TEST REPORT

FCC Sub6 n7 Test for SM-S721U
Certification

APPLICANT
SAMSUNG Electronics Co., Ltd.

REPORT NO.
HCT-RF-2407-FC028

DATE OF ISSUE
July 19, 2024

Tested by
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TEST REPORT

REPORT NO.
HCT-RF-2407-FC028

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Additional Model
SM-S721U1

Applicant	**SAMSUNG Electronics Co., Ltd.** 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea
Product Name Model Name	Mobile Phone SM-S721U
Date of Test	May 21, 2024 ~ July 19, 2024
FCC ID	A3LSMS721U
Location of Test	■ Permanent Testing Lab ☐ On Site Testing (Address: 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, 17383 Republic of Korea)
FCC Classification:	PCS Licensed Transmitter Held to Ear (PCE)
Test Standard Used	FCC Rule Part: § 27
Test Results	PASS

REVISION HISTORY

The revision history for this test report is shown in table.

Revision No.	Date of Issue	Description
0	July 19, 2024	Initial Release

Notice

Content
The measurements shown in this report were made in accordance with the procedures specified in CFR47 section § 2.947. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them. HCT CO., LTD. Certifies that no party to this application has subject to a denial of Federal benefits that includes FCC benefits pursuant to section 5301 of the Anti-Drug Abuse Act of 1998,21 U.S. C.853(a)
The results shown in this test report only apply to the sample(s), as received, provided by the applicant, unless otherwise stated. The test results have only been applied with the test methods required by the standard(s).
The laboratory is not accredited for the test results marked *. Information provided by the applicant is marked **. Test results provided by external providers are marked ***.
When confirmation of authenticity of this test report is required, please contact www.hct.co.kr
The test results in this test report are not associated with the ((KS Q) ISO/IEC 17025) accreditation by KOLAS (Korea Laboratory Accreditation Scheme) / A2LA (American Association for Laboratory Accreditation) that are under the ILAC (International Laboratory Accreditation Cooperation) Mutual Recognition Agreement (MRA).

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MEASUREMENT REPORT

1. GENERAL INFORMATION

Applicant Name:	SAMSUNG Electronics Co., Ltd.
Address:	129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea
FCC ID:	A3LSMS721U
Application Type:	Certification
FCC Classification:	PCS Licensed Transmitter Held to Ear (PCE)
FCC Rule Part(s):	§ 27
EUT Type:	Mobile phone
Model(s):	SM-S721U
Additional Model(s)	SM-S721U1
SCS(kHz):	15
Bandwidth(MHz):	5, 10, 15, 20, 25, 30, 35, 40
Waveform:	CP-OFDM, DFT-S-OFDM
Modulation:	DFT-S-OFDM: PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM CP-OFDM: QPSK, 16QAM, 64QAM, 256QAM
Tx Frequency:	2502.5 MHz – 2567.5 MHz (Sub6 n7(5 MHz)) 2505.0 MHz – 2565.0 MHz (Sub6 n7(10 MHz)) 2507.5 MHz – 2562.5 MHz (Sub6 n7(15 MHz)) 2510.0 MHz – 2560.0 MHz (Sub6 n7(20 MHz)) 2512.5 MHz – 2557.5 MHz (Sub6 n7(25 MHz)) 2515.0 MHz – 2555.0 MHz (Sub6 n7(30 MHz)) 2517.5 MHz – 2552.5 MHz (Sub6 n7(35 MHz)) 2520.0 MHz – 2550.0 MHz (Sub6 n7(40 MHz))
Date(s) of Tests:	May 21, 2024 ~ July 19, 2024
Serial number:	Radiated : 67d50ecc63197ece Conducted : R3CX40SV7PD

1.1. MAXIMUM OUTPUT POWER

ANT B

Mode (MHz)	Tx Frequency (MHz)	Emission Designator	Modulation	EIRP	
				Max. Power (W)	Max. Power (dBm)
Sub6 n7 (5)	2502.5 – 2567.5	4M52G7D	PI/2 BPSK	0.131	21.17
		4M53G7D	QPSK	0.126	21.02
		4M53W7D	16QAM	0.101	20.05
		4M57W7D	64QAM	0.072	18.59
		4M52W7D	256QAM	0.048	16.79
Sub6 n7 (10)	2505.0 – 2565.0	9M00G7D	PI/2 BPSK	0.131	21.17
		8M99G7D	QPSK	0.131	21.16
		8M99W7D	16QAM	0.105	20.20
		8M99W7D	64QAM	0.073	18.64
		8M97W7D	256QAM	0.048	16.77
Sub6 n7 (15)	2507.5 – 2562.5	13M4G7D	PI/2 BPSK	0.134	21.28
		13M4G7D	QPSK	0.131	21.18
		13M5W7D	16QAM	0.105	20.23
		13M4W7D	64QAM	0.073	18.63
		13M4W7D	256QAM	0.047	16.76
Sub6 n7 (20)	2510.0 – 2560.0	17M9G7D	PI/2 BPSK	0.132	21.20
		17M8G7D	QPSK	0.131	21.18
		17M9W7D	16QAM	0.106	20.25
		17M9W7D	64QAM	0.075	18.73
		17M9W7D	256QAM	0.049	16.92
Sub6 n7 (25)	2512.5 – 2557.5	23M0G7D	PI/2 BPSK	0.136	21.35
		23M0G7D	QPSK	0.133	21.24
		22M9W7D	16QAM	0.108	20.34
		23M0W7D	64QAM	0.074	18.71
		22M9W7D	256QAM	0.048	16.84
Sub6 n7 (30)	2515.0 – 2555.0	28M7G7D	PI/2 BPSK	0.135	21.30
		28M6G7D	QPSK	0.133	21.25
		28M6W7D	16QAM	0.109	20.36
		28M7W7D	64QAM	0.076	18.83
		28M6W7D	256QAM	0.049	16.92
Sub6 n7 (35)	2517.5 – 2552.5	32M3G7D	PI/2 BPSK	0.132	21.22
		32M2G7D	QPSK	0.131	21.17
		32M1W7D	16QAM	0.105	20.22
		32M2W7D	64QAM	0.076	18.82
		32M1W7D	256QAM	0.048	16.83
Sub6 n7 (40)	2520.0 – 2550.0	38M7G7D	PI/2 BPSK	0.132	21.19
		38M6G7D	QPSK	0.128	21.06
		38M8W7D	16QAM	0.105	20.19
		38M7W7D	64QAM	0.075	18.76
		38M8W7D	256QAM	0.048	16.80

ANT F

Mode (MHz)	Tx Frequency (MHz)	Emission Designator	Modulation	EIRP	
				Max. Power (W)	Max. Power (dBm)
Sub6 n7 (5)	2502.5 – 2567.5	4M53G7D	PI/2 BPSK	0.112	20.50
		4M55G7D	QPSK	0.109	20.36
		4M53W7D	16QAM	0.086	19.34
		4M53W7D	64QAM	0.062	17.90
		4M51W7D	256QAM	0.038	15.83
Sub6 n7 (10)	2505.0 – 2565.0	8M99G7D	PI/2 BPSK	0.114	20.55
		9M03G7D	QPSK	0.111	20.45
		9M03W7D	16QAM	0.088	19.44
		9M02W7D	64QAM	0.062	17.95
		9M00W7D	256QAM	0.039	15.94
Sub6 n7 (15)	2507.5 – 2562.5	13M5G7D	PI/2 BPSK	0.119	20.76
		13M5G7D	QPSK	0.117	20.69
		13M5W7D	16QAM	0.094	19.71
		13M5W7D	64QAM	0.068	18.31
		13M4W7D	256QAM	0.041	16.15
Sub6 n7 (20)	2510.0 – 2560.0	17M9G7D	PI/2 BPSK	0.111	20.44
		17M9G7D	QPSK	0.109	20.36
		17M9W7D	16QAM	0.087	19.38
		17M9W7D	64QAM	0.063	17.96
		17M9W7D	256QAM	0.039	15.93
Sub6 n7 (25)	2512.5 – 2557.5	23M0G7D	PI/2 BPSK	0.112	20.50
		23M0G7D	QPSK	0.107	20.28
		23M1W7D	16QAM	0.089	19.49
		23M0W7D	64QAM	0.062	17.95
		23M1W7D	256QAM	0.040	16.00
Sub6 n7 (30)	2515.0 – 2555.0	28M7G7D	PI/2 BPSK	0.110	20.43
		28M7G7D	QPSK	0.107	20.29
		28M8W7D	16QAM	0.088	19.43
		28M8W7D	64QAM	0.063	18.00
		28M7W7D	256QAM	0.039	15.93
Sub6 n7 (35)	2517.5 – 2552.5	32M3G7D	PI/2 BPSK	0.108	20.35
		32M3G7D	QPSK	0.106	20.27
		32M3W7D	16QAM	0.084	19.25
		32M3W7D	64QAM	0.059	17.70
		32M3W7D	256QAM	0.038	15.76
Sub6 n7 (40)	2520.0 – 2550.0	38M7G7D	PI/2 BPSK	0.108	20.33
		38M7G7D	QPSK	0.106	20.26
		38M8W7D	16QAM	0.083	19.17
		38M9W7D	64QAM	0.060	17.80
		38M8W7D	256QAM	0.037	15.73

2. INTRODUCTION

2.1. DESCRIPTION OF EUT

The EUT was a Mobile Phone with GSM/GPRS/EGPRS/UMTS and LTE, Sub 6, mmWave.
It also supports IEEE 802.11 a/b/g/n/ac/ax (20/40/80/160 MHz), Bluetooth(iPA, ePA), BT LE(iPA, ePA), NFC, WPT, WIFI 6E.

2.2. MEASURING INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

2.3. TEST FACILITY

The Fully-anechoic chamber and conducted measurement facility used to collect the radiated data are located at the **74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA.**

3. DESCRIPTION OF TESTS

3.1 TEST PROCEDURE

Test Description	Test Procedure Used
Occupied Bandwidth	- KDB 971168 D01 v03r01 – Section 4.3 - ANSI C63.26-2015 – Section 5.4.4
Channel Edge	- KDB 971168 D01 v03r01 – Section 6.0 - ANSI C63.26-2015 – Section 5.7
Spurious and Harmonic Emissions at Antenna Terminal	- KDB 971168 D01 v03r01 – Section 6.0 - ANSI C63.26-2015 – Section 5.7
Conducted Output Power	- N/A (See SAR Report)
Peak- to- Average Ratio	- KDB 971168 D01 v03r01 – Section 5.7 - ANSI C63.26-2015 – Section 5.2.3.4 - ANSI C63.26-2015 – Section 5.2.6(only GSM)
Frequency stability	- ANSI C63.26-2015 – Section 5.6
Effective Radiated Power/ Effective Isotropic Radiated Power	- KDB 971168 D01 v03r01 – Section 5.2 & 5.8 - ANSI/TIA-603-E-2016 – Section 2.2.17
Radiated Spurious and Harmonic Emissions	- KDB 971168 D01 v03r01 – Section 6.2 - ANSI/TIA-603-E-2016 – Section 2.2.12

3.2 RADIATED POWER

Test Overview

Radiated tests are performed in the Fully-anechoic chamber.
The equipment under test is placed on a non-conductive table 3-meters away from the receive antenna in accordance with ANSI/TIA-603-E-2016 Clause 2.2.17.

Test Settings

1. Radiated power measurements are performed using the signal analyzer's "channel power" measurement capability for signals with continuous operation.
2. RBW = 1 – 5 % of the expected OBW, not to exceed 1 MHz
3. VBW ≥ 3 x RBW
4. Span = 1.5 times the OBW
5. No. of sweep points > 2 x span / RBW
6. Detector = RMS
7. Trigger is set to "free run" for signals with continuous operation with the sweep times set to "auto".
8. The integration bandwidth was roughly set equal to the measured OBW of the signal for signals with continuous operation.
9. Trace mode = trace averaging (RMS) over 100 sweeps
10. The trace was allowed to stabilize

Test Note

1. The turntable is rotated through 360 degrees, and the receiving antenna scans in order to determine the level of the maximized emission.
2. A half wave dipole is then substituted in place of the EUT. For emissions above 1 GHz, a horn antenna is substituted in place of the EUT. The substitute antenna is driven by a signal generator and the previously recorded signal was duplicated.
   The power is calculated by the following formula;

$$P_{d\ (dBm)} = Pg_{\ (dBm)} - \text{cable loss}_{\ (dB)} + \text{antenna gain}_{\ (dB)}$$

   Where: P_d is the dipole equivalent power and P_g is the generator output power into the substitution antenna.
3. The maximum value is calculated by adding the forward power to the calibrated source plus its appropriate gain value.
   These steps are repeated with the receiving antenna in both vertical and horizontal polarization. the difference between the gain of the horn and an isotropic antenna are taken into consideration
4. The EUT was tested in three orthogonal planes(X, Y, Z) and in all possible test configurations and positioning.
5. All measurements are performed as RMS average measurements while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies.

3.3 RADIATED SPURIOUS EMISSIONS

Test Overview

Radiated tests are performed in the Fully-anechoic chamber.

Radiated Spurious Emission Measurements at 3 meters by Substitution Method according to ANSI/TIA-603-E-2016.

Test Settings

1. RBW = 100 kHz for emissions below 1 GHz and 1 MHz for emissions above 1 GHz
2. VBW ≥ 3 x RBW
3. Span = 1.5 times the OBW
4. No. of sweep points > 2 x span / RBW
5. Detector = Peak
6. Trace mode = Max Hold
7. The trace was allowed to stabilize
8. Test channel : Low/ Middle/ High
9. Frequency range : We are performed all frequency to 10^{th} harmonics from 9 kHz.

Test Note

1. Measurements value show only up to 3 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
2. The EUT was tested in three orthogonal planes(X, Y, Z) and in all possible test configurations and positioning. The worst case emissions are reported with the EUT positioning, modulations, RB sizes and offsets, and channel bandwidth configurations shown in the test data
3. For spurious emissions above 1 GHz, a horn antenna is substituted in place of the EUT. The substitute antenna is driven by a signal generator and the previously recorded signal was duplicated.
   The spurious emissions is calculated by the following formula;

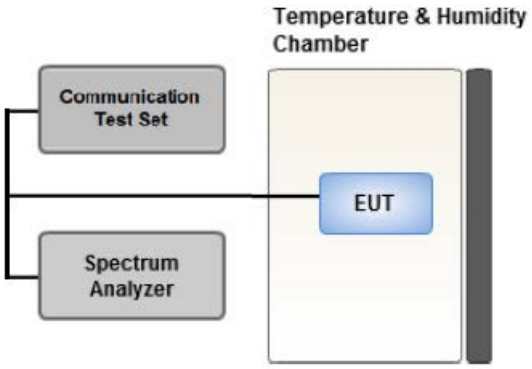
$$\text{Result}_{(dBm)} = \text{Pg}_{(dBm)} - \text{cable loss}_{(dB)} + \text{antenna gain}_{(dBi)}$$

   Where: P_g is the generator output power into the substitution antenna.

   If the fundamental frequency is below 1 GHz, RF output power has been converted to EIRP.

$$\text{EIRP}_{(dBm)} = \text{ERP}_{(dBm)} + 2.15$$

3.4 PEAK- TO- AVERAGE RATIO



Test setup

① CCDF Procedure for PAPR

Test Settings

1. Set resolution/measurement bandwidth ≥ signal's occupied bandwidth;
2. Set the number of counts to a value that stabilizes the measured CCDF curve;
3. Set the measurement interval as follows:
   .- for continuous transmissions, set to 1 ms,
   .- or burst transmissions, employ an external trigger that is synchronized with the EUT burst timing sequence, or use the internal burst trigger with a trigger level that allows the burst to stabilize and set the measurement interval to a time that is less than or equal to the burst duration.
4. Record the maximum PAPR level associated with a probability of 0.1 %.

② Alternate Procedure for PAPR

Use one of the procedures presented in 5.2(ANSI C63.26-2015) to measure the total peak power and record as P_{Pk}. Use one of the applicable procedures presented 5.2(ANSI C63.26-2015) to measure the total average power and record as P_{Avg}. Determine the P.A.R. from:

$$P.A.R_{(dB)} = P_{Pk\ (dBm)} - P_{Avg\ (dBm)}\ (P_{Avg} = \text{Average Power} + \text{Duty cycle Factor})$$

Test Settings(Peak Power)

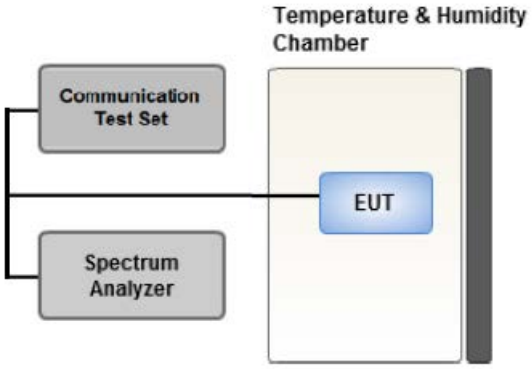
The measurement instrument must have a RBW that is greater than or equal to the OBW of the signal to be measured and a VBW ≥ 3 × RBW.

1. Set the RBW ≥ OBW.
2. Set VBW ≥ 3 × RBW.
3. Set span ≥ 2 × OBW.
4. Sweep time ≥ 10 × (number of points in sweep) × (transmission symbol period).
5. Detector = peak.
6. Trace mode = max hold.
7. Allow trace to fully stabilize.
8. Use the peak marker function to determine the peak amplitude level.

Test Settings(Average Power)

1. Set span to 2 × to 3 × the OBW.
2. Set RBW ≥ OBW.
3. Set VBW ≥ 3 × RBW.
4. Set number of measurement points in sweep ≥ 2 × span / RBW.
5. Sweep time:
   Set ≥ [10 × (number of points in sweep) × (transmission period)] for single sweep (automation-compatible) measurement. The transmission period is the (on + off) time.
6. Detector = power averaging (rms).
7. Set sweep trigger to "free run."
8. Trace average at least 100 traces in power averaging (rms) mode if sweep is set to auto-couple. (To accurately determine the average power over the on and off period of the transmitter, it can be necessary to increase the number of traces to be averaged above 100 or, if using a manually configured sweep time, increase the sweep time.)
9. Use the peak marker function to determine the maximum amplitude level.
10. Add [10 log (1/duty cycle)] to the measured maximum power level to compute the average power during continuous transmission. For example, add [10 log (1/0.25)] = 6 dB if the duty cycle is a constant 25 %.

3.5 OCCUPIED BANDWIDTH.



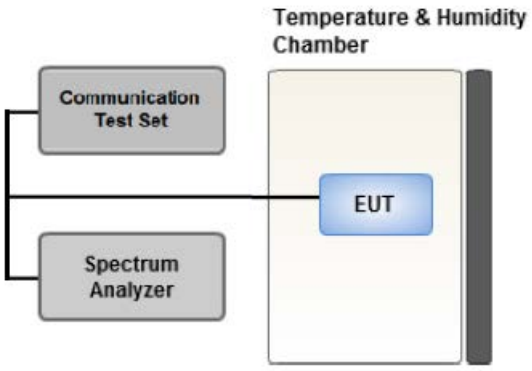
Test setup

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 power of a given emission.
The EUT makes a call to the communication simulator.
The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.
The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth

Test Settings

1. The signal analyzer's automatic bandwidth measurement capability was used to perform the 99 % occupied bandwidth and the 26 dB bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
2. RBW = 1 – 5 % of the expected OBW
3. VBW ≥ 3 x RBW
4. Detector = Peak
5. Trace mode = max hold
6. Sweep = auto couple
7. The trace was allowed to stabilize
8. If necessary, steps 2 – 7 were repeated after changing the RBW such that it would be within 1 – 5 % of the 99 % occupied bandwidth observed in Step 7

3.6 SPURIOUS AND HARMONIC EMISSIONS AT ANTENNA TERMINAL



Test setup

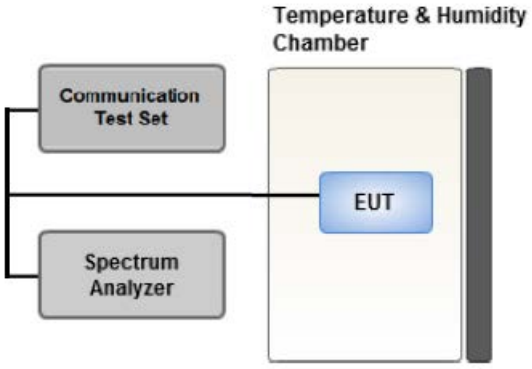
Test Overview

The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic. All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

Test Settings

1. RBW = 1 MHz
2. VBW ≥ 3 MHz
3. Detector = RMS
4. Trace Mode = trace average
5. Sweep time = auto
6. Number of points in sweep ≥ 2 x Span / RBW

3.7 CHANNEL EDGE



Test setup

Test Overview

All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum power and at the appropriate frequencies. All data rates were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

Test Settings

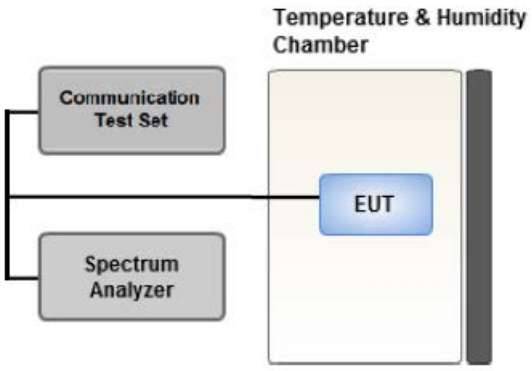
1. Start and stop frequency were set such that the band edge would be placed in the center of the plot
2. Span was set large enough so as to capture all out of band emissions near the band edge
3. Within 1MHz of the channel edge the RBW should be 2% of EBW, then 1 MHz after that.
4. VBW > 3 x RBW
5. Detector = RMS
6. Number of sweep points ≥ 2 x Span/RBW
7. Trace mode = trace average
8. Sweep time = auto couple
9. The trace was allowed to stabilize

Test Notes

1. The attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge,
2. 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge.
3. 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge.
4. The attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz.
5. 55 + 10 log (P) dB at or below 2490.5 MHz.
6. X is the greater of 6MHz or the actual emission bandwidth
7. The band edge measurement used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer

Where Margin < 1 dB the emission level is either corrected by 10 log(1 MHz/ RB) or the emission is integrated over a 1 MHz bandwidth to determine the final result. When using the integration method the integration window is either centered on the emission or, for emissions at the band edge, centered by an offset of 500 kHz from the block edge so that the integration window is the 1 MHz adjacent to the block edge.

3.8 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE



Test setup

Test Overview

Frequency stability testing is performed in accordance with the guidelines of ANSI C63.26-2015.
The frequency stability of the transmitter is measured by:

1. Temperature:
   The temperature is varied from -30 °C to +50 °C in 10 °C increments using an environmental chamber.
2. Primary Supply Voltage:
   .- Unless otherwise specified, vary primary supply voltage from 85 % to 115 % of the nominal value for other than hand carried battery equipment.
   .- For hand carried, battery powered equipment, reduce the primary ac or dc supply voltage to the battery operating end point, which shall be specified by the manufacturer.

Test Settings

1. The carrier frequency of the transmitter is measured at room temperature (20 °C to provide a reference).
2. The equipment is turned on in a "standby" condition for fifteen minutes before applying power to the transmitter.
   Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.
3. Frequency measurements are made at 10 °C intervals ranging from -30 °C to +50 °C. A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.

3.9 WORST CASE(RADIATED TEST)

- Waveform : All Waveform of operation were investigated and the worst case configuration results are reported.
  (Worst case: DFT-S-OFDM)
- The EUT was tested in three orthogonal planes(X, Y, Z) and in all possible test configurations and positioning.
- All modes of operation were investigated and the worst case configuration results are reported.
  Mode: SA only
  Mode : Stand alone, Stand alone + External accessories (Earphone, AC adapter, etc)
  Worst case : Stand alone
- All simultaneous transmission scenarios of operation were investigated, and the test results showed no additional significant emissions relative to the least restrictive limit were observed.
  Therefore, only the worst case(stand-alone) results were reported.
- All RB sizes, offsets of operation were investigated and the worst case configuration results are reported.
  Please refer to the table below.
- SM-S721U & additional models were tested and the worst case results are reported.
  (Worst case : SM-S721U)

[ANT B Worst case]

Test Description	Modulation	RB size	RB offset	Axis
Effective Isotropic Radiated Power	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	See Section 8.1		X
Radiated Spurious and Harmonic Emissions	PI/2 BPSK	See Section 8.1		Y

[ANT F Worst case]

Test Description	Modulation	RB size	RB offset	Axis
Effective Isotropic Radiated Power	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	See Section 8.1		X
Radiated Spurious and Harmonic Emissions	PI/2 BPSK	See Section 8.1		Y

3.10 WORST CASE(CONDUCTED TEST)

- Waveform : All Waveform of operation were investigated and the worst case configuration results are reported.
  (Worst case: DFT-S-OFDM)
- Modulation : All Modulation of operation were investigated and the worst case configuration results are reported.
  (Worst case: PI/2 BPSK)
- All modes of operation were investigated and the worst case configuration results are reported.
  Mode: SA Only
- All RB sizes, offsets of operation were investigated and the worst case configuration results are reported.
  Please refer to the table below.
- SM-S721U & additional models were tested and the worst case results are reported.
  (Worst case : SM-S721U)

[Worst case]

Test Description	Modulation	Bandwidth (MHz)	Frequency	RB size	RB offset
Occupied Bandwidth Peak- to- Average Ratio	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	5, 10, 15, 20, 25, 30, 35, 40	Mid	Full RB	0
Channel Edge	PI/2 BPSK	5	Low	1	0
			High	1	24
		10	Low	1	0
			High	1	51
		15	Low	1	0
			High	1	78
		20	Low	1	0
			High	1	105
		25	Low	1	0
			High	1	132
		30	Low	1	0
			High	1	159
		35	Low	1	0
			High	1	187
		40	Low	1	0
			High	1	215
		5, 10, 15, 20, 25, 30, 35, 40	Low, High	Full RB	0
Spurious and Harmonic Emissions at Antenna Terminal	PI/2 BPSK	5, 10, 15, 20, 25, 30, 35, 40	Low, Mid, High	1	1

4. LIST OF TEST EQUIPMENT

Equipment	Model	Manufacture	Serial No.	Due to Calibration	Calibration Interval
Precision Dipole Antenna	UHAP	Schwarzbeck	01273	03/10/2026	Biennial
Precision Dipole Antenna	UHAP	Schwarzbeck	01274	03/10/2026	Biennial
Horn Antenna(1~18 GHz)	BBHA 9120D	Schwarzbeck	02289	02/14/2026	Biennial
Horn Antenna(1~18 GHz)	BBHA 9120D	Schwarzbeck	9120D-1299	04/27/2025	Biennial
Horn Antenna(15~40 GHz)	BBHA 9170	Schwarzbeck	BBHA9170342	09/29/2024	Biennial
Horn Antenna(15~40 GHz)	BBHA 9170	Schwarzbeck	BBHA9170124	03/28/2025	Biennial
Loop Antenna(9 kHz~30 MHz)	FMZB1513	Rohde & Schwarz	1513-175	01/16/2025	Biennial
Bilog Antenna	VULB9160	Schwarzbeck	3150	03/09/2025	Biennial
Hybrid Antenna	VULB9160	Schwarzbeck	760	02/24/2025	Biennial
RF Switching System	FBSR-06B (1G HPF + LNA)	T&M SYSTEM	F3L1	05/14/2025	Annual
RF Switching System	FBSR-06B (3G HPF + LNA)	T&M SYSTEM	F3L2	05/14/2025	Annual
RF Switching System	FBSR-06B (6G HPF + LNA)	T&M SYSTEM	F3L3	05/14/2025	Annual
RF Switching System	FBSR-06B (LNA)	T&M SYSTEM	F3L4	05/14/2025	Annual
Power Amplifier	CBL18265035	CERNEX	22966	11/17/2024	Annual
Power Amplifier	CBL26405040	CERNEX	25956	02/26/2025	Annual
DC Power Supply	E3632A	Hewlett Packard	MY40004427	08/25/2024	Annual
Power Splitter(DC~26.5 GHz)	11667B	Hewlett Packard	11275	02/29/2025	Annual
Chamber	SU-642	ESPEC	93008124	02/19/2025	Annual
Signal Analyzer(10 Hz~26.5 GHz)	N9020A	Agilent	MY51110063	04/04/2025	Annual
ATTENUATOR(20 dB)	8493C	Hewlett Packard	17280	04/17/2025	Annual
Spectrum Analyzer(10 Hz~40 GHz)	FSV40	REOHDE & SCHWARZ	101436	02/13/2025	Annual
Base Station	8960 (E5515C)	Agilent	MY48360800	08/10/2024	Annual
Wideband Radio Communication Tester	MT8821C	Anritsu Corp.	6262287701	05/16/2025	Annual
Wideband Radio Communication Tester	MT8000A	Anritsu Corp.	6262302511	05/14/2025	Annual
Signal Analyzer(5 Hz~40.0 GHz)	N9030B	KEYSIGHT	MY55480167	05/17/2025	Annual
4-Way Divider	ZC4PD-K1844+	Mini-Circuits	942907	09/19/2024	Annual
FCC LTE Mobile Conducted RF Automation Test Software	-	HCT CO., LTD.,	-	-	-

Note:

1. Equipment listed above that has a calibration due date during the testing period, the testing is completed before equipment expiration date.
2. Especially, all antenna for measurement is calibrated in accordance with the requirements of C63.5 (Version : 2017).

5. MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.4:2014.

All measurement uncertainty values are shown with a coverage factor of $k = 2$ to indicate a 95 % level of confidence. The measurement data shown herein meets or exceeds the U_{CISPR} measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Parameter	Expanded Uncertainty (±dB)
Conducted Disturbance (150 kHz ~ 30 MHz)	1.98 (Confidence level about 95 %, *k*=2)
Radiated Disturbance (9 kHz ~ 30 MHz)	4.36 (Confidence level about 95 %, *k*=2)
Radiated Disturbance (30 MHz ~ 1 GHz)	5.70 (Confidence level about 95 %, *k*=2)
Radiated Disturbance (1 GHz ~ 18 GHz)	5.52 (Confidence level about 95 %, *k*=2)
Radiated Disturbance (18 GHz ~ 40 GHz)	5.66 (Confidence level about 95 %, *k*=2)
Radiated Disturbance (Above 40 GHz)	5.58 (Confidence level about 95 %, *k*=2)

6. SUMMARY OF TEST RESULTS

6.1 Test Condition: Conducted Test

Test Description	FCC Part Section(s)	Test Limit	Test Result
Occupied Bandwidth	§ 2.1049	N/A	PASS
Band Edge / Spurious and Harmonic Emissions at Antenna Terminal.	§ 2.1051, § 27.53(m)(4)	■ < 40 + 10log10 (P[Watts]) at Channel edges ■ < 43 + 10log10 (P[Watts]) between 5 and X MHz from Channel edges ■ < 55 + 10log10 (P[Watts]) beyond X MHz beyond from Channel edges ■ < 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz	PASS
Conducted Output Power	§ 2.1046	N/A	See Note1
Frequency stability / variation of ambient temperature	§ 2.1055, § 27.54	Emission must remain in band	PASS

Note:

1. See SAR Report

2. All conducted tests were tested using 5G Wireless Tester.

6.2 Test Condition: Radiated Test

Test Description	FCC Part Section(s)	Test Limit	Test Result
Equivalent Isotropic Radiated Power	§ 27.50(h)(2)	< 2 Watts max. EIRP	PASS
Radiated Spurious and Harmonic Emissions	§ 2.1053, § 27.53(m)(4)	< 55 + 10log10 (P[Watts])	PASS

Note:

1. Radiated tests were tested using 5G Wireless Tester.

7. SAMPLE CALCULATION

7.1 ERP Sample Calculation

Ch./ Freq.		Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBd)	C.L	Pol.	ERP	
channel	Freq.(MHz)						W	dBm
128	824.20	-21.37	38.40	-10.61	0.95	H	0.483	26.84

ERP = Substitute LEVEL(dBm) + Ant. Gain – CL(Cable Loss)

1) The EUT mounted on a non-conductive turntable is 2.5 meter above test site ground level.
2) During the test, the turn table is rotated until the maximum signal is found.
3) Record the field strength meter's level.
4) Replace the EUT with dipole/Horn antenna that is connected to a calibrated signal generator.
5) Increase the signal generator output till the field strength meter's level is equal to the item (3).
6) The signal generator output level with Ant. Gain and cable loss are the rating of effective radiated power.

7.2 EIRP Sample Calculation

Ch./ Freq.		Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol.	EIRP	
channel	Freq.(MHz)						W	dBm
20175	1,732.50	-15.75	18.45	9.90	1.76	H	0.456	26.59

EIRP = Substitute LEVEL(dBm) + Ant. Gain – CL(Cable Loss)

1) The EUT mounted on a non-conductive turntable is 2.5 meter above test site ground level.
2) During the test, the turn table is rotated until the maximum signal is found.
3) Record the field strength meter's level.
4) Replace the EUT with dipole/Horn antenna that is connected to a calibrated signal generator.
5) Increase the signal generator output till the field strength meter's level is equal to the item (3).
6) The signal generator output level with Ant. Gain and cable loss are the rating of equivalent isotropic radiated power.

7.3. Emission Designator

GSM Emission Designator

Emission Designator = 249KGXW
GSM BW = 249 kHz
G = Phase Modulation
X = Cases not otherwise covered
W = Combination (Audio/Data)

EDGE Emission Designator

Emission Designator = 249KG7W
GSM BW = 249 kHz
G = Phase Modulation
7 = Quantized/Digital Info
W = Combination (Audio/Data)

WCDMA Emission Designator

Emission Designator = 4M17F9W
WCDMA BW = 4.17 MHz
F = Frequency Modulation
9 = Composite Digital Info
W = Combination (Audio/Data)

QPSK Modulation

Emission Designator = 4M48G7D
LTE BW = 4.48 MHz
G = Phase Modulation
7 = Quantized/Digital Info
D = Data transmission; telemetry; telecommand

QAM Modulation

Emission Designator = 4M48W7D
LTE BW = 4.48 MHz
W = Amplitude/Angle Modulated
7 = Quantized/Digital Info
D = Data transmission; telemetry; telecommand

8. TEST DATA(ANT B)

8.1 EQUIVALENT ISOTROPIC RADIATED POWER

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
2502.5	Sub6 n7/ 5 MHz [15 kHz]	PI/2 BPSK	-23.92	12.72	10.30	2.47	H	< 2.00	0.114	20.55	1	1
		QPSK	-23.98	12.66	10.30	2.47	H		0.112	20.49		
		16-QAM	-24.90	11.74	10.30	2.47	H		0.091	19.57		
		64-QAM	-26.54	10.10	10.30	2.47	H		0.062	17.93		
		256-QAM	-28.30	8.34	10.30	2.47	H		0.041	16.17		
2535.0		PI/2 BPSK	-22.86	13.39	10.30	2.52	H		0.131	21.17	1	12
		QPSK	-23.01	13.24	10.30	2.52	H		0.126	21.02		
		16-QAM	-23.98	12.27	10.30	2.52	H		0.101	20.05		
		64-QAM	-25.44	10.81	10.30	2.52	H		0.072	18.59		
		256-QAM	-27.24	9.01	10.30	2.52	H		0.048	16.79		
2567.5		PI/2 BPSK	-23.56	12.98	10.20	2.60	H		0.114	20.58	1	1
		QPSK	-23.60	12.94	10.20	2.60	H		0.113	20.54		
		16-QAM	-24.66	11.88	10.20	2.60	H		0.089	19.48		
		64-QAM	-26.13	10.41	10.20	2.60	H		0.063	18.01		
		256-QAM	-28.11	8.43	10.20	2.60	H		0.040	16.03		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
2505.0	Sub6 n7/ 10 MHz [15 kHz]	PI/2 BPSK	-23.85	12.79	10.30	2.49	H	< 2.00	0.115	20.60	1	26
		QPSK	-23.86	12.78	10.30	2.49	H		0.115	20.59		
		16-QAM	-24.88	11.76	10.30	2.49	H		0.091	19.57		
		64-QAM	-26.27	10.37	10.30	2.49	H		0.066	18.18		
		256-QAM	-28.27	8.37	10.30	2.49	H		0.042	16.18		
2535.0		PI/2 BPSK	-22.86	13.39	10.30	2.52	H		0.131	21.17	1	1
		QPSK	-22.87	13.38	10.30	2.52	H		0.131	21.16		
		16-QAM	-23.83	12.42	10.30	2.52	H		0.105	20.20		
		64-QAM	-25.39	10.86	10.30	2.52	H		0.073	18.64		
		256-QAM	-27.26	8.99	10.30	2.52	H		0.048	16.77		
2565.0		PI/2 BPSK	-23.72	13.02	10.20	2.60	H		0.115	20.62	1	1
		QPSK	-23.80	12.94	10.20	2.60	H		0.113	20.54		
		16-QAM	-24.70	12.04	10.20	2.60	H		0.092	19.64		
		64-QAM	-26.25	10.49	10.20	2.60	H		0.064	18.09		
		256-QAM	-28.16	8.58	10.20	2.60	H		0.042	16.18		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
2507.5	Sub6 n7/ 15 MHz [15 kHz]	PI/2 BPSK	-23.54	13.08	10.30	2.50	H	< 2.00	0.123	20.88	1	39
		QPSK	-23.57	13.05	10.30	2.50	H		0.122	20.85		
		16-QAM	-24.38	12.24	10.30	2.50	H		0.101	20.04		
		64-QAM	-26.12	10.50	10.30	2.50	H		0.068	18.30		
		256-QAM	-27.82	8.80	10.30	2.50	H		0.046	16.60		
2535.0		PI/2 BPSK	-22.75	13.50	10.30	2.52	H		0.134	21.28	1	39
		QPSK	-22.85	13.40	10.30	2.52	H		0.131	21.18		
		16-QAM	-23.80	12.45	10.30	2.52	H		0.105	20.23		
		64-QAM	-25.40	10.85	10.30	2.52	H		0.073	18.63		
		256-QAM	-27.27	8.98	10.30	2.52	H		0.047	16.76		
2562.5		PI/2 BPSK	-23.40	13.53	10.20	2.59	H		0.130	21.14	1	1
		QPSK	-23.42	13.51	10.20	2.59	H		0.129	21.12		
		16-QAM	-24.39	12.54	10.20	2.59	H		0.103	20.15		
		64-QAM	-26.00	10.93	10.20	2.59	H		0.071	18.54		
		256-QAM	-27.90	9.03	10.20	2.59	H		0.046	16.64		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
2510.0	Sub6 n7/ 20 MHz [15 kHz]	PI/2 BPSK	-23.68	12.94	10.30	2.50	H	< 2.00	0.119	20.74	1	53
		QPSK	-23.70	12.92	10.30	2.50	H		0.118	20.72		
		16-QAM	-24.68	11.94	10.30	2.50	H		0.094	19.74		
		64-QAM	-26.11	10.51	10.30	2.50	H		0.068	18.31		
		256-QAM	-28.06	8.56	10.30	2.50	H		0.043	16.36		
2535.0		PI/2 BPSK	-22.85	13.40	10.30	2.52	H		0.131	21.18	1	53
		QPSK	-22.93	13.32	10.30	2.52	H		0.129	21.10		
		16-QAM	-23.78	12.47	10.30	2.52	H		0.106	20.25		
		64-QAM	-25.31	10.94	10.30	2.52	H		0.075	18.72		
		256-QAM	-27.11	9.14	10.30	2.52	H		0.049	16.92		
2560.0		PI/2 BPSK	-23.34	13.59	10.20	2.59	H		0.132	21.20	1	1
		QPSK	-23.36	13.57	10.20	2.59	H		0.131	21.18		
		16-QAM	-24.30	12.63	10.20	2.59	H		0.106	20.24		
		64-QAM	-25.81	11.12	10.20	2.59	H		0.075	18.73		
		256-QAM	-27.75	9.18	10.20	2.59	H		0.048	16.79		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
2512.5	Sub6 n7/ 25 MHz [15 kHz]	PI/2 BPSK	-23.54	13.08	10.30	2.50	H	< 2.00	0.123	20.88	1	66
		QPSK	-23.56	13.06	10.30	2.50	H		0.122	20.86		
		16-QAM	-24.54	12.08	10.30	2.50	H		0.097	19.88		
		64-QAM	-26.00	10.62	10.30	2.50	H		0.070	18.42		
		256-QAM	-27.90	8.72	10.30	2.50	H		0.045	16.52		
2535.0		PI/2 BPSK	-22.68	13.57	10.30	2.52	H		0.136	21.35	1	66
		QPSK	-22.89	13.36	10.30	2.52	H		0.130	21.14		
		16-QAM	-23.78	12.47	10.30	2.52	H		0.106	20.25		
		64-QAM	-25.32	10.93	10.30	2.52	H		0.074	18.71		
		256-QAM	-27.20	9.05	10.30	2.52	H		0.048	16.83		
2557.5		PI/2 BPSK	-23.26	13.67	10.20	2.59	H		0.134	21.28	1	1
		QPSK	-23.30	13.63	10.20	2.59	H		0.133	21.24		
		16-QAM	-24.20	12.73	10.20	2.59	H		0.108	20.34		
		64-QAM	-25.91	11.02	10.20	2.59	H		0.073	18.63		
		256-QAM	-27.70	9.23	10.20	2.59	H		0.048	16.84		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
2515.0	Sub6 n7/ 30 MHz [15 kHz]	PI/2 BPSK	-23.23	13.27	10.30	2.52	H	< 2.00	0.127	21.05	1	80
		QPSK	-23.25	13.25	10.30	2.52	H		0.127	21.03		
		16-QAM	-24.30	12.20	10.30	2.52	H		0.100	19.98		
		64-QAM	-25.75	10.75	10.30	2.52	H		0.071	18.53		
		256-QAM	-27.64	8.86	10.30	2.52	H		0.046	16.64		
2535.0		PI/2 BPSK	-22.73	13.52	10.30	2.52	H		0.135	21.30	1	80
		QPSK	-22.78	13.47	10.30	2.52	H		0.133	21.25		
		16-QAM	-23.78	12.47	10.30	2.52	H		0.106	20.25		
		64-QAM	-25.22	11.03	10.30	2.52	H		0.076	18.81		
		256-QAM	-27.18	9.07	10.30	2.52	H		0.049	16.85		
2555.0		PI/2 BPSK	-23.02	13.63	10.20	2.57	H		0.134	21.26	1	1
		QPSK	-23.05	13.60	10.20	2.57	H		0.133	21.23		
		16-QAM	-23.92	12.73	10.20	2.57	H		0.109	20.36		
		64-QAM	-25.45	11.20	10.20	2.57	H		0.076	18.83		
		256-QAM	-27.36	9.29	10.20	2.57	H		0.049	16.92		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
2517.5	Sub6 n7/ 35 MHz [15 kHz]	PI/2 BPSK	-23.16	13.28	10.30	2.53	H	< 2.00	0.127	21.05	1	94
		QPSK	-23.35	13.09	10.30	2.53	H		0.122	20.86		
		16-QAM	-24.22	12.22	10.30	2.53	H		0.100	19.99		
		64-QAM	-25.72	10.72	10.30	2.53	H		0.071	18.49		
		256-QAM	-27.52	8.92	10.30	2.53	H		0.047	16.69		
2535.0		PI/2 BPSK	-22.85	13.40	10.30	2.52	H		0.131	21.18	1	94
		QPSK	-22.86	13.39	10.30	2.52	H		0.131	21.17		
		16-QAM	-23.81	12.44	10.30	2.52	H		0.105	20.22		
		64-QAM	-25.21	11.04	10.30	2.52	H		0.076	18.82		
		256-QAM	-27.20	9.05	10.30	2.52	H		0.048	16.83		
2552.5		PI/2 BPSK	-22.93	13.58	10.20	2.56	H		0.132	21.22	1	1
		QPSK	-22.98	13.53	10.20	2.56	H		0.131	21.17		
		16-QAM	-23.94	12.57	10.20	2.56	H		0.105	20.21		
		64-QAM	-25.37	11.14	10.20	2.56	H		0.076	18.78		
		256-QAM	-27.35	9.16	10.20	2.56	H		0.048	16.80		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
2520.0	Sub6 n7/ 40 MHz [15 kHz]	PI/2 BPSK	-23.22	13.15	10.30	2.53	H	< 2.00	0.124	20.92	1	108
		QPSK	-23.23	13.14	10.30	2.53	H		0.123	20.91		
		16-QAM	-24.26	12.11	10.30	2.53	H		0.097	19.88		
		64-QAM	-25.81	10.56	10.30	2.53	H		0.068	18.33		
		256-QAM	-27.58	8.79	10.30	2.53	H		0.045	16.56		
2535.0		PI/2 BPSK	-22.84	13.41	10.30	2.52	H		0.132	21.19	1	108
		QPSK	-22.97	13.28	10.30	2.52	H		0.128	21.06		
		16-QAM	-23.84	12.41	10.30	2.52	H		0.105	20.19		
		64-QAM	-25.27	10.98	10.30	2.52	H		0.075	18.76		
		256-QAM	-27.23	9.02	10.30	2.52	H		0.048	16.80		
2550.0		PI/2 BPSK	-23.07	13.30	10.20	2.55	H		0.124	20.95	1	1
		QPSK	-23.10	13.27	10.20	2.55	H		0.124	20.92		
		16-QAM	-24.08	12.29	10.20	2.55	H		0.099	19.94		
		64-QAM	-25.54	10.83	10.20	2.55	H		0.070	18.48		
		256-QAM	-27.47	8.90	10.20	2.55	H		0.045	16.55		

8.2 RADIATED SPURIOUS EMISSIONS

▣ NR Band: N7

▣ Bandwidth: 5 MHz

▣ Modulation: PI/2 BPSK

▣ Distance: 1 meters

▣ SCS: 15 kHz

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)	RB	
									Size	Offset
500500 (2502.5)	5 005.00	-47.55	10.70	-48.83	3.61	H	-41.74	-25.00	1	1
	7 507.50	-61.73	11.10	-54.66	4.50	H	-48.06			
	10 010.00	-60.52	11.20	-52.38	5.27	V	-46.45			
507000 (2535.0)	5 070.00	-47.96	10.70	-49.24	3.62	H	-42.16		1	12
	7 605.00	-60.45	11.20	-53.44	4.53	V	-46.76			
	10 140.00	-62.59	11.10	-52.93	5.31	V	-47.14			
513500 (2567.5)	5 135.00	-48.69	10.80	-50.26	3.62	H	-43.07		1	1
	7 702.50	-61.26	11.00	-54.19	4.57	H	-47.76			
	10 270.00	-63.41	11.00	-52.61	5.35	H	-46.96			

▣ NR Band: N7

▣ Bandwidth: 10 MHz

▣ Modulation: PI/2 BPSK

▣ Distance: 1 meters

▣ SCS: 15 kHz

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)	RB	
									Size	Offset
501000 (2505.0)	5 010.00	-50.51	10.70	-51.72	3.59	V	-44.61	-25.00	1	26
	7 515.00	-60.84	11.10	-53.73	4.51	H	-47.14			
	10 020.00	-59.40	11.20	-50.31	5.28	H	-44.39			
507000 (2535.0)	5 070.00	-48.84	10.70	-50.12	3.62	H	-43.04		1	26
	7 605.00	-57.93	11.20	-50.92	4.53	H	-44.24			
	10 140.00	-62.47	11.10	-52.81	5.31	H	-47.02			
513000 (2565.0)	5 130.00	-50.65	10.80	-51.88	3.62	V	-44.70		1	1
	7 695.00	-55.85	11.05	-48.80	4.57	H	-42.32			
	10 260.00	-63.11	11.00	-52.75	5.35	H	-47.10			

▣ NR Band: N7

▣ Bandwidth: 15 MHz

▣ Modulation: PI/2 BPSK

▣ Distance: 1 meters

▣ SCS: 15 kHz

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)	RB	
									Size	Offset
501500 (2507.5)	5 015.00	-48.48	10.70	-49.85	3.57	H	-42.72	-25.00	1	39
	7 522.50	-61.70	11.10	-54.56	4.51	H	-47.97			
	10 030.00	-60.35	11.20	-51.79	5.27	H	-45.86			
507000 (2535.0)	5 070.00	-50.43	10.70	-51.71	3.62	V	-44.63		1	39
	7 605.00	-60.00	11.20	-52.99	4.53	V	-46.31			
	10 140.00	-62.52	11.10	-52.86	5.31	H	-47.07			
512500 (2562.5)	5 125.00	-48.32	10.80	-49.46	3.63	H	-42.29		1	1
	7 687.50	-60.83	11.10	-53.80	4.57	V	-47.27			
	10 250.00	-64.82	11.00	-54.08	5.35	H	-48.43			

▣ NR Band: N7

▣ Bandwidth: 20 MHz

▣ Modulation: PI/2 BPSK

▣ Distance: 1 meters

▣ SCS: 15 kHz

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)	RB	
									Size	Offset
502000 (2510.0)	5 020.00	-49.96	10.70	-51.49	3.55	V	-44.34	-25.00	1	53
	7 530.00	-58.57	11.10	-51.10	4.50	V	-44.50			
	10 040.00	-60.34	11.20	-51.08	5.26	H	-45.14			
507000 (2535.0)	5 070.00	-49.73	10.70	-51.01	3.62	H	-43.93		1	53
	7 605.00	-60.48	11.20	-53.47	4.53	V	-46.79			
	10 140.00	-62.35	11.10	-52.69	5.31	H	-46.90			
512000 (2560.0)	5 120.00	-48.69	10.80	-49.74	3.64	H	-42.58		1	1
	7 680.00	-63.70	11.10	-56.76	4.55	H	-50.21			
	10 240.00	-62.88	11.00	-52.97	5.33	H	-47.30			

▣ NR Band: N7

▣ Bandwidth: 25 MHz

▣ Modulation: PI/2 BPSK

▣ Distance: 1 meters

▣ SCS: 15 kHz

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)	RB	
									Size	Offset
502500 (2512.5)	5 025.00	-48.72	10.70	-50.53	3.56	V	-43.39	-25.00	1	66
	7 537.50	-60.96	11.10	-53.48	4.50	V	-46.88			
	10 050.00	-62.24	11.10	-53.81	5.27	V	-47.98			
507000 (2535.0)	5 070.00	-46.96	10.70	-48.24	3.62	H	-41.16		1	66
	7 605.00	-55.47	11.20	-48.46	4.53	V	-41.78			
	10 140.00	-62.31	11.10	-52.65	5.31	V	-46.86			
511500 (2557.5)	5 115.00	-48.80	10.80	-49.99	3.66	H	-42.84		1	1
	7 672.50	-59.63	11.10	-52.45	4.54	V	-45.89			
	10 230.00	-63.13	11.00	-53.55	5.33	H	-47.88			

▣ NR Band: N7

▣ Bandwidth: 30 MHz

▣ Modulation: PI/2 BPSK

▣ Distance: 1 meters

▣ SCS: 15 kHz

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)	RB	
									Size	Offset
503000 (2515.0)	5 030.00	-48.12	10.70	-50.22	3.56	H	-43.08	-25.00	1	80
	7 545.00	-60.88	11.10	-53.53	4.51	V	-46.94			
	10 060.00	-60.47	11.10	-51.68	5.27	H	-45.85			
507000 (2535.0)	5 070.00	-48.02	10.70	-49.30	3.62	H	-42.22		1	80
	7 605.00	-59.48	11.20	-52.47	4.53	V	-45.79			
	10 140.00	-63.80	11.10	-54.14	5.31	H	-48.35			
511000 (2555.0)	5 110.00	-49.88	10.80	-51.21	3.67	H	-44.08		1	1
	7 665.00	-59.82	11.10	-52.76	4.54	V	-46.20			
	10 220.00	-64.07	11.00	-54.09	5.32	H	-48.41			

▣ NR Band: N7

▣ Bandwidth: 35 MHz

▣ Modulation: PI/2 BPSK

▣ Distance: 1 meters

▣ SCS: 15 kHz

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)	RB	
									Size	Offset
503500 (2517.5)	5 035.00	-46.88	10.70	-48.91	3.58	H	-41.79	-25.00	1	94
	7 552.50	-59.37	11.10	-52.27	4.51	V	-45.68			
	10 070.00	-61.20	11.10	-52.37	5.30	H	-46.57			
507000 (2535.0)	5 070.00	-51.37	10.70	-52.65	3.62	H	-45.57		1	94
	7 605.00	-58.32	11.20	-51.31	4.53	H	-44.63			
	10 140.00	-62.05	11.10	-52.39	5.31	H	-46.60			
510500 (2552.5)	5 105.00	-47.79	10.80	-49.41	3.66	H	-42.27		1	1
	7 657.50	-59.22	11.10	-52.33	4.53	V	-45.76			
	10 210.00	-63.85	11.00	-54.13	5.32	H	-48.45			

▣ NR Band: N7

▣ Bandwidth: 40 MHz

▣ Modulation: PI/2 BPSK

▣ Distance: 1 meters

▣ SCS: 15 kHz

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)	RB	
									Size	Offset
504000 (2520.0)	5 040.00	-49.03	10.70	-51.00	3.60	H	-43.90	-25.00	1	108
	7 560.00	-58.23	11.10	-51.24	4.51	V	-44.65			
	10 080.00	-61.71	11.10	-52.66	5.29	H	-46.85			
507000 (2535.0)	5 070.00	-51.23	10.70	-52.51	3.62	H	-45.43		1	108
	7 605.00	-58.60	11.20	-51.59	4.53	H	-44.91			
	10 140.00	-62.81	11.10	-53.15	5.31	H	-47.36			
510000 (2550.0)	5 100.00	-49.59	10.80	-51.49	3.66	H	-44.35		1	1
	7 650.00	-64.12	11.10	-57.27	4.53	H	-50.70			
	10 200.00	-61.89	11.00	-51.46	5.33	H	-45.79			

8.3 PEAK-TO-AVERAGE RATIO

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (dB)
Sub6 n7	5 MHz	2535.0	BPSK	25	0	5.29
			QPSK			5.54
			16-QAM			5.85
			64-QAM			5.96
			256-QAM			6.34
	10 MHz		BPSK	50		4.87
			QPSK			5.30
			16-QAM			5.67
			64-QAM			5.82
			256-QAM			6.35
	15 MHz		BPSK	75		4.24
			QPSK			5.17
			16-QAM			5.72
			64-QAM			5.80
			256-QAM			6.36
	20 MHz		BPSK	100		5.30
			QPSK			5.55
			16-QAM			5.89
			64-QAM			5.95
			256-QAM			6.45
	25 MHz		BPSK	128		4.23
			QPSK			5.30
			16-QAM			5.97
			64-QAM			5.99
			256-QAM			6.41
	30 MHz		BPSK	160		4.31
			QPSK			5.29
			16-QAM			6.00
			64-QAM			6.02
			256-QAM			6.40
	35 MHz		BPSK	180		4.34
			QPSK			5.36
			16-QAM			6.03
			64-QAM			6.06
			256-QAM			6.47
	40 MHz		BPSK	216		4.59
			QPSK			5.41
			16-QAM			6.10
			64-QAM			6.11
			256-QAM			6.55

Note:
1. Plots of the EUT's Peak- to- Average Ratio are shown Page 86 ~ 125.

8.4 OCCUPIED BANDWIDTH

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (MHz)
Sub6 n7	5 MHz	2535.0	BPSK	25	0	4.5149
			QPSK			4.5282
			16-QAM			4.5264
			64-QAM			4.5731
			256-QAM			4.5225
	10 MHz		BPSK	50		8.9955
			QPSK			8.9864
			16-QAM			8.9934
			64-QAM			8.9939
			256-QAM			8.9665
	15 MHz		BPSK	75		13.426
			QPSK			13.418
			16-QAM			13.458
			64-QAM			13.428
			256-QAM			13.424
	20 MHz		BPSK	100		17.914
			QPSK			17.843
			16-QAM			17.859
			64-QAM			17.899
			256-QAM			17.866
	25 MHz		BPSK	128		22.954
			QPSK			22.966
			16-QAM			22.940
			64-QAM			23.002
			256-QAM			22.935
	30 MHz		BPSK	160		28.664
			QPSK			28.627
			16-QAM			28.621
			64-QAM			28.689
			256-QAM			28.619
	35 MHz		BPSK	180		32.280
			QPSK			32.240
			16-QAM			32.104
			64-QAM			32.195
			256-QAM			32.093
	40 MHz		BPSK	216		38.670
			QPSK			38.586
			16-QAM			38.794
			64-QAM			38.688
			256-QAM			38.782

Note:
1. Plots of the EUT's Occupied Bandwidth are shown Page 126 ~ 165.

8.5 CONDUCTED SPURIOUS EMISSIONS

Band	Band Width (MHz)	Frequency (MHz)	Frequency of Maximum Harmonic (GHz)	Factor (dB)	Measurement Maximum Data (dBm)	Result (dBm)	Limit (dBm)
Sub6 n7	5	2502.5	3.7663	29.400	-70.078	-40.678	-25.00
		2535.0	9.4531	30.015	-69.279	-39.264	
		2567.5	9.9940	30.015	-70.191	-40.176	
	10	2505.0	3.7448	29.400	-69.789	-40.389	
		2535.0	4.8988	29.400	-70.440	-41.040	
		2565.0	9.1436	30.015	-70.779	-40.764	
	15	2507.5	3.7648	29.400	-70.241	-40.841	
		2535.0	7.9811	30.015	-70.219	-40.204	
		2562.5	3.8136	29.400	-69.887	-40.487	
	20	2510.0	8.8510	30.015	-70.600	-40.585	
		2535.0	9.7587	30.015	-70.227	-40.212	
		2560.0	9.1416	30.015	-69.856	-39.841	
	25	2512.5	8.6341	30.015	-70.735	-40.720	
		2535.0	9.4711	30.015	-70.052	-40.037	
		2557.5	3.7792	29.400	-69.537	-40.137	
	30	2515.0	3.7269	29.400	-69.906	-40.506	
		2535.0	4.0105	29.400	-69.957	-40.557	
		2555.0	8.2901	30.015	-69.547	-39.532	
	35	2517.5	7.7328	30.015	-69.484	-39.469	
		2535.0	4.9068	29.400	-70.056	-40.656	
		2552.5	4.9432	29.400	-69.828	-40.428	
	40	2520.0	9.1326	30.015	-70.081	-40.066	
		2535.0	4.0379	29.400	-69.773	-40.373	
		2550.0	5.2089	30.015	-70.184	-40.169	

Note:

1. Plots of the EUT's Conducted Spurious Emissions are shown Page 222 ~ 269.
2. Result (dBm) = Measurement Maximum Data (dBm) + Factor (dB)
3. Factor(dB) = Cable Loss + Ext. Attenuator + Power Splitter

Frequency Range (GHz)	Factor [dB]
0.03 – 1	26.694
1 – 5	29.400
5 – 10	30.015
10 – 15	30.540
15 – 20	30.913
Above 20	31.555

8.6 CHANNEL EDGE

BW (MHz)	Frequency (MHz)	Mod	RB (Size/ Offset)	2 500 MHz ~ 2 496 MHz	C.E ~ (C.E +1 MHz)	2 490.5 MHz ~ 2 496 MHz	(C.E + 1 MHz) ~ (C.E + 5 MHz)	Below 2 490.5 MHz	(C.E + 5 MHz) ~ (C.E + X MHz)	Above (C.E + X MHz)
				Lower	Upper	Lower	Upper	Lower	Upper	Upper
5	2502.5	BPSK	Full RB	-22.88	-21.59	-37.69	-29.44	-46.69	-38.39	-39.52
10	2505.0	BPSK	Full RB	-24.56	-32.76	-34.99	-34.91	-44.48	-37.15	-44.71
15	2507.5	BPSK	Full RB	-26.05	-40.74	-37.95	-35.72	-38.84	-35.20	-43.08
20	2510.0	BPSK	Full RB	-27.24	-40.81	-41.77	-38.15	-42.18	-35.91	-44.58
25	2512.5	BPSK	Full RB	-23.84	-35.00	-38.52	-35.66	-37.72	-34.24	-41.49
30	2515.0	BPSK	Full RB	-22.88	-22.31	-38.13	-28.40	-39.74	-33.91	-40.68
35	2517.5	BPSK	Full RB	-23.00	-31.95	-37.64	-33.24	-39.08	-32.99	-45.15
40	2520.0	BPSK	Full RB	-16.10	-14.36	-35.67	-27.62	-38.55	-32.93	-48.61
Limit(dBm)				-10.0	-10.0	-13.0	-10.0	-25.0	-13.0	-25.0

BW (MHz)	Frequency (MHz)	Mod	RB (Size/ Offset)	C.E ~ (C.E ± 1 MHz)		(C.E ± 1 MHz) ~ (C.E ± 5 MHz)	
				Lower	Upper	Lower	Upper
5	2535.0	BPSK	Full RB	-21.20	-19.61	-20.17	-19.26
	2567.5	BPSK	Full RB	-21.07	-21.69	-24.32	-26.26
10	2535.0	BPSK	Full RB	-23.07	-28.05	-24.45	-22.69
	2565.0	BPSK	Full RB	-22.13	-33.13	-29.77	-29.70
15	2535.0	BPSK	Full RB	-25.90	-33.81	-30.03	-29.58
	2562.5	BPSK	Full RB	-25.62	-35.74	-31.87	-30.51
20	2535.0	BPSK	Full RB	-25.84	-29.31	-27.22	-27.29
	2560.0	BPSK	Full RB	-25.32	-39.14	-35.19	-36.20
25	2535.000	BPSK	Full RB	-25.53	-32.87	-33.90	-33.73
	2557.500	BPSK	Full RB	-23.50	-35.53	-31.69	-34.89
30	2535.000	BPSK	Full RB	-24.54	-22.62	-30.92	-28.08
	2555.000	BPSK	Full RB	-21.24	-23.81	-27.22	-29.78
35	2535.000	BPSK	Full RB	-23.85	-32.39	-30.81	-33.77
	2552.500	BPSK	Full RB	-21.23	-33.69	-27.77	-34.38
40	2535.0	BPSK	Full RB	-16.17	-16.02	-30.69	-28.87
	2550.0	BPSK	Full RB	-14.57	-16.37	-28.51	-30.54
Limi(dBm)				-10.0		-10.0	

BW (MHz)	Frequency (MHz)	Mod	RB (Size/ Offset)	(C.E ± 5 MHz) ~ (C.E ± X MHz)		Above (C.E ± X MHz)	
				Lower	Upper	Lower	Upper
5	2535.0	BPSK	Full RB	-33.18	-32.41	-36.16	-35.90
	2567.5	BPSK	Full RB	-34.14	-37.76	-36.54	-40.40
10	2535.0	BPSK	Full RB	-29.79	-26.83	-37.44	-37.87
	2565.0	BPSK	Full RB	-31.58	-34.35	-38.72	-45.12
15	2535.0	BPSK	Full RB	-33.02	-30.15	-40.91	-42.87
	2562.5	BPSK	Full RB	-31.60	-35.52	-39.09	-51.09
20	2535.0	BPSK	Full RB	-28.92	-27.96	-42.22	-41.82
	2560.0	BPSK	Full RB	-35.65	-39.44	-45.67	-55.22
25	2535.000	BPSK	Full RB	-35.87	-34.14	-46.89	-45.17
	2557.500	BPSK	Full RB	-36.30	-38.97	-45.72	-55.28
30	2535.000	BPSK	Full RB	-35.33	-33.70	-48.65	-48.76
	2555.000	BPSK	Full RB	-36.26	-39.08	-44.29	-55.32
35	2535.000	BPSK	Full RB	-35.96	-33.46	-55.44	-55.25
	2552.500	BPSK	Full RB	-34.75	-37.92	-46.34	-55.30
40	2535.0	BPSK	Full RB	-36.61	-33.79	-55.49	-55.49
	2550.0	BPSK	Full RB	-34.80	-36.19	-47.40	-55.36
Limit(dBm)				-13.0		-25.0	

Note:

1. C.E = Channel Edge
2. X = X is the greater of 6 MHz or the actual emission bandwidth
3. Duty Cycle factor already applied on the factor.
   - Factor(dB) = Cable Loss + Ext. Attenuator + Power Splitter
   - Result(dBm) = Reading + Factor
4. Plots of the EUT's Channel Edge are shown Page 166 ~ 221.

8.7 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE

- ▣ BandWidth: 5 MHz
- ▣ Voltage(100 %): 3.880 VDC
- ▣ Batt. Endpoint: 3.300 VDC
- ▣ LIMIT: Emission must remain in band

Test. Frequncy	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(℃)	(Hz)	Error (Hz)	(%)	
2502.500	100 %	+20(Ref)	2502 499 996	0.0	0.000 000	0.000
	100 %	-30	2502 499 992	-4.7	0.000 000	-0.002
	100 %	-20	2502 499 992	-3.8	0.000 000	-0.002
	100 %	-10	2502 499 993	-2.9	0.000 000	-0.001
	100 %	0	2502 499 996	-0.4	0.000 000	0.000
	100 %	+10	2502 499 994	-2.1	0.000 000	-0.001
	100 %	+30	2502 499 993	-3.0	0.000 000	-0.001
	100 %	+40	2502 499 994	-2.3	0.000 000	-0.001
	100 %	+50	2502 499 995	-0.8	0.000 000	0.000
	Batt. Endpoint	+20	2502 499 993	-2.9	0.000 000	-0.001
2567.500	100 %	+20(Ref)	2567 499 997	0.0	0.000 000	0.000
	100 %	-30	2567 499 995	-1.7	0.000 000	-0.001
	100 %	-20	2567 499 996	-0.1	0.000 000	0.000
	100 %	-10	2567 499 994	-2.1	0.000 000	-0.001
	100 %	0	2567 499 995	-1.5	0.000 000	-0.001
	100 %	+10	2567 499 993	-3.4	0.000 000	-0.001
	100 %	+30	2567 499 994	-2.2	0.000 000	-0.001
	100 %	+40	2567 499 995	-1.3	0.000 000	-0.001
	100 %	+50	2567 499 993	-3.2	0.000 000	-0.001
	Batt. Endpoint	+20	2567 499 994	-2.1	0.000 000	-0.001

▣ BandWidth: 10 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
2505.000	100 %	+20(Ref)	2504 999 998	0.0	0.000 000	0.000
	100 %	-30	2504 999 999	0.7	0.000 000	0.000
	100 %	-20	2504 999 995	-2.8	0.000 000	-0.001
	100 %	-10	2504 999 998	-0.3	0.000 000	0.000
	100 %	0	2504 999 997	-1.3	0.000 000	-0.001
	100 %	+10	2504 999 997	-1.0	0.000 000	0.000
	100 %	+30	2504 999 996	-1.9	0.000 000	-0.001
	100 %	+40	2504 999 997	-1.4	0.000 000	-0.001
	100 %	+50	2504 999 997	-0.5	0.000 000	0.000
	Batt. Endpoint	+20	2504 999 998	-0.2	0.000 000	0.000
2565.000	100 %	+20(Ref)	2564 999 999	0.0	0.000 000	0.000
	100 %	-30	2564 999 998	-0.5	0.000 000	0.000
	100 %	-20	2564 999 998	-0.6	0.000 000	0.000
	100 %	-10	2564 999 997	-2.0	0.000 000	-0.001
	100 %	0	2564 999 997	-1.5	0.000 000	-0.001
	100 %	+10	2564 999 996	-2.3	0.000 000	-0.001
	100 %	+30	2564 999 997	-2.0	0.000 000	-0.001
	100 %	+40	2564 999 997	-2.0	0.000 000	-0.001
	100 %	+50	2564 999 997	-1.7	0.000 000	-0.001
	Batt. Endpoint	+20	2564 999 999	0.0	0.000 000	0.000

▣ BandWidth: 15 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
2507.500	100 %	+20(Ref)	2507 500 000	0.0	0.000 000	0.000
	100 %	-30	2507 500 000	0.2	0.000 000	0.000
	100 %	-20	2507 500 001	0.8	0.000 000	0.000
	100 %	-10	2507 500 001	0.9	0.000 000	0.000
	100 %	0	2507 499 999	-1.6	0.000 000	-0.001
	100 %	+10	2507 499 999	-1.3	0.000 000	-0.001
	100 %	+30	2507 500 001	0.7	0.000 000	0.000
	100 %	+40	2507 500 000	-0.3	0.000 000	0.000
	100 %	+50	2507 499 998	-2.3	0.000 000	-0.001
	Batt. Endpoint	+20	2507 499 999	-1.0	0.000 000	0.000
2562.500	100 %	+20(Ref)	2562 499 998	0.0	0.000 000	0.000
	100 %	-30	2562 499 996	-2.3	0.000 000	-0.001
	100 %	-20	2562 499 997	-1.6	0.000 000	-0.001
	100 %	-10	2562 499 997	-1.2	0.000 000	0.000
	100 %	0	2562 499 997	-1.3	0.000 000	-0.001
	100 %	+10	2562 499 997	-1.5	0.000 000	-0.001
	100 %	+30	2562 499 997	-1.3	0.000 000	-0.001
	100 %	+40	2562 499 998	0.0	0.000 000	0.000
	100 %	+50	2562 499 998	-0.1	0.000 000	0.000
	Batt. Endpoint	+20	2562 499 997	-1.0	0.000 000	0.000

▣ BandWidth: 20 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
2510.000	100 %	+20(Ref)	2509 999 998	0.0	0.000 000	0.000
	100 %	-30	2509 999 997	-1.0	0.000 000	0.000
	100 %	-20	2509 999 995	-2.5	0.000 000	-0.001
	100 %	-10	2509 999 997	-0.7	0.000 000	0.000
	100 %	0	2509 999 995	-2.4	0.000 000	-0.001
	100 %	+10	2509 999 996	-2.0	0.000 000	-0.001
	100 %	+30	2509 999 995	-3.3	0.000 000	-0.001
	100 %	+40	2509 999 996	-1.4	0.000 000	-0.001
	100 %	+50	2509 999 997	-0.7	0.000 000	0.000
	Batt. Endpoint	+20	2509 999 998	0.4	0.000 000	0.000
2560.000	100 %	+20(Ref)	2559 999 998	0.0	0.000 000	0.000
	100 %	-30	2559 999 998	-0.4	0.000 000	0.000
	100 %	-20	2559 999 997	-1.4	0.000 000	-0.001
	100 %	-10	2559 999 998	-0.7	0.000 000	0.000
	100 %	0	2559 999 998	-0.6	0.000 000	0.000
	100 %	+10	2559 999 998	-0.1	0.000 000	0.000
	100 %	+30	2559 999 997	-1.1	0.000 000	0.000
	100 %	+40	2559 999 998	-0.4	0.000 000	0.000
	100 %	+50	2559 999 997	-1.3	0.000 000	0.000
	Batt. Endpoint	+20	2559 999 997	-1.3	0.000 000	0.000

▣ BandWidth: 25 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
2512.500	100 %	+20(Ref)	2512 499 999	0.0	0.000 000	0.000
	100 %	-30	2512 499 998	-0.3	0.000 000	0.000
	100 %	-20	2512 499 999	0.5	0.000 000	0.000
	100 %	-10	2512 499 998	-0.9	0.000 000	0.000
	100 %	0	2512 499 997	-2.0	0.000 000	-0.001
	100 %	+10	2512 499 996	-2.5	0.000 000	-0.001
	100 %	+30	2512 499 999	0.6	0.000 000	0.000
	100 %	+40	2512 499 998	-1.1	0.000 000	0.000
	100 %	+50	2512 499 999	-0.1	0.000 000	0.000
	Batt. Endpoint	+20	2512 500 000	1.5	0.000 000	0.001
2557.500	100 %	+20(Ref)	2557 500 001	0.0	0.000 000	0.000
	100 %	-30	2557 500 002	0.6	0.000 000	0.000
	100 %	-20	2557 500 002	1.1	0.000 000	0.000
	100 %	-10	2557 500 002	0.5	0.000 000	0.000
	100 %	0	2557 500 002	0.4	0.000 000	0.000
	100 %	+10	2557 500 002	1.0	0.000 000	0.000
	100 %	+30	2557 500 002	1.0	0.000 000	0.000
	100 %	+40	2557 500 000	-1.1	0.000 000	0.000
	100 %	+50	2557 500 002	1.2	0.000 000	0.000
	Batt. Endpoint	+20	2557 500 002	1.2	0.000 000	0.000

▣ BandWidth: 30 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
2515.000	100 %	+20(Ref)	2514 999 998	0.0	0.000 000	0.000
	100 %	-30	2514 999 997	-0.9	0.000 000	0.000
	100 %	-20	2514 999 996	-1.5	0.000 000	-0.001
	100 %	-10	2514 999 994	-3.3	0.000 000	-0.001
	100 %	0	2514 999 997	-0.4	0.000 000	0.000
	100 %	+10	2514 999 995	-2.3	0.000 000	-0.001
	100 %	+30	2514 999 996	-1.4	0.000 000	-0.001
	100 %	+40	2514 999 996	-1.9	0.000 000	-0.001
	100 %	+50	2514 999 996	-1.4	0.000 000	-0.001
	Batt. Endpoint	+20	2514 999 995	-2.5	0.000 000	-0.001
2555.000	100 %	+20(Ref)	2554 999 998	0.0	0.000 000	0.000
	100 %	-30	2554 999 999	0.3	0.000 000	0.000
	100 %	-20	2555 000 000	1.8	0.000 000	0.001
	100 %	-10	2554 999 999	0.4	0.000 000	0.000
	100 %	0	2555 000 000	1.5	0.000 000	0.001
	100 %	+10	2554 999 999	0.7	0.000 000	0.000
	100 %	+30	2554 999 998	-0.2	0.000 000	0.000
	100 %	+40	2554 999 998	-0.5	0.000 000	0.000
	100 %	+50	2554 999 999	1.1	0.000 000	0.000
	Batt. Endpoint	+20	2555 000 000	1.2	0.000 000	0.000

▣ BandWidth: 35 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
2517.500	100 %	+20(Ref)	2517 499 999	0.0	0.000 000	0.000
	100 %	-30	2517 499 997	-1.2	0.000 000	0.000
	100 %	-20	2517 499 997	-1.4	0.000 000	-0.001
	100 %	-10	2517 499 999	0.4	0.000 000	0.000
	100 %	0	2517 499 998	-1.0	0.000 000	0.000
	100 %	+10	2517 500 000	1.1	0.000 000	0.000
	100 %	+30	2517 499 997	-2.0	0.000 000	-0.001
	100 %	+40	2517 499 999	0.7	0.000 000	0.000
	100 %	+50	2517 499 998	-0.8	0.000 000	0.000
	Batt. Endpoint	+20	2517 499 998	-0.8	0.000 000	0.000
2552.500	100 %	+20(Ref)	2552 499 999	0.0	0.000 000	0.000
	100 %	-30	2552 499 999	-0.7	0.000 000	0.000
	100 %	-20	2552 499 998	-1.1	0.000 000	0.000
	100 %	-10	2552 500 000	0.2	0.000 000	0.000
	100 %	0	2552 499 999	-0.1	0.000 000	0.000
	100 %	+10	2552 500 000	0.2	0.000 000	0.000
	100 %	+30	2552 499 999	-0.7	0.000 000	0.000
	100 %	+40	2552 499 999	-0.5	0.000 000	0.000
	100 %	+50	2552 499 999	-0.8	0.000 000	0.000
	Batt. Endpoint	+20	2552 500 001	1.0	0.000 000	0.000

▣ BandWidth: 40 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
2520.000	100 %	+20(Ref)	2520 000 000	0.0	0.000 000	0.000
	100 %	-30	2519 999 999	-1.0	0.000 000	0.000
	100 %	-20	2520 000 000	-0.1	0.000 000	0.000
	100 %	-10	2520 000 000	-0.4	0.000 000	0.000
	100 %	0	2519 999 999	-0.9	0.000 000	0.000
	100 %	+10	2519 999 998	-2.0	0.000 000	-0.001
	100 %	+30	2520 000 000	0.0	0.000 000	0.000
	100 %	+40	2519 999 998	-2.4	0.000 000	-0.001
	100 %	+50	2519 999 999	-0.6	0.000 000	0.000
	Batt. Endpoint	+20	2520 000 000	0.2	0.000 000	0.000
2550.000	100 %	+20(Ref)	2549 999 999	0.0	0.000 000	0.000
	100 %	-30	2549 999 999	0.0	0.000 000	0.000
	100 %	-20	2549 999 998	-1.8	0.000 000	-0.001
	100 %	-10	2549 999 999	0.0	0.000 000	0.000
	100 %	0	2549 999 998	-1.5	0.000 000	-0.001
	100 %	+10	2549 999 999	-0.6	0.000 000	0.000
	100 %	+30	2550 000 000	0.2	0.000 000	0.000
	100 %	+40	2550 000 000	0.7	0.000 000	0.000
	100 %	+50	2550 000 000	0.4	0.000 000	0.000
	Batt. Endpoint	+20	2550 000 000	0.8	0.000 000	0.000

9. TEST DATA(ANT F)

9.1 EQUIVALENT ISOTROPIC RADIATED POWER

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
2502.5	Sub6 n7/ 5 MHz [15 kHz]	PI/2 BPSK	-23.97	12.67	10.30	2.47	H	< 2.00	0.112	20.50	1	1
		QPSK	-24.11	12.53	10.30	2.47	H		0.109	20.36		
		16-QAM	-25.13	11.51	10.30	2.47	H		0.086	19.34		
		64-QAM	-26.57	10.07	10.30	2.47	H		0.062	17.90		
		256-QAM	-28.64	8.00	10.30	2.47	H		0.038	15.83		
2535.0		PI/2 BPSK	-24.28	11.97	10.30	2.52	H		0.095	19.75	1	1
		QPSK	-24.30	11.95	10.30	2.52	H		0.094	19.73		
		16-QAM	-25.23	11.02	10.30	2.52	H		0.076	18.80		
		64-QAM	-26.79	9.46	10.30	2.52	H		0.053	17.24		
		256-QAM	-28.71	7.54	10.30	2.52	H		0.034	15.32		
2567.5		PI/2 BPSK	-25.00	11.54	10.20	2.60	H		0.082	19.14	1	1
		QPSK	-25.05	11.49	10.20	2.60	H		0.081	19.09		
		16-QAM	-25.58	10.96	10.20	2.60	H		0.072	18.56		
		64-QAM	-27.14	9.40	10.20	2.60	H		0.050	17.00		
		256-QAM	-29.08	7.46	10.20	2.60	H		0.032	15.06		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
2505.0	Sub6 n7/ 10 MHz [15 kHz]	PI/2 BPSK	-23.90	12.74	10.30	2.49	H	< 2.00	0.114	20.55	1	26
		QPSK	-24.00	12.64	10.30	2.49	H		0.111	20.45		
		16-QAM	-25.01	11.63	10.30	2.49	H		0.088	19.44		
		64-QAM	-26.50	10.14	10.30	2.49	H		0.062	17.95		
		256-QAM	-28.51	8.13	10.30	2.49	H		0.039	15.94		
2535.0		PI/2 BPSK	-24.32	11.93	10.30	2.52	H		0.094	19.71	1	1
		QPSK	-24.40	11.85	10.30	2.52	H		0.092	19.63		
		16-QAM	-25.36	10.89	10.30	2.52	H		0.074	18.67		
		64-QAM	-26.78	9.47	10.30	2.52	H		0.053	17.25		
		256-QAM	-28.80	7.45	10.30	2.52	H		0.033	15.23		
2565.0		PI/2 BPSK	-24.71	12.03	10.20	2.60	H		0.092	19.63	1	1
		QPSK	-24.81	11.93	10.20	2.60	H		0.090	19.53		
		16-QAM	-25.81	10.93	10.20	2.60	H		0.071	18.53		
		64-QAM	-27.33	9.41	10.20	2.60	H		0.050	17.01		
		256-QAM	-29.35	7.39	10.20	2.60	H		0.032	14.99		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
2507.5	Sub6 n7/ 15 MHz [15 kHz]	PI/2 BPSK	-23.66	12.96	10.30	2.50	H	< 2.00	0.119	20.76	1	39
		QPSK	-23.73	12.89	10.30	2.50	H		0.117	20.69		
		16-QAM	-24.71	11.91	10.30	2.50	H		0.094	19.71		
		64-QAM	-26.11	10.51	10.30	2.50	H		0.068	18.31		
		256-QAM	-28.27	8.35	10.30	2.50	H		0.041	16.15		
2535.0		PI/2 BPSK	-24.07	12.18	10.30	2.52	H		0.099	19.96	1	1
		QPSK	-24.19	12.06	10.30	2.52	H		0.097	19.84		
		16-QAM	-25.19	11.06	10.30	2.52	H		0.077	18.84		
		64-QAM	-26.73	9.52	10.30	2.52	H		0.054	17.30		
		256-QAM	-28.70	7.55	10.30	2.52	H		0.034	15.33		
2562.5		PI/2 BPSK	-24.32	12.61	10.20	2.59	H		0.105	20.22	1	1
		QPSK	-24.35	12.58	10.20	2.59	H		0.104	20.19		
		16-QAM	-25.36	11.57	10.20	2.59	H		0.083	19.18		
		64-QAM	-26.83	10.10	10.20	2.59	H		0.059	17.71		
		256-QAM	-28.88	8.05	10.20	2.59	H		0.037	15.66		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
2510.0	Sub6 n7/ 20 MHz [15 kHz]	PI/2 BPSK	-23.98	12.64	10.30	2.50	H	< 2.00	0.111	20.44	1	53
		QPSK	-24.06	12.56	10.30	2.50	H		0.109	20.36		
		16-QAM	-25.04	11.58	10.30	2.50	H		0.087	19.38		
		64-QAM	-26.46	10.16	10.30	2.50	H		0.063	17.96		
		256-QAM	-28.49	8.13	10.30	2.50	H		0.039	15.93		
2535.0		PI/2 BPSK	-24.12	12.13	10.30	2.52	H		0.098	19.91	1	1
		QPSK	-24.18	12.07	10.30	2.52	H		0.097	19.85		
		16-QAM	-25.15	11.10	10.30	2.52	H		0.077	18.88		
		64-QAM	-26.68	9.57	10.30	2.52	H		0.054	17.35		
		256-QAM	-28.61	7.64	10.30	2.52	H		0.035	15.42		
2560.0		PI/2 BPSK	-24.41	12.52	10.20	2.59	H		0.103	20.13	1	1
		QPSK	-24.43	12.50	10.20	2.59	H		0.102	20.11		
		16-QAM	-25.50	11.43	10.20	2.59	H		0.080	19.04		
		64-QAM	-26.78	10.15	10.20	2.59	H		0.060	17.76		
		256-QAM	-28.87	8.06	10.20	2.59	H		0.037	15.67		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
2512.5	Sub6 n7/ 25 MHz [15 kHz]	PI/2 BPSK	-23.92	12.70	10.30	2.50	H	< 2.00	0.112	20.50	1	66
		QPSK	-24.14	12.48	10.30	2.50	H		0.107	20.28		
		16-QAM	-24.93	11.69	10.30	2.50	H		0.089	19.49		
		64-QAM	-26.47	10.15	10.30	2.50	H		0.062	17.95		
		256-QAM	-28.42	8.20	10.30	2.50	H		0.040	16.00		
2535.0		PI/2 BPSK	-24.06	12.19	10.30	2.52	H		0.099	19.97	1	1
		QPSK	-24.19	12.06	10.30	2.52	H		0.097	19.84		
		16-QAM	-25.16	11.09	10.30	2.52	H		0.077	18.87		
		64-QAM	-26.61	9.64	10.30	2.52	H		0.055	17.42		
		256-QAM	-28.57	7.68	10.30	2.52	H		0.035	15.46		
2557.5		PI/2 BPSK	-24.14	12.79	10.20	2.59	H		0.110	20.40	1	66
		QPSK	-24.31	12.62	10.20	2.59	H		0.105	20.23		
		16-QAM	-25.26	11.67	10.20	2.59	H		0.085	19.28		
		64-QAM	-26.62	10.31	10.20	2.59	H		0.062	17.92		
		256-QAM	-28.72	8.21	10.20	2.59	H		0.038	15.82		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
2515.0	Sub6 n7/ 30 MHz [15 kHz]	PI/2 BPSK	-23.85	12.65	10.30	2.52	H	< 2.00	0.110	20.43	1	80
		QPSK	-23.99	12.51	10.30	2.52	H		0.107	20.29		
		16-QAM	-24.85	11.65	10.30	2.52	H		0.088	19.43		
		64-QAM	-26.28	10.22	10.30	2.52	H		0.063	18.00		
		256-QAM	-28.35	8.15	10.30	2.52	H		0.039	15.93		
2535.0		PI/2 BPSK	-24.00	12.25	10.30	2.52	H		0.101	20.03	1	1
		QPSK	-24.03	12.22	10.30	2.52	H		0.100	20.00		
		16-QAM	-25.03	11.22	10.30	2.52	H		0.080	19.00		
		64-QAM	-26.53	9.72	10.30	2.52	H		0.056	17.50		
		256-QAM	-28.53	7.72	10.30	2.52	H		0.036	15.50		
2555.0		PI/2 BPSK	-24.24	12.41	10.20	2.57	H		0.101	20.04	1	1
		QPSK	-24.30	12.35	10.20	2.57	H		0.099	19.98		
		16-QAM	-25.34	11.31	10.20	2.57	H		0.078	18.94		
		64-QAM	-26.83	9.82	10.20	2.57	H		0.056	17.45		
		256-QAM	-28.76	7.89	10.20	2.57	H		0.036	15.52		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
2517.5	Sub6 n7/ 35 MHz [15 kHz]	PI/2 BPSK	-23.86	12.58	10.30	2.53	H	< 2.00	0.108	20.35	1	94
		QPSK	-23.94	12.50	10.30	2.53	H		0.106	20.27		
		16-QAM	-24.96	11.48	10.30	2.53	H		0.084	19.25		
		64-QAM	-26.51	9.93	10.30	2.53	H		0.059	17.70		
		256-QAM	-28.45	7.99	10.30	2.53	H		0.038	15.76		
2535.0		PI/2 BPSK	-24.05	12.20	10.30	2.52	H		0.100	19.98	1	1
		QPSK	-24.16	12.09	10.30	2.52	H		0.097	19.87		
		16-QAM	-25.12	11.13	10.30	2.52	H		0.078	18.91		
		64-QAM	-26.64	9.61	10.30	2.52	H		0.055	17.39		
		256-QAM	-28.63	7.62	10.30	2.52	H		0.035	15.40		
2552.5		PI/2 BPSK	-24.29	12.22	10.20	2.56	H		0.097	19.86	1	1
		QPSK	-24.34	12.17	10.20	2.56	H		0.096	19.81		
		16-QAM	-25.21	11.30	10.20	2.56	H		0.078	18.94		
		64-QAM	-26.74	9.77	10.20	2.56	H		0.055	17.41		
		256-QAM	-28.78	7.73	10.20	2.56	H		0.034	15.37		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
2520.0	Sub6 n7/ 40 MHz [15 kHz]	PI/2 BPSK	-23.81	12.56	10.30	2.53	H	< 2.00	0.108	20.33	1	108
		QPSK	-23.88	12.49	10.30	2.53	H		0.106	20.26		
		16-QAM	-24.97	11.40	10.30	2.53	H		0.083	19.17		
		64-QAM	-26.34	10.03	10.30	2.53	H		0.060	17.80		
		256-QAM	-28.41	7.96	10.30	2.53	H		0.037	15.73		
2535.0		PI/2 BPSK	-23.92	12.33	10.30	2.52	H		0.103	20.11	1	1
		QPSK	-24.04	12.21	10.30	2.52	H		0.100	19.99		
		16-QAM	-25.00	11.25	10.30	2.52	H		0.080	19.03		
		64-QAM	-26.48	9.77	10.30	2.52	H		0.057	17.55		
		256-QAM	-28.47	7.78	10.30	2.52	H		0.036	15.56		
2550.0		PI/2 BPSK	-24.15	12.22	10.20	2.55	H		0.097	19.87	1	108
		QPSK	-24.26	12.11	10.20	2.55	H		0.095	19.76		
		16-QAM	-25.27	11.10	10.20	2.55	H		0.075	18.75		
		64-QAM	-26.77	9.60	10.20	2.55	H		0.053	17.25		
		256-QAM	-28.71	7.66	10.20	2.55	H		0.034	15.31		

9.2 RADIATED SPURIOUS EMISSIONS

▣ NR Band: N7

▣ Bandwidth: 5 MHz

▣ Modulation: PI/2 BPSK

▣ Distance: 1 meters

▣ SCS: 15 kHz

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)	RB	
									Size	Offset
500500 (2502.5)	5 005.00	-57.30	10.70	-58.58	3.61	V	-51.49	-25.00	1	1
	7 507.50	-60.81	11.10	-53.74	4.50	H	-47.14			
	10 010.00	-61.14	11.20	-53.00	5.27	V	-47.07			
507000 (2535.0)	5 070.00	-54.85	10.70	-56.13	3.62	H	-49.05		1	1
	7 605.00	-57.61	11.20	-50.60	4.53	V	-43.92			
	10 140.00	-61.31	11.10	-51.65	5.31	H	-45.86			
513500 (2567.5)	5 135.00	-55.16	10.80	-56.73	3.62	H	-49.54		1	1
	7 702.50	-58.53	11.00	-51.46	4.57	H	-45.03			
	10 270.00	-62.31	11.00	-51.51	5.35	V	-45.86			

▣ NR Band: N7

▣ Bandwidth: 10 MHz

▣ Modulation: PI/2 BPSK

▣ Distance: 1 meters

▣ SCS: 15 kHz

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)	RB	
									Size	Offset
501000 (2505.0)	5 010.00	-56.87	10.70	-58.08	3.59	V	-50.97	-25.00	1	26
	7 515.00	-59.76	11.10	-52.65	4.51	V	-46.06			
	10 020.00	-61.77	11.20	-52.68	5.28	V	-46.76			
507000 (2535.0)	5 070.00	-56.08	10.70	-57.36	3.62	H	-50.28		1	1
	7 605.00	-56.25	11.20	-49.24	4.53	H	-42.56			
	10 140.00	-61.88	11.10	-52.22	5.31	V	-46.43			
513000 (2565.0)	5 130.00	-55.37	10.80	-56.60	3.62	V	-49.42		1	1
	7 695.00	-57.77	11.05	-50.72	4.57	H	-44.24			
	10 260.00	-61.14	11.00	-50.78	5.35	H	-45.13			

▣ NR Band: N7

▣ Bandwidth: 15 MHz

▣ Modulation: PI/2 BPSK

▣ Distance: 1 meters

▣ SCS: 15 kHz

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)	RB	
									Size	Offset
501500 (2507.5)	5 015.00	-56.23	10.70	-57.60	3.57	V	-50.47	-25.00	1	39
	7 522.50	-59.25	11.10	-52.11	4.51	V	-45.52			
	10 030.00	-61.02	11.20	-52.46	5.27	V	-46.53			
507000 (2535.0)	5 070.00	-52.96	10.70	-54.24	3.62	H	-47.16		1	1
	7 605.00	-55.99	11.20	-48.98	4.53	H	-42.30			
	10 140.00	-62.03	11.10	-52.37	5.31	H	-46.58			
512500 (2562.5)	5 125.00	-56.69	10.80	-57.83	3.63	V	-50.66		1	1
	7 687.50	-57.68	11.10	-50.65	4.57	V	-44.12			
	10 250.00	-62.99	11.00	-52.25	5.35	H	-46.60			

▣ NR Band: N7

▣ Bandwidth: 20 MHz

▣ Modulation: PI/2 BPSK

▣ Distance: 1 meters

▣ SCS: 15 kHz

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)	RB	
									Size	Offset
502000 (2510.0)	5 020.00	-56.38	10.70	-57.91	3.55	V	-50.76	-25.00	1	53
	7 530.00	-57.08	11.10	-49.61	4.50	V	-43.01			
	10 040.00	-61.56	11.20	-52.30	5.26	V	-46.36			
507000 (2535.0)	5 070.00	-56.66	10.70	-57.94	3.62	H	-50.86		1	1
	7 605.00	-54.75	11.20	-47.74	4.53	H	-41.06			
	10 140.00	-62.10	11.10	-52.44	5.31	H	-46.65			
512000 (2560.0)	5 120.00	-55.84	10.80	-56.89	3.64	V	-49.73		1	1
	7 680.00	-62.18	11.10	-55.24	4.55	H	-48.69			
	10 240.00	-62.04	11.00	-52.13	5.33	V	-46.46			

▣ NR Band: N7

▣ Bandwidth: 25 MHz

▣ Modulation: PI/2 BPSK

▣ Distance: 1 meters

▣ SCS: 15 kHz

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)	RB	
									Size	Offset
502500 (2512.5)	5 025.00	-55.74	10.70	-57.55	3.56	V	-50.41	-25.00	1	66
	7 537.50	-57.10	11.10	-49.62	4.50	V	-43.02			
	10 050.00	-61.36	11.10	-52.93	5.27	H	-47.10			
507000 (2535.0)	5 070.00	-56.69	10.70	-57.97	3.62	V	-50.89		1	1
	7 605.00	-56.70	11.20	-49.69	4.53	V	-43.01			
	10 140.00	-61.89	11.10	-52.23	5.31	H	-46.44			
511500 (2557.5)	5 115.00	-55.71	10.80	-56.90	3.66	V	-49.75		1	66
	7 672.50	-59.62	11.10	-52.44	4.54	V	-45.88			
	10 230.00	-61.69	11.00	-52.11	5.33	V	-46.44			

▣ NR Band: N7

▣ Bandwidth: 30 MHz

▣ Modulation: PI/2 BPSK

▣ Distance: 1 meters

▣ SCS: 15 kHz

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)	RB	
									Size	Offset
503000 (2515.0)	5 030.00	-56.51	10.70	-58.61	3.56	V	-51.47	-25.00	1	80
	7 545.00	-58.30	11.10	-50.95	4.51	H	-44.36			
	10 060.00	-60.77	11.10	-51.98	5.27	H	-46.15			
507000 (2535.0)	5 070.00	-56.06	10.70	-57.34	3.62	H	-50.26		1	1
	7 605.00	-57.88	11.20	-50.87	4.53	H	-44.19			
	10 140.00	-60.51	11.10	-50.85	5.31	H	-45.06			
511000 (2555.0)	5 110.00	-56.76	10.80	-58.09	3.67	V	-50.96		1	1
	7 665.00	-58.32	11.10	-51.26	4.54	V	-44.70			
	10 220.00	-62.33	11.00	-52.35	5.32	H	-46.67			

▣ NR Band: N7

▣ Bandwidth: 35 MHz

▣ Modulation: PI/2 BPSK

▣ Distance: 1 meters

▣ SCS: 15 kHz

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)	RB	
									Size	Offset
503500 (2517.5)	5 035.00	-55.95	10.70	-57.98	3.58	V	-50.86	-25.00	1	94
	7 552.50	-55.98	11.10	-48.88	4.51	H	-42.29			
	10 070.00	-60.45	11.10	-51.62	5.30	H	-45.82			
507000 (2535.0)	5 070.00	-56.05	10.70	-57.33	3.62	V	-50.25		1	1
	7 605.00	-57.19	11.20	-50.18	4.53	V	-43.50			
	10 140.00	-62.44	11.10	-52.78	5.31	V	-46.99			
510500 (2552.5)	5 105.00	-56.88	10.80	-58.50	3.66	V	-51.36		1	1
	7 657.50	-56.87	11.10	-49.98	4.53	V	-43.41			
	10 210.00	-61.28	11.00	-51.56	5.32	H	-45.88			

▣ NR Band: N7

▣ Bandwidth: 40 MHz

▣ Modulation: PI/2 BPSK

▣ Distance: 1 meters

▣ SCS: 15 kHz

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)	RB	
									Size	Offset
504000 (2520.0)	5 040.00	-55.61	10.70	-57.58	3.60	H	-50.48	-25.00	1	108
	7 560.00	-57.81	11.10	-50.82	4.51	V	-44.23			
	10 080.00	-62.07	11.10	-53.02	5.29	V	-47.21			
507000 (2535.0)	5 070.00	-55.83	10.70	-57.11	3.62	V	-50.03		1	1
	7 605.00	-55.62	11.20	-48.61	4.53	H	-41.93			
	10 140.00	-62.10	11.10	-52.44	5.31	H	-46.65			
510000 (2550.0)	5 100.00	-57.00	10.80	-58.90	3.66	V	-51.76		1	108
	7 650.00	-57.87	11.10	-51.02	4.53	H	-44.45			
	10 200.00	-61.76	11.00	-51.33	5.33	H	-45.66			

9.3 PEAK-TO-AVERAGE RATIO

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (dB)
Sub6 n7	5 MHz	2535.0	BPSK	25	0	4.58
			QPSK			5.30
			16-QAM			5.70
			64-QAM			5.93
			256-QAM			6.11
	10 MHz		BPSK	50		4.34
			QPSK			5.12
			16-QAM			5.50
			64-QAM			5.66
			256-QAM			5.84
	15 MHz		BPSK	75		4.37
			QPSK			4.96
			16-QAM			5.41
			64-QAM			5.65
			256-QAM			5.73
	20 MHz		BPSK	100		3.79
			QPSK			4.94
			16-QAM			5.40
			64-QAM			5.55
			256-QAM			5.67
	25 MHz		BPSK	128		3.86
			QPSK			5.00
			16-QAM			5.50
			64-QAM			5.64
			256-QAM			5.72
	30 MHz		BPSK	160		3.81
			QPSK			4.89
			16-QAM			5.37
			64-QAM			5.58
			256-QAM			5.69
	35 MHz		BPSK	180		3.74
			QPSK			4.85
			16-QAM			5.29
			64-QAM			5.50
			256-QAM			5.65
	40 MHz		BPSK	216		3.68
			QPSK			4.81
			16-QAM			5.29
			64-QAM			5.47
			256-QAM			5.68

Note:
1. Plots of the EUT's Peak- to- Average Ratio are shown Page 271 ~ 310.

9.4 OCCUPIED BANDWIDTH

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (MHz)
Sub6 n7	5 MHz	2535.0	BPSK	25	0	4.5302
			QPSK			4.5542
			16-QAM			4.5321
			64-QAM			4.5305
			256-QAM			4.5128
	10 MHz		BPSK	50		8.9929
			QPSK			9.0256
			16-QAM			9.0260
			64-QAM			9.0165
			256-QAM			9.0019
	15 MHz		BPSK	75		13.464
			QPSK			13.490
			16-QAM			13.497
			64-QAM			13.489
			256-QAM			13.440
	20 MHz		BPSK	100		17.910
			QPSK			17.933
			16-QAM			17.892
			64-QAM			17.933
			256-QAM			17.869
	25 MHz		BPSK	128		22.974
			QPSK			22.983
			16-QAM			23.051
			64-QAM			22.964
			256-QAM			23.069
	30 MHz		BPSK	160		28.676
			QPSK			28.662
			16-QAM			28.821
			64-QAM			28.751
			256-QAM			28.736
	35 MHz		BPSK	180		32.266
			QPSK			32.289
			16-QAM			32.309
			64-QAM			32.261
			256-QAM			32.283
	40 MHz		BPSK	216		38.665
			QPSK			38.711
			16-QAM			38.835
			64-QAM			38.886
			256-QAM			38.784

Note:
1. Plots of the EUT's Occupied Bandwidth are shown Page 311 ~ 350.

9.5 CONDUCTED SPURIOUS EMISSIONS

Band	Band Width (MHz)	Frequency (MHz)	Frequency of Maximum Harmonic (GHz)	Factor (dB)	Measurement Maximum Data (dBm)	Result (dBm)	Limit (dBm)
Sub6 n7	5	2502.5	3.8271	29.400	-70.274	-40.874	-25.00
		2535.0	8.8345	30.015	-69.654	-39.639	
		2567.5	8.2702	30.015	-70.140	-40.125	
	10	2505.0	9.1675	30.015	-70.032	-40.017	
		2535.0	5.7598	30.015	-70.460	-40.445	
		2565.0	3.7937	29.400	-69.519	-40.119	
	15	2507.5	9.9541	30.015	-70.338	-40.323	
		2535.0	3.8041	29.400	-70.489	-41.089	
		2562.5	8.2722	30.015	-69.909	-39.894	
	20	2510.0	9.1112	30.015	-70.181	-40.166	
		2535.0	8.8699	30.015	-69.759	-39.744	
		2560.0	9.1067	30.015	-70.324	-40.309	
	25	2512.5	4.9213	29.400	-69.613	-40.213	
		2535.0	9.7029	30.015	-70.007	-39.992	
		2557.5	9.6944	30.015	-69.581	-39.566	
	30	2515.0	4.0310	29.400	-69.782	-40.382	
		2535.0	9.1421	30.015	-70.118	-40.103	
		2555.0	8.0638	30.015	-70.664	-40.649	
	35	2517.5	8.2617	30.015	-69.819	-39.804	
		2535.0	3.7827	29.400	-70.149	-40.749	
		2552.5	9.9073	30.015	-70.616	-40.601	
	40	2520.0	8.2577	30.015	-70.328	-40.313	
		2535.0	9.1017	30.015	-70.192	-40.177	
		2550.0	8.2787	30.015	-70.361	-40.346	

Note:

1. Plots of the EUT's Conducted Spurious Emissions are shown Page 407 ~454.
2. Result (dBm) = Measurement Maximum Data (dBm) + Factor (dB)
3. Factor(dB) = Cable Loss + Ext. Attenuator + Power Splitter

Frequency Range (GHz)	Factor [dB]
0.03 – 1	26.994
1 – 5	29.700
5 – 10	30.315
10 – 15	30.840
15 – 20	31.213
Above 20	31.855

9.6 CHANNEL EDGE

BW (MHz)	Frequency (MHz)	Mod	RB (Size/ Offset)	2 500 MHz ~ 2 496 MHz		C.E ~ (C.E +1 MHz)		2 490.5 MHz ~ 2 496 MHz	(C.E + 1 MHz) ~ (C.E + 5 MHz)	Below 2 490.5 MHz	(C.E + 5 MHz) ~ (C.E + X MHz)	Above (C.E + X MHz)
				Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Upper
5	2502.5	BPSK	Full RB	-14.94	-18.69	-26.41	-14.18	-42.88	-31.88	-35.81		
10	2505.0	BPSK	Full RB	-15.94	-20.36	-17.78	-16.53	-37.57	-19.33	-38.00		
15	2507.5	BPSK	Full RB	-20.46	-24.54	-22.26	-20.28	-27.33	-20.51	-39.63		
20	2510.0	BPSK	Full RB	-21.12	-21.22	-26.45	-17.21	-27.10	-18.71	-35.31		
25	2512.5	BPSK	Full RB	-20.52	-21.42	-27.65	-21.87	-29.40	-22.88	-40.20		
30	2515.0	BPSK	Full RB	-20.45	-19.02	-25.91	-19.88	-31.04	-23.04	-40.67		
35	2517.5	BPSK	Full RB	-20.73	-21.67	-25.57	-19.85	-31.28	-23.48	-39.42		
40	2520.0	BPSK	Full RB	-15.13	-14.99	-25.73	-20.50	-31.83	-24.49	-40.63		
Limit(dBm)				-10.0	-10.0	-13.0	-10.0	-25.0	-13.0	-25.0		

BW (MHz)	Frequency (MHz)	Mod	RB (Size/ Offset)	C.E ~ (C.E ± 1 MHz)		(C.E ± 1 MHz) ~ (C.E ± 5 MHz)	
				Lower	Upper	Lower	Upper
5	2535.0	BPSK	Full RB	-20.69	-19.91	-19.40	-18.62
	2567.5	BPSK	Full RB	-19.36	-18.58	-17.62	-17.28
10	2535.0	BPSK	Full RB	-21.82	-25.00	-21.74	-18.88
	2565.0	BPSK	Full RB	-21.92	-26.63	-23.00	-21.88
15	2535.0	BPSK	Full RB	-23.32	-23.46	-20.73	-18.81
	2562.5	BPSK	Full RB	-21.98	-25.43	-21.53	-22.75
20	2535.0	BPSK	Full RB	-23.27	-24.84	-23.96	-24.40
	2560.0	BPSK	Full RB	-20.01	-21.44	-16.73	-17.73
25	2535.0	BPSK	Full RB	-22.55	-23.13	-23.88	-22.09
	2557.5	BPSK	Full RB	-18.78	-21.96	-18.78	-20.70
30	2535.0	BPSK	Full RB	-21.85	-20.33	-23.57	-20.52
	2555.0	BPSK	Full RB	-17.65	-19.62	-19.13	-20.13
35	2535.0	BPSK	Full RB	-21.82	-25.20	-24.95	-24.67
	2552.5	BPSK	Full RB	-19.24	-23.17	-20.51	-21.27
40	2535.0	BPSK	Full RB	-15.32	-16.84	-25.28	-23.53
	2550.0	BPSK	Full RB	-14.16	-16.62	-23.38	-23.14
Limi(dBm)				-10.0		-10.0	

BW (MHz)	Frequency (MHz)	Mod	RB (Size/ Offset)	(C.E ± 5 MHz) ~ (C.E ± X MHz)		Above (C.E ± X MHz)	
				Lower	Upper	Lower	Upper
5	2535.0	BPSK	Full RB	-34.92	-35.02	-36.58	-37.33
	2567.5	BPSK	Full RB	-28.66	-29.44	-28.97	-29.83
10	2535.0	BPSK	Full RB	-25.72	-23.13	-38.64	-38.97
	2565.0	BPSK	Full RB	-24.59	-23.54	-34.42	-35.53
15	2535.0	BPSK	Full RB	-23.45	-20.15	-41.91	-41.93
	2562.5	BPSK	Full RB	-21.91	-21.75	-39.19	-38.76
20	2535.0	BPSK	Full RB	-26.64	-24.62	-44.86	-43.96
	2560.0	BPSK	Full RB	-17.72	-20.46	-38.89	-40.72
25	2535.0	BPSK	Full RB	-27.64	-25.32	-43.63	-42.29
	2557.5	BPSK	Full RB	-22.87	-23.42	-39.61	-49.84
30	2535.0	BPSK	Full RB	-29.23	-26.08	-46.57	-42.49
	2555.0	BPSK	Full RB	-19.61	-21.87	-38.56	-54.62
35	2535.0	BPSK	Full RB	-31.01	-25.95	-53.13	-46.33
	2552.5	BPSK	Full RB	-20.66	-25.77	-37.81	-54.84
40	2535.0	BPSK	Full RB	-29.48	-24.05	-55.16	-53.54
	2550.0	BPSK	Full RB	-26.31	-26.91	-46.14	-54.95
Limit(dBm)				-13.0		-25.0	

Note:

1. C.E = Channel Edge
2. X = X is the greater of 6 MHz or the actual emission bandwidth
3. Duty Cycle factor already applied on the factor.
   - Factor(dB) = Cable Loss + Ext. Attenuator + Power Splitter
   - Result(dBm) = Reading + Factor
4. Plots of the EUT's Channel Edge are shown Page 351 ~ 406.

9.7 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE

- ▣ BandWidth: 5 MHz
- ▣ Voltage(100 %): 3.880 VDC
- ▣ Batt. Endpoint: 3.300 VDC
- ▣ LIMIT: Emission must remain in band

Test. Frequncy	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(℃)	(Hz)	Error (Hz)	(%)	
2502.500	100 %	+20(Ref)	2502 499 996	0.0	0.000 000	0.000
	100 %	-30	2502 499 992	-4.3	0.000 000	-0.002
	100 %	-20	2502 499 993	-3.6	0.000 000	-0.001
	100 %	-10	2502 499 993	-3.6	0.000 000	-0.001
	100 %	0	2502 499 994	-2.4	0.000 000	-0.001
	100 %	+10	2502 499 995	-0.9	0.000 000	0.000
	100 %	+30	2502 499 993	-2.9	0.000 000	-0.001
	100 %	+40	2502 499 994	-2.4	0.000 000	-0.001
	100 %	+50	2502 499 995	-1.7	0.000 000	-0.001
	Batt. Endpoint	+20	2502 499 994	-2.6	0.000 000	-0.001
2567.500	100 %	+20(Ref)	2567 499 997	0.0	0.000 000	0.000
	100 %	-30	2567 499 993	-4.1	0.000 000	-0.002
	100 %	-20	2567 499 995	-2.0	0.000 000	-0.001
	100 %	-10	2567 499 995	-1.9	0.000 000	-0.001
	100 %	0	2567 499 995	-2.4	0.000 000	-0.001
	100 %	+10	2567 499 994	-3.0	0.000 000	-0.001
	100 %	+30	2567 499 994	-3.2	0.000 000	-0.001
	100 %	+40	2567 499 994	-3.6	0.000 000	-0.001
	100 %	+50	2567 499 992	-5.3	0.000 000	-0.002
	Batt. Endpoint	+20	2567 499 995	-2.8	0.000 000	-0.001

▣ BandWidth: 10 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
2505.000	100 %	+20(Ref)	2504 999 999	0.0	0.000 000	0.000
	100 %	-30	2504 999 997	-2.1	0.000 000	-0.001
	100 %	-20	2504 999 997	-1.9	0.000 000	-0.001
	100 %	-10	2504 999 997	-1.5	0.000 000	-0.001
	100 %	0	2504 999 997	-2.3	0.000 000	-0.001
	100 %	+10	2504 999 997	-2.2	0.000 000	-0.001
	100 %	+30	2504 999 997	-1.8	0.000 000	-0.001
	100 %	+40	2504 999 998	-1.1	0.000 000	0.000
	100 %	+50	2504 999 997	-2.0	0.000 000	-0.001
	Batt. Endpoint	+20	2504 999 997	-2.1	0.000 000	-0.001
2565.000	100 %	+20(Ref)	2565 000 000	0.0	0.000 000	0.000
	100 %	-30	2565 000 001	0.4	0.000 000	0.000
	100 %	-20	2565 000 000	-0.7	0.000 000	0.000
	100 %	-10	2564 999 999	-0.9	0.000 000	0.000
	100 %	0	2565 000 001	1.1	0.000 000	0.000
	100 %	+10	2565 000 000	-0.4	0.000 000	0.000
	100 %	+30	2564 999 999	-1.7	0.000 000	-0.001
	100 %	+40	2565 000 000	-0.6	0.000 000	0.000
	100 %	+50	2565 000 001	0.4	0.000 000	0.000
	Batt. Endpoint	+20	2565 000 000	-0.3	0.000 000	0.000

▣ BandWidth: 15 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
2507.500	100 %	+20(Ref)	2507 500 001	0.0	0.000 000	0.000
	100 %	-30	2507 500 001	-0.4	0.000 000	0.000
	100 %	-20	2507 500 001	0.0	0.000 000	0.000
	100 %	-10	2507 500 002	1.1	0.000 000	0.000
	100 %	0	2507 500 002	0.8	0.000 000	0.000
	100 %	+10	2507 500 001	0.1	0.000 000	0.000
	100 %	+30	2507 500 002	0.6	0.000 000	0.000
	100 %	+40	2507 500 001	0.3	0.000 000	0.000
	100 %	+50	2507 500 002	1.3	0.000 000	0.001
	Batt. Endpoint	+20	2507 500 002	0.6	0.000 000	0.000
2562.500	100 %	+20(Ref)	2562 500 000	0.0	0.000 000	0.000
	100 %	-30	2562 499 998	-1.6	0.000 000	-0.001
	100 %	-20	2562 499 999	-1.2	0.000 000	0.000
	100 %	-10	2562 499 999	-1.2	0.000 000	0.000
	100 %	0	2562 499 999	-1.2	0.000 000	0.000
	100 %	+10	2562 500 000	0.4	0.000 000	0.000
	100 %	+30	2562 499 999	-0.8	0.000 000	0.000
	100 %	+40	2562 499 999	-1.4	0.000 000	-0.001
	100 %	+50	2562 500 000	-0.3	0.000 000	0.000
	Batt. Endpoint	+20	2562 500 000	-0.1	0.000 000	0.000

▣ BandWidth: 20 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
2510.000	100 %	+20(Ref)	2509 999 999	0.0	0.000 000	0.000
	100 %	-30	2509 999 998	-1.5	0.000 000	-0.001
	100 %	-20	2509 999 997	-2.2	0.000 000	-0.001
	100 %	-10	2509 999 997	-2.3	0.000 000	-0.001
	100 %	0	2509 999 997	-2.5	0.000 000	-0.001
	100 %	+10	2509 999 999	0.1	0.000 000	0.000
	100 %	+30	2509 999 999	-0.4	0.000 000	0.000
	100 %	+40	2510 000 000	0.2	0.000 000	0.000
	100 %	+50	2509 999 998	-1.7	0.000 000	-0.001
	Batt. Endpoint	+20	2509 999 997	-2.0	0.000 000	-0.001
2560.000	100 %	+20(Ref)	2559 999 998	0.0	0.000 000	0.000
	100 %	-30	2559 999 998	-0.2	0.000 000	0.000
	100 %	-20	2560 000 000	1.9	0.000 000	0.001
	100 %	-10	2559 999 998	0.0	0.000 000	0.000
	100 %	0	2559 999 999	0.3	0.000 000	0.000
	100 %	+10	2560 000 000	1.4	0.000 000	0.001
	100 %	+30	2559 999 998	-0.6	0.000 000	0.000
	100 %	+40	2560 000 000	1.6	0.000 000	0.001
	100 %	+50	2559 999 997	-1.1	0.000 000	0.000
	Batt. Endpoint	+20	2559 999 999	0.2	0.000 000	0.000

▣ BandWidth: 25 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
2512.500	100 %	+20(Ref)	2512 500 000	0.0	0.000 000	0.000
	100 %	-30	2512 500 002	1.8	0.000 000	0.001
	100 %	-20	2512 499 999	-1.0	0.000 000	0.000
	100 %	-10	2512 499 999	-1.0	0.000 000	0.000
	100 %	0	2512 500 000	0.0	0.000 000	0.000
	100 %	+10	2512 500 000	0.1	0.000 000	0.000
	100 %	+30	2512 499 999	-0.9	0.000 000	0.000
	100 %	+40	2512 499 999	-1.1	0.000 000	0.000
	100 %	+50	2512 499 999	-0.7	0.000 000	0.000
	Batt. Endpoint	+20	2512 499 998	-1.7	0.000 000	-0.001
2557.500	100 %	+20(Ref)	2557 500 002	0.0	0.000 000	0.000
	100 %	-30	2557 500 005	3.0	0.000 000	0.001
	100 %	-20	2557 500 004	1.9	0.000 000	0.001
	100 %	-10	2557 500 006	4.0	0.000 000	0.002
	100 %	0	2557 500 005	3.5	0.000 000	0.001
	100 %	+10	2557 500 004	1.9	0.000 000	0.001
	100 %	+30	2557 500 004	2.5	0.000 000	0.001
	100 %	+40	2557 500 005	3.4	0.000 000	0.001
	100 %	+50	2557 500 005	3.7	0.000 000	0.001
	Batt. Endpoint	+20	2557 500 006	4.3	0.000 000	0.002

▣ BandWidth: 30 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
2515.000	100 %	+20(Ref)	2514 999 998	0.0	0.000 000	0.000
	100 %	-30	2514 999 995	-3.7	0.000 000	-0.001
	100 %	-20	2514 999 997	-1.8	0.000 000	-0.001
	100 %	-10	2514 999 997	-1.8	0.000 000	-0.001
	100 %	0	2514 999 998	-0.5	0.000 000	0.000
	100 %	+10	2514 999 996	-2.5	0.000 000	-0.001
	100 %	+30	2514 999 995	-3.1	0.000 000	-0.001
	100 %	+40	2514 999 995	-3.1	0.000 000	-0.001
	100 %	+50	2514 999 996	-2.2	0.000 000	-0.001
	Batt. Endpoint	+20	2514 999 999	0.3	0.000 000	0.000
2555.000	100 %	+20(Ref)	2555 000 001	0.0	0.000 000	0.000
	100 %	-30	2555 000 003	1.3	0.000 000	0.000
	100 %	-20	2555 000 000	-1.6	0.000 000	-0.001
	100 %	-10	2555 000 000	-1.0	0.000 000	0.000
	100 %	0	2555 000 000	-1.5	0.000 000	-0.001
	100 %	+10	2555 000 001	-0.4	0.000 000	0.000
	100 %	+30	2555 000 001	-0.5	0.000 000	0.000
	100 %	+40	2555 000 001	-0.4	0.000 000	0.000
	100 %	+50	2555 000 000	-0.9	0.000 000	0.000
	Batt. Endpoint	+20	2555 000 001	-0.7	0.000 000	0.000

▣ BandWidth: 35 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
2517.500	100 %	+20(Ref)	2517 500 000	0.0	0.000 000	0.000
	100 %	-30	2517 500 001	0.1	0.000 000	0.000
	100 %	-20	2517 500 000	0.0	0.000 000	0.000
	100 %	-10	2517 499 998	-2.5	0.000 000	-0.001
	100 %	0	2517 500 002	1.2	0.000 000	0.000
	100 %	+10	2517 500 001	0.5	0.000 000	0.000
	100 %	+30	2517 500 000	-0.4	0.000 000	0.000
	100 %	+40	2517 500 001	0.4	0.000 000	0.000
	100 %	+50	2517 500 000	-0.4	0.000 000	0.000
	Batt. Endpoint	+20	2517 500 001	0.4	0.000 000	0.000
2552.500	100 %	+20(Ref)	2552 500 001	0.0	0.000 000	0.000
	100 %	-30	2552 500 000	-1.0	0.000 000	0.000
	100 %	-20	2552 499 999	-1.3	0.000 000	-0.001
	100 %	-10	2552 499 998	-2.4	0.000 000	-0.001
	100 %	0	2552 499 999	-2.1	0.000 000	-0.001
	100 %	+10	2552 500 000	-1.1	0.000 000	0.000
	100 %	+30	2552 500 000	-0.8	0.000 000	0.000
	100 %	+40	2552 499 999	-1.5	0.000 000	-0.001
	100 %	+50	2552 500 002	1.8	0.000 000	0.001
	Batt. Endpoint	+20	2552 500 001	0.8	0.000 000	0.000

▣ BandWidth: 40 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

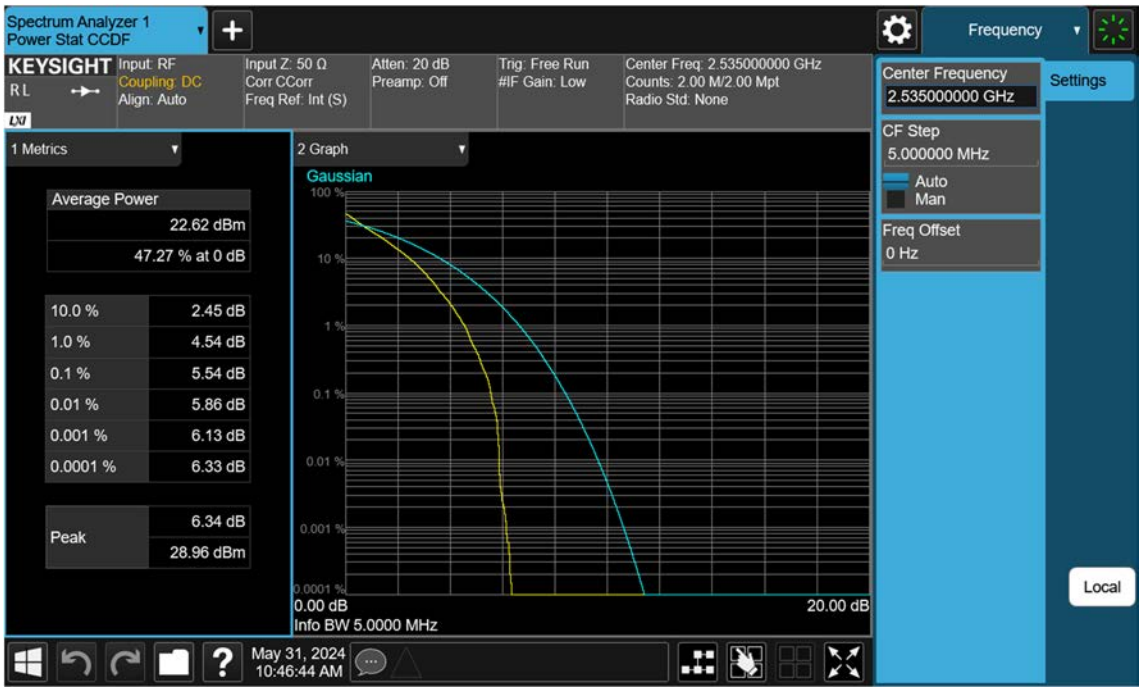
▣ LIMIT: Emission must remain in band

Test. Frequncy	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
2520.000	100 %	+20(Ref)	2519 999 999	0.0	0.000 000	0.000
	100 %	-30	2519 999 998	-1.3	0.000 000	-0.001
	100 %	-20	2519 999 998	-1.1	0.000 000	0.000
	100 %	-10	2519 999 999	0.1	0.000 000	0.000
	100 %	0	2519 999 999	-0.1	0.000 000	0.000
	100 %	+10	2520 000 000	0.5	0.000 000	0.000
	100 %	+30	2520 000 001	1.4	0.000 000	0.001
	100 %	+40	2519 999 998	-1.2	0.000 000	0.000
	100 %	+50	2519 999 998	-1.5	0.000 000	-0.001
	Batt. Endpoint	+20	2519 999 999	-0.5	0.000 000	0.000
2550.000	100 %	+20(Ref)	2549 999 998	0.0	0.000 000	0.000
	100 %	-30	2549 999 997	-1.1	0.000 000	0.000
	100 %	-20	2549 999 998	0.2	0.000 000	0.000
	100 %	-10	2549 999 997	-0.9	0.000 000	0.000
	100 %	0	2549 999 996	-1.7	0.000 000	-0.001
	100 %	+10	2549 999 997	-0.9	0.000 000	0.000
	100 %	+30	2549 999 996	-1.9	0.000 000	-0.001
	100 %	+40	2549 999 996	-1.5	0.000 000	-0.001
	100 %	+50	2549 999 997	-0.9	0.000 000	0.000
	Batt. Endpoint	+20	2549 999 996	-1.5	0.000 000	-0.001

10. TEST PLOTS(ANT B)

5 M_PAR_Mid_BPSK_FullRB

5 M_PAR_Mid_QPSK_FullRB



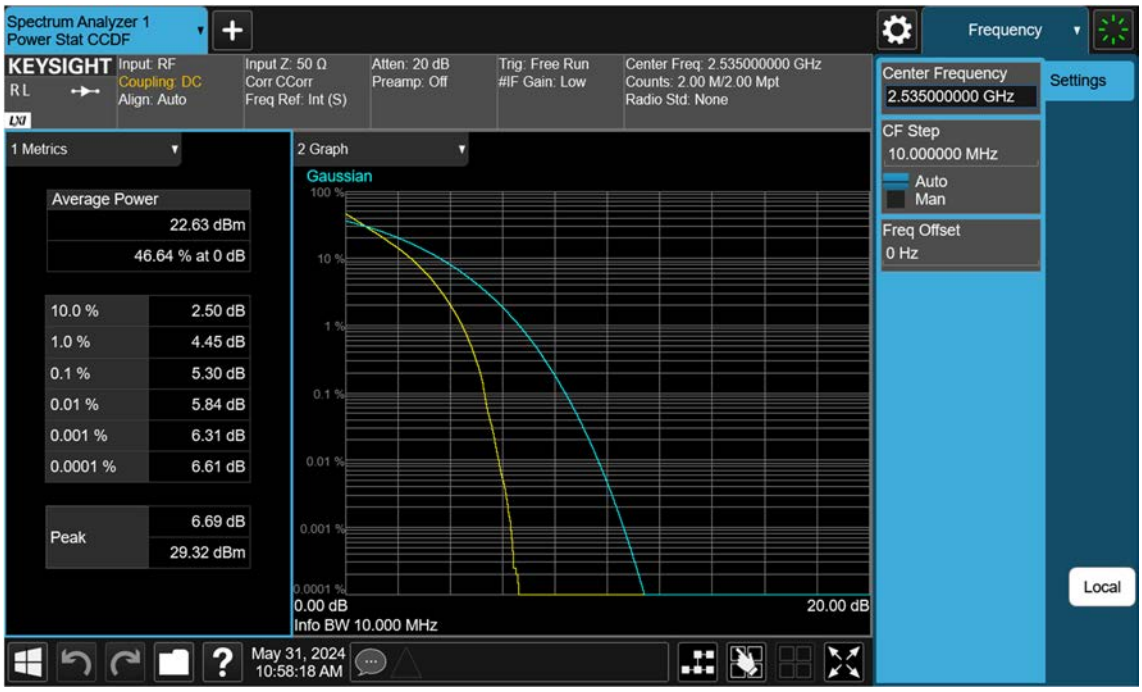
5 M_PAR_Mid_16QAM_FullRB

5 M_PAR_Mid_64QAM_FullRB

5 M_PAR_Mid_256QAM_FullRB

10 M_PAR_Mid_BPSK_FullRB

10 M_PAR_Mid_QPSK_FullRB



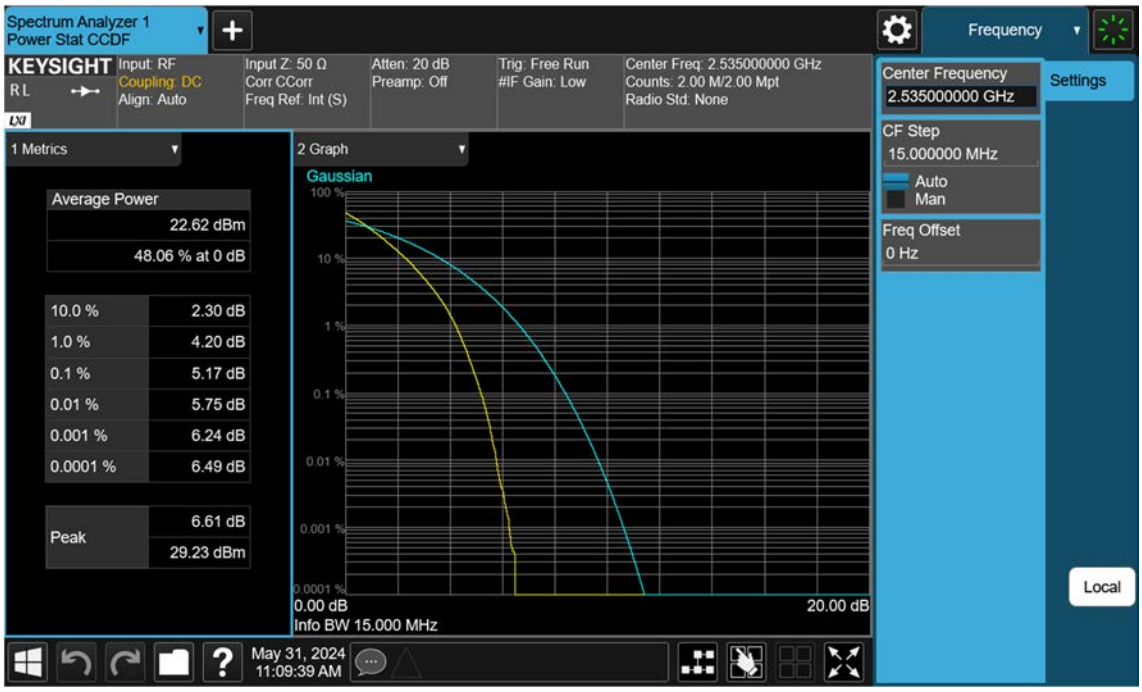
10 M_PAR_Mid_16QAM_FullRB

10 M_PAR_Mid_64QAM_FullRB

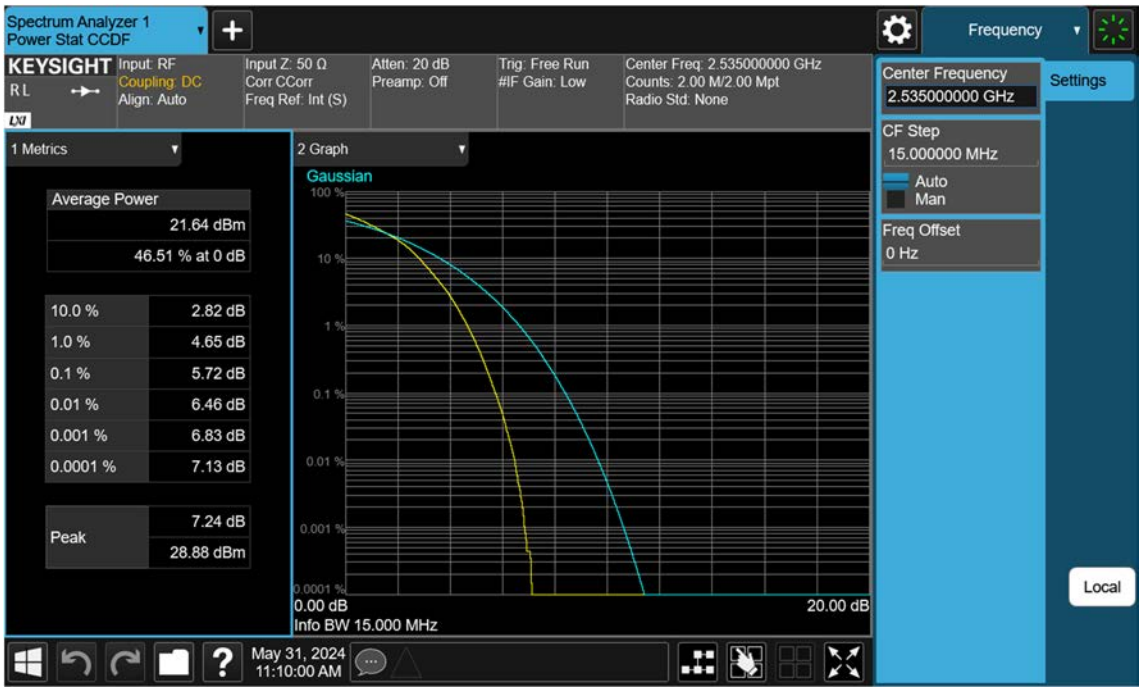
10 M_PAR_Mid_256QAM_FullRB

15 M_PAR_Mid_BPSK_FullRB

15 M_PAR_Mid_QPSK_FullRB



15 M_PAR_Mid_16QAM_FullRB

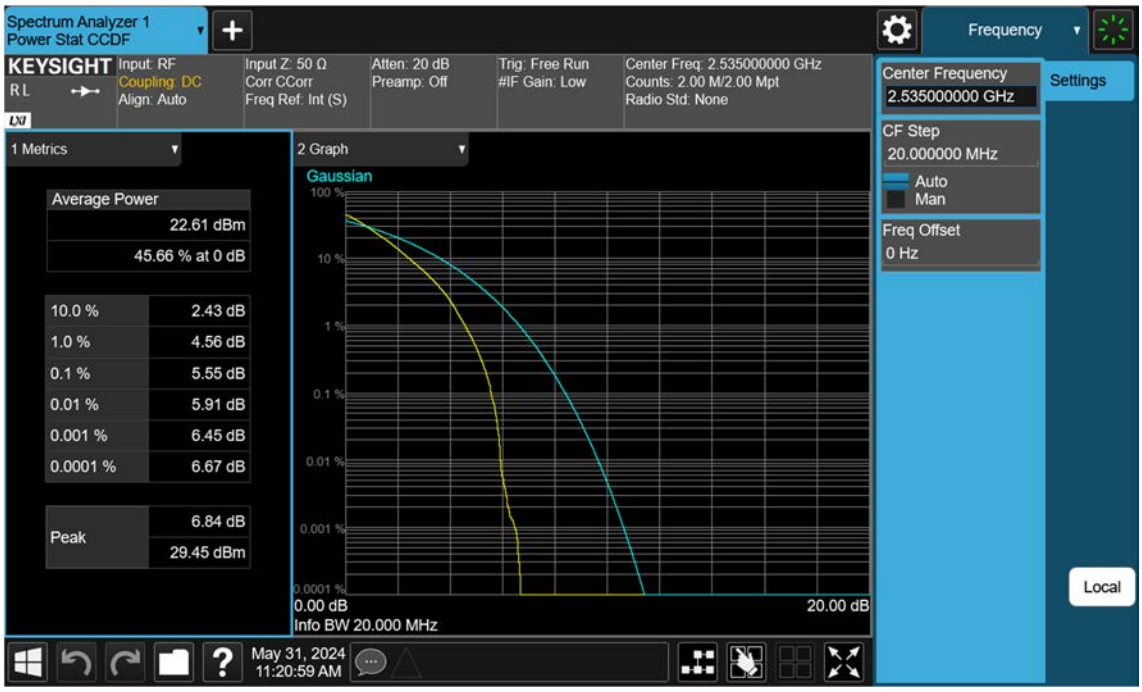


15 M_PAR_Mid_64QAM_FullRB

15 M_PAR_Mid_256QAM_FullRB

20 M_PAR_Mid_BPSK_FullRB

20 M_PAR_Mid_QPSK_FullRB



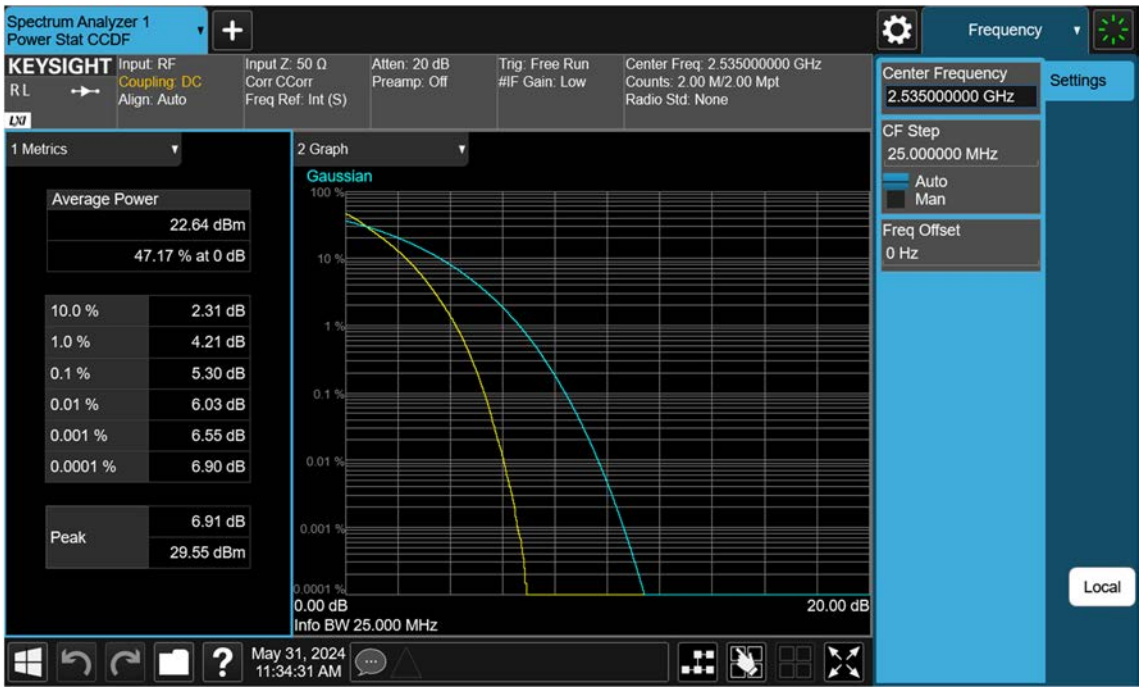
20 M_PAR_Mid_16QAM_FullRB

20 M_PAR_Mid_64QAM_FullRB

20 M_PAR_Mid_256QAM_FullRB

25 M_PAR_Mid_BPSK_FullRB

25 M_PAR_Mid_QPSK_FullRB



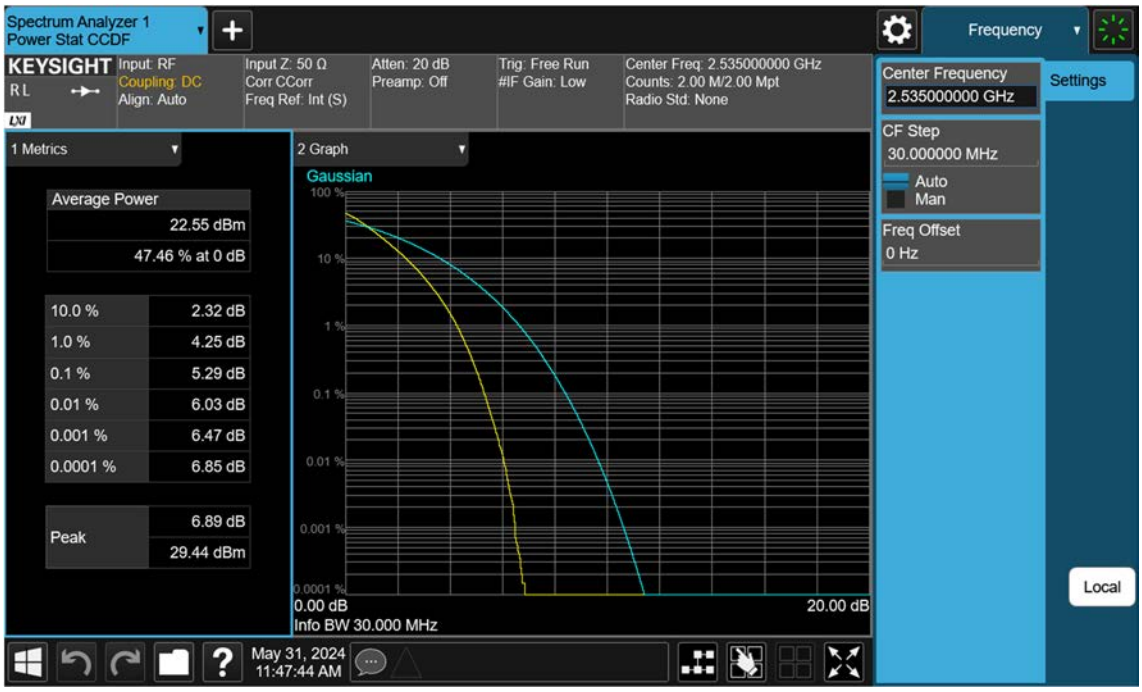
25 M_PAR_Mid_16QAM_FullRB

25 M_PAR_Mid_64QAM_FullRB

25 M_PAR_Mid_256QAM_FullRB

30 M_PAR_Mid_BPSK_FullRB

30 M_PAR_Mid_QPSK_FullRB

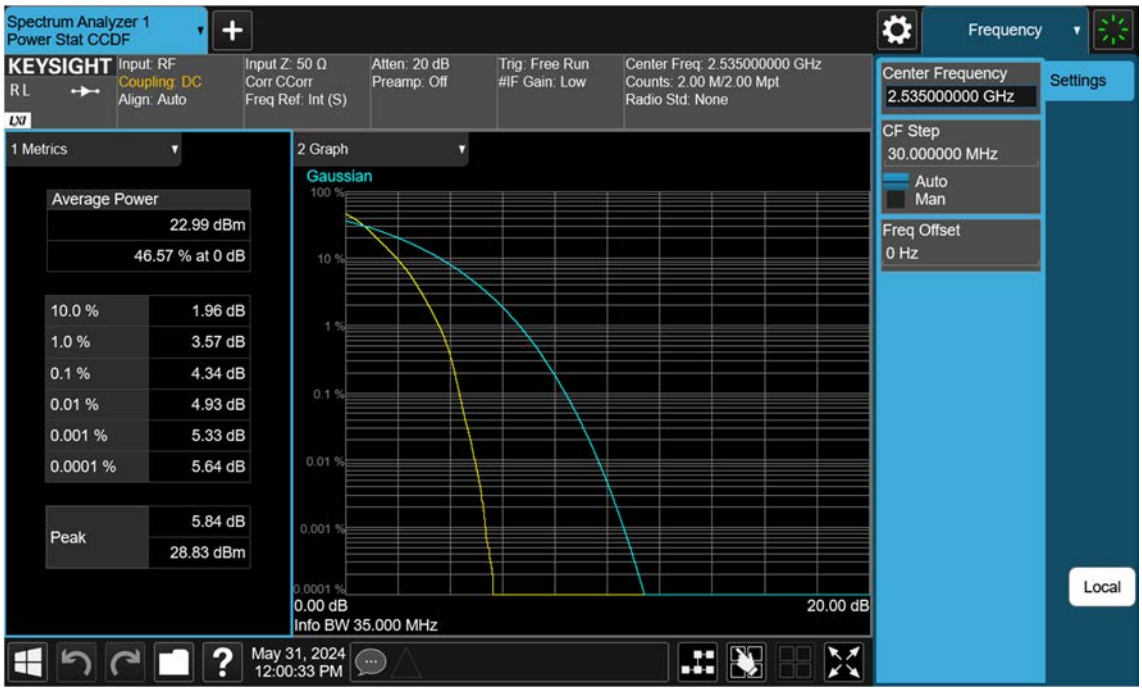


30 M_PAR_Mid_16QAM_FullRB

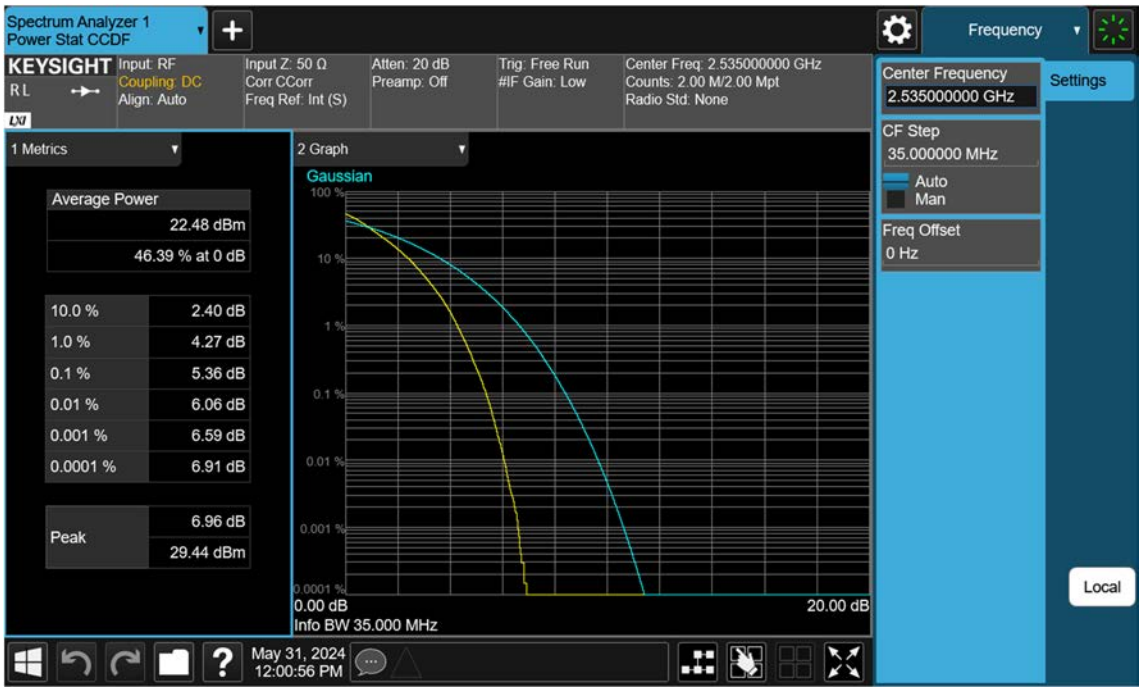
30 M_PAR_Mid_64QAM_FullRB

30 M_PAR_Mid_256QAM_FullRB

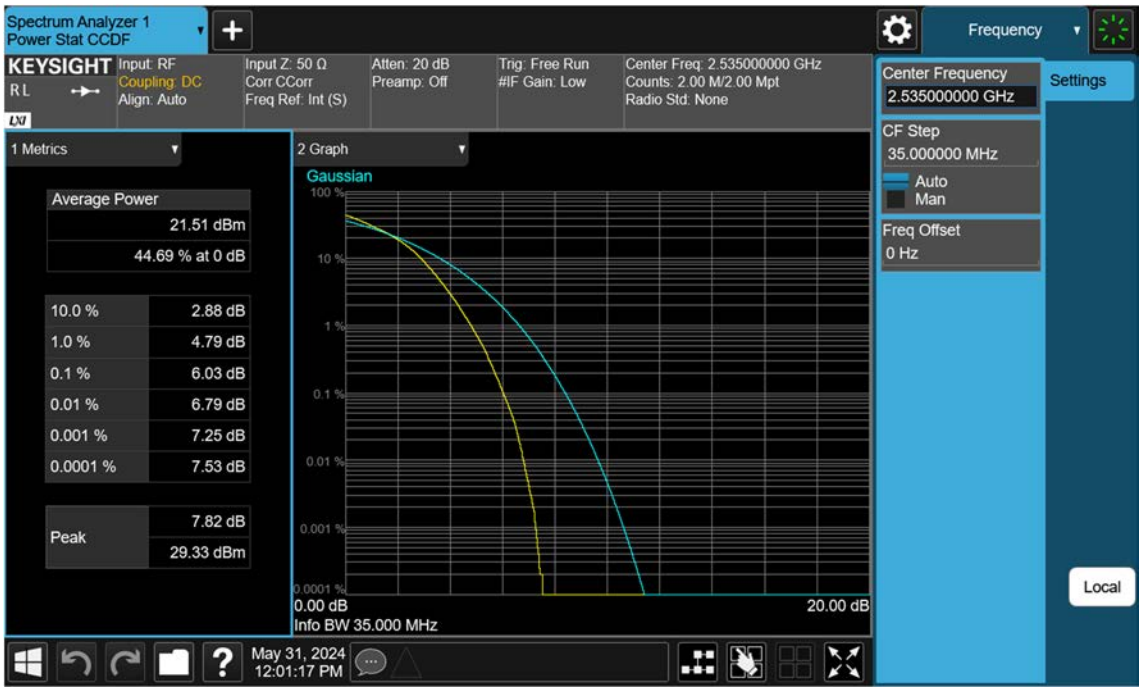
35 M_PAR_Mid_BPSK_FullRB



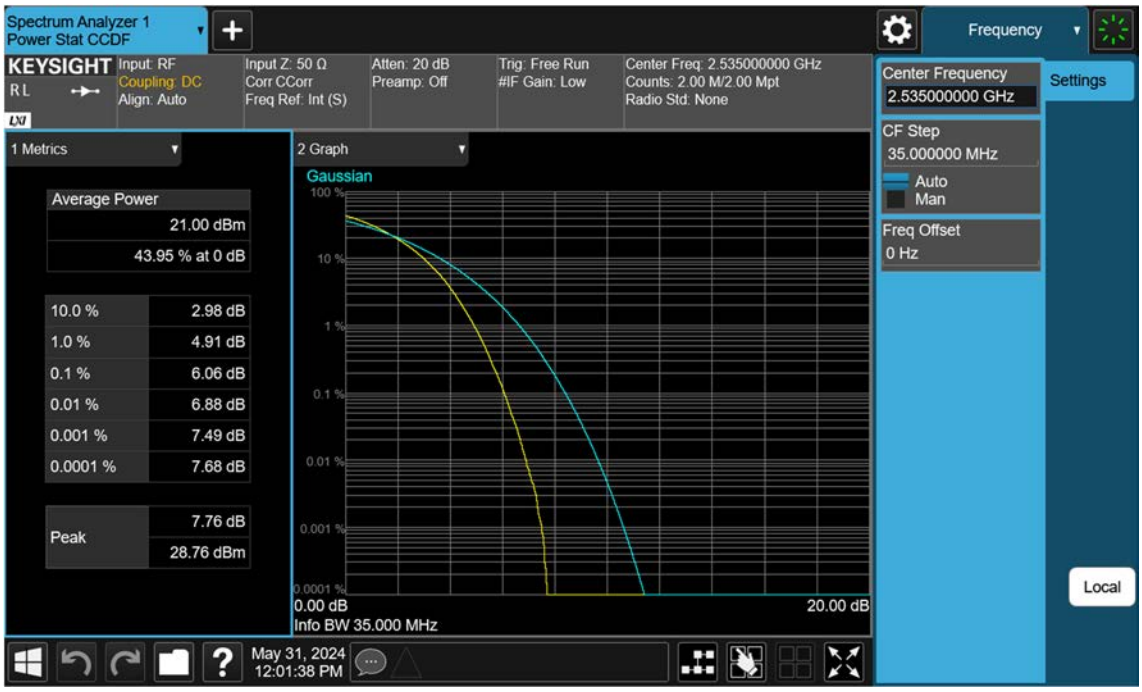
35 M_PAR_Mid_QPSK_FullRB



35 M_PAR_Mid_16QAM_FullRB



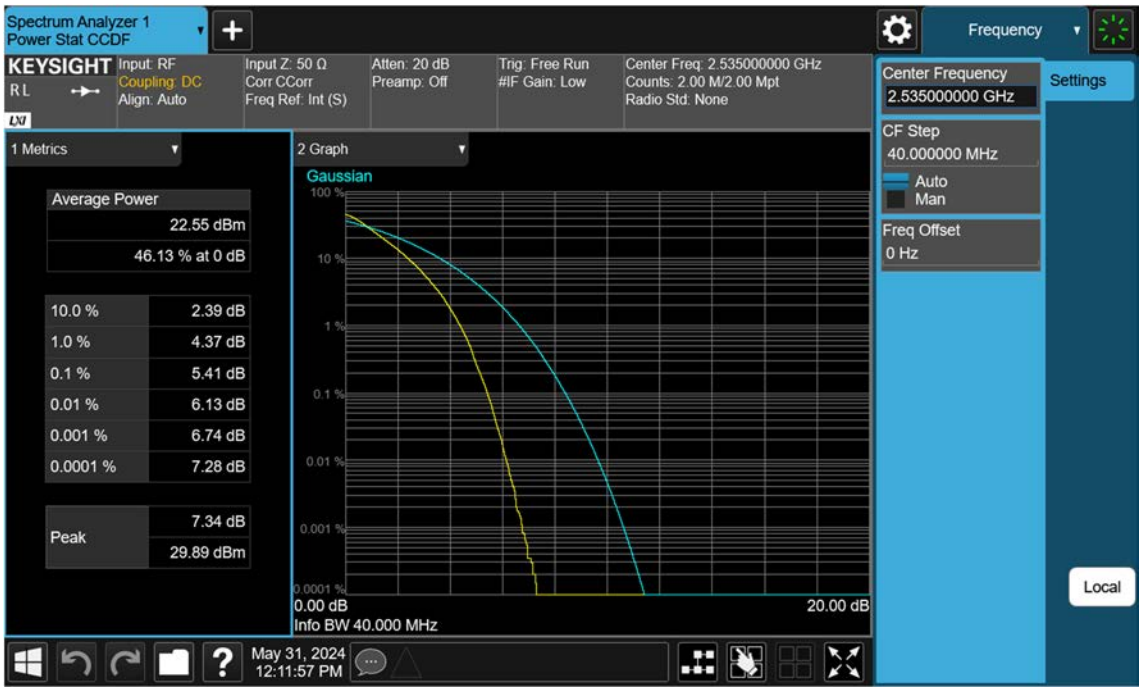
35 M_PAR_Mid_64QAM_FullRB



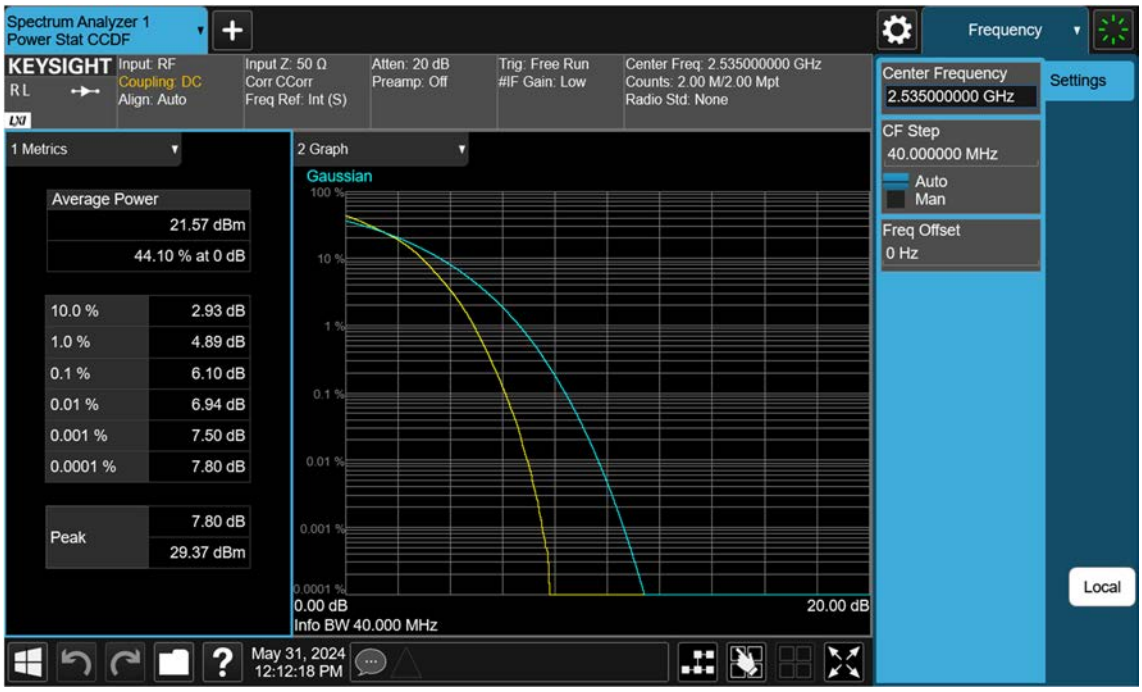
35 M_PAR_Mid_256QAM_FullRB

40 M_PAR_Mid_BPSK_FullRB

40 M_PAR_Mid_QPSK_FullRB



40 M_PAR_Mid_16QAM_FullRB



40 M_PAR_Mid_64QAM_FullRB

40 M_PAR_Mid_256QAM_FullRB

5 M_OBW_Mid_BPSK_FullRB

5 M_OBW_Mid_QPSK_FullRB

5 M_OBW_Mid_16QAM_FullRB

5 M_OBW_Mid_64QAM_FullRB

5 M_OBW_Mid_256QAM_FullRB

10 M_OBW_Mid_BPSK_FullRB

10 M_OBW_Mid_QPSK_FullRB

10 M_OBW_Mid_16QAM_FullRB

10 M_OBW_Mid_64QAM_FullRB

10 M_OBW_Mid_256QAM_FullRB

15 M_OBW_Mid_BPSK_FullRB

15 M_OBW_Mid_QPSK_FullRB

15 M_OBW_Mid_16QAM_FullRB

15 M_OBW_Mid_64QAM_FullRB

15 M_OBW_Mid_256QAM_FullRB

20 M_OBW_Mid_BPSK_FullRB

20 M_OBW_Mid_QPSK_FullRB

20 M_OBW_Mid_16QAM_FullRB

20 M_OBW_Mid_64QAM_FullRB

20 M_OBW_Mid_256QAM_FullRB