



Report No.: FG3N2325D

FCC RADIO TEST REPORT

FCC ID : A4RGR83Y

Equipment : Phone **Model Name** : GR83Y

Applicant : Google LLC

1600 Amphitheatre Parkway,

Mountain View, California, 94043 USA

Standard : FCC 47 CFR Part 2, 96

The product was received on Nov. 28, 2023 and testing was performed from Dec. 19, 2023 to Feb. 16, 2024. 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.

Louis Win

TEL: 886-3-327-3456

Approved by: Louis Wu

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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Report Template No.: BU5-FGLTE96 Version 2.4

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Report Version : 01

History of this test report

Report No.: FG3N2325D

Report No.	Version	Description	Issue Date
FG3N2325D	01	Initial issue of report	Apr. 09, 2024

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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	Conducted Output Power	Reporting only	-
3.3	§96.41	Peak-to-Average Ratio	Pass	-
3.4	§96.41	Effective Isotropic Radiated Power	Pass	-
3.5	§2.1049 §96.41	Occupied Bandwidth	Reporting only	-
3.6	§2.1051 §96.41	Conducted Band Edge Measurement	Pass	-
3.7	§2.1051 §96.41	Conducted Spurious Emission	Pass	-
3.8	§2.1055	Frequency Stability for Temperature & Voltage	Pass	-
4.4	§2.1051 §96.41	Radiated Spurious Emission	Pass	5.11 dB under the limit at 10850.00 MHz

Conformity Assessment Condition:

- The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the
 regulation limits or in accordance with the requirements stipulated by the applicant/manufacturer who
 shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken
 into account.
- 2. The measurement uncertainty please refer to each test result in the section "Measurement Uncertainty".

Disclaimer:

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

Reviewed by: William Chen Report Producer: Clio Lo

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1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature

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General Specs

GSM/WCDMA/LTE/5G NR, Bluetooth, BLE, BLE channel sounding, Thread, Wi-Fi 802.11be, UWB, NFC, WPT, NTN and GNSS.

Antenna Type

WWAN:

<Ant. 6>: PIFA Antenna <Ant. 7>: PIFA Antenna

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

TDD band Power Class		
	PC3	PC2
B48	V	-

Antenna information				
Band	Ant6	Ant7	Main Ant. #	Sub Ant. #
B48	-0.5	-1.0	6	7

Remark:

- 1. For Test Items, Main Ant. means Tx0 and Sub Ant. means Tx1.
- 2. After preliminary scan, the main antenna Ant6 is selected as the worst mode to be reported for conducted test in the test report.

EUT Information List		
S/N	Performed Test Item	
3B181FDAP00055	Conducted Measurement EIRP	
3B131FDAP0006Y	Radiated Spurious Emission	

1.2 Modification of EUT

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

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1.3 Testing Location

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	03CH07-HY	
Test Engineer	HaoEn Zhang	Jesse Wang, Stan Hsieh and Ken Wu	
Temperature (°C)	21.6~24.8	17.2~25.2	
Relative Humidity (%)	52.1~55.6	47~68.3	

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

FCC Designation No.: TW1190

1.4 Applied Standards

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

- + ANSI C63.26-2015
- ANSI / TIA-603-E
- FCC 47 CFR Part 2, 96
- FCC KDB 971168 D01 Power Meas. License Digital Systems v03r01
- FCC KDB 940660 D01 Part 96 CBRS Eqpt v03
- FCC KDB 412172 D01 Determining ERP and EIRP v01r01
- FCC KDB 414788 D01 Radiated Test Site v01r01

Remark:

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

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2 Test Configuration of Equipment Under Test

2.1 Test Mode

Antenna port conducted and radiated test items listed below are performed according to KDB 971168 D01 Power Meas. License Digital Systems v03r01 with maximum output power.

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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 accessory (Adapter or Earphone) and adjusting the measurement antenna orientation, following C63.26 exploratory test procedures and find X Plane with Adapter as worst plane.

Modulation Type	Modulation
А	QPSK
В	16QAM
С	64QAM
D	256QAM

Test Item	Modulation Type	Bandwidth	RB Size	Channel
Conducted Power	A, B, C, D	All	1, Half, Full	L, M, H
EIRP	A, B, C, D	All	1, Half, Full	L, M, H
PAR	A, B, C, D	10 MHz or less	Full	M
Bandwidth	A, B, C, D	All	Full	M
CBE	A, B, C, D	5 MHz	1RB	L, M, H
	А, В, С, В	All	Full	∟, IVI, IT
ACLR, Mask	A, B, C, D	5 MHz	1RB	L, M, H
ACLN, IVIASK	А, В, С, В	All	Full	∟, IVI, IT
CSE	А	Minimum	1RB	L, M, H
Frequency Stability	А	10 MHz or less	Full	M
RSE	A	20MHz	1RB	L, M, H

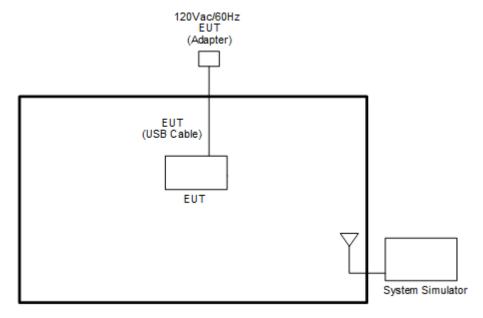
Remark:

- Evaluated all the transmitter signal and reporting worst-case configuration among all modulation types.
- 2. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst-case emissions are reported.
- 3. During the RSE preliminary test, the standalone mode and charging modes (Adapter mode and WPT mode) were verified. It is determined that the adapter mode is the worst case for the official test.
- 4. All the radiated test cases were performed with AC Adapter 1 and USB Cable 2.

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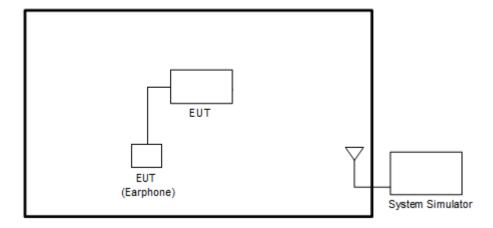
2.2 Connection Diagram of Test System

<EUT with Adapter>



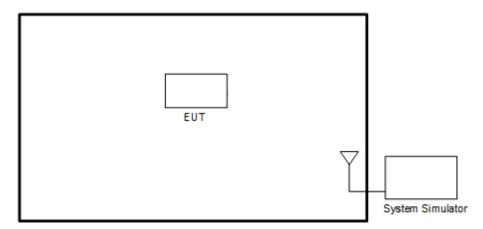
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<EUT with Earphone>



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<EUT without Accessory>



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2.3 Support Unit used in test configuration

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

2.4 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 EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

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

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 4.2 dB and 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 48 Channel and Frequency List			
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	55340	55990	56640
20	Frequency	3560.0	3625.0	3690.0
15	Channel	55315	55990	56665
15	Frequency	3557.5	3625.0	3692.5
10	Channel	55290	55990	56690
10	Frequency	3555.0	3625.0	3695.0
5	Channel	55265	55990	56715
o O	Frequency	3552.5	3625.0	3697.5

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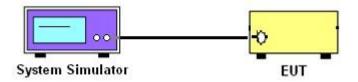
3 Conducted Test Items

3.1 Measuring Instruments

See list of measuring instruments of this test report.

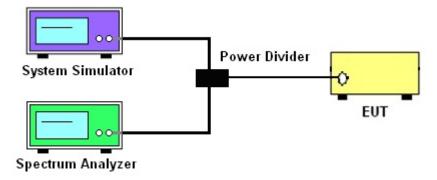
3.1.1 Test Setup

3.1.2 Conducted Output Power

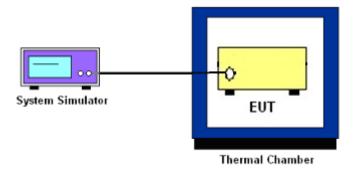


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3.1.3 Peak-to-Average Ratio, Occupied Bandwidth, Conducted Band Edge and Conducted Spurious Emission



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

3.2.1 Description of the Conducted Output Power Measurement

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

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3.2.2 Test Procedures

- 1. The transmitter output port was connected to the system simulator.
- 2. Set EUT at maximum power through the 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

Power Complementary Cumulative Distribution Function (CCDF) curves provide a means for characterizing the power peaks of a digitally modulated signal on a statistical basis. A CCDF curve depicts the probability of the peak signal amplitude exceeding the average power level. Most contemporary measurement instrumentation include the capability to produce CCDF curves for an input signal provided that the instrument's resolution bandwidth can be set wide enough to accommodate the entire input signal bandwidth. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

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3.3.2 Test Procedures

The testing follows ANSI C63.26-2015 Section 5.2.6

- 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.
- 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 EIRP

3.4.1 Description of the EIRP Measurement

The EIRP of mobile transmitters must not exceed 23 dBm /10 megahertz for LTE Band 48.

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The testing follows ANSI C63.26-2015 Section 5.2.5.5

According to KDB 412172 D01 Power Approach,

EIRP = PT + GT - LC, where

PT = transmitter output power in dBm

GT = gain of the transmitting antenna in dBi

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

Device	Maximum EIRP (dBm/10 MHz)	Maximum PSD (dBm/MHz)
End User Device	23	n/a

Remark: Total channel power is complied with EIRP limit 23dBm/10MHz.

3.4.2 Test Procedures

The testing follows procedure in Section 5.2 of ANSI C63.26-2015 and KDB 940660 D01 Part 96 CBRS Eqpt v03 Section 3.2(b)(2)

Determine the EIRP by adding the effective antenna gain to the measured average conducted power level.

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3.5 Occupied Bandwidth

3.5.1 Description of Occupied Bandwidth Measurement

The 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

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total mean transmitted power.

The 26 dB emission bandwidth is defined as the frequency range between two points, one above and

one below the carrier frequency, at which the spectral density of the emission is attenuated 26 dB

below the maximum in-band spectral density of the modulated signal. Spectral density (power per unit

bandwidth) is to be measured with a detector of resolution bandwidth equal to approximately 1.0% of

the emission bandwidth.

3.5.2 Test Procedures

The testing follows ANSI C63.26-2015 Section 5.4.3 (26dB) and Section 5.4.4 (99OB)

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.

2. The spectrum analyzer center frequency is set to the nominal EUT channel center frequency.

The span range for the spectrum analyzer shall be between two and five times the anticipated

OBW.

3. The nominal resolution bandwidth (RBW) shall be in the range of 1 to 5 % of the anticipated

OBW, and the VBW shall be at least 3 times the RBW.

4. Set the detection mode to peak, and the trace mode to max hold.

5. Determine the reference value: Set the EUT to transmit a modulated signal. Allow the trace to

stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace.

(this is the reference value)

6. Determine the "-26 dB down amplitude" as equal to (Reference Value – X).

7. Place two markers, one at the lowest and the other at the highest frequency of the envelope of

the spectral display such that each marker is at or slightly below the "-X dB down amplitude"

determined in step 6. If a marker is below this "-X dB down amplitude" value it shall be placed as close as possible to this value. The OBW is the positive frequency difference between the

two markers.

8. Use the 99 % power bandwidth function of the spectrum analyzer and report the measured

bandwidth.

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3.6 Conducted Band Edge

3.6.1 Description of Conducted Band Edge Measurement

The conducted power of any End User Device emission outside the fundamental emission (whether in or outside of the authorized band) shall not exceed -13 dBm/MHz within 0 to B megahertz (where B is the bandwidth in megahertz of the assigned channel or multiple contiguous channels of the End User Device) above the upper CBSD-assigned channel edge and within 0 to B megahertz below the lower CBSD-assigned channel edge. At all frequencies greater than B megahertz above the upper CBSD assigned channel edge and less than B megahertz below the lower CBSD-assigned channel edge, the conducted power of any End User Device emission shall not exceed -25 dBm/MHz. Notwithstanding the emission limits in this paragraph, the Adjacent Channel Leakage Ratio for End User Devices shall be at least 30 dB.

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3.6.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 6.1.

- 1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
- 2. The band edges of low and high channels for the highest RF powers were measured.
- 3. Set RBW >= 1% EBW in the 1MHz band immediately outside and adjacent to the band edge.
- 4. Beyond the 1 MHz band from the band edge, RBW=1MHz was used
- 5. Set spectrum analyzer with RMS detector.
- The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

For Adjacent Channel Leakage Ratio (ACLR) measurement,

- The Adjacent Channel Leakage Ratio (ACLR) is the ratio of the average power in the assigned aggregated channel bandwidth to the average power over the equivalent adjacent channel bandwidth.
- 2. The option ACLR of spectrum analyzer is used and measures the ACLR ratio by setting equivalent channel bandwidth.
- 3. The measured ACLR ratio shall be at least 30 dB.

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3.7 Conducted Spurious Emission

3.7.1 Description of Conducted Spurious Emission Measurement

96.41 (e)(2)

The conducted power of any emissions below 3530 MHz or above 3720 MHz shall not exceed -40dBm/MHz.

3.7.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 6.1.

- 1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
- 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.

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- 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. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz.
- 6. Set spectrum analyzer with RMS detector.
- 7. Taking the record of maximum spurious emission.
- 8. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
- 9. The limit line is -40dBm/MHz.

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3.8 Frequency Stability

3.8.1 Description of Frequency Stability Measurement

The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block.

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3.8.2 Test Procedures for Temperature Variation

The testing follows FCC KDB 971168 D01 v03r01 Section 9.0.

- 1. The EUT was set up in the thermal chamber and connected with the system simulator.
- With power OFF, the temperature was decreased to -30°C and the EUT was stabilized before testing. 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.

3.8.3 Test Procedures for Voltage Variation

The testing follows FCC KDB 971168 D01 v03r01 Section 9.0.

- 1. The EUT was placed in a temperature chamber at 25±5° C and connected with the system simulator.
- The power supply voltage to the EUT was varied from 85% 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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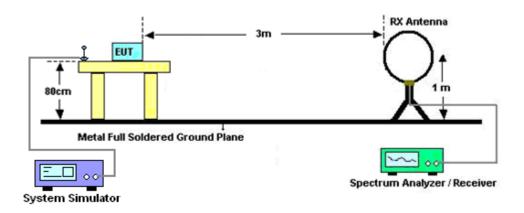
4 Radiated Test Items

4.1 Measuring Instruments

See list of measuring instruments of this test report.

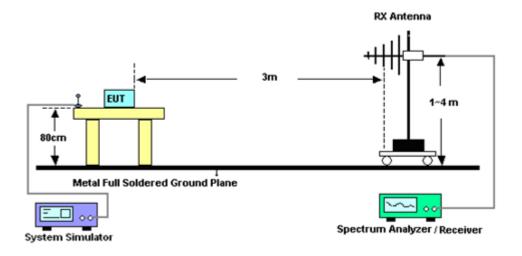
4.2 Test Setup

For radiated emissions below 30MHz



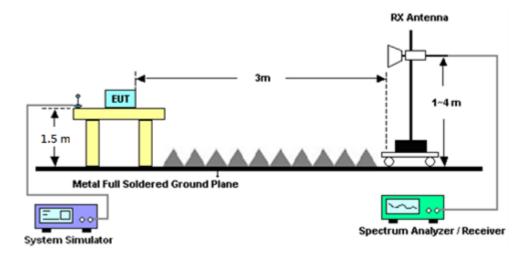
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For radiated emissions from 30MHz to 1GHz



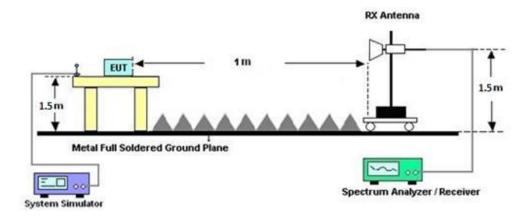
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For radiated emissions from 1GHz to 18GHz



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For radiated emissions above 18GHz



4.3 Test Result of Radiated Test

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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4.4 Radiated Spurious Emission

4.4.1 Description of Radiated Spurious Emission Measurement

The radiated spurious emission was measured by substitution method according to ANSI / TIA-603-E.

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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 -40dBm / MHz.

The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

4.4.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 7 and ANSI C63.26-2015 section 5.5.4 Radiated measurement using the field strength method.

- The EUT was placed on a turntable with 0.8 meter height for frequency below 1GHz and 1.5 meter height for frequency above 1GHz respectively above ground.
- 2. The EUT was set 3 meters from the receiving antenna 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 1m to 4m to search the maximum spurious emission for both horizontal and vertical polarizations.
- 5. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power.
- To convert spectrum reading E(dBuV/m) to EIRP(dBm)
 EIRP(dBm) = Level (dBuV/m) + 20log(d) -104.77, where d is the distance at which filed strength limit is specified in the rules.
- 7. Field Strength Level (dBm) = Spectrum Reading (dBm) + Antenna Factor + Cable Loss + Read Level Preamp Factor.
- 8. ERP (dBm) = EIRP (dBm) 2.15
- The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

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5 List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01N-06	35419 & 03	30MHz~1GHz	Apr. 23, 2023	Jan. 12, 2024~ Feb. 15, 2024	Apr. 22, 2024	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	00075962	1GHz ~ 18GHz	Nov. 27, 2023	Jan. 12, 2024~ Feb. 15, 2024	Nov. 26, 2024	Radiation (03CH07-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100315	9 kHz~30 MHz	Feb. 28, 2023	Jan. 12, 2024~ Feb. 15, 2024	Feb. 27, 2024	Radiation (03CH07-HY)
Preamplifier	MITEQ	AMF-7D-00101 800-30-10P	1590075	1GHz~18GHz	Apr. 20, 2023	Jan. 12, 2024~ Feb. 15, 2024	Apr. 19, 2024	Radiation (03CH07-HY)
Preamplifier	COM-POWER	PA-103A	161241	10MHz~1GHz	Oct. 02, 2023	Jan. 12, 2024~ Feb. 15, 2024	Oct. 01, 2024	Radiation (03CH07-HY)
Preamplifier	Agilent	8449B	3008A02362	1GHz~26.5GHz	Mar. 24, 2023	Jan. 12, 2024~ Feb. 15, 2024	Mar. 23, 2024	Radiation (03CH07-HY)
Preamplifier	EMEC	EM18G40G	0600789	18-40GHz	Jul. 25, 2023	Jan. 12, 2024~ Feb. 15, 2024	Jul. 24, 2024	Radiation (03CH07-HY)
Spectrum Analyzer	Agilent	N9030A	MY52350276	3Hz~44GHz	Mar. 28, 2023	Jan. 12, 2024~ Feb. 15, 2024	Mar. 27, 2024	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY15682/4	30MHz to 18GHz	Feb. 22, 2023	Jan. 12, 2024~ Feb. 15, 2024	Feb. 21, 2024	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY24971/4	9kHz to 18GHz	Feb. 22, 2023	Jan. 12, 2024~ Feb. 15, 2024	Feb. 21, 2024	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY28655/4	9kHz to 18GHz	Feb. 22, 2023	Jan. 12, 2024~ Feb. 15, 2024	Feb. 21, 2024	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 126	532078/126E	30MHz~18GHz	Sep. 15, 2023	Jan. 12, 2024~ Feb. 15, 2024	Sep. 14, 2024	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	MY2858/2	18GHz~40GHz	Feb. 22, 2023	Jan. 12, 2024~ Feb. 15, 2024	Feb. 21, 2024	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	801606/2	9KHz ~ 40GHz	Apr. 20, 2023	Jan. 12, 2024~ Feb. 15, 2024	Apr. 19, 2024	Radiation (03CH07-HY)
Controller	EMEC	EM1000	N/A	Control Ant Mast	N/A	Jan. 12, 2024~ Feb. 15, 2024	N/A	Radiation (03CH07-HY)
Controller	MF	MF-7802	N/A	Control Turn table	N/A	Jan. 12, 2024~ Feb. 15, 2024	N/A	Radiation (03CH07-HY)
Antenna Mast	EMEC	AM-BS-4500E	N/A	Boresight mast 1M~4M	N/A	Jan. 12, 2024~ Feb. 15, 2024	N/A	Radiation (03CH07-HY)
Turn Table	ChainTek	Chaintek 3000	N/A	0~360 Degree	N/A	Jan. 12, 2024~ Feb. 15, 2024	N/A	Radiation (03CH07-HY)
Software	Audix	E3	N/A	N/A	N/A	Jan. 12, 2024~ Feb. 15, 2024	N/A	Radiation (03CH07-HY)
USB Data Logger	TECPEL	TR-32	HE17XB2495	N/A	Mar. 14, 2023	Jan. 12, 2024~ Feb. 15, 2024	Mar. 13, 2024	Radiation (03CH07-HY)
EMI Test Receiver	Agilent	N9038A(MXE)	MY53290053	20Hz~26.5GHz	Aug. 29, 2023	Jan. 12, 2024~ Feb. 15, 2024	Aug. 28, 2024	Radiation (03CH07-HY)
Horn Antenna	ETS-Lindgren	3117	00143261	1GHz~18GHz	Feb. 24, 2023	Jan. 12, 2024~ Feb. 15, 2024	Feb. 23, 2024	Radiation (03CH07-HY)

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Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
SHF-EHF Horn Antenna	SCHWARZBE CK	BBHA 9170	BBHA917025 1	18GHz~40GHz	Nov. 24, 2023	Jan. 12, 2024~ Feb. 15, 2024	Nov. 23, 2024	Radiation (03CH07-HY)
SHF-EHF Horn Antenna	SCHWARZBE CK	BBHA9170	00991	18GHz-40GHz	Jun. 01, 2023	Jan. 12, 2024~ Feb. 15, 2024	May 31, 2024	Radiation (03CH07-HY)
Signal Generator	Anritsu	MG3710A	6261943042	2G / 3G / LTE / 5G FR1	May 25, 2023	Jan. 12, 2024~ Feb. 15, 2024	May 24, 2024	Radiation (03CH07-HY)
Base Station (Measure)	Anritsu	MT8821C	6201664755	LTE FDD/TDD(with4 4), LTE-4CC DLCA/2CC ULCA, CatM1/NB1/NB2	Jul. 18, 2023	Dec. 19, 2023~ Feb. 16, 2024	Jul. 17, 2024	Conducted (TH03-HY)
Spectrum Analyzer	Rohde & Schwarz	FSV40	101908	10Hz~40GHz	Sep. 11, 2023	Dec. 19, 2023~ Feb. 16, 2024	Sep. 10, 2024	Conducted (TH03-HY)
Thermal Chamber	ESPEC	SH-241	92003713	-30℃ ~95℃	May 17, 2023	Dec. 19, 2023~ Feb. 16, 2024	May 16, 2024	Conducted (TH03-HY)
DC Power Supply	GW Instek	GPP-2323	GES906037	0V~64V ; 0A~6A	Nov. 28, 2023	Dec. 19, 2023~ Feb. 16, 2024	Nov. 27, 2024	Conducted (TH03-HY)
Coupler	Warison	20dB 25W SMA Directional Coupler	#B	1-18GHz	Jan. 06, 2023	Dec. 19, 2023~ Jan. 04, 2024	Jan. 05, 2024	Conducted (TH03-HY)
Coupler	Warison	20dB 25W SMA Directional Coupler	#B	1-18GHz	Jan. 08, 2024	Jan. 09, 2024~ Feb. 16, 2024	Jan. 07, 2025	Conducted (TH03-HY)

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6 Measurement Uncertainty

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

Measuring Uncertainty for a Level of	0.40.40
Confidence of 95% (U = 2Uc(y))	3.46 dB

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

Measuring Uncertainty for a Level of	0.00 40
Confidence of 95% (U = 2Uc(y))	3.33 dB

Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of	3.91 dB
Confidence of 95% (U = 2Uc(y))	3.91 dB

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Appendix A. Test Results of Conducted Test

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Conducted Output Power(Average power & EIRP)

<Tx0 Antenna>

TX0 Ante		Band 48 M	laximum A	verage Po	wer [dBm]	(GT - LC :	= -0.5 dB)		
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)	
20	1	0		22.58	22.62	22.57			
20	1	49		22.44	22.49	22.43			
20	1	99		22.46	22.36	22.35			
20	50	0	QPSK	22.53	22.61	22.50	22.12	0.1629	
20	50	24		22.52	22.55	22.45			
20	50	50		22.50	22.52	22.39			
20	100	0		22.53	22.55	22.45			
20	1	0		22.61	22.71	22.59		0.1663	
20	1	49		22.56	22.62	22.50			
20	1	99		22.51	22.53	22.37			
20	50	0	16-QAM	21.54	21.59	21.51	22.21		
20	50	24	_	21.51	21.55	21.46			
20	50	50		21.52	21.50	21.40			
20	100	0		21.54	21.56	21.49			
20	1	0		21.98	21.96	21.88			
20	1	49		21.83	21.79	21.72			
20	1	99		21.83	21.86	21.75			
20	50	0	64-QAM	19.93	19.99	19.63	21.48	0.1406	
20	50	24		20.05	20.11	19.68			
20	50	50		19.89	20.02	19.53			
20	100	0		19.88	20.03	19.60			
20	1	0		18.77	18.79	18.77			
20	1	49		18.84	18.87	18.77			
20	1	99		18.95	18.93	18.90			
20	50	0	256-QAM	19.04	18.98	18.95	18.54	0.0714	
20	50	24		19.00	19.00	19.03			
20	50	50		18.98	19.03	18.98			
20	100	0		18.97	18.95	18.96			
Limit	EIRP	< 23dBm/10	OMHz		Result		Pa	iss	

Total EIRP power is less than partial EIRP limit 23 dBm/10MHz.



	LTE	Band 48 N	laximum A	verage Po	wer [dBm]	(GT - LC =	= -0.5 dB)		
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)	
15	1	0		22.51	22.61	22.49			
15	1	37		22.41	22.49	22.28]		
15	1	74		22.47	22.47	22.37]		
15	36	0	QPSK	22.54	22.59	22.52	22.11	0.1626	
15	36	20		22.49	22.56	22.46			
15	36	39		22.51	22.54	22.44			
15	75	0		22.50	22.56	22.45			
15	1	0		22.67	22.63	22.59		0.1656	
15	1	37		22.64	22.69	22.55			
15	1	74		22.54	22.57	22.44			
15	36	0	16-QAM	21.49	21.56	21.50	22.19		
15	36	20		21.47	21.52	21.45			
15	36	39		21.45	21.50	21.42			
15	75	0		21.53	21.58	21.46			
15	1	0		21.94	21.87	21.84	-		
15	1	37		21.97	21.91	21.77			
15	1	74		21.81	21.77	21.73			
15	36	0	64-QAM	19.93	19.95	19.57	21.47	0.1403	
15	36	20		20.00	20.07	19.62			
15	36	39		19.79	19.90	19.38			
15	75	0		19.82	19.95	19.50			
15	1	0		18.67	18.74	18.75			
15	1	37		18.76	18.82	18.76			
15	1	74		18.91	18.86	18.89			
15	36	0	256-QAM	18.95	18.89	18.91	18.51	0.0710	
15	36	20		18.94	18.99	18.99			
15	36	39		18.94	19.01	18.93			
15	75	0		18.88	18.89	18.92			
Limit	EIRP	< 23dBm/10	OMHz		Result	-	Pa	ISS	

Total EIRP power is less than partial EIRP limit 23 dBm/10MHz.



	LTE	Band 48 M	laximum A	verage Po	wer [dBm]	(GT - LC =	= -0.5 dB)		
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)	
10	1	0		22.50	22.58	22.54			
10	1	25		22.41	22.46	22.36			
10	1	49		22.43	22.48	22.41			
10	25	0	QPSK	22.49	22.55	22.49	22.08	0.1614	
10	25	12		22.44	22.55	22.44			
10	25	25		22.45	22.51	22.44			
10	50	0		22.48	22.55	22.45			
10	1	0		22.60	22.64	22.70		0.1660	
10	1	25		22.56	22.54	22.57			
10	1	49		22.55	22.55	22.56			
10	25	0	16-QAM	21.54	21.57	21.56	22.20		
10	25	12		21.54	21.56	21.54			
10	25	25		21.53	21.56	21.50			
10	50	0		21.48	21.51	21.49			
10	1	0		21.89	21.89	21.86			
10	1	25		21.83	21.77	21.76			
10	1	49		21.84	21.85	21.79			
10	25	0	64-QAM	20.03	20.17	19.73	21.39	0.1377	
10	25	12		20.01	20.15	19.64			
10	25	25		19.99	20.12	19.53			
10	50	0		20.03	20.13	19.67			
10	1	0		18.67	18.76	18.77			
10	1	25		18.81	18.87	18.68			
10	1	49		18.94	18.92	18.85			
10	25	0	256-QAM	18.96	18.93	18.92	18.53	0.0713	
10	25	12		18.97	18.99	19.03			
10	25	25		18.89	18.97	18.90			
10	50	0		18.91	18.91	18.88			
Limit	EIRP	< 23dBm/10	OMHz		Result		Pa	ISS	

Total EIRP power is less than partial EIRP limit 23 dBm/10MHz.



	LTE	Band 48 N	laximum A	verage Po	wer [dBm]	(GT - LC =	= -0.5 dB)		
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)	
5	1	0		22.45	22.56	22.55			
5	1	12		22.58	22.57	22.65]		
5	1	24		22.42	22.51	22.47]		
5	12	0	QPSK	22.48	22.56	22.52	22.15	0.1641	
5	12	7		22.47	22.55	22.51			
5	12	13		22.48	22.52	22.49			
5	25	0		22.43	22.49	22.50			
5	1	0		22.53	22.56	22.62		0.1648	
5	1	12		22.63	22.65	22.67			
5	1	24		22.50	22.56	22.60			
5	12	0	16-QAM	21.45	21.50	21.48	22.17		
5	12	7		21.47	21.49	21.49			
5	12	13		21.47	21.47	21.47			
5	25	0		21.50	21.58	21.52			
5	1	0		21.93	21.95	21.90			
5	1	12		21.96	22.03	21.99			
5	1	24		21.83	21.92	21.74			
5	12	0	64-QAM	19.98	20.11	19.69	21.53	0.1422	
5	12	7		19.77	20.10	19.58			
5	12	13		19.98	20.08	19.49			
5	25	0		20.03	20.11	19.62			
5	1	0		18.76	18.79	18.71			
5	1	12		18.74	18.78	18.71			
5	1	24		18.93	18.89	18.90			
5	12	0	256-QAM	18.94	18.94	18.92	18.50	0.0708	
5	12	7		18.98	18.93	18.99			
5	12	13		18.97	19.00	18.90			
5	25	0		18.94	18.87	18.95			
Limit	EIRP	< 23dBm/10	OMHz		Result		Pa	ISS	

Total EIRP power is less than partial EIRP limit 23 dBm/10MHz.

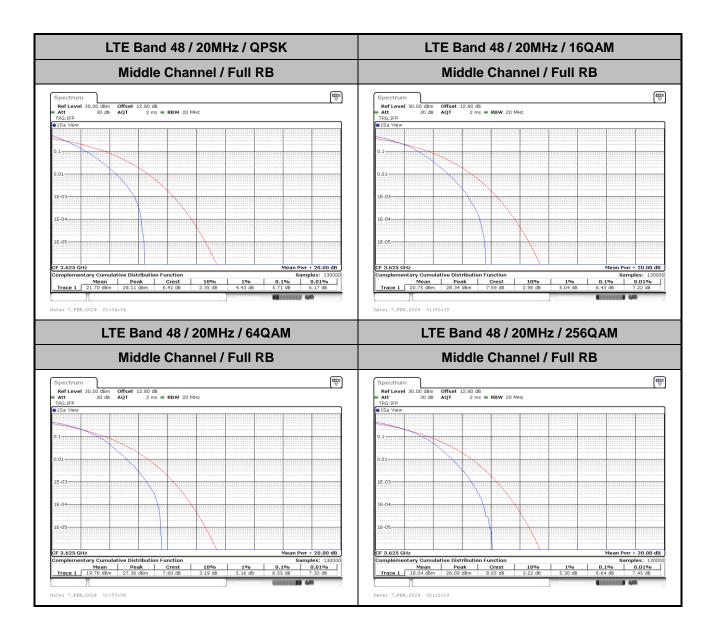
LTE Band 48

Peak-to-Average Ratio

Mode						
Mod.	QPSK	16QAM	64QAM	64QAM 256QAM		
RB Size	Full RB	Full RB	Full RB	Full RB	Result	
Middle CH	5.71	6.43	6.55	6.64	PASS	

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26dB Bandwidth

Mode		LTE Band 48 : 26dB BW(MHz)										
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	-	-	-	-	4.89	4.85	9.73	9.76	14.47	14.20	18.78	18.90
Mode					LTE B	and 48 :	26dB BV	V(MHz)				
BW	1.4	ИНz	3M	lHz	5N	lHz	101	ЛHz	15MHz		20MHz	
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Middle CH	-	-	ı	-	4.83	4.90	9.84	9.66	14.20	14.38	18.74	19.02

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LTE Band 48 Middle Channel / 5MHz / QPSK Middle Channel / 5MHz / 16QAM 15.46 dBm 3.62344200 GHz 26.00 dB 4.895000000 MHz 14.88 dBn 3.62337200 GH 26.00 dl M1[1] M1[1] -20 dBm-May Make CF 3.625 GHz Function Result 4,855 MHz 26.00 dB 746.3
 Marker
 Trc
 X-value
 Y-value
 Function

 M1
 1
 3.623442 GHz
 15.46 dBm
 nd8 down

 T1
 1
 3.62258 GHz
 11.00 dBm
 nd8

 T2
 1
 3.627448 GHz
 -9.41 dBm
 Q factor
 Function Result 4.895 MH:
 Type
 Ref
 Trc
 X-value
 Y-value
 Function

 M1
 1
 3.623372 GHz
 14.88 dBm
 nd8 down
 Date: 7.FEB.2024 01:23:19 Middle Channel / 10MHz / QPSK Middle Channel / 10MHz / 16QAM Ref Level 30.00 dbm Offset 12.80 db = RBW 300 kHz e Att 30.05 SWT 1ms = VBW 1 MHz Mode Sweep 55L Count 100/100 .80 dB • RBW 300 kHz 1 ms • VBW 1 MHz Mode Sweep 18.80 dBi 3.6289960 GF 16.89 dBn 3.6214240 GH MAN SHIP MANN Lamente propries and human between the major of the property o -10 dBm-40 dBm--50 dBm-Type Ref Trc X-value 3.628996 GHz 3.620105 GHz 3.629835 GHz Type Ref Trc Date: 7.FEB.2024 01:32:33 Date: 7.FEB.2024 01:33:00 Middle Channel / 15MHz / QPSK Middle Channel / 15MHz / 16QAM 26. 14.476000000 mountain 10 dBm--20 dBm-Ŋ -60 dBm-CF 3.625 GH CF 3.625 GHz Marker Function Result 14.476 MHz 26.00 dB 250.3 Function Result 14.206 MHz 26.00 dB 255.4
 X-value
 Y-value
 Function

 3.623322 GHz
 16.49 dBm
 nd8 down

 3.617777 GHz
 -9.32 dBm
 nd8

 3.632253 GHz
 -7.09 dBm
 Q factor
 Type Ref Trc Type Ref Trc
 X-value
 Y-value
 Function

 3.628297 GHz
 14.89 dBm
 nd8 down

 3.617957 GHz
 -10.58 dBm
 nd8

 3.632163 GHz
 -9.12 dBm
 Q factor
 Date: 7.FEB.2024 01:42:08

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LTE Band 48 Middle Channel / 20MHz / 16QAM Middle Channel / 20MHz / QPSK 14.50 dBm 3.6275970 GHz 26.00 dB 18.781000000 MHz 14.76 dBn 3.6280770 GH: 26.00 dE 18.901000000 MH: 192.0 M1[1] M1[1] rather Monte Washington with me back where Function Result 18.901 MHz 26.00 dB 192.0 Function Result 18.781 MHz
 Type
 Ref
 Trc
 X-value
 Y-value
 Function

 M1
 1
 3.628077 GHz
 14.76 dBm
 ndB down
 Middle Channel / 5MHz / 64QAM Middle Channel / 10MHz / 64QAM Ref Level 30.00 dbm Offset 12.80 db = RBW 300 kHz e Att 30.05 SWT 1ms = VBW 1 MHz Mode Sweep 61Pk Max 80 dB • RBW 100 kHz 1 ms • VBW 300 kHz Mode Sweep 15.56 dBm 3.6284170 GHz 26.00 dB 9.850000000 MHz 14.54 dBi 3.62378100 GL -10 dBm-139 ABOUTH AND AND BELLEVILLE white with 40 dBm-Type Ref Trc Type Ref Trc Date: 7.FEB.2024 01:24:00 Date: 7.FEB.2024 01:33:41 Middle Channel / 15MHz / 64QAM Middle Channel / 20MHz / 64QAM 14.71 dBr 3.6227220 GH 26.00 d 14.206000000 MH 10 dBm--20 dBm-John Markey Lander -60 dBm-CF 3.625 GH CF 3.625 GHz Marker 30.0 MHz 40.0 MHz Function Result 14.206 MHz 26.00 dB 255.0 Function Result 18.741 MHz 26.00 dB 193.9 Type | Ref | Trc |
 X-value
 Y-value
 Function

 3.622722 GHz
 14.71 dBm
 nd8 down

 3.617897 GHz
 -13.83 dBm
 nd8

 3.632103 GHz
 -9.84 dBm
 Q factor

 X-value
 Y-value
 Function

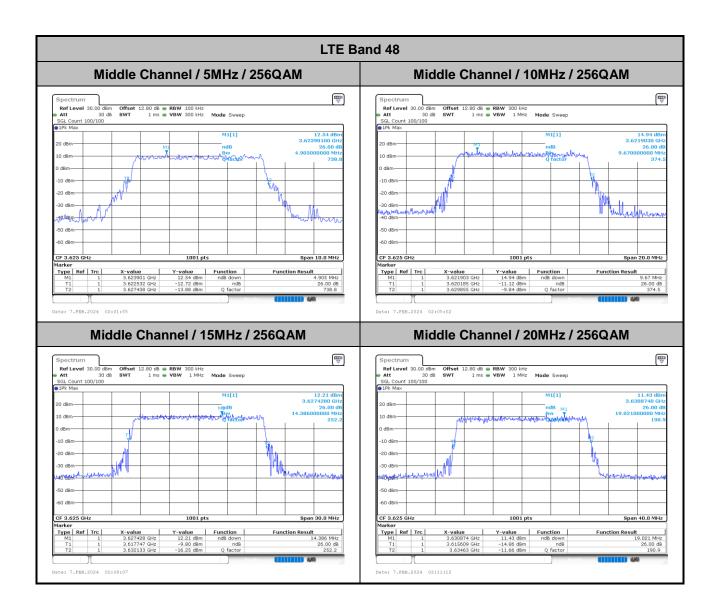
 3.633392 GHz
 13.64 dBm
 nd8 down

 3.615699 GHz
 -12.39 dBm
 nd8

 3.634431 GHz
 -10.84 dBm
 Q factor

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Occupied Bandwidth

Mode		LTE Band 48 : 99%OBW(MHz)										
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	-	-	-	-	4.49	4.49	9.03	9.03	13.48	13.45	17.86	17.90
Mode					LTE Ba	and 48 :	99%OBV	V(MHz)				
BW	1.4	ИНz	3M	lHz	5N	1Hz	101	ЛHz	15N	ИHz	20MHz	
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Middle CH	-	-	•	-	4.50	4.50	9.05	9.01	13.48	13.39	17.86	17.86

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LTE Band 48 Middle Channel / 5MHz / 16QAM Middle Channel / 5MHz / QPSK Ref Level 30.00 dBm Offset 12.60 dB @ RBW 100 kHz RBW 16.14 dBr 3.62482000 GH 4.495504496 MH 14.05 dBn 3.62532000 GH 4.495504496 MH M1[1] M1[1] MAN 10 dBmdBm--20 dBm-40 dBm / // mulphyd Man Manhor CF 3.625 GHz Span 10.0 MHz
 Marker
 Trpe
 Ref
 Trc
 X-value
 Y-value
 Function
 Function Result

 M1
 1
 3.62482 GHz
 16.14 dbm
 Punction
 1.02 dbm
 1.02 dbm
 1.02 dbm
 0.00 Bw
 4.495504

 T2
 1
 3.6272478 GHz
 10.64 dbm
 0.00 Bw
 4.495504
 Function Result 4.495504496 MHz 3.6227522 GHz 9.19 dBm Occ Bw 3.6227522 GHz 10.04 dBm 4.495504496 MHz Date: 7.FEB.2024 01:22:23 Middle Channel / 10MHz / QPSK Middle Channel / 10MHz / 16QAM Ref Level 30.00 dbm Offset 12.90 db = RBW 300 kHz Att 30 db SWT 1 ms = VBW 1 MHz Mode Sweep SGL Count 100/100 17.29 dBn 3.6245800 GH 9.030969021 20 dBmhoward how propriet Occ Bw Tjadalen, Ylderen -10 dBm-20 dBmde agant handle and the Market level and a -40 dBm-40 dBm--50 dBm -50 dBm-X-value Y-value Function
3.62458 GHz 17.29 dBm
3.6205045 GHz 10.15 dBm Occ Bw
3.6295355 GHz 10.30 dBm
 Marker
 Trype
 Ref
 Trc
 X-value
 Y-value
 Function

 M1
 1
 3.622742 GHz
 16.72 dbm
 16.72 dbm

 T1
 1
 3.62295045 GHz
 10.75 dbm
 Occ 8w

 T2
 1
 3.6295355 GHz
 11.84 dbm
 11.84 dbm
 Type Ref Trc 9.030969031 MHz 9.030969031 MHz Date: 7.FEB.2024 01:31:37 Date: 7.FEB.2024 01:32:05 Middle Channel / 15MHz / QPSK Middle Channel / 15MHz / 16QAM are granter 10 dBm--20 dBm AU dem -60 dBm--60 dBm-CF 3.625 GH 1001 pt CF 3.625 GHz 1001 pt Type | Ref | Trc |
 X-value
 Y-value
 Function

 3.621134 GHz
 15.82 dBm
 Occ Bw

 3.6182867 GHz
 9.18 dBm
 Occ Bw

 3.637732 GHz
 10.24 dBm
 Occ Bw

 X-value
 Y-value
 Function

 3.62458 GHz
 15.03 dBm
 3.6182667 GHz

 3.6182867 GHz
 10.49 dBm
 Occ Bw

 3.6317433 GHz
 10.85 dBm
 Function Result Function Result 13.486513487 MHz 13.456543457 MHz 440 Date: 7.FEB.2024 01:41:12

LTE Band 48 Middle Channel / 20MHz / 16QAM Middle Channel / 20MHz / QPSK 15.35 dBr 3.6269580 GH 17.862137862 MH 14.05 dBn 3.6265180 GH 17.902097902 MH M1[1] M1[1] warden duritania production ollewelle 10 dBmdBm--20 dBm-My Homelwashingunsamus. Waller Street and white -30 dBm 30 dBm CF 3.625 GHz Function Result 17.862137862 MHz 3.6160889 GHz 7.90 dBm Occ Bw 3.633991 GHz 9.71 dBm 17.902097902 MHz Date: 7.FEB.2024 01:51:16 Middle Channel / 5MHz / 64QAM Middle Channel / 10MHz / 64QAM Ref Lavel 30.00 dbm Offset 12.80 db = RBW 300 kHz att 30.00 dbm Offset 12.80 db = RBW 300 kHz att 30.00 dbm Offset 12.80 db = RBW 300 kHz att 30.00 bm Offset 12.80 db = RBW 300 kHz att 30.00 kHz att Ref Level 30.00 dBm Offset 12.

Att 30 dB SWT

SGL Count 100/100

1Pk Max .80 dB • RBW 100 kHz 1 ms • VBW 300 kHz Mode Sweep 13.28 dBi 3.62556900 GF 4.505494505 MF 20 dBm--10 dBm--20 dBm-Martellindheall 40 dBm--50 dBm-
 Marker
 Trype
 Ref
 Trc
 X-value
 Y-value
 Function

 M1
 1
 3.62914 GHz
 15.86 dbm
 9.26 dbm
 Occ 8w

 T1
 1
 3.6294945 GHz
 8.26 dbm
 Occ 8w

 T2
 1
 3.6295355 GHz
 8.54 dbm
 8.54 dbm
 Type Ref Trc 4.505494505 MHz 9.050949051 MHz Date: 7.FEB.2024 01:23:47 Date: 7.FEB.2024 01:33:28 Middle Channel / 15MHz / 64QAM Middle Channel / 20MHz / 64QAM 20 dBm 10 dBmdBm--20 dBm -20 dBm سرور المراب المراب المراب المراب -60 dBm--60 dBm-CF 3.625 GH 1001 pt CF 3.625 GHz 1001 pt Type | Ref | Trc |
 X-value
 Y-value
 Function

 3.618956 GHz
 14.10 dBm
 Occ BW

 3.6182867 GHz
 7.60 dBm
 Occ BW

 3.637732 GHz
 9.20 dBm

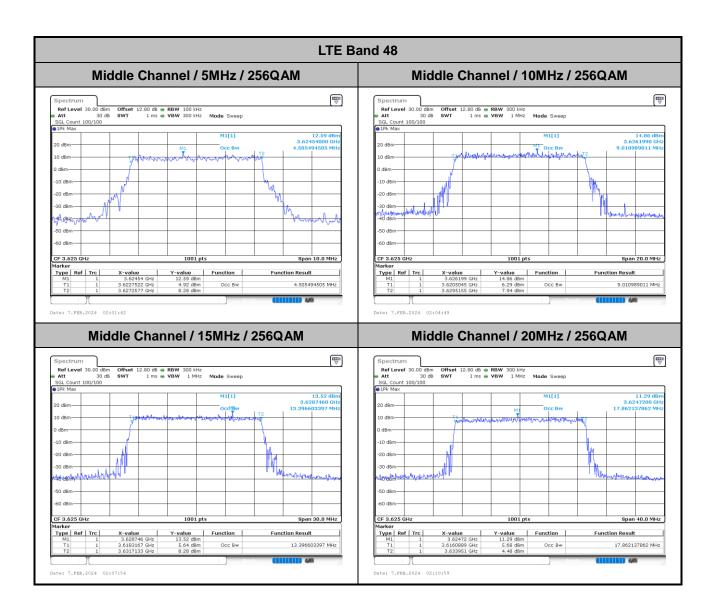
 X-value
 Y-value
 Function

 3.629995 GHz
 13.07 dBm
 Occ Bw

 3.6151289 GHz
 7.44 dBm
 Occ Bw

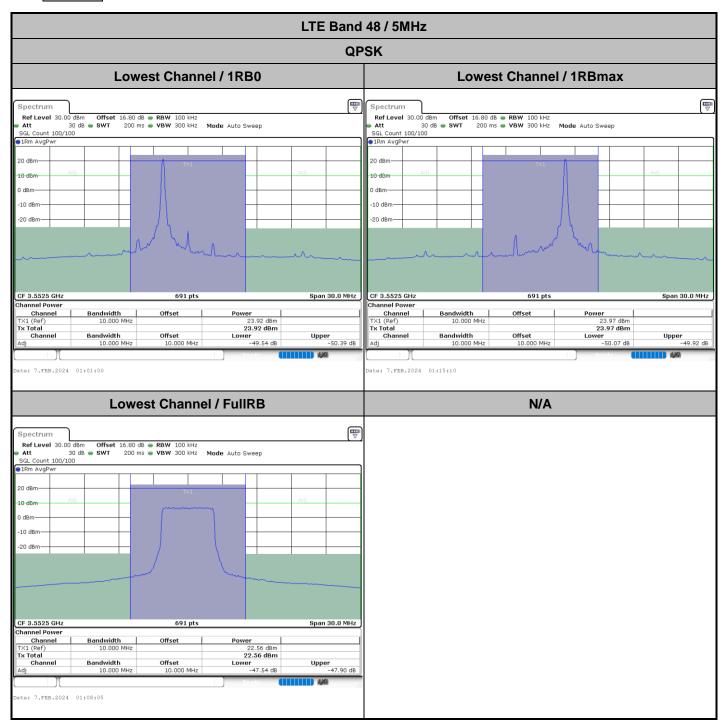
 3.633991 GHz
 8.27 dBm
 Function Result Function Result 13.486513487 MHz 17.862137862 MHz ija Date: 7.FEB.2024 01:43:04

Report No.: FG3N2325D



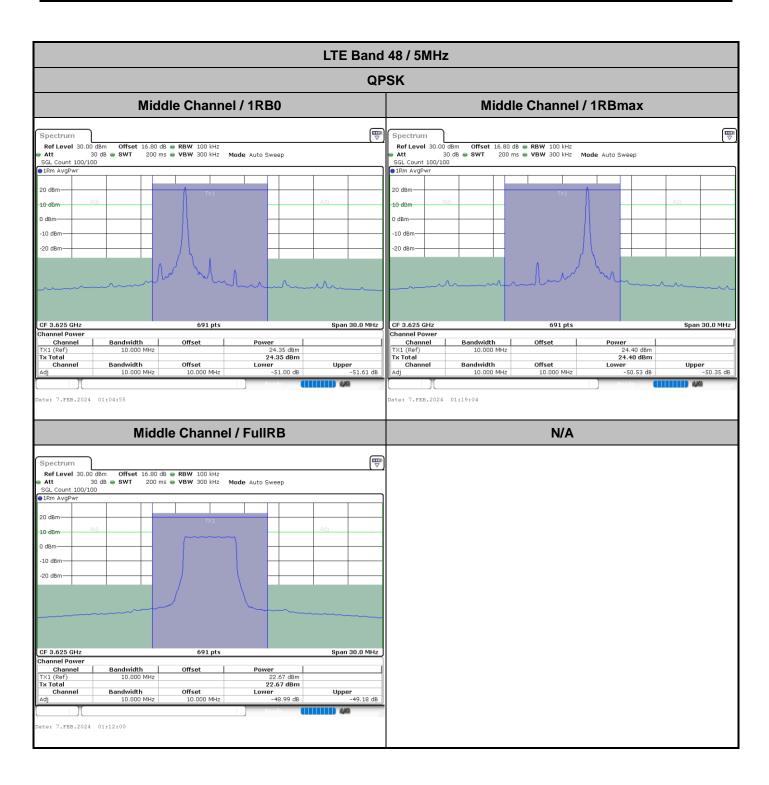
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ACLR

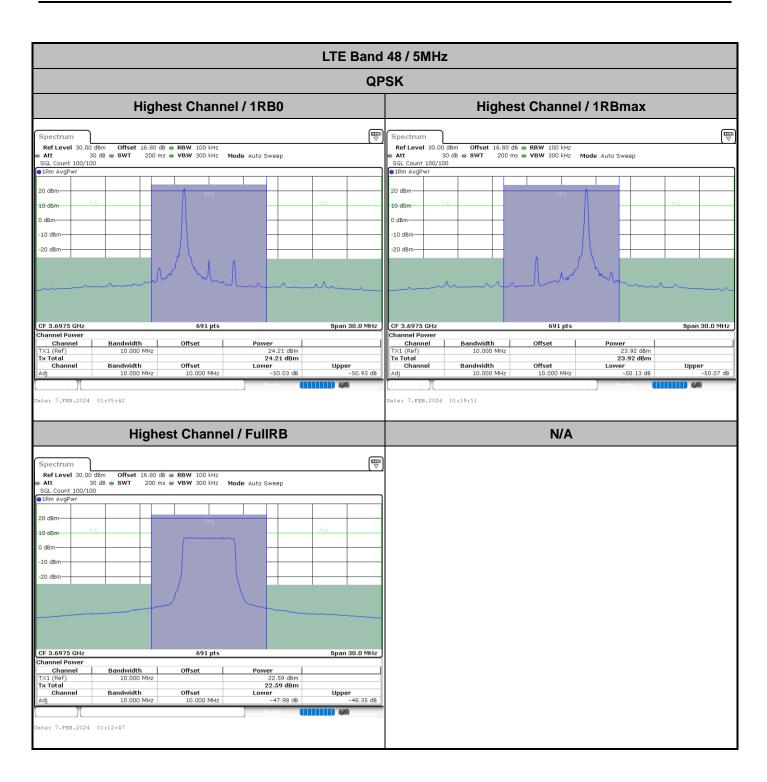


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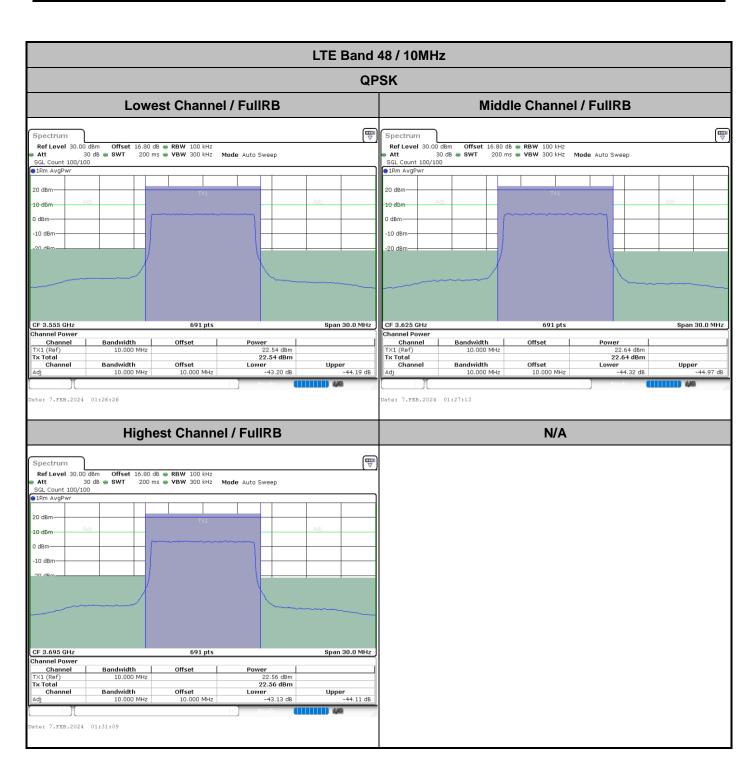
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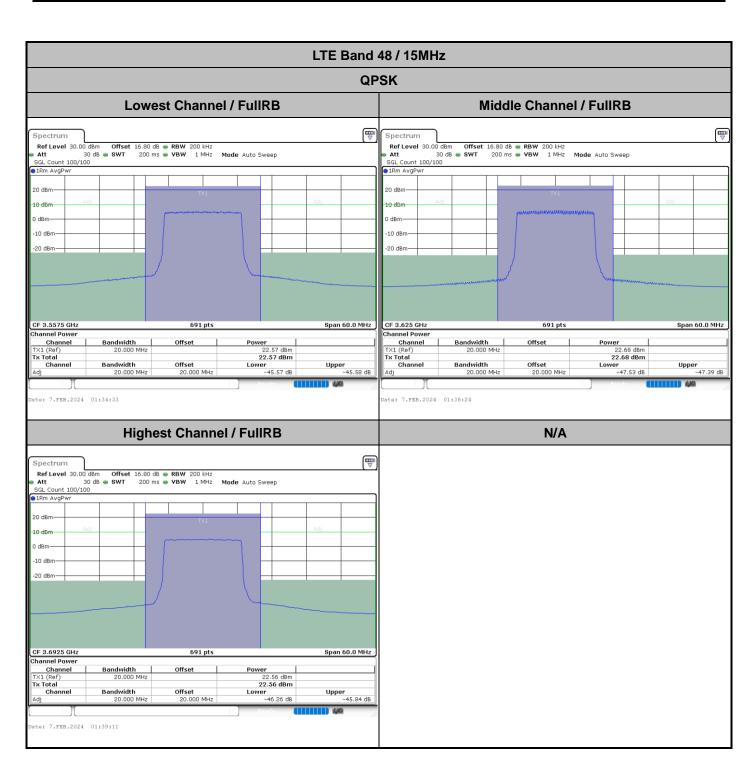
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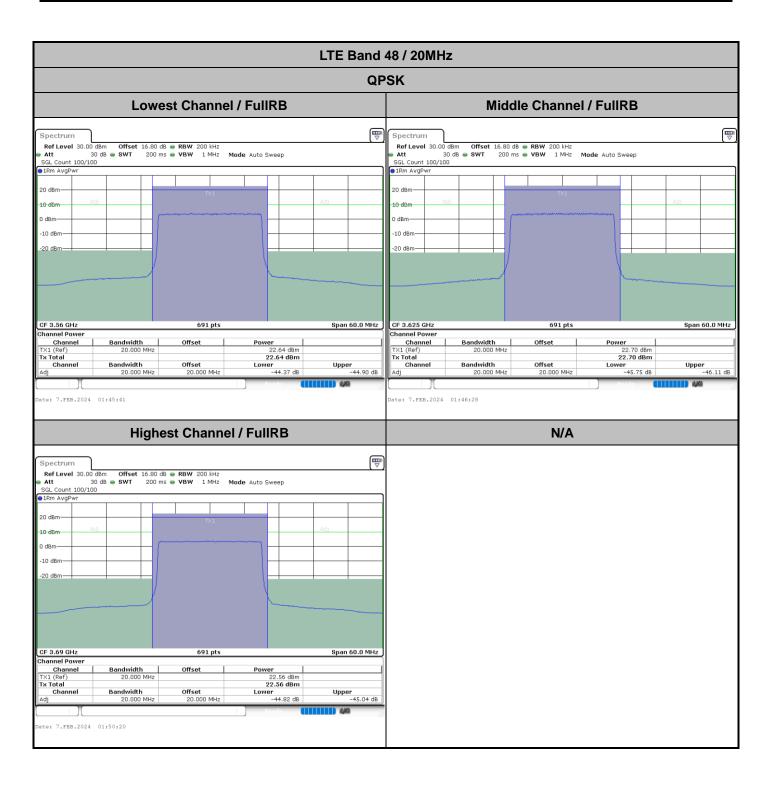
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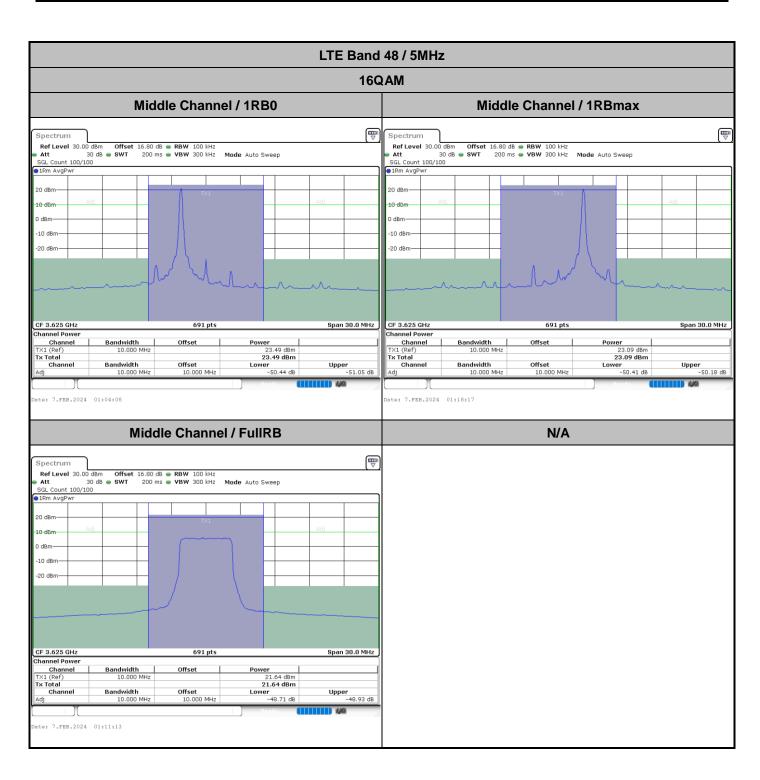


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LTE Band 48 / 5MHz **16QAM** Lowest Channel / 1RB0 **Lowest Channel / 1RBmax** Spectrum Spectrum ●1Rm AvgPwr 20 dRm 10 d0m 0 dBm 0 dBn -10 dBm -10 dBm -20 dBm -20 dBm Span 30.0 MHz CF 3.5525 GHz Span 30.0 MHz hannel Power hannel Power 23.12 dBm 23.12 dBm 23.12 dBm Lower -49.46 dB Channel
TX1 (Ref)
Tx Total
Channel Bandwidth 10.000 MHz Channel
TX1 (Ref)
Tx Total
Channel Offset Bandwidth 10.000 MHz Offset 23.07 dBm **Upper** -49.77 dB **Upper** -49.33 dB Bandwidth Bandwidth Offset Lower -48.97 dB 10.000 MHz ate: 7.FEB.2024 01:01:47 Date: 7.FEB.2024 01:15:57 **Lowest Channel / FullRB** N/A Spectrum Ref Level 30.00 dBm Offset 16.80 dB RBW 100 kHz
Att 30 dB SWT 200 ms VBW 300 kHz
SGL Count 100/100 Mode Auto Sweep -10 dBn -20 dBm CF 3.5525 GHz 691 pts Span 30.0 MHz 21.57 dBm 21.57 dBm 21.57 dBm Lower -47.27 dB Channel
TX1 (Ref)
Tx Total
Channel Bandwidth 10.000 MHz Offset **Upper** -47.57 dB Bandwidth 10.000 MHz te: 7.FEB.2024 01:08:52

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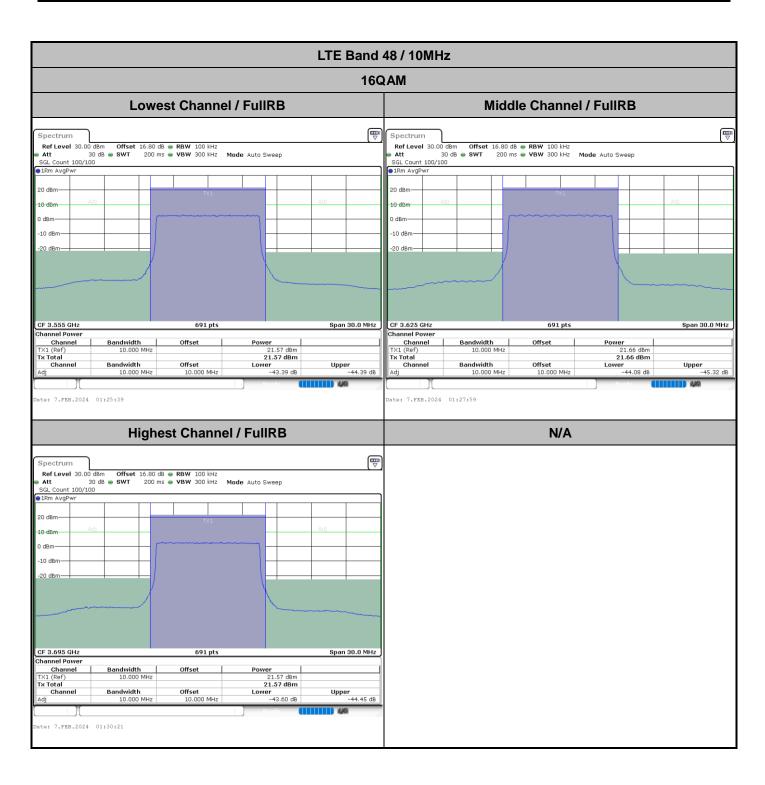


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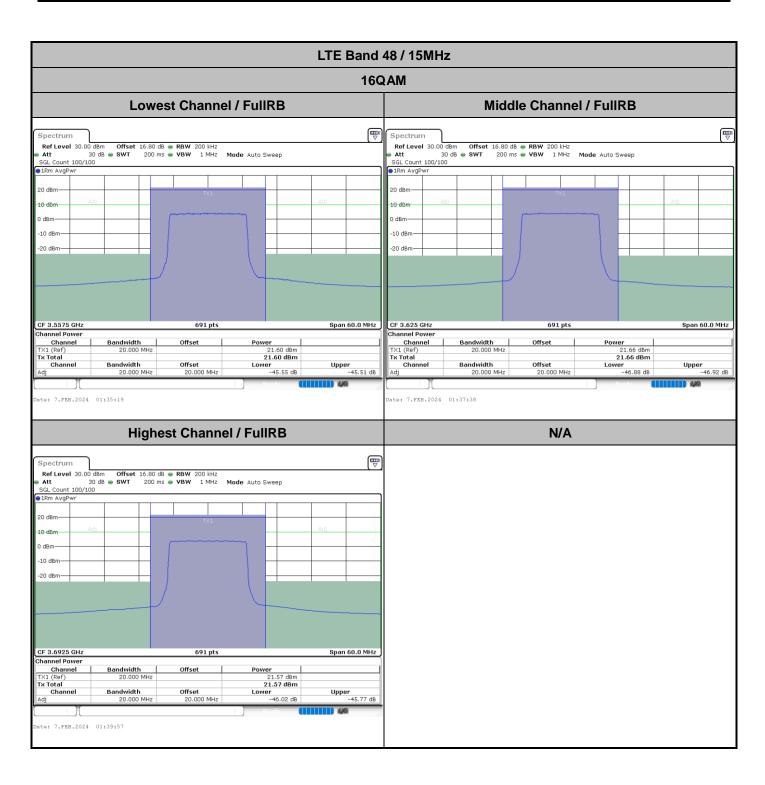
LTE Band 48 / 5MHz **16QAM Highest Channel / 1RB0 Highest Channel / 1RBmax** Spectrum Spectrum Mode Auto Sweep ●1Rm AvgPwr 20 dRm 0 dBm 0 dBn -10 dBm -10 dBm -20 dBm -20 dBm Span 30.0 MHz CF 3.6975 GHz Span 30.0 MHz hannel Power hannel Power Power 23.21 dBm 23.21 dBm Channel
TX1 (Ref)
Tx Total
Channel Bandwidth 10.000 MHz Channel
TX1 (Ref)
Tx Total
Channel Offset Bandwidth 10.000 MHz Offset Power 23.26 dBm 23.26 dBm 23.26 dBm Lower -49.71 dB Upper -50.15 dB **Upper** -49.67 dB Bandwidth Offset Bandwidth **Lower** -49.27 dB 10.000 MH; ate: 7.FEB.2024 01:06:30 ate: 7.FEB.2024 01:20:39 **Highest Channel / FullRB** N/A Spectrum Mode Auto Sweep -20 dBm CF 3.6975 GHz 691 pts Span 30.0 MHz 21.60 dBm 21.60 dBm 21.60 dBm Lower -47.79 dB Bandwidth 10.000 MHz Offset **Upper** -48.07 dB Bandwidth 10.000 MHz te: 7.FEB.2024 01:13:35

Report No.: FG3N2325D

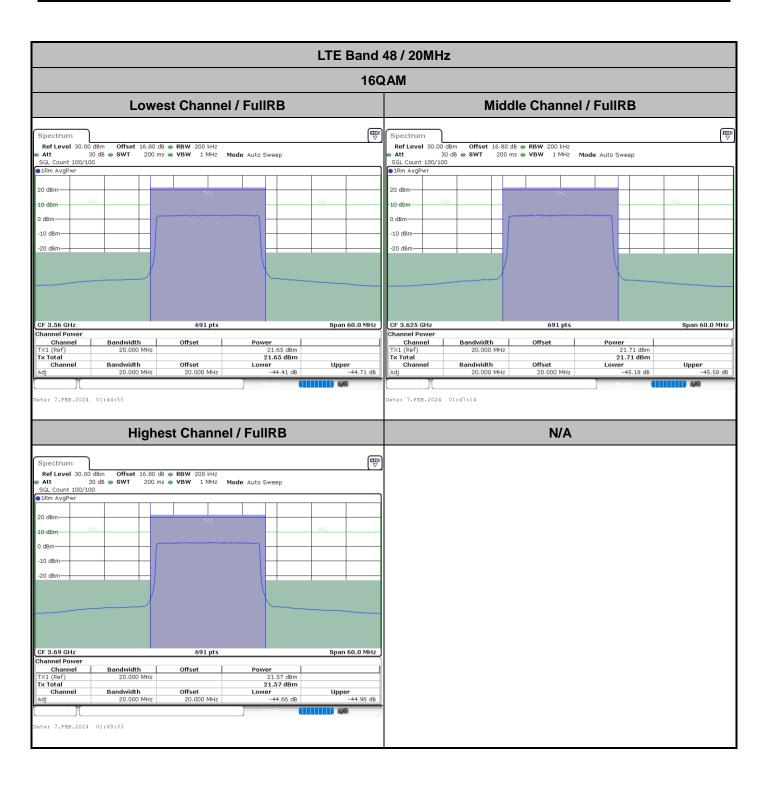
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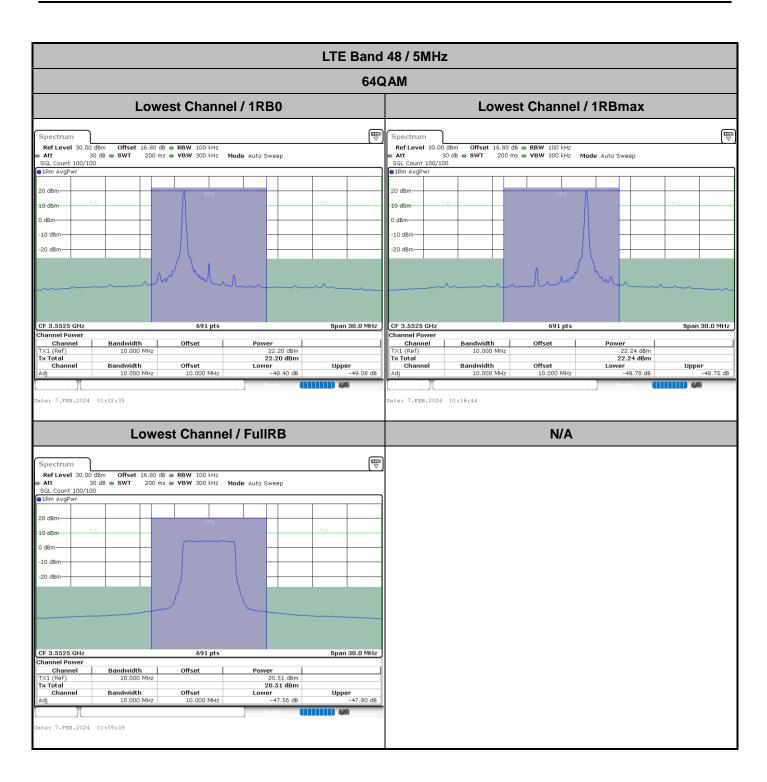
TEL: 886-3-327-3456 Page Number : A2-20 of 63



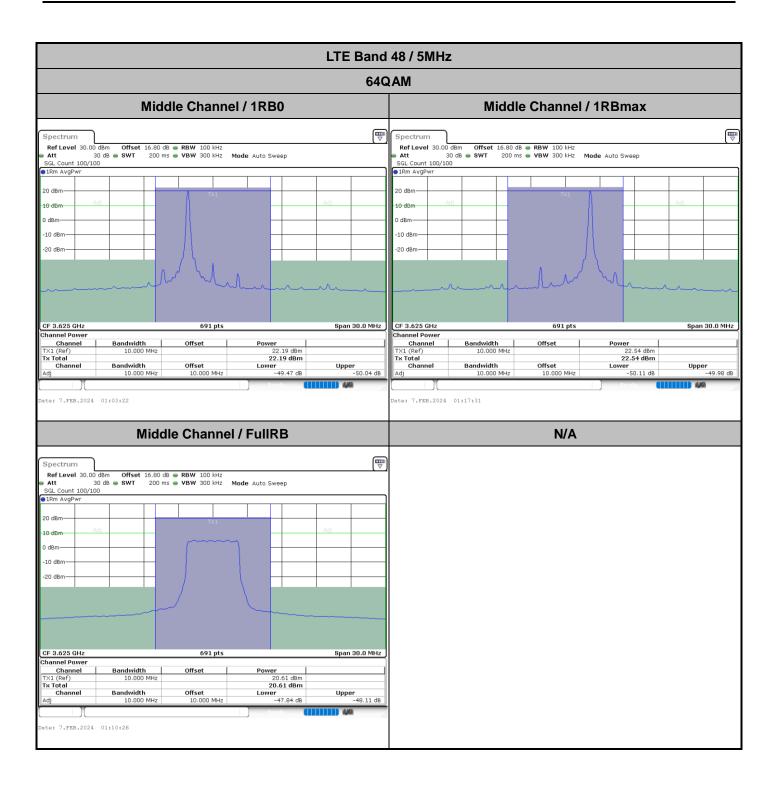
TEL: 886-3-327-3456 Page Number : A2-21 of 63



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LTE Band 48 / 5MHz 64QAM **Highest Channel / 1RB0 Highest Channel / 1RBmax** Spectrum Spectrum Mode Auto Sweep ●1Rm AvgPwr 20 dRm 0 dBm 0 dBn -10 dBm -10 dBm -20 dBm -20 dBm CF 3.6975 GHz Span 30.0 MHz hannel Power hannel Power Power 22.52 dBm 22.03 dBm 22.03 dBm Channel
TX1 (Ref)
Tx Total
Channel Bandwidth 10.000 MHz Channel
TX1 (Ref)
Tx Total
Channel Offset Bandwidth 10.000 MHz Offset 22.52 dBm 22.52 dBm Lower -49.18 dB Upper -49.20 dB Lower -48.41 dB Upper -49.25 dB Bandwidth Offset Bandwidth 10.000 MH; ate: 7.FEB.2024 01:07:18 ate: 7.FEB.2024 01:21:27 **Highest Channel / FullRB** N/A Spectrum Mode Auto Sweep 10 dBr CF 3.6975 GHz 691 pts Span 30.0 MHz 20.51 dBm 20.51 dBm Lower -47.76 dB Bandwidth 10.000 MHz Offset Bandwidth 10.000 MHz te: 7.FEB.2024 01:14:22

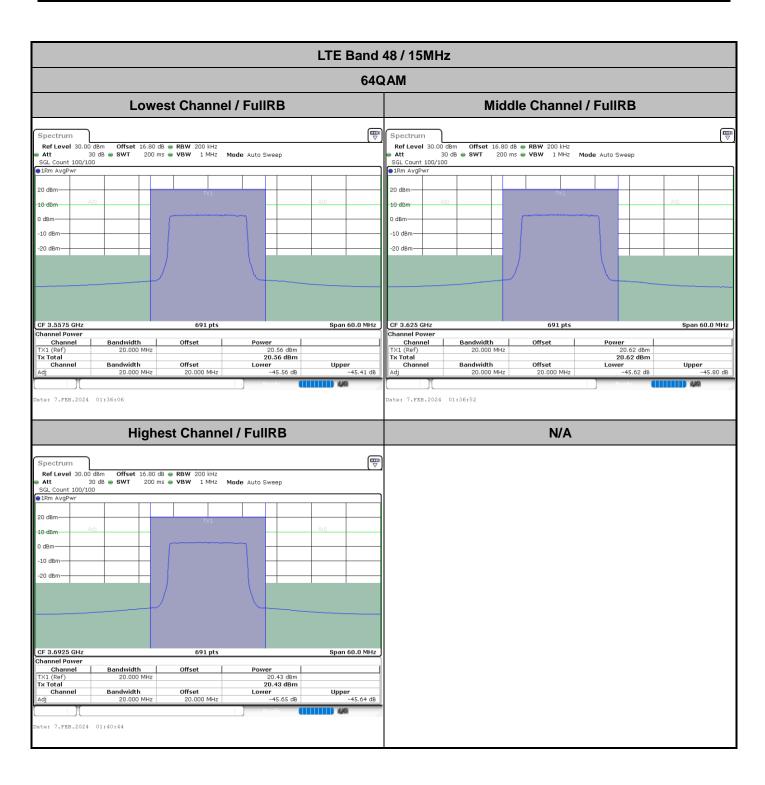
Report No.: FG3N2325D

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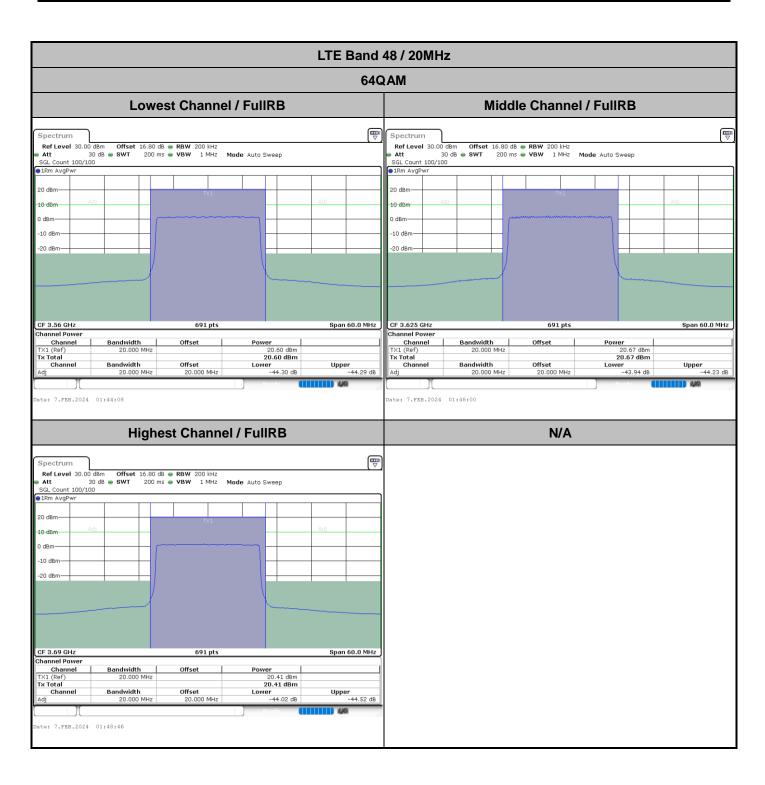
LTE Band 48 / 10MHz 64QAM **Lowest Channel / FullRB** Middle Channel / FullRB Spectrum Spectrum ●1Rm AvgPwr 20 dRm 0 dBm 0 dBn -10 dBm -10 dBm Span 30.0 MHz Span 30.0 MHz hannel Power hannel Power Power 20.64 dBm Power 20.52 dBm 20.52 dBm Channel
TX1 (Ref)
Tx Total
Channel Channel
TX1 (Ref)
Tx Total
Channel Bandwidth 10.000 MHz Offset Bandwidth 10.000 MHz Offset 20.64 dBm 20.64 dBm Lower -43.48 dB Upper -44.46 dB Upper -44.13 dB Bandwidth Lower -43.62 dB Bandwidth Offset 10.000 MHz ate: 7.FEB.2024 01:24:51 ate: 7.FEB.2024 01:28:46 **Highest Channel / FullRB** N/A Spectrum Ref Level 30.00 dBm Offset 16.80 dB RBW 100 kHz
Att 30 dB SWT 200 ms VBW 300 kHz
SGL Count 100/100 Mode Auto Sweep -10 dBm CF 3.695 GHz 691 pts Span 30.0 MHz 20.57 dBm 20.57 dBm 20.57 dBm Lower -43.15 dB Bandwidth 10.000 MHz Channel (Ref) Offset Bandwidth 10.000 MHz te: 7.FEB.2024 01:29:33

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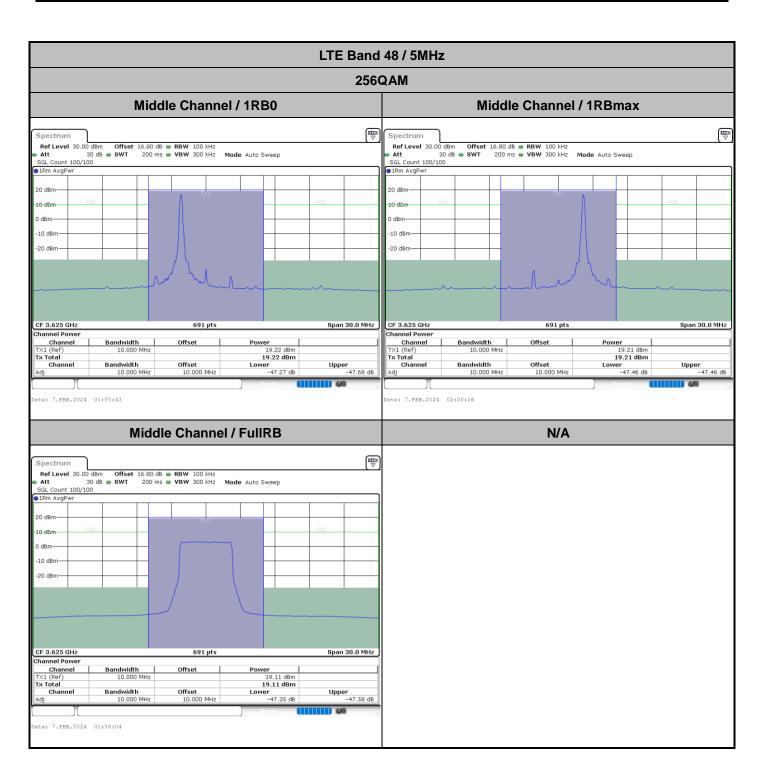


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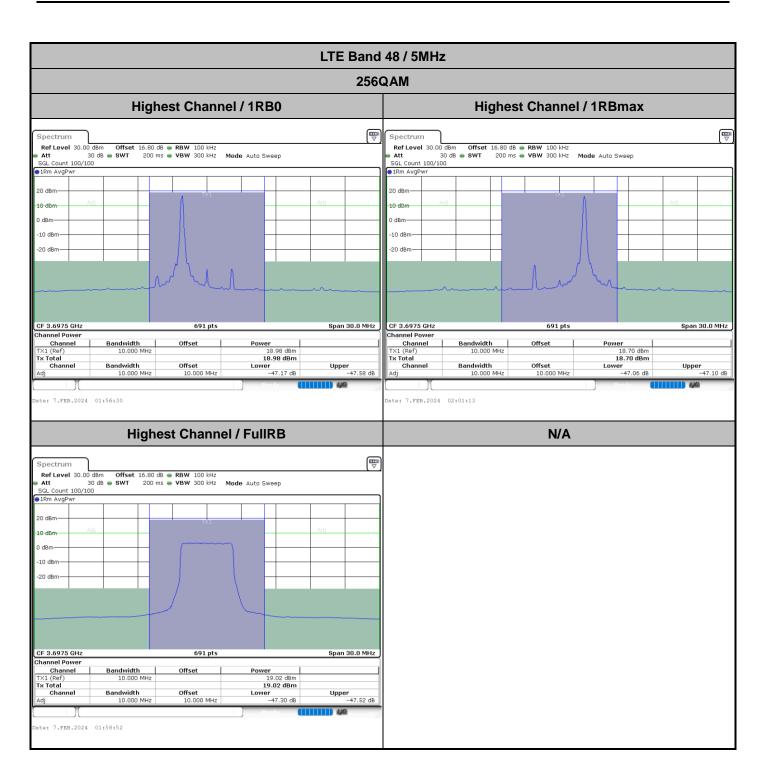
LTE Band 48 / 5MHz **256QAM** Lowest Channel / 1RB0 **Lowest Channel / 1RBmax** Spectrum Spectrum ●1Rm AvgPwr 20 dRm 10 d0m 0 dBm 0 dBn -10 dBm -10 dBm -20 dBm -20 dBm Span 30.0 MHz CF 3.5525 GHz Span 30.0 MHz hannel Power hannel Power Channel
TX1 (Ref)
Tx Total
Channel Bandwidth 10.000 MHz Power 19.13 dBm 19.13 dBm Channel
TX1 (Ref)
Tx Total
Channel Offset Bandwidth 10.000 MHz Offset Power 18.77 dBm 18.77 dBm 18.77 dBm Lower -46.89 dB **Upper** -47.45 dB Upper -46.91 dB Bandwidth Bandwidth Offset **Lower** -47.06 dB 10.000 MHz 10.000 MHz ate: 7.FEB.2024 01:54:56 ate: 7.FEB.2024 01:59:39 **Lowest Channel / FullRB** N/A Spectrum Ref Level 30.00 dBm Offset 16.80 dB RBW 100 kHz
Att 30 dB SWT 200 ms VBW 300 kHz
SGL Count 100/100 Mode Auto Sweep -10 dBn -20 dBm CF 3.5525 GHz 691 pts Span 30.0 MHz 18.96 dBm 18.96 dBm Lower -47.00 dB Channel
TX1 (Ref)
Tx Total
Channel Bandwidth 10.000 MHz Offset Upper -47.20 dB Bandwidth 10.000 MHz te: 7.FEB.2024 01:57:17

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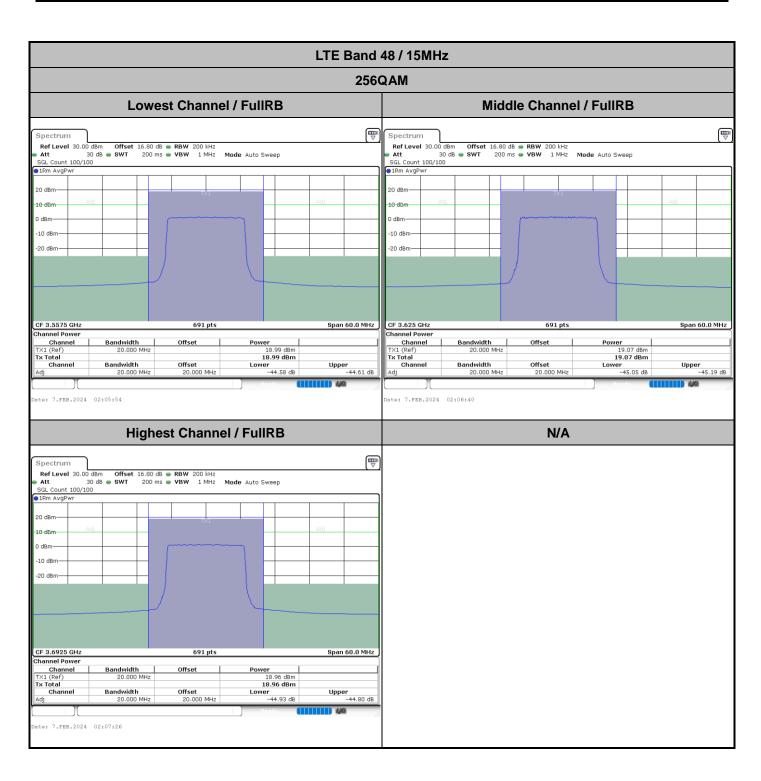
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LTE Band 48 / 10MHz **256QAM Lowest Channel / FullRB** Middle Channel / FullRB Spectrum Spectrum
 Ref Level
 30.00 dBm
 Offset
 16.80 dB ● RBW
 100 kHz

 Att
 30 dB ● SWT
 200 ms ● VBW
 300 kHz
 Mode
 Auto Sweep
 Att 30 SGL Count 100/100 ●1Rm AvgPwr 20 dRm 0 dBm 0 dBn -10 dBm -10 dBm -20 dBm -20 dBm Span 30.0 MHz Span 30.0 MHz hannel Power hannel Power Channel
TX1 (Ref)
Tx Total
Channel Channel
TX1 (Ref)
Tx Total
Channel Bandwidth 10.000 MHz Offset Power 18.99 dBm Bandwidth 10.000 MHz Offset Power 19.08 dBm 19.08 dBm 19.08 dBm Lower -44.31 dB 18.99 dBm Upper -44.08 dB Upper -44.50 dB Bandwidth Lower -43.89 dB Bandwidth Offset 10.000 MHz ate: 7.FEB.2024 02:02:47 ate: 7.FEB.2024 02:03:34 **Highest Channel / FullRB** N/A Spectrum Ref Level 30.00 dBm Offset 16.80 dB RBW 100 kHz
Att 30 dB SWT 200 ms VBW 300 kHz
SGL Count 100/100 Mode Auto Sweep -10 dBn 20 dBm CF 3.695 GHz 691 pts Span 30.0 MHz 19.00 dBm 19.00 dBm 19.00 dBm Lower -43.88 dB Bandwidth 10.000 MHz Channel (Ref) Offset Bandwidth 10.000 MHz te: 7.FEB.2024 02:04:21

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