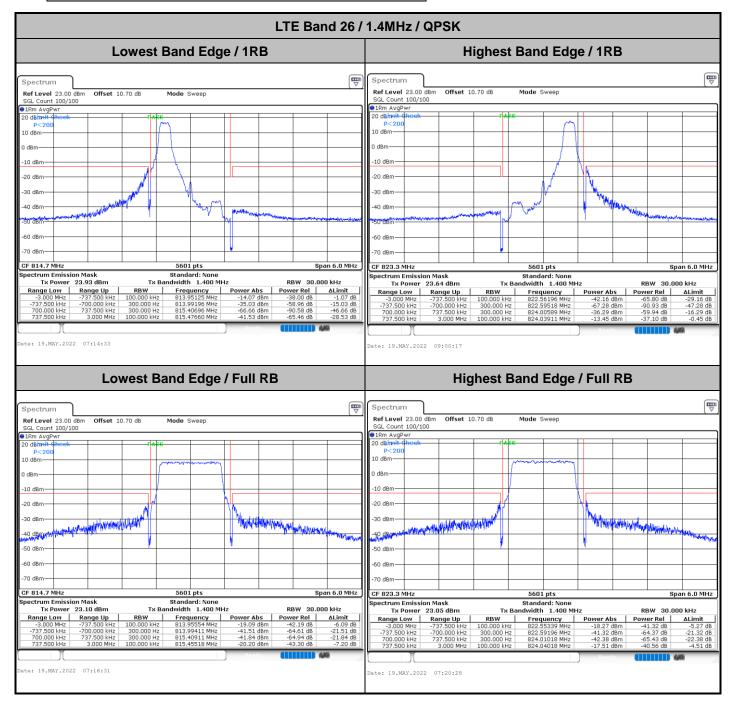
 814.7567 MHz
 6.69 dBm
 0cc Bw

 828.2133 MHz
 6.11 dBm
 Type Ref Trc Function Result 13.456543457 MHz Date: 19.MAY.2022 09:40:16

Report No.: FG1D2414I

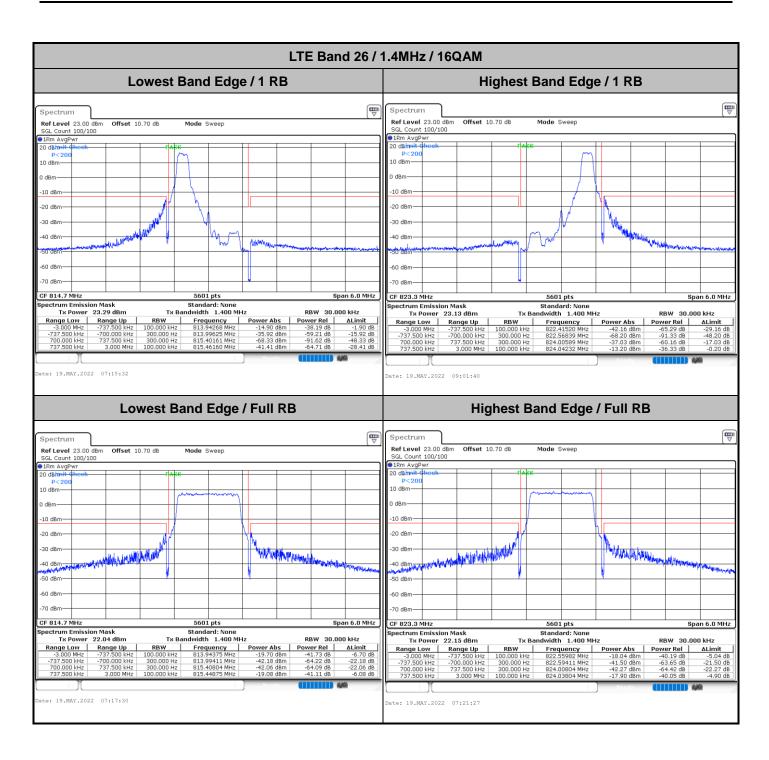
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## Emission masks - In-band emissions

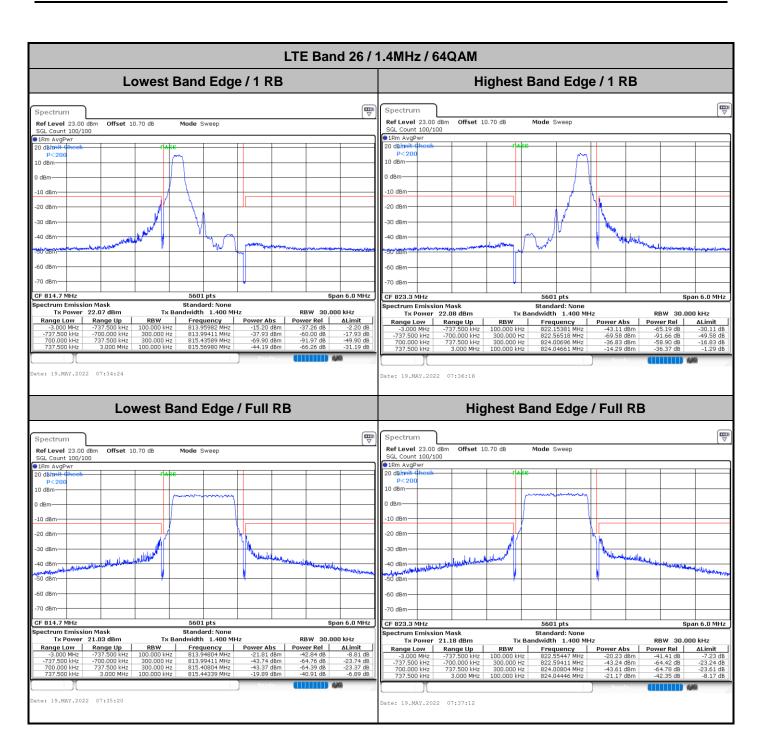


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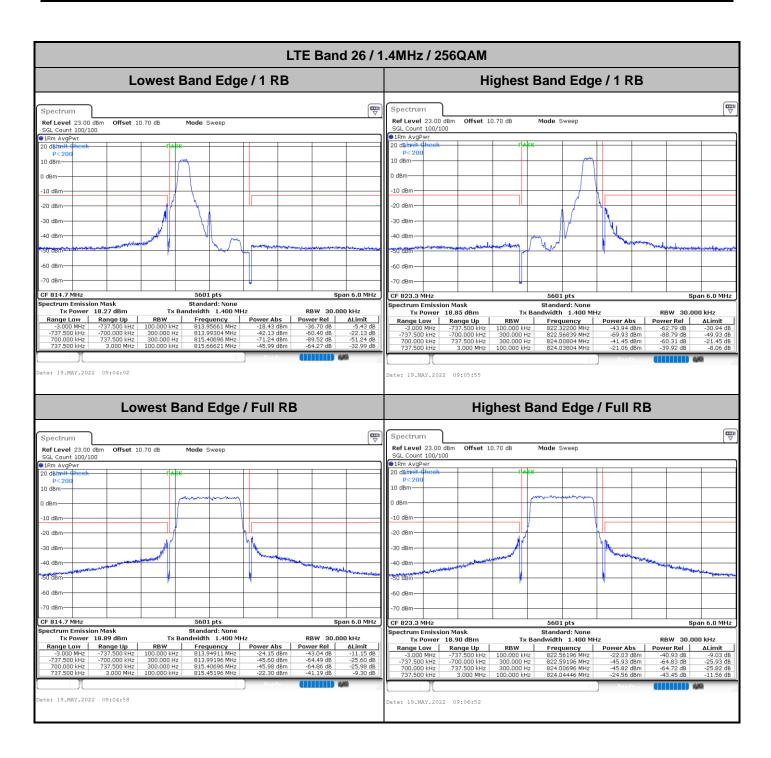
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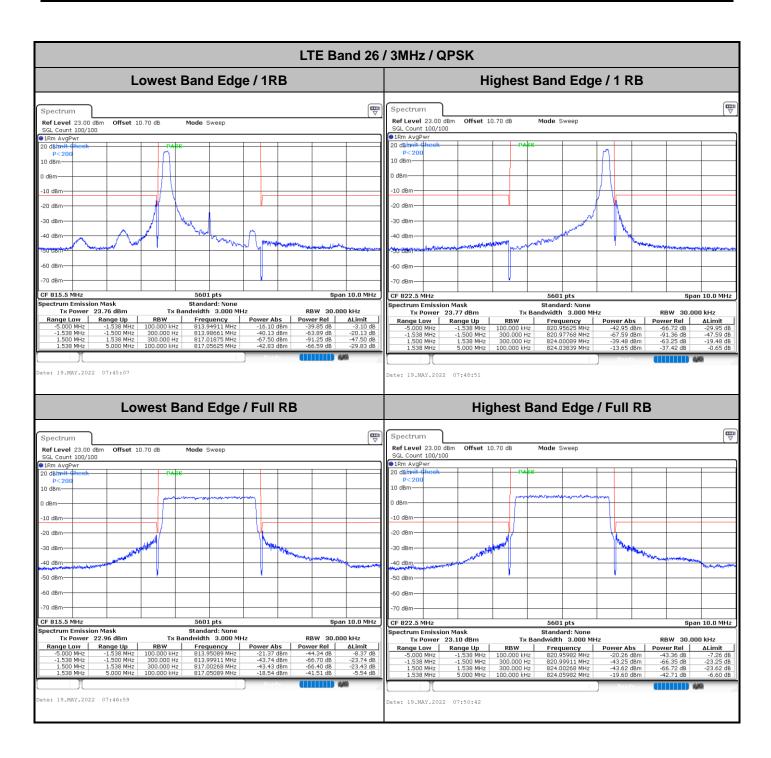
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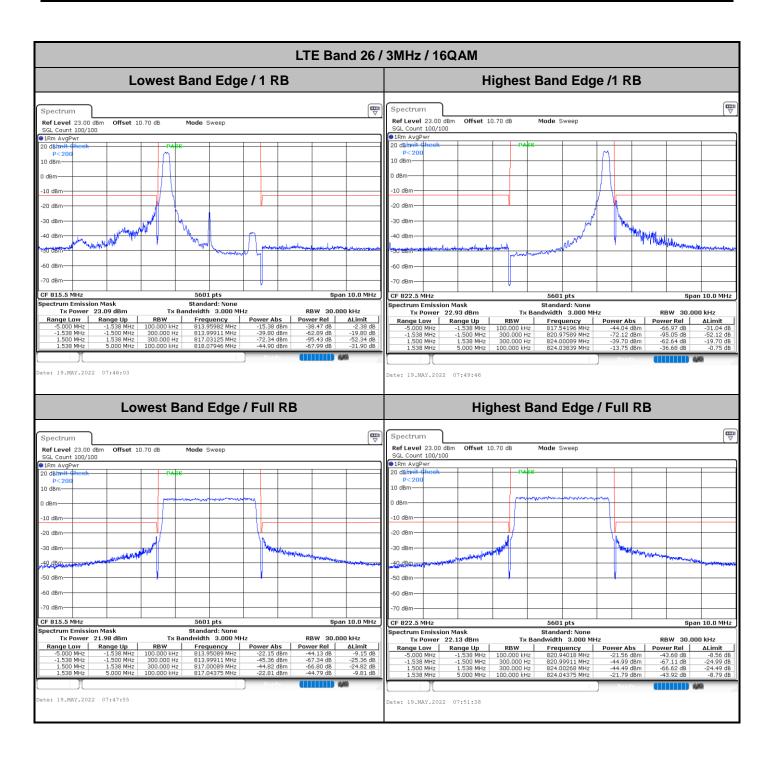
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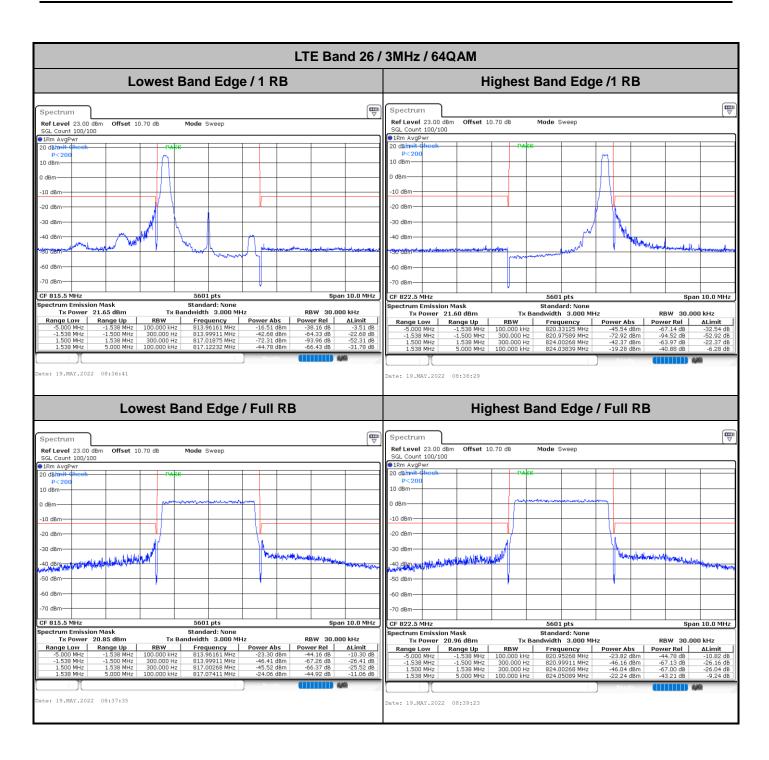
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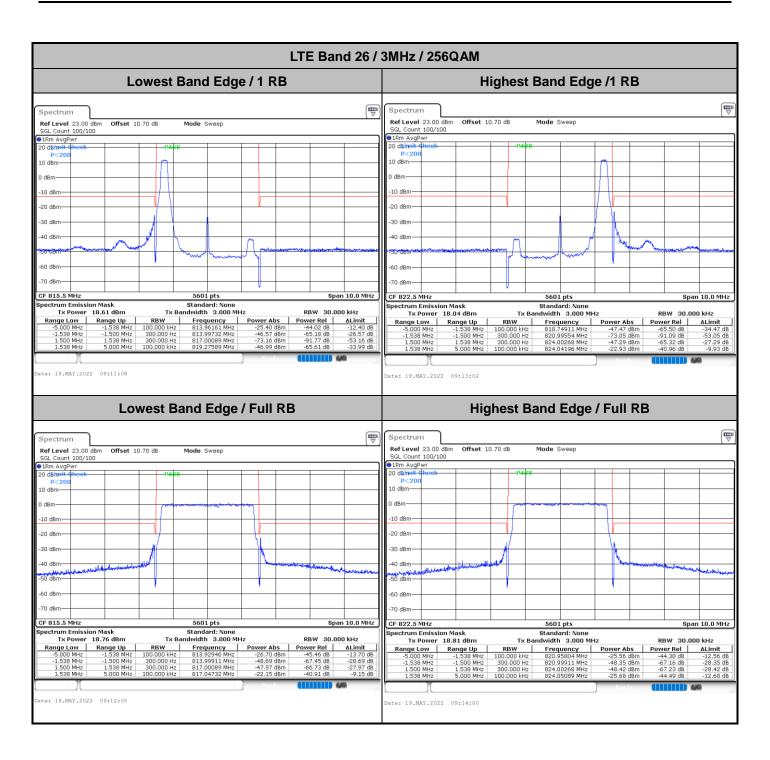
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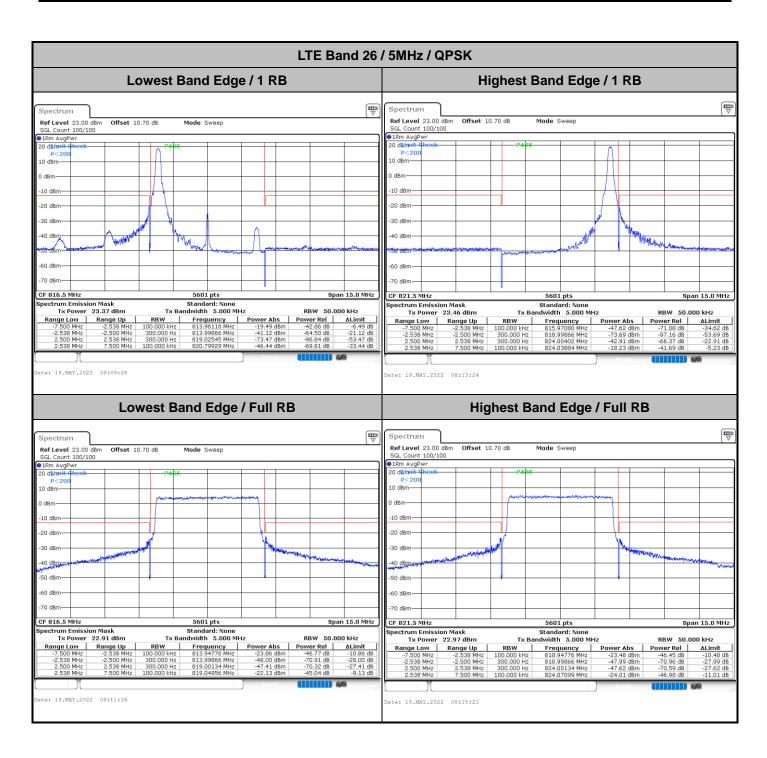
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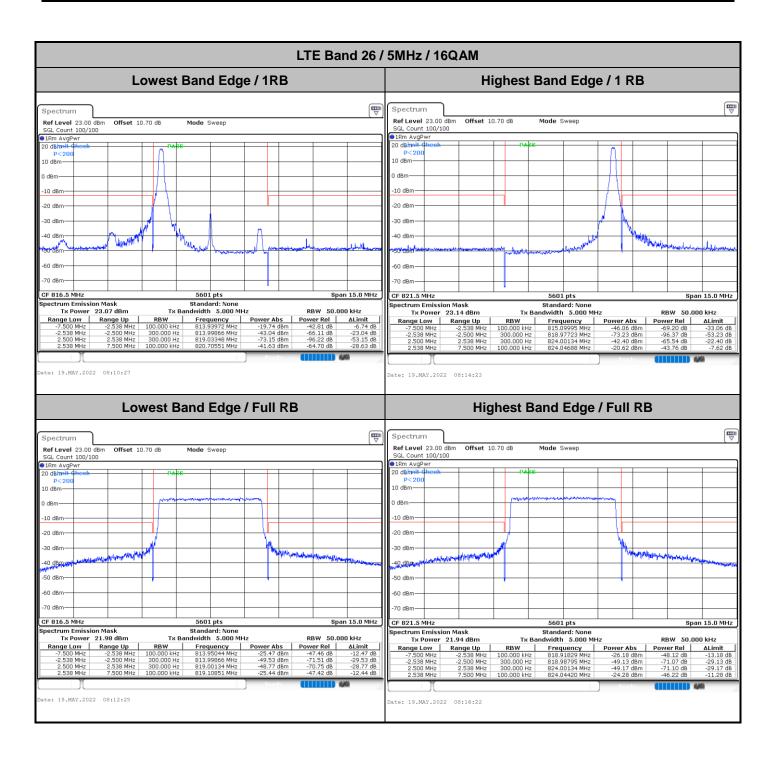
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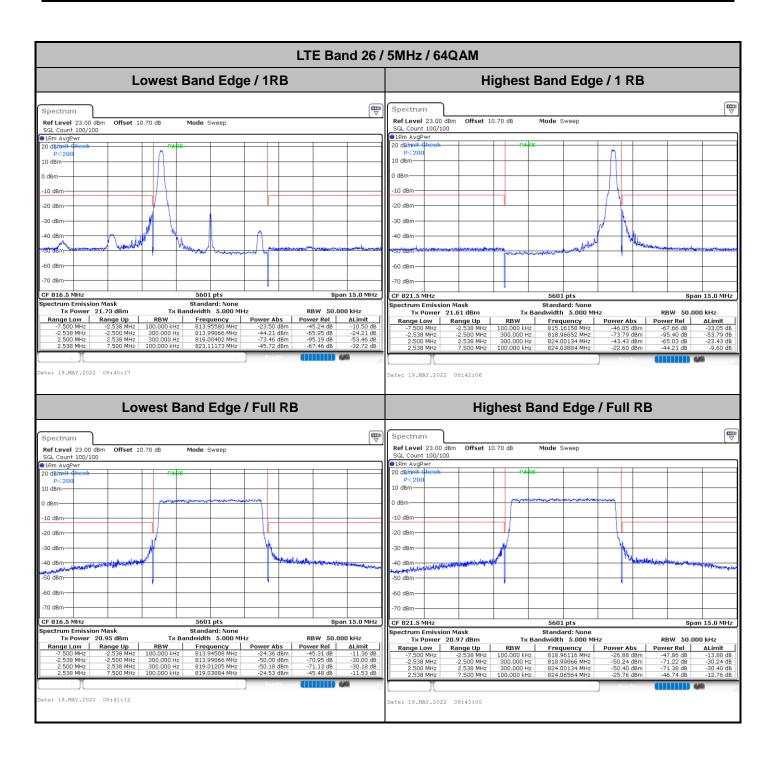
TEL: 886-3-327-3456 Page Number : A2-20 of 39 FAX: 886-3-328-4978



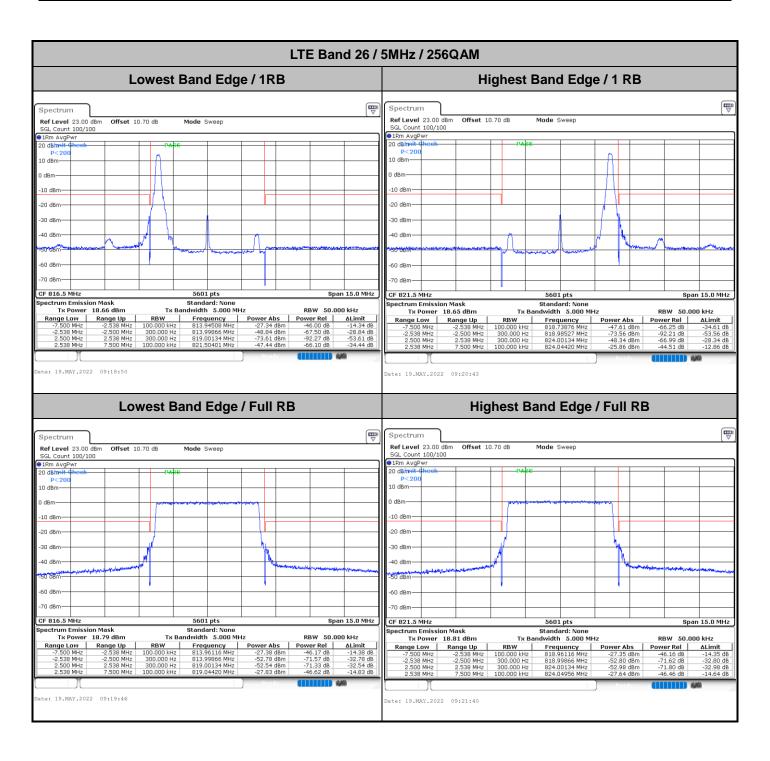
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