TEST REPORT

FCC Sub6 n66 Test for SM-F741U
Certification

APPLICANT
SAMSUNG Electronics Co., Ltd.

REPORT NO.
HCT-RF-2404-FC032-R1

DATE OF ISSUE
May 3, 2024

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TEST REPORT

REPORT NO.
HCT-RF-2404-FC032-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):	§ 27

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).

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MEASUREMENT REPORT

1. GENERAL INFORMATION

Applicant Name:	SAMSUNG Electronics Co., Ltd.
Address:	129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea
FCC ID:	A3LSMF741U
Application Type:	Certification
FCC Classification:	PCS Licensed Transmitter Held to Ear (PCE)
FCC Rule Part(s):	§ 27
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:	1712.5 MHz – 1777.5 MHz (Sub6 n66(5 MHz)) 1715.0 MHz – 1775.0 MHz (Sub6 n66(10 MHz)) 1717.5 MHz – 1772.5 MHz (Sub6 n66(15 MHz)) 1720.0 MHz – 1770.0 MHz (Sub6 n66(20 MHz)) 1722.5 MHz – 1767.5 MHz (Sub6 n66(25 MHz)) 1725.0 MHz – 1765.0 MHz (Sub6 n66(30 MHz)) 1727.5 MHz – 1762.5 MHz (Sub6 n66(35 MHz)) 1730.0 MHz – 1760.0 MHz (Sub6 n66(40 MHz))
Date(s) of Tests:	February 27, 2024 ~ April 19, 2024
Serial number:	Radiated : R3CX20KJSJW Conducted : 7B5599BDA3507ECE(ANT A) 7b5599c1a7507ece(ANT I)

1.1. MAXIMUM OUTPUT POWER

ANT A

Mode (MHz)	Tx Frequency (MHz)	Emission Designator	Modulation	EIRP	
				Max. Power (W)	Max. Power (dBm)
Sub6 n66 (5)	1712.5 – 1777.5	4M53G7D	PI/2 BPSK	0.187	22.71
		4M52G7D	QPSK	0.178	22.51
		4M51W7D	16QAM	0.143	21.55
		4M51W7D	64QAM	0.103	20.13
		4M51W7D	256QAM	0.056	17.50
Sub6 n66 (10)	1715.0 – 1775.0	8M98G7D	PI/2 BPSK	0.185	22.68
		9M00G7D	QPSK	0.184	22.64
		8M99W7D	16QAM	0.141	21.48
		8M96W7D	64QAM	0.102	20.08
		8M99W7D	256QAM	0.056	17.46
Sub6 n66 (15)	1717.5 – 1772.5	13M5G7D	PI/2 BPSK	0.185	22.67
		13M4G7D	QPSK	0.180	22.56
		13M5W7D	16QAM	0.144	21.58
		13M5W7D	64QAM	0.102	20.07
		13M5W7D	256QAM	0.056	17.48
Sub6 n66 (20)	1720.0 – 1770.0	18M0G7D	PI/2 BPSK	0.186	22.69
		17M9G7D	QPSK	0.183	22.62
		17M9W7D	16QAM	0.141	21.50
		18M0W7D	64QAM	0.104	20.15
		18M0W7D	256QAM	0.057	17.54
Sub6 n66 (25)	1722.5 – 1767.5	22M9G7D	PI/2 BPSK	0.185	22.66
		22M9G7D	QPSK	0.181	22.57
		22M9W7D	16QAM	0.143	21.55
		23M0W7D	64QAM	0.104	20.19
		22M9W7D	256QAM	0.056	17.51
Sub6 n66 (30)	1725.0 – 1765.0	28M7G7D	PI/2 BPSK	0.190	22.79
		28M8G7D	QPSK	0.183	22.62
		28M7W7D	16QAM	0.144	21.59
		28M6W7D	64QAM	0.107	20.30
		28M7W7D	256QAM	0.056	17.51
Sub6 n66 (35)	1727.5 – 1762.5	32M2G7D	PI/2 BPSK	0.179	22.52
		32M3G7D	QPSK	0.175	22.42
		32M3W7D	16QAM	0.138	21.41
		32M3W7D	64QAM	0.099	19.97
		32M2W7D	256QAM	0.054	17.30
Sub6 n66 (40)	1730.0 – 1760.0	38M8G7D	PI/2 BPSK	0.189	22.77
		38M7G7D	QPSK	0.185	22.67
		38M7W7D	16QAM	0.144	21.57
		38M7W7D	64QAM	0.106	20.27
		38M9W7D	256QAM	0.057	17.54

ANT I

Mode (MHz)	Tx Frequency (MHz)	Emission Designator	Modulation	EIRP	
				Max. Power (W)	Max. Power (dBm)
Sub6 n66 (5)	1712.5 – 1777.5	4M53G7D	PI/2 BPSK	0.143	21.55
		4M50G7D	QPSK	0.142	21.51
		4M49W7D	16QAM	0.109	20.36
		4M52W7D	64QAM	0.082	19.12
		4M50W7D	256QAM	0.045	16.57
Sub6 n66 (10)	1715.0 – 1775.0	8M97G7D	PI/2 BPSK	0.147	21.68
		8M99G7D	QPSK	0.145	21.61
		8M99W7D	16QAM	0.113	20.54
		8M96W7D	64QAM	0.085	19.30
		8M96W7D	256QAM	0.045	16.55
Sub6 n66 (15)	1717.5 – 1772.5	13M4G7D	PI/2 BPSK	0.149	21.72
		13M5G7D	QPSK	0.143	21.56
		13M5W7D	16QAM	0.113	20.51
		13M5W7D	64QAM	0.083	19.19
		13M5W7D	256QAM	0.046	16.60
Sub6 n66 (20)	1720.0 – 1770.0	17M9G7D	PI/2 BPSK	0.150	21.76
		17M9G7D	QPSK	0.146	21.65
		18M0W7D	16QAM	0.115	20.59
		17M9W7D	64QAM	0.085	19.31
		18M0W7D	256QAM	0.046	16.64
Sub6 n66 (25)	1722.5 – 1767.5	22M9G7D	PI/2 BPSK	0.157	21.95
		22M9G7D	QPSK	0.156	21.93
		22M9W7D	16QAM	0.122	20.85
		22M9W7D	64QAM	0.089	19.50
		23M0W7D	256QAM	0.049	16.87
Sub6 n66 (30)	1725.0 – 1765.0	28M5G7D	PI/2 BPSK	0.158	22.00
		28M6G7D	QPSK	0.156	21.93
		28M5W7D	16QAM	0.120	20.80
		28M6W7D	64QAM	0.089	19.47
		28M6W7D	256QAM	0.048	16.82
Sub6 n66 (35)	1727.5 – 1762.5	32M1G7D	PI/2 BPSK	0.151	21.78
		32M1G7D	QPSK	0.121	20.84
		32M2W7D	16QAM	0.098	19.93
		32M1W7D	64QAM	0.071	18.50
		32M2W7D	256QAM	0.044	16.46
Sub6 n66 (40)	1730.0 – 1760.0	38M6G7D	PI/2 BPSK	0.156	21.93
		38M7G7D	QPSK	0.123	20.90
		38M6W7D	16QAM	0.100	19.98
		38M7W7D	64QAM	0.070	18.48
		38M6W7D	256QAM	0.043	16.30

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
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;

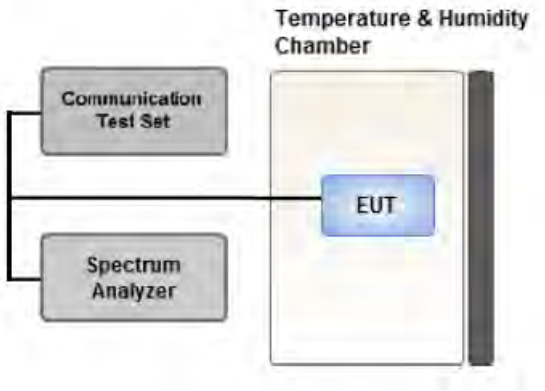
$$\text{Result}_{(dBm)} = \text{Pg}_{(dBm)} - \text{cable loss}_{(dB)} + \text{antenna gain}_{(dBi)}$$

   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)

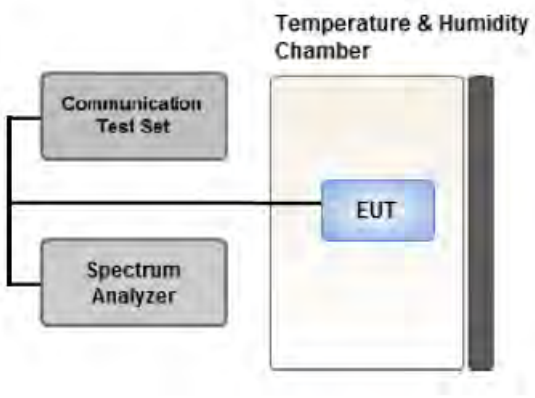
The measurement instrument must have a RBW that is greater than or equal to the OBW of the signal to be measured and a VBW ≥ 3 × RBW.

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.



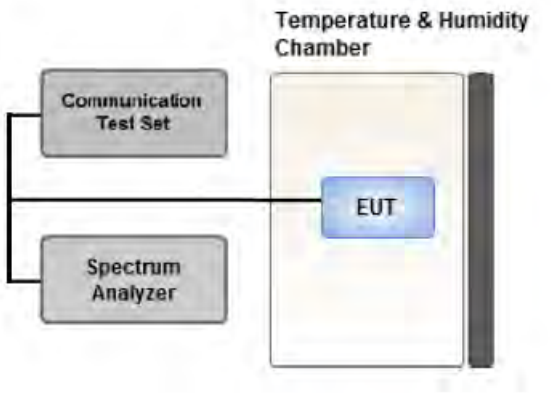
Test setup

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

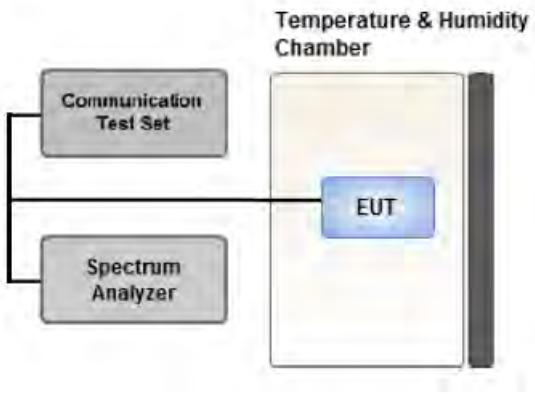
Test Overview

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

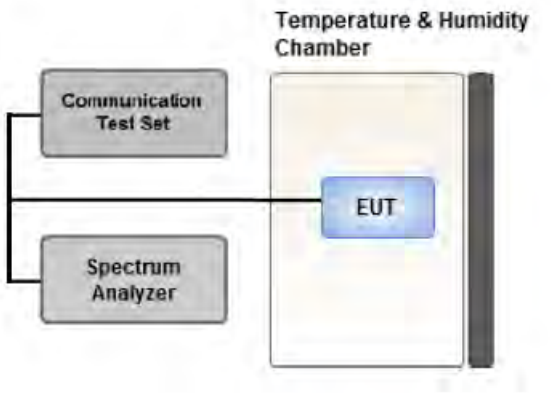
1. Start and stop frequency were set such that the band edge would be placed in the center of the plot
2. Span was set large enough so as to capture all out of band emissions near the band edge
3. RBW > 1 % of the emission bandwidth
4. VBW > 3 x RBW
5. Detector = RMS
6. Number of sweep points ≥ 2 x Span/RBW
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. (Ant A Worst case: Half-open mode, Ant I Worst case: Open)
- 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 : 30 MHz(ANT A), 30 MHz(ANT I))
- SM-F741U & additional models were tested and the worst case results are reported.
  (Worst case : SM-F741U)

[ANT A Worst case]

Test Description	Modulation	RB size	RB offset	Axis
Effective Isotropic Radiated Power	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	See Section 8.1		Z
Radiated Spurious and Harmonic Emissions	PI/2 BPSK	See Section 8.2		X

[ANT I Worst case]

Test Description	Modulation	RB size	RB offset	Axis
Effective Isotropic Radiated Power	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	See Section 8.1		X
Radiated Spurious and Harmonic Emissions	PI/2 BPSK	See Section 8.2		Z

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, § 27.53(h)	< 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	§ 27.50(d)(5)	< 13 dB	PASS
Frequency stability / variation of ambient temperature	§ 2.1055, § 27.54	Emission must remain in band	PASS

Note:

1. See SAR Report
2. All conducted tests were tested using 5G Wireless Tester.

6.2 Test Condition: Radiated Test

Test Description	FCC Part Section(s)	Test Limit	Test Result
Equivalent Isotropic Radiated Power	§ 27.50(d)(4)	< 1 Watts max. EIRP	PASS
Radiated Spurious and Harmonic Emissions	§ 2.1053, § 27.53(h)	< 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)

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
1712.5	Sub6 n66/ 5 MHz [15 kHz]	PI/2 BPSK	-19.68	13.68	9.60	2.00	V	< 1.00	0.134	21.28	1	12
		QPSK	-19.75	13.61	9.60	2.00	V		0.132	21.21		
		16-QAM	-20.77	12.59	9.60	2.00	V		0.105	20.19		
		64-QAM	-22.23	11.13	9.60	2.00	V		0.075	18.73		
		256-QAM	-24.75	8.61	9.60	2.00	V		0.042	16.21		
1745.0		PI/2 BPSK	-19.30	14.30	9.75	2.04	V		0.159	22.01	1	1
		QPSK	-19.31	14.29	9.75	2.04	V		0.159	22.00		
		16-QAM	-20.19	13.41	9.75	2.04	V		0.129	21.12		
		64-QAM	-21.78	11.82	9.75	2.04	V		0.090	19.53		
		256-QAM	-24.22	9.38	9.75	2.04	V		0.051	17.09		
1777.5		PI/2 BPSK	-18.65	14.89	9.90	2.08	V		0.187	22.71	1	12
		QPSK	-18.85	14.69	9.90	2.08	V		0.178	22.51		
		16-QAM	-19.81	13.73	9.90	2.08	V		0.143	21.55		
		64-QAM	-21.23	12.31	9.90	2.08	V		0.103	20.13		
		256-QAM	-23.86	9.68	9.90	2.08	V		0.056	17.50		

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
1715.0	Sub6 n66/ 10 MHz [15 kHz]	PI/2 BPSK	-19.35	14.01	9.60	2.00	V	< 1.00	0.145	21.61	1	50
		QPSK	-19.46	13.90	9.60	2.00	V		0.141	21.50		
		16-QAM	-20.65	12.71	9.60	2.00	V		0.107	20.31		
		64-QAM	-21.85	11.51	9.60	2.00	V		0.081	19.11		
		256-QAM	-24.59	8.77	9.60	2.00	V		0.043	16.37		
1745.0		PI/2 BPSK	-19.02	14.58	9.75	2.04	V		0.169	22.29	1	50
		QPSK	-19.11	14.49	9.75	2.04	V		0.166	22.20		
		16-QAM	-20.27	13.33	9.75	2.04	V		0.127	21.04		
		64-QAM	-21.58	12.02	9.75	2.04	V		0.094	19.73		
		256-QAM	-24.15	9.45	9.75	2.04	V		0.052	17.16		
1775.0		PI/2 BPSK	-18.68	14.86	9.90	2.08	V		0.185	22.68	1	50
		QPSK	-18.72	14.82	9.90	2.08	V		0.184	22.64		
		16-QAM	-19.88	13.66	9.90	2.08	V		0.141	21.48		
		64-QAM	-21.28	12.26	9.90	2.08	V		0.102	20.08		
		256-QAM	-23.90	9.64	9.90	2.08	V		0.056	17.46		

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
1717.5	Sub6 n66/ 15 MHz [15 kHz]	PI/2 BPSK	-19.40	13.96	9.60	2.00	V	< 1.00	0.143	21.56	1	77
		QPSK	-19.62	13.74	9.60	2.00	V		0.136	21.34		
		16-QAM	-20.63	12.73	9.60	2.00	V		0.108	20.33		
		64-QAM	-21.77	11.59	9.60	2.00	V		0.083	19.19		
		256-QAM	-24.39	8.97	9.60	2.00	V		0.045	16.57		
1745.0		PI/2 BPSK	-19.28	14.32	9.75	2.04	V		0.160	22.03	1	77
		QPSK	-19.43	14.17	9.75	2.04	V		0.154	21.88		
		16-QAM	-20.59	13.01	9.75	2.04	V		0.118	20.72		
		64-QAM	-21.76	11.84	9.75	2.04	V		0.090	19.55		
		256-QAM	-24.30	9.30	9.75	2.04	V		0.050	17.01		
1772.5		PI/2 BPSK	-18.69	14.85	9.90	2.08	V		0.185	22.67	1	77
		QPSK	-18.80	14.74	9.90	2.08	V		0.180	22.56		
		16-QAM	-19.78	13.76	9.90	2.08	V		0.144	21.58		
		64-QAM	-21.29	12.25	9.90	2.08	V		0.102	20.07		
		256-QAM	-23.88	9.66	9.90	2.08	V		0.056	17.48		

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
1720.0	Sub6 n66/ 20 MHz [15 kHz]	PI/2 BPSK	-18.95	14.55	9.60	2.00	V	< 1.00	0.164	22.15	1	104
		QPSK	-19.23	14.27	9.60	2.00	V		0.154	21.87		
		16-QAM	-20.36	13.14	9.60	2.00	V		0.119	20.74		
		64-QAM	-21.58	11.92	9.60	2.00	V		0.090	19.52		
		256-QAM	-24.17	9.33	9.60	2.00	V		0.049	16.93		
1745.0		PI/2 BPSK	-19.16	14.44	9.75	2.04	V		0.164	22.15	1	104
		QPSK	-19.36	14.24	9.75	2.04	V		0.157	21.95		
		16-QAM	-20.50	13.10	9.75	2.04	V		0.121	20.81		
		64-QAM	-21.67	11.93	9.75	2.04	V		0.092	19.64		
		256-QAM	-24.39	9.21	9.75	2.04	V		0.049	16.92		
1770.0		PI/2 BPSK	-18.76	14.88	9.90	2.09	V		0.186	22.69	1	104
		QPSK	-18.83	14.81	9.90	2.09	V		0.183	22.62		
		16-QAM	-19.95	13.69	9.90	2.09	V		0.141	21.50		
		64-QAM	-21.30	12.34	9.90	2.09	V		0.104	20.15		
		256-QAM	-23.91	9.73	9.90	2.09	V		0.057	17.54		

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
1722.5	Sub6 n66/ 25 MHz [15 kHz]	PI/2 BPSK	-18.65	14.91	9.60	2.01	V	< 1.00	0.178	22.50	1	131
		QPSK	-18.82	14.74	9.60	2.01	V		0.171	22.33		
		16-QAM	-19.90	13.66	9.60	2.01	V		0.133	21.25		
		64-QAM	-21.14	12.42	9.60	2.01	V		0.100	20.01		
		256-QAM	-23.75	9.81	9.60	2.01	V		0.055	17.40		
1745.0		PI/2 BPSK	-18.96	14.64	9.75	2.04	V		0.172	22.35	1	131
		QPSK	-18.97	14.63	9.75	2.04	V		0.171	22.34		
		16-QAM	-20.07	13.53	9.75	2.04	V		0.133	21.24		
		64-QAM	-21.41	12.19	9.75	2.04	V		0.098	19.90		
		256-QAM	-23.96	9.64	9.75	2.04	V		0.054	17.35		
1767.5		PI/2 BPSK	-18.63	14.85	9.90	2.09	V		0.185	22.66	1	131
		QPSK	-18.72	14.76	9.90	2.09	V		0.181	22.57		
		16-QAM	-19.74	13.74	9.90	2.09	V		0.143	21.55		
		64-QAM	-21.10	12.38	9.90	2.09	V		0.105	20.19		
		256-QAM	-23.78	9.70	9.90	2.09	V		0.056	17.51		

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
1725.0	Sub6 n66/ 30 MHz [15 kHz]	PI/2 BPSK	-18.62	14.94	9.60	2.01	V	< 1.00	0.179	22.53	1	158
		QPSK	-18.75	14.81	9.60	2.01	V		0.174	22.40		
		16-QAM	-19.68	13.88	9.60	2.01	V		0.140	21.47		
		64-QAM	-21.16	12.40	9.60	2.01	V		0.100	19.99		
		256-QAM	-23.82	9.74	9.60	2.01	V		0.054	17.33		
1745.0		PI/2 BPSK	-19.00	14.60	9.75	2.04	V		0.170	22.31	1	158
		QPSK	-19.20	14.40	9.75	2.04	V		0.163	22.11		
		16-QAM	-20.32	13.28	9.75	2.04	V		0.126	20.99		
		64-QAM	-21.49	12.11	9.75	2.04	V		0.096	19.82		
		256-QAM	-24.34	9.26	9.75	2.04	V		0.050	16.97		
1765.0		PI/2 BPSK	-18.50	14.98	9.90	2.09	V		0.190	22.79	1	158
		QPSK	-18.67	14.81	9.90	2.09	V		0.183	22.62		
		16-QAM	-19.70	13.78	9.90	2.09	V		0.144	21.59		
		64-QAM	-20.99	12.49	9.90	2.09	V		0.107	20.30		
		256-QAM	-23.78	9.70	9.90	2.09	V		0.056	17.51		

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
1727.5	Sub6 n66/ 35 MHz [15 kHz]	PI/2 BPSK	-18.71	14.85	9.60	2.01	V	< 1.00	0.175	22.44	1	186
		QPSK	-18.78	14.78	9.60	2.01	V		0.173	22.37		
		16-QAM	-19.78	13.78	9.60	2.01	V		0.137	21.37		
		64-QAM	-21.18	12.38	9.60	2.01	V		0.099	19.97		
		256-QAM	-23.85	9.71	9.60	2.01	V		0.054	17.30		
1745.0		PI/2 BPSK	-19.01	14.59	9.75	2.04	V		0.170	22.30	1	186
		QPSK	-19.10	14.50	9.75	2.04	V		0.166	22.21		
		16-QAM	-20.37	13.23	9.75	2.04	V		0.124	20.94		
		64-QAM	-21.48	12.12	9.75	2.04	V		0.096	19.83		
		256-QAM	-24.29	9.31	9.75	2.04	V		0.050	17.02		
1762.5		PI/2 BPSK	-18.61	14.71	9.90	2.09	V		0.179	22.52	1	186
		QPSK	-18.71	14.61	9.90	2.09	V		0.175	22.42		
		16-QAM	-19.72	13.60	9.90	2.09	V		0.138	21.41		
		64-QAM	-21.17	12.15	9.90	2.09	V		0.099	19.96		
		256-QAM	-23.92	9.40	9.90	2.09	V		0.053	17.21		

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
1730.0	Sub6 n66/ 40 MHz [15 kHz]	PI/2 BPSK	-18.43	15.18	9.60	2.01	V	< 1.00	0.189	22.77	1	214
		QPSK	-18.53	15.08	9.60	2.01	V		0.185	22.67		
		16-QAM	-19.63	13.98	9.60	2.01	V		0.144	21.57		
		64-QAM	-20.93	12.68	9.60	2.01	V		0.106	20.27		
		256-QAM	-23.66	9.95	9.60	2.01	V		0.057	17.54		
1745.0		PI/2 BPSK	-18.76	14.84	9.75	2.04	V		0.180	22.55	1	214
		QPSK	-18.90	14.70	9.75	2.04	V		0.174	22.41		
		16-QAM	-20.07	13.53	9.75	2.04	V		0.133	21.24		
		64-QAM	-21.42	12.18	9.75	2.04	V		0.097	19.89		
		256-QAM	-24.10	9.50	9.75	2.04	V		0.053	17.21		
1760.0		PI/2 BPSK	-18.61	14.71	9.90	2.09	V		0.179	22.52	1	214
		QPSK	-18.67	14.65	9.90	2.09	V		0.176	22.46		
		16-QAM	-19.85	13.47	9.90	2.09	V		0.134	21.28		
		64-QAM	-20.98	12.34	9.90	2.09	V		0.103	20.15		
		256-QAM	-23.87	9.45	9.90	2.09	V		0.053	17.26		

8.2 RADIATED SPURIOUS EMISSIONS

▣ NR Band: N66
▣ Bandwidth: 30 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
345000 (1725.0)	3 450.00	-61.47	11.20	-62.93	2.96	V	-54.69	-13.00	1	158
	5 175.00	-63.34	11.00	-57.90	3.71	V	-50.61	-13.00		
	6 900.00	-65.38	10.90	-53.57	4.31	V	-46.98	-13.00		
	8 625.00	-62.90	10.40	-49.10	4.83	V	-43.53	-13.00		
	10 350.00	-62.27	11.20	-45.21	5.37	V	-39.38	-13.00		
349000 (1745.0)	3 490.00	-58.39	11.20	-59.83	3.00	V	-51.63	-13.00	1	158
	5 235.00	-63.74	11.10	-58.81	3.70	V	-51.41	-13.00		
	6 980.00	-64.77	10.90	-52.06	4.30	V	-45.46	-13.00		
	8 725.00	-61.53	10.30	-47.17	4.88	V	-41.75	-13.00		
	10 470.00	-62.46	11.30	-44.73	5.43	V	-38.86	-13.00		
353000 (1765.0)	3 530.00	-62.12	11.30	-64.25	2.99	V	-55.94	-13.00	1	158
	5 295.00	-62.13	11.35	-57.06	3.71	V	-49.42	-13.00		
	7 060.00	-64.02	10.70	-50.24	4.33	V	-43.87	-13.00		
	8 825.00	-63.18	10.50	-49.21	4.89	V	-43.60	-13.00		
	10 590.00	-63.64	11.20	-44.96	5.44	V	-39.20	-13.00		

8.3 PEAK-TO-AVERAGE RATIO

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (dB)
Sub6 n66	5 MHz	1745.0	BPSK	25	0	4.16
			QPSK			4.68
			16-QAM			5.55
			64-QAM			6.18
			256-QAM			6.65
	10 MHz		BPSK	50		3.88
			QPSK			4.52
			16-QAM			5.40
			64-QAM			5.87
			256-QAM			6.58
	15 MHz		BPSK	75		3.86
			QPSK			4.32
			16-QAM			5.36
			64-QAM			5.83
			256-QAM			6.46
	20 MHz		BPSK	100		4.00
			QPSK			4.54
			16-QAM			5.49
			64-QAM			5.93
			256-QAM			6.65
	25 MHz		BPSK	128		3.91
			QPSK			4.43
			16-QAM			5.71
			64-QAM			6.09
			256-QAM			6.78
	30 MHz		BPSK	160		3.95
			QPSK			4.43
			16-QAM			5.36
			64-QAM			6.15
			256-QAM			6.62
	35 MHz		BPSK	187		3.98
			QPSK			4.45
			16-QAM			5.34
			64-QAM			5.65
			256-QAM			6.66
	40 MHz		BPSK	216		3.82
			QPSK			4.45
			16-QAM			5.40
			64-QAM			6.00
			256-QAM			6.72

Note:

1. Plots of the EUT's Peak- to- Average Ratio are shown Page 67 ~ 106.

8.4 OCCUPIED BANDWIDTH

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (MHz)
Sub6 n66	5 MHz	1745.0	BPSK	25	0	4.5323
			QPSK			4.5163
			16-QAM			4.5143
			64-QAM			4.5118
			256-QAM			4.5095
	10 MHz		BPSK	50		8.9787
			QPSK			8.9971
			16-QAM			8.9845
			64-QAM			8.9604
			256-QAM			8.9862
	15 MHz		BPSK	75		13.468
			QPSK			13.440
			16-QAM			13.485
			64-QAM			13.459
			256-QAM			13.482
	20 MHz		BPSK	100		17.953
			QPSK			17.937
			16-QAM			17.917
			64-QAM			17.945
			256-QAM			17.999
	25 MHz		BPSK	128		22.917
			QPSK			22.903
			16-QAM			22.929
			64-QAM			22.960
			256-QAM			22.864
	30 MHz		BPSK	160		28.681
			QPSK			28.795
			16-QAM			28.688
			64-QAM			28.573
			256-QAM			28.660
	35 MHz		BPSK	187		32.243
			QPSK			32.288
			16-QAM			32.273
			64-QAM			32.303
			256-QAM			32.233
	40 MHz		BPSK	216		38.746
			QPSK			38.737
			16-QAM			38.708
			64-QAM			38.716
			256-QAM			38.852

Note:

1. Plots of the EUT's Occupied Bandwidth are shown Page 107 ~ 146.

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 n66	5	1712.5	4.1072	30.200	-71.006	-40.806	-13.00
		1745.0	8.2647	30.815	-71.045	-40.230	
		1777.5	3.8091	30.200	-70.734	-40.534	
	10	1715.0	9.7119	30.815	-70.269	-39.454	
		1745.0	8.8913	30.815	-70.269	-39.454	
		1775.0	8.0035	30.815	-70.980	-40.165	
	15	1717.5	3.8490	30.200	-70.650	-40.450	
		1745.0	4.0095	30.200	-70.757	-40.557	
		1772.5	4.9896	30.200	-70.453	-40.253	
	20	1720.0	3.2044	30.200	-70.099	-39.899	
		1745.0	4.9841	30.200	-70.563	-40.363	
		1770.0	8.8619	30.815	-71.048	-40.233	
	25	1722.5	4.8993	30.200	-70.611	-40.411	
		1745.0	4.0569	30.200	-70.079	-39.879	
		1767.5	5.1900	30.815	-69.916	-39.101	
	30	1725.0	8.9003	30.815	-70.486	-39.671	
		1745.0	9.4531	30.815	-70.313	-39.498	
		1765.0	4.0454	30.200	-70.710	-40.510	
	35	1727.5	5.2239	30.815	-70.299	-39.484	
		1745.0	3.7613	30.200	-70.621	-40.421	
		1762.5	8.0125	30.815	-70.448	-39.633	
	40	1730.0	8.2981	30.815	-70.964	-40.149	
		1745.0	9.7193	30.815	-69.701	-38.886	
		1760.0	9.7303	30.200	-70.799	-40.599	

Note:

1. Plots of the EUT's Conducted Spurious Emissions are shown Page 147 ~ 194.
2. Result (dBm) = Measurement Maximum Data (dBm) + Factor (dB)
3. Factor(dB) = Cable Loss + Ext. Attenuator + Power Splitter

Frequency Range (GHz)	Factor [dB]
0.03 – 1	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 195 ~ 242.

8.7 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE

▣ BandWidth: 5 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
1712.5	100 %	+20(Ref)	1712 499 997	0.0	0.000 000	0.000
	100 %	-30	1712 499 994	-3.2	0.000 000	-0.002
	100 %	-20	1712 499 994	-2.8	0.000 000	-0.002
	100 %	-10	1712 499 995	-2.0	0.000 000	-0.001
	100 %	0	1712 499 994	-3.1	0.000 000	-0.002
	100 %	+10	1712 499 996	-0.8	0.000 000	0.000
	100 %	+30	1712 499 995	-1.9	0.000 000	-0.001
	100 %	+40	1712 499 994	-2.9	0.000 000	-0.002
	100 %	+50	1712 499 994	-2.7	0.000 000	-0.002
	Batt. Endpoint	+20	1712 499 994	-2.7	0.000 000	-0.002
1777.5	100 %	+20(Ref)	1777 500 001	0.0	0.000 000	0.000
	100 %	-30	1777 500 002	1.1	0.000 000	0.001
	100 %	-20	1777 500 002	1.5	0.000 000	0.001
	100 %	-10	1777 500 003	2.0	0.000 000	0.001
	100 %	0	1777 500 003	1.6	0.000 000	0.001
	100 %	+10	1777 500 002	1.6	0.000 000	0.001
	100 %	+30	1777 500 003	1.7	0.000 000	0.001
	100 %	+40	1777 500 002	1.4	0.000 000	0.001
	100 %	+50	1777 500 001	0.4	0.000 000	0.000
	Batt. Endpoint	+20	1777 500 001	0.3	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	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
1715.0	100 %	+20(Ref)	1715 000 001	0.0	0.000 000	0.000
	100 %	-30	1715 000 001	0.5	0.000 000	0.000
	100 %	-20	1715 000 000	-0.2	0.000 000	0.000
	100 %	-10	1715 000 001	0.0	0.000 000	0.000
	100 %	0	1715 000 000	-0.4	0.000 000	0.000
	100 %	+10	1715 000 003	2.4	0.000 000	0.001
	100 %	+30	1714 999 999	-1.2	0.000 000	-0.001
	100 %	+40	1715 000 001	0.8	0.000 000	0.000
	100 %	+50	1715 000 002	1.0	0.000 000	0.001
	Batt. Endpoint	+20	1715 000 001	0.5	0.000 000	0.000
1775.0	100 %	+20(Ref)	1774 999 998	0.0	0.000 000	0.000
	100 %	-30	1774 999 997	-1.5	0.000 000	-0.001
	100 %	-20	1774 999 999	0.6	0.000 000	0.000
	100 %	-10	1774 999 998	-0.5	0.000 000	0.000
	100 %	0	1774 999 998	0.1	0.000 000	0.000
	100 %	+10	1774 999 999	0.5	0.000 000	0.000
	100 %	+30	1774 999 997	-1.8	0.000 000	-0.001
	100 %	+40	1774 999 998	-0.3	0.000 000	0.000
	100 %	+50	1774 999 999	0.4	0.000 000	0.000
	Batt. Endpoint	+20	1774 999 996	-2.4	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	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
1717.5	100 %	+20(Ref)	1717 500 002	0.0	0.000 000	0.000
	100 %	-30	1717 500 004	1.9	0.000 000	0.001
	100 %	-20	1717 500 004	2.1	0.000 000	0.001
	100 %	-10	1717 500 004	1.9	0.000 000	0.001
	100 %	0	1717 500 004	1.7	0.000 000	0.001
	100 %	+10	1717 500 003	1.1	0.000 000	0.001
	100 %	+30	1717 500 003	1.3	0.000 000	0.001
	100 %	+40	1717 500 003	1.1	0.000 000	0.001
	100 %	+50	1717 500 003	0.8	0.000 000	0.000
	Batt. Endpoint	+20	1717 500 003	1.0	0.000 000	0.001
1772.5	100 %	+20(Ref)	1772 499 999	0.0	0.000 000	0.000
	100 %	-30	1772 499 997	-2.0	0.000 000	-0.001
	100 %	-20	1772 499 998	-1.2	0.000 000	-0.001
	100 %	-10	1772 499 998	-1.1	0.000 000	-0.001
	100 %	0	1772 499 998	-0.4	0.000 000	0.000
	100 %	+10	1772 499 998	-1.0	0.000 000	-0.001
	100 %	+30	1772 499 998	-1.1	0.000 000	-0.001
	100 %	+40	1772 499 998	-0.7	0.000 000	0.000
	100 %	+50	1772 499 994	-4.7	0.000 000	-0.003
	Batt. Endpoint	+20	1772 499 998	-1.0	0.000 000	-0.001

▣ BandWidth: 20 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
1720.0	100 %	+20(Ref)	1719 999 999	0.0	0.000 000	0.000
	100 %	-30	1719 999 998	-1.4	0.000 000	-0.001
	100 %	-20	1719 999 997	-2.2	0.000 000	-0.001
	100 %	-10	1719 999 997	-1.6	0.000 000	-0.001
	100 %	0	1719 999 997	-2.1	0.000 000	-0.001
	100 %	+10	1719 999 997	-2.1	0.000 000	-0.001
	100 %	+30	1719 999 997	-2.5	0.000 000	-0.001
	100 %	+40	1719 999 999	-0.4	0.000 000	0.000
	100 %	+50	1719 999 999	-0.5	0.000 000	0.000
	Batt. Endpoint	+20	1719 999 996	-2.7	0.000 000	-0.002
1770.0	100 %	+20(Ref)	1770 000 002	0.0	0.000 000	0.000
	100 %	-30	1770 000 001	-0.9	0.000 000	-0.001
	100 %	-20	1770 000 005	2.7	0.000 000	0.002
	100 %	-10	1770 000 004	2.2	0.000 000	0.001
	100 %	0	1770 000 001	-1.3	0.000 000	-0.001
	100 %	+10	1770 000 005	2.6	0.000 000	0.001
	100 %	+30	1770 000 005	2.7	0.000 000	0.002
	100 %	+40	1770 000 002	0.0	0.000 000	0.000
	100 %	+50	1770 000 005	2.9	0.000 000	0.002
	Batt. Endpoint	+20	1770 000 005	2.9	0.000 000	0.002

▣ BandWidth: 25 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
1722.5	100%	+20(Ref)	1722 499 999	0.0	0.000 000	0.000
	100%	-30	1722 499 997	-1.4	0.000 000	-0.001
	100%	-20	1722 499 998	-0.2	0.000 000	0.000
	100%	-10	1722 500 000	1.0	0.000 000	0.001
	100%	0	1722 499 999	0.2	0.000 000	0.000
	100%	+10	1722 499 998	-0.3	0.000 000	0.000
	100%	+30	1722 499 998	-0.5	0.000 000	0.000
	100%	+40	1722 499 998	-0.6	0.000 000	0.000
	100%	+50	1722 499 998	-0.7	0.000 000	0.000
	Batt. Endpoint	+20	1722 499 997	-1.2	0.000 000	-0.001
1767.5	100 %	+20(Ref)	1767 500 001	0.0	0.000 000	0.000
	100 %	-30	1767 500 002	1.0	0.000 000	0.001
	100 %	-20	1767 500 002	0.9	0.000 000	0.001
	100 %	-10	1767 499 999	-1.3	0.000 000	-0.001
	100 %	0	1767 500 001	0.5	0.000 000	0.000
	100 %	+10	1767 500 001	0.5	0.000 000	0.000
	100 %	+30	1767 500 001	0.4	0.000 000	0.000
	100 %	+40	1767 500 001	0.7	0.000 000	0.000
	100 %	+50	1767 500 001	0.2	0.000 000	0.000
	Batt. Endpoint	+20	1767 500 000	-0.5	0.000 000	0.000

▣ BandWidth: 30 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
1725.0	100 %	+20(Ref)	1725 000 006	0.0	0.000 000	0.000
	100 %	-30	1725 000 013	6.1	0.000 000	0.004
	100 %	-20	1725 000 012	5.9	0.000 000	0.003
	100 %	-10	1725 000 012	5.8	0.000 000	0.003
	100 %	0	1725 000 016	9.0	0.000 001	0.005
	100 %	+10	1725 000 012	5.5	0.000 000	0.003
	100 %	+30	1725 000 013	6.4	0.000 000	0.004
	100 %	+40	1725 000 012	5.9	0.000 000	0.003
	100 %	+50	1725 000 015	8.6	0.000 000	0.005
	Batt. Endpoint	+20	1725 000 016	9.1	0.000 001	0.005
1765.0	100 %	+20(Ref)	1765 000 002	0.0	0.000 000	0.000
	100 %	-30	1765 000 008	5.5	0.000 000	0.003
	100 %	-20	1765 000 004	2.3	0.000 000	0.001
	100 %	-10	1765 000 008	5.6	0.000 000	0.003
	100 %	0	1765 000 005	2.6	0.000 000	0.001
	100 %	+10	1765 000 005	2.9	0.000 000	0.002
	100 %	+30	1765 000 007	5.2	0.000 000	0.003
	100 %	+40	1765 000 004	1.7	0.000 000	0.001
	100 %	+50	1765 000 007	5.1	0.000 000	0.003
	Batt. Endpoint	+20	1765 000 007	5.4	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	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
1727.5	100 %	+20(Ref)	1727 500 007	0.0	0.000 000	0.000
	100 %	-30	1727 500 011	4.0	0.000 000	0.002
	100 %	-20	1727 500 012	5.7	0.000 000	0.003
	100 %	-10	1727 500 010	3.0	0.000 000	0.002
	100 %	0	1727 500 012	5.6	0.000 000	0.003
	100 %	+10	1727 500 010	3.5	0.000 000	0.002
	100 %	+30	1727 500 013	6.2	0.000 000	0.004
	100 %	+40	1727 500 011	4.0	0.000 000	0.002
	100 %	+50	1727 500 010	3.4	0.000 000	0.002
	Batt. Endpoint	+20	1727 500 010	3.7	0.000 000	0.002
1762.5	100 %	+20(Ref)	1762 500 004	0.0	0.000 000	0.000
	100 %	-30	1762 500 016	11.6	0.000 001	0.007
	100 %	-20	1762 500 013	8.7	0.000 000	0.005
	100 %	-10	1762 500 014	10.5	0.000 001	0.006
	100 %	0	1762 500 015	10.6	0.000 001	0.006
	100 %	+10	1762 500 015	10.8	0.000 001	0.006
	100 %	+30	1762 500 015	10.8	0.000 001	0.006
	100 %	+40	1762 500 015	10.5	0.000 001	0.006
	100 %	+50	1762 500 015	10.7	0.000 001	0.006
	Batt. Endpoint	+20	1762 500 015	11.0	0.000 001	0.006

▣ BandWidth: 40 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
1730.0	100 %	+20(Ref)	1730 000 006	0.0	0.000 000	0.000
	100 %	-30	1730 000 012	5.7	0.000 000	0.003
	100 %	-20	1730 000 010	3.5	0.000 000	0.002
	100 %	-10	1730 000 014	7.2	0.000 000	0.004
	100 %	0	1730 000 010	3.8	0.000 000	0.002
	100 %	+10	1730 000 011	5.0	0.000 000	0.003
	100 %	+30	1730 000 011	4.4	0.000 000	0.003
	100 %	+40	1730 000 011	4.5	0.000 000	0.003
	100 %	+50	1730 000 011	4.4	0.000 000	0.003
	Batt. Endpoint	+20	1730 000 011	4.8	0.000 000	0.003
1760.0	100 %	+20(Ref)	1760 000 007	0.0	0.000 000	0.000
	100 %	-30	1760 000 014	7.1	0.000 000	0.004
	100 %	-20	1760 000 013	6.9	0.000 000	0.004
	100 %	-10	1760 000 014	7.1	0.000 000	0.004
	100 %	0	1760 000 012	5.3	0.000 000	0.003
	100 %	+10	1760 000 014	7.3	0.000 000	0.004
	100 %	+30	1760 000 014	7.0	0.000 000	0.004
	100 %	+40	1760 000 011	4.0	0.000 000	0.002
	100 %	+50	1760 000 014	7.2	0.000 000	0.004
	Batt. Endpoint	+20	1760 000 011	4.2	0.000 000	0.002

9. TEST DATA (ANT I)

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
1712.5	Sub6 n66/ 5 MHz [15 kHz]	PI/2 BPSK	-19.43	13.93	9.60	2.00	H	< 1.00	0.142	21.53	1	12
		QPSK	-19.45	13.91	9.60	2.00	H		0.142	21.51		
		16-QAM	-20.62	12.74	9.60	2.00	H		0.108	20.34		
		64-QAM	-21.98	11.38	9.60	2.00	H		0.079	18.98		
		256-QAM	-24.62	8.74	9.60	2.00	H		0.043	16.34		
1745.0		PI/2 BPSK	-19.76	13.84	9.75	2.04	H		0.143	21.55	1	1
		QPSK	-19.85	13.75	9.75	2.04	H		0.140	21.46		
		16-QAM	-20.95	12.65	9.75	2.04	H		0.109	20.36		
		64-QAM	-22.19	11.41	9.75	2.04	H		0.082	19.12		
		256-QAM	-24.74	8.86	9.75	2.04	H		0.045	16.57		
1777.5		PI/2 BPSK	-20.58	12.96	9.90	2.08	H		0.120	20.78	1	12
		QPSK	-20.71	12.83	9.90	2.08	H		0.116	20.65		
		16-QAM	-21.81	11.73	9.90	2.08	H		0.090	19.55		
		64-QAM	-23.09	10.45	9.90	2.08	H		0.067	18.27		
		256-QAM	-25.77	7.77	9.90	2.08	H		0.036	15.59		

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
1715.0	Sub6 n66/ 10 MHz [15 kHz]	PI/2 BPSK	-19.46	13.90	9.60	2.00	H	< 1.00	0.141	21.50	1	1
		QPSK	-19.56	13.80	9.60	2.00	H		0.138	21.40		
		16-QAM	-20.65	12.71	9.60	2.00	H		0.107	20.31		
		64-QAM	-21.94	11.42	9.60	2.00	H		0.080	19.02		
		256-QAM	-24.65	8.71	9.60	2.00	H		0.043	16.31		
1745.0		PI/2 BPSK	-19.63	13.97	9.75	2.04	H		0.147	21.68	1	1
		QPSK	-19.70	13.90	9.75	2.04	H		0.145	21.61		
		16-QAM	-20.77	12.83	9.75	2.04	H		0.113	20.54		
		64-QAM	-22.01	11.59	9.75	2.04	H		0.085	19.30		
		256-QAM	-24.76	8.84	9.75	2.04	H		0.045	16.55		
1775.0		PI/2 BPSK	-20.27	13.27	9.90	2.08	H		0.129	21.09	1	1
		QPSK	-20.33	13.21	9.90	2.08	H		0.127	21.03		
		16-QAM	-21.40	12.14	9.90	2.08	H		0.099	19.96		
		64-QAM	-22.73	10.81	9.90	2.08	H		0.073	18.63		
		256-QAM	-25.38	8.16	9.90	2.08	H		0.040	15.98		

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
1717.5	Sub6 n66/ 15 MHz [15 kHz]	PI/2 BPSK	-19.26	14.10	9.60	2.00	H	< 1.00	0.148	21.70	1	1
		QPSK	-19.40	13.96	9.60	2.00	H		0.143	21.56		
		16-QAM	-20.46	12.90	9.60	2.00	H		0.112	20.50		
		64-QAM	-21.77	11.59	9.60	2.00	H		0.083	19.19		
		256-QAM	-24.36	9.00	9.60	2.00	H		0.046	16.60		
1745.0		PI/2 BPSK	-19.59	14.01	9.75	2.04	H		0.149	21.72	1	39
		QPSK	-19.75	13.85	9.75	2.04	H		0.143	21.56		
		16-QAM	-20.80	12.80	9.75	2.04	H		0.112	20.51		
		64-QAM	-22.22	11.38	9.75	2.04	H		0.081	19.09		
		256-QAM	-24.90	8.70	9.75	2.04	H		0.044	16.41		
1772.5		PI/2 BPSK	-19.85	13.69	9.90	2.08	H		0.142	21.51	1	1
		QPSK	-19.97	13.57	9.90	2.08	H		0.138	21.39		
		16-QAM	-21.03	12.51	9.90	2.08	H		0.108	20.33		
		64-QAM	-22.34	11.20	9.90	2.08	H		0.080	19.02		
		256-QAM	-25.09	8.45	9.90	2.08	H		0.042	16.27		

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
1720.0	Sub6 n66/ 20 MHz [15 kHz]	PI/2 BPSK	-19.34	14.16	9.60	2.00	H	< 1.00	0.150	21.76	1	1
		QPSK	-19.45	14.05	9.60	2.00	H		0.146	21.65		
		16-QAM	-20.51	12.99	9.60	2.00	H		0.115	20.59		
		64-QAM	-21.85	11.65	9.60	2.00	H		0.084	19.25		
		256-QAM	-24.51	8.99	9.60	2.00	H		0.046	16.59		
1745.0		PI/2 BPSK	-19.56	14.04	9.75	2.04	H		0.150	21.75	1	53
		QPSK	-19.70	13.90	9.75	2.04	H		0.145	21.61		
		16-QAM	-20.82	12.78	9.75	2.04	H		0.112	20.49		
		64-QAM	-22.00	11.60	9.75	2.04	H		0.085	19.31		
		256-QAM	-24.67	8.93	9.75	2.04	H		0.046	16.64		
1770.0		PI/2 BPSK	-20.00	13.64	9.90	2.09	H		0.140	21.45	1	1
		QPSK	-20.12	13.52	9.90	2.09	H		0.136	21.33		
		16-QAM	-21.18	12.46	9.90	2.09	H		0.106	20.27		
		64-QAM	-22.52	11.12	9.90	2.09	H		0.078	18.93		
		256-QAM	-25.19	8.45	9.90	2.09	H		0.042	16.26		

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
1722.5	Sub6 n66/ 25 MHz [15 kHz]	PI/2 BPSK	PI/2 BPSK	-19.20	14.36	9.60	2.01	< 1.00	0.157	21.95	1	1
		QPSK	QPSK	-19.22	14.34	9.60	2.01		0.156	21.93		
		16-QAM	16-QAM	-20.30	13.26	9.60	2.01		0.122	20.85		
		64-QAM	64-QAM	-21.65	11.91	9.60	2.01		0.089	19.50		
		256-QAM	256-QAM	-24.28	9.28	9.60	2.01		0.049	16.87		
1745.0		PI/2 BPSK	PI/2 BPSK	-19.53	14.07	9.75	2.04		0.151	21.78	1	66
		QPSK	QPSK	-19.59	14.01	9.75	2.04		0.149	21.72		
		16-QAM	16-QAM	-20.69	12.91	9.75	2.04		0.115	20.62		
		64-QAM	64-QAM	-22.11	11.49	9.75	2.04		0.083	19.20		
		256-QAM	256-QAM	-24.71	8.89	9.75	2.04		0.046	16.60		
1767.5		PI/2 BPSK	PI/2 BPSK	-19.40	14.08	9.90	2.09		0.155	21.89	1	1
		QPSK	QPSK	-19.56	13.92	9.90	2.09		0.149	21.73		
		16-QAM	16-QAM	-20.58	12.90	9.90	2.09		0.118	20.71		
		64-QAM	64-QAM	-21.89	11.59	9.90	2.09		0.087	19.40		
		256-QAM	256-QAM	-24.51	8.97	9.90	2.09		0.048	16.78		

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
1725.0	Sub6 n66/ 30 MHz [15 kHz]	PI/2 BPSK	-19.15	14.41	9.60	2.01	H	< 1.00	0.158	22.00	1	1
		QPSK	-19.22	14.34	9.60	2.01	H		0.156	21.93		
		16-QAM	-20.35	13.21	9.60	2.01	H		0.120	20.80		
		64-QAM	-21.68	11.88	9.60	2.01	H		0.089	19.47		
		256-QAM	-24.33	9.23	9.60	2.01	H		0.048	16.82		
1745.0		PI/2 BPSK	-19.50	14.10	9.75	2.04	H		0.152	21.81	1	80
		QPSK	-19.63	13.97	9.75	2.04	H		0.147	21.68		
		16-QAM	-20.79	12.81	9.75	2.04	H		0.113	20.52		
		64-QAM	-22.03	11.57	9.75	2.04	H		0.085	19.28		
		256-QAM	-24.62	8.98	9.75	2.04	H		0.047	16.69		
1765.0		PI/2 BPSK	-19.50	13.98	9.90	2.09	H		0.151	21.79	1	1
		QPSK	-19.60	13.88	9.90	2.09	H		0.148	21.69		
		16-QAM	-20.71	12.77	9.90	2.09	H		0.114	20.58		
		64-QAM	-22.04	11.44	9.90	2.09	H		0.084	19.25		
		256-QAM	-24.55	8.93	9.90	2.09	H		0.047	16.74		

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
1727.5	Sub6 n66/ 35 MHz [15 kHz]	PI/2 BPSK	-19.37	14.19	9.60	2.01	H	< 1.00	0.151	21.78	1	1
		QPSK	-20.31	13.25	9.60	2.01	H		0.121	20.84		
		16-QAM	-21.22	12.34	9.60	2.01	H		0.098	19.93		
		64-QAM	-22.65	10.91	9.60	2.01	H		0.071	18.50		
		256-QAM	-24.83	8.73	9.60	2.01	H		0.043	16.32		
1745.0		PI/2 BPSK	-19.68	13.92	9.75	2.04	H		0.146	21.63	1	94
		QPSK	-20.62	12.98	9.75	2.04	H		0.117	20.69		
		16-QAM	-21.66	11.94	9.75	2.04	H		0.092	19.65		
		64-QAM	-22.86	10.74	9.75	2.04	H		0.070	18.45		
		256-QAM	-25.27	8.33	9.75	2.04	H		0.040	16.04		
1762.5		PI/2 BPSK	-19.58	13.74	9.90	2.09	H		0.143	21.55	1	1
		QPSK	-20.41	12.91	9.90	2.09	H		0.118	20.72		
		16-QAM	-21.39	11.93	9.90	2.09	H		0.094	19.74		
		64-QAM	-22.77	10.55	9.90	2.09	H		0.069	18.36		
		256-QAM	-24.67	8.65	9.90	2.09	H		0.044	16.46		

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
1730.0	Sub6 n66/ 40 MHz [15 kHz]	PI/2 BPSK	-19.27	14.34	9.60	2.01	H	< 1.00	0.156	21.93	1	1
		QPSK	-20.30	13.31	9.60	2.01	H		0.123	20.90		
		16-QAM	-21.22	12.39	9.60	2.01	H		0.100	19.98		
		64-QAM	-22.72	10.89	9.60	2.01	H		0.070	18.48		
		256-QAM	-24.90	8.71	9.60	2.01	H		0.043	16.30		
1745.0		PI/2 BPSK	-19.92	13.68	9.75	2.04	H		0.138	21.39	1	108
		QPSK	-20.69	12.91	9.75	2.04	H		0.115	20.62		
		16-QAM	-21.63	11.97	9.75	2.04	H		0.093	19.68		
		64-QAM	-22.92	10.68	9.75	2.04	H		0.069	18.39		
		256-QAM	-25.25	8.35	9.75	2.04	H		0.040	16.06		
1760.0		PI/2 BPSK	-20.15	13.17	9.90	2.09	H		0.125	20.98	1	1
		QPSK	-21.24	12.08	9.90	2.09	H		0.097	19.89		
		16-QAM	-22.19	11.13	9.90	2.09	H		0.078	18.94		
		64-QAM	-23.57	9.75	9.90	2.09	H		0.057	17.56		
		256-QAM	-25.46	7.86	9.90	2.09	H		0.037	15.67		

9.2 RADIATED SPURIOUS EMISSIONS

▣ NR Band: N66
▣ Bandwidth: 30 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
345000 (1725.0)	3 450.00	-61.44	11.20	-62.90	2.96	H	-54.66	-13.00	1	1
	5 175.00	-57.91	11.00	-52.47	3.71	H	-45.18	-13.00		
	6 900.00	-61.79	10.90	-49.98	4.31	H	-43.39	-13.00		
	8 625.00	-63.76	10.40	-49.96	4.83	H	-44.39	-13.00		
	10 350.00	-65.46	11.20	-48.40	5.37	H	-42.57	-13.00		
349000 (1745.0)	3 490.00	-62.95	11.20	-64.39	3.00	H	-56.19	-13.00	1	80
	5 235.00	-52.84	11.10	-47.91	3.70	H	-40.51	-13.00		
	6 980.00	-64.33	10.90	-51.62	4.30	H	-45.02	-13.00		
	8 725.00	-63.45	10.30	-49.09	4.88	H	-43.67	-13.00		
	10 470.00	-64.43	11.30	-46.70	5.43	H	-40.83	-13.00		
353000 (1765.0)	3 530.00	-62.09	11.30	-64.22	2.99	H	-55.91	-13.00	1	1
	5 295.00	-58.41	11.35	-53.34	3.71	H	-45.70	-13.00		
	7 060.00	-65.63	10.70	-51.85	4.33	H	-45.48	-13.00		
	8 825.00	-62.94	10.50	-48.97	4.89	H	-43.36	-13.00		
	10 590.00	-65.01	11.20	-46.33	5.44	H	-40.57	-13.00		

9.3 PEAK-TO-AVERAGE RATIO

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (dB)
Sub6 n66	5 MHz	1745.0	BPSK	25	0	4.45
			QPSK			5.37
			16-QAM			6.13
			64-QAM			6.30
			256-QAM			6.72
	10 MHz		BPSK	50		4.34
			QPSK			5.29
			16-QAM			5.90
			64-QAM			6.20
			256-QAM			6.50
	15 MHz		BPSK	75		3.97
			QPSK			5.11
			16-QAM			5.89
			64-QAM			6.14
			256-QAM			6.25
	20 MHz		BPSK	100		3.94
			QPSK			5.08
			16-QAM			5.95
			64-QAM			6.14
			256-QAM			6.41
	25 MHz		BPSK	128		4.39
			QPSK			5.18
			16-QAM			5.89
			64-QAM			6.08
			256-QAM			6.39
	30 MHz		BPSK	160		3.98
			QPSK			4.99
			16-QAM			5.84
			64-QAM			6.07
			256-QAM			6.33
	35 MHz		BPSK	187		4.09
			QPSK			5.57
			16-QAM			6.66
			64-QAM			7.06
			256-QAM			7.26
	40 MHz		BPSK	216		4.03
			QPSK			5.46
			16-QAM			6.61
			64-QAM			6.92
			256-QAM			7.27

Note:

1. Plots of the EUT's Peak- to- Average Ratio are shown Page 244 ~ 283.

9.4 OCCUPIED BANDWIDTH

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (MHz)
Sub6 n66	5 MHz	1745.0	BPSK	25	0	4.5265
			QPSK			4.5014
			16-QAM			4.4904
			64-QAM			4.5234
			256-QAM			4.4972
	10 MHz		BPSK	50		8.9717
			QPSK			8.9858
			16-QAM			8.9894
			64-QAM			8.9568
			256-QAM			8.9553
	15 MHz		BPSK	75		13.431
			QPSK			13.471
			16-QAM			13.459
			64-QAM			13.467
			256-QAM			13.462
	20 MHz		BPSK	100		17.898
			QPSK			17.924
			16-QAM			17.967
			64-QAM			17.881
			256-QAM			17.957
	25 MHz		BPSK	128		22.871
			QPSK			22.872
			16-QAM			22.942
			64-QAM			22.884
			256-QAM			22.951
	30 MHz		BPSK	160		28.518
			QPSK			28.595
			16-QAM			28.539
			64-QAM			28.594
			256-QAM			28.571
	35 MHz		BPSK	187		32.137
			QPSK			32.096
			16-QAM			32.155
			64-QAM			32.094
			256-QAM			32.164
	40 MHz		BPSK	216		38.565
			QPSK			38.730
			16-QAM			38.575
			64-QAM			38.657
			256-QAM			38.577

Note:

1. Plots of the EUT's Occupied Bandwidth are shown Page 284 ~ 323.

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 n66	5	1712.5	6.0195	30.815	-70.796	-39.981	-13.00
		1745.0	8.6107	30.815	-70.309	-39.494	
		1777.5	6.0449	30.815	-70.688	-39.873	
	10	1715.0	9.1112	30.815	-70.373	-39.558	
		1745.0	4.0414	30.200	-70.528	-40.328	
		1775.0	9.9367	30.815	-70.287	-39.472	
	15	1717.5	9.4362	30.815	-70.813	-39.998	
		1745.0	4.0160	30.200	-70.136	-39.936	
		1772.5	4.5848	30.200	-70.661	-40.461	
	20	1720.0	3.7982	30.200	-70.802	-40.602	
		1745.0	9.1206	30.815	-70.238	-39.423	
		1770.0	4.0125	30.200	-70.524	-40.324	
	25	1722.5	9.1027	30.815	-70.791	-39.976	
		1745.0	3.7882	30.200	-70.478	-40.278	
		1767.5	8.8181	30.815	-70.545	-39.730	
	30	1725.0	3.7767	30.200	-70.514	-40.314	
		1745.0	8.5693	30.815	-70.009	-39.194	
		1765.0	9.1650	30.815	-69.956	-39.141	
	35	1727.5	4.0359	30.200	-70.210	-40.010	
		1745.0	9.2054	30.815	-70.194	-39.379	
		1762.5	4.0758	30.200	-70.031	-39.831	
	40	1730.0	4.8939	30.200	-71.265	-41.065	
		1745.0	7.9791	30.815	-71.207	-40.392	
		1760.0	9.9506	30.815	-70.143	-39.328	

Note:

1. Plots of the EUT's Conducted Spurious Emissions are shown Page 324 ~ 371.
2. Result (dBm) = Measurement Maximum Data (dBm) + Factor (dB)
3. Factor(dB) = Cable Loss + Ext. Attenuator + Power Splitter

Frequency Range (GHz)	Factor [dB]
0.03 – 1	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 372 ~ 419.

9.7 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE

▣ BandWidth: 5 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(℃)	(Hz)	Error (Hz)	(%)	
1712.5	100 %	+20(Ref)	1712 499 998	0.0	0.000 000	0.000
	100 %	-30	1712 499 995	-3.6	0.000 000	-0.002
	100 %	-20	1712 499 999	0.4	0.000 000	0.000
	100 %	-10	1712 499 998	-0.1	0.000 000	0.000
	100 %	0	1712 499 997	-1.6	0.000 000	-0.001
	100 %	+10	1712 499 998	-0.9	0.000 000	-0.001
	100 %	+30	1712 499 995	-3.3	0.000 000	-0.002
	100 %	+40	1712 499 997	-1.7	0.000 000	-0.001
	100 %	+50	1712 499 998	-0.2	0.000 000	0.000
	Batt. Endpoint	+20	1712 499 997	-1.6	0.000 000	-0.001
1777.5	100 %	+20(Ref)	1777 500 000	0.0	0.000 000	0.000
	100 %	-30	1777 500 000	0.7	0.000 000	0.000
	100 %	-20	1777 499 999	-0.3	0.000 000	0.000
	100 %	-10	1777 500 000	0.0	0.000 000	0.000
	100 %	0	1777 499 999	-0.5	0.000 000	0.000
	100 %	+10	1777 500 001	1.3	0.000 000	0.001
	100 %	+30	1777 500 000	0.4	0.000 000	0.000
	100 %	+40	1777 500 001	0.9	0.000 000	0.000
	100 %	+50	1777 500 001	1.0	0.000 000	0.001
	Batt. Endpoint	+20	1777 499 999	-1.1	0.000 000	-0.001

▣ BandWidth: 10 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
1715.0	100 %	+20(Ref)	1714 999 998	0.0	0.000 000	0.000
	100 %	-30	1714 999 998	-0.3	0.000 000	0.000
	100 %	-20	1714 999 998	0.0	0.000 000	0.000
	100 %	-10	1714 999 999	0.7	0.000 000	0.000
	100 %	0	1714 999 997	-1.6	0.000 000	-0.001
	100 %	+10	1714 999 997	-1.5	0.000 000	-0.001
	100 %	+30	1714 999 997	-1.3	0.000 000	-0.001
	100 %	+40	1714 999 999	1.0	0.000 000	0.001
	100 %	+50	1714 999 999	1.0	0.000 000	0.001
	Batt. Endpoint	+20	1714 999 999	0.4	0.000 000	0.000
1775.0	100 %	+20(Ref)	1774 999 999	0.0	0.000 000	0.000
	100 %	-30	1774 999 999	-0.7	0.000 000	0.000
	100 %	-20	1774 999 999	-0.6	0.000 000	0.000
	100 %	-10	1774 999 999	-0.4	0.000 000	0.000
	100 %	0	1774 999 998	-1.0	0.000 000	-0.001
	100 %	+10	1774 999 998	-1.4	0.000 000	-0.001
	100 %	+30	1774 999 997	-2.0	0.000 000	-0.001
	100 %	+40	1774 999 999	0.0	0.000 000	0.000
	100 %	+50	1774 999 999	-0.4	0.000 000	0.000
	Batt. Endpoint	+20	1774 999 999	-0.6	0.000 000	0.000

▣ BandWidth: 15 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
1717.5	100 %	+20(Ref)	1717 500 002	0.0	0.000 000	0.000
	100 %	-30	1717 500 002	-0.6	0.000 000	0.000
	100 %	-20	1717 500 002	0.1	0.000 000	0.000
	100 %	-10	1717 500 003	1.2	0.000 000	0.001
	100 %	0	1717 500 004	2.0	0.000 000	0.001
	100 %	+10	1717 500 001	-1.2	0.000 000	-0.001
	100 %	+30	1717 500 003	0.7	0.000 000	0.000
	100 %	+40	1717 500 003	0.9	0.000 000	0.001
	100 %	+50	1717 500 003	1.3	0.000 000	0.001
	Batt. Endpoint	+20	1717 500 003	0.9	0.000 000	0.001
1772.5	100 %	+20(Ref)	1772 500 000	0.0	0.000 000	0.000
	100 %	-30	1772 499 998	-1.7	0.000 000	-0.001
	100 %	-20	1772 499 998	-2.0	0.000 000	-0.001
	100 %	-10	1772 499 997	-2.9	0.000 000	-0.002
	100 %	0	1772 500 000	0.0	0.000 000	0.000
	100 %	+10	1772 499 997	-2.6	0.000 000	-0.001
	100 %	+30	1772 499 998	-2.3	0.000 000	-0.001
	100 %	+40	1772 499 999	-0.9	0.000 000	0.000
	100 %	+50	1772 499 998	-1.9	0.000 000	-0.001
	Batt. Endpoint	+20	1772 499 999	-0.9	0.000 000	-0.001

▣ BandWidth: 20 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
1720.0	100 %	+20(Ref)	1719 999 998	0.0	0.000 000	0.000
	100 %	-30	1719 999 995	-2.8	0.000 000	-0.002
	100 %	-20	1719 999 997	-1.4	0.000 000	-0.001
	100 %	-10	1719 999 996	-1.8	0.000 000	-0.001
	100 %	0	1719 999 995	-3.0	0.000 000	-0.002
	100 %	+10	1719 999 996	-1.6	0.000 000	-0.001
	100 %	+30	1719 999 997	-1.0	0.000 000	-0.001
	100 %	+40	1719 999 994	-3.8	0.000 000	-0.002
	100 %	+50	1719 999 996	-1.9	0.000 000	-0.001
	Batt. Endpoint	+20	1719 999 996	-2.5	0.000 000	-0.001
1770.0	100 %	+20(Ref)	1770 000 003	0.0	0.000 000	0.000
	100 %	-30	1770 000 003	0.3	0.000 000	0.000
	100 %	-20	1770 000 003	0.9	0.000 000	0.001
	100 %	-10	1770 000 004	1.5	0.000 000	0.001
	100 %	0	1770 000 003	0.7	0.000 000	0.000
	100 %	+10	1770 000 003	0.1	0.000 000	0.000
	100 %	+30	1770 000 002	-1.0	0.000 000	-0.001
	100 %	+40	1770 000 004	1.8	0.000 000	0.001
	100 %	+50	1770 000 003	0.3	0.000 000	0.000
	Batt. Endpoint	+20	1770 000 001	-1.1	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	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
1722.5	100 %	+20(Ref)	1722 499 999	0.0	0.000 000	0.000
	100 %	-30	1722 499 998	-1.2	0.000 000	-0.001
	100 %	-20	1722 499 999	-0.4	0.000 000	0.000
	100 %	-10	1722 499 999	-0.3	0.000 000	0.000
	100 %	0	1722 499 998	-1.0	0.000 000	-0.001
	100 %	+10	1722 499 998	-1.3	0.000 000	-0.001
	100 %	+30	1722 499 998	-1.3	0.000 000	-0.001
	100 %	+40	1722 499 998	-0.9	0.000 000	-0.001
	100 %	+50	1722 499 999	-0.7	0.000 000	0.000
	Batt. Endpoint	+20	1722 500 000	0.5	0.000 000	0.000
1767.5	100 %	+20(Ref)	1767 499 999	0.0	0.000 000	0.000
	100 %	-30	1767 499 999	-0.1	0.000 000	0.000
	100 %	-20	1767 499 998	-1.0	0.000 000	-0.001
	100 %	-10	1767 500 001	1.8	0.000 000	0.001
	100 %	0	1767 499 998	-0.9	0.000 000	0.000
	100 %	+10	1767 499 999	0.0	0.000 000	0.000
	100 %	+30	1767 499 999	0.4	0.000 000	0.000
	100 %	+40	1767 500 000	0.8	0.000 000	0.000
	100 %	+50	1767 500 000	1.5	0.000 000	0.001
	Batt. Endpoint	+20	1767 499 999	0.1	0.000 000	0.000

▣ BandWidth: 30 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.330 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
1725.0	100 %	+20(Ref)	1725 000 006	0.0	0.000 000	0.000
	100 %	-30	1725 000 013	6.8	0.000 000	0.004
	100 %	-20	1725 000 015	8.7	0.000 001	0.005
	100 %	-10	1725 000 013	6.6	0.000 000	0.004
	100 %	0	1725 000 012	5.8	0.000 000	0.003
	100 %	+10	1725 000 016	10.0	0.000 001	0.006
	100 %	+30	1725 000 012	6.0	0.000 000	0.003
	100 %	+40	1725 000 013	6.6	0.000 000	0.004
	100 %	+50	1725 000 013	6.3	0.000 000	0.004
	Batt. Endpoint	+20	1725 000 012	5.8	0.000 000	0.003
1765.0	100 %	+20(Ref)	1765 000 003	0.0	0.000 000	0.000
	100 %	-30	1765 000 007	4.3	0.000 000	0.002
	100 %	-20	1765 000 009	5.7	0.000 000	0.003
	100 %	-10	1765 000 008	4.5	0.000 000	0.003
	100 %	0	1765 000 007	4.0	0.000 000	0.002
	100 %	+10	1765 000 007	3.7	0.000 000	0.002
	100 %	+30	1765 000 007	3.5	0.000 000	0.002
	100 %	+40	1765 000 008	5.3	0.000 000	0.003
	100 %	+50	1765 000 005	2.4	0.000 000	0.001
	Batt. Endpoint	+20	1765 000 006	2.8	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	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
1727.5	100 %	+20(Ref)	1727 500 004	0.0	0.000 000	0.000
	100 %	-30	1727 500 008	4.1	0.000 000	0.002
	100 %	-20	1727 500 008	4.1	0.000 000	0.002
	100 %	-10	1727 500 009	4.7	0.000 000	0.003
	100 %	0	1727 500 009	4.8	0.000 000	0.003
	100 %	+10	1727 500 009	4.5	0.000 000	0.003
	100 %	+30	1727 500 008	4.4	0.000 000	0.003
	100 %	+40	1727 500 011	6.7	0.000 000	0.004
	100 %	+50	1727 500 009	5.3	0.000 000	0.003
	Batt. Endpoint	+20	1727 500 008	4.2	0.000 000	0.002
1762.5	100 %	+20(Ref)	1762 500 011	0.0	0.000 000	0.000
	100 %	-30	1762 500 020	8.9	0.000 001	0.005
	100 %	-20	1762 500 023	11.6	0.000 001	0.007
	100 %	-10	1762 500 022	11.0	0.000 001	0.006
	100 %	0	1762 500 023	12.0	0.000 001	0.007
	100 %	+10	1762 500 023	11.4	0.000 001	0.006
	100 %	+30	1762 500 022	11.1	0.000 001	0.006
	100 %	+40	1762 500 022	10.7	0.000 001	0.006
	100 %	+50	1762 500 025	13.6	0.000 001	0.008
	Batt. Endpoint	+20	1762 500 022	10.6	0.000 001	0.006

▣ BandWidth: 40 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

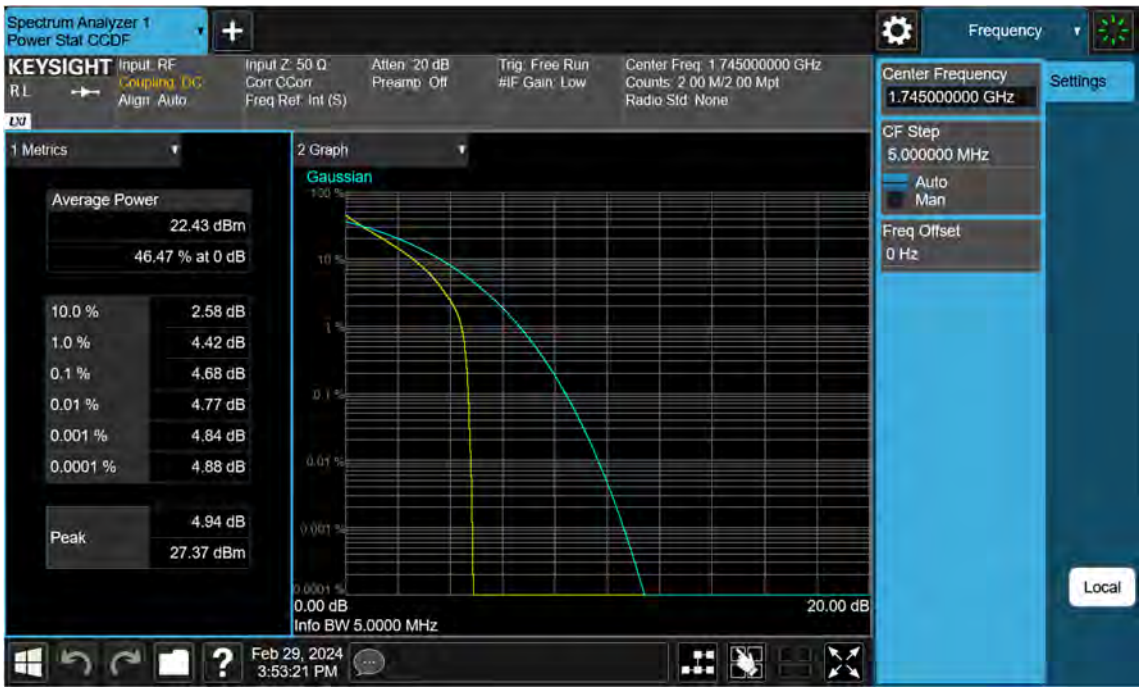
▣ LIMIT: Emission must remain in band

Test. Frequncy	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
1730.0	100 %	+20(Ref)	1730 000 004	0.0	0.000 000	0.000
	100 %	-30	1730 000 012	7.4	0.000 000	0.004
	100 %	-20	1730 000 008	4.1	0.000 000	0.002
	100 %	-10	1730 000 010	6.2	0.000 000	0.004
	100 %	0	1730 000 010	6.3	0.000 000	0.004
	100 %	+10	1730 000 011	6.4	0.000 000	0.004
	100 %	+30	1730 000 009	5.3	0.000 000	0.003
	100 %	+40	1730 000 010	5.5	0.000 000	0.003
	100 %	+50	1730 000 012	7.8	0.000 000	0.004
	Batt. Endpoint	+20	1730 000 010	6.2	0.000 000	0.004
1760.0	100 %	+20(Ref)	1760 000 006	0.0	0.000 000	0.000
	100 %	-30	1760 000 012	6.3	0.000 000	0.004
	100 %	-20	1760 000 012	6.7	0.000 000	0.004
	100 %	-10	1760 000 012	6.6	0.000 000	0.004
	100 %	0	1760 000 013	6.7	0.000 000	0.004
	100 %	+10	1760 000 013	6.7	0.000 000	0.004
	100 %	+30	1760 000 013	6.9	0.000 000	0.004
	100 %	+40	1760 000 012	5.8	0.000 000	0.003
	100 %	+50	1760 000 010	4.3	0.000 000	0.002
	Batt. Endpoint	+20	1760 000 010	4.6	0.000 000	0.003

10. TEST PLOTS (ANT A)

NR66_5 M_PAR_Mid_BPSK_FullRB

NR66_5 M_PAR_Mid_QPSK_FullRB



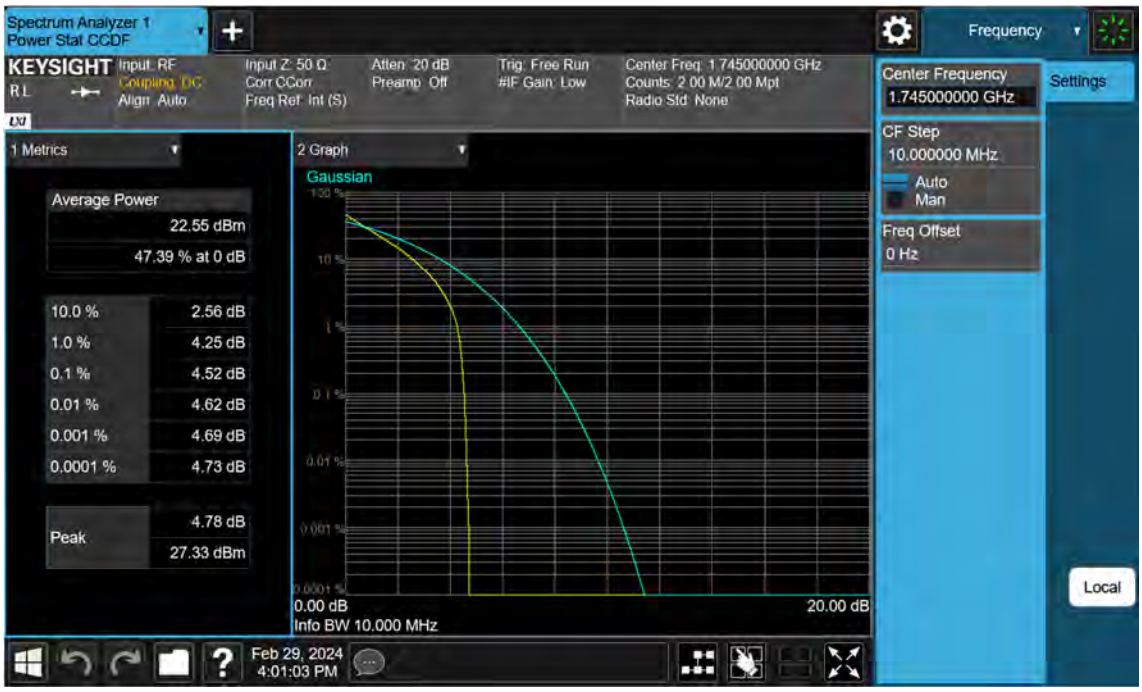
NR66_5 M_PAR_Mid_16QAM_FullRB

NR66_5 M_PAR_Mid_64QAM_FullRB

NR66_5 M_PAR_Mid_256QAM_FullRB

NR66_10 M_PAR_Mid_BPSK_FullRB

NR66_10 M_PAR_Mid_QPSK_FullRB



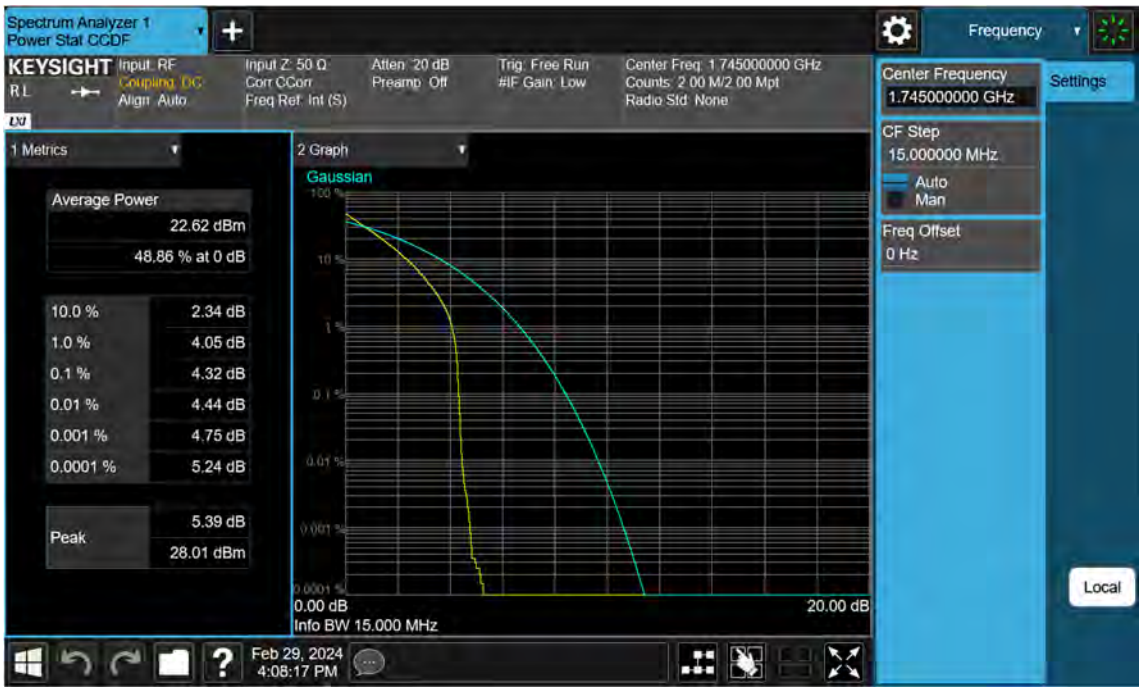
NR66_10 M_PAR_Mid_16QAM_FullRB

NR66_10 M_PAR_Mid_64QAM_FullRB

NR66_10 M_PAR_Mid_256QAM_FullRB

NR66_15 M_PAR_Mid_BPSK_FullRB

NR66_15 M_PAR_Mid_QPSK_FullRB

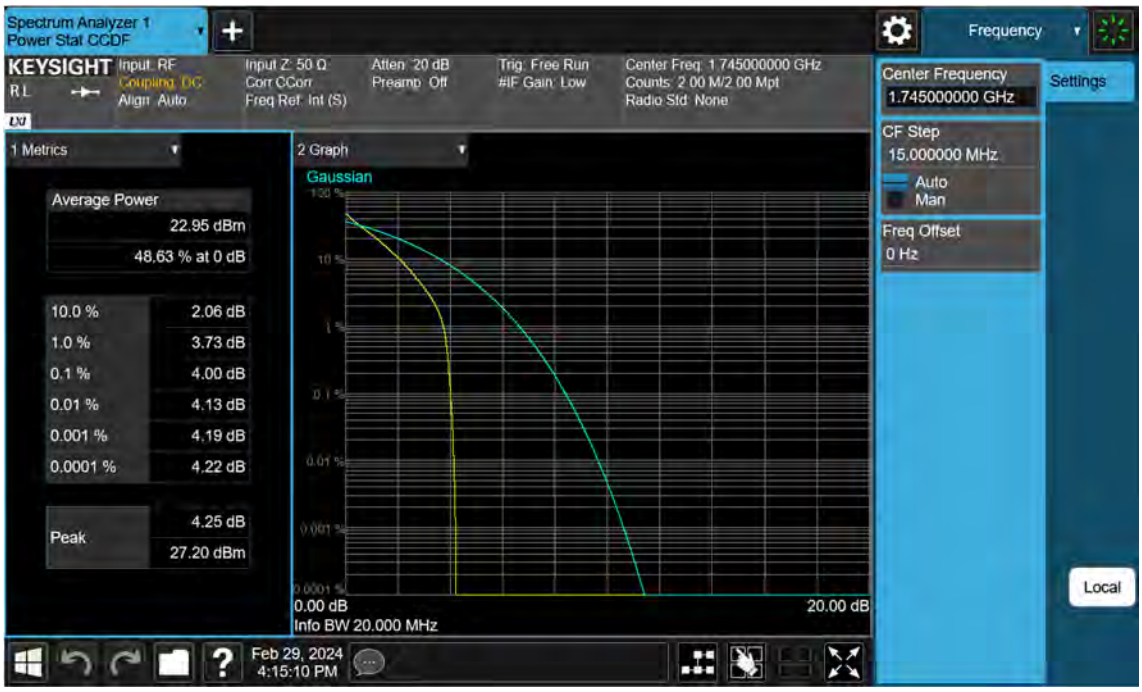


NR66_15 M_PAR_Mid_16QAM_FullRB

NR66_15 M_PAR_Mid_64QAM_FullRB

NR66_15 M_PAR_Mid_256QAM_FullRB

NR66_20 M_PAR_Mid_BPSK_FullRB



NR66_20 M_PAR_Mid_QPSK_FullRB

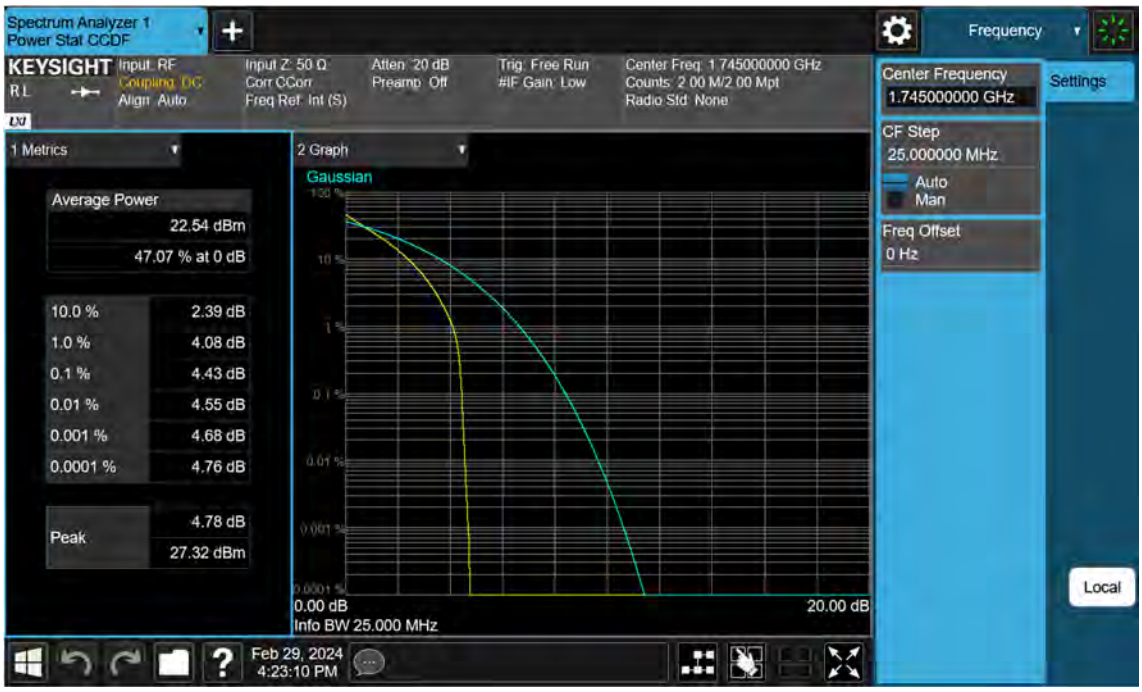
NR66_20 M_PAR_Mid_16QAM_FullRB

NR66_20 M_PAR_Mid_64QAM_FullRB

NR66_20 M_PAR_Mid_256QAM_FullRB

NR66_25 M_PAR_Mid_BPSK_FullRB

NR66_25 M_PAR_Mid_QPSK_FullRB

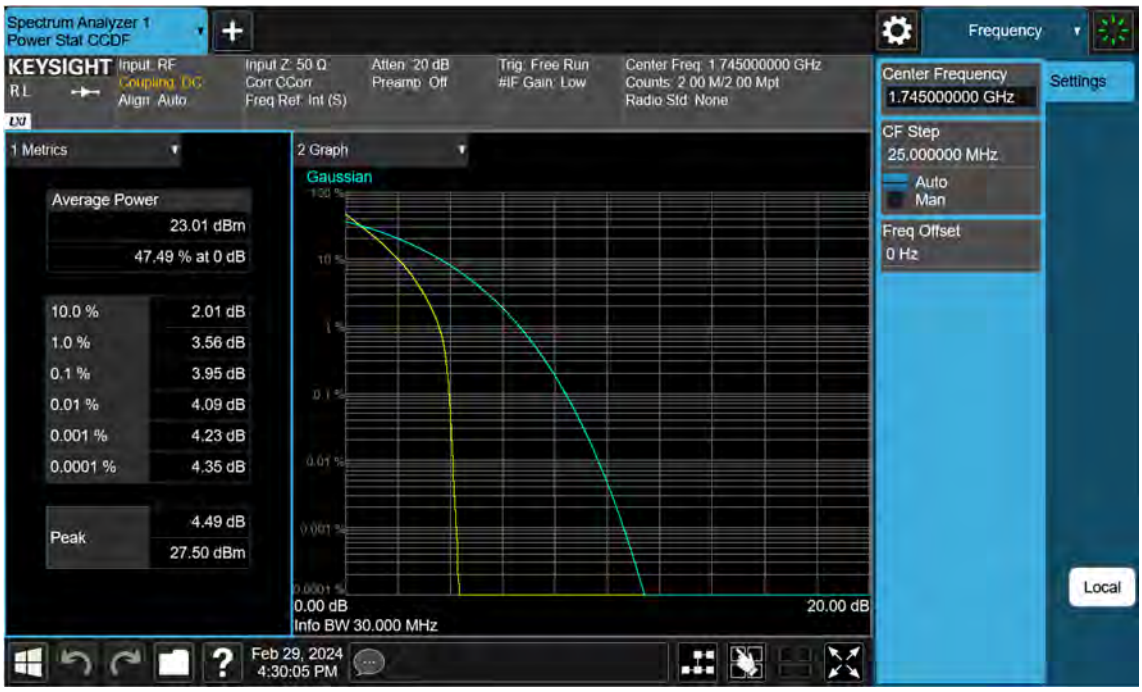


NR66_25 M_PAR_Mid_16QAM_FullRB

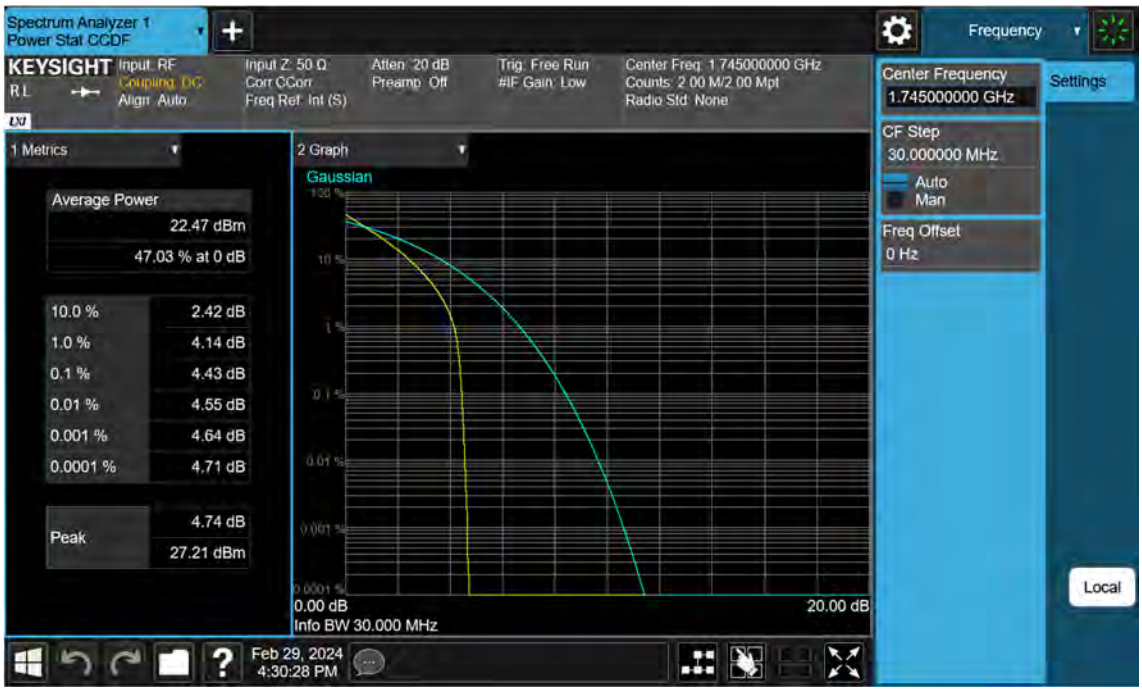
NR66_25 M_PAR_Mid_64QAM_FullRB

NR66_25 M_PAR_Mid_256QAM_FullRB

NR66_30 M_PAR_Mid_BPSK_FullRB



NR66_30 M_PAR_Mid_QPSK_FullRB

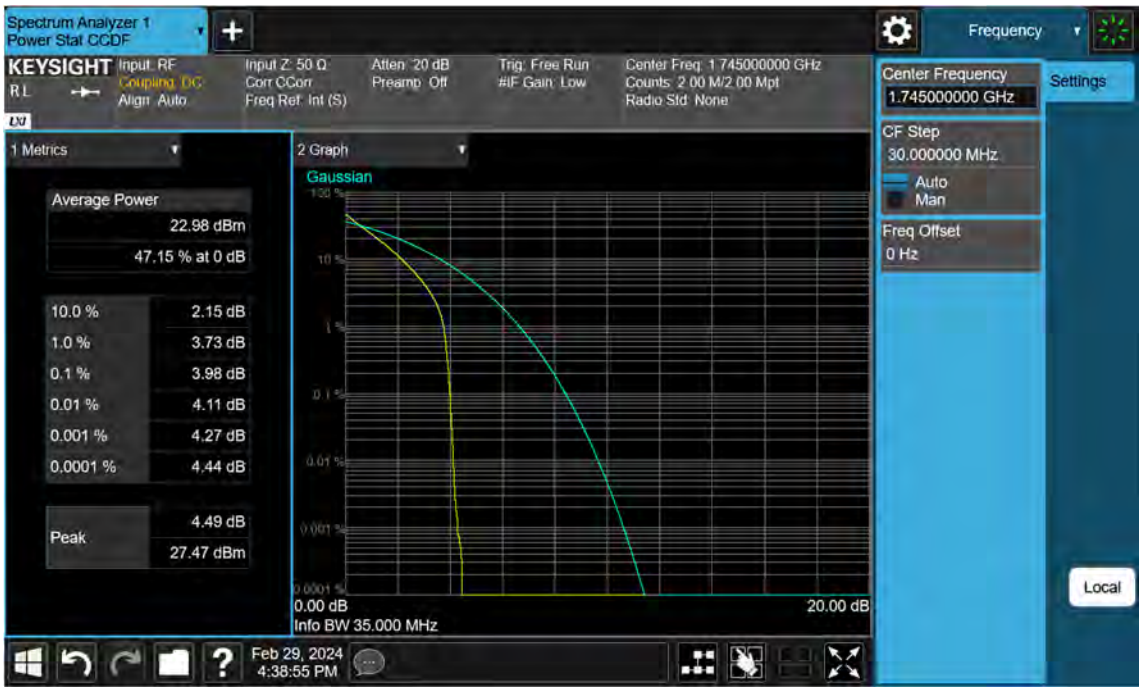


NR66_30 M_PAR_Mid_16QAM_FullRB

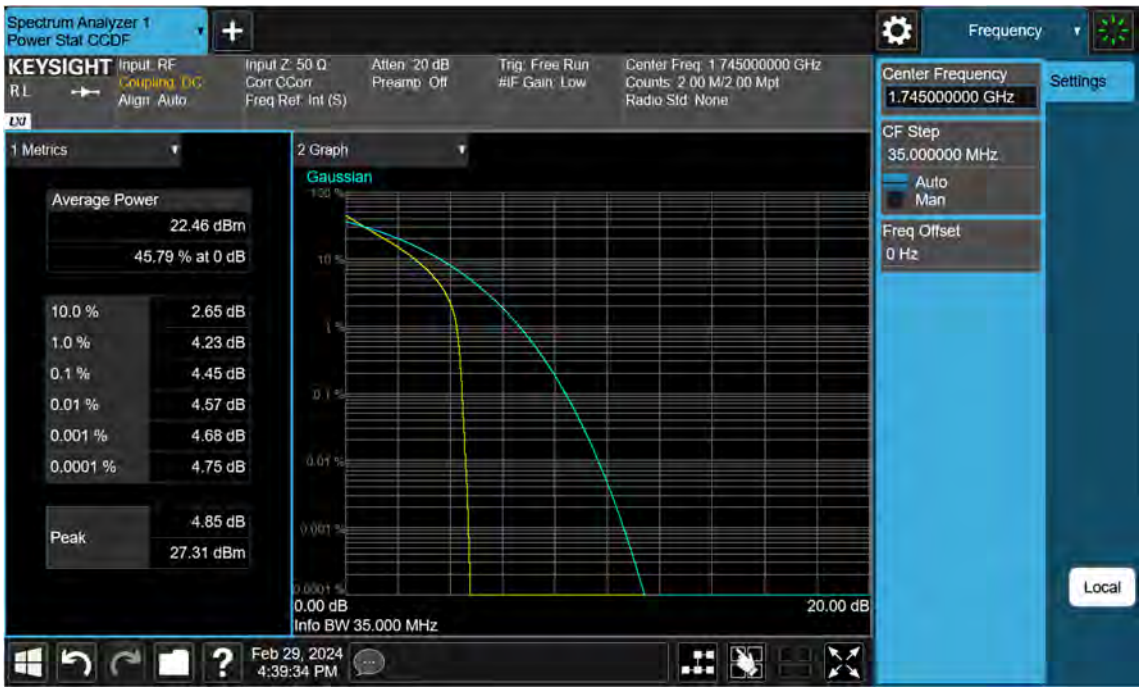
NR66_30 M_PAR_Mid_64QAM_FullRB

NR66_30 M_PAR_Mid_256QAM_FullRB

NR66_35 M_PAR_Mid_BPSK_FullRB



NR66_35 M_PAR_Mid_QPSK_FullRB

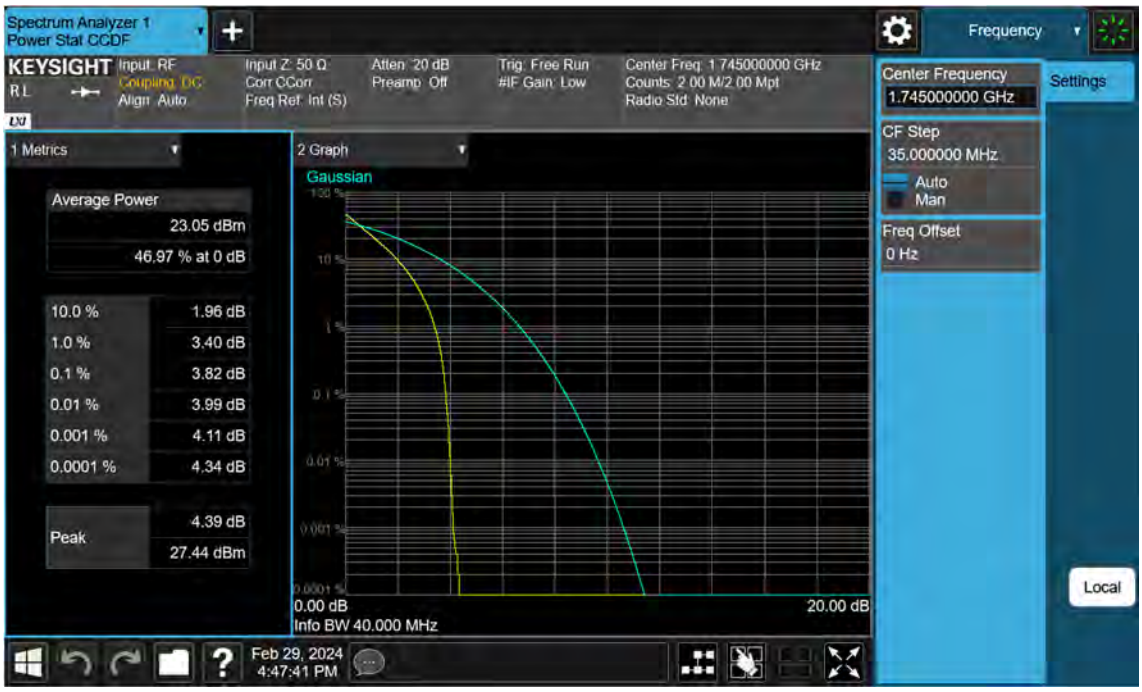


NR66_35 M_PAR_Mid_16QAM_FullRB

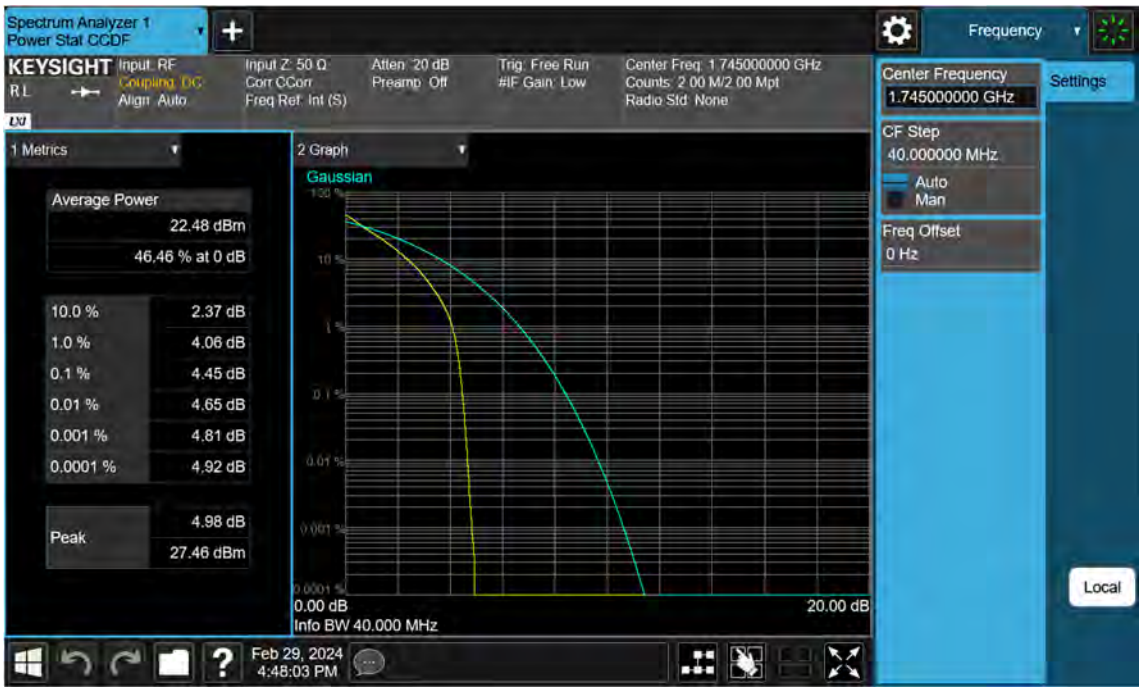
NR66_35 M_PAR_Mid_64QAM_FullRB

NR66_35 M_PAR_Mid_256QAM_FullRB

NR66_40 M_PAR_Mid_BPSK_FullRB



NR66_40 M_PAR_Mid_QPSK_FullRB



NR66_40 M_PAR_Mid_16QAM_FullRB

NR66_40 M_PAR_Mid_64QAM_FullRB

NR66_40 M_PAR_Mid_256QAM_FullRB

NR66_5 M_OBW_Mid_BPSK_FullRB

NR66_5 M_OBW_Mid_QPSK_FullRB

NR66_5 M_OBW_Mid_16QAM_FullRB

NR66_5 M_OBW_Mid_64QAM_FullRB

NR66_5 M_OBW_Mid_256QAM_FullRB

NR66_10 M_OBW_Mid_BPSK_FullRB

NR66_10 M_OBW_Mid_QPSK_FullRB

NR66_10 M_OBW_Mid_16QAM_FullRB

NR66_10 M_OBW_Mid_64QAM_FullRB

NR66_10 M_OBW_Mid_256QAM_FullRB

NR66_15 M_OBW_Mid_BPSK_FullRB

NR66_15 M_OBW_Mid_QPSK_FullRB

NR66_15 M_OBW_Mid_16QAM_FullRB

NR66_15 M_OBW_Mid_64QAM_FullRB

NR66_15 M_OBW_Mid_256QAM_FullRB

NR66_20 M_OBW_Mid_BPSK_FullRB

NR66_20 M_OBW_Mid_QPSK_FullRB

NR66_20 M_OBW_Mid_16QAM_FullRB

NR66_20 M_OBW_Mid_64QAM_FullRB

NR66_20 M_OBW_Mid_256QAM_FullRB

NR66_25 M_OBW_Mid_BPSK_FullRB

NR66_25 M_OBW_Mid_QPSK_FullRB

NR66_25 M_OBW_Mid_16QAM_FullRB

NR66_25 M_OBW_Mid_64QAM_FullRB

NR66_25 M_OBW_Mid_256QAM_FullRB

NR66_30 M_OBW_Mid_BPSK_FullRB

NR66_30 M_OBW_Mid_QPSK_FullRB

NR66_30 M_OBW_Mid_16QAM_FullRB

NR66_30 M_OBW_Mid_64QAM_FullRB

NR66_30 M_OBW_Mid_256QAM_FullRB

NR66_35 M_OBW_Mid_BPSK_FullRB

NR66_35 M_OBW_Mid_QPSK_FullRB

NR66_35 M_OBW_Mid_16QAM_FullRB

NR66_35 M_OBW_Mid_64QAM_FullRB

NR66_35 M_OBW_Mid_256QAM_FullRB

NR66_40 M_OBW_Mid_BPSK_FullRB

NR66_40 M_OBW_Mid_QPSK_FullRB

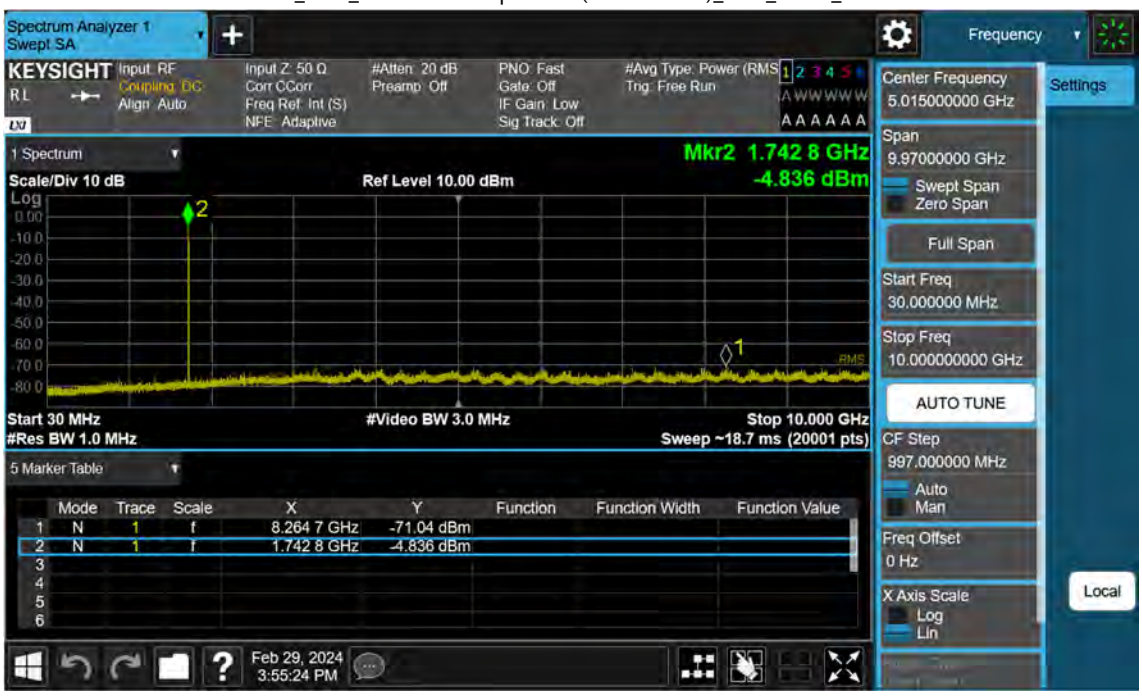
NR66_40 M_OBW_Mid_16QAM_FullRB

NR66_40 M_OBW_Mid_64QAM_FullRB

NR66_40 M_OBW_Mid_256QAM_FullRB

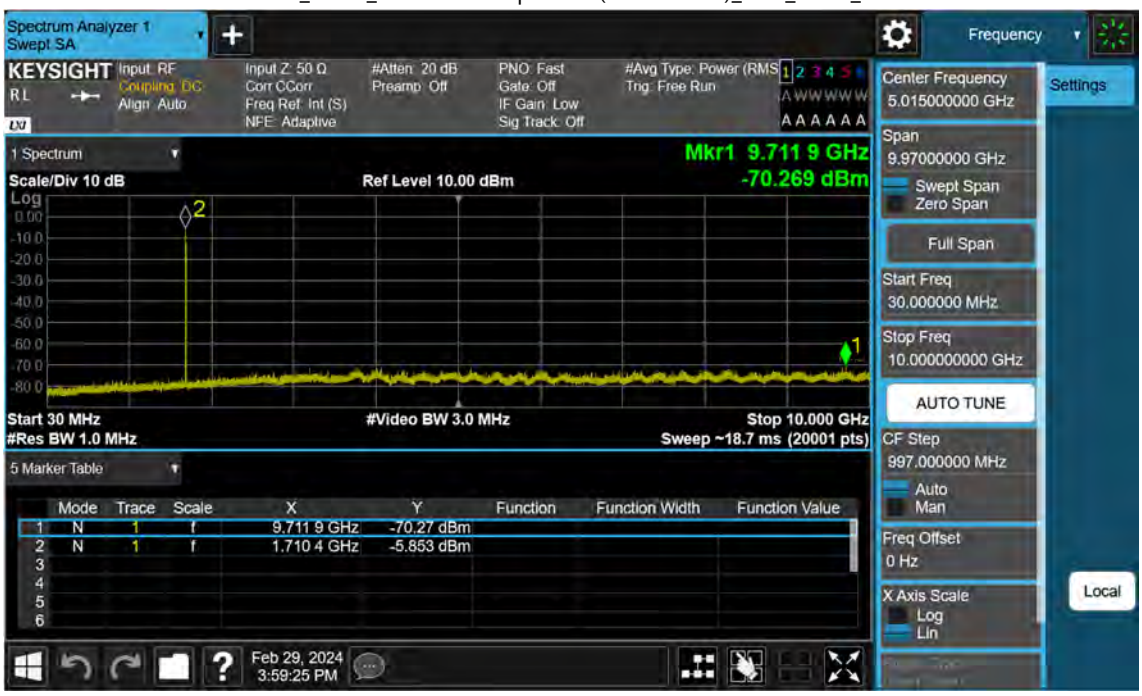
NR66_5 M_Conducted Spurious(30 M-10 G)_Low_BPSK_1RB

NR66_5 M_Conducted Spurious(30 M-10 G)_Mid_BPSK_FullRB



NR66_5 M_Conducted Spurious(30 M-10 G)_High_BPSK_1RB

NR66_10 M_Conducted Spurious(30 M-10 G)_Low_BPSK_1RB



NR66_10 M_Conducted Spurious(30 M-10 G)_Mid_BPSK_FullRB

NR66_10 M_Conducted Spurious(30 M-10 G)_High_BPSK_1RB

NR66_15 M_Conducted Spurious(30 M-10 G)_Low_BPSK_1RB

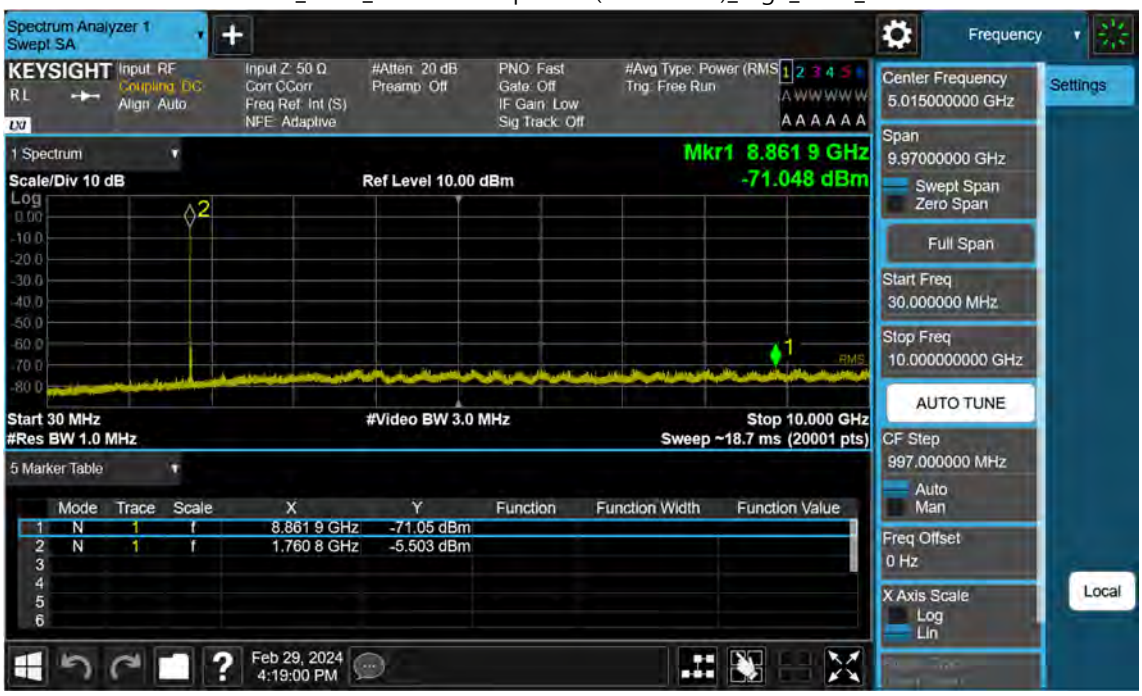
NR66_15 M_Conducted Spurious(30 M-10 G)_Mid_BPSK_FullRB

NR66_15 M_Conducted Spurious(30 M-10 G)_High_BPSK_1RB

NR66_20 M_Conducted Spurious(30 M-10 G)_Low_BPSK_1RB

NR66_20 M_Conducted Spurious(30 M-10 G)_Mid_BPSK_FullRB

NR66_20 M_Conducted Spurious(30 M-10 G)_High_BPSK_1RB



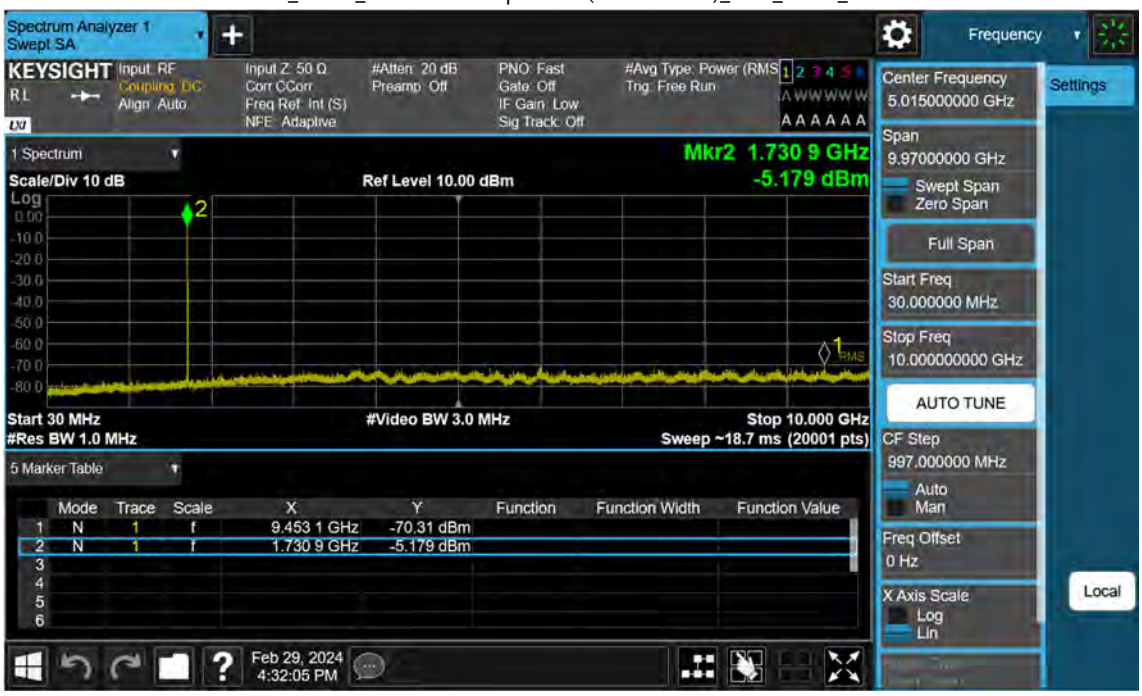
NR66_25 M_Conducted Spurious(30 M-10 G)_Low_BPSK_1RB

NR66_25 M_Conducted Spurious(30 M-10 G)_Mid_BPSK_FullRB

NR66_25 M_Conducted Spurious(30 M-10 G)_High_BPSK_1RB

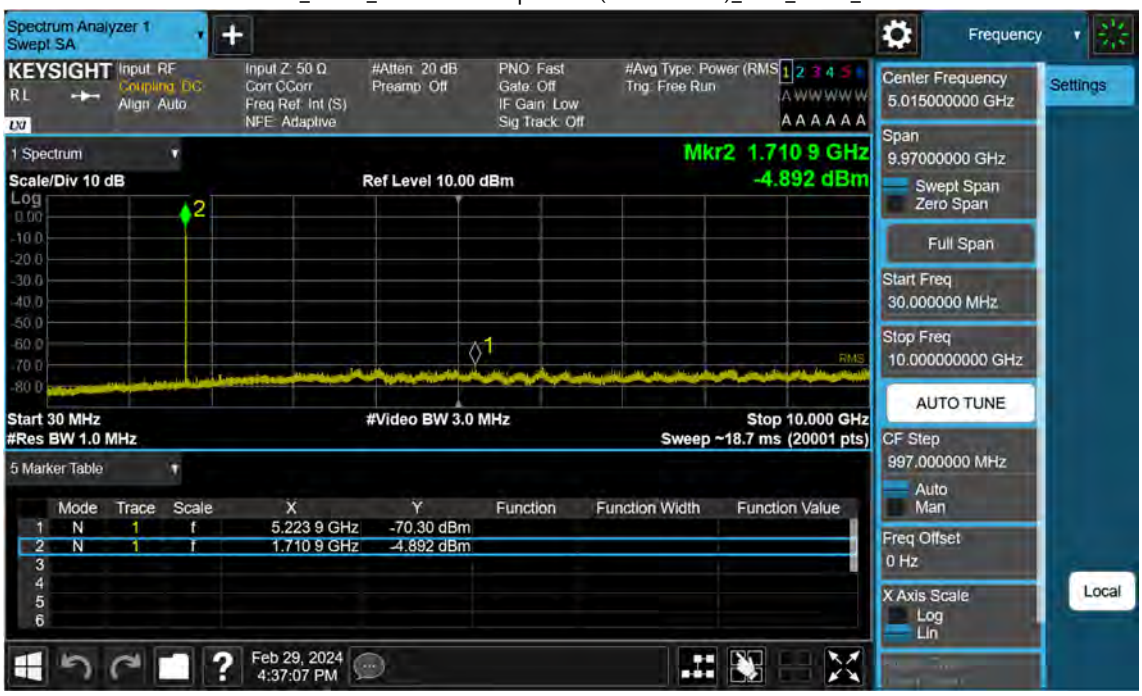
NR66_30 M_Conducted Spurious(30 M-10 G)_Low_BPSK_1RB

NR66_30 M_Conducted Spurious(30 M-10 G)_Mid_BPSK_FullRB



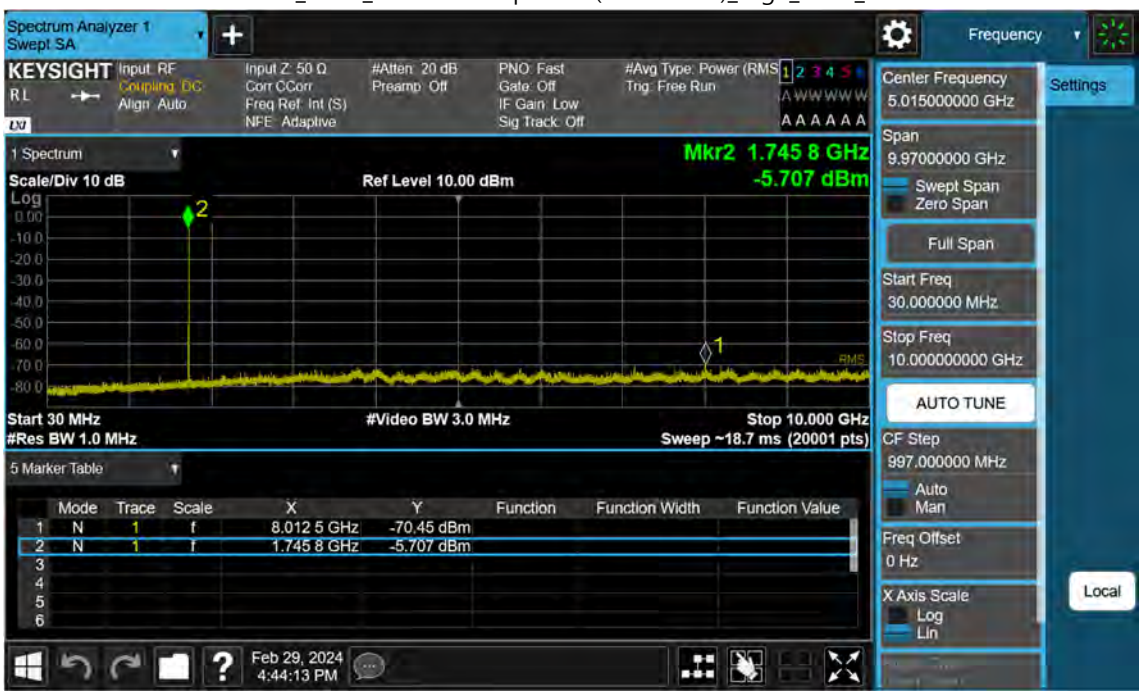
NR66_30 M_Conducted Spurious(30 M-10 G)_High_BPSK_1RB

NR66_35 M_Conducted Spurious(30 M-10 G)_Low_BPSK_1RB



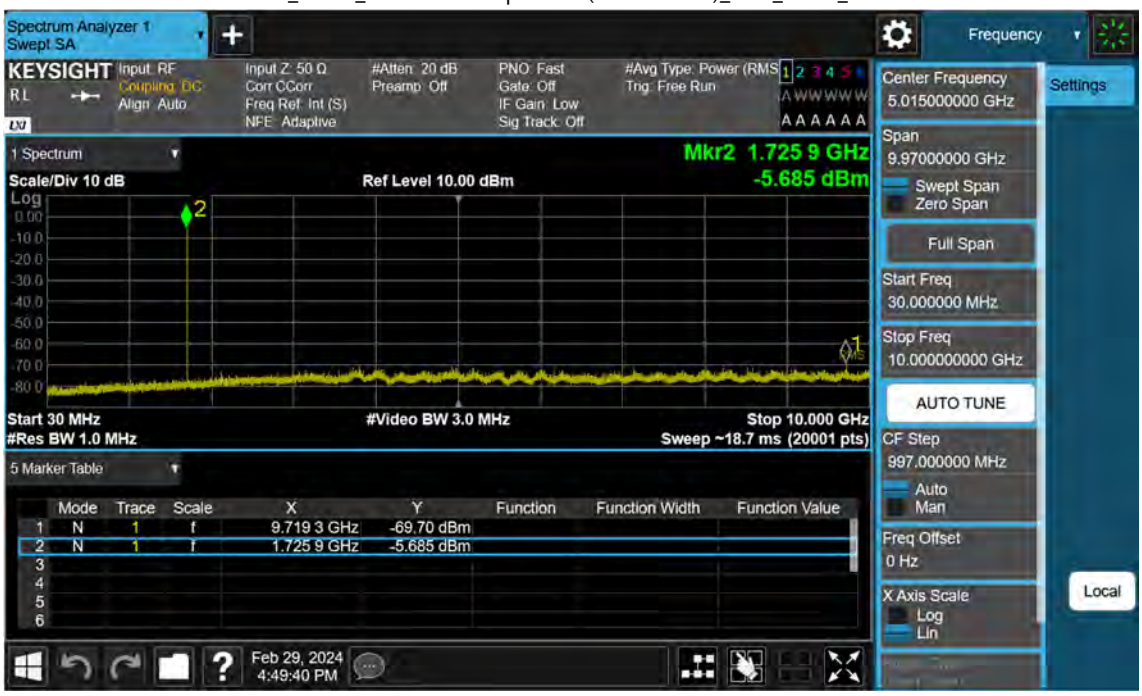
NR66_35 M_Conducted Spurious(30 M-10 G)_Mid_BPSK_FullRB

NR66_35 M_Conducted Spurious(30 M-10 G)_High_BPSK_1RB

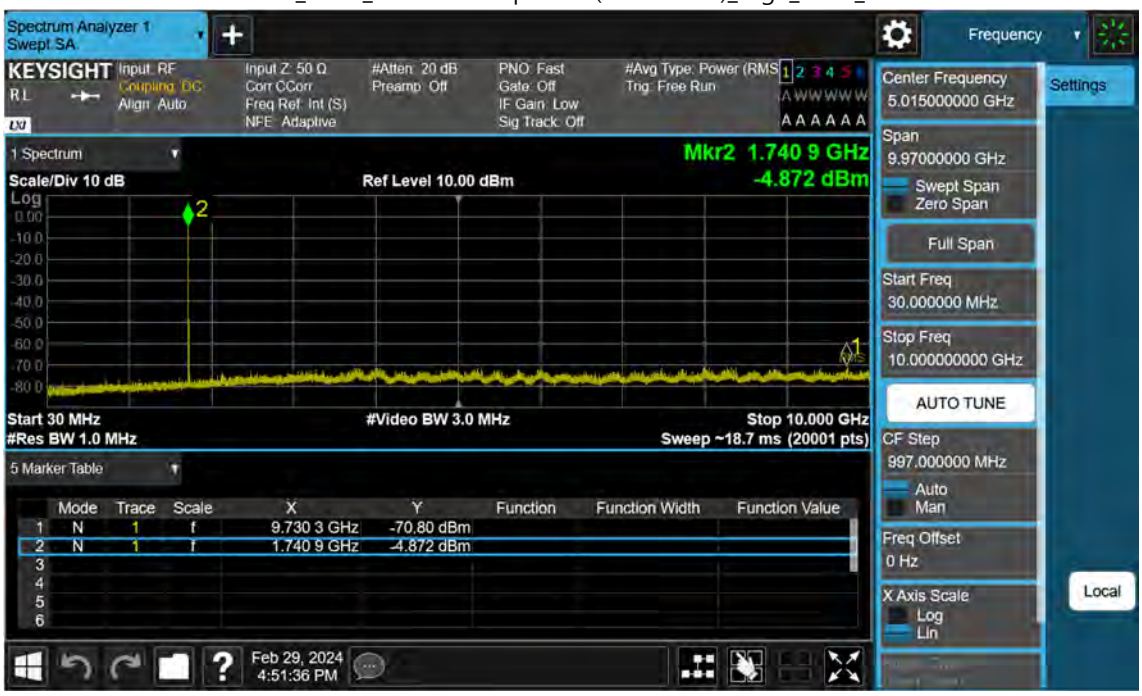


NR66_40 M_Conducted Spurious(30 M-10 G)_Low_BPSK_1RB

NR66_40 M_Conducted Spurious(30 M-10 G)_Mid_BPSK_FullRB



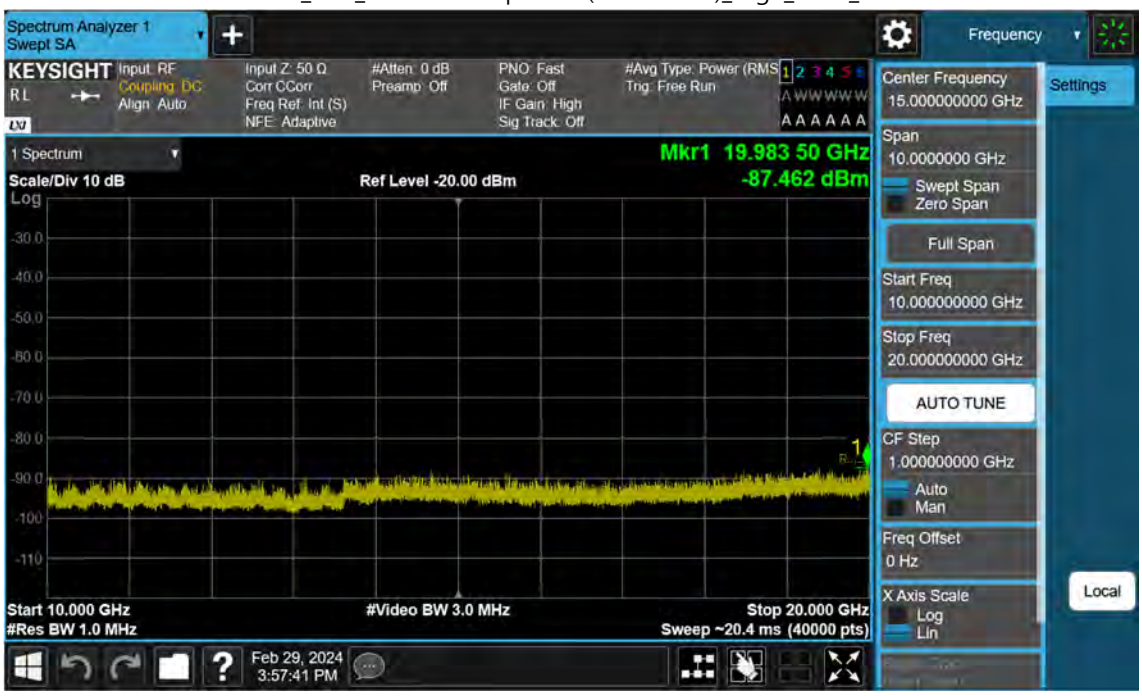
NR66_40 M_Conducted Spurious(30 M-10 G)_High_BPSK_1RB



NR66_5 M_Conducted Spurious(Above10 G)_Low_BPSK_1RB

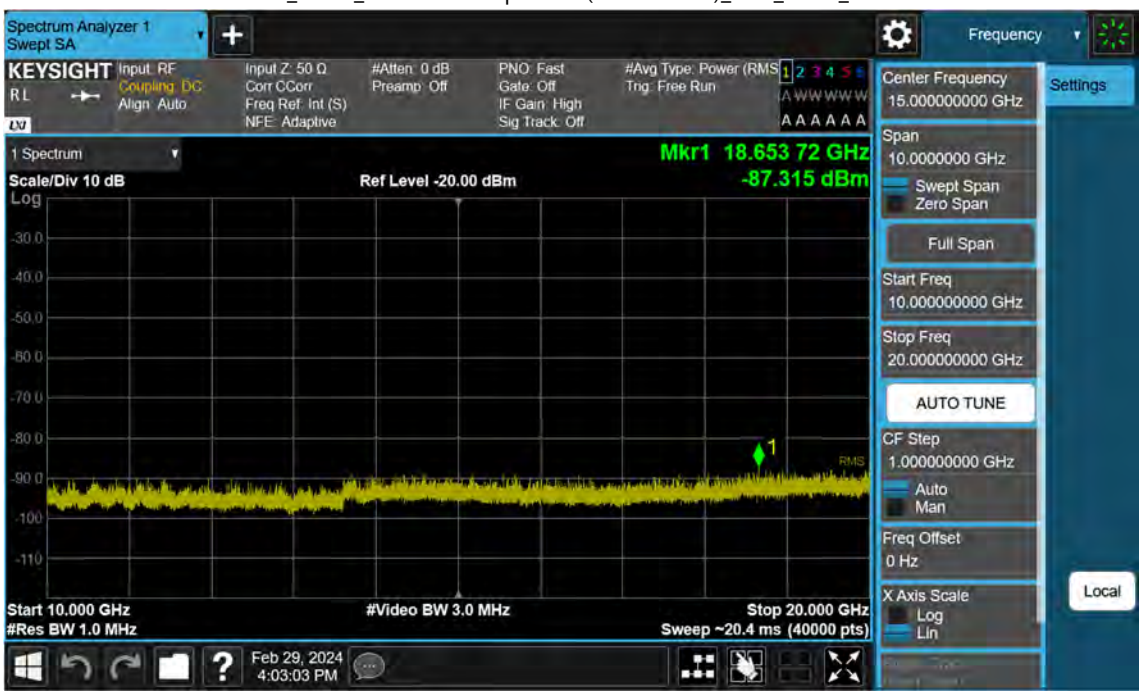
NR66_5 M_Conducted Spurious(Above10 G)_Mid_BPSK_FullRB

NR66_5 M_Conducted Spurious(Above10 G)_High_BPSK_1RB

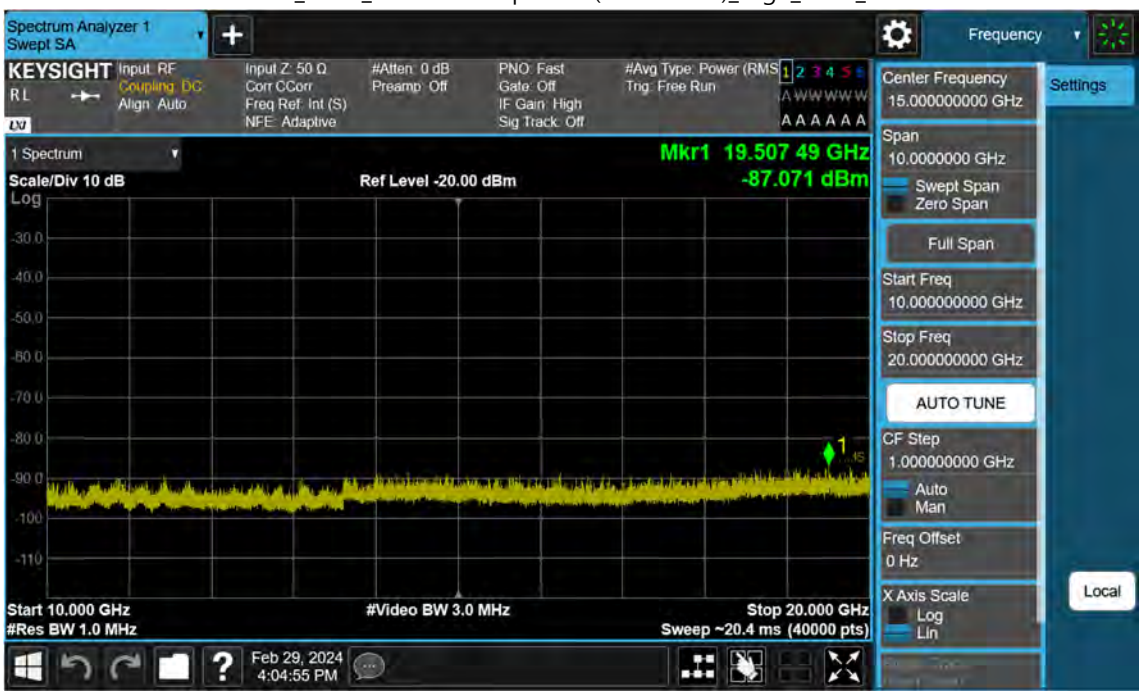


NR66_10 M_Conducted Spurious(Above10 G)_Low_BPSK_1RB

NR66_10 M_Conducted Spurious(Above10 G)_Mid_BPSK_FullRB

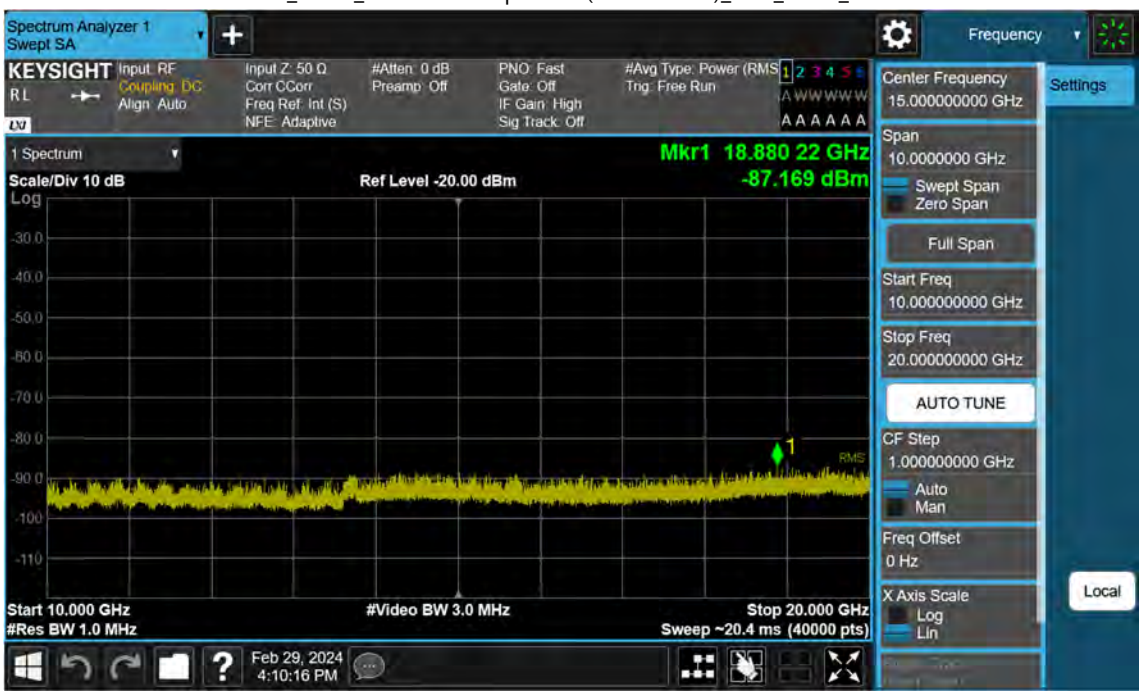


NR66_10 M_Conducted Spurious(Above10 G)_High_BPSK_1RB



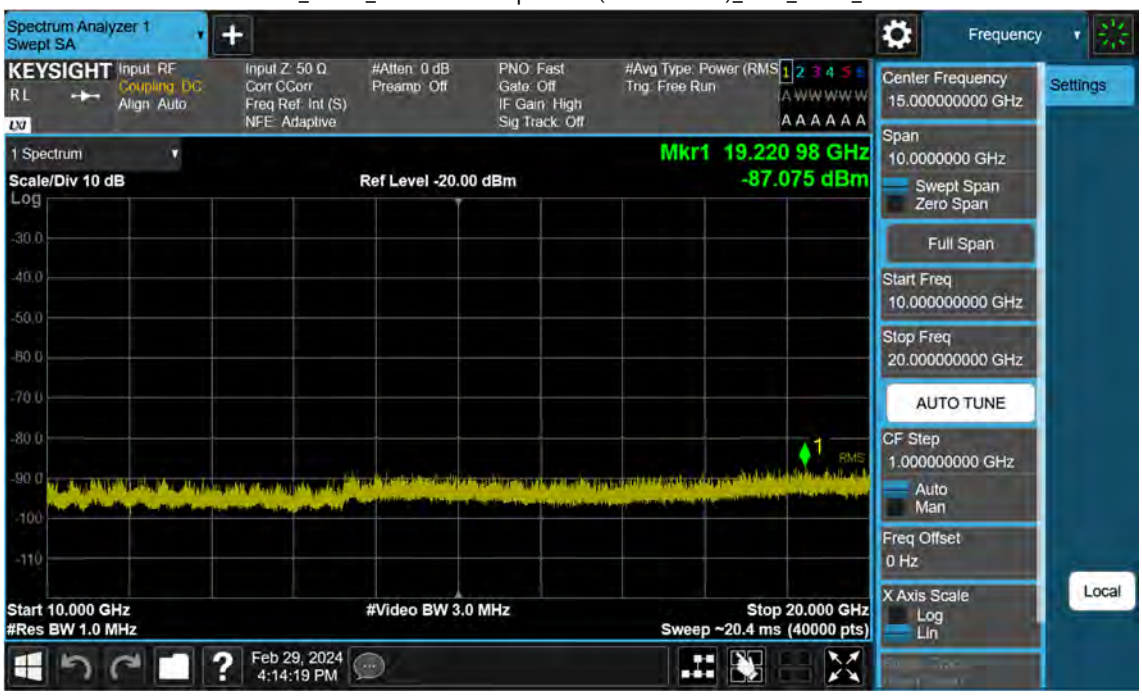
NR66_15 M_Conducted Spurious(Above10 G)_Low_BPSK_1RB

NR66_15 M_Conducted Spurious(Above10 G)_Mid_BPSK_FullRB

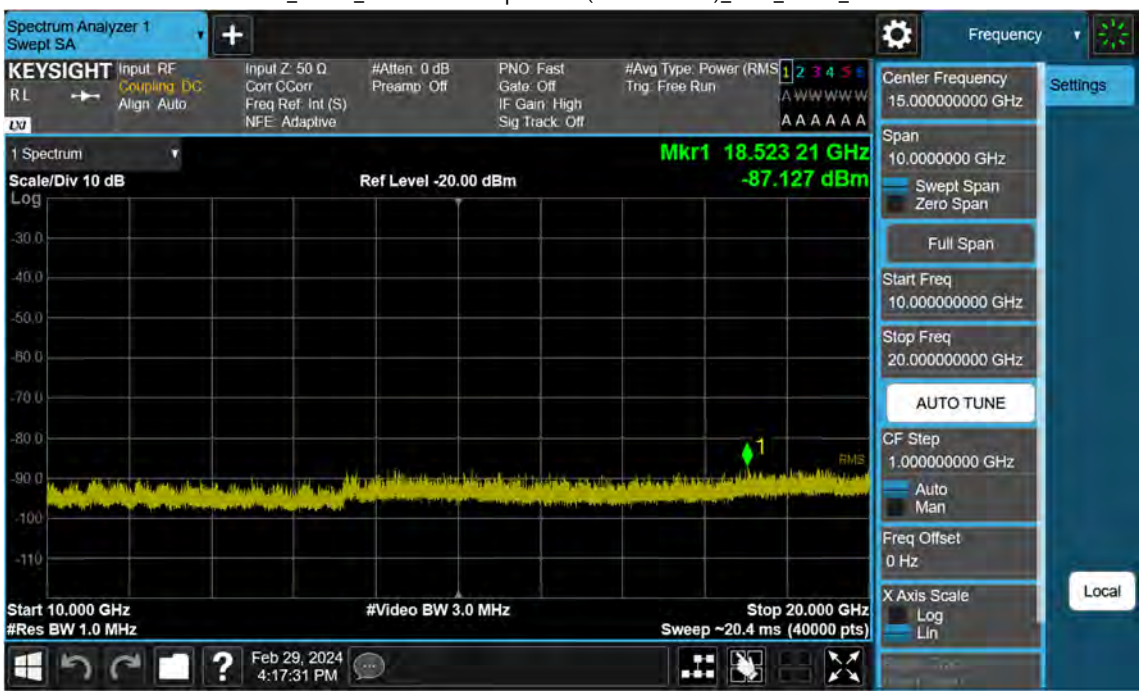


NR66_15 M_Conducted Spurious(Above10 G)_High_BPSK_1RB

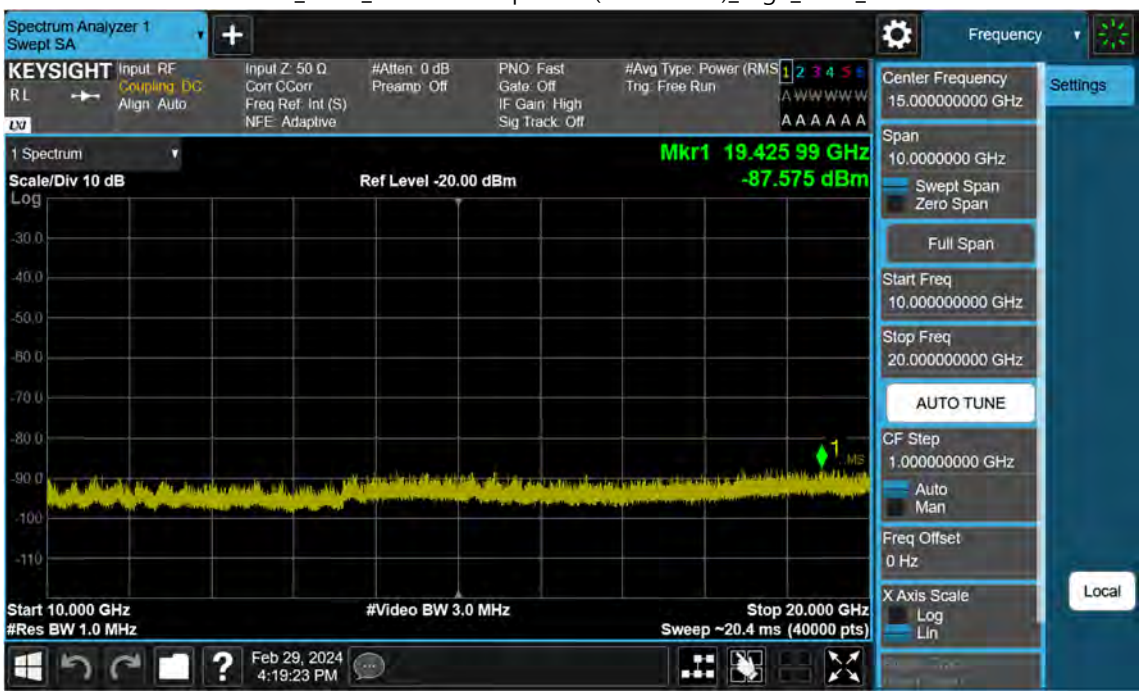
NR66_20 M_Conducted Spurious(Above10 G)_Low_BPSK_1RB



NR66_20 M_Conducted Spurious(Above10 G)_Mid_BPSK_FullRB

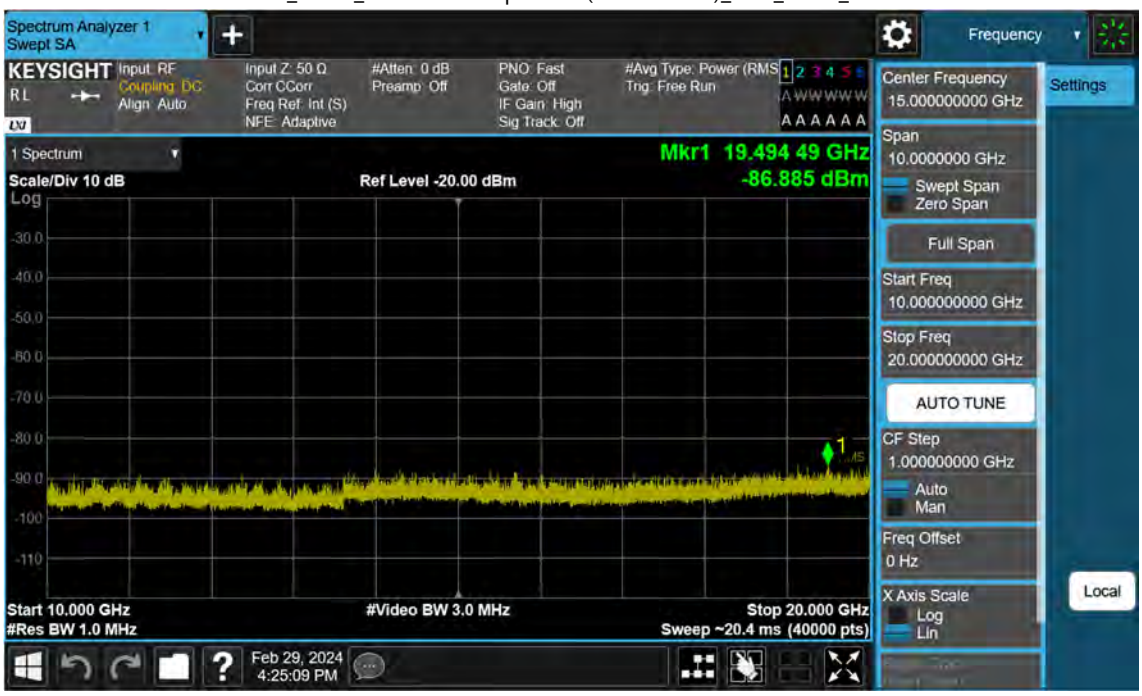


NR66_20 M_Conducted Spurious(Above10 G)_High_BPSK_1RB

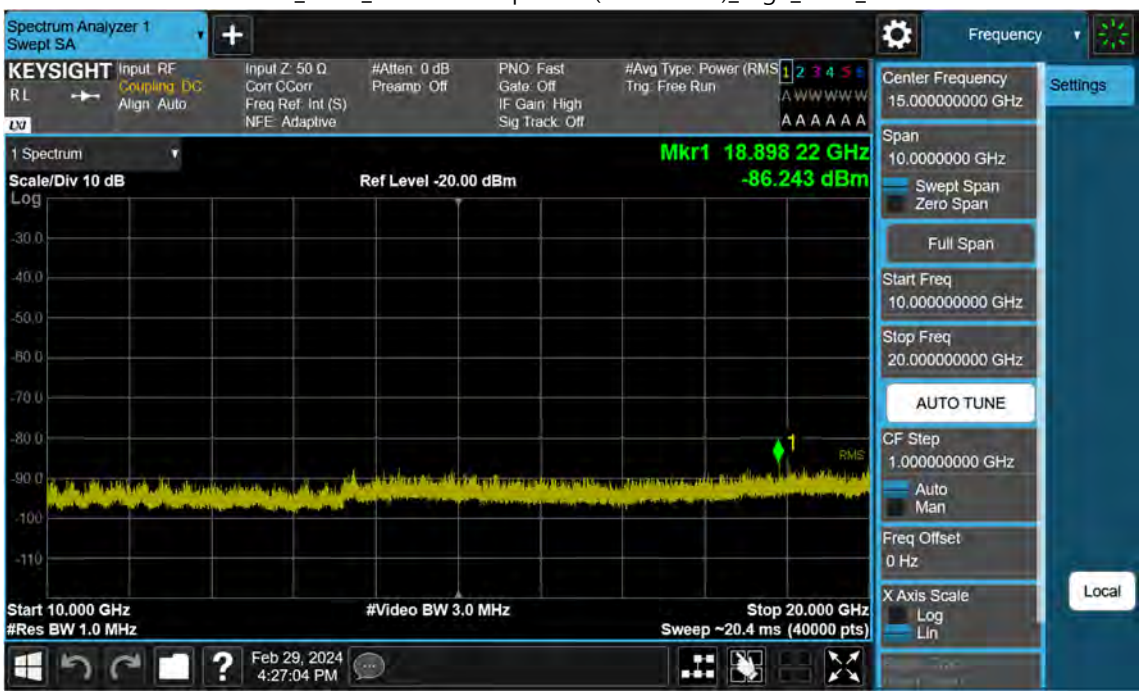


NR66_25 M_Conducted Spurious(Above10 G)_Low_BPSK_1RB

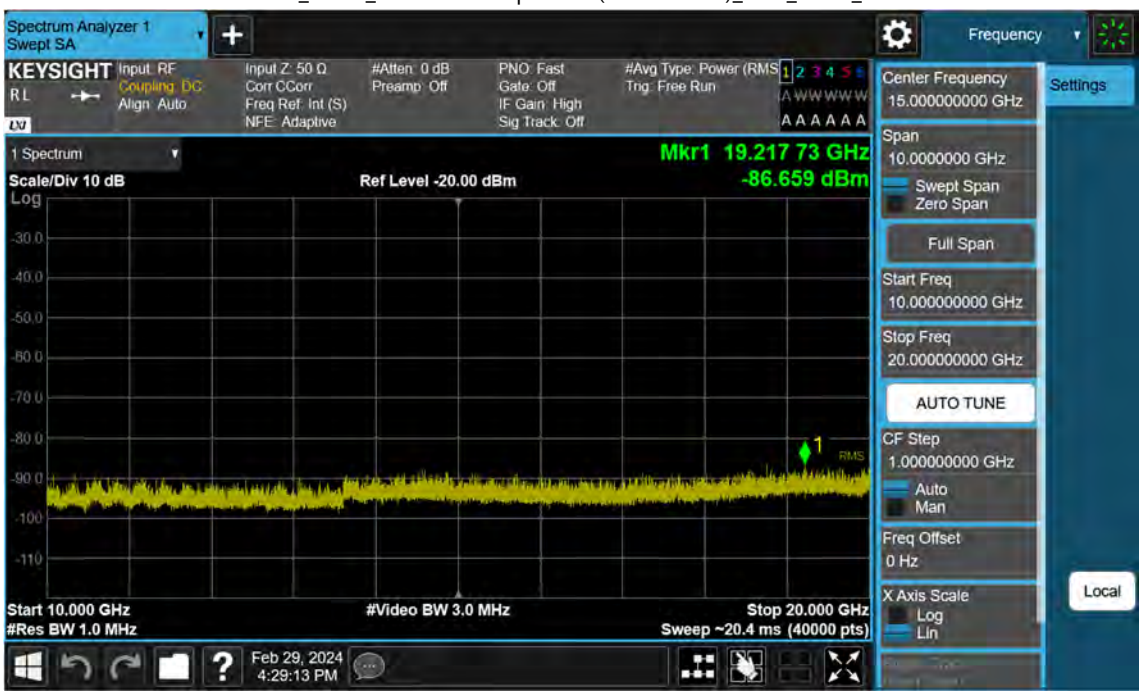
NR66_25 M_Conducted Spurious(Above10 G)_Mid_BPSK_FullRB



NR66_25 M_Conducted Spurious(Above10 G)_High_BPSK_1RB

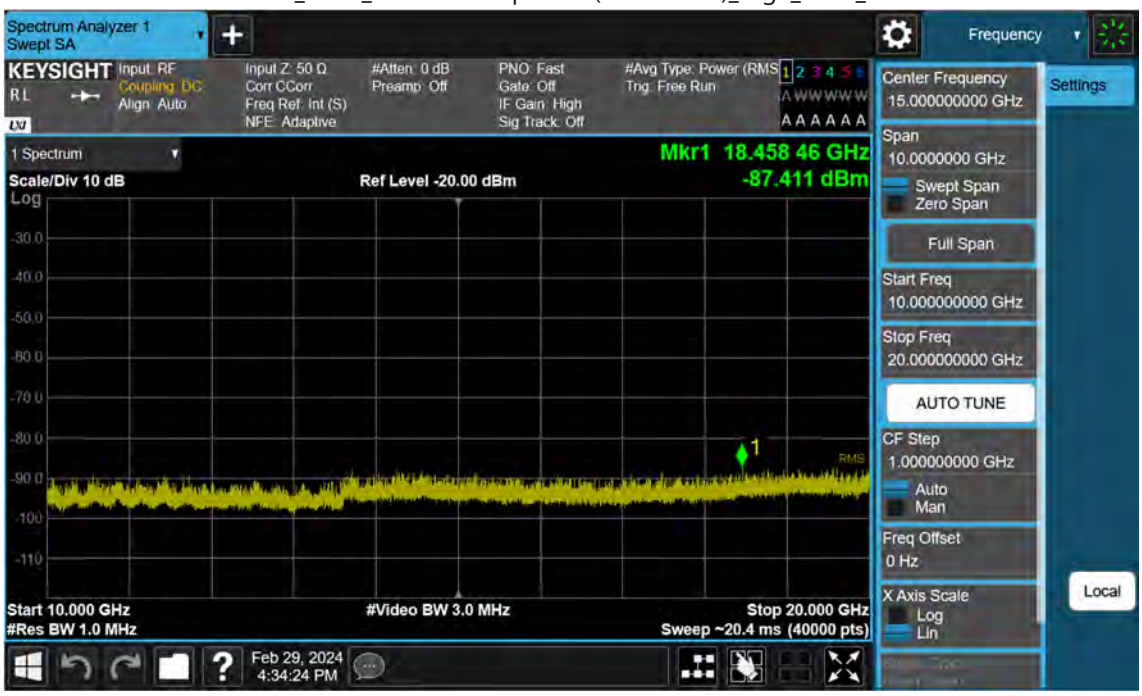


NR66_30 M_Conducted Spurious(Above10 G)_Low_BPSK_1RB

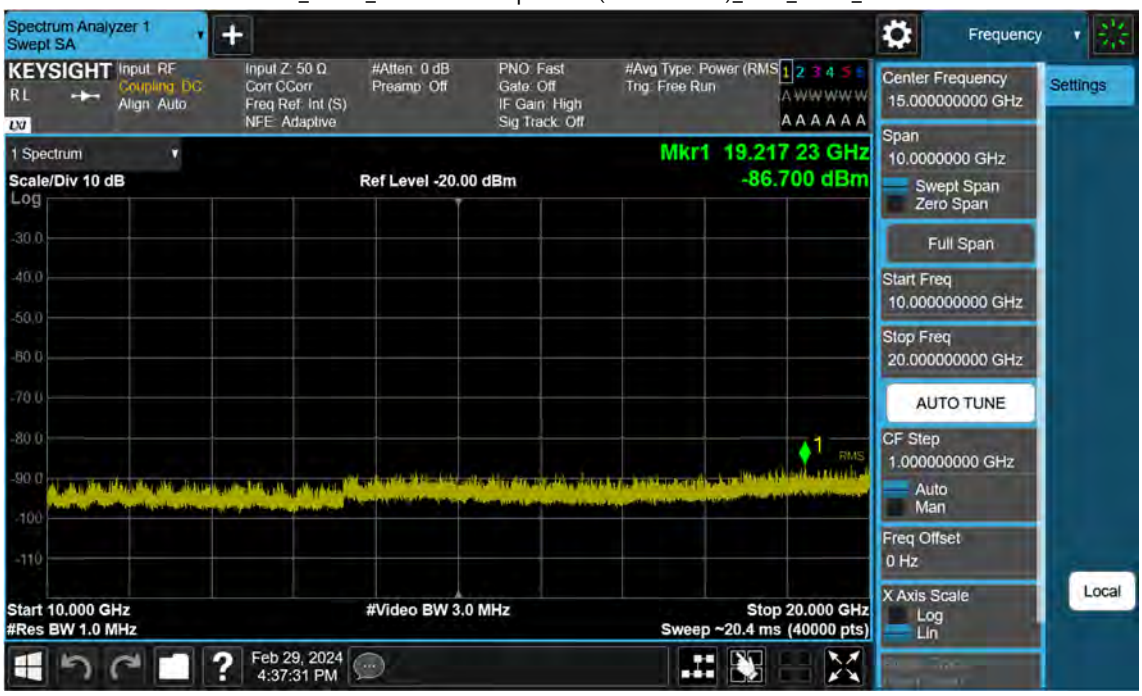


NR66_30 M_Conducted Spurious(Above10 G)_Mid_BPSK_FullRB

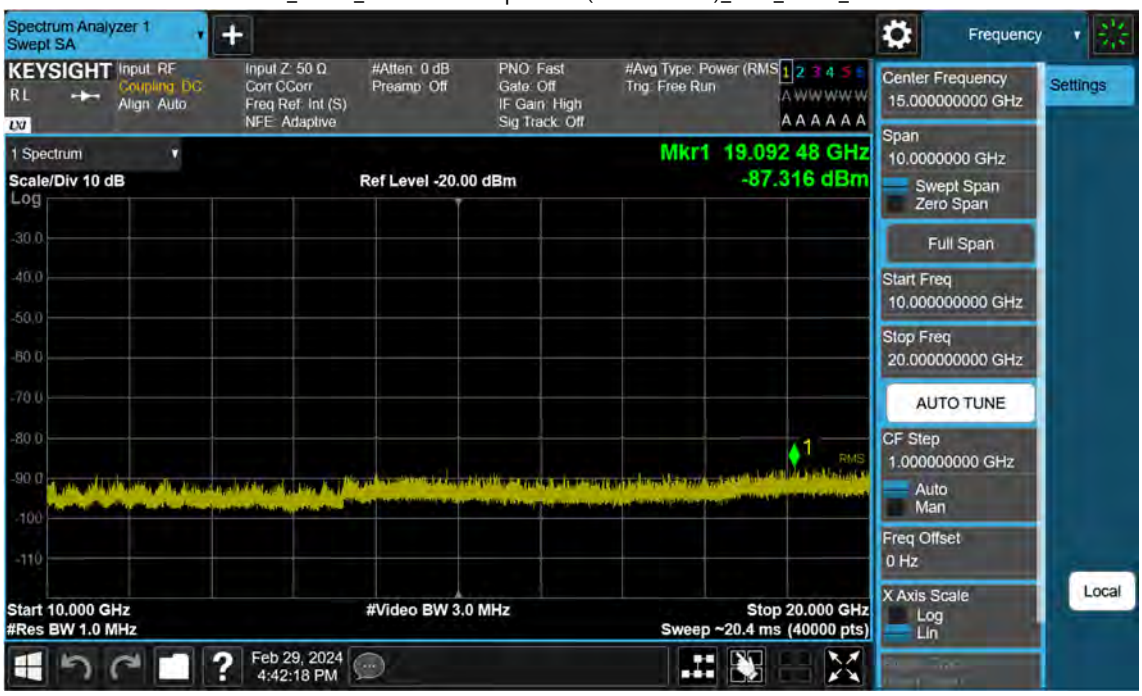
NR66_30 M_Conducted Spurious(Above10 G)_High_BPSK_1RB



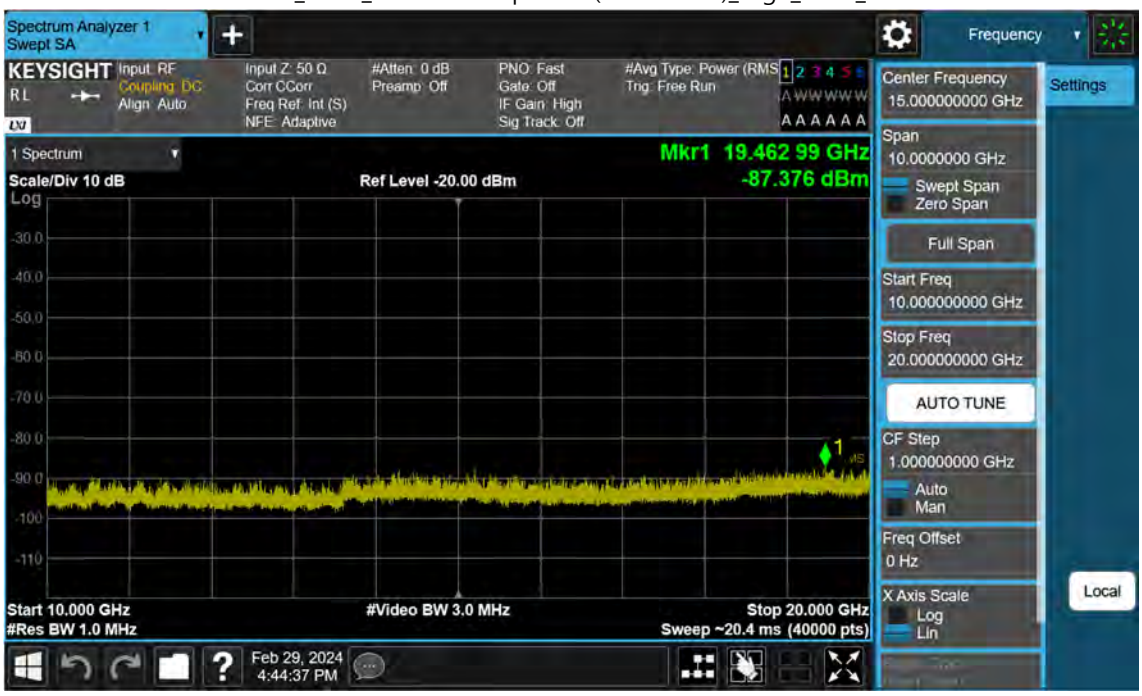
NR66_35 M_Conducted Spurious(Above10 G)_Low_BPSK_1RB



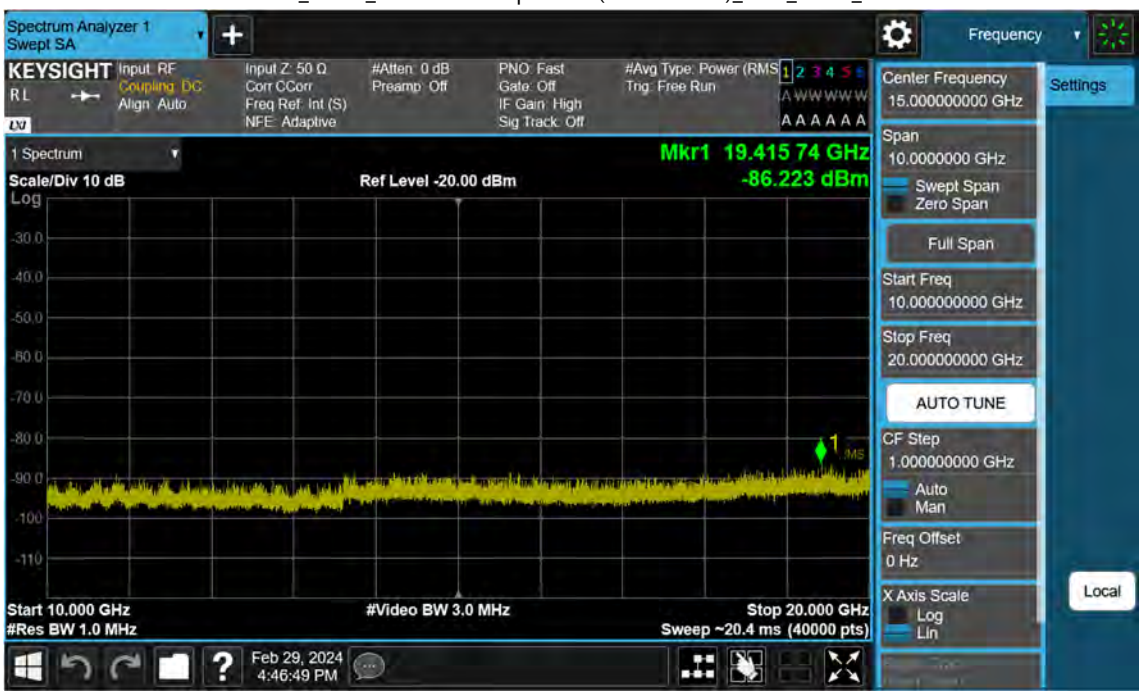
NR66_35 M_Conducted Spurious(Above10 G)_Mid_BPSK_FullRB



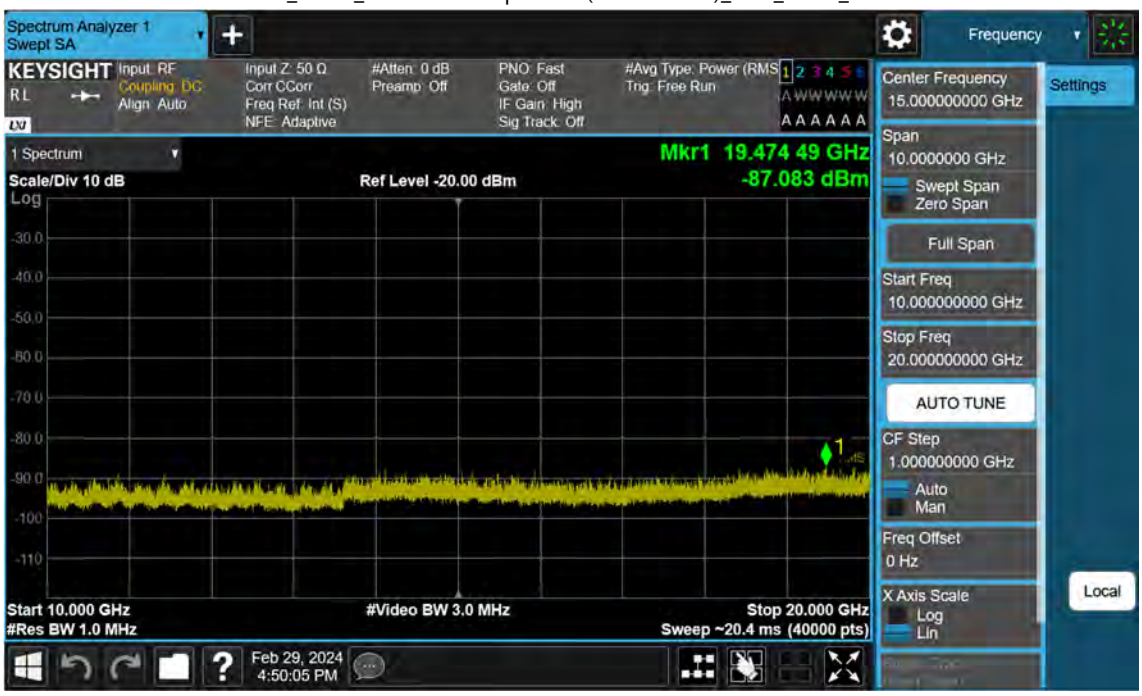
NR66_35 M_Conducted Spurious(Above10 G)_High_BPSK_1RB



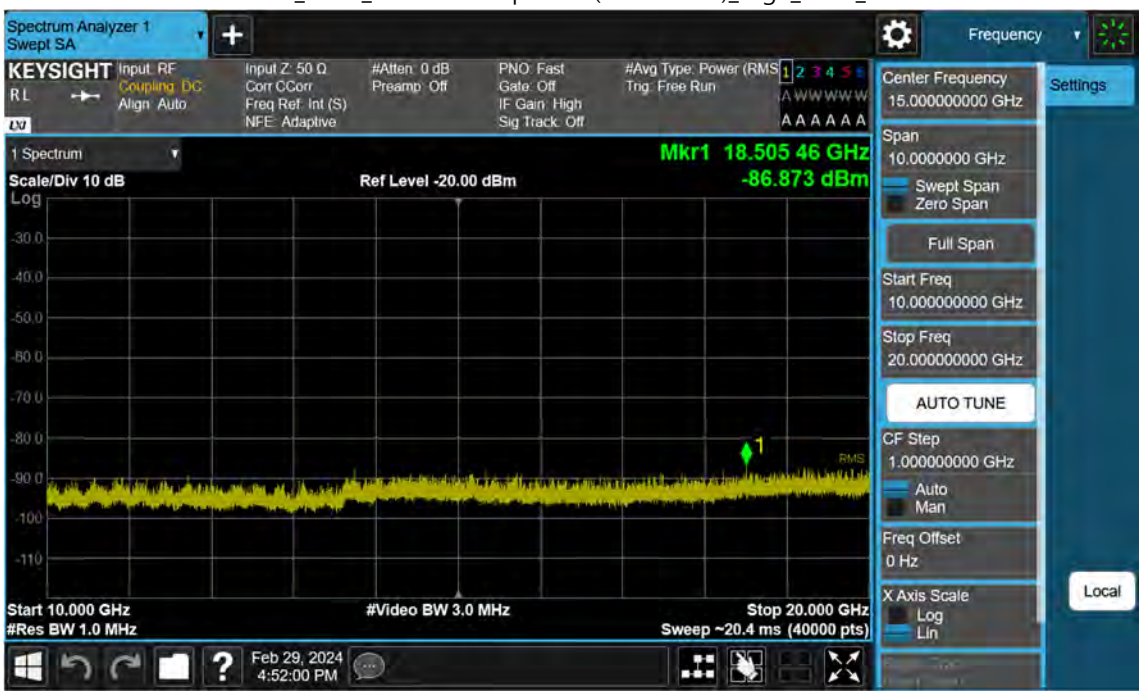
NR66_40 M_Conducted Spurious(Above10 G)_Low_BPSK_1RB



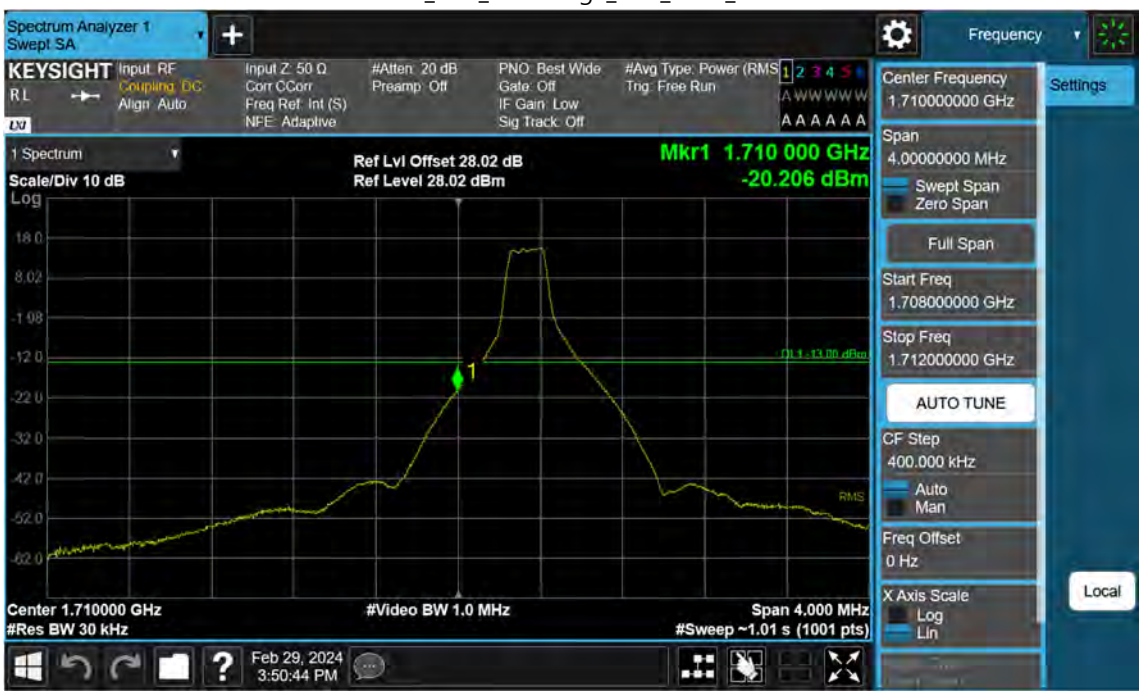
NR66_40 M_Conducted Spurious(Above10 G)_Mid_BPSK_FullRB



NR66_40 M_Conducted Spurious(Above10 G)_High_BPSK_1RB



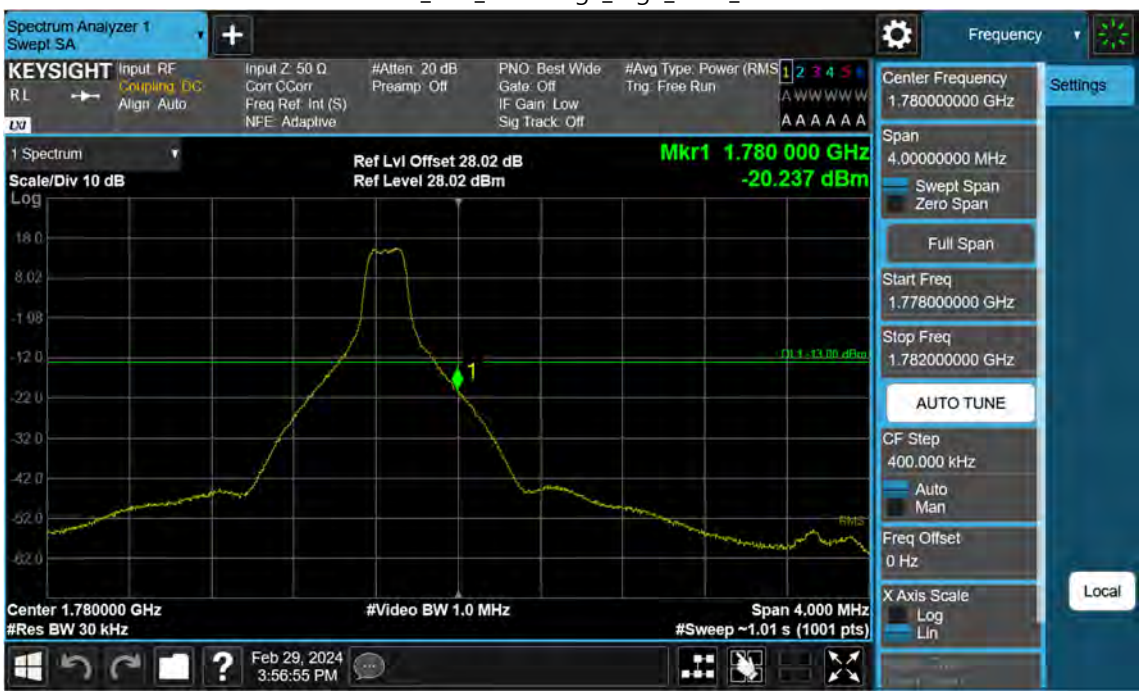
NR66_5 M_Band Edge_Low_BPSK_1RB



NR66_5 M_Band Edge_Low_BPSK_FullRB

NR66_5 M_Extended Band Edge_Low_BPSK_FullRB

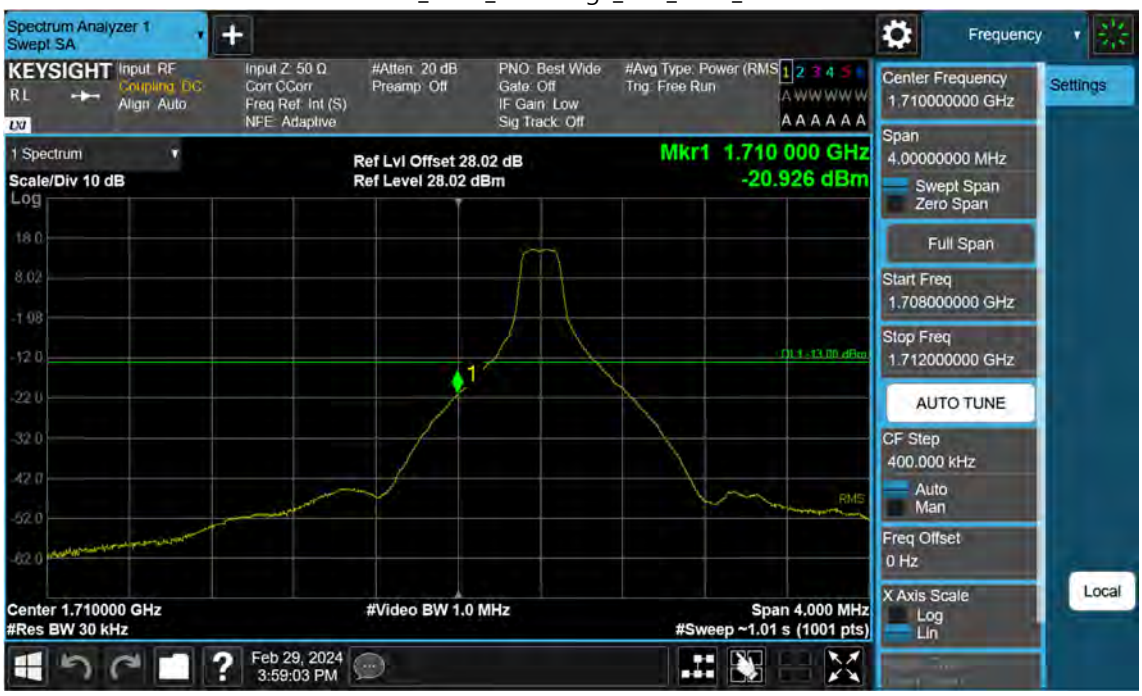
NR66_5 M_Band Edge_High_BPSK_1RB



NR66_5 M_Band Edge_High_BPSK_FullRB

NR66_5 M_Extended Band Edge_High_BPSK_FullRB

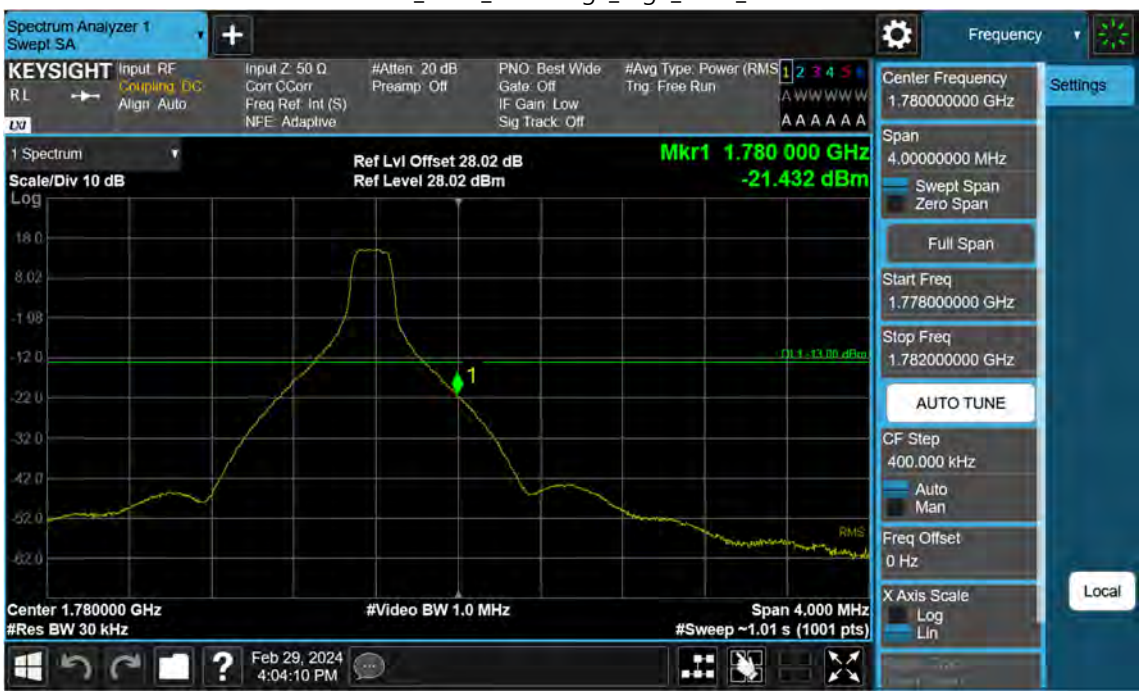
NR66_10 M_Band Edge_Low_BPSK_1RB



NR66_10 M_Band Edge_Low_BPSK_FullRB

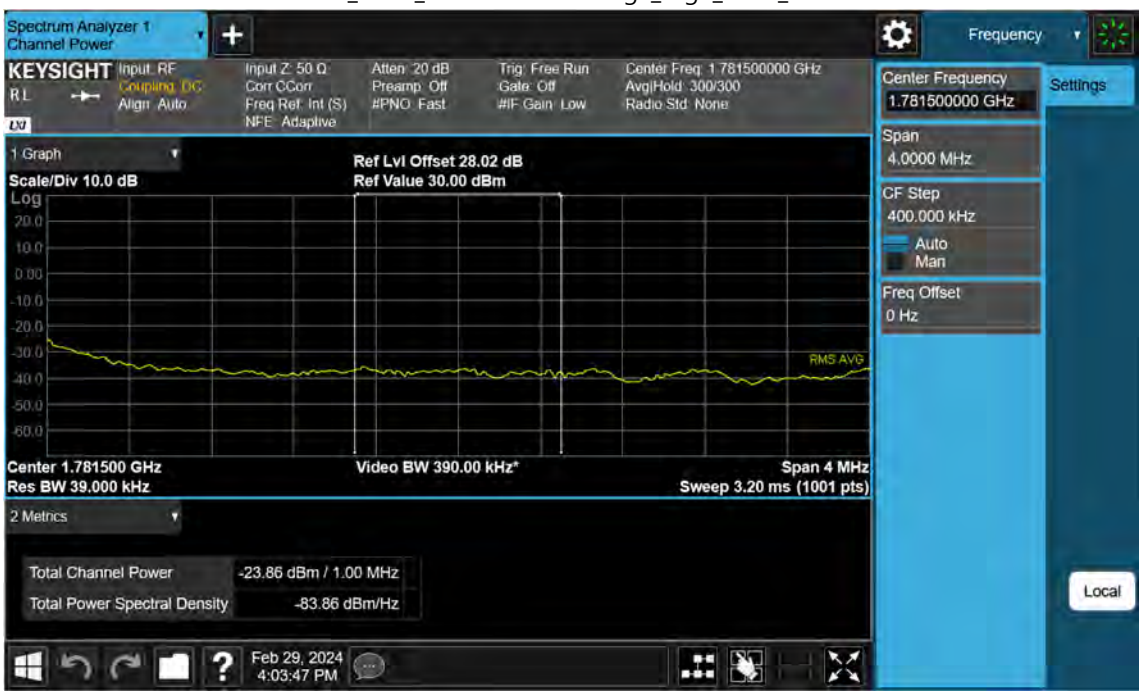
NR66_10 M_Extended Band Edge_Low_BPSK_FullRB

NR66_10 M_Band Edge_High_BPSK_1RB

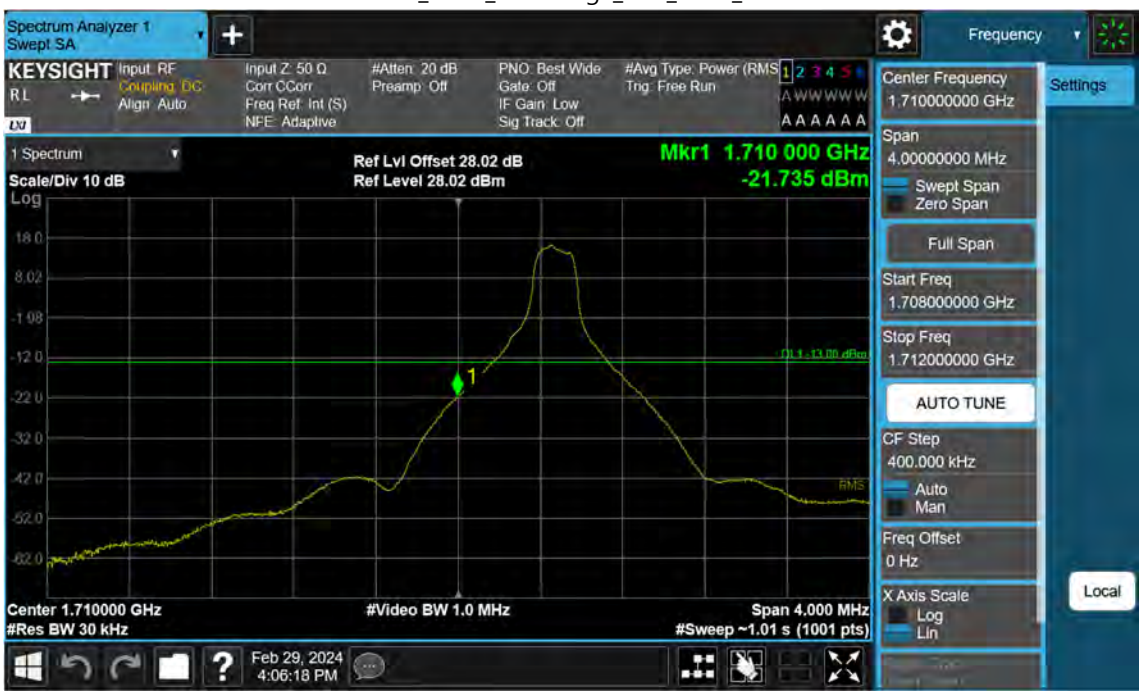


NR66_10 M_Band Edge_High_BPSK_FullRB

NR66_10 M_Extended Band Edge_High_BPSK_FullRB

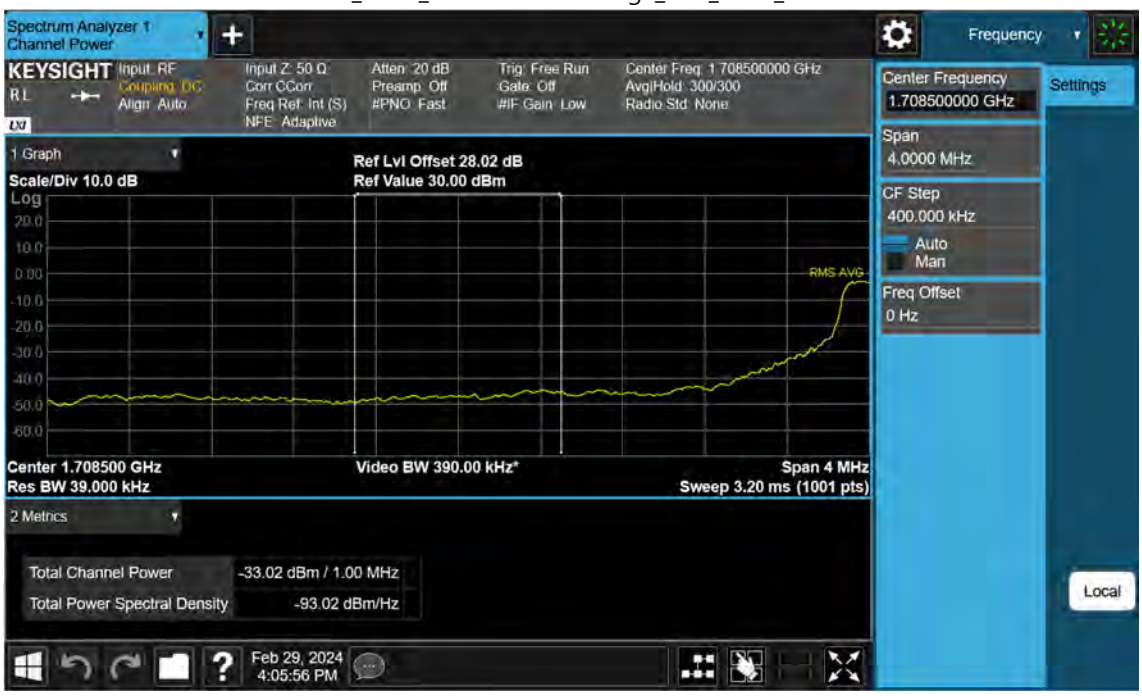


NR66_15 M_Band Edge_Low_BPSK_1RB

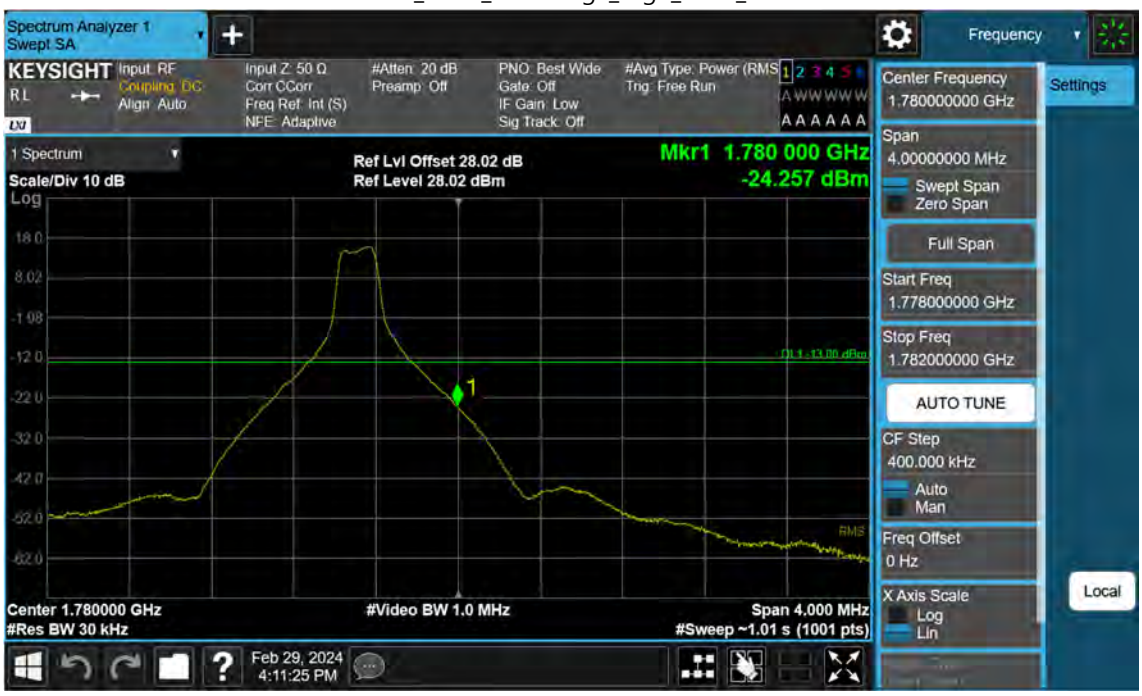


NR66_15 M_Band Edge_Low_BPSK_FullRB

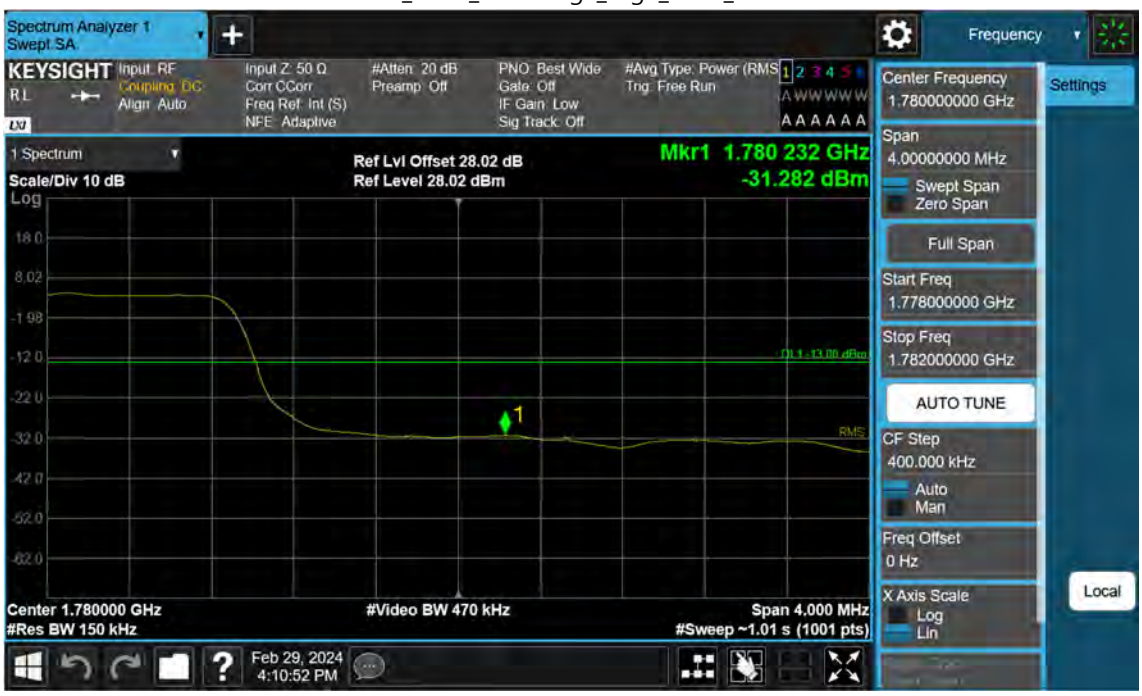
NR66_15 M_Extended Band Edge_Low_BPSK_FullRB



NR66_15 M_Band Edge_High_BPSK_1RB

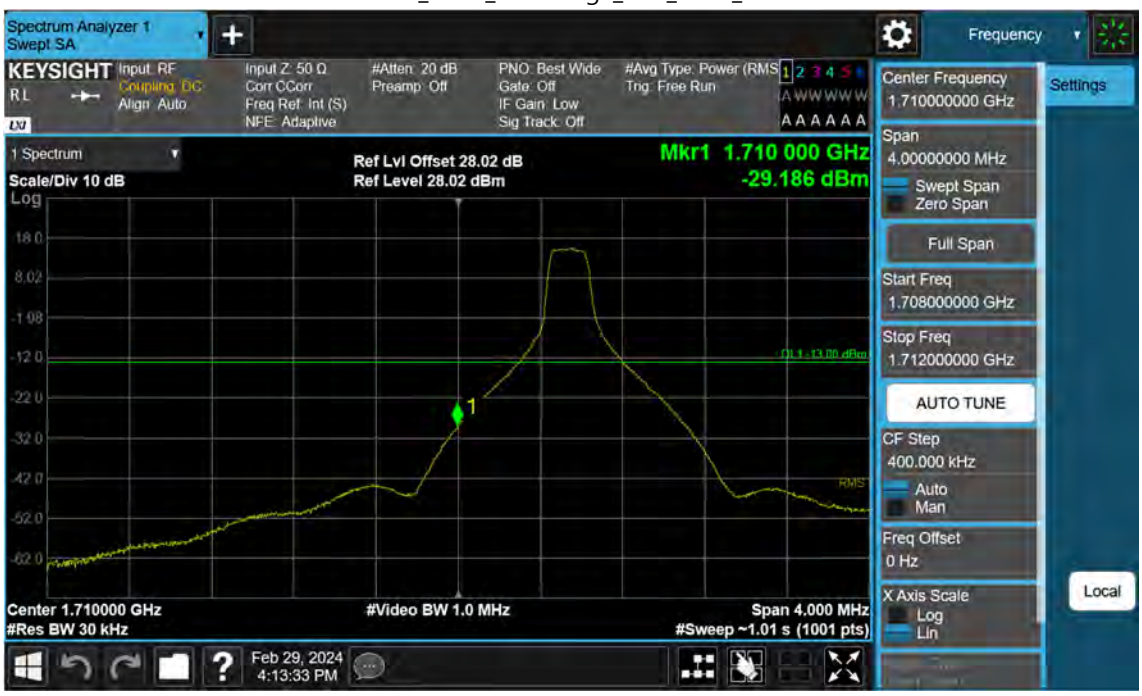


NR66_15 M_Band Edge_High_BPSK_FullRB



NR66_15 M_Extended Band Edge_High_BPSK_FullRB

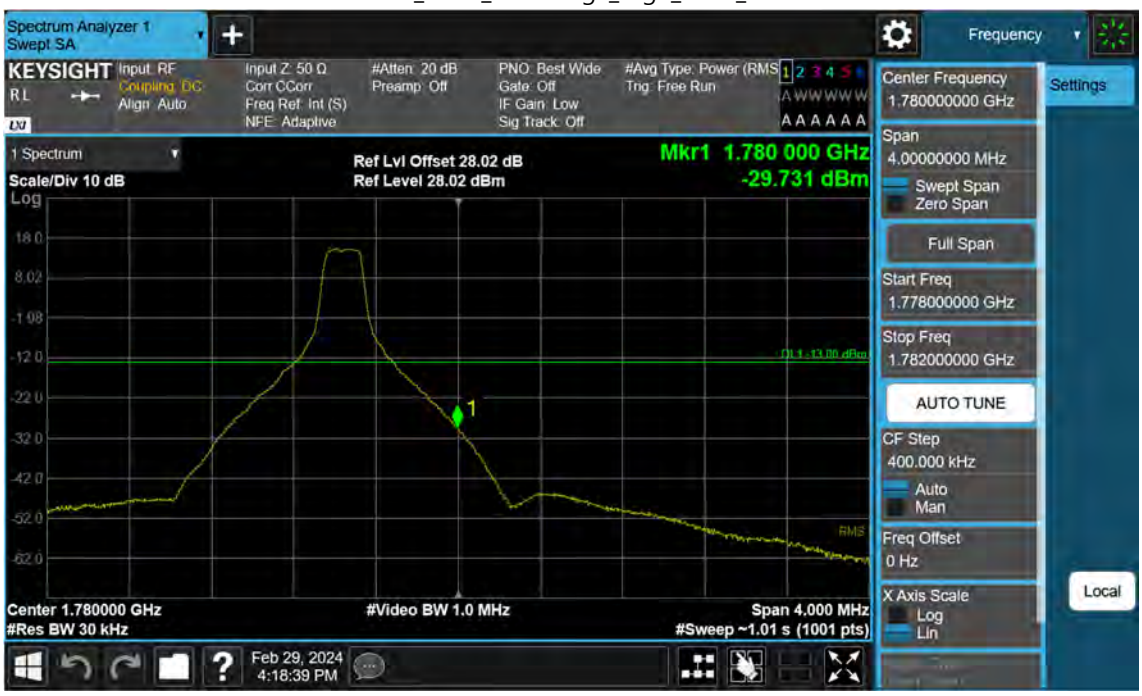
NR66_20 M_Band Edge_Low_BPSK_1RB



NR66_20 M_Band Edge_Low_BPSK_FullRB

NR66_20 M_Extended Band Edge_Low_BPSK_FullRB

NR66_20 M_Band Edge_High_BPSK_1RB



NR66_20 M_Band Edge_High_BPSK_FullRB

NR66_20 M_Extended Band Edge_High_BPSK_FullRB