TEST REPORT

FCC Sub6 n25(2) Test for SM-F741U
Certification

APPLICANT
SAMSUNG Electronics Co., Ltd.

REPORT NO.
HCT-RF-2404-FC027-R1

DATE OF ISSUE
May 3, 2024

Tested by
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TEST REPORT

REPORT NO.
HCT-RF-2404-FC027-R1

DATE OF ISSUE
May 03, 2024

Additional Model
SM-F741U1

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-F741U
Date of Test	February 27, 2024 ~ April 19, 2024
FCC ID	A3LSMF741U
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)
FCC Rule Part(s):	§ 24

REVISION HISTORY

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

Revision No.	Date of Issue	Description
0	April 26, 2024	Initial Release
1	May 03, 2024	Revised the date of test (Page 2.)

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).
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).

CONTENTS

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:	A3LSMF741U
Application Type:	Certification
FCC Classification:	PCS Licensed Transmitter Held to Ear (PCE)
FCC Rule Part(s):	§ 24
EUT Type:	Mobile phone
Model(s):	SM-F741U
Additional Model(s)	SM-F741U1
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:	1852.5 MHz – 1907.5 MHz (5 MHz) (Sub6 n2) 1855.0 MHz – 1905.0 MHz (10 MHz) (Sub6 n2) 1857.5 MHz – 1902.5 MHz (15 MHz) (Sub6 n2) 1860.0 MHz – 1900.0 MHz (20 MHz) (Sub6 n2) 1862.5 MHz – 1897.5 MHz (25 MHz) (Sub6 n2) 1865.0 MHz – 1895.0 MHz (30 MHz) (Sub6 n2) 1867.5 MHz – 1892.5 MHz (35 MHz) (Sub6 n2) 1870.0 MHz – 1890.0 MHz (40 MHz) (Sub6 n2) 1852.5 MHz – 1912.5 MHz (5 MHz) (Sub6 n25) 1855.0 MHz – 1910.0 MHz (10 MHz) (Sub6 n25) 1857.5 MHz – 1907.5 MHz (15 MHz) (Sub6 n25) 1860.0 MHz – 1905.0 MHz (20 MHz) (Sub6 n25) 1862.5 MHz – 1902.5 MHz (25 MHz) (Sub6 n25) 1865.0 MHz – 1900.0 MHz (30 MHz) (Sub6 n25) 1867.5 MHz – 1897.5 MHz (35 MHz) (Sub6 n25) 1870.0 MHz – 1895.0 MHz (40 MHz) (Sub6 n25)
Date(s) of Tests:	February 27, 2024 ~ April 19, 2024
Serial number:	Radiated : R3CX20KJSJW Conducted : - ANT A (Sub6 n2) : 7B5599BDA1507ECE - ANT A (Sub6 n25) : 7B5599BDA3507ECE - ANT I (Sub6 n25(2)) : 7B5599BDA1507ECE

1.1. MAXIMUM OUTPUT POWER

ANT A (Sub6 n2)

Mode (MHz)	Tx Frequency (MHz)	Emission Designator	Modulation	EIRP	
				Max. Power (W)	Max. Power (dBm)
Sub6 n2 (5)	1852.5 – 1907.5	4M60G7D	PI/2 BPSK	0.222	23.47
		4M60G7D	QPSK	0.221	23.44
		4M59W7D	16QAM	0.182	22.60
		4M57W7D	64QAM	0.128	21.08
		4M63W7D	256QAM	0.071	18.53
Sub6 n2 (10)	1855.0 – 1905.0	8M95G7D	PI/2 BPSK	0.228	23.57
		9M00G7D	QPSK	0.224	23.50
		8M96W7D	16QAM	0.179	22.52
		8M99W7D	64QAM	0.132	21.20
		8M95W7D	256QAM	0.074	18.67
Sub6 n2 (15)	1857.5 – 1902.5	13M5G7D	PI/2 BPSK	0.221	23.44
		13M5G7D	QPSK	0.216	23.35
		13M4W7D	16QAM	0.185	22.66
		13M5W7D	64QAM	0.130	21.14
		13M5W7D	256QAM	0.073	18.65
Sub6 n2 (20)	1860.0 – 1900.0	17M9G7D	PI/2 BPSK	0.229	23.59
		17M9G7D	QPSK	0.227	23.56
		18M0W7D	16QAM	0.188	22.75
		17M9W7D	64QAM	0.132	21.21
		17M9W7D	256QAM	0.073	18.61
Sub6 n2 (25)	1862.5 – 1897.5	22M9G7D	PI/2 BPSK	0.259	24.13
		23M0G7D	QPSK	0.253	24.03
		22M9W7D	16QAM	0.203	23.07
		23M0W7D	64QAM	0.147	21.68
		23M0W7D	256QAM	0.080	19.04
Sub6 n2 (30)	1865.0 – 1895.0	28M7G7D	PI/2 BPSK	0.260	24.15
		28M8G7D	QPSK	0.254	24.04
		28M7W7D	16QAM	0.201	23.03
		28M7W7D	64QAM	0.146	21.64
		28M7W7D	256QAM	0.082	19.13
Sub6 n2 (35)	1867.5 – 1892.5	32M2G7D	PI/2 BPSK	0.260	24.15
		32M2G7D	QPSK	0.254	24.04
		32M3W7D	16QAM	0.202	23.05
		32M2W7D	64QAM	0.143	21.54
		32M2W7D	256QAM	0.081	19.08
Sub6 n2 (40)	1870.0 – 1890.0	38M7G7D	PI/2 BPSK	0.264	24.21
		38M7G7D	QPSK	0.261	24.16
		38M7W7D	16QAM	0.204	23.09
		38M7W7D	64QAM	0.148	21.69
		38M7W7D	256QAM	0.080	19.05

ANT A (Sub6 n25)

Mode (MHz)	Tx Frequency (MHz)	Emission Designator	Modulation	EIRP	
				Max. Power (W)	Max. Power (dBm)
Sub6 n25 (5)	1852.5 - 1912.5	4M60G7D	PI/2 BPSK	0.207	23.16
		4M59G7D	QPSK	0.206	23.14
		4M59W7D	16QAM	0.163	22.12
		4M59W7D	64QAM	0.119	20.74
		4M60W7D	256QAM	0.066	18.21
Sub6 n25 (10)	1855.0 - 1910.0	8M98G7D	PI/2 BPSK	0.198	22.97
		8M97G7D	QPSK	0.195	22.90
		8M97W7D	16QAM	0.155	21.89
		9M00W7D	64QAM	0.110	20.42
		8M96W7D	256QAM	0.062	17.92
Sub6 n25 (15)	1857.5 - 1907.5	13M4G7D	PI/2 BPSK	0.208	23.19
		13M4G7D	QPSK	0.202	23.06
		13M4W7D	16QAM	0.160	22.03
		13M5W7D	64QAM	0.115	20.60
		13M5W7D	256QAM	0.066	18.17
Sub6 n25 (20)	1860.0 - 1905.0	17M9G7D	PI/2 BPSK	0.199	22.99
		17M9G7D	QPSK	0.197	22.95
		17M9W7D	16QAM	0.158	21.98
		17M9W7D	64QAM	0.116	20.65
		17M9W7D	256QAM	0.063	17.96
Sub6 n25 (25)	1862.5 – 1902.5	22M9G7D	PI/2 BPSK	0.212	23.27
		22M9G7D	QPSK	0.204	23.09
		22M9W7D	16QAM	0.159	22.01
		22M9W7D	64QAM	0.117	20.68
		23M0W7D	256QAM	0.065	18.12
Sub6 n25 (30)	1865.0 – 1900.0	28M6G7D	PI/2 BPSK	0.222	23.46
		28M7G7D	QPSK	0.213	23.29
		28M6W7D	16QAM	0.171	22.32
		28M6W7D	64QAM	0.122	20.86
		28M6W7D	256QAM	0.070	18.47
Sub6 n25 (35)	1867.5 – 1897.5	32M2G7D	PI/2 BPSK	0.224	23.51
		32M3G7D	QPSK	0.218	23.39
		32M3W7D	16QAM	0.176	22.45
		32M2W7D	64QAM	0.125	20.98
		32M4W7D	256QAM	0.070	18.45
Sub6 n25 (40)	1870.0 – 1895.0	38M6G7D	PI/2 BPSK	0.225	23.53
		38M8G7D	QPSK	0.217	23.37
		38M6W7D	16QAM	0.175	22.42
		38M7W7D	64QAM	0.127	21.03
		38M7W7D	256QAM	0.069	18.41

ANT I (Sub6 n25(2))

Mode (MHz)	Tx Frequency (MHz)	Emission Designator	Modulation	EIRP	
				Max. Power (W)	Max. Power (dBm)
Sub6 n25(2) (5)	1852.5 - 1912.5	4M58G7D	PI/2 BPSK	0.124	20.94
		4M60G7D	QPSK	0.124	20.92
		4M59W7D	16QAM	0.095	19.80
		4M59W7D	64QAM	0.069	18.39
		4M61W7D	256QAM	0.039	15.96
Sub6 n25(2) (10)	1855.0 - 1910.0	8M98G7D	PI/2 BPSK	0.124	20.94
		8M97G7D	QPSK	0.124	20.92
		8M97W7D	16QAM	0.097	19.86
		9M00W7D	64QAM	0.071	18.51
		8M98W7D	256QAM	0.039	15.96
Sub6 n25(2) (15)	1857.5 - 1907.5	13M4G7D	PI/2 BPSK	0.128	21.07
		13M5G7D	QPSK	0.126	21.02
		13M4W7D	16QAM	0.099	19.94
		13M5W7D	64QAM	0.073	18.63
		13M5W7D	256QAM	0.039	15.93
Sub6 n25(2) (20)	1860.0 - 1905.0	18M0G7D	PI/2 BPSK	0.126	21.02
		17M9G7D	QPSK	0.124	20.95
		17M9W7D	16QAM	0.098	19.91
		17M9W7D	64QAM	0.070	18.43
		17M9W7D	256QAM	0.039	15.88
Sub6 n25(2) (25)	1862.5 – 1902.5	22M9G7D	PI/2 BPSK	0.132	21.21
		23M0G7D	QPSK	0.132	21.20
		23M0W7D	16QAM	0.103	20.13
		23M0W7D	64QAM	0.076	18.79
		23M0W7D	256QAM	0.041	16.10
Sub6 n25(2) (30)	1865.0 – 1900.0	28M6G7D	PI/2 BPSK	0.139	21.42
		28M7G7D	QPSK	0.136	21.32
		28M7W7D	16QAM	0.105	20.22
		28M7W7D	64QAM	0.078	18.90
		28M7W7D	256QAM	0.043	16.35
Sub6 n25(2) (35)	1867.5 – 1897.5	32M2G7D	PI/2 BPSK	0.146	21.65
		32M2G7D	QPSK	0.140	21.45
		32M3W7D	16QAM	0.112	20.51
		32M2W7D	64QAM	0.081	19.11
		32M3W7D	256QAM	0.045	16.51
Sub6 n25(2) (40)	1870.0 – 1895.0	38M7G7D	PI/2 BPSK	0.143	21.55
		38M7G7D	QPSK	0.142	21.53
		38M7W7D	16QAM	0.110	20.42
		38M7W7D	64QAM	0.080	19.05
		38M7W7D	256QAM	0.044	16.39

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
Band 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;

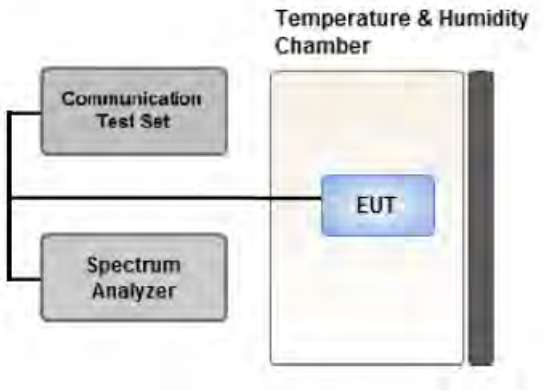
$$\text{Result}_{(dBm)} = \text{Pg}_{(dBm)} - \text{cable loss}_{(dB)} + \text{antenna gain}_{(dBi)}$$

   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)

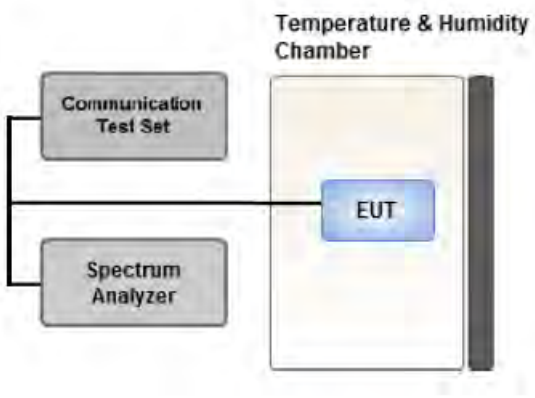
The measurement instrument must have a RBW that is greater than or equal to the OBW of the signal to be measured and a VBW ≥ 3 × RBW.

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.



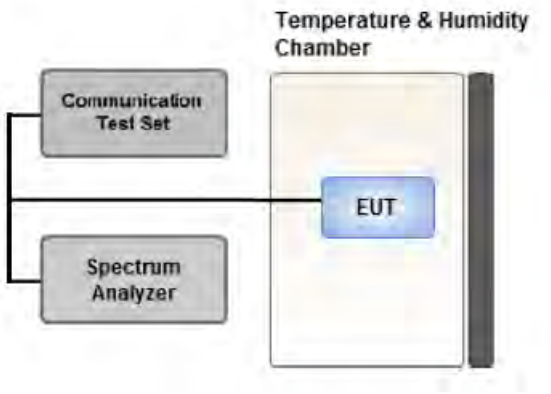
Test setup

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

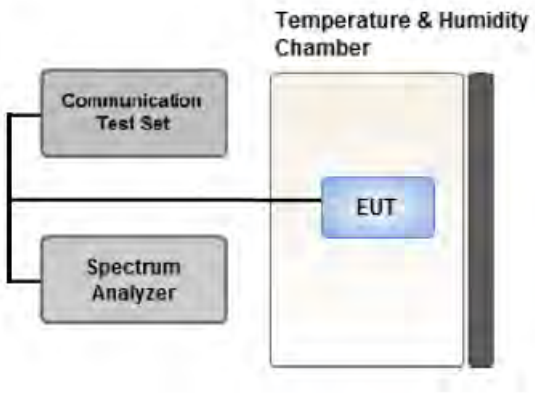
Test Overview

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 BAND 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 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

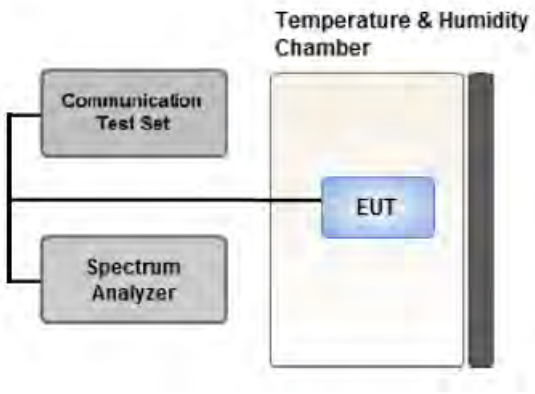
1. Start and stop frequency were set such that the band edge would be placed in the center of the plot
2. Span was set large enough so as to capture all out of band emissions near the band edge
3. RBW > 1 % of the emission bandwidth
4. VBW > 3 x RBW
5. Detector = RMS
6. Number of sweep points ≥ 2 x Span/RBW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

Test Notes

According to FCC 22.917, 24.238, 27.53 specified that power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.
All measurements were done at 2 channels(low and high operational frequency range.)
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.
- The EUT was tested in three modes(Open, Half-open, Closed), the worst case configuration results are reported.
  Worst case (ANT A) : Half-open mode
  Worst case (ANT I) : Open mode
- All modes of operation were investigated and the worst case configuration results are reported.
  Mode: NSA. SA
  Worst case: SA
  Mode : Stand alone, Stand alone + External accessories (Earphone, AC adapter, etc)
  Worst case : Stand alone
- We were performed the RSE test in condition of co-location.
  Mode : Stand alone, Simultaneous transmission scenarios
  Worst case : Stand alone
- Radiated Spurious emissions are measured while operating in EN-DC mode with Sub 6 NR carrier as well as an LTE carrier (anchor).
  All EN-DC mode of operation (=anchor) were investigated and the test results were measured No Peak Found.
  The test results which are attenuated more than 20 dB below the permissible value, so it was not reported.
- All RB sizes, offsets of operation were investigated and the worst case configuration results are reported.
  Please refer to the table below.
- In the case of radiated spurious emissions, all bandwidth of operation was investigated and the worst case bandwidth results are reported.
(Worst case : 40 MHz (ANT A_n2), 40 MHz (ANT A_n25), 35 MHz (ANT I_n25(2)))
- SM-F741U & additional models were tested and the worst case results are reported.
  (Worst case : SM-F741U)

[ANT A_n2 Worst case]

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

	256QAM		
Radiated Spurious and Harmonic Emissions	PI/2 BPSK	See Section 8.2	X

[ANT A_n25 Worst case]

Test Description	Modulation	RB size	RB offset	Axis
Effective Isotropic Radiated Power	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	See Section 9.1		X
Radiated Spurious and Harmonic Emissions	PI/2 BPSK	See Section 9.2		X

[ANT I_n25(2) Worst case]

Test Description	Modulation	RB size	RB offset	Axis
Effective Isotropic Radiated Power	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	See Section 10.1		X
Radiated Spurious and Harmonic Emissions	PI/2 BPSK	See Section 10.2		X

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: NSA, SA
  Worst case: SA
- All RB sizes, offsets of operation were investigated and the worst case configuration results are reported.
  Please refer to the table below.
- SM-F741U & additional models were tested and the worst case results are reported.
  (Worst case : SM-F741U)

[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
Band 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	05/22/2024	Annual
RF Switching System	FBSR-06B (3G HPF + LNA)	T&M SYSTEM	F3L2	05/22/2024	Annual
RF Switching System	FBSR-06B (6G HPF + LNA)	T&M SYSTEM	F3L3	05/22/2024	Annual
RF Switching System	FBSR-06B (LNA)	T&M SYSTEM	F3L4	05/22/2024	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	05/22/2024	Annual
Wideband Radio Communication Tester	MT8000A	Anritsu Corp.	6262302511	05/23/2024	Annual
SIGNAL GENERATOR (100 kHz~40 GHz)	SMB100A	REOHDE & SCHWARZ	177633	06/22/2024	Annual
Signal Analyzer(5 Hz~40.0 GHz)	N9030B	KEYSIGHT	MY55480167	05/24/2024	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, § 24.238(a)	< 43 + 10log10 (P[Watts]) at Band Edge and for all out-of-band emissions	PASS
Conducted Output Power	§ 2.1046	N/A	See Note1
Peak- to- Average Ratio	§ 24.232(d)	< 13 dB	PASS
Frequency stability / variation of ambient temperature	§ 24.235	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	§ 24.232(c)	< 2 Watts max. EIRP	PASS
Radiated Spurious and Harmonic Emissions	§ 2.1053, § 24.238(a)	< 43 + 10log10 (P[Watts]) for all out-of band emissions	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 A_n2)

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
1852.5	Sub6 n2/ 5 MHz [15 kHz]	PI/2 BPSK	-19.19	14.63	10.00	2.12	H	< 2.00	0.178	22.51	1	12
		QPSK	-19.28	14.54	10.00	2.12	H		0.175	22.42		
		16-QAM	-20.13	13.69	10.00	2.12	H		0.144	21.57		
		64-QAM	-21.57	12.25	10.00	2.12	H		0.103	20.13		
		256-QAM	-23.54	10.28	10.00	2.12	H		0.066	18.16		
1880.0		PI/2 BPSK	-18.40	15.20	10.00	2.21	H		0.199	22.99	1	1
		QPSK	-18.47	15.13	10.00	2.21	H		0.196	22.92		
		16-QAM	-19.43	14.17	10.00	2.21	H		0.157	21.96		
		64-QAM	-20.71	12.89	10.00	2.21	H		0.117	20.68		
		256-QAM	-22.99	10.61	10.00	2.21	H		0.069	18.40		
1907.5		PI/2 BPSK	-18.45	15.57	10.01	2.11	H		0.222	23.47	1	12
		QPSK	-18.48	15.54	10.01	2.11	H		0.221	23.44		
		16-QAM	-19.32	14.70	10.01	2.11	H		0.182	22.60		
		64-QAM	-20.84	13.18	10.01	2.11	H		0.128	21.08		
		256-QAM	-23.39	10.63	10.01	2.11	H		0.071	18.53		

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
1855.0	Sub6 n2/ 10 MHz [15 kHz]	PI/2 BPSK	-18.39	15.20	10.00	2.15	H	< 2.00	0.202	23.05	1	50
		QPSK	-18.43	15.16	10.00	2.15	H		0.200	23.01		
		16-QAM	-19.52	14.07	10.00	2.15	H		0.156	21.92		
		64-QAM	-20.90	12.69	10.00	2.15	H		0.113	20.54		
		256-QAM	-23.42	10.17	10.00	2.15	H		0.063	18.02		
1880.0		PI/2 BPSK	-18.18	15.42	10.00	2.21	H		0.209	23.21	1	26
		QPSK	-18.31	15.29	10.00	2.21	H		0.203	23.08		
		16-QAM	-19.13	14.47	10.00	2.21	H		0.168	22.26		
		64-QAM	-20.60	13.00	10.00	2.21	H		0.120	20.79		
		256-QAM	-23.17	10.43	10.00	2.21	H		0.066	18.22		
1905.0		PI/2 BPSK	-18.28	15.69	10.01	2.13	H		0.228	23.57	1	50
		QPSK	-18.35	15.62	10.01	2.13	H		0.224	23.50		
		16-QAM	-19.33	14.64	10.01	2.13	H		0.179	22.52		
		64-QAM	-20.65	13.32	10.01	2.13	H		0.132	21.20		
		256-QAM	-23.18	10.79	10.01	2.13	H		0.074	18.67		

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
1857.5	Sub6 n2/ 15 MHz [15 kHz]	PI/2 BPSK	-18.54	14.80	10.00	2.17	H	< 2.00	0.183	22.63	1	77
		QPSK	-18.64	14.70	10.00	2.17	H		0.179	22.53		
		16-QAM	-19.67	13.67	10.00	2.17	H		0.141	21.50		
		64-QAM	-21.00	12.34	10.00	2.17	H		0.104	20.17		
		256-QAM	-23.54	9.80	10.00	2.17	H		0.058	17.63		
1880.0		PI/2 BPSK	-18.16	15.44	10.00	2.21	H		0.210	23.23	1	77
		QPSK	-18.43	15.17	10.00	2.21	H		0.198	22.96		
		16-QAM	-19.32	14.28	10.00	2.21	H		0.161	22.07		
		64-QAM	-20.71	12.89	10.00	2.21	H		0.117	20.68		
		256-QAM	-23.27	10.33	10.00	2.21	H		0.065	18.12		
1902.5		PI/2 BPSK	-18.33	15.58	10.01	2.15	H		0.221	23.44	1	77
		QPSK	-18.42	15.49	10.01	2.15	H		0.216	23.35		
		16-QAM	-19.11	14.80	10.01	2.15	H		0.185	22.66		
		64-QAM	-20.63	13.28	10.01	2.15	H		0.130	21.14		
		256-QAM	-23.12	10.79	10.01	2.15	H		0.073	18.65		

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
1860.0	Sub6 n2/ 20 MHz [15 kHz]	PI/2 BPSK	-18.45	14.89	10.00	2.17	H	< 2.00	0.187	22.72	1	104
		QPSK	-18.49	14.85	10.00	2.17	H		0.185	22.68		
		16-QAM	-19.50	13.84	10.00	2.17	H		0.147	21.67		
		64-QAM	-20.79	12.55	10.00	2.17	H		0.109	20.38		
		256-QAM	-23.39	9.95	10.00	2.17	H		0.060	17.78		
1880.0		PI/2 BPSK	-18.25	15.35	10.00	2.21	H		0.206	23.14	1	53
		QPSK	-18.41	15.19	10.00	2.21	H		0.199	22.98		
		16-QAM	-19.15	14.45	10.00	2.21	H		0.168	22.24		
		64-QAM	-20.60	13.00	10.00	2.21	H		0.120	20.79		
		256-QAM	-23.19	10.41	10.00	2.21	H		0.066	18.20		
1900.0		PI/2 BPSK	-18.18	15.73	10.01	2.15	H		0.229	23.59	1	104
		QPSK	-18.21	15.70	10.01	2.15	H		0.227	23.56		
		16-QAM	-19.02	14.89	10.01	2.15	H		0.188	22.75		
		64-QAM	-20.56	13.35	10.01	2.15	H		0.132	21.21		
		256-QAM	-23.16	10.75	10.01	2.15	H		0.073	18.61		

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
1862.5	Sub6 n2/ 25 MHz [15 kHz]	PI/2 BPSK	-18.24	15.10	10.00	2.17	H	< 2.00	0.196	22.93	1	131
		QPSK	-18.39	14.95	10.00	2.17	H		0.190	22.78		
		16-QAM	-19.40	13.94	10.00	2.17	H		0.150	21.77		
		64-QAM	-20.79	12.55	10.00	2.17	H		0.109	20.38		
		256-QAM	-23.42	9.92	10.00	2.17	H		0.060	17.75		
1880.0		PI/2 BPSK	-17.88	15.72	10.00	2.21	H		0.224	23.51	1	66
		QPSK	-18.05	15.55	10.00	2.21	H		0.216	23.34		
		16-QAM	-19.12	14.48	10.00	2.21	H		0.169	22.27		
		64-QAM	-20.50	13.10	10.00	2.21	H		0.123	20.89		
		256-QAM	-23.02	10.58	10.00	2.21	H		0.069	18.37		
1897.5		PI/2 BPSK	-17.80	16.28	10.01	2.16	H		0.259	24.13	1	131
		QPSK	-17.90	16.18	10.01	2.16	H		0.253	24.03		
		16-QAM	-18.86	15.22	10.01	2.16	H		0.203	23.07		
		64-QAM	-20.25	13.83	10.01	2.16	H		0.147	21.68		
		256-QAM	-22.89	11.19	10.01	2.16	H		0.080	19.04		

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
1865.0	Sub6 n2/ 30 MHz [15 kHz]	PI/2 BPSK	-18.17	15.46	10.00	2.19	H	< 2.00	0.212	23.27	1	159
		QPSK	-18.22	15.41	10.00	2.19	H		0.210	23.22		
		16-QAM	-19.13	14.50	10.00	2.19	H		0.170	22.31		
		64-QAM	-20.65	12.98	10.00	2.19	H		0.120	20.79		
		256-QAM	-23.26	10.37	10.00	2.19	H		0.066	18.18		
1880.0		PI/2 BPSK	-18.04	15.56	10.00	2.21	H		0.216	23.35	1	80
		QPSK	-18.07	15.53	10.00	2.21	H		0.215	23.32		
		16-QAM	-19.08	14.52	10.00	2.21	H		0.170	22.31		
		64-QAM	-20.47	13.13	10.00	2.21	H		0.124	20.92		
		256-QAM	-23.10	10.50	10.00	2.21	H		0.068	18.29		
1895.0		PI/2 BPSK	-17.78	16.30	10.01	2.16	H		0.260	24.15	1	159
		QPSK	-17.89	16.19	10.01	2.16	H		0.254	24.04		
		16-QAM	-18.90	15.18	10.01	2.16	H		0.201	23.03		
		64-QAM	-20.29	13.79	10.01	2.16	H		0.146	21.64		
		256-QAM	-22.80	11.28	10.01	2.16	H		0.082	19.13		

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
1867.5	Sub6 n2/ 35 MHz [15 kHz]	PI/2 BPSK	-18.26	15.37	10.00	2.19	H	< 2.00	0.208	23.18	1	186
		QPSK	-18.39	15.24	10.00	2.19	H		0.202	23.05		
		16-QAM	-19.34	14.29	10.00	2.19	H		0.162	22.10		
		64-QAM	-20.90	12.73	10.00	2.19	H		0.113	20.54		
		256-QAM	-23.48	10.15	10.00	2.19	H		0.063	17.96		
1880.0		PI/2 BPSK	-17.92	15.68	10.00	2.21	H		0.222	23.47	1	94
		QPSK	-18.02	15.58	10.00	2.21	H		0.217	23.37		
		16-QAM	-19.06	14.54	10.00	2.21	H		0.171	22.33		
		64-QAM	-20.51	13.09	10.00	2.21	H		0.123	20.88		
		256-QAM	-23.11	10.49	10.00	2.21	H		0.067	18.28		
1892.5		PI/2 BPSK	-17.78	16.30	10.01	2.16	H		0.260	24.15	1	186
		QPSK	-17.89	16.19	10.01	2.16	H		0.254	24.04		
		16-QAM	-18.88	15.20	10.01	2.16	H		0.202	23.05		
		64-QAM	-20.39	13.69	10.01	2.16	H		0.143	21.54		
		256-QAM	-22.85	11.23	10.01	2.16	H		0.081	19.08		

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
1870.0	Sub6 n2/ 40 MHz [15 kHz]	PI/2 BPSK	-18.33	15.58	10.00	2.21	H	< 2.00	0.217	23.37	1	214
		QPSK	-18.39	15.52	10.00	2.21	H		0.214	23.31		
		16-QAM	-19.40	14.51	10.00	2.21	H		0.170	22.30		
		64-QAM	-20.87	13.04	10.00	2.21	H		0.121	20.83		
		256-QAM	-23.55	10.36	10.00	2.21	H		0.065	18.15		
1880.0		PI/2 BPSK	-17.97	15.63	10.00	2.21	H		0.220	23.42	1	108
		QPSK	-18.04	15.56	10.00	2.21	H		0.216	23.35		
		16-QAM	-18.98	14.62	10.00	2.21	H		0.174	22.41		
		64-QAM	-20.38	13.22	10.00	2.21	H		0.126	21.01		
		256-QAM	-23.08	10.52	10.00	2.21	H		0.068	18.31		
1890.0		PI/2 BPSK	-17.88	16.39	10.00	2.18	H		0.264	24.21	1	214
		QPSK	-17.93	16.34	10.00	2.18	H		0.261	24.16		
		16-QAM	-19.00	15.27	10.00	2.18	H		0.204	23.09		
		64-QAM	-20.40	13.87	10.00	2.18	H		0.148	21.69		
		256-QAM	-23.04	11.23	10.00	2.18	H		0.080	19.05		

8.2 RADIATED SPURIOUS EMISSIONS

▣ NR Band: N2
▣ Bandwidth: 40 MHz
▣ Modulation: PI/2 BPSK
▣ Distance: 3 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
374000 (1870.0)	3 740.00	-62.00	11.40	-63.22	3.10	V	-54.92	-13.00	1	214
	5 610.00	-61.85	11.90	-56.77	3.79	V	-48.66	-13.00		
	7 480.00	-66.23	10.90	-51.86	4.49	V	-45.45	-13.00		
	9 350.00	-62.36	10.80	-47.29	5.07	V	-41.56	-13.00		
	11 220.00	-65.31	11.40	-46.58	5.60	V	-40.78	-13.00		
376000 (1880.0)	3 760.00	-60.65	11.30	-60.78	3.07	V	-52.55	-13.00	1	108
	5 640.00	-62.11	11.90	-56.51	3.89	V	-48.50	-13.00		
	7 520.00	-65.24	11.10	-51.01	4.51	V	-44.42	-13.00		
	9 400.00	-62.13	10.80	-46.85	5.07	V	-41.12	-13.00		
	11 280.00	-65.41	11.40	-46.11	5.62	V	-40.33	-13.00		
378000 (1890.0)	3 780.00	-61.00	11.30	-61.12	3.15	V	-52.97	-13.00	1	214
	5 670.00	-62.36	11.80	-56.56	3.86	V	-48.62	-13.00		
	7 560.00	-66.27	11.10	-52.15	4.51	V	-45.56	-13.00		
	9 450.00	-63.46	10.90	-48.05	5.14	V	-42.29	-13.00		
	11 340.00	-64.97	11.30	-45.79	5.68	V	-40.17	-13.00		

8.3 PEAK-TO-AVERAGE RATIO

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (dB)
Sub6 n2	5 MHz	1882.5	BPSK	25	0	4.00
			QPSK			4.67
			16-QAM			5.55
			64-QAM			5.96
			256-QAM			6.23
	10 MHz		BPSK	50		4.05
			QPSK			4.57
			16-QAM			5.56
			64-QAM			6.00
			256-QAM			6.39
	15 MHz		BPSK	75		3.85
			QPSK			4.40
			16-QAM			5.28
			64-QAM			5.78
			256-QAM			6.52
	20 MHz		BPSK	100		3.85
			QPSK			4.46
			16-QAM			5.44
			64-QAM			5.87
			256-QAM			6.53

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (dB)
Sub6 n2	25 MHz	1882.5	BPSK	128	0	3.98
			QPSK			4.58
			16-QAM			5.68
			64-QAM			6.08
			256-QAM			6.61
	30 MHz		BPSK	160		3.90
			QPSK			4.49
			16-QAM			5.36
			64-QAM			5.78
			256-QAM			6.80
	35 MHz		BPSK	180		3.94
			QPSK			4.45
			16-QAM			5.42
			64-QAM			5.76
			256-QAM			6.78
	40 MHz		BPSK	216		3.86
			QPSK			4.50
			16-QAM			5.45
			64-QAM			5.92
			256-QAM			6.78

Note:

1. Plots of the EUT's Peak- to- Average Ratio are shown Page 100 ~ 139.

8.4 OCCUPIED BANDWIDTH

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (MHz)
Sub6 n2	5 MHz	1882.5	BPSK	25	0	4.6035
			QPSK			4.5983
			16-QAM			4.5852
			64-QAM			4.5713
			256-QAM			4.6322
	10 MHz		BPSK	50		8.9509
			QPSK			8.9981
			16-QAM			8.9634
			64-QAM			8.9867
			256-QAM			8.9513
	15 MHz		BPSK	75		13.464
			QPSK			13.474
			16-QAM			13.397
			64-QAM			13.473
			256-QAM			13.461
	20 MHz		BPSK	100		17.868
			QPSK			17.912
			16-QAM			17.950
			64-QAM			17.895
			256-QAM			17.938

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (MHz)
Sub6 n2	25 MHz	1882.5	BPSK	128	0	22.924
			QPSK			22.978
			16-QAM			22.924
			64-QAM			22.968
			256-QAM			22.976
	30 MHz		BPSK	160		28.739
			QPSK			28.787
			16-QAM			28.653
			64-QAM			28.665
			256-QAM			28.735
	35 MHz		BPSK	180		32.207
			QPSK			32.206
			16-QAM			32.283
			64-QAM			32.208
			256-QAM			32.223
	40 MHz		BPSK	216		38.728
			QPSK			38.729
			16-QAM			38.665
			64-QAM			38.679
			256-QAM			38.736

Note:

1. Plots of the EUT's Occupied Bandwidth are shown Page 140 ~ 179.

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 n2	5	1852.5	8.0155	30.815	-79.999	-49.184	-13.00
		1882.5	8.0324	30.815	-80.721	-49.906	
		1912.5	5.2074	30.815	-79.787	-48.972	
	10	1855.0	4.0120	30.200	-79.887	-49.687	
		1882.5	7.4168	30.815	-80.515	-49.700	
		1910.0	8.2642	30.815	-79.934	-49.119	
	15	1857.5	1.9398	30.200	-79.753	-49.553	
		1882.5	4.5918	30.200	-80.332	-50.132	
		1907.5	1.9886	30.200	-80.265	-50.065	
	20	1860.0	1.9477	30.200	-79.613	-49.413	
		1882.5	1.9522	30.200	-78.705	-48.505	
		1905.0	1.9727	30.200	-79.851	-49.651	
	25	1862.5	1.9467	30.200	-80.352	-50.152	
		1882.5	1.9672	30.200	-79.837	-49.637	
		1902.5	1.9746	30.200	-79.499	-49.299	
	30	1865.0	1.9502	30.200	-79.833	-49.633	
		1882.5	1.9482	30.200	-78.814	-48.614	
		1900.0	1.9732	30.200	-80.093	-49.893	
	35	1867.5	8.2553	30.815	-79.680	-48.865	
		1882.5	1.9517	30.200	-79.468	-49.268	
		1897.5	1.9742	30.200	-80.002	-49.802	
	40	1870.0	1.9368	30.200	-79.943	-49.743	
		1882.5	1.9746	30.200	-79.749	-49.549	
		1895.0	1.9722	30.200	-78.866	-48.666	

Note:

1. Plots of the EUT's Conducted Spurious Emissions are shown Page 180 ~ 225.
2. Result (dBm) = Measurement Maximum Data (dBm) + Factor (dB)
3. Factor(dB) = Cable Loss + Attenuator + Power Splitter

Frequency Range (GHz)	Factor [dB]
0.03 – 1	27.494
1 – 5	30.200
5 – 10	30.815
10 – 15	31.340
15 – 20	31.713
Above 20	32.355

8.6 BAND EDGE

- Plots of the EUT's Band Edge are shown Page 226 ~ 273.

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 Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1852.5	100 %	+20(Ref)	1852 499 996	0.0	0.000 000	0.000
	100 %	-30	1852 499 994	-2.8	0.000 000	-0.002
	100 %	-20	1852 499 993	-3.4	0.000 000	-0.002
	100 %	-10	1852 499 994	-2.5	0.000 000	-0.001
	100 %	0	1852 499 994	-2.6	0.000 000	-0.001
	100 %	+10	1852 499 994	-2.6	0.000 000	-0.001
	100 %	+30	1852 499 995	-1.6	0.000 000	-0.001
	100 %	+40	1852 499 995	-1.9	0.000 000	-0.001
	100 %	+50	1852 499 994	-2.4	0.000 000	-0.001
	Batt. Endpoint	+20	1852 499 994	-2.1	0.000 000	-0.001
1907.5	100 %	+20(Ref)	1907 499 999	0.0	0.000 000	0.000
	100 %	-30	1907 499 999	-0.1	0.000 000	0.000
	100 %	-20	1907 499 999	-0.1	0.000 000	0.000
	100 %	-10	1907 499 998	-1.1	0.000 000	-0.001
	100 %	0	1907 499 999	-0.5	0.000 000	0.000
	100 %	+10	1907 500 000	0.8	0.000 000	0.000
	100 %	+30	1907 500 001	1.3	0.000 000	0.001
	100 %	+40	1907 500 001	1.1	0.000 000	0.001
	100 %	+50	1907 499 998	-1.0	0.000 000	-0.001
	Batt. Endpoint	+20	1907 499 999	-0.6	0.000 000	0.000

▣ 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 Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1855.0	100 %	+20(Ref)	1854 999 997	0.0	0.000 000	0.000
	100 %	-30	1854 999 996	-1.1	0.000 000	-0.001
	100 %	-20	1854 999 996	-1.9	0.000 000	-0.001
	100 %	-10	1854 999 997	-0.4	0.000 000	0.000
	100 %	0	1854 999 996	-1.3	0.000 000	-0.001
	100 %	+10	1854 999 997	-0.2	0.000 000	0.000
	100 %	+30	1854 999 997	-0.3	0.000 000	0.000
	100 %	+40	1854 999 997	-0.8	0.000 000	0.000
	100 %	+50	1854 999 998	1.0	0.000 000	0.001
	Batt. Endpoint	+20	1854 999 996	-1.0	0.000 000	-0.001
1905.0	100 %	+20(Ref)	1905 000 000	0.0	0.000 000	0.000
	100 %	-30	1904 999 998	-1.1	0.000 000	-0.001
	100 %	-20	1904 999 999	-0.8	0.000 000	0.000
	100 %	-10	1905 000 001	1.0	0.000 000	0.001
	100 %	0	1905 000 000	0.3	0.000 000	0.000
	100 %	+10	1904 999 999	-0.8	0.000 000	0.000
	100 %	+30	1905 000 000	0.3	0.000 000	0.000
	100 %	+40	1904 999 998	-1.2	0.000 000	-0.001
	100 %	+50	1905 000 000	0.1	0.000 000	0.000
	Batt. Endpoint	+20	1904 999 999	-0.9	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 Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1857.5	100 %	+20(Ref)	1857 500 002	0.0	0.000 000	0.000
	100 %	-30	1857 500 003	0.8	0.000 000	0.000
	100 %	-20	1857 500 004	1.8	0.000 000	0.001
	100 %	-10	1857 500 003	1.0	0.000 000	0.001
	100 %	0	1857 500 004	1.4	0.000 000	0.001
	100 %	+10	1857 500 004	1.1	0.000 000	0.001
	100 %	+30	1857 500 005	2.7	0.000 000	0.001
	100 %	+40	1857 500 004	1.6	0.000 000	0.001
	100 %	+50	1857 500 003	0.3	0.000 000	0.000
	Batt. Endpoint	+20	1857 500 002	-0.7	0.000 000	0.000
1902.5	100 %	+20(Ref)	1902 500 006	0.0	0.000 000	0.000
	100 %	-30	1902 500 013	6.8	0.000 000	0.004
	100 %	-20	1902 500 012	6.6	0.000 000	0.003
	100 %	-10	1902 500 011	5.2	0.000 000	0.003
	100 %	0	1902 500 011	5.4	0.000 000	0.003
	100 %	+10	1902 500 011	5.7	0.000 000	0.003
	100 %	+30	1902 500 013	7.6	0.000 000	0.004
	100 %	+40	1902 500 011	5.0	0.000 000	0.003
	100 %	+50	1902 500 011	5.6	0.000 000	0.003
	Batt. Endpoint	+20	1902 500 012	6.7	0.000 000	0.004

▣ 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 Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1860.0	100 %	+20(Ref)	1859 999 999	0.0	0.000 000	0.000
	100 %	-30	1859 999 997	-1.9	0.000 000	-0.001
	100 %	-20	1859 999 996	-2.4	0.000 000	-0.001
	100 %	-10	1859 999 996	-2.5	0.000 000	-0.001
	100 %	0	1859 999 996	-2.9	0.000 000	-0.002
	100 %	+10	1859 999 995	-3.4	0.000 000	-0.002
	100 %	+30	1859 999 998	-1.0	0.000 000	-0.001
	100 %	+40	1859 999 998	-1.1	0.000 000	-0.001
	100 %	+50	1859 999 997	-1.5	0.000 000	-0.001
	Batt. Endpoint	+20	1859 999 997	-1.4	0.000 000	-0.001
1900.0	100 %	+20(Ref)	1900 000 000	0.0	0.000 000	0.000
	100 %	-30	1899 999 998	-1.6	0.000 000	-0.001
	100 %	-20	1900 000 000	-0.3	0.000 000	0.000
	100 %	-10	1900 000 002	1.5	0.000 000	0.001
	100 %	0	1899 999 999	-0.7	0.000 000	0.000
	100 %	+10	1899 999 997	-2.7	0.000 000	-0.001
	100 %	+30	1899 999 997	-3.0	0.000 000	-0.002
	100 %	+40	1899 999 999	-1.4	0.000 000	-0.001
	100 %	+50	1899 999 999	-1.2	0.000 000	-0.001
	Batt. Endpoint	+20	1899 999 998	-2.1	0.000 000	-0.001

▣ 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 Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1862.5	100 %	+20(Ref)	1862 500 006	0.0	0.000 000	0.000
	100 %	-30	1862 500 015	9.1	0.000 000	0.005
	100 %	-20	1862 500 015	8.7	0.000 000	0.005
	100 %	-10	1862 500 017	11.3	0.000 001	0.006
	100 %	0	1862 500 015	9.3	0.000 000	0.005
	100 %	+10	1862 500 016	9.4	0.000 001	0.005
	100 %	+30	1862 500 015	9.3	0.000 000	0.005
	100 %	+40	1862 500 014	8.2	0.000 000	0.004
	100 %	+50	1862 500 014	8.2	0.000 000	0.004
	Batt. Endpoint	+20	1862 500 014	8.0	0.000 000	0.004
1897.5	100 %	+20(Ref)	1897 500 008	0.0	0.000 000	0.000
	100 %	-30	1897 500 015	7.8	0.000 000	0.004
	100 %	-20	1897 500 016	8.1	0.000 000	0.004
	100 %	-10	1897 500 015	7.1	0.000 000	0.004
	100 %	0	1897 500 016	8.4	0.000 000	0.004
	100 %	+10	1897 500 017	9.6	0.000 001	0.005
	100 %	+30	1897 500 016	8.2	0.000 000	0.004
	100 %	+40	1897 500 016	8.6	0.000 000	0.005
	100 %	+50	1897 500 018	10.0	0.000 001	0.005
	Batt. Endpoint	+20	1897 500 016	8.4	0.000 000	0.004

▣ 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 Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1865.0	100 %	+20(Ref)	1865 000 005	0.0	0.000 000	0.000
	100 %	-30	1865 000 013	7.4	0.000 000	0.004
	100 %	-20	1865 000 012	7.2	0.000 000	0.004
	100 %	-10	1865 000 011	6.3	0.000 000	0.003
	100 %	0	1865 000 011	5.8	0.000 000	0.003
	100 %	+10	1865 000 013	8.2	0.000 000	0.004
	100 %	+30	1865 000 013	7.7	0.000 000	0.004
	100 %	+40	1865 000 012	6.4	0.000 000	0.003
	100 %	+50	1865 000 012	6.4	0.000 000	0.003
	Batt. Endpoint	+20	1865 000 010	5.0	0.000 000	0.003
1895.0	100 %	+20(Ref)	1895 000 006	0.0	0.000 000	0.000
	100 %	-30	1895 000 012	5.3	0.000 000	0.003
	100 %	-20	1895 000 013	6.6	0.000 000	0.003
	100 %	-10	1895 000 011	4.7	0.000 000	0.002
	100 %	0	1895 000 012	5.9	0.000 000	0.003
	100 %	+10	1895 000 014	8.0	0.000 000	0.004
	100 %	+30	1895 000 013	6.4	0.000 000	0.003
	100 %	+40	1895 000 014	7.3	0.000 000	0.004
	100 %	+50	1895 000 012	5.4	0.000 000	0.003
	Batt. Endpoint	+20	1895 000 013	6.8	0.000 000	0.004

▣ 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 Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1867.5	100 %	+20(Ref)	1867 500 010	0.0	0.000 000	0.000
	100 %	-30	1867 500 019	9.1	0.000 000	0.005
	100 %	-20	1867 500 019	8.7	0.000 000	0.005
	100 %	-10	1867 500 018	7.7	0.000 000	0.004
	100 %	0	1867 500 019	8.6	0.000 000	0.005
	100 %	+10	1867 500 018	7.6	0.000 000	0.004
	100 %	+30	1867 500 020	10.3	0.000 001	0.005
	100 %	+40	1867 500 018	8.2	0.000 000	0.004
	100 %	+50	1867 500 018	7.4	0.000 000	0.004
	Batt. Endpoint	+20	1867 500 020	10.1	0.000 001	0.005
1892.5	100 %	+20(Ref)	1892 500 011	0.0	0.000 000	0.000
	100 %	-30	1892 500 018	7.4	0.000 000	0.004
	100 %	-20	1892 500 019	8.0	0.000 000	0.004
	100 %	-10	1892 500 019	8.3	0.000 000	0.004
	100 %	0	1892 500 019	8.4	0.000 000	0.004
	100 %	+10	1892 500 020	9.1	0.000 000	0.005
	100 %	+30	1892 500 021	9.8	0.000 001	0.005
	100 %	+40	1892 500 019	7.8	0.000 000	0.004
	100 %	+50	1892 500 022	11.4	0.000 001	0.006
	Batt. Endpoint	+20	1892 500 019	7.8	0.000 000	0.004

▣ 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 Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1870.0	100 %	+20(Ref)	1870 000 006	0.0	0.000 000	0.000
	100 %	-30	1870 000 012	6.1	0.000 000	0.003
	100 %	-20	1870 000 012	5.8	0.000 000	0.003
	100 %	-10	1870 000 015	9.1	0.000 000	0.005
	100 %	0	1870 000 012	6.3	0.000 000	0.003
	100 %	+10	1870 000 012	5.4	0.000 000	0.003
	100 %	+30	1870 000 011	4.7	0.000 000	0.002
	100 %	+40	1870 000 015	8.4	0.000 000	0.004
	100 %	+50	1870 000 011	4.5	0.000 000	0.002
	Batt. Endpoint	+20	1870 000 014	7.7	0.000 000	0.004
1890.0	100 %	+20(Ref)	1890 000 006	0.0	0.000 000	0.000
	100 %	-30	1890 000 012	6.5	0.000 000	0.003
	100 %	-20	1890 000 011	5.7	0.000 000	0.003
	100 %	-10	1890 000 009	3.0	0.000 000	0.002
	100 %	0	1890 000 010	4.3	0.000 000	0.002
	100 %	+10	1890 000 010	4.1	0.000 000	0.002
	100 %	+30	1890 000 011	5.4	0.000 000	0.003
	100 %	+40	1890 000 012	6.0	0.000 000	0.003
	100 %	+50	1890 000 012	6.3	0.000 000	0.003
	Batt. Endpoint	+20	1890 000 009	3.4	0.000 000	0.002

8.8 UPLINK CARRIER AGGREGATION

Test Note

1. All tests were evaluated for the two bands using various combinations of RB size, RB offset, modulation, and channel bandwidth.
2. All modes of operation were investigated and the worst case configuration results are reported in this section.
   Please refer to the table below.
3. The worst case is reported with the modulations, RB sizes and offsets.
   - N2A(ANT A)-N48A(ANT F)
     (PCC - Modulation: BPSK, RB: 1, RB Offset: 214, SCC - Modulation: BPSK, RB: 1, RB Offset: 25)

Radiated Spurious Emissions

PCC	SCC	PCC		SCC	
		BW(MHz)	Channel	BW(MHz)	Channel
N2A(ANT A)	N48A(ANT F)	40	378000	20	637334

8.8.1 RADIATED SPURIOUS EMISSIONS

N2A(ANT A)(PCC)- N48A(ANT F)(SCC)

Freq.(MHz)	Measured Level [dBm]	Ant. Gain (dBi)	Substitute Level [dBm]	C.L	Pol.	Result (dBm)	Limit (dBm)
3 780.00	-62.92	11.30	-63.04	3.15	V	-54.89	-13.00
5 670.00	-63.64	11.80	-57.84	3.86	V	-49.90	-13.00
7 560.00	-66.44	11.10	-52.32	4.51	V	-45.73	-13.00

Freq.(MHz)	Measured Level [dBm]	Ant. Gain (dBi)	Substitute Level [dBm]	C.L	Pol.	Result (dBm)	Limit (dBm)
7 120.02	-64.55	10.50	-57.44	4.39	V	-51.33	-40.00
10 680.03	-63.29	11.10	-51.82	5.46	V	-46.18	-40.00
14 240.04	-62.86	12.40	-54.00	6.44	V	-48.04	-40.00

9. TEST DATA(ANT A_n25)

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
1852.5	Sub6 n25/ 5 MHz [15 kHz]	PI/2 BPSK	-18.28	15.31	10.00	2.15	H	< 2.00	0.207	23.16	1	1
		QPSK	-18.30	15.29	10.00	2.15	H		0.206	23.14		
		16-QAM	-19.32	14.27	10.00	2.15	H		0.163	22.12		
		64-QAM	-20.70	12.89	10.00	2.15	H		0.119	20.74		
		256-QAM	-23.23	10.36	10.00	2.15	H		0.066	18.21		
1882.5		PI/2 BPSK	-18.70	14.90	10.00	2.21	H		0.186	22.69	1	1
		QPSK	-18.75	14.85	10.00	2.21	H		0.184	22.64		
		16-QAM	-19.72	13.88	10.00	2.21	H		0.147	21.67		
		64-QAM	-21.12	12.48	10.00	2.21	H		0.107	20.27		
		256-QAM	-23.70	9.90	10.00	2.21	H		0.059	17.69		
1912.5		PI/2 BPSK	-18.97	15.05	10.01	2.11	H		0.197	22.95	1	1
		QPSK	-19.00	15.02	10.01	2.11	H		0.196	22.92		
		16-QAM	-19.93	14.09	10.01	2.11	H		0.158	21.99		
		64-QAM	-21.27	12.75	10.01	2.11	H		0.116	20.65		
		256-QAM	-23.95	10.07	10.01	2.11	H		0.063	17.97		

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
1855.0	Sub6 n25/ 10 MHz [15 kHz]	PI/2 BPSK	-18.47	15.12	10.00	2.15	H	< 2.00	0.198	22.97	1	1
		QPSK	-18.54	15.05	10.00	2.15	H		0.195	22.90		
		16-QAM	-19.59	14.00	10.00	2.15	H		0.153	21.85		
		64-QAM	-21.02	12.57	10.00	2.15	H		0.110	20.42		
		256-QAM	-23.54	10.05	10.00	2.15	H		0.062	17.90		
1882.5		PI/2 BPSK	-18.73	14.87	10.00	2.21	H		0.185	22.66	1	1
		QPSK	-18.87	14.73	10.00	2.21	H		0.179	22.52		
		16-QAM	-19.78	13.82	10.00	2.21	H		0.145	21.61		
		64-QAM	-21.23	12.37	10.00	2.21	H		0.104	20.16		
		256-QAM	-23.68	9.92	10.00	2.21	H		0.059	17.71		
1910.0		PI/2 BPSK	-18.97	15.05	10.01	2.11	H		0.197	22.95	1	26
		QPSK	-19.13	14.89	10.01	2.11	H		0.190	22.79		
		16-QAM	-20.03	13.99	10.01	2.11	H		0.155	21.89		
		64-QAM	-21.62	12.40	10.01	2.11	H		0.107	20.30		
		256-QAM	-24.00	10.02	10.01	2.11	H		0.062	17.92		

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
1857.5	Sub6 n25/ 15 MHz [15 kHz]	PI/2 BPSK	-18.42	15.17	10.00	2.15	H	< 2.00	0.201	23.02	1	1
		QPSK	-18.60	14.99	10.00	2.15	H		0.192	22.84		
		16-QAM	-19.45	14.14	10.00	2.15	H		0.158	21.99		
		64-QAM	-20.89	12.70	10.00	2.15	H		0.114	20.55		
		256-QAM	-23.53	10.06	10.00	2.15	H		0.062	17.91		
1882.5		PI/2 BPSK	-18.70	14.90	10.00	2.21	H		0.186	22.69	1	1
		QPSK	-18.92	14.68	10.00	2.21	H		0.177	22.47		
		16-QAM	-19.75	13.85	10.00	2.21	H		0.146	21.64		
		64-QAM	-21.19	12.41	10.00	2.21	H		0.105	20.20		
		256-QAM	-23.80	9.80	10.00	2.21	H		0.058	17.59		
1907.5		PI/2 BPSK	-18.66	15.31	10.01	2.13	H		0.208	23.19	1	1
		QPSK	-18.79	15.18	10.01	2.13	H		0.202	23.06		
		16-QAM	-19.82	14.15	10.01	2.13	H		0.160	22.03		
		64-QAM	-21.25	12.72	10.01	2.13	H		0.115	20.60		
		256-QAM	-23.68	10.29	10.01	2.13	H		0.066	18.17		

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
1860.0	Sub6 n25/ 20 MHz [15 kHz]	PI/2 BPSK	-18.49	14.85	10.00	2.17	H	< 2.00	0.185	22.68	1	1
		QPSK	-18.52	14.82	10.00	2.17	H		0.184	22.65		
		16-QAM	-19.49	13.85	10.00	2.17	H		0.147	21.68		
		64-QAM	-20.85	12.49	10.00	2.17	H		0.108	20.32		
		256-QAM	-23.56	9.78	10.00	2.17	H		0.058	17.61		
1882.5		PI/2 BPSK	-18.78	14.82	10.00	2.21	H		0.183	22.61	1	1
		QPSK	-18.86	14.74	10.00	2.21	H		0.179	22.53		
		16-QAM	-19.74	13.86	10.00	2.21	H		0.146	21.65		
		64-QAM	-21.20	12.40	10.00	2.21	H		0.105	20.19		
		256-QAM	-23.79	9.81	10.00	2.21	H		0.058	17.60		
1905.0		PI/2 BPSK	-18.86	15.11	10.01	2.13	H		0.199	22.99	1	1
		QPSK	-18.90	15.07	10.01	2.13	H		0.197	22.95		
		16-QAM	-19.87	14.10	10.01	2.13	H		0.158	21.98		
		64-QAM	-21.20	12.77	10.01	2.13	H		0.116	20.65		
		256-QAM	-23.89	10.08	10.01	2.13	H		0.063	17.96		

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
1862.5	Sub6 n25/ 25 MHz [15 kHz]	PI/2 BPSK	-18.25	15.09	10.00	2.17	H	< 2.00	0.196	22.92	1	1
		QPSK	-18.29	15.05	10.00	2.17	H		0.194	22.88		
		16-QAM	-19.31	14.03	10.00	2.17	H		0.154	21.86		
		64-QAM	-20.80	12.54	10.00	2.17	H		0.109	20.37		
		256-QAM	-23.37	9.97	10.00	2.17	H		0.060	17.80		
1882.5		PI/2 BPSK	-18.46	15.14	10.00	2.21	H		0.197	22.93	1	1
		QPSK	-18.67	14.93	10.00	2.21	H		0.187	22.72		
		16-QAM	-19.51	14.09	10.00	2.21	H		0.154	21.88		
		64-QAM	-20.92	12.68	10.00	2.21	H		0.112	20.47		
		256-QAM	-23.50	10.10	10.00	2.21	H		0.062	17.89		
1902.5		PI/2 BPSK	-18.50	15.41	10.01	2.15	H		0.212	23.27	1	1
		QPSK	-18.68	15.23	10.01	2.15	H		0.204	23.09		
		16-QAM	-19.76	14.15	10.01	2.15	H		0.159	22.01		
		64-QAM	-21.09	12.82	10.01	2.15	H		0.117	20.68		
		256-QAM	-23.65	10.26	10.01	2.15	H		0.065	18.12		

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
1865.0	Sub6 n25/ 30 MHz [15 kHz]	PI/2 BPSK	-18.23	15.40	10.00	2.19	H	< 2.00	0.209	23.21	1	1
		QPSK	-18.41	15.22	10.00	2.19	H		0.201	23.03		
		16-QAM	-19.16	14.47	10.00	2.19	H		0.169	22.28		
		64-QAM	-20.64	12.99	10.00	2.19	H		0.120	20.80		
		256-QAM	-23.26	10.37	10.00	2.19	H		0.066	18.18		
1882.5		PI/2 BPSK	-18.28	15.32	10.00	2.21	H		0.205	23.11	1	1
		QPSK	-18.48	15.12	10.00	2.21	H		0.196	22.91		
		16-QAM	-19.45	14.15	10.00	2.21	H		0.156	21.94		
		64-QAM	-20.94	12.66	10.00	2.21	H		0.111	20.45		
		256-QAM	-23.44	10.16	10.00	2.21	H		0.062	17.95		
1900.0		PI/2 BPSK	-18.31	15.60	10.01	2.15	H		0.222	23.46	1	1
		QPSK	-18.48	15.43	10.01	2.15	H		0.213	23.29		
		16-QAM	-19.45	14.46	10.01	2.15	H		0.171	22.32		
		64-QAM	-20.91	13.00	10.01	2.15	H		0.122	20.86		
		256-QAM	-23.30	10.61	10.01	2.15	H		0.070	18.47		

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
1867.5	Sub6 n25/ 35 MHz [15 kHz]	PI/2 BPSK	-18.20	15.71	10.00	2.21	H	< 2.00	0.224	23.50	1	1
		QPSK	-18.35	15.56	10.00	2.21	H		0.216	23.35		
		16-QAM	-19.25	14.66	10.00	2.21	H		0.176	22.45		
		64-QAM	-20.77	13.14	10.00	2.21	H		0.124	20.93		
		256-QAM	-23.25	10.66	10.00	2.21	H		0.070	18.45		
1882.5		PI/2 BPSK	-18.39	15.21	10.00	2.21	H		0.200	23.00	1	1
		QPSK	-18.51	15.09	10.00	2.21	H		0.194	22.88		
		16-QAM	-19.53	14.07	10.00	2.21	H		0.154	21.86		
		64-QAM	-20.91	12.69	10.00	2.21	H		0.112	20.48		
		256-QAM	-23.55	10.05	10.00	2.21	H		0.061	17.84		
1897.5		PI/2 BPSK	-18.42	15.66	10.01	2.16	H		0.224	23.51	1	1
		QPSK	-18.54	15.54	10.01	2.16	H		0.218	23.39		
		16-QAM	-19.58	14.50	10.01	2.16	H		0.172	22.35		
		64-QAM	-20.95	13.13	10.01	2.16	H		0.125	20.98		
		256-QAM	-23.50	10.58	10.01	2.16	H		0.070	18.43		

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
1870.0	Sub6 n25/ 40 MHz [15 kHz]	PI/2 BPSK	-18.24	15.67	10.00	2.21	H	< 2.00	0.222	23.46	1	1
		QPSK	-18.37	15.54	10.00	2.21	H		0.215	23.33		
		16-QAM	-19.29	14.62	10.00	2.21	H		0.174	22.41		
		64-QAM	-20.83	13.08	10.00	2.21	H		0.122	20.87		
		256-QAM	-23.34	10.57	10.00	2.21	H		0.069	18.36		
1882.5		PI/2 BPSK	-18.41	15.19	10.00	2.21	H		0.199	22.98	1	1
		QPSK	-18.59	15.01	10.00	2.21	H		0.191	22.80		
		16-QAM	-19.51	14.09	10.00	2.21	H		0.154	21.88		
		64-QAM	-20.98	12.62	10.00	2.21	H		0.110	20.41		
		256-QAM	-23.50	10.10	10.00	2.21	H		0.062	17.89		
1895.0		PI/2 BPSK	-18.40	15.68	10.01	2.16	H		0.225	23.53	1	1
		QPSK	-18.56	15.52	10.01	2.16	H		0.217	23.37		
		16-QAM	-19.51	14.57	10.01	2.16	H		0.175	22.42		
		64-QAM	-20.90	13.18	10.01	2.16	H		0.127	21.03		
		256-QAM	-23.52	10.56	10.01	2.16	H		0.069	18.41		

9.2 RADIATED SPURIOUS EMISSIONS

▣ NR Band: N25
▣ Bandwidth: 40 MHz
▣ Modulation: PI/2 BPSK
▣ Distance: 3 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
374000 (1870.0)	3 740.00	-60.93	11.40	-62.15	3.10	V	-53.85	-13.00	1	1
	5 610.00	-62.88	11.90	-57.80	3.79	V	-49.69	-13.00		
	7 480.00	-64.02	10.90	-49.66	4.49	V	-43.25	-13.00		
	9 350.00	-62.55	10.80	-47.48	5.07	V	-41.75	-13.00		
	11 220.00	-63.26	11.40	-44.53	5.60	V	-38.73	-13.00		
376500 (1882.5)	3 765.00	-60.73	11.30	-60.80	3.09	V	-52.59	-13.00	1	1
	5 647.50	-62.44	11.85	-57.02	3.89	V	-49.06	-13.00		
	7 530.00	-65.37	11.10	-50.90	4.50	V	-44.30	-13.00		
	9 412.50	-61.54	10.80	-46.21	5.07	V	-40.48	-13.00		
	11 295.00	-62.72	11.35	-44.39	5.64	V	-38.68	-13.00		
379000 (1895.0)	3 790.00	-61.17	11.30	-61.48	3.17	V	-53.35	-13.00	1	1
	5 685.00	-63.08	11.80	-56.72	3.88	V	-48.80	-13.00		
	7 580.00	-64.89	11.10	-51.10	4.54	V	-44.54	-13.00		
	9 475.00	-61.93	10.90	-46.70	5.09	V	-40.89	-13.00		
	11 370.00	-63.69	11.30	-44.43	5.69	V	-38.82	-13.00		

9.3 PEAK-TO-AVERAGE RATIO

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (dB)
Sub6 n25	5 MHz	1882.5	BPSK	25	0	4.06
			QPSK			4.64
			16-QAM			5.49
			64-QAM			5.95
			256-QAM			6.05
	10 MHz		BPSK	50		3.97
			QPSK			4.55
			16-QAM			5.52
			64-QAM			5.95
			256-QAM			6.35
	15 MHz		BPSK	75		4.01
			QPSK			4.49
			16-QAM			5.35
			64-QAM			5.87
			256-QAM			6.55
	20 MHz		BPSK	100		3.86
			QPSK			4.42
			16-QAM			5.31
			64-QAM			5.74
			256-QAM			6.32

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (dB)
Sub6 n25	25 MHz	1882.5	BPSK	128	0	4.09
			QPSK			4.52
			16-QAM			5.56
			64-QAM			5.95
			256-QAM			6.54
	30 MHz		BPSK	160		4.04
			QPSK			4.51
			16-QAM			5.35
			64-QAM			5.91
			256-QAM			6.52
	35 MHz		BPSK	180		3.89
			QPSK			4.51
			16-QAM			5.36
			64-QAM			6.11
			256-QAM			6.78
	40 MHz		BPSK	216		3.94
			QPSK			4.50
			16-QAM			5.43
			64-QAM			6.19
			256-QAM			6.88

Note:

1. Plots of the EUT's Peak- to- Average Ratio are shown Page 275 ~ 314.

9.4 OCCUPIED BANDWIDTH

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (MHz)
Sub6 n25	5 MHz	1882.5	BPSK	25	0	4.6029
			QPSK			4.5927
			16-QAM			4.5906
			64-QAM			4.5874
			256-QAM			4.6003
	10 MHz		BPSK	50		8.9841
			QPSK			8.9684
			16-QAM			8.9662
			64-QAM			8.9995
			256-QAM			8.9641
	15 MHz		BPSK	75		13.440
			QPSK			13.444
			16-QAM			13.402
			64-QAM			13.470
			256-QAM			13.472
	20 MHz		BPSK	100		17.933
			QPSK			17.905
			16-QAM			17.892
			64-QAM			17.916
			256-QAM			17.887

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (MHz)
Sub6 n25	25 MHz	1882.5	BPSK	128	0	22.917
			QPSK			22.915
			16-QAM			22.933
			64-QAM			22.937
			256-QAM			22.976
	30 MHz		BPSK	160		28.602
			QPSK			28.682
			16-QAM			28.618
			64-QAM			28.595
			256-QAM			28.614
	35 MHz		BPSK	180		32.244
			QPSK			32.272
			16-QAM			32.316
			64-QAM			32.234
			256-QAM			32.372
	40 MHz		BPSK	216		38.633
			QPSK			38.766
			16-QAM			38.636
			64-QAM			38.674
			256-QAM			38.680

Note:

1. Plots of the EUT's Occupied Bandwidth are shown Page 315 ~ 354.

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 n25	5	1852.5	3.7453	30.200	-70.192	-39.992	-13.00
		1882.5	4.0240	30.200	-70.140	-39.940	
		1912.5	9.1321	30.815	-70.710	-39.895	
	10	1855.0	4.9507	30.200	-70.435	-40.235	
		1882.5	9.7024	30.815	-70.373	-39.558	
		1910.0	9.6899	30.815	-70.070	-39.255	
	15	1857.5	9.6785	30.815	-70.873	-40.058	
		1882.5	8.0439	30.815	-70.954	-40.139	
		1907.5	8.6152	30.815	-70.291	-39.476	
	20	1860.0	3.8031	30.200	-70.879	-40.679	
		1882.5	8.2592	30.815	-69.948	-39.133	
		1905.0	5.2049	30.815	-70.165	-39.350	
	25	1862.5	5.7553	30.815	-70.152	-39.337	
		1882.5	9.1695	30.815	-70.548	-39.733	
		1902.5	8.0090	30.815	-70.302	-39.487	
	30	1865.0	9.6959	30.815	-69.567	-38.752	
		1882.5	9.4442	30.815	-70.750	-39.935	
		1900.0	5.1785	30.815	-69.647	-38.832	
	35	1867.5	9.9870	30.815	-70.957	-40.142	
		1882.5	8.2543	30.815	-70.797	-39.982	
		1897.5	4.9332	30.200	-70.911	-40.711	
	40	1870.0	3.8176	30.200	-70.309	-40.109	
		1882.5	8.8719	30.815	-70.141	-39.326	
		1895.0	3.7977	30.200	-70.614	-40.414	

Note:

1. Plots of the EUT's Conducted Spurious Emissions are shown Page 355 ~ 402.
2. Result (dBm) = Measurement Maximum Data (dBm) + Factor (dB)
3. Factor(dB) = Cable Loss + Attenuator + Power Splitter

Frequency Range (GHz)	Factor [dB]
0.03 – 1	27.494
1 – 5	30.200
5 – 10	30.815
10 – 15	31.340
15 – 20	31.713
Above 20	32.355

9.6 BAND EDGE

- Plots of the EUT's Band Edge are shown Page 403 ~ 450.

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 Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1852.5	100 %	+20(Ref)	1852 499 996	0.0	0.000 000	0.000
	100 %	-30	1852 499 993	-2.9	0.000 000	-0.002
	100 %	-20	1852 499 995	-1.6	0.000 000	-0.001
	100 %	-10	1852 499 993	-3.4	0.000 000	-0.002
	100 %	0	1852 499 994	-2.6	0.000 000	-0.001
	100 %	+10	1852 499 994	-2.3	0.000 000	-0.001
	100 %	+30	1852 499 994	-2.0	0.000 000	-0.001
	100 %	+40	1852 499 995	-1.6	0.000 000	-0.001
	100 %	+50	1852 499 994	-2.3	0.000 000	-0.001
	Batt. Endpoint	+20	1852 499 995	-1.8	0.000 000	-0.001
1912.5	100 %	+20(Ref)	1912 499 997	0.0	0.000 000	0.000
	100 %	-30	1912 499 994	-3.2	0.000 000	-0.002
	100 %	-20	1912 499 995	-1.9	0.000 000	-0.001
	100 %	-10	1912 499 995	-2.3	0.000 000	-0.001
	100 %	0	1912 499 993	-4.0	0.000 000	-0.002
	100 %	+10	1912 499 994	-3.2	0.000 000	-0.002
	100 %	+30	1912 499 995	-2.0	0.000 000	-0.001
	100 %	+40	1912 499 995	-2.7	0.000 000	-0.001
	100 %	+50	1912 499 996	-1.2	0.000 000	-0.001
	Batt. Endpoint	+20	1912 499 994	-3.3	0.000 000	-0.002

▣ 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 Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1855.0	100 %	+20(Ref)	1854 999 998	0.0	0.000 000	0.000
	100 %	-30	1854 999 996	-2.1	0.000 000	-0.001
	100 %	-20	1854 999 997	-1.9	0.000 000	-0.001
	100 %	-10	1854 999 997	-1.5	0.000 000	-0.001
	100 %	0	1854 999 996	-2.5	0.000 000	-0.001
	100 %	+10	1854 999 999	0.6	0.000 000	0.000
	100 %	+30	1854 999 999	0.6	0.000 000	0.000
	100 %	+40	1854 999 998	-0.3	0.000 000	0.000
	100 %	+50	1854 999 995	-3.1	0.000 000	-0.002
	Batt. Endpoint	+20	1854 999 999	0.4	0.000 000	0.000
1910.0	100 %	+20(Ref)	1910 000 003	0.0	0.000 000	0.000
	100 %	-30	1910 000 005	1.5	0.000 000	0.001
	100 %	-20	1910 000 008	5.2	0.000 000	0.003
	100 %	-10	1910 000 007	3.4	0.000 000	0.002
	100 %	0	1910 000 006	2.8	0.000 000	0.001
	100 %	+10	1910 000 006	2.7	0.000 000	0.001
	100 %	+30	1910 000 006	2.3	0.000 000	0.001
	100 %	+40	1910 000 005	2.2	0.000 000	0.001
	100 %	+50	1910 000 006	2.4	0.000 000	0.001
	Batt. Endpoint	+20	1910 000 006	2.3	0.000 000	0.001

▣ 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 Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1857.5	100 %	+20(Ref)	1857 500 002	0.0	0.000 000	0.000
	100 %	-30	1857 500 003	1.6	0.000 000	0.001
	100 %	-20	1857 500 004	2.5	0.000 000	0.001
	100 %	-10	1857 500 002	0.6	0.000 000	0.000
	100 %	0	1857 500 003	1.6	0.000 000	0.001
	100 %	+10	1857 500 004	2.6	0.000 000	0.001
	100 %	+30	1857 500 006	4.2	0.000 000	0.002
	100 %	+40	1857 500 002	0.6	0.000 000	0.000
	100 %	+50	1857 500 005	3.7	0.000 000	0.002
	Batt. Endpoint	+20	1857 500 003	1.5	0.000 000	0.001
1907.5	100 %	+20(Ref)	1907 500 005	0.0	0.000 000	0.000
	100 %	-30	1907 500 009	4.3	0.000 000	0.002
	100 %	-20	1907 500 009	4.3	0.000 000	0.002
	100 %	-10	1907 500 009	4.8	0.000 000	0.003
	100 %	0	1907 500 008	3.8	0.000 000	0.002
	100 %	+10	1907 500 009	4.0	0.000 000	0.002
	100 %	+30	1907 500 009	4.1	0.000 000	0.002
	100 %	+40	1907 500 008	3.7	0.000 000	0.002
	100 %	+50	1907 500 009	4.3	0.000 000	0.002
	Batt. Endpoint	+20	1907 500 009	4.2	0.000 000	0.002

▣ 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 Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1860.0	100 %	+20(Ref)	1859 999 997	0.0	0.000 000	0.000
	100 %	-30	1859 999 994	-3.1	0.000 000	-0.002
	100 %	-20	1859 999 997	-0.3	0.000 000	0.000
	100 %	-10	1859 999 997	-0.7	0.000 000	0.000
	100 %	0	1859 999 996	-1.2	0.000 000	-0.001
	100 %	+10	1859 999 996	-1.4	0.000 000	-0.001
	100 %	+30	1859 999 995	-2.0	0.000 000	-0.001
	100 %	+40	1859 999 995	-2.5	0.000 000	-0.001
	100 %	+50	1859 999 995	-2.5	0.000 000	-0.001
	Batt. Endpoint	+20	1859 999 994	-3.6	0.000 000	-0.002
1905.0	100 %	+20(Ref)	1905 000 000	0.0	0.000 000	0.000
	100 %	-30	1904 999 996	-3.8	0.000 000	-0.002
	100 %	-20	1904 999 999	-0.8	0.000 000	0.000
	100 %	-10	1904 999 997	-3.1	0.000 000	-0.002
	100 %	0	1904 999 999	-0.5	0.000 000	0.000
	100 %	+10	1904 999 998	-2.3	0.000 000	-0.001
	100 %	+30	1904 999 998	-2.1	0.000 000	-0.001
	100 %	+40	1904 999 998	-1.5	0.000 000	-0.001
	100 %	+50	1904 999 998	-1.9	0.000 000	-0.001
	Batt. Endpoint	+20	1904 999 999	-0.6	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 Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1862.5	100 %	+20(Ref)	1862 500 009	0.0	0.000 000	0.000
	100 %	-30	1862 500 018	9.0	0.000 000	0.005
	100 %	-20	1862 500 020	11.5	0.000 001	0.006
	100 %	-10	1862 500 020	11.1	0.000 001	0.006
	100 %	0	1862 500 020	10.7	0.000 001	0.006
	100 %	+10	1862 500 019	10.1	0.000 001	0.005
	100 %	+30	1862 500 019	9.6	0.000 001	0.005
	100 %	+40	1862 500 018	9.4	0.000 001	0.005
	100 %	+50	1862 500 017	8.3	0.000 000	0.004
	Batt. Endpoint	+20	1862 500 018	8.7	0.000 000	0.005
1902.5	100 %	+20(Ref)	1902 500 011	0.0	0.000 000	0.000
	100 %	-30	1902 500 022	11.1	0.000 001	0.006
	100 %	-20	1902 500 023	12.1	0.000 001	0.006
	100 %	-10	1902 500 023	12.3	0.000 001	0.006
	100 %	0	1902 500 020	9.2	0.000 000	0.005
	100 %	+10	1902 500 020	9.2	0.000 000	0.005
	100 %	+30	1902 500 021	10.1	0.000 001	0.005
	100 %	+40	1902 500 021	10.4	0.000 001	0.005
	100 %	+50	1902 500 023	12.0	0.000 001	0.006
	Batt. Endpoint	+20	1902 500 022	10.9	0.000 001	0.006

▣ 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 Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1865.0	100 %	+20(Ref)	1865 000 007	0.0	0.000 000	0.000
	100 %	-30	1865 000 012	4.9	0.000 000	0.003
	100 %	-20	1865 000 011	4.2	0.000 000	0.002
	100 %	-10	1865 000 013	6.9	0.000 000	0.004
	100 %	0	1865 000 012	5.7	0.000 000	0.003
	100 %	+10	1865 000 015	8.4	0.000 000	0.004
	100 %	+30	1865 000 013	6.1	0.000 000	0.003
	100 %	+40	1865 000 015	8.2	0.000 000	0.004
	100 %	+50	1865 000 011	4.7	0.000 000	0.003
	Batt. Endpoint	+20	1865 000 013	6.1	0.000 000	0.003
1900.0	100 %	+20(Ref)	1900 000 004	0.0	0.000 000	0.000
	100 %	-30	1900 000 011	6.9	0.000 000	0.004
	100 %	-20	1900 000 011	6.7	0.000 000	0.004
	100 %	-10	1900 000 011	7.0	0.000 000	0.004
	100 %	0	1900 000 007	3.2	0.000 000	0.002
	100 %	+10	1900 000 010	6.0	0.000 000	0.003
	100 %	+30	1900 000 010	6.4	0.000 000	0.003
	100 %	+40	1900 000 008	3.8	0.000 000	0.002
	100 %	+50	1900 000 010	6.2	0.000 000	0.003
	Batt. Endpoint	+20	1900 000 009	5.5	0.000 000	0.003

▣ 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 Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1867.5	100 %	+20(Ref)	1867 500 002	0.0	0.000 000	0.000
	100 %	-30	1867 500 011	9.0	0.000 000	0.005
	100 %	-20	1867 500 009	7.0	0.000 000	0.004
	100 %	-10	1867 500 013	11.1	0.000 001	0.006
	100 %	0	1867 500 009	7.1	0.000 000	0.004
	100 %	+10	1867 500 009	7.5	0.000 000	0.004
	100 %	+30	1867 500 009	7.2	0.000 000	0.004
	100 %	+40	1867 500 009	7.4	0.000 000	0.004
	100 %	+50	1867 500 010	7.9	0.000 000	0.004
	Batt. Endpoint	+20	1867 500 010	8.4	0.000 000	0.005
1897.5	100 %	+20(Ref)	1897 500 004	0.0	0.000 000	0.000
	100 %	-30	1897 500 014	9.6	0.000 001	0.005
	100 %	-20	1897 500 013	9.5	0.000 000	0.005
	100 %	-10	1897 500 013	9.1	0.000 000	0.005
	100 %	0	1897 500 012	8.5	0.000 000	0.004
	100 %	+10	1897 500 012	8.5	0.000 000	0.004
	100 %	+30	1897 500 014	9.6	0.000 001	0.005
	100 %	+40	1897 500 012	8.1	0.000 000	0.004
	100 %	+50	1897 500 012	8.0	0.000 000	0.004
	Batt. Endpoint	+20	1897 500 012	7.7	0.000 000	0.004

▣ 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 Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1870.0	100 %	+20(Ref)	1870 000 006	0.0	0.000 000	0.000
	100 %	-30	1870 000 012	6.2	0.000 000	0.003
	100 %	-20	1870 000 011	5.6	0.000 000	0.003
	100 %	-10	1870 000 011	5.4	0.000 000	0.003
	100 %	0	1870 000 011	5.8	0.000 000	0.003
	100 %	+10	1870 000 012	6.5	0.000 000	0.003
	100 %	+30	1870 000 013	7.0	0.000 000	0.004
	100 %	+40	1870 000 012	6.0	0.000 000	0.003
	100 %	+50	1870 000 013	7.1	0.000 000	0.004
	Batt. Endpoint	+20	1870 000 013	7.6	0.000 000	0.004
1895.0	100 %	+20(Ref)	1895 000 009	0.0	0.000 000	0.000
	100 %	-30	1895 000 017	8.0	0.000 000	0.004
	100 %	-20	1895 000 017	8.7	0.000 000	0.005
	100 %	-10	1895 000 016	7.7	0.000 000	0.004
	100 %	0	1895 000 016	7.7	0.000 000	0.004
	100 %	+10	1895 000 016	7.6	0.000 000	0.004
	100 %	+30	1895 000 016	7.9	0.000 000	0.004
	100 %	+40	1895 000 017	8.0	0.000 000	0.004
	100 %	+50	1895 000 016	7.0	0.000 000	0.004
	Batt. Endpoint	+20	1895 000 016	7.4	0.000 000	0.004

9.8 UPLINK CARRIER AGGREGATION

Test Note

1. All tests were evaluated for the two bands using various combinations of RB size, RB offset, modulation, and channel bandwidth.
2. All modes of operation were investigated and the worst case configuration results are reported in this section.
   Please refer to the table below.
3. The worst case is reported with the modulations, RB sizes and offsets.
   - N25A(ANT A)-N77A(ANT F)
     (PCC - Modulation: BPSK, RB: 1, RB Offset: 1, SCC - Modulation: BPSK, RB: 1, RB Offset: 1)

Radiated Spurious Emissions

PCC	SCC	PCC		SCC	
		BW(MHz)	Channel	BW(MHz)	Channel
N25A(ANT A)	N77A(ANT F)	40	392500	80	649334

9.8.1 RADIATED SPURIOUS EMISSIONS

N25A(ANT A)(PCC)- N77A(ANT F)(SCC)

Freq.(MHz)	Measured Level [dBm]	Ant. Gain (dBi)	Substitute Level [dBm]	C.L	Pol.	Result (dBm)	Limit (dBm)
3 765.00	-61.61	11.30	-61.68	3.09	V	-53.47	-13.00
5 647.50	-62.36	11.85	-56.94	3.89	V	-48.98	-13.00
7 530.00	-66.26	11.10	-51.78	4.50	V	-45.18	-13.00

Freq.(MHz)	Measured Level [dBm]	Ant. Gain (dBi)	Substitute Level [dBm]	C.L	Pol.	Result (dBm)	Limit (dBm)
7 480.02	-65.86	10.90	-58.53	4.49	V	-52.12	-13.00
11 220.03	-64.92	11.40	-54.39	5.60	V	-48.59	-13.00
14 960.04	-58.17	13.60	-51.97	6.64	V	-45.01	-13.00

10. TEST DATA(ANT I_n25(2))

10.1 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
1852.5	Sub6 n25(2)/ 5 MHz [15 kHz]	PI/2 BPSK	-20.50	13.09	10.00	2.15	H	< 2.00	0.124	20.94	1	12
		QPSK	-20.52	13.07	10.00	2.15	H		0.124	20.92		
		16-QAM	-21.66	11.93	10.00	2.15	H		0.095	19.78		
		64-QAM	-23.05	10.54	10.00	2.15	H		0.069	18.39		
		256-QAM	-25.55	8.04	10.00	2.15	H		0.039	15.89		
1882.5		PI/2 BPSK	-20.62	12.98	10.00	2.21	H		0.120	20.77	1	1
		QPSK	-20.63	12.97	10.00	2.21	H		0.119	20.76		
		16-QAM	-21.59	12.01	10.00	2.21	H		0.095	19.80		
		64-QAM	-23.02	10.58	10.00	2.21	H		0.069	18.37		
		256-QAM	-25.43	8.17	10.00	2.21	H		0.039	15.96		
1912.5		PI/2 BPSK	-21.55	12.47	10.01	2.11	H		0.109	20.37	1	1
		QPSK	-21.62	12.40	10.01	2.11	H		0.107	20.30		
		16-QAM	-22.57	11.45	10.01	2.11	H		0.086	19.35		
		64-QAM	-23.86	10.16	10.01	2.11	H		0.064	18.06		
		256-QAM	-26.48	7.54	10.01	2.11	H		0.035	15.44		

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
1855.0	Sub6 n25(2)/ 10 MHz [15 kHz]	PI/2 BPSK	-20.50	13.09	10.00	2.15	H	< 2.00	0.124	20.94	1	1
		QPSK	-20.53	13.06	10.00	2.15	H		0.123	20.91		
		16-QAM	-21.62	11.97	10.00	2.15	H		0.096	19.82		
		64-QAM	-22.93	10.66	10.00	2.15	H		0.071	18.51		
		256-QAM	-25.58	8.01	10.00	2.15	H		0.039	15.86		
1882.5		PI/2 BPSK	-20.45	13.15	10.00	2.21	H		0.124	20.94	1	1
		QPSK	-20.47	13.13	10.00	2.21	H		0.124	20.92		
		16-QAM	-21.53	12.07	10.00	2.21	H		0.097	19.86		
		64-QAM	-23.02	10.58	10.00	2.21	H		0.069	18.37		
		256-QAM	-25.43	8.17	10.00	2.21	H		0.039	15.96		
1910.0		PI/2 BPSK	-21.29	12.73	10.01	2.11	H		0.116	20.63	1	1
		QPSK	-21.35	12.67	10.01	2.11	H		0.114	20.57		
		16-QAM	-22.49	11.53	10.01	2.11	H		0.088	19.43		
		64-QAM	-23.91	10.11	10.01	2.11	H		0.063	18.01		
		256-QAM	-26.55	7.47	10.01	2.11	H		0.035	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
1857.5	Sub6 n25(2)/ 15 MHz [15 kHz]	PI/2 BPSK	-20.37	13.22	10.00	2.15	H	< 2.00	0.128	21.07	1	1
		QPSK	-20.45	13.14	10.00	2.15	H		0.126	20.99		
		16-QAM	-21.50	12.09	10.00	2.15	H		0.099	19.94		
		64-QAM	-22.81	10.78	10.00	2.15	H		0.073	18.63		
		256-QAM	-25.53	8.06	10.00	2.15	H		0.039	15.91		
1882.5		PI/2 BPSK	-20.35	13.25	10.00	2.21	H		0.127	21.04	1	1
		QPSK	-20.37	13.23	10.00	2.21	H		0.126	21.02		
		16-QAM	-21.51	12.09	10.00	2.21	H		0.097	19.88		
		64-QAM	-22.88	10.72	10.00	2.21	H		0.071	18.51		
		256-QAM	-25.54	8.06	10.00	2.21	H		0.039	15.85		
1907.5		PI/2 BPSK	-20.84	13.13	10.01	2.13	H		0.126	21.01	1	1
		QPSK	-20.85	13.12	10.01	2.13	H		0.126	21.00		
		16-QAM	-21.97	12.00	10.01	2.13	H		0.097	19.88		
		64-QAM	-23.38	10.59	10.01	2.13	H		0.070	18.47		
		256-QAM	-25.92	8.05	10.01	2.13	H		0.039	15.93		

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
1860.0	Sub6 n25(2)/ 20 MHz [15 kHz]	PI/2 BPSK	-20.42	12.92	10.00	2.17	H	< 2.00	0.119	20.75	1	1
		QPSK	-20.50	12.84	10.00	2.17	H		0.117	20.67		
		16-QAM	-21.47	11.87	10.00	2.17	H		0.093	19.70		
		64-QAM	-22.90	10.44	10.00	2.17	H		0.067	18.27		
		256-QAM	-25.69	7.65	10.00	2.17	H		0.035	15.48		
1882.5		PI/2 BPSK	-20.37	13.23	10.00	2.21	H		0.126	21.02	1	1
		QPSK	-20.44	13.16	10.00	2.21	H		0.124	20.95		
		16-QAM	-21.48	12.12	10.00	2.21	H		0.098	19.91		
		64-QAM	-22.96	10.64	10.00	2.21	H		0.070	18.43		
		256-QAM	-25.51	8.09	10.00	2.21	H		0.039	15.88		
1905.0		PI/2 BPSK	-21.02	12.95	10.01	2.13	H		0.121	20.83	1	1
		QPSK	-21.06	12.91	10.01	2.13	H		0.120	20.79		
		16-QAM	-22.06	11.91	10.01	2.13	H		0.095	19.79		
		64-QAM	-23.42	10.55	10.01	2.13	H		0.070	18.43		
		256-QAM	-26.15	7.82	10.01	2.13	H		0.037	15.70		

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
1862.5	Sub6 n25(2)/ 25 MHz [15 kHz]	PI/2 BPSK	-20.26	13.08	10.00	2.17	H	< 2.00	0.123	20.91	1	1
		QPSK	-20.27	13.07	10.00	2.17	H		0.123	20.90		
		16-QAM	-21.30	12.04	10.00	2.17	H		0.097	19.87		
		64-QAM	-22.69	10.65	10.00	2.17	H		0.071	18.48		
		256-QAM	-25.36	7.98	10.00	2.17	H		0.038	15.81		
1882.5		PI/2 BPSK	-20.18	13.42	10.00	2.21	H		0.132	21.21	1	1
		QPSK	-20.19	13.41	10.00	2.21	H		0.132	21.20		
		16-QAM	-21.26	12.34	10.00	2.21	H		0.103	20.13		
		64-QAM	-22.60	11.00	10.00	2.21	H		0.076	18.79		
		256-QAM	-25.29	8.31	10.00	2.21	H		0.041	16.10		
1902.5		PI/2 BPSK	-20.78	13.13	10.01	2.15	H		0.126	20.99	1	1
		QPSK	-20.83	13.08	10.01	2.15	H		0.124	20.94		
		16-QAM	-21.95	11.96	10.01	2.15	H		0.096	19.82		
		64-QAM	-23.20	10.71	10.01	2.15	H		0.072	18.57		
		256-QAM	-25.90	8.01	10.01	2.15	H		0.039	15.87		

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
1865.0	Sub6 n25(2)/ 30 MHz [15 kHz]	PI/2 BPSK	-20.20	13.43	10.00	2.19	H	< 2.00	0.133	21.24	1	1
		QPSK	-20.21	13.42	10.00	2.19	H		0.133	21.23		
		16-QAM	-21.34	12.29	10.00	2.19	H		0.102	20.10		
		64-QAM	-22.61	11.02	10.00	2.19	H		0.076	18.83		
		256-QAM	-25.40	8.23	10.00	2.19	H		0.040	16.04		
1882.5		PI/2 BPSK	-20.15	13.45	10.00	2.21	H		0.133	21.24	1	1
		QPSK	-20.16	13.44	10.00	2.21	H		0.133	21.23		
		16-QAM	-21.30	12.30	10.00	2.21	H		0.102	20.09		
		64-QAM	-22.70	10.90	10.00	2.21	H		0.074	18.69		
		256-QAM	-25.36	8.24	10.00	2.21	H		0.040	16.03		
1900.0		PI/2 BPSK	-20.35	13.56	10.01	2.15	H		0.139	21.42	1	1
		QPSK	-20.45	13.46	10.01	2.15	H		0.136	21.32		
		16-QAM	-21.55	12.36	10.01	2.15	H		0.105	20.22		
		64-QAM	-22.87	11.04	10.01	2.15	H		0.078	18.90		
		256-QAM	-25.42	8.49	10.01	2.15	H		0.043	16.35		

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
1867.5	Sub6 n25(2)/ 35 MHz [15 kHz]	PI/2 BPSK	-20.29	13.62	10.00	2.21	H	< 2.00	0.138	21.41	1	1
		QPSK	-20.32	13.59	10.00	2.21	H		0.137	21.38		
		16-QAM	-21.25	12.66	10.00	2.21	H		0.111	20.45		
		64-QAM	-22.78	11.13	10.00	2.21	H		0.078	18.92		
		256-QAM	-25.40	8.51	10.00	2.21	H		0.043	16.30		
1882.5		PI/2 BPSK	-20.34	13.26	10.00	2.21	H		0.127	21.05	1	1
		QPSK	-20.37	13.23	10.00	2.21	H		0.126	21.02		
		16-QAM	-21.36	12.24	10.00	2.21	H		0.101	20.03		
		64-QAM	-22.70	10.90	10.00	2.21	H		0.074	18.69		
		256-QAM	-25.42	8.18	10.00	2.21	H		0.040	15.97		
1897.5		PI/2 BPSK	-20.28	13.80	10.01	2.16	H		0.146	21.65	1	1
		QPSK	-20.48	13.60	10.01	2.16	H		0.140	21.45		
		16-QAM	-21.42	12.66	10.01	2.16	H		0.112	20.51		
		64-QAM	-22.82	11.26	10.01	2.16	H		0.081	19.11		
		256-QAM	-25.42	8.66	10.01	2.16	H		0.045	16.51		

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
1870.0	Sub6 n25(2)/ 40 MHz [15 kHz]	PI/2 BPSK	-20.39	13.52	10.00	2.21	H	< 2.00	0.135	21.31	1	1
		QPSK	-20.50	13.41	10.00	2.21	H		0.132	21.20		
		16-QAM	-21.60	12.31	10.00	2.21	H		0.102	20.10		
		64-QAM	-22.97	10.94	10.00	2.21	H		0.075	18.73		
		256-QAM	-25.59	8.32	10.00	2.21	H		0.041	16.11		
1882.5		PI/2 BPSK	-20.45	13.15	10.00	2.21	H		0.124	20.94	1	1
		QPSK	-20.47	13.13	10.00	2.21	H		0.124	20.92		
		16-QAM	-21.53	12.07	10.00	2.21	H		0.097	19.86		
		64-QAM	-22.95	10.65	10.00	2.21	H		0.070	18.44		
		256-QAM	-25.59	8.01	10.00	2.21	H		0.038	15.80		
1895.0		PI/2 BPSK	-20.38	13.70	10.01	2.16	H		0.143	21.55	1	1
		QPSK	-20.40	13.68	10.01	2.16	H		0.142	21.53		
		16-QAM	-21.51	12.57	10.01	2.16	H		0.110	20.42		
		64-QAM	-22.88	11.20	10.01	2.16	H		0.080	19.05		
		256-QAM	-25.54	8.54	10.01	2.16	H		0.044	16.39		

10.2 RADIATED SPURIOUS EMISSIONS

▣ NR Band: N25(2)
▣ Bandwidth: 35 MHz
▣ Modulation: PI/2 BPSK
▣ Distance: 3 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
373500 (1867.5)	3 735.00	-60.48	11.40	-61.60	3.12	V	-53.32	-13.00	1	1
	5 602.50	-58.94	11.90	-53.94	3.79	V	-45.83	-13.00		
	7 470.00	-62.36	10.90	-48.05	4.49	V	-41.64	-13.00		
	9 337.50	-61.39	10.80	-46.58	5.10	V	-40.88	-13.00		
	11 205.00	-65.64	11.40	-46.77	5.58	V	-40.95	-13.00		
376500 (1882.5)	3 765.00	-60.78	11.30	-60.85	3.09	V	-52.64	-13.00	1	1
	5 647.50	-55.53	11.85	-50.11	3.89	V	-42.15	-13.00		
	7 530.00	-65.34	11.10	-50.87	4.50	V	-44.27	-13.00		
	9 412.50	-62.27	10.80	-46.94	5.07	V	-41.21	-13.00		
	11 295.00	-64.97	11.35	-46.64	5.64	V	-40.93	-13.00		
379500 (1897.5)	3 795.00	-60.47	11.20	-60.83	3.14	V	-52.77	-13.00	1	1
	5 692.50	-58.98	11.75	-52.83	3.88	V	-44.96	-13.00		
	7 590.00	-63.86	11.10	-49.96	4.54	V	-43.40	-13.00		
	9 487.50	-62.81	10.90	-47.54	5.11	V	-41.75	-13.00		
	11 385.00	-64.09	11.30	-43.96	5.68	V	-38.34	-13.00		

10.3 PEAK-TO-AVERAGE RATIO

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (dB)
Sub6 n25(2)	5 MHz	1882.5	BPSK	25	0	4.12
			QPSK			5.32
			16-QAM			6.15
			64-QAM			6.14
			256-QAM			6.03
	10 MHz		BPSK	50		3.94
			QPSK			5.44
			16-QAM			6.15
			64-QAM			6.36
			256-QAM			6.25
	15 MHz		BPSK	75		4.25
			QPSK			5.28
			16-QAM			6.04
			64-QAM			6.33
			256-QAM			6.50
	20 MHz		BPSK	100		3.86
			QPSK			5.22
			16-QAM			5.97
			64-QAM			6.31
			256-QAM			6.36

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (dB)
Sub6 n25(2)	25 MHz	1882.5	BPSK	128	0	4.49
			QPSK			5.37
			16-QAM			6.07
			64-QAM			6.26
			256-QAM			6.50
	30 MHz		BPSK	160		4.39
			QPSK			5.30
			16-QAM			6.06
			64-QAM			6.24
			256-QAM			6.48
	35 MHz		BPSK	180		4.22
			QPSK			5.32
			16-QAM			6.03
			64-QAM			6.36
			256-QAM			6.42
	40 MHz		BPSK	216		4.17
			QPSK			5.26
			16-QAM			6.04
			64-QAM			6.31
			256-QAM			6.50

Note:

1. Plots of the EUT's Peak- to- Average Ratio are shown Page 452 ~ 491.

10.4 OCCUPIED BANDWIDTH

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (MHz)
Sub6 n25(2)	5 MHz	1882.5	BPSK	25	0	4.5827
			QPSK			4.5972
			16-QAM			4.5933
			64-QAM			4.5902
			256-QAM			4.6098
	10 MHz		BPSK	50		8.9805
			QPSK			8.9692
			16-QAM			8.9722
			64-QAM			8.9991
			256-QAM			8.9782
	15 MHz		BPSK	75		13.433
			QPSK			13.463
			16-QAM			13.397
			64-QAM			13.492
			256-QAM			13.474
	20 MHz		BPSK	100		17.948
			QPSK			17.914
			16-QAM			17.907
			64-QAM			17.932
			256-QAM			17.898

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (MHz)
Sub6 n25(2)	25 MHz	1882.5	BPSK	128	0	22.935
			QPSK			22.958
			16-QAM			22.970
			64-QAM			22.948
			256-QAM			22.980
	30 MHz		BPSK	160		28.603
			QPSK			28.698
			16-QAM			28.645
			64-QAM			28.649
			256-QAM			28.657
	35 MHz		BPSK	180		32.226
			QPSK			32.219
			16-QAM			32.268
			64-QAM			32.163
			256-QAM			32.253
	40 MHz		BPSK	216		38.693
			QPSK			38.729
			16-QAM			38.737
			64-QAM			38.657
			256-QAM			38.742

Note:

1. Plots of the EUT's Occupied Bandwidth are shown Page 492 ~ 531.

10.5 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 n25(2)	5	1852.5	8.0175	30.815	-71.018	-40.203	-13.00
		1882.5	4.0674	30.200	-69.933	-39.733	
		1912.5	9.9915	30.815	-71.100	-40.285	
	10	1855.0	8.2523	30.815	-69.975	-39.160	
		1882.5	9.9417	30.815	-69.788	-38.973	
		1910.0	3.7827	30.200	-69.824	-39.624	
	15	1857.5	8.2986	30.815	-70.047	-39.232	
		1882.5	4.0015	30.200	-69.601	-39.401	
		1907.5	9.3898	30.815	-70.762	-39.947	
	20	1860.0	4.0539	30.200	-70.116	-39.916	
		1882.5	4.6047	30.200	-71.153	-40.953	
		1905.0	8.2702	30.815	-70.230	-39.415	
	25	1862.5	8.7881	30.815	-70.578	-39.763	
		1882.5	5.2328	30.815	-70.108	-39.293	
		1902.5	9.7213	30.815	-70.770	-39.955	
	30	1865.0	8.8495	30.815	-70.080	-39.265	
		1882.5	5.9941	30.815	-70.851	-40.036	
		1900.0	8.0284	30.815	-69.816	-39.001	
	35	1867.5	8.2557	30.815	-70.642	-39.827	
		1882.5	4.8934	30.200	-70.967	-40.767	
		1897.5	9.9511	30.815	-70.552	-39.737	
	40	1870.0	8.8674	30.815	-70.330	-39.515	
		1882.5	3.7972	30.200	-70.483	-40.283	
		1895.0	8.2592	30.815	-70.932	-40.117	

Note:

1. Plots of the EUT's Conducted Spurious Emissions are shown Page 532 ~ 579.
2. Result (dBm) = Measurement Maximum Data (dBm) + Factor (dB)
3. Factor(dB) = Cable Loss + Attenuator + Power Splitter

Frequency Range (GHz)	Factor [dB]
0.03 – 1	27.494
1 – 5	30.200
5 – 10	30.815
10 – 15	31.340
15 – 20	31.713
Above 20	32.355

10.6 BAND EDGE

- Plots of the EUT's Band Edge are shown Page 580 ~ 627.

10.7 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 Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1852.5	100 %	+20(Ref)	1852 499 997	0.0	0.000 000	0.000
	100 %	-30	1852 499 995	-2.3	0.000 000	-0.001
	100 %	-20	1852 499 996	-1.8	0.000 000	-0.001
	100 %	-10	1852 499 995	-2.3	0.000 000	-0.001
	100 %	0	1852 499 994	-3.3	0.000 000	-0.002
	100 %	+10	1852 499 997	-0.7	0.000 000	0.000
	100 %	+30	1852 499 996	-1.9	0.000 000	-0.001
	100 %	+40	1852 499 996	-1.7	0.000 000	-0.001
	100 %	+50	1852 499 994	-3.0	0.000 000	-0.002
	Batt. Endpoint	+20	1852 499 994	-3.6	0.000 000	-0.002
1912.5	100 %	+20(Ref)	1912 499 997	0.0	0.000 000	0.000
	100 %	-30	1912 499 994	-2.8	0.000 000	-0.001
	100 %	-20	1912 499 992	-4.8	0.000 000	-0.003
	100 %	-10	1912 499 993	-3.4	0.000 000	-0.002
	100 %	0	1912 499 994	-2.9	0.000 000	-0.001
	100 %	+10	1912 499 993	-3.3	0.000 000	-0.002
	100 %	+30	1912 499 993	-3.3	0.000 000	-0.002
	100 %	+40	1912 499 991	-5.2	0.000 000	-0.003
	100 %	+50	1912 499 993	-3.9	0.000 000	-0.002
	Batt. Endpoint	+20	1912 499 995	-1.4	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 Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1855.0	100 %	+20(Ref)	1854 999 998	0.0	0.000 000	0.000
	100 %	-30	1854 999 999	1.8	0.000 000	0.001
	100 %	-20	1854 999 998	0.7	0.000 000	0.000
	100 %	-10	1854 999 997	-1.0	0.000 000	-0.001
	100 %	0	1854 999 995	-2.7	0.000 000	-0.001
	100 %	+10	1854 999 995	-2.3	0.000 000	-0.001
	100 %	+30	1854 999 999	1.7	0.000 000	0.001
	100 %	+40	1854 999 996	-2.1	0.000 000	-0.001
	100 %	+50	1854 999 997	-1.0	0.000 000	-0.001
	Batt. Endpoint	+20	1854 999 997	-0.7	0.000 000	0.000
1910.0	100 %	+20(Ref)	1910 000 001	0.0	0.000 000	0.000
	100 %	-30	1910 000 007	5.2	0.000 000	0.003
	100 %	-20	1910 000 004	2.6	0.000 000	0.001
	100 %	-10	1910 000 002	0.5	0.000 000	0.000
	100 %	0	1910 000 004	2.4	0.000 000	0.001
	100 %	+10	1910 000 005	3.6	0.000 000	0.002
	100 %	+30	1910 000 003	2.1	0.000 000	0.001
	100 %	+40	1910 000 003	1.5	0.000 000	0.001
	100 %	+50	1910 000 003	2.1	0.000 000	0.001
	Batt. Endpoint	+20	1910 000 003	1.9	0.000 000	0.001

▣ 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 Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1857.5	100 %	+20(Ref)	1857 500 004	0.0	0.000 000	0.000
	100 %	-30	1857 500 006	2.4	0.000 000	0.001
	100 %	-20	1857 500 006	2.4	0.000 000	0.001
	100 %	-10	1857 500 005	1.1	0.000 000	0.001
	100 %	0	1857 500 004	0.3	0.000 000	0.000
	100 %	+10	1857 500 003	-0.4	0.000 000	0.000
	100 %	+30	1857 500 006	2.5	0.000 000	0.001
	100 %	+40	1857 500 004	0.5	0.000 000	0.000
	100 %	+50	1857 500 006	2.1	0.000 000	0.001
	Batt. Endpoint	+20	1857 500 006	2.2	0.000 000	0.001
1907.5	100 %	+20(Ref)	1907 500 003	0.0	0.000 000	0.000
	100 %	-30	1907 500 008	5.0	0.000 000	0.003
	100 %	-20	1907 500 007	3.3	0.000 000	0.002
	100 %	-10	1907 500 008	4.2	0.000 000	0.002
	100 %	0	1907 500 007	3.5	0.000 000	0.002
	100 %	+10	1907 500 006	2.2	0.000 000	0.001
	100 %	+30	1907 500 007	3.5	0.000 000	0.002
	100 %	+40	1907 500 007	4.1	0.000 000	0.002
	100 %	+50	1907 500 007	3.8	0.000 000	0.002
	Batt. Endpoint	+20	1907 500 007	3.8	0.000 000	0.002

▣ 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 Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1860.0	100 %	+20(Ref)	1859 999 998	0.0	0.000 000	0.000
	100 %	-30	1859 999 994	-4.6	0.000 000	-0.002
	100 %	-20	1859 999 995	-3.0	0.000 000	-0.002
	100 %	-10	1859 999 996	-2.6	0.000 000	-0.001
	100 %	0	1859 999 997	-1.9	0.000 000	-0.001
	100 %	+10	1859 999 996	-2.8	0.000 000	-0.002
	100 %	+30	1859 999 996	-2.8	0.000 000	-0.001
	100 %	+40	1859 999 998	-0.6	0.000 000	0.000
	100 %	+50	1859 999 997	-1.3	0.000 000	-0.001
	Batt. Endpoint	+20	1859 999 994	-3.9	0.000 000	-0.002
1905.0	100 %	+20(Ref)	1904 999 997	0.0	0.000 000	0.000
	100 %	-30	1904 999 994	-2.9	0.000 000	-0.002
	100 %	-20	1904 999 996	-1.4	0.000 000	-0.001
	100 %	-10	1904 999 997	-0.4	0.000 000	0.000
	100 %	0	1904 999 995	-1.7	0.000 000	-0.001
	100 %	+10	1904 999 995	-2.3	0.000 000	-0.001
	100 %	+30	1904 999 995	-1.5	0.000 000	-0.001
	100 %	+40	1904 999 996	-1.4	0.000 000	-0.001
	100 %	+50	1904 999 994	-3.2	0.000 000	-0.002
	Batt. Endpoint	+20	1904 999 994	-2.8	0.000 000	-0.001

▣ 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 Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1862.5	100 %	+20(Ref)	1862 500 008	0.0	0.000 000	0.000
	100 %	-30	1862 500 016	8.1	0.000 000	0.004
	100 %	-20	1862 500 017	9.6	0.000 001	0.005
	100 %	-10	1862 500 018	10.6	0.000 001	0.006
	100 %	0	1862 500 018	10.4	0.000 001	0.006
	100 %	+10	1862 500 017	9.5	0.000 001	0.005
	100 %	+30	1862 500 018	10.4	0.000 001	0.006
	100 %	+40	1862 500 020	11.9	0.000 001	0.006
	100 %	+50	1862 500 021	13.0	0.000 001	0.007
	Batt. Endpoint	+20	1862 500 017	9.2	0.000 000	0.005
1902.5	100 %	+20(Ref)	1902 500 011	0.0	0.000 000	0.000
	100 %	-30	1902 500 020	9.5	0.000 001	0.005
	100 %	-20	1902 500 023	12.4	0.000 001	0.007
	100 %	-10	1902 500 022	11.3	0.000 001	0.006
	100 %	0	1902 500 022	11.1	0.000 001	0.006
	100 %	+10	1902 500 023	12.4	0.000 001	0.007
	100 %	+30	1902 500 022	11.3	0.000 001	0.006
	100 %	+40	1902 500 021	10.1	0.000 001	0.005
	100 %	+50	1902 500 023	12.0	0.000 001	0.006
	Batt. Endpoint	+20	1902 500 021	10.3	0.000 001	0.005

▣ 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 Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1865.0	100 %	+20(Ref)	1865 000 006	0.0	0.000 000	0.000
	100 %	-30	1865 000 014	7.6	0.000 000	0.004
	100 %	-20	1865 000 010	4.0	0.000 000	0.002
	100 %	-10	1865 000 014	7.8	0.000 000	0.004
	100 %	0	1865 000 012	6.0	0.000 000	0.003
	100 %	+10	1865 000 013	7.1	0.000 000	0.004
	100 %	+30	1865 000 012	6.0	0.000 000	0.003
	100 %	+40	1865 000 011	5.2	0.000 000	0.003
	100 %	+50	1865 000 013	7.1	0.000 000	0.004
	Batt. Endpoint	+20	1865 000 015	9.2	0.000 000	0.005
1900.0	100 %	+20(Ref)	1900 000 006	0.0	0.000 000	0.000
	100 %	-30	1900 000 011	5.4	0.000 000	0.003
	100 %	-20	1900 000 012	6.2	0.000 000	0.003
	100 %	-10	1900 000 012	6.2	0.000 000	0.003
	100 %	0	1900 000 008	2.9	0.000 000	0.002
	100 %	+10	1900 000 011	5.3	0.000 000	0.003
	100 %	+30	1900 000 011	5.9	0.000 000	0.003
	100 %	+40	1900 000 008	2.9	0.000 000	0.002
	100 %	+50	1900 000 012	6.3	0.000 000	0.003
	Batt. Endpoint	+20	1900 000 009	3.2	0.000 000	0.002

▣ 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 Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1867.5	100 %	+20(Ref)	1867 500 003	0.0	0.000 000	0.000
	100 %	-30	1867 500 009	5.7	0.000 000	0.003
	100 %	-20	1867 500 012	9.2	0.000 000	0.005
	100 %	-10	1867 500 011	8.3	0.000 000	0.004
	100 %	0	1867 500 013	10.0	0.000 001	0.005
	100 %	+10	1867 500 011	8.2	0.000 000	0.004
	100 %	+30	1867 500 012	9.3	0.000 000	0.005
	100 %	+40	1867 500 010	7.0	0.000 000	0.004
	100 %	+50	1867 500 011	8.4	0.000 000	0.005
	Batt. Endpoint	+20	1867 500 012	8.6	0.000 000	0.005
1897.5	100 %	+20(Ref)	1897 500 004	0.0	0.000 000	0.000
	100 %	-30	1897 500 012	7.9	0.000 000	0.004
	100 %	-20	1897 500 012	8.0	0.000 000	0.004
	100 %	-10	1897 500 014	10.0	0.000 001	0.005
	100 %	0	1897 500 013	9.4	0.000 000	0.005
	100 %	+10	1897 500 012	8.0	0.000 000	0.004
	100 %	+30	1897 500 012	8.2	0.000 000	0.004
	100 %	+40	1897 500 013	9.3	0.000 000	0.005
	100 %	+50	1897 500 013	8.6	0.000 000	0.005
	Batt. Endpoint	+20	1897 500 010	6.1	0.000 000	0.003

▣ BandWidth: 40 MHz

▣ Voltage(100 %): 3.880 VDC

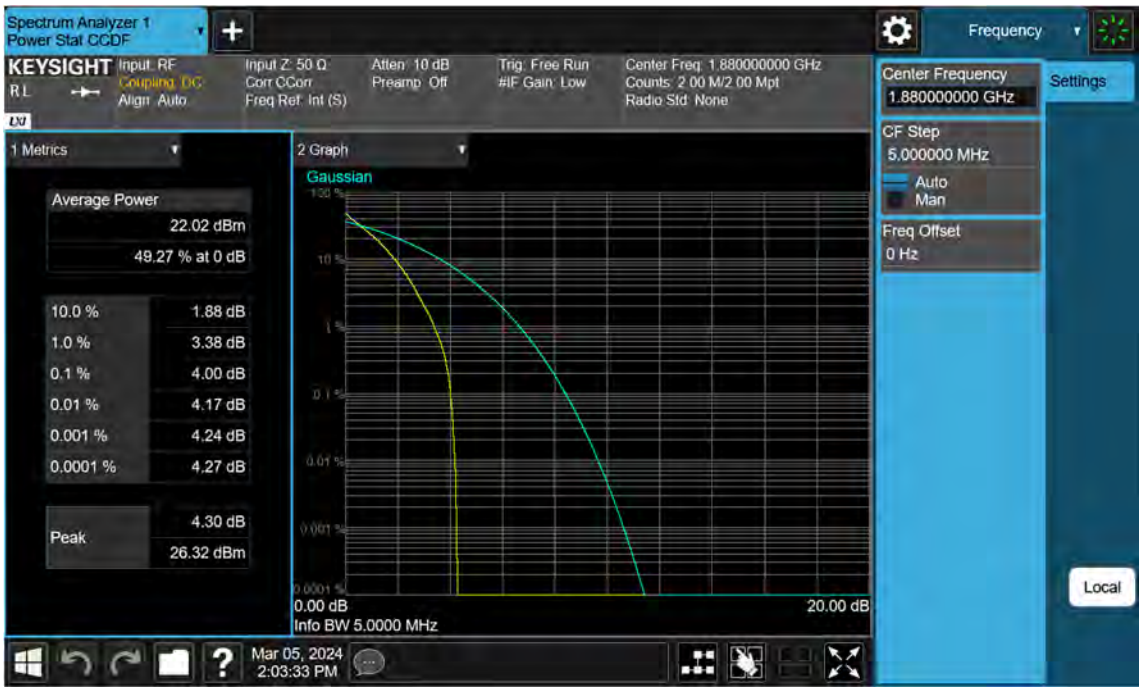
▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

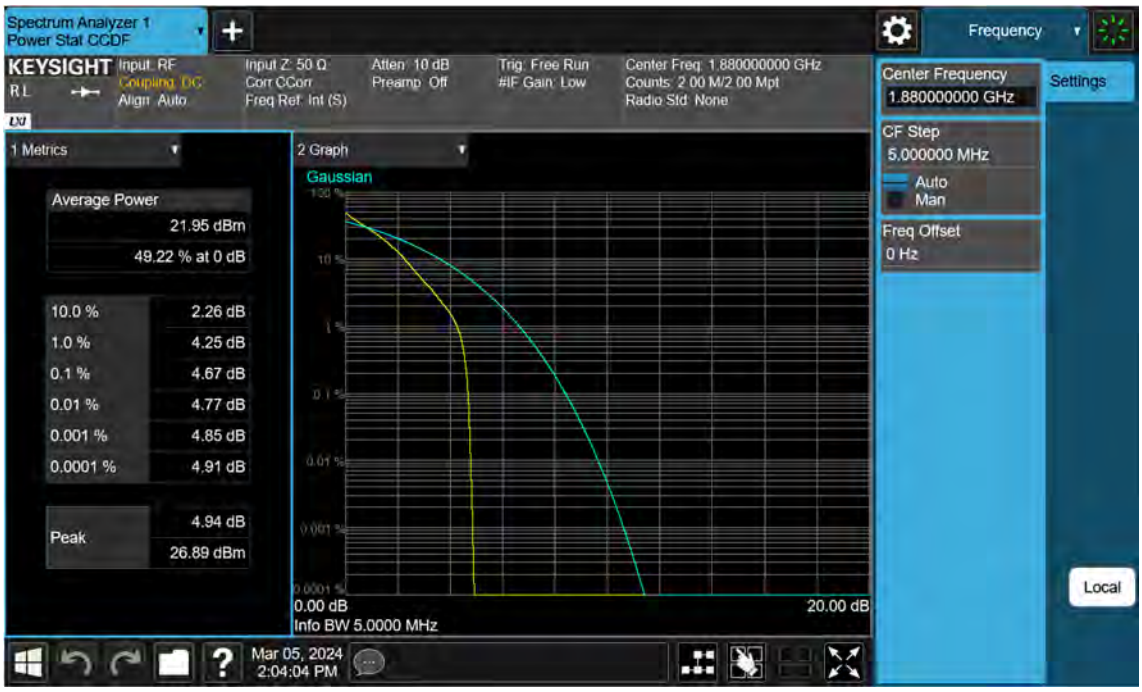
Test. Frequncy	Voltage	Temp.	Frequency	Frequency Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1870.0	100 %	+20(Ref)	1870 000 006	0.0	0.000 000	0.000
	100 %	-30	1870 000 013	7.2	0.000 000	0.004
	100 %	-20	1870 000 014	7.7	0.000 000	0.004
	100 %	-10	1870 000 013	6.3	0.000 000	0.003
	100 %	0	1870 000 011	5.1	0.000 000	0.003
	100 %	+10	1870 000 013	6.6	0.000 000	0.004
	100 %	+30	1870 000 012	6.0	0.000 000	0.003
	100 %	+40	1870 000 012	5.7	0.000 000	0.003
	100 %	+50	1870 000 013	6.3	0.000 000	0.003
	Batt. Endpoint	+20	1870 000 013	6.4	0.000 000	0.003
1895.0	100 %	+20(Ref)	1895 000 008	0.0	0.000 000	0.000
	100 %	-30	1895 000 017	9.3	0.000 000	0.005
	100 %	-20	1895 000 018	10.0	0.000 001	0.005
	100 %	-10	1895 000 014	6.4	0.000 000	0.003
	100 %	0	1895 000 017	9.3	0.000 000	0.005
	100 %	+10	1895 000 016	8.3	0.000 000	0.004
	100 %	+30	1895 000 017	8.6	0.000 000	0.005
	100 %	+40	1895 000 016	8.2	0.000 000	0.004
	100 %	+50	1895 000 020	11.8	0.000 001	0.006
	Batt. Endpoint	+20	1895 000 016	8.4	0.000 000	0.004

11. TEST PLOTS(ANT A_n2)

Sub6 n2_5 M_PAR_Mid_BPSK_FullRB



Sub6 n2_5 M_PAR_Mid_QPSK_FullRB

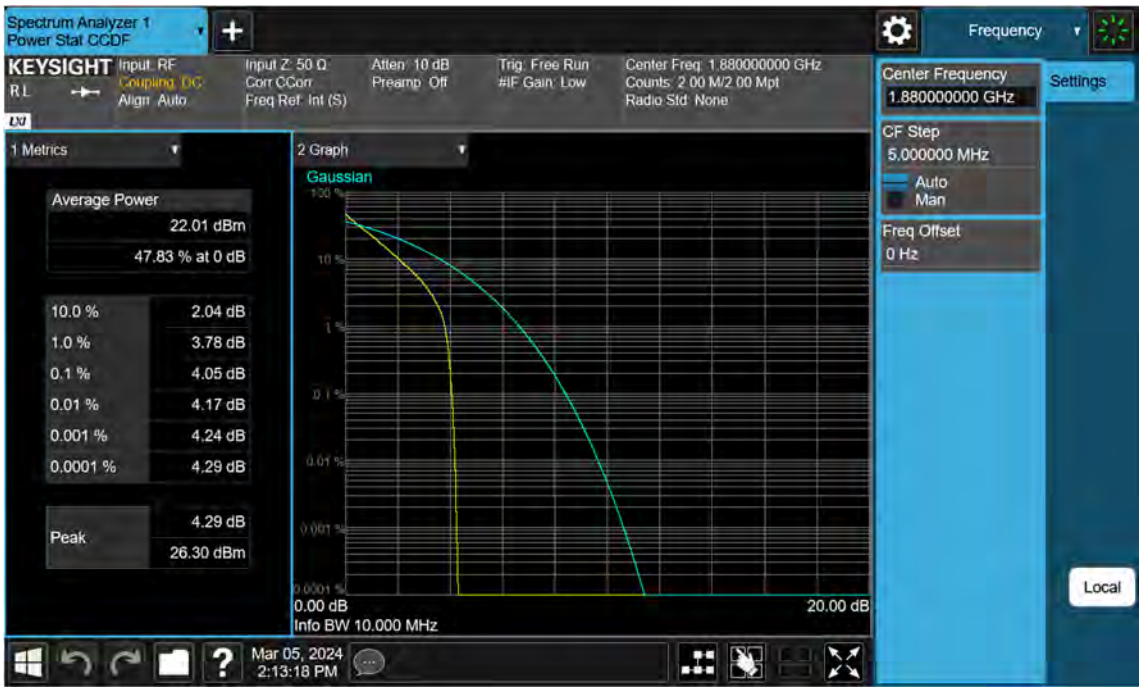


Sub6 n2_5 M_PAR_Mid_16QAM_FullRB

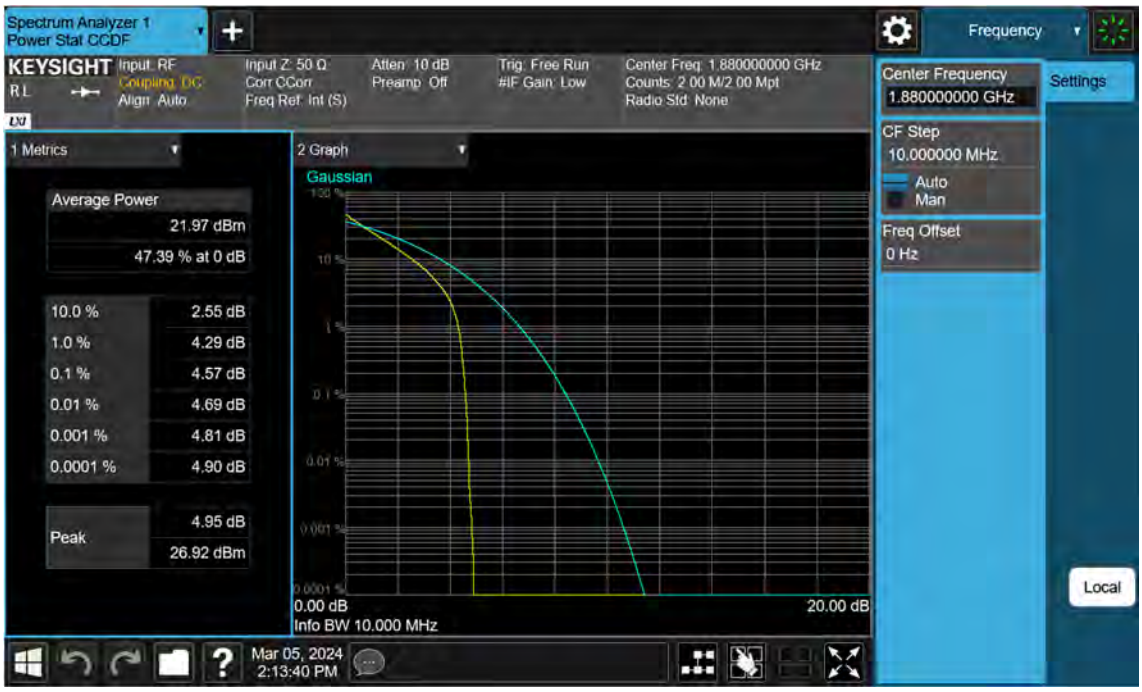
Sub6 n2_5 M_PAR_Mid_64QAM_FullRB

Sub6 n2_5 M_PAR_Mid_256QAM_FullRB

Sub6 n2_10 M_PAR_Mid_BPSK_FullRB



Sub6 n2_10 M_PAR_Mid_QPSK_FullRB

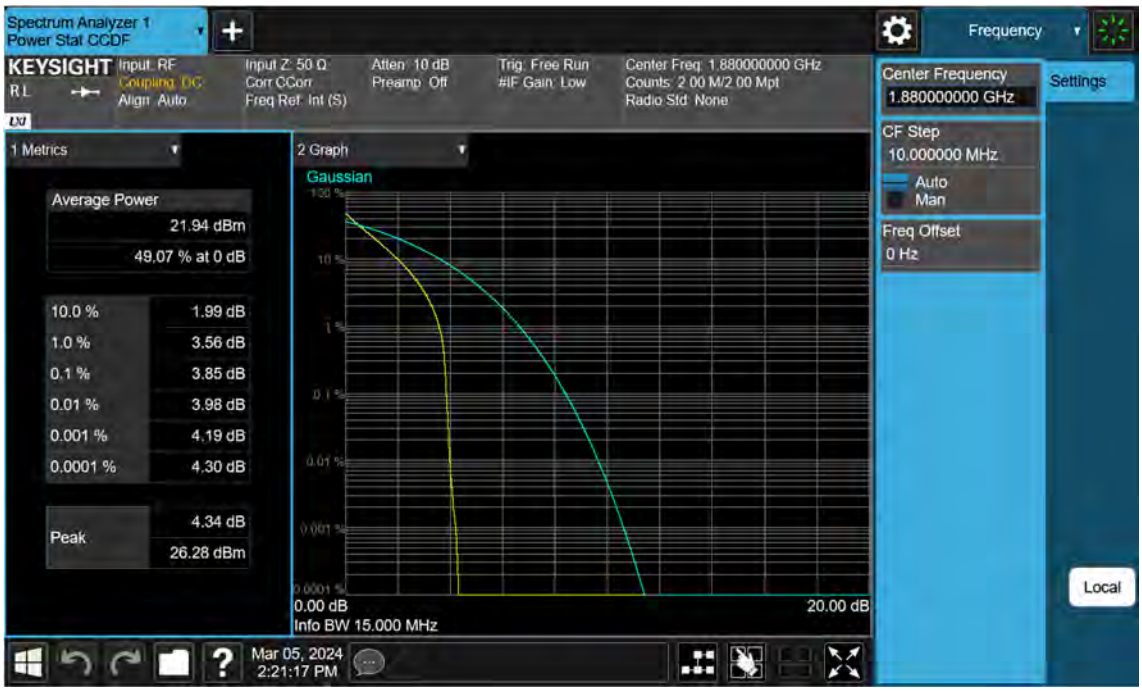


Sub6 n2_10 M_PAR_Mid_16QAM_FullRB

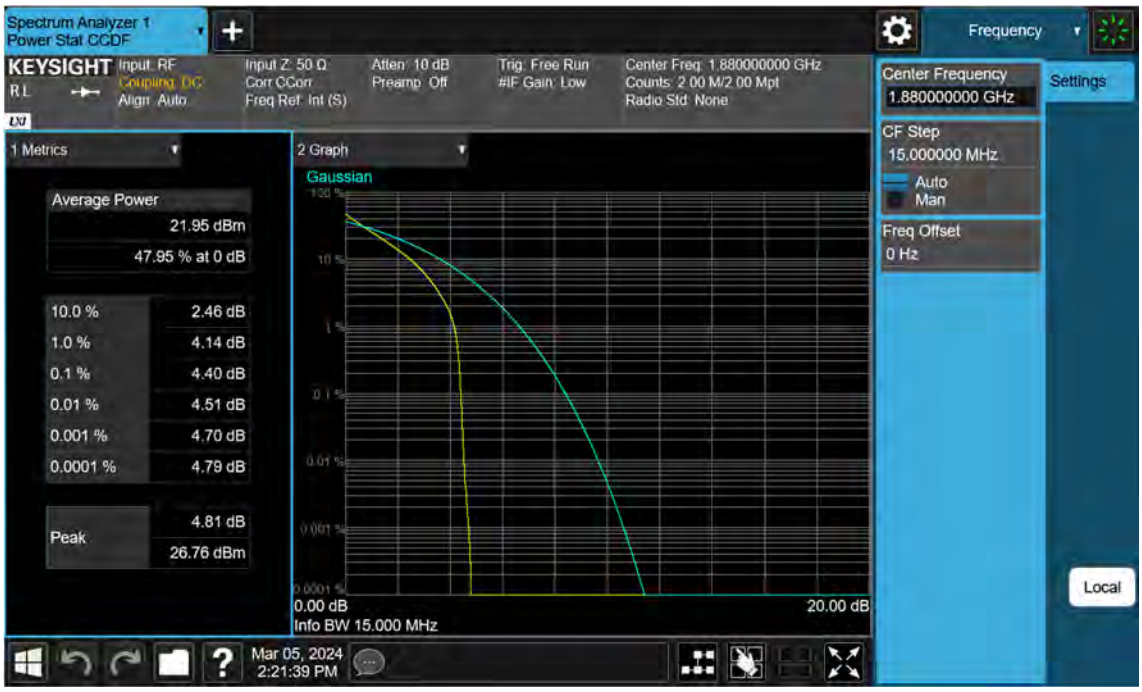
Sub6 n2_10 M_PAR_Mid_64QAM_FullRB

Sub6 n2_10 M_PAR_Mid_256QAM_FullRB

Sub6 n2_15 M_PAR_Mid_BPSK_FullRB



Sub6 n2_15 M_PAR_Mid_QPSK_FullRB

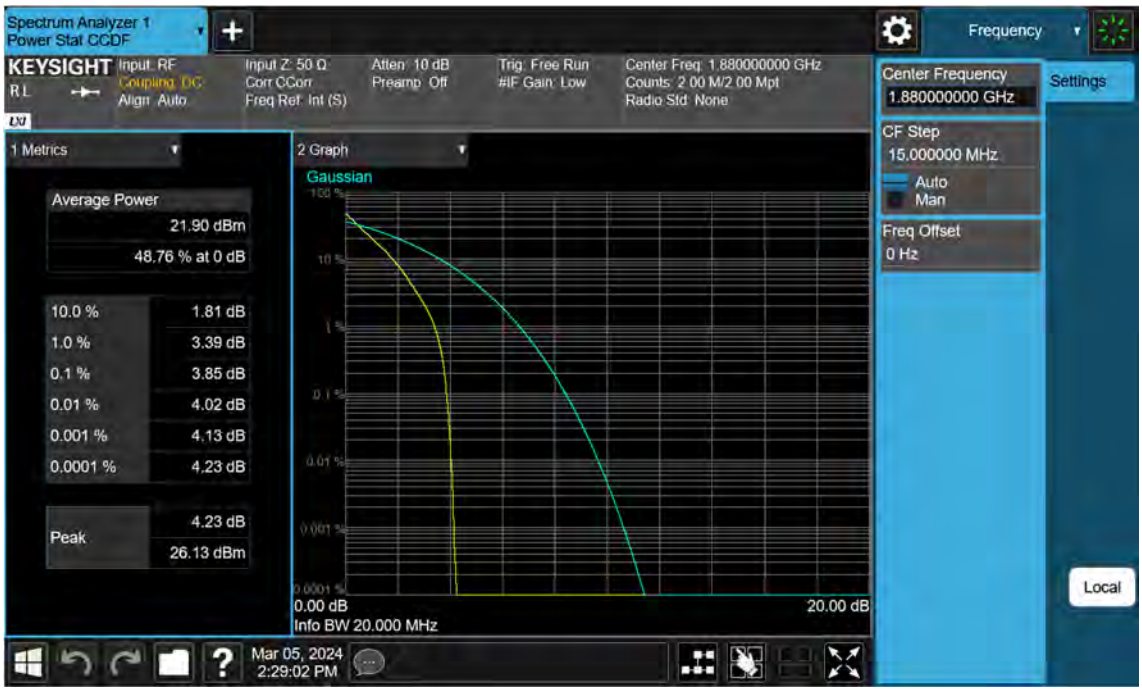


Sub6 n2_15 M_PAR_Mid_16QAM_FullRB

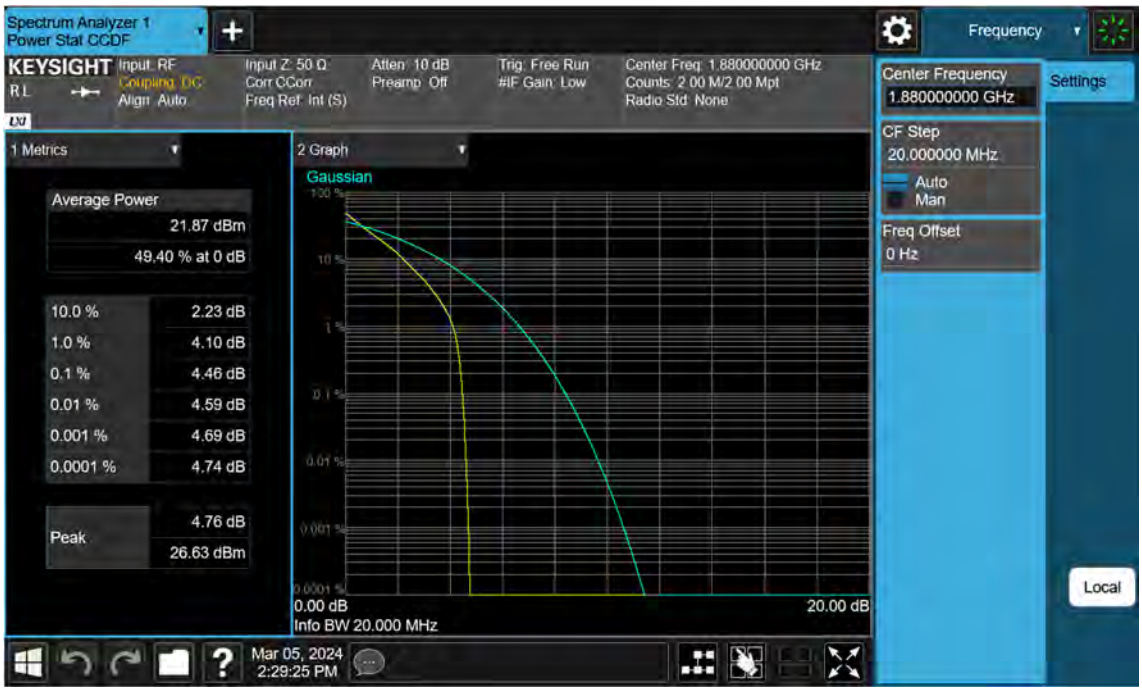
Sub6 n2_15 M_PAR_Mid_64QAM_FullRB

Sub6 n2_15 M_PAR_Mid_256QAM_FullRB

Sub6 n2_20 M_PAR_Mid_BPSK_FullRB



Sub6 n2_20 M_PAR_Mid_QPSK_FullRB

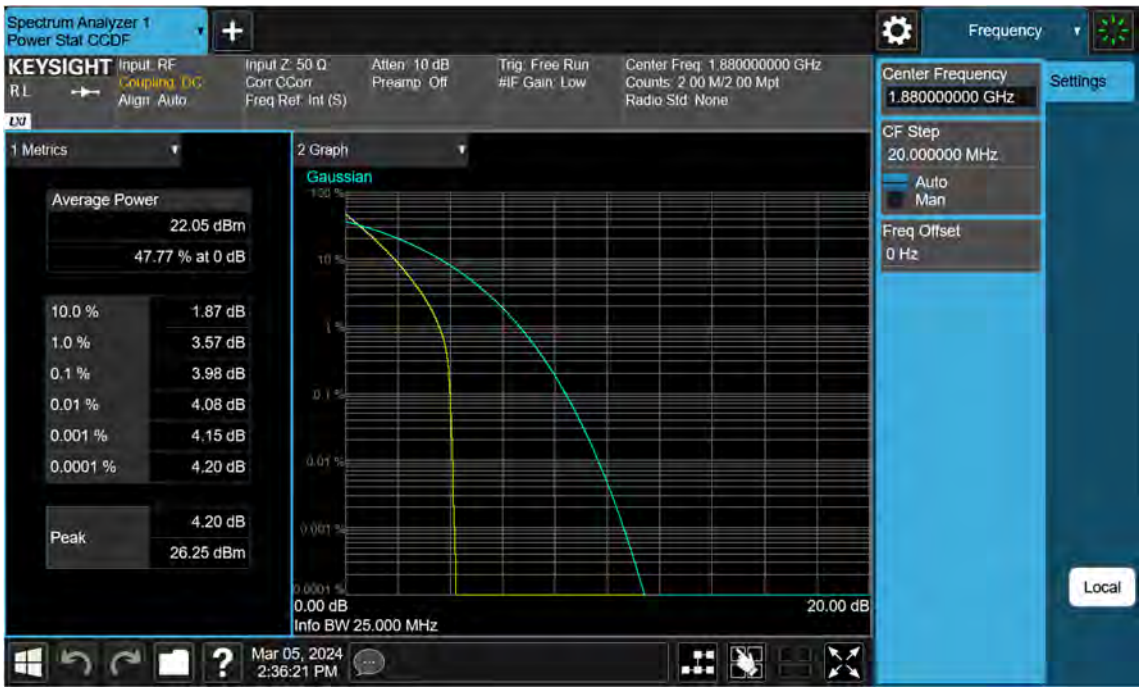


Sub6 n2_20 M_PAR_Mid_16QAM_FullRB

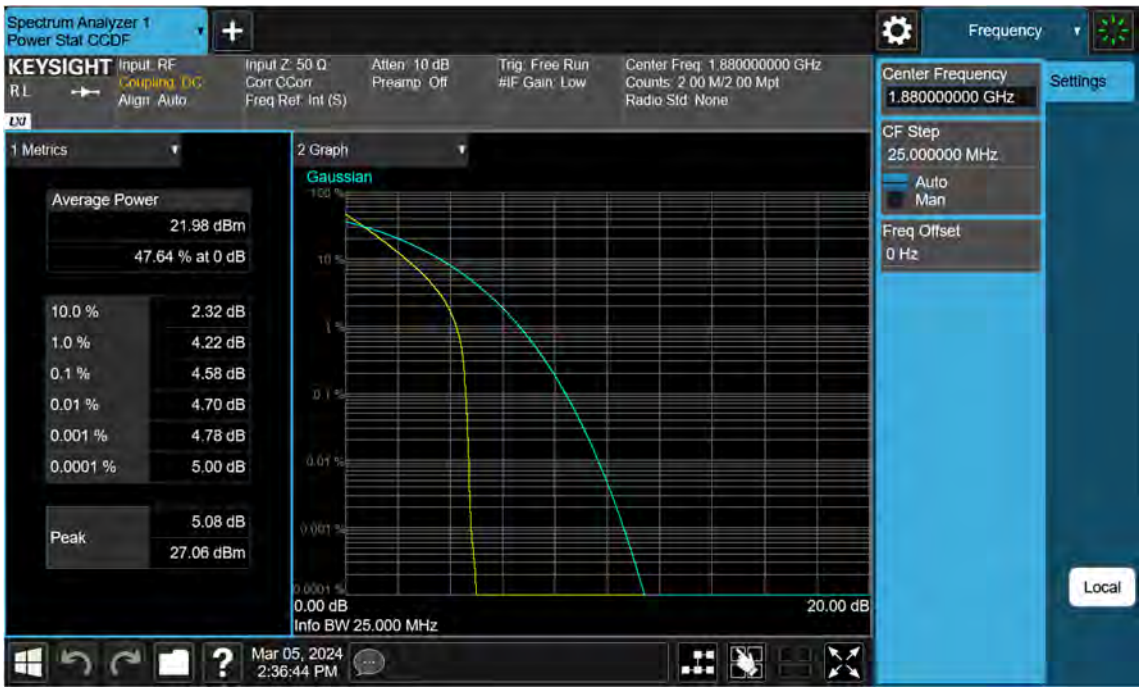
Sub6 n2_20 M_PAR_Mid_64QAM_FullRB

Sub6 n2_20 M_PAR_Mid_256QAM_FullRB

Sub6 n2_25 M_PAR_Mid_BPSK_FullRB



Sub6 n2_25 M_PAR_Mid_QPSK_FullRB

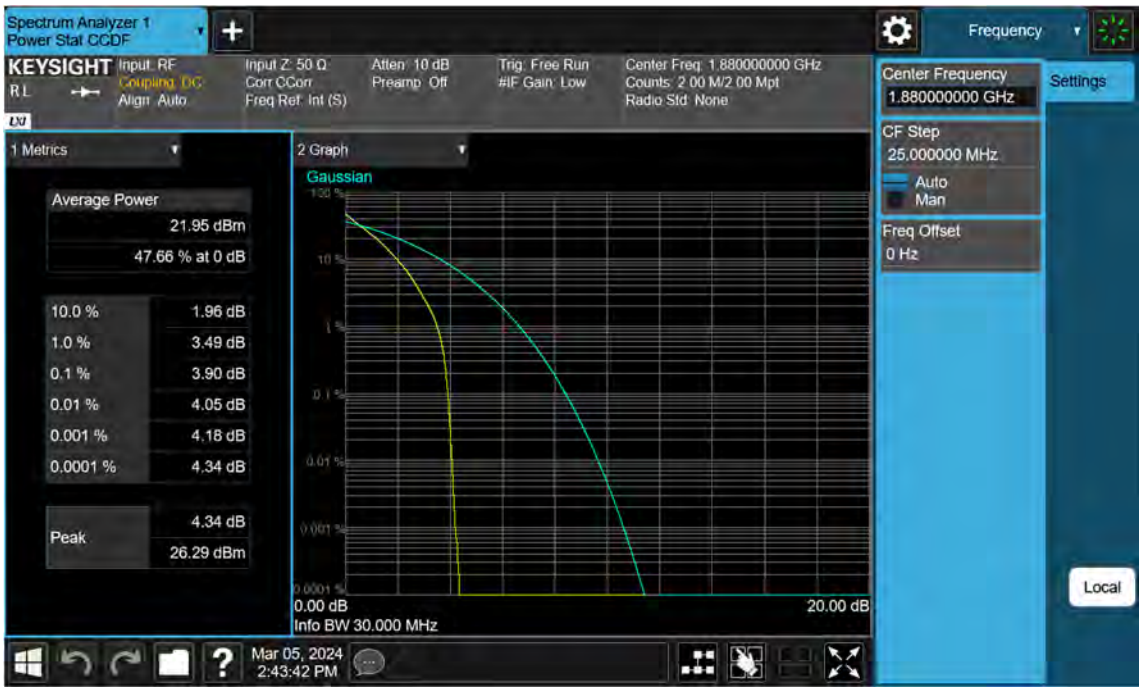


Sub6 n2_25 M_PAR_Mid_16QAM_FullRB

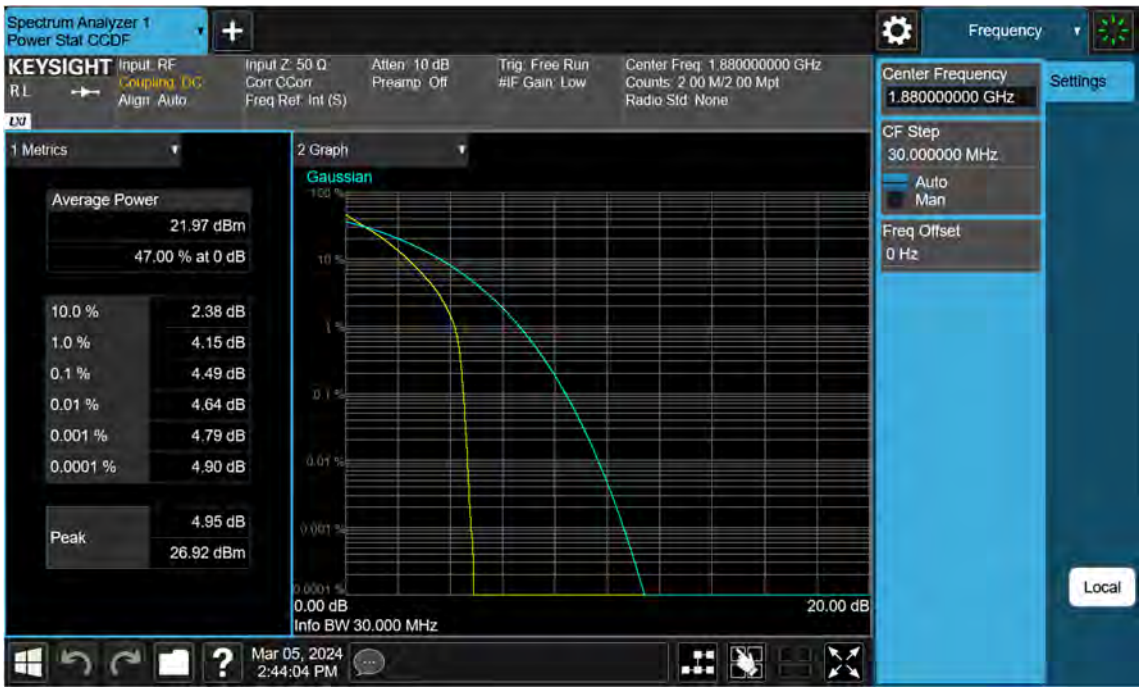
Sub6 n2_25 M_PAR_Mid_64QAM_FullRB

Sub6 n2_25 M_PAR_Mid_256QAM_FullRB

Sub6 n2_30 M_PAR_Mid_BPSK_FullRB



Sub6 n2_30 M_PAR_Mid_QPSK_FullRB

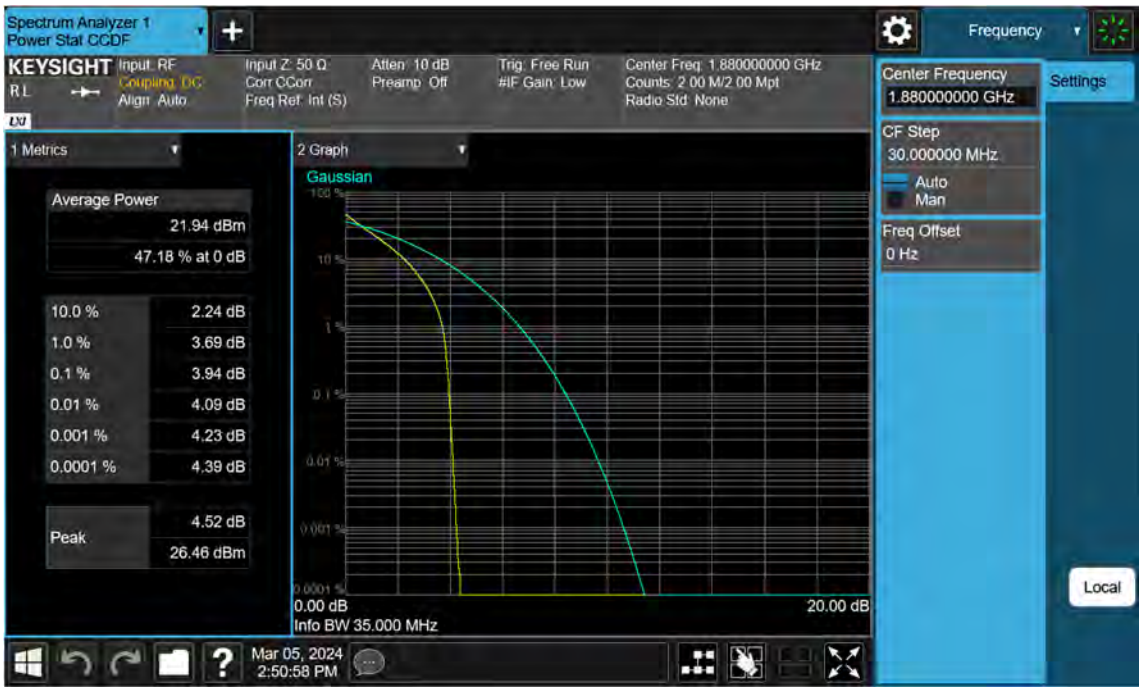


Sub6 n2_30 M_PAR_Mid_16QAM_FullRB

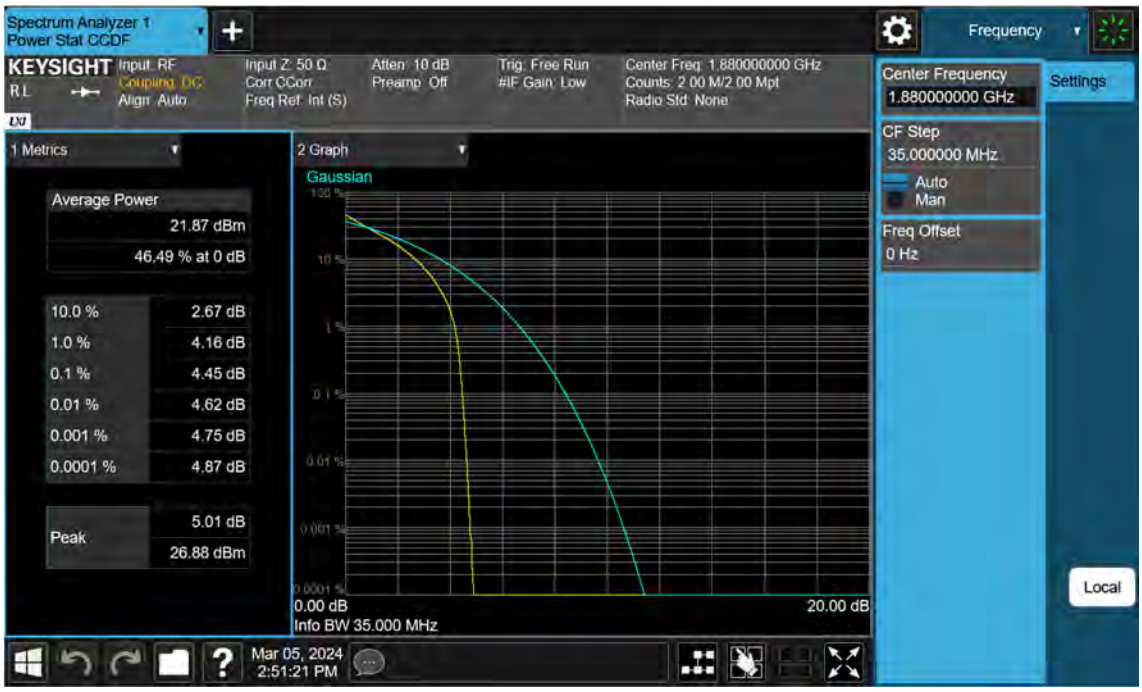
Sub6 n2_30 M_PAR_Mid_64QAM_FullRB

Sub6 n2_30 M_PAR_Mid_256QAM_FullRB

Sub6 n2_35 M_PAR_Mid_BPSK_FullRB



Sub6 n2_35 M_PAR_Mid_QPSK_FullRB

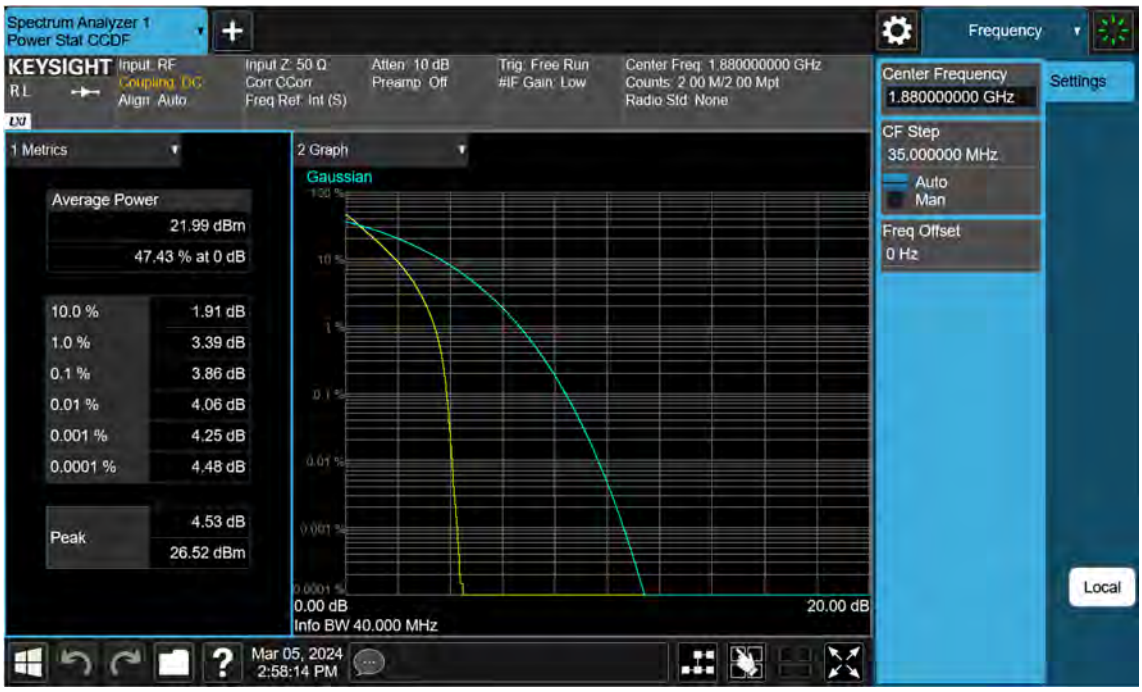


Sub6 n2_35 M_PAR_Mid_16QAM_FullRB

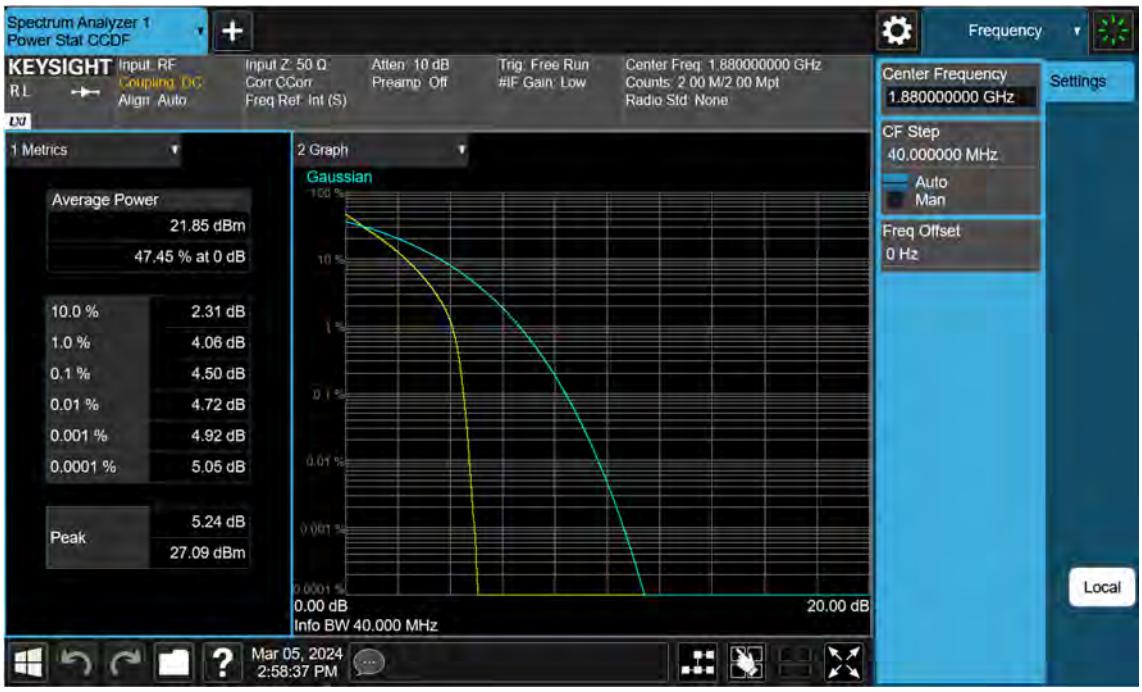
Sub6 n2_35 M_PAR_Mid_64QAM_FullRB

Sub6 n2_35 M_PAR_Mid_256QAM_FullRB

Sub6 n2_40 M_PAR_Mid_BPSK_FullRB



Sub6 n2_40 M_PAR_Mid_QPSK_FullRB



Sub6 n2_40 M_PAR_Mid_16QAM_FullRB

Sub6 n2_40 M_PAR_Mid_64QAM_FullRB

Sub6 n2_40 M_PAR_Mid_256QAM_FullRB

Sub6 n2_5 M_OBW_Mid_BPSK_FullRB

Sub6 n2_5 M_OBW_Mid_QPSK_FullRB

Sub6 n2_5 M_OBW_Mid_16QAM_FullRB

Sub6 n2_5 M_OBW_Mid_64QAM_FullRB

Sub6 n2_5 M_OBW_Mid_256QAM_FullRB

Sub6 n2_10 M_OBW_Mid_BPSK_FullRB

Sub6 n2_10 M_OBW_Mid_QPSK_FullRB

Sub6 n2_10 M_OBW_Mid_16QAM_FullRB

Sub6 n2_10 M_OBW_Mid_64QAM_FullRB

Sub6 n2_10 M_OBW_Mid_256QAM_FullRB

Sub6 n2_15 M_OBW_Mid_BPSK_FullRB

Sub6 n2_15 M_OBW_Mid_QPSK_FullRB

Sub6 n2_15 M_OBW_Mid_16QAM_FullRB

Sub6 n2_15 M_OBW_Mid_64QAM_FullRB

Sub6 n2_15 M_OBW_Mid_256QAM_FullRB

Sub6 n2_20 M_OBW_Mid_BPSK_FullRB

Sub6 n2_20 M_OBW_Mid_QPSK_FullRB

Sub6 n2_20 M_OBW_Mid_16QAM_FullRB

Sub6 n2_20 M_OBW_Mid_64QAM_FullRB

Sub6 n2_20 M_OBW_Mid_256QAM_FullRB

Sub6 n2_25 M_OBW_Mid_BPSK_FullRB

Sub6 n2_25 M_OBW_Mid_QPSK_FullRB

Sub6 n2_25 M_OBW_Mid_16QAM_FullRB

Sub6 n2_25 M_OBW_Mid_64QAM_FullRB

Sub6 n2_25 M_OBW_Mid_256QAM_FullRB

Sub6 n2_30 M_OBW_Mid_BPSK_FullRB

Sub6 n2_30 M_OBW_Mid_QPSK_FullRB

Sub6 n2_30 M_OBW_Mid_16QAM_FullRB

Sub6 n2_30 M_OBW_Mid_64QAM_FullRB

Sub6 n2_30 M_OBW_Mid_256QAM_FullRB

Sub6 n2_35 M_OBW_Mid_BPSK_FullRB

Sub6 n2_35 M_OBW_Mid_QPSK_FullRB

Sub6 n2_35 M_OBW_Mid_16QAM_FullRB

Sub6 n2_35 M_OBW_Mid_64QAM_FullRB

Sub6 n2_35 M_OBW_Mid_256QAM_FullRB

Sub6 n2_40 M_OBW_Mid_BPSK_FullRB

Sub6 n2_40 M_OBW_Mid_QPSK_FullRB

Sub6 n2_40 M_OBW_Mid_16QAM_FullRB

Sub6 n2_40 M_OBW_Mid_64QAM_FullRB

Sub6 n2_40 M_OBW_Mid_256QAM_FullRB

Sub6 n2_5 M_Conducted Spurious(30 M-10 G)_Low_BPSK_1RB

Sub6 n2_5 M_Conducted Spurious(30 M-10 G)_Mid_BPSK_FullRB

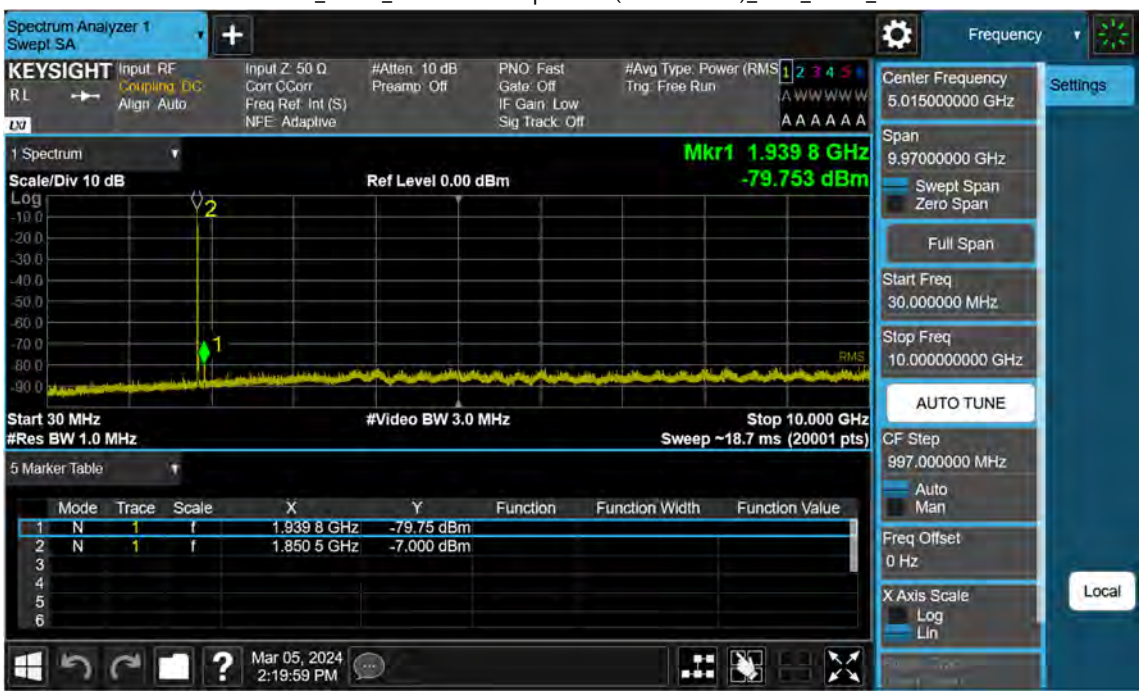
Sub6 n2_5 M_Conducted Spurious(30 M-10 G)_High_BPSK_1RB

Sub6 n2_10 M_Conducted Spurious(30 M-10 G)_Low_BPSK_1RB

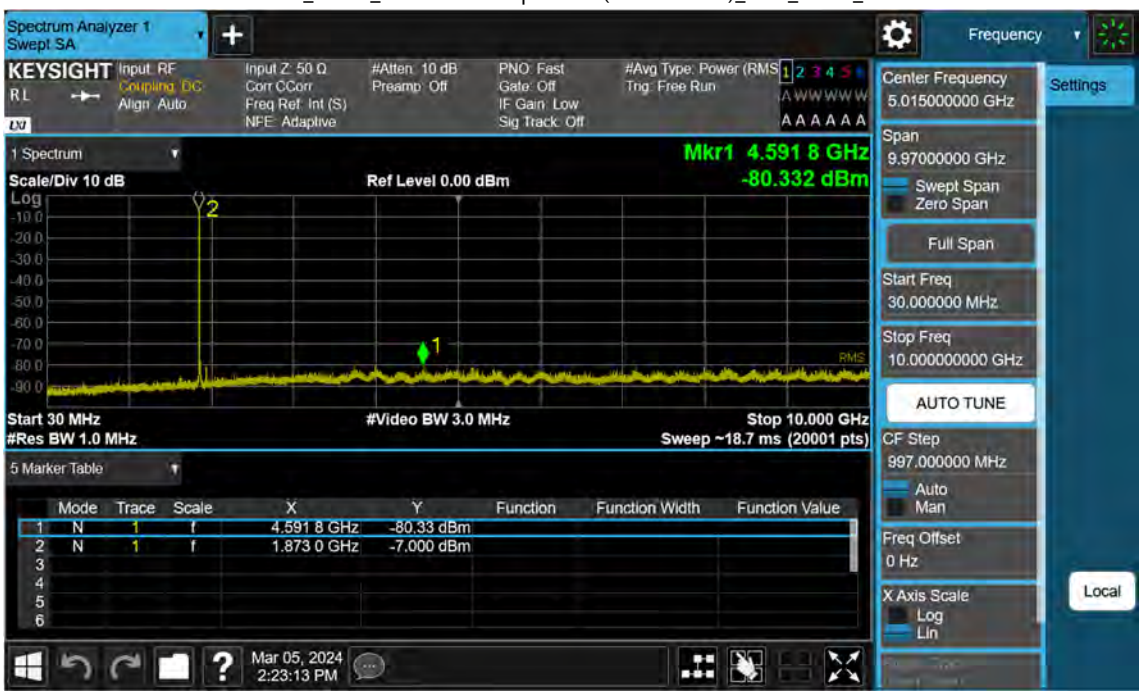
Sub6 n2_10 M_Conducted Spurious(30 M-10 G)_Mid_BPSK_FullRB

Sub6 n2_10 M_Conducted Spurious(30 M-10 G)_High_BPSK_1RB

Sub6 n2_15 M_Conducted Spurious(30 M-10 G)_Low_BPSK_1RB



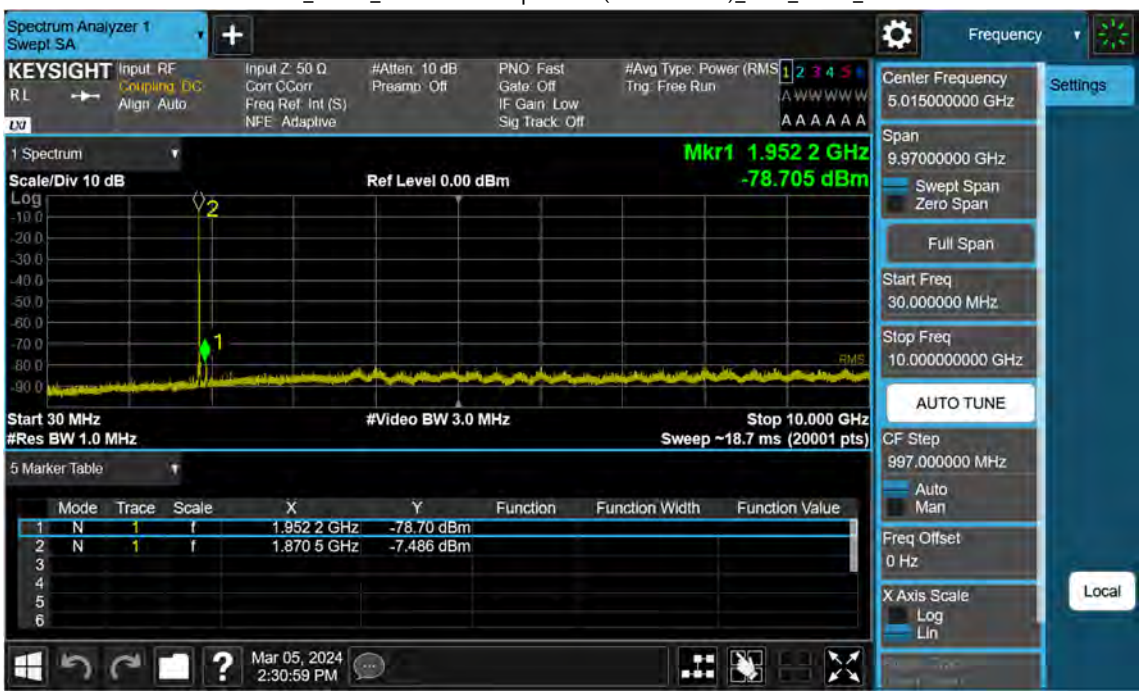
Sub6 n2_15 M_Conducted Spurious(30 M-10 G)_Mid_BPSK_FullRB



Sub6 n2_15 M_Conducted Spurious(30 M-10 G)_High_BPSK_1RB

Sub6 n2_20 M_Conducted Spurious(30 M-10 G)_Low_BPSK_1RB

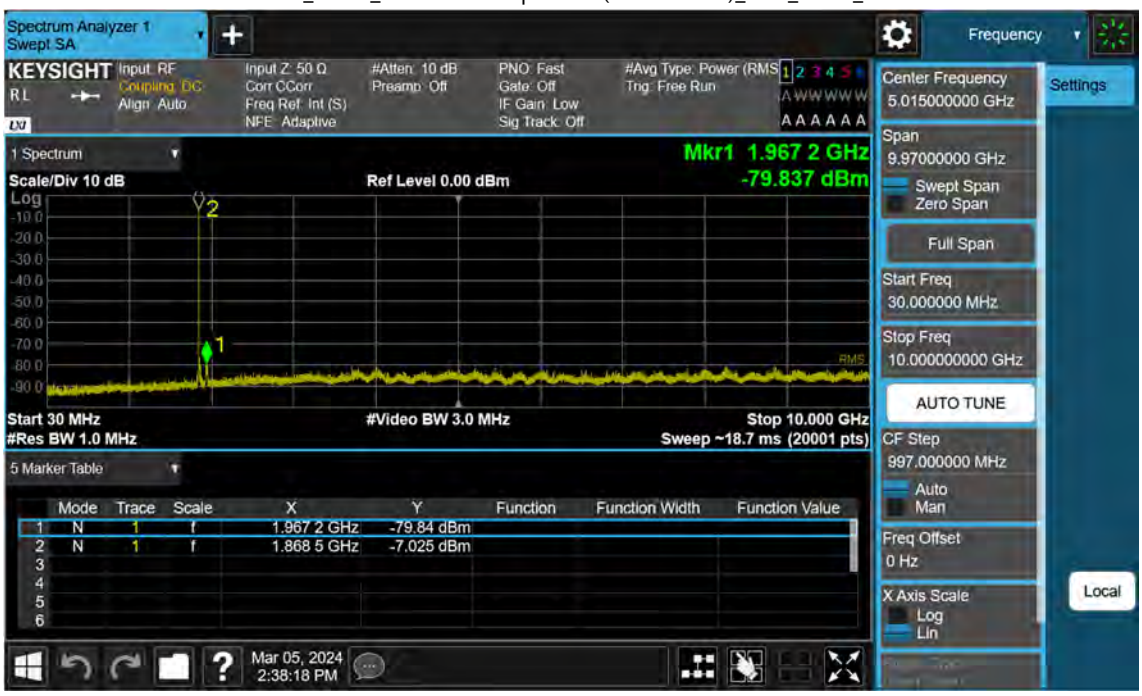
Sub6 n2_20 M_Conducted Spurious(30 M-10 G)_Mid_BPSK_FullRB



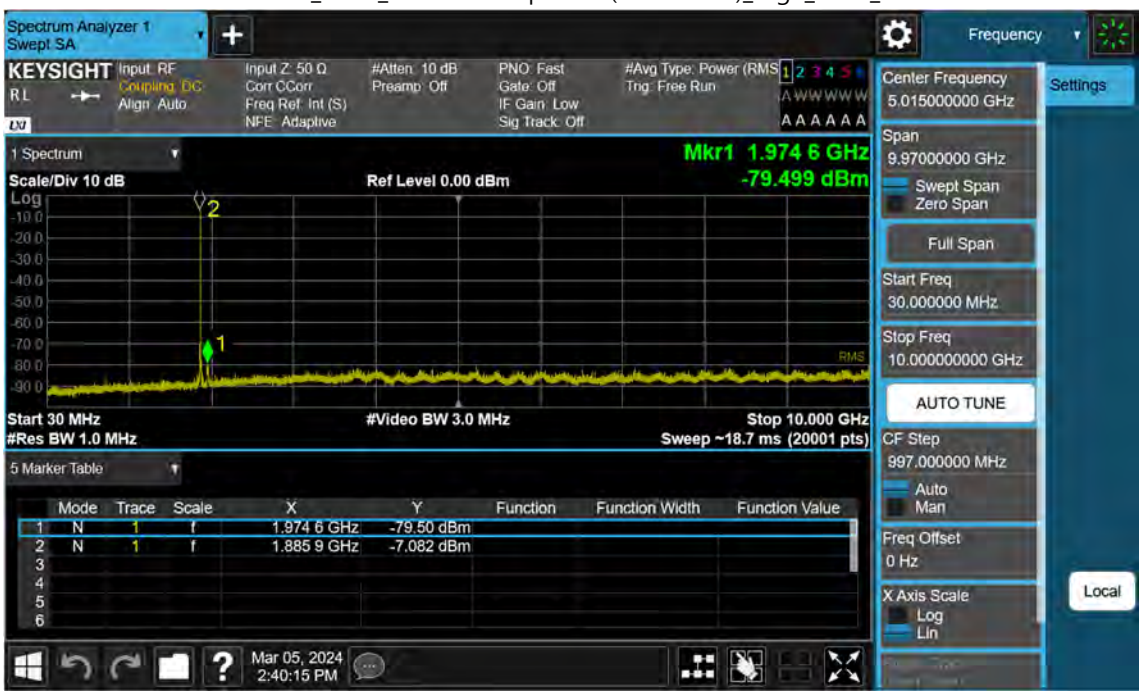
Sub6 n2_20 M_Conducted Spurious(30 M-10 G)_High_BPSK_1RB

Sub6 n2_25 M_Conducted Spurious(30 M-10 G)_Low_BPSK_1RB

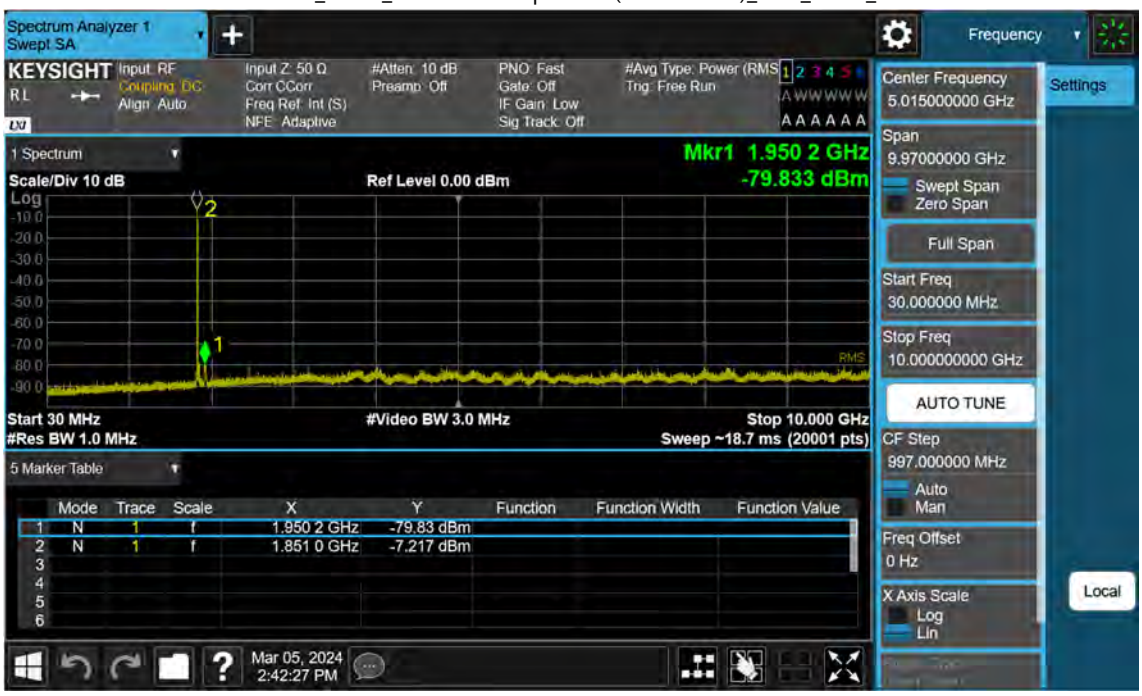
Sub6 n2_25 M_Conducted Spurious(30 M-10 G)_Mid_BPSK_FullRB



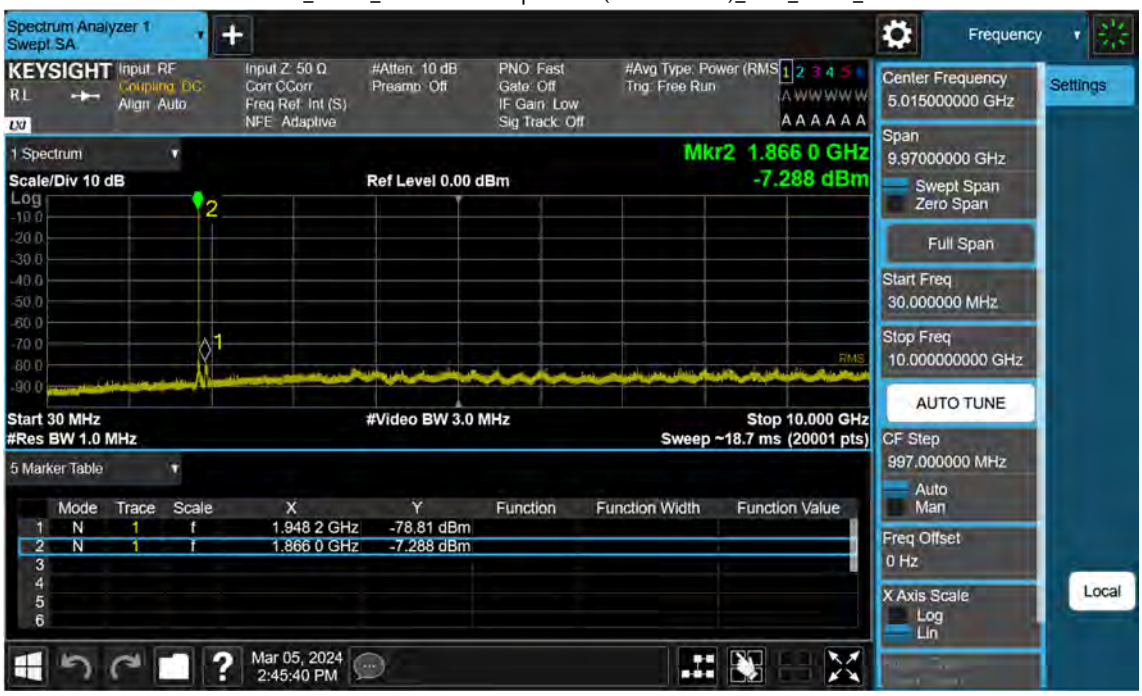
Sub6 n2_25 M_Conducted Spurious(30 M-10 G)_High_BPSK_1RB



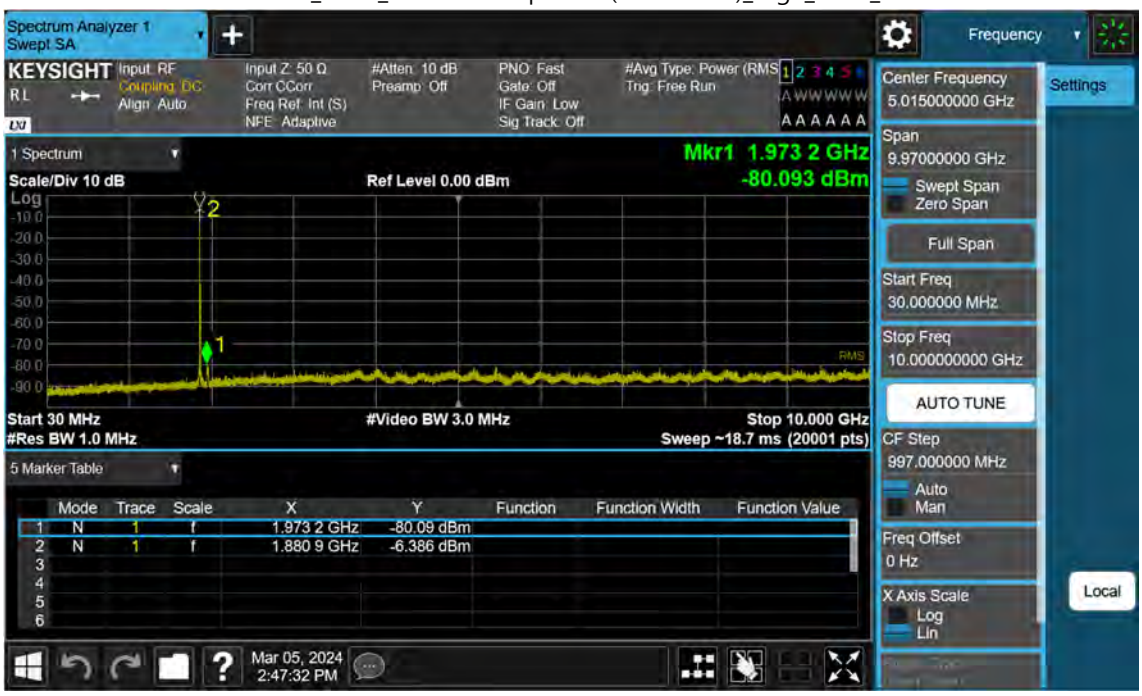
Sub6 n2_30 M_Conducted Spurious(30 M-10 G)_Low_BPSK_1RB



Sub6 n2_30 M_Conducted Spurious(30 M-10 G)_Mid_BPSK_FullRB

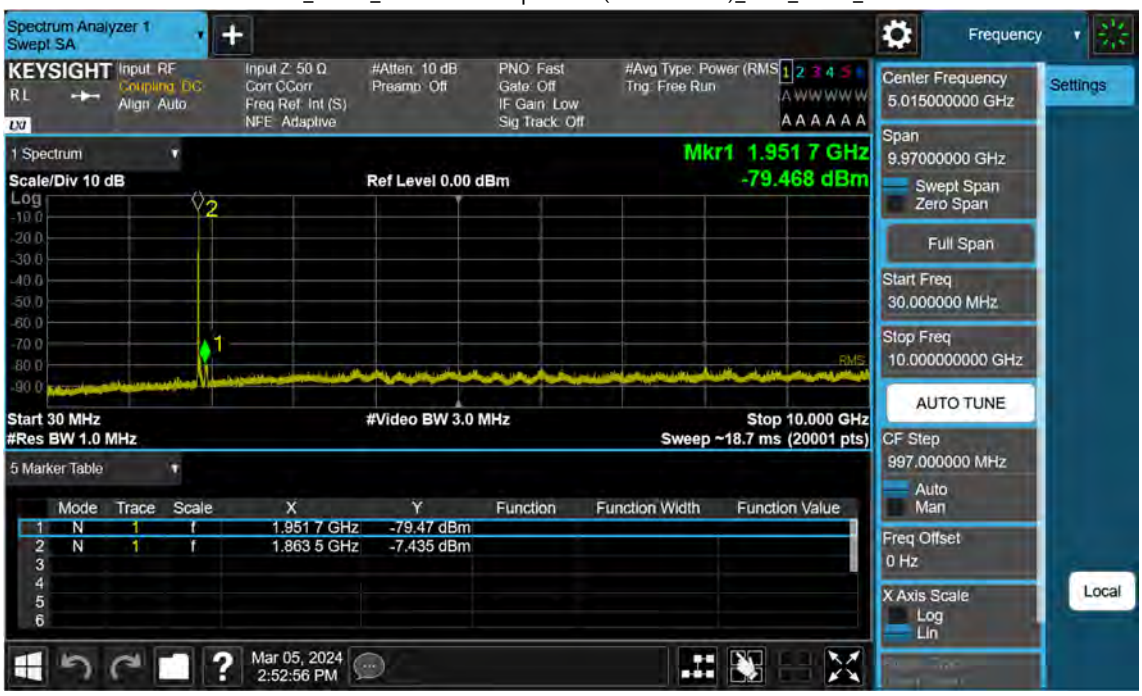


Sub6 n2_30 M_Conducted Spurious(30 M-10 G)_High_BPSK_1RB

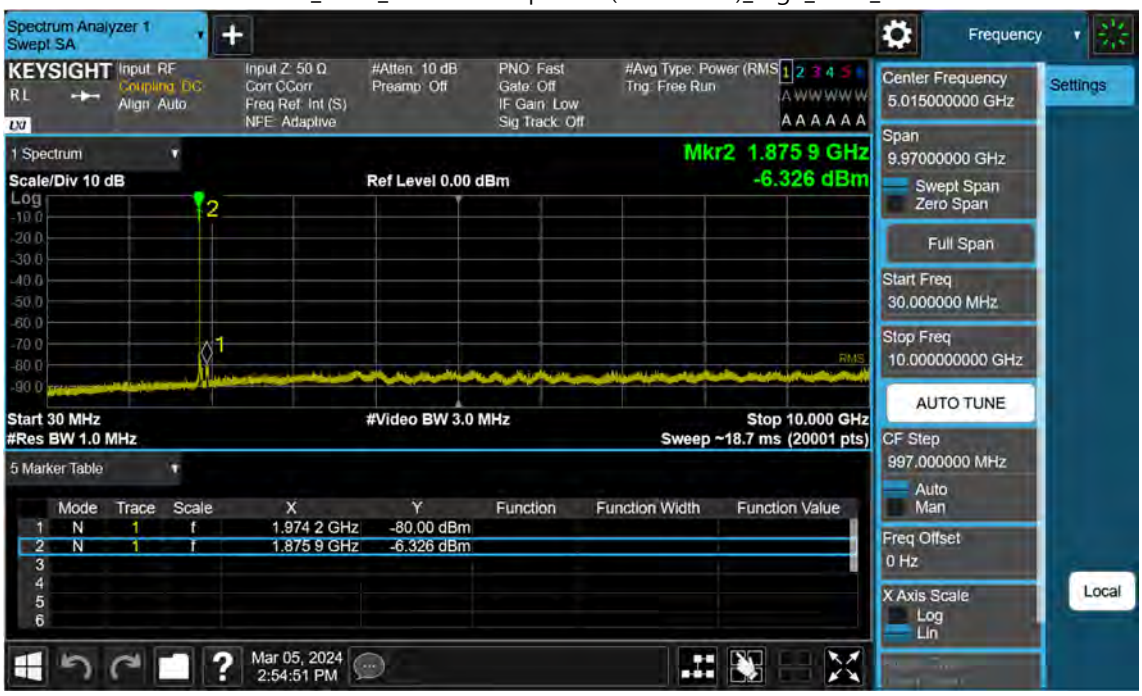


Sub6 n2_35 M_Conducted Spurious(30 M-10 G)_Low_BPSK_1RB

Sub6 n2_35 M_Conducted Spurious(30 M-10 G)_Mid_BPSK_FullRB

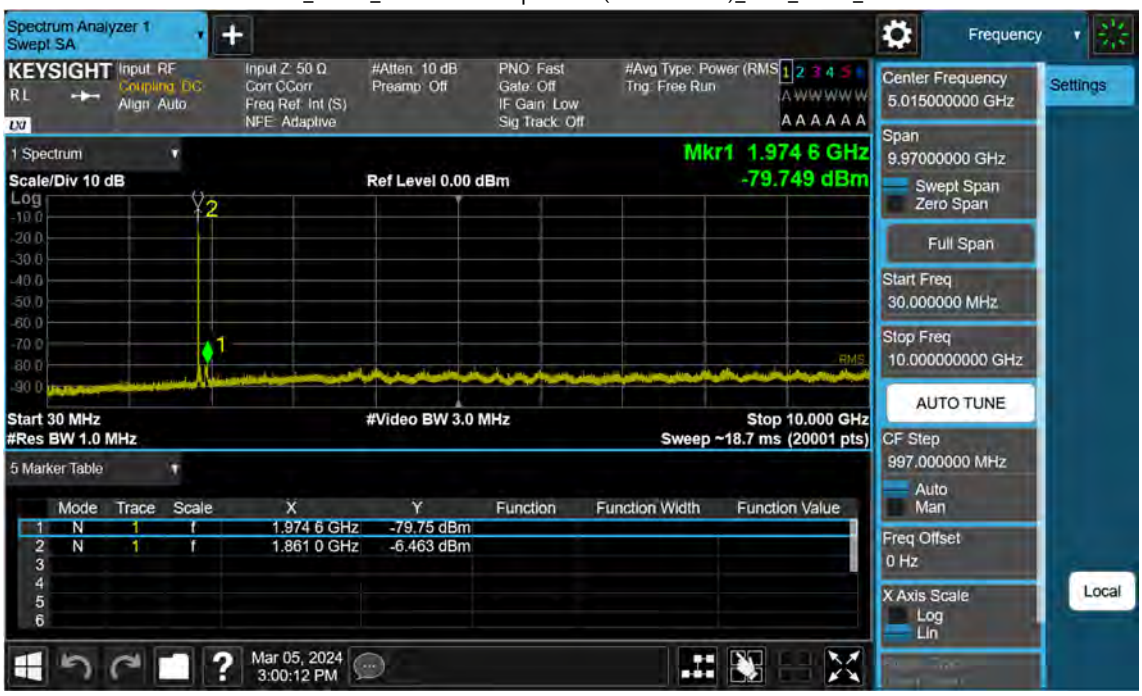


Sub6 n2_35 M_Conducted Spurious(30 M-10 G)_High_BPSK_1RB

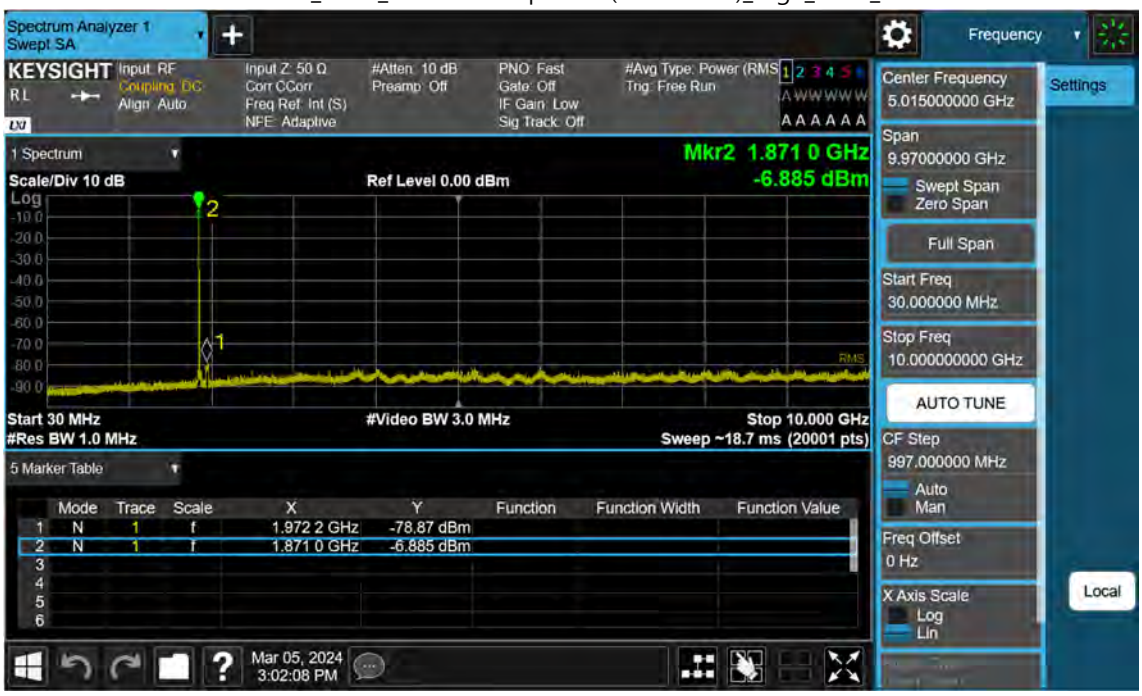


Sub6 n2_40 M_Conducted Spurious(30 M-10 G)_Low_BPSK_1RB

Sub6 n2_40 M_Conducted Spurious(30 M-10 G)_Mid_BPSK_FullRB

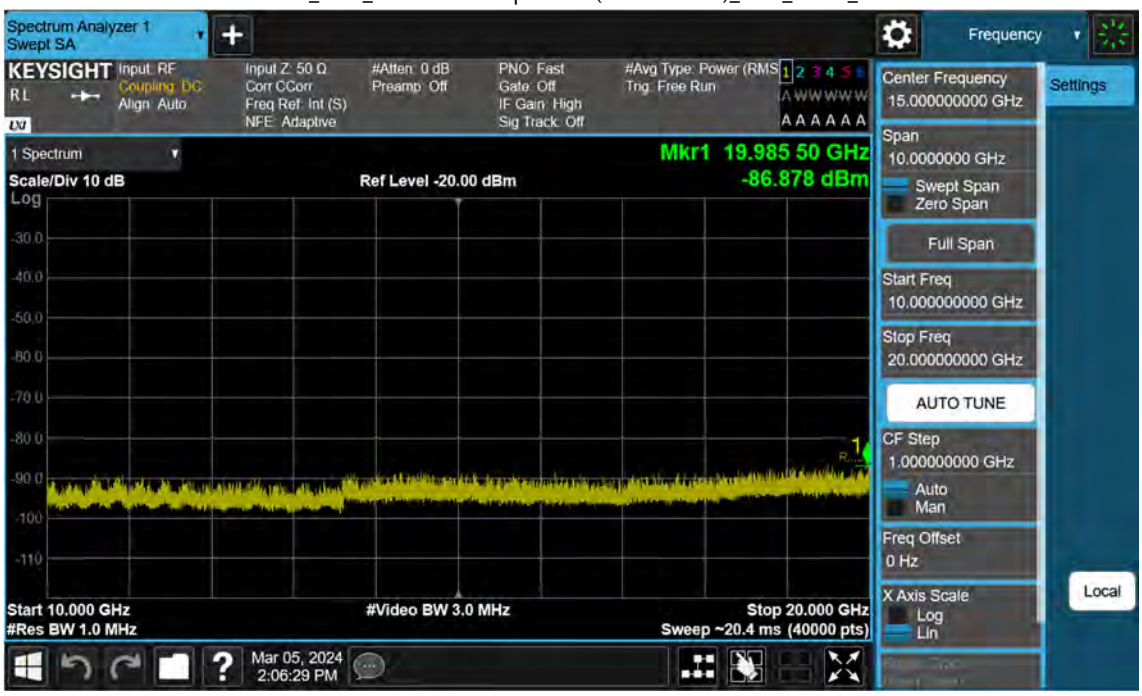


Sub6 n2_40 M_Conducted Spurious(30 M-10 G)_High_BPSK_1RB

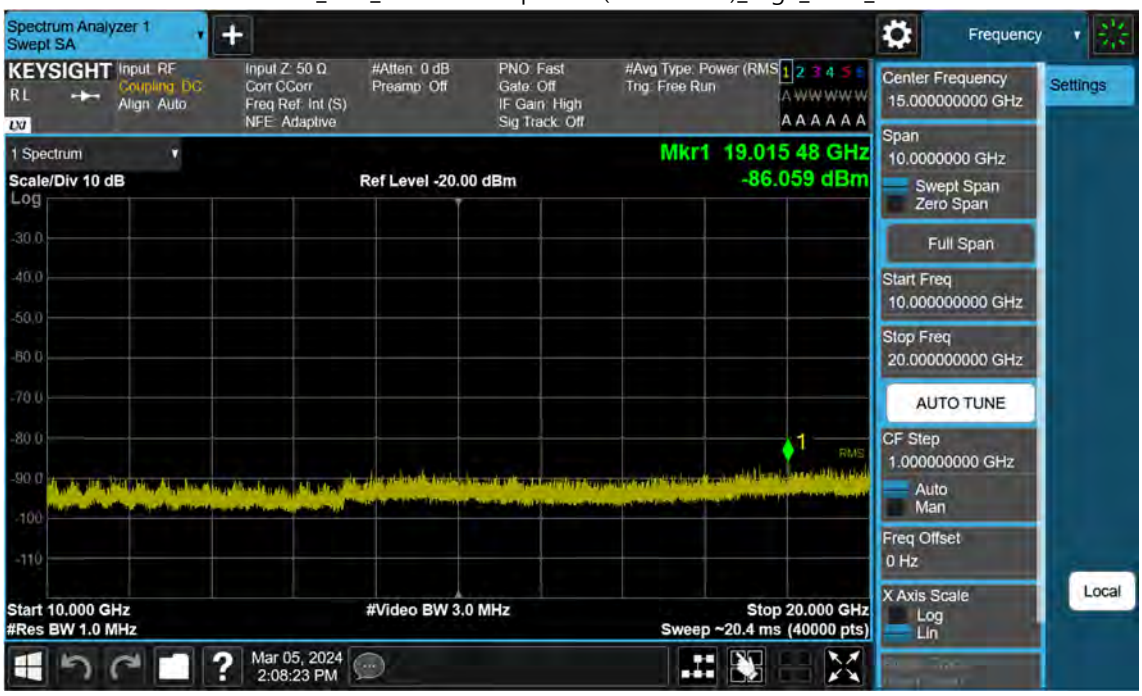


Sub6 n2_5 M_Conducted Spurious(Above10 G)_Low_BPSK_1RB

Sub6 n2_5 M_Conducted Spurious(Above10 G)_Mid_BPSK_FullRB

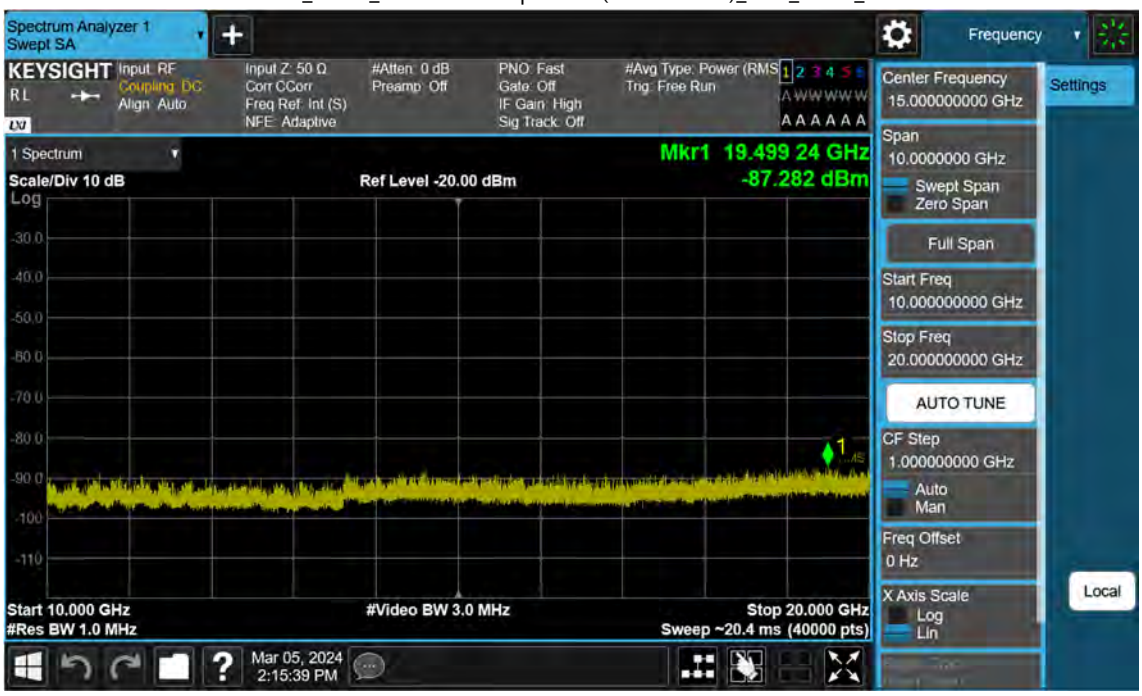


Sub6 n2_5 M_Conducted Spurious(Above10 G)_High_BPSK_1RB

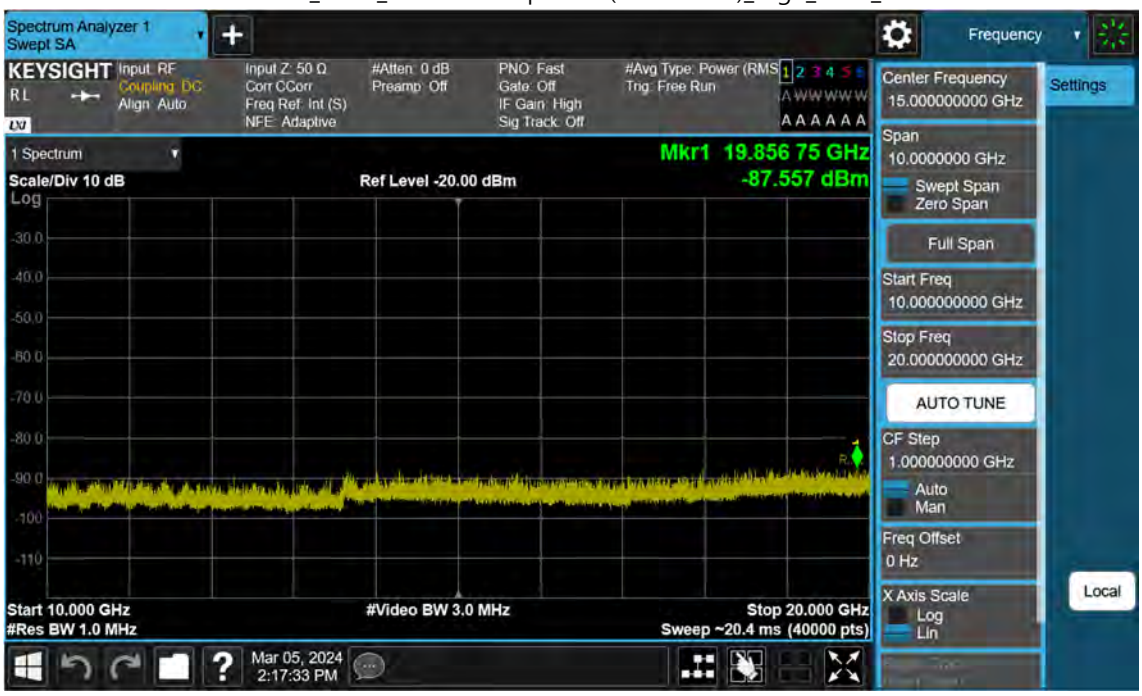


Sub6 n2_10 M_Conducted Spurious(Above10 G)_Low_BPSK_1RB

Sub6 n2_10 M_Conducted Spurious(Above10 G)_Mid_BPSK_FullRB

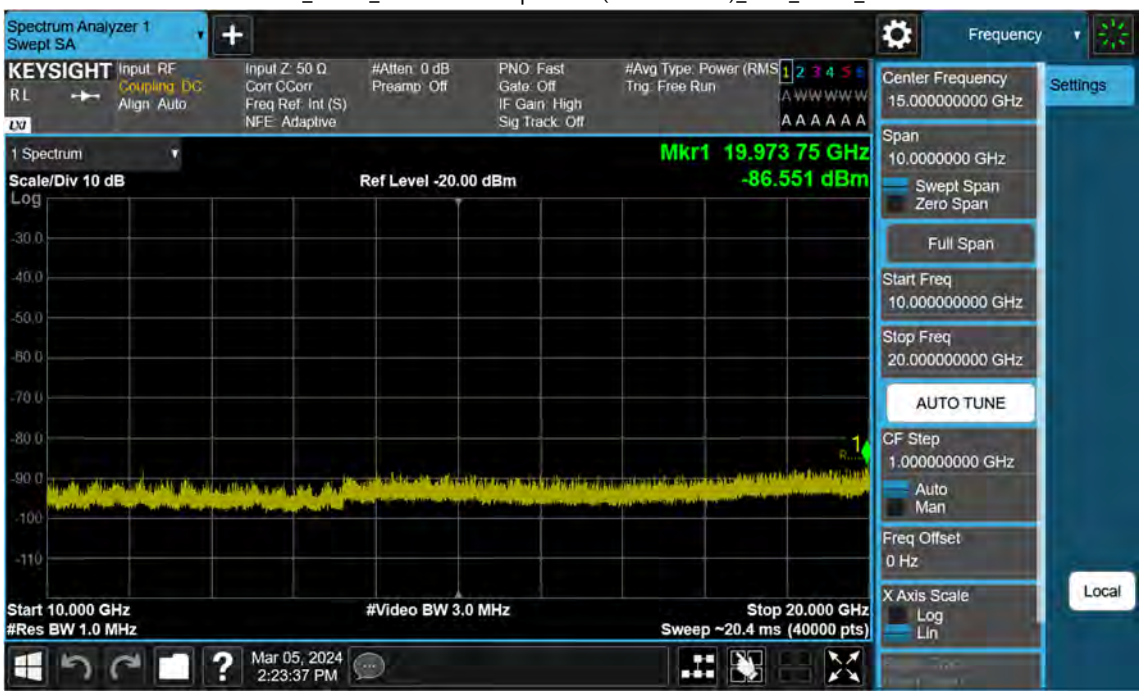


Sub6 n2_10 M_Conducted Spurious(Above10 G)_High_BPSK_1RB

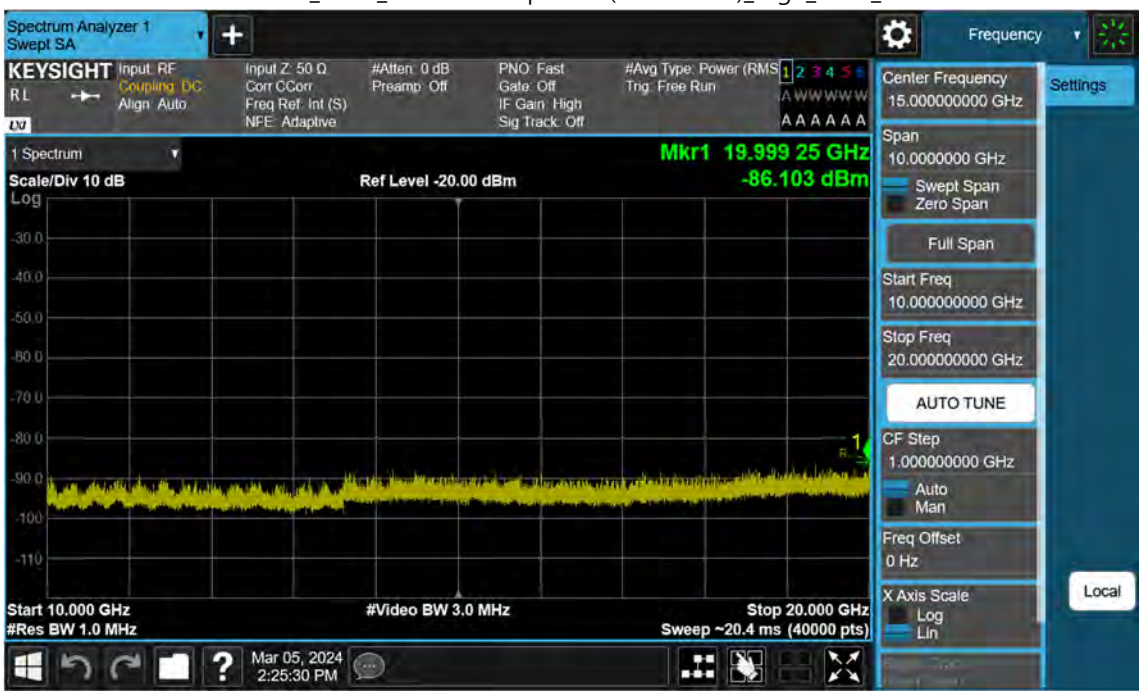


Sub6 n2_15 M_Conducted Spurious(Above10 G)_Low_BPSK_1RB

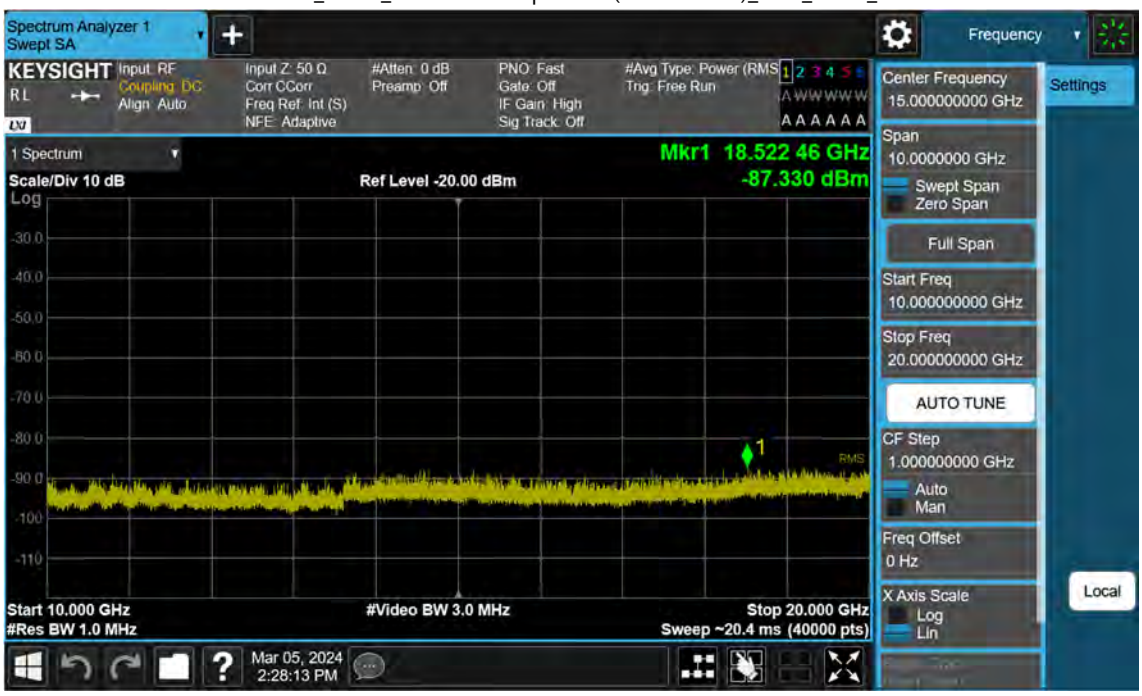
Sub6 n2_15 M_Conducted Spurious(Above10 G)_Mid_BPSK_FullRB



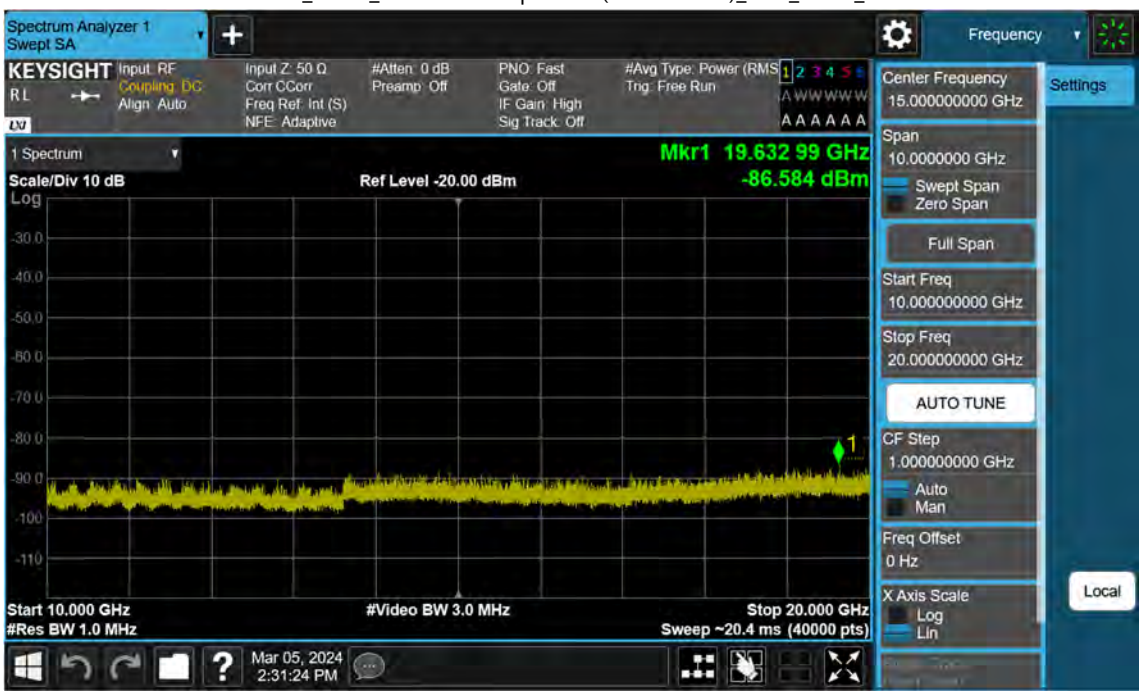
Sub6 n2_15 M_Conducted Spurious(Above10 G)_High_BPSK_1RB



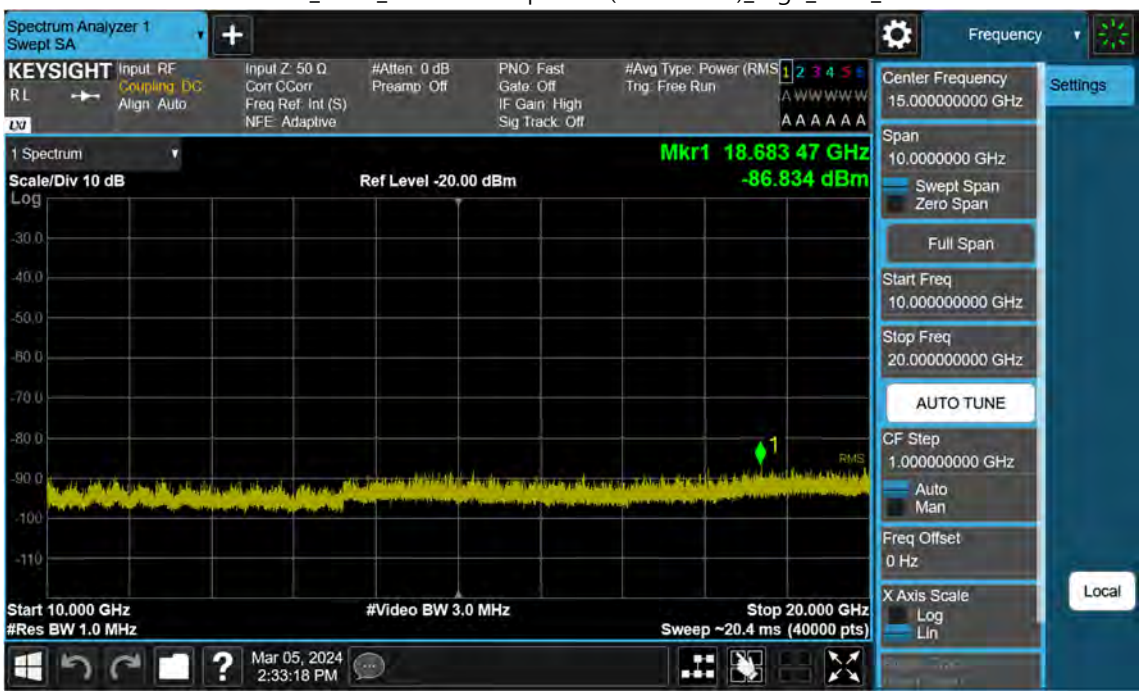
Sub6 n2_20 M_Conducted Spurious(Above10 G)_Low_BPSK_1RB



Sub6 n2_20 M_Conducted Spurious(Above10 G)_Mid_BPSK_FullRB



Sub6 n2_20 M_Conducted Spurious(Above10 G)_High_BPSK_1RB



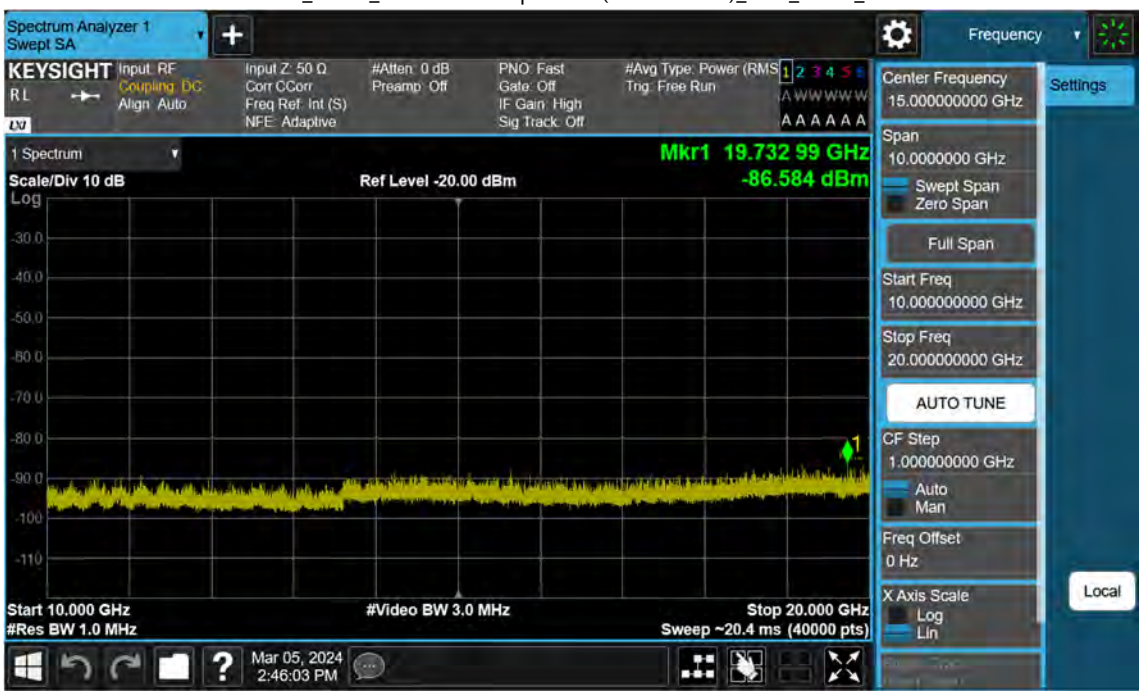
Sub6 n2_25 M_Conducted Spurious(Above10 G)_Low_BPSK_1RB

Sub6 n2_25 M_Conducted Spurious(Above10 G)_Mid_BPSK_FullRB

Sub6 n2_25 M_Conducted Spurious(Above10 G)_High_BPSK_1RB

Sub6 n2_30 M_Conducted Spurious(Above10 G)_Low_BPSK_1RB

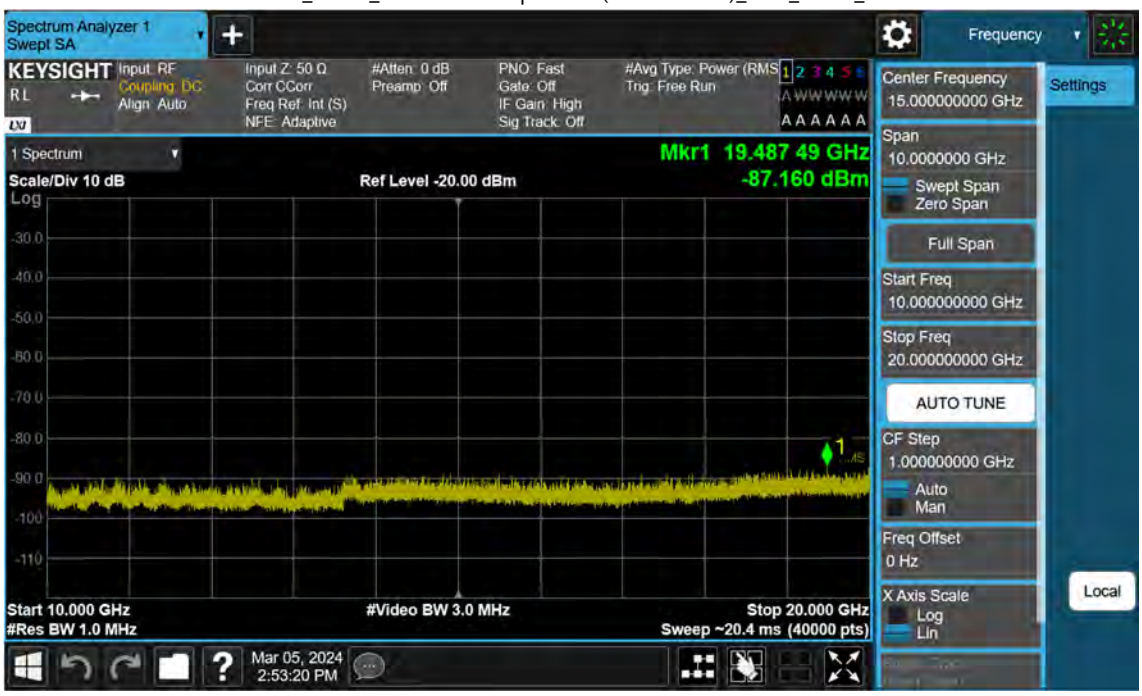
Sub6 n2_30 M_Conducted Spurious(Above10 G)_Mid_BPSK_FullRB



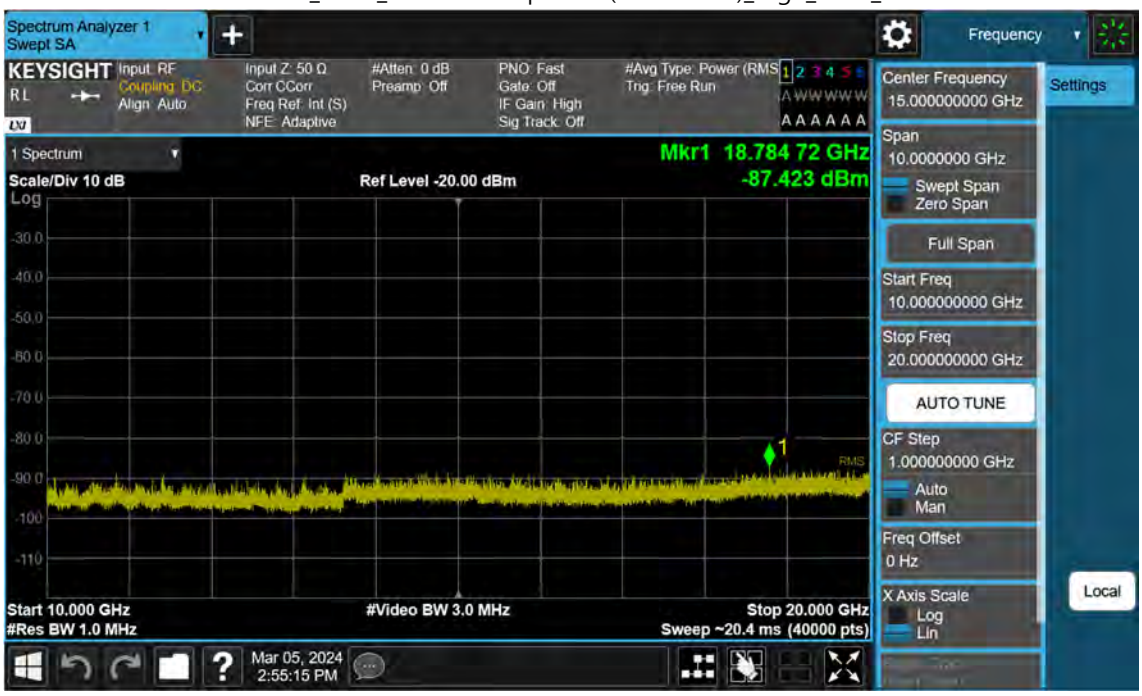
Sub6 n2_30 M_Conducted Spurious(Above10 G)_High_BPSK_1RB

Sub6 n2_35 M_Conducted Spurious(Above10 G)_Low_BPSK_1RB

Sub6 n2_35 M_Conducted Spurious(Above10 G)_Mid_BPSK_FullRB

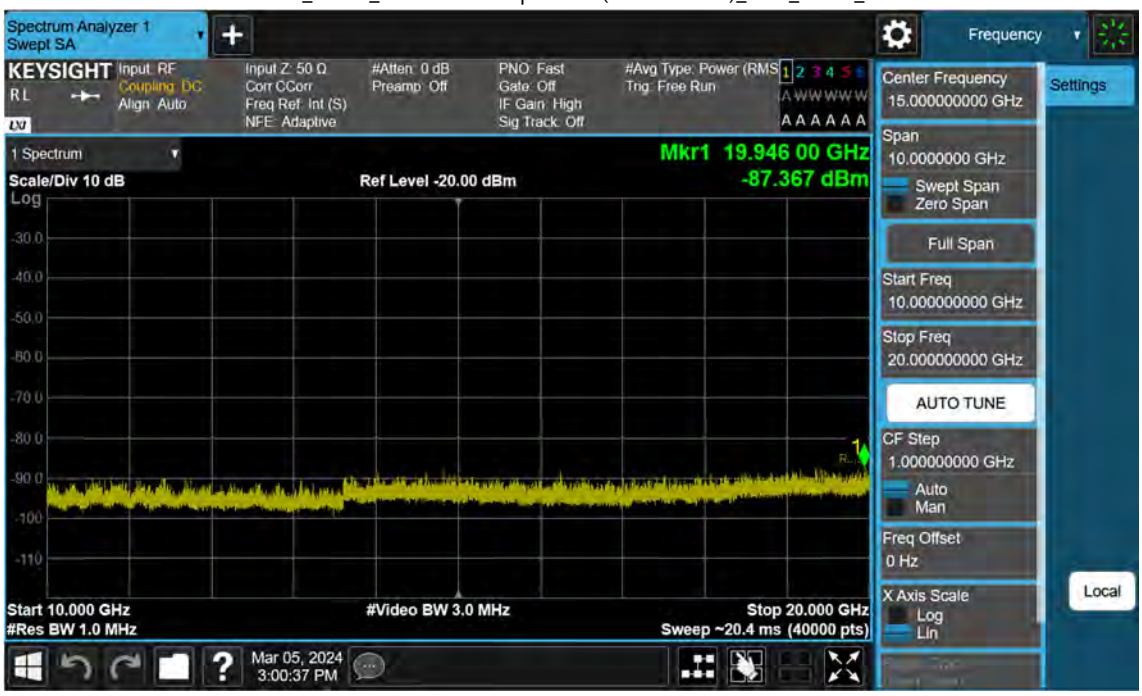


Sub6 n2_35 M_Conducted Spurious(Above10 G)_High_BPSK_1RB

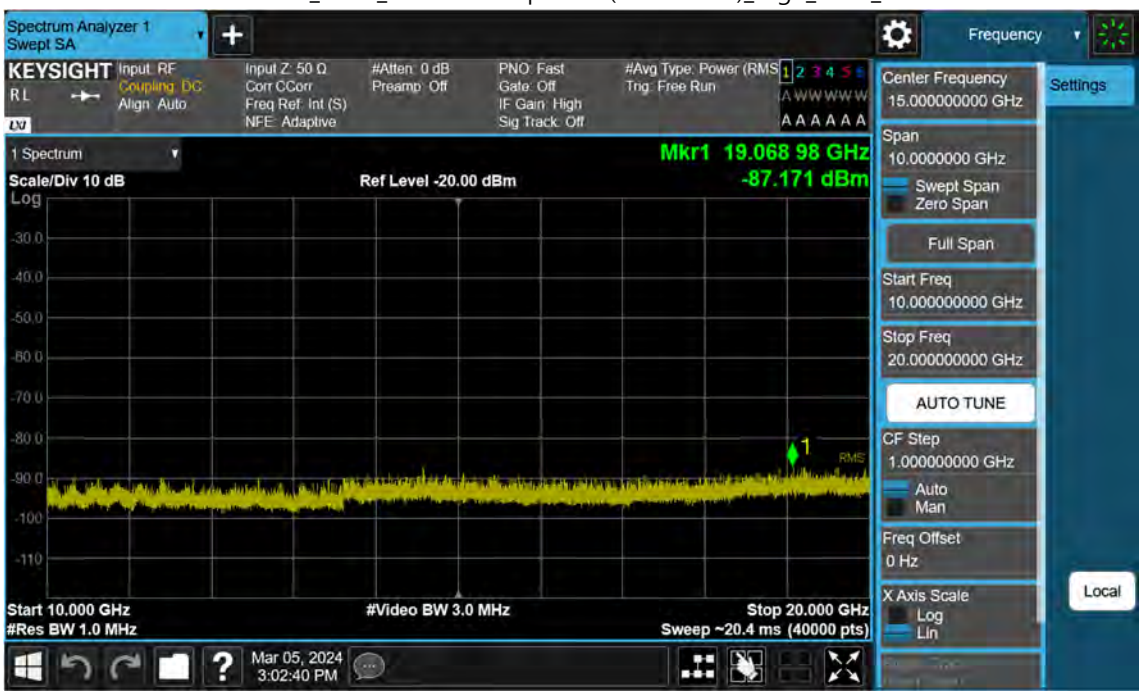


Sub6 n2_40 M_Conducted Spurious(Above10 G)_Low_BPSK_1RB

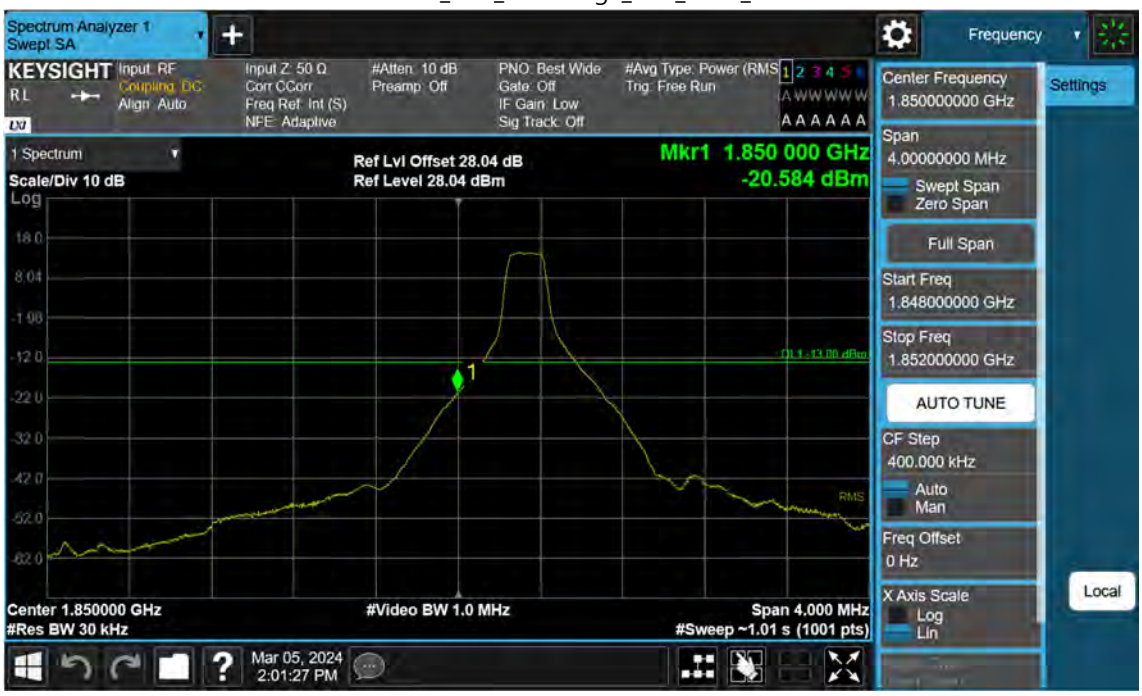
Sub6 n2_40 M_Conducted Spurious(Above10 G)_Mid_BPSK_FullRB



Sub6 n2_40 M_Conducted Spurious(Above10 G)_High_BPSK_1RB

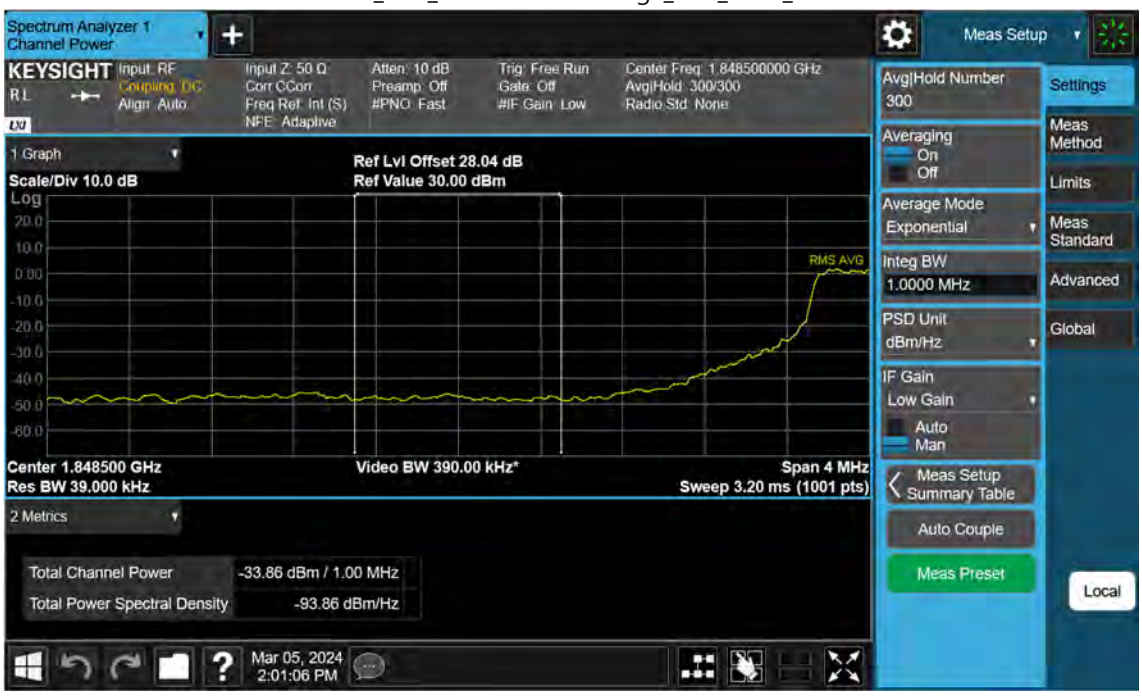


Sub6 n2_5 M_Band Edge_Low_BPSK_1RB

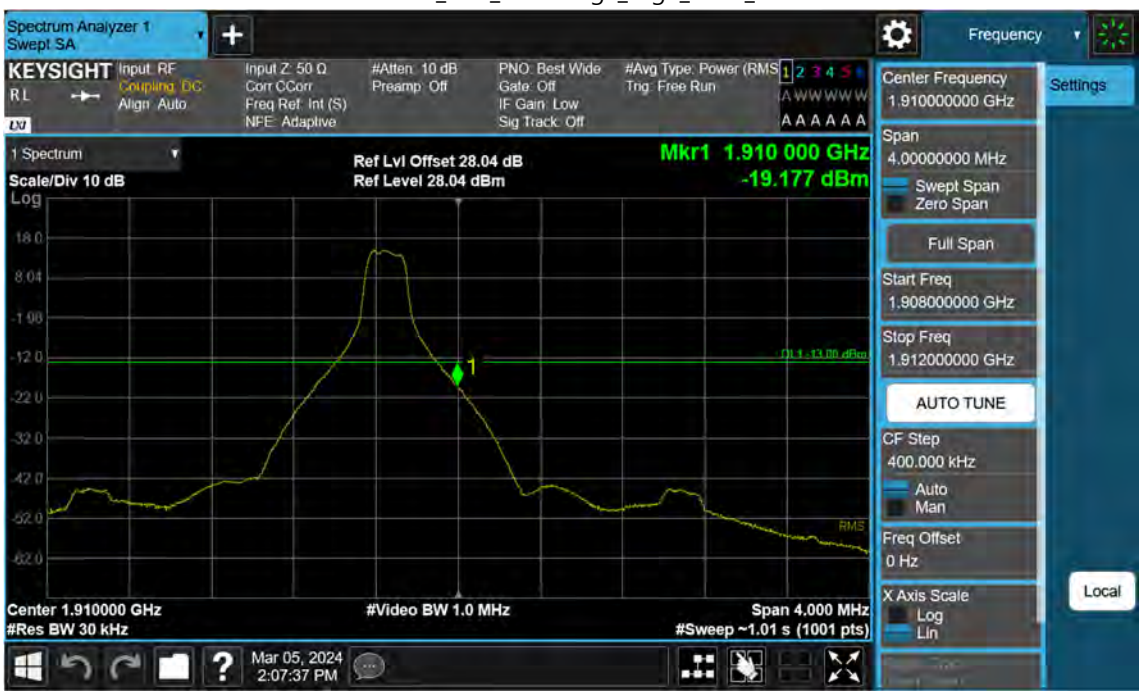


Sub6 n2_5 M_Band Edge_Low_BPSK_FullRB

Sub6 n2_5 M_Extended Band Edge_Low_BPSK_FullRB



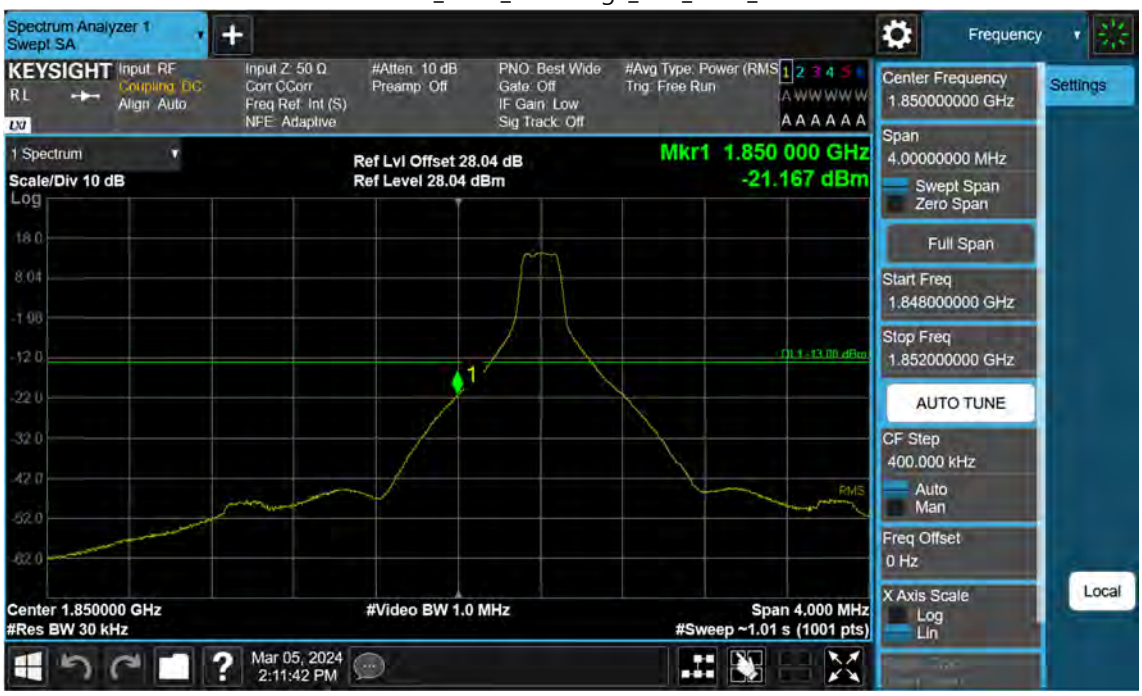
Sub6 n2_5 M_Band Edge_High_BPSK_1RB



Sub6 n2_5 M_Band Edge_High_BPSK_FullRB

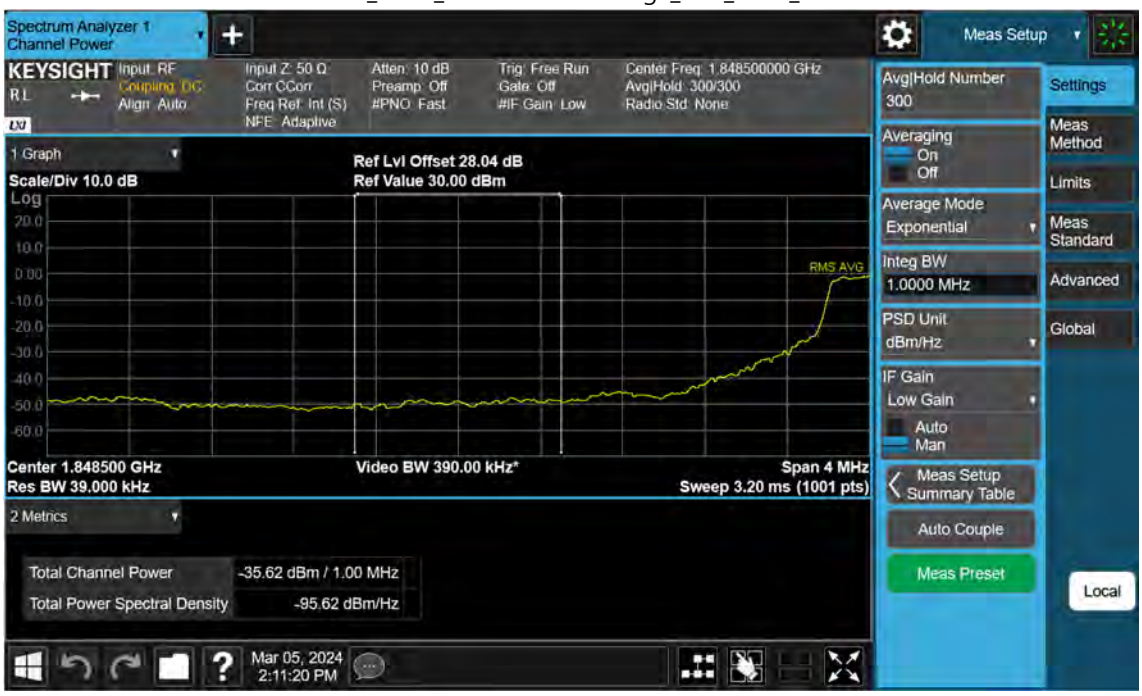
Sub6 n2_5 M_Extended Band Edge_High_BPSK_FullRB

Sub6 n2_10 M_Band Edge_Low_BPSK_1RB

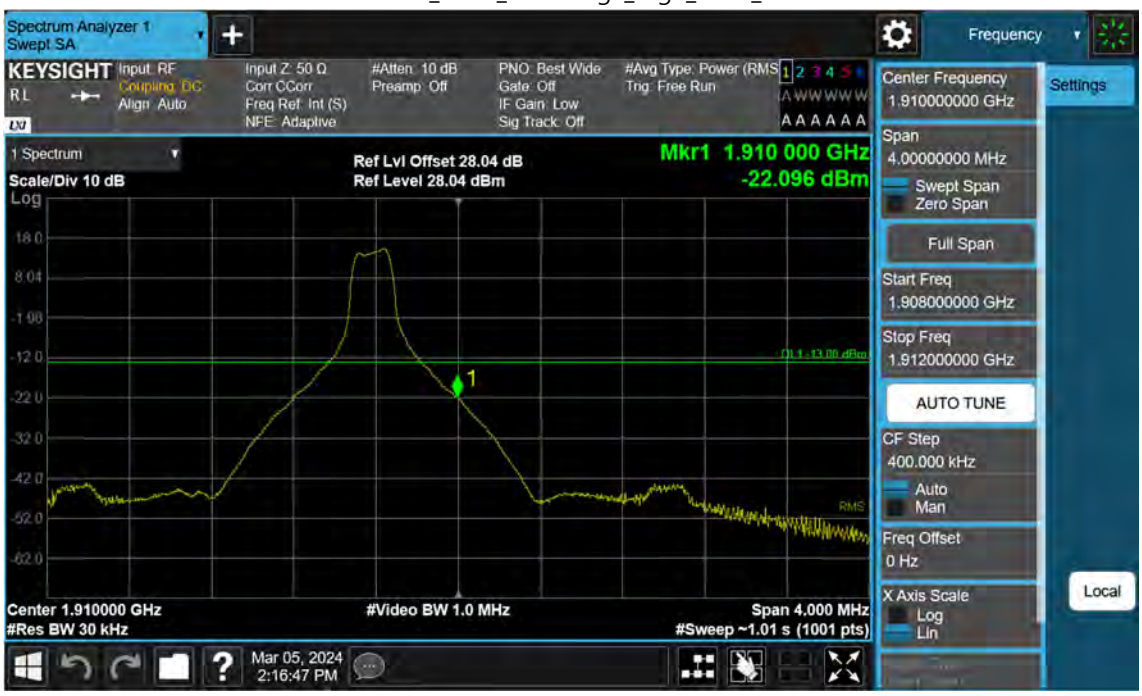


Sub6 n2_10 M_Band Edge_Low_BPSK_FullRB

Sub6 n2_10 M_Extended Band Edge_Low_BPSK_FullRB



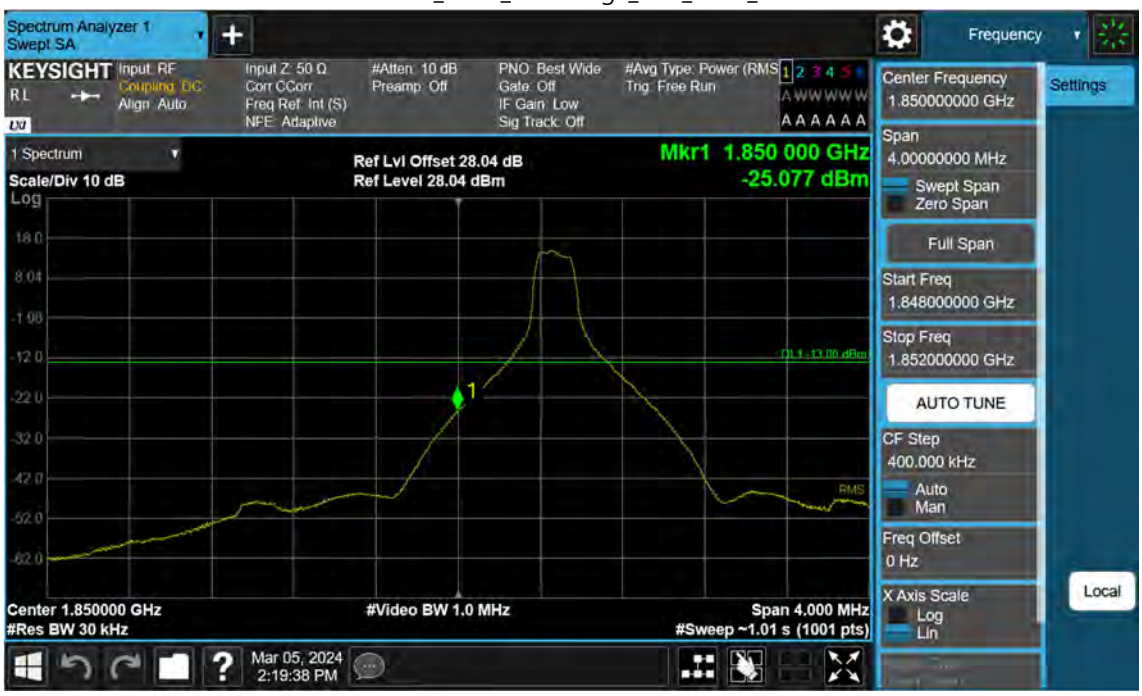
Sub6 n2_10 M_Band Edge_High_BPSK_1RB



Sub6 n2_10 M_Band Edge_High_BPSK_FullRB

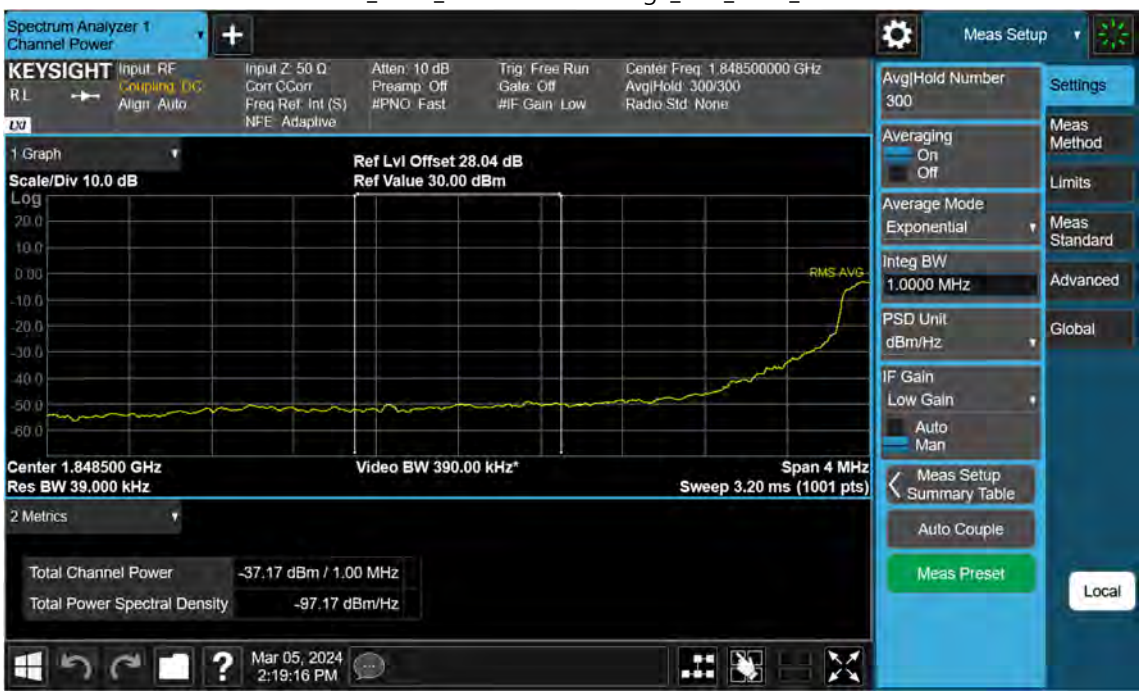
Sub6 n2_10 M_Extended Band Edge_High_BPSK_FullRB

Sub6 n2_15 M_Band Edge_Low_BPSK_1RB

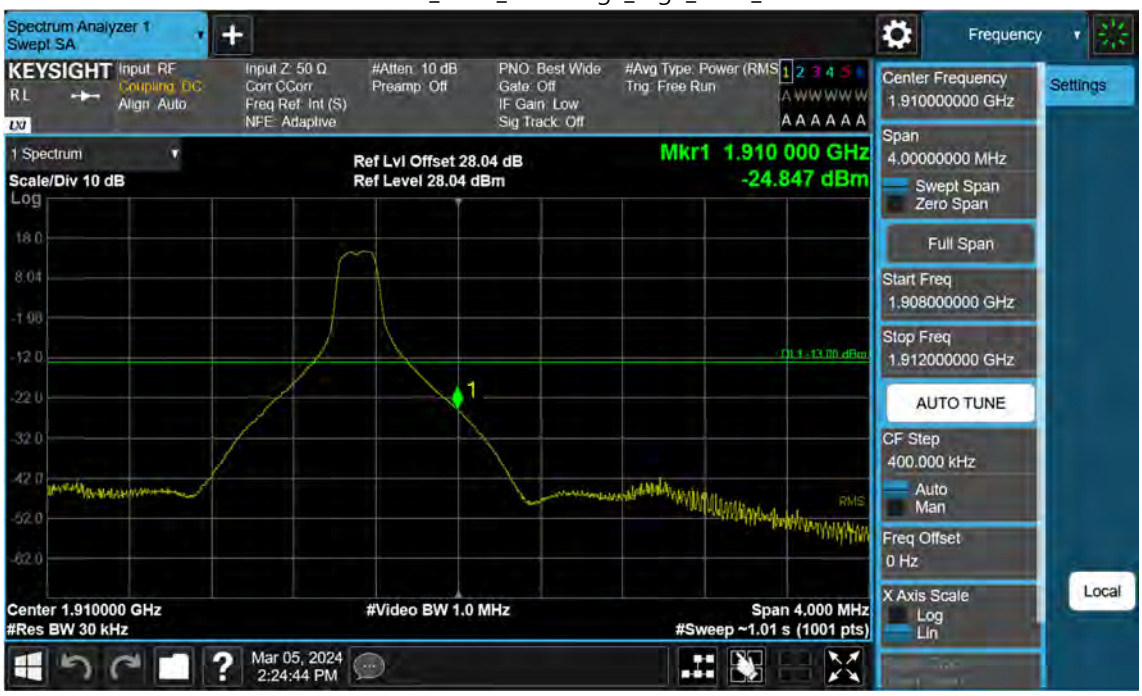


Sub6 n2_15 M_Band Edge_Low_BPSK_FullRB

Sub6 n2_15 M_Extended Band Edge_Low_BPSK_FullRB



Sub6 n2_15 M_Band Edge_High_BPSK_1RB



Sub6 n2_15 M_Band Edge_High_BPSK_FullRB

Sub6 n2_15 M_Extended Band Edge_High_BPSK_FullRB