

TEST REPORT

FCC Sub6 n25(2) Test for SM-S731B/DS
Certification

APPLICANT
SAMSUNG Electronics Co., Ltd.

REPORT NO.
HCT-RF-2507-FC067

DATE OF ISSUE
July 15, 2025

Tested by
Jung Ki Lim



Technical Manager
Jong Seok Lee



HCT CO., LTD.
Bongjai Huh
BongJai Huh / CEO

**HCT CO.,LTD.**

2-6, 73, 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Republic of Korea
Tel. +82 31 645 6300 Fax. +82 31 645 6401

TEST REPORT

REPORT NO.

HCT-RF-2507-FC067

DATE OF ISSUE

July 15, 2025

Additional Model

SM-S731B

Applicant

SAMSUNG Electronics Co., Ltd.

129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea

Product Name

Mobile Phone

Model Name

SM-S731B/DS

Date of Test

June 05, 2025 ~ July 11, 2025

FCC ID

A3LSMS731B

Location of Test

☒ Permanent Testing Lab ☐ On Site Testing

(Address: 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Republic of Korea)

FCC Classification:

PCS Licensed Transmitter Held to Ear (PCE)

Test Standard Used

FCC Rule Part : § 24

Test Results

PASS

REVISION HISTORY

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

Revision No.	Date of Issue	Description
0	July 15, 2025	Initial Release

Notice

Content

The measurements shown in this report were made in accordance with the procedures specified in CFR47 section § 2.947. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them.

HCT CO., LTD. Certifies that no party to this application has subject to a denial of Federal benefits that includes FCC benefits pursuant to section 5301 of the Anti-Drug Abuse Act of 1998, 21 U.S.C. 853(a)

The results shown in this test report only apply to the sample(s), as received, provided by the applicant, unless otherwise stated.

The test results have only been applied with the test methods required by the standard(s).

The laboratory is not accredited for the test results marked *.

Information provided by the applicant is marked **.

Test results provided by external providers are marked ***.

When confirmation of authenticity of this test report is required, please contact www.hct.co.kr

The test results in this test report are not associated with the ((KS Q) ISO/IEC 17025) accreditation by KOLAS (Korea Laboratory Accreditation Scheme) / A2LA (American Association for Laboratory Accreditation) that are under the ILAC (International Laboratory Accreditation Cooperation) Mutual Recognition Agreement (MRA).

CONTENTS

1. GENERAL INFORMATION	5
1.1. MAXIMUM OUTPUT POWER.....	6
2. INTRODUCTION	8
2.1. DESCRIPTION OF EUT	8
2.2. MEASURING INSTRUMENT CALIBRATION.....	8
2.3. TEST FACILITY	8
3. DESCRIPTION OF TESTS.....	8
3.1 TEST PROCEDURE.....	9
3.2 RADIATED POWER	10
3.3 RADIATED SPURIOUS EMISSIONS	11
3.4 PEAK- TO- AVERAGE RATIO.....	12
3.5 OCCUPIED BANDWIDTH.	14
3.6 SPURIOUS AND HARMONIC EMISSIONS AT ANTENNA TERMINAL	15
3.7 BAND EDGE	16
3.8 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE.....	18
3.9 WORST CASE(RADIATED TEST).....	19
3.10 WORST CASE(CONDUCTED TEST)	21
4. LIST OF TEST EQUIPMENT	22
5. MEASUREMENT UNCERTAINTY	23
6. SUMMARY OF TEST RESULTS.....	24
7. SAMPLE CALCULATION	25
8. TEST DATA(Main 1 ANT)	27
8.1 EQUIVALENT ISOTROPIC RADIATED POWER	27
8.2 RADIATED SPURIOUS EMISSIONS	35
8.3 PEAK-TO-AVERAGE RATIO.....	36
8.4 OCCUPIED BANDWIDTH	38
8.5 CONDUCTED SPURIOUS EMISSIONS.....	40
8.6 BAND EDGE	40
8.7 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE.....	41
9. TEST DATA(Sub 2 ANT).....	49
9.1 EQUIVALENT ISOTROPIC RADIATED POWER	49
9.2 RADIATED SPURIOUS EMISSIONS	57
9.3 PEAK-TO-AVERAGE RATIO.....	58
9.4 OCCUPIED BANDWIDTH	60
9.5 CONDUCTED SPURIOUS EMISSIONS.....	62
9.6 BAND EDGE	62
9.7 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE.....	63
10. TEST PLOTS(Main 1 ANT)	71
11. TEST PLOTS(Sub 2 ANT).....	248
12. ANNEX A_ TEST SETUP PHOTO	425

MEASUREMENT REPORT

1. GENERAL INFORMATION

Model(s):	SM-S731B/DS
Additional Model(s)	SM-S731B
SCS(kHz):	15
Bandwidth(MHz):	5, 10, 15, 20, 25, 30, 35, 40
Waveform:	CP-OFDM, DFT-S-OFDM
Modulation:	DFT-S-OFDM: PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM CP-OFDM: QPSK, 16QAM, 64QAM, 256QAM
Tx Frequency:	1852.5 MHz – 1912.5 MHz (5 MHz) (Sub6 n25(2)) 1855.0 MHz – 1910.0 MHz (10 MHz) (Sub6 n25(2)) 1857.5 MHz – 1907.5 MHz (15 MHz) (Sub6 n25(2)) 1860.0 MHz – 1905.0 MHz (20 MHz) (Sub6 n25(2)) 1862.5 MHz – 1902.5 MHz (25 MHz) (Sub6 n25(2)) 1865.0 MHz – 1900.0 MHz (30 MHz) (Sub6 n25(2)) 1867.5 MHz – 1897.5 MHz (35 MHz) (Sub6 n25(2)) 1870.0 MHz – 1895.0 MHz (40 MHz) (Sub6 n25(2))
Serial number:	Radiated : R3CY40QLD5P Conducted : R3CY40QL8CK
Antenna Information	Please refer to the Antenna Specification document.

1.1. MAXIMUM OUTPUT POWER

Main 1 ANT

Mode (MHz)	Tx Frequency (MHz)	Emission Designator	Modulation	EIRP	
				Max. Power (W)	Max. Power (dBm)
Sub6 n25(2) (5)	1852.5 - 1912.5	4M68G7D	PI/2 BPSK	0.275	24.40
		4M69G7D	QPSK	0.269	24.29
		4M67W7D	16QAM	0.215	23.32
		4M68W7D	64QAM	0.150	21.77
		4M61W7D	256QAM	0.096	19.83
Sub6 n25(2) (10)	1855.0 - 1910.0	9M01G7D	PI/2 BPSK	0.267	24.26
		9M01G7D	QPSK	0.266	24.25
		9M03W7D	16QAM	0.213	23.28
		9M01W7D	64QAM	0.150	21.77
		9M00W7D	256QAM	0.095	19.76
Sub6 n25(2) (15)	1857.5 - 1907.5	13M5G7D	PI/2 BPSK	0.271	24.33
		13M5G7D	QPSK	0.265	24.23
		13M5W7D	16QAM	0.215	23.32
		13M5W7D	64QAM	0.148	21.69
		13M5W7D	256QAM	0.095	19.77
Sub6 n25(2) (20)	1860.0 - 1905.0	17M9G7D	PI/2 BPSK	0.264	24.22
		18M0G7D	QPSK	0.260	24.15
		17M9W7D	16QAM	0.210	23.23
		17M9W7D	64QAM	0.150	21.76
		17M9W7D	256QAM	0.095	19.80
Sub6 n25(2) (25)	1862.5 - 1902.5	23M0G7D	PI/2 BPSK	0.270	24.31
		23M0G7D	QPSK	0.264	24.21
		23M0W7D	16QAM	0.205	23.11
		22M9W7D	64QAM	0.147	21.66
		23M0W7D	256QAM	0.095	19.77
Sub6 n25(2) (30)	1865.0 - 1900.0	28M8G7D	PI/2 BPSK	0.274	24.37
		28M8G7D	QPSK	0.273	24.36
		28M8W7D	16QAM	0.217	23.36
		28M8W7D	64QAM	0.153	21.84
		28M9W7D	256QAM	0.097	19.87
Sub6 n25(2) (35)	1867.5 - 1897.5	32M4G7D	PI/2 BPSK	0.277	24.42
		32M4G7D	QPSK	0.273	24.36
		32M3W7D	16QAM	0.216	23.35
		32M2W7D	64QAM	0.156	21.93
		32M4W7D	256QAM	0.100	19.98
Sub6 n25(2) (40)	1870.0 - 1895.0	38M9G7D	PI/2 BPSK	0.274	24.38
		38M8G7D	QPSK	0.270	24.31
		38M9W7D	16QAM	0.215	23.33
		38M9W7D	64QAM	0.151	21.80
		38M8W7D	256QAM	0.096	19.83

Sub 2 ANT

Mode (MHz)	Tx Frequency (MHz)	Emission Designator	Modulation	EIRP	
				Max. Power (W)	Max. Power (dBm)
Sub6 n25(2) (5)	1852.5 - 1912.5	4M54G7D	PI/2 BPSK	0.119	20.74
		4M55G7D	QPSK	0.114	20.57
		4M54W7D	16QAM	0.093	19.68
		4M55W7D	64QAM	0.066	18.21
		4M55W7D	256QAM	0.044	16.42
Sub6 n25(2) (10)	1855.0 - 1910.0	8M99G7D	PI/2 BPSK	0.113	20.53
		9M01G7D	QPSK	0.113	20.53
		8M99W7D	16QAM	0.090	19.52
		9M03W7D	64QAM	0.065	18.12
		9M01W7D	256QAM	0.042	16.21
Sub6 n25(2) (15)	1857.5 - 1907.5	13M5G7D	PI/2 BPSK	0.106	20.25
		13M5G7D	QPSK	0.104	20.16
		13M5W7D	16QAM	0.081	19.08
		13M5W7D	64QAM	0.059	17.69
		13M5W7D	256QAM	0.038	15.79
Sub6 n25(2) (20)	1860.0 - 1905.0	17M9G7D	PI/2 BPSK	0.107	20.30
		17M9G7D	QPSK	0.103	20.14
		17M9W7D	16QAM	0.085	19.28
		18M0W7D	64QAM	0.060	17.78
		17M9W7D	256QAM	0.040	16.00
Sub6 n25(2) (25)	1862.5 - 1902.5	23M1G7D	PI/2 BPSK	0.115	20.62
		23M0G7D	QPSK	0.113	20.54
		23M0W7D	16QAM	0.088	19.45
		23M0W7D	64QAM	0.061	17.87
		23M0W7D	256QAM	0.039	15.91
Sub6 n25(2) (30)	1865.0 - 1900.0	28M8G7D	PI/2 BPSK	0.112	20.50
		28M8G7D	QPSK	0.109	20.36
		28M7W7D	16QAM	0.085	19.31
		28M8W7D	64QAM	0.063	17.96
		28M7W7D	256QAM	0.039	15.95
Sub6 n25(2) (35)	1867.5 - 1897.5	32M3G7D	PI/2 BPSK	0.114	20.58
		32M4G7D	QPSK	0.112	20.51
		32M4W7D	16QAM	0.091	19.59
		32M3W7D	64QAM	0.064	18.03
		32M5W7D	256QAM	0.042	16.19
Sub6 n25(2) (40)	1870.0 - 1895.0	38M8G7D	PI/2 BPSK	0.115	20.59
		38M9G7D	QPSK	0.114	20.55
		38M8W7D	16QAM	0.090	19.52
		38M8W7D	64QAM	0.068	18.30
		38M8W7D	256QAM	0.044	16.43

2. INTRODUCTION

2.1. DESCRIPTION OF EUT

Please refer to the [2G3G] Test Report.

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, Republic of Korea.

Detailed description of test facility was submitted to the Commission and accepted dated March 11, 2024 (Registration Number: KR0032).

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
Radiated Power	- ANSI C63.26-2015 – Section 5.2.4.4 - KDB 971168 D01 v03r01 – Section 5.8
Radiated Spurious and Harmonic Emissions	- ANSI C63.26-2015 – Section 5.5.3 - KDB 971168 D01 v03r01 – Section 5.8

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.

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 $\geq$ 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;

$$P_d \text{ (dBm)} = P_g \text{ (dBm)} - \text{cable loss (dB)} + \text{antenna gain (dB)}$$

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.

Test Settings

1. RBW = 100 kHz for emissions below 1 GHz and 1 MHz for emissions above 1 GHz
2. VBW $\geq 3 \times$ RBW
3. Span = 1.5 times the OBW
4. No. of sweep points $> 2 \times$ 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 10th 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;

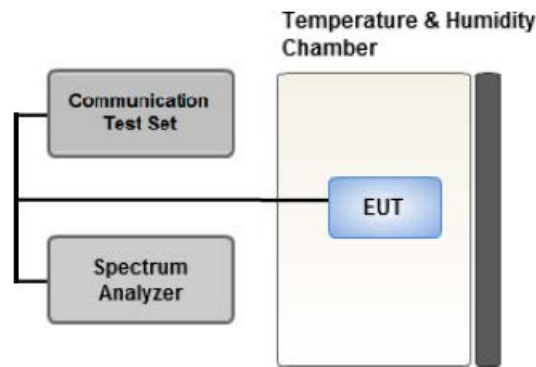
$$\text{Result}_{(\text{dBm})} = P_g_{(\text{dBm})} - \text{cable loss}_{(\text{dB})} + \text{antenna gain}_{(\text{dBi})}$$

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.

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

3.4 PEAK- TO- AVERAGE RATIO



Test setup

① CCDF Procedure for PAPR

Test Settings

1. Set resolution/measurement bandwidth $\geq$ 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:

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

Test Settings(Peak Power)

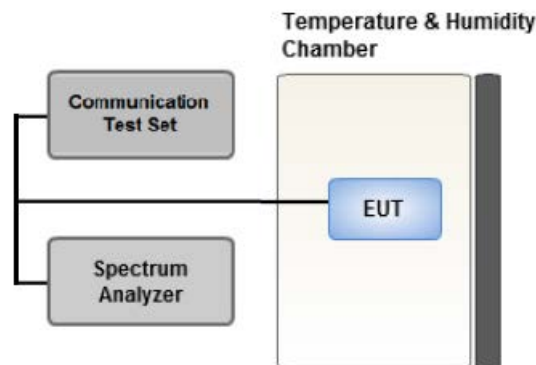
The measurement instrument must have a RBW that is greater than or equal to the OBW of the signal to be measured and a VBW $\geq 3 \times$ RBW.

1. Set the RBW $\geq$ OBW.
2. Set VBW $\geq 3 \times$ RBW.
3. Set span $\geq 2 \times$ OBW.
4. Sweep time $\geq 10 \times$ (number of points in sweep) $\times$ (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 $2 \times$ to $3 \times$ the OBW.
2. Set RBW $\geq$ OBW.
3. Set VBW $\geq 3 \times$ RBW.
4. Set number of measurement points in sweep $\geq 2 \times$ span / RBW.
5. Sweep time:
Set $\geq [10 \times (\text{number of points in sweep}) \times (\text{transmission period})]$ 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 $[10 \log (1/\text{duty cycle})]$ to the measured maximum power level to compute the average power during continuous transmission. For example, add $[10 \log (1/0.25)] = 6 \text{ dB}$ 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.

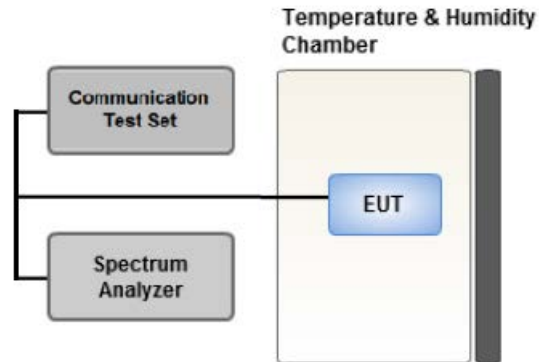
The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.

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 $\geq$ 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

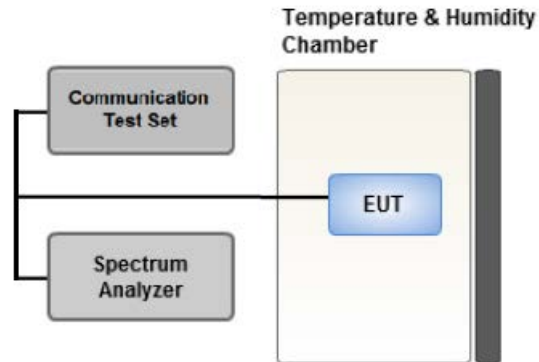
Test Overview

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 $\geq$ 3 MHz
3. Detector = Peak
4. Trace Mode = max hold
5. Sweep time = auto
6. Number of points in sweep $\geq 2 \times \text{Span} / \text{RBW}$

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 $\geq 2 \times \text{Span/RBW}$
7. Trace mode = trace average
8. Sweep Time > (Number of Points) $\times$ (Symbol Period)
9. The trace was allowed to stabilize

Test Notes

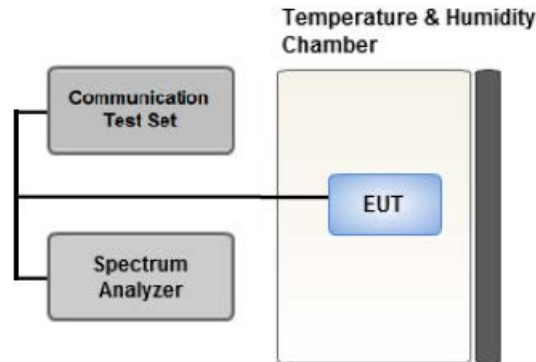
According to FCC 22.917, 24.238, 27.53 specified that power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB. In the 1 MHz bands immediately outside and adjacent to the frequency block 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 $10 \log(1 \text{ MHz} / \text{RB})$ or the emission is integrated over a 1 MHz bandwidth to determine the final result. When using the integration method the integration window is either centered on the emission or, for emissions at the band edge, centered by an offset of 500 kHz from the block edge so that the integration window is the 1 MHz adjacent to the block edge.

3.8 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE



Test setup

Test Overview

Frequency stability testing is performed in accordance with the guidelines of ANSI C63.26-2015.

The frequency stability of the transmitter is measured by:

1. Temperature:

The temperature is varied from -30 °C to +50 °C in 10 °C increments using an environmental chamber.

2. Primary Supply Voltage:

- .- Unless otherwise specified, vary primary supply voltage from 85 % to 115 % of the nominal value for other than hand carried battery equipment.
- .- For hand carried, battery powered equipment, reduce the primary ac or dc supply voltage to the battery operating end point, which shall be specified by the manufacturer.

Test Settings

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

3.9 WORST CASE(RADIATED TEST)

- Waveform : All Waveform of operation were investigated and the worst case configuration results are reported.
(Worst case: DFT-S-OFDM)
- The EUT was tested in three orthogonal planes(X, Y, Z) and in all possible test configurations and positioning.
- All modes of operation were investigated and the worst case configuration results are reported.
Mode: NSA. SA
Worst case: SA
Mode : Stand alone, Stand alone + External accessories (Earphone, AC adapter, etc)
Worst case : Stand alone
- All simultaneous transmission scenarios of operation were investigated, and the test results showed no additional significant emissions relative to the least restrictive limit were observed.
Therefore, only the worst case(stand-alone) results were reported.
- 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 : 35 MHz (Main 1 ANT), 5 MHz (Sub 2 ANT))
- Sub6 n25 (1 850 – 1 915 MHz, 5/10/15/20/25/30/35/40 MHz bandwidth) overlaps the entire frequency range of Sub6 n2 (1 850 – 1 910 MHz, 5/10/15/20/25/30/35/40 MHz bandwidth).
Therefore, test data provided in this report covers Sub6 n25 as well as Sub6 n2.
- SM-S731B/DS & additional models were tested and the worst case results are reported.
(Worst case : SM-S731B/DS)

[Main 1 ANT Worst case]

Test Description	Modulation	RB size	RB offset	Axis
Equivalent 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		X

[Sub 2 ANT Worst case]

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

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.
- Sub6 n25 (1 850 – 1 915 MHz, 5/10/15/20/25/30/35/40 MHz bandwidth) overlaps the entire frequency range of Sub6 n2 (1 850 – 1 910 MHz, 5/10/15/20/25/30/35/40 MHz bandwidth).
Therefore, test data provided in this report covers Sub6 n25 as well as Sub6 n2.
- SM-S731B/DS & additional models were tested and the worst case results are reported.
(Worst case : SM-S731B/DS)

[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	04/17/2026	Biennial
Horn Antenna(15~40 GHz)	BBHA 9170	Schwarzbeck	BBHA9170342	09/20/2026	Biennial
Horn Antenna(15~40 GHz)	BBHA 9170	Schwarzbeck	BBHA9170124	03/23/2027	Biennial
Loop Antenna(9 kHz~30 MHz)	FMZB1513	Rohde & Schwarz	1513-175	01/06/2027	Biennial
Bilog Antenna	VULB9160	Schwarzbeck	3150	03/05/2027	Biennial
Hybrid Antenna	VULB9160	Schwarzbeck	760	02/17/2027	Biennial
RF Switching System	FBSR-06B (1G HPF + LNA)	T&M SYSTEM	F3L1	05/08/2026	Annual
RF Switching System	FBSR-06B (3G HPF + LNA)	T&M SYSTEM	F3L2	05/08/2026	Annual
RF Switching System	FBSR-06B (6G HPF + LNA)	T&M SYSTEM	F3L3	05/08/2026	Annual
RF Switching System	FBSR-06B (LNA)	T&M SYSTEM	F3L4	05/08/2026	Annual
Power Amplifier	CBL18265035	CERNEX	22966	11/07/2025	Annual
Power Amplifier	CBL26405040	CERNEX	25956	02/19/2026	Annual
DC Power Supply	E3632A	Hewlett Packard	MY40004427	08/22/2025	Annual
Power Splitter(DC~26.5 GHz)	11667B	Hewlett Packard	11275	02/04/2026	Annual
Chamber	SU-642	ESPEC	93008124	02/11/2026	Annual
Signal Analyzer(10 Hz~26.5 GHz)	N9020A	Agilent	MY51110063	03/21/2026	Annual
ATTENUATOR(20 dB)	8493C	Hewlett Packard	17280	04/10/2026	Annual
Spectrum Analyzer (10 Hz~40 GHz)	FSV40	REOHDE & SCHWARZ	101436	02/04/2026	Annual
Signal & Spectrum Analyzer (2 Hz~67 GHz)	FSW67	REOHDE & SCHWARZ	101736	05/27/2026	Annual
Base Station	8960 (E5515C)	Agilent	MY48360800	08/05/2025	Annual
Wideband Radio Communication Tester	MT8821C	Anritsu Corp.	6262287701	05/14/2026	Annual
Wideband Radio Communication Tester	MT8000A	Anritsu Corp.	6262302511	05/08/2026	Annual
Signal Analyzer(5 Hz~40.0 GHz)	N9030B	KEYSIGHT	MY55480167	05/14/2026	Annual
4-Way Divider	ZC4PD-K1844+	Mini-Circuits	942907	09/10/2025	Annual
SIGNAL GENERATOR (100 kHz ~ 40 GHz)	SMB100A	REOHDE & SCHWARZ	177633	07/26/2025	Annual
Automation Software	FCC 2G/3G/4G Conducted	HCT CO., LTD	-	-	-
Automation Software	FCC NR Conducted	HCT CO., LTD	-	-	-
Automation Software	FCC LTE Radiated	HCT CO., LTD	-	-	-
Automation Software	FCC NR Radiated	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 ($\pm$ kHz)
Occupied Bandwidth	95 (Confidence level about 95 %, $k=2$)
Frequency stability	28 (Confidence level about 95 %, $k=2$)

Parameter	Expanded Uncertainty ($\pm$ dB)
Block Edge	0.70 (Confidence level about 95 %, $k=2$)
Conducted Spurious Emissions	1.18 (Confidence level about 95 %, $k=2$)
Peak- to- Average Ratio	0.68 (Confidence level about 95 %, $k=2$)
Radiated Power	4.74 (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)	5.68 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (1 GHz ~ 18 GHz)	5.75 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (18 GHz ~ 40 GHz)	5.82 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (Above 40 GHz)	5.58 (Confidence level about 95 %, $k=2$)

6. SUMMARY OF TEST RESULTS

-. The decision rule applies 'simple acceptance'

6.1 Test Condition: Conducted Test

Test Description	FCC Part Section(s)	Test Limit	Test Result
Occupied Bandwidth	§ 2.1049	N/A	PASS
Band Edge / Spurious and Harmonic Emissions at Antenna Terminal.	§ 2.1051, § 24.238(a)	< 43 + 10log10 (P[Watts]) at Band Edge and for all out-of-band emissions	PASS
Conducted Output Power	§ 2.1046	N/A	Note1
Peak- to- Average Ratio	§ 24.232(d)	< 13 dB	PASS
Frequency stability / variation of ambient temperature	§ 24.235	Emission must remain in band	PASS

Note:

1. Refer to the SAR report.
2. All conducted tests were tested using 5G Wireless Tester.

6.2 Test Condition: Radiated Test

Test Description	FCC Part Section(s)	Test Limit	Test Result
Equivalent Isotropic Radiated Power	§ 24.232(c)	< 2 Watts max. EIRP	PASS
Radiated Spurious and Harmonic Emissions	§ 2.1053, § 24.238(a)	< 43 + 10log10 (P[Watts]) for all out-of band emissions	PASS

Note:

1. Radiated tests were tested using 5G Wireless Tester

7. SAMPLE CALCULATION

7.1 ERP Sample Calculation

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

$$\text{ERP} = \text{Substitute LEVEL(dBm)} + \text{Ant. Gain} - \text{CL(Cable Loss)}$$

- 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

$$\text{EIRP} = \text{Substitute LEVEL(dBm)} + \text{Ant. Gain} - \text{CL(Cable Loss)}$$

- 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(Main 1 ANT)

8.1 EQUIVALENT ISOTROPIC RADIATED POWER

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1852.5		PI/2 BPSK	-17.84	15.79	10.45	2.08	H	< 2.00	0.261	24.16	1	12
		QPSK	-18.00	15.63	10.45	2.08	H		0.251	24.00		
		16-QAM	-18.90	14.73	10.45	2.08	H		0.204	23.10		
		64-QAM	-20.40	13.23	10.45	2.08	H		0.145	21.60		
		256-QAM	-22.39	11.24	10.45	2.08	H		0.091	19.61		
1882.5	Sub6 n25(2)/ 5 MHz [15 kHz]	PI/2 BPSK	-17.60	16.29	10.32	2.21	H		0.275	24.40	1	12
		QPSK	-17.71	16.18	10.32	2.21	H		0.269	24.29		
		16-QAM	-18.68	15.21	10.32	2.21	H		0.215	23.32		
		64-QAM	-20.23	13.66	10.32	2.21	H		0.150	21.77		
		256-QAM	-22.17	11.72	10.32	2.21	H		0.096	19.83		
1912.5		PI/2 BPSK	-18.75	15.43	10.19	2.17	H		0.221	23.45	1	1
		QPSK	-18.76	15.42	10.19	2.17	H		0.221	23.44		
		16-QAM	-19.86	14.32	10.19	2.17	H		0.171	22.34		
		64-QAM	-21.27	12.91	10.19	2.17	H		0.124	20.93		
		256-QAM	-23.18	11.00	10.19	2.17	H		0.080	19.02		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1855.0		PI/2 BPSK	-18.02	15.61	10.45	2.08	H	< 2.00	0.250	23.98	1	50
		QPSK	-18.03	15.60	10.45	2.08	H		0.249	23.97		
		16-QAM	-19.05	14.58	10.45	2.08	H		0.197	22.95		
		64-QAM	-20.50	13.13	10.45	2.08	H		0.141	21.50		
		256-QAM	-22.52	11.11	10.45	2.08	H		0.089	19.48		
1882.5	Sub6 n25(2)/ 10 MHz [15 kHz]	PI/2 BPSK	-17.74	16.15	10.32	2.21	H	< 2.00	0.267	24.26	1	1
		QPSK	-17.75	16.14	10.32	2.21	H		0.266	24.25		
		16-QAM	-18.72	15.17	10.32	2.21	H		0.213	23.28		
		64-QAM	-20.23	13.66	10.32	2.21	H		0.150	21.77		
		256-QAM	-22.24	11.65	10.32	2.21	H		0.095	19.76		
1910.0		PI/2 BPSK	-18.48	15.42	10.21	2.17	H	< 2.00	0.222	23.46	1	26
		QPSK	-18.53	15.37	10.21	2.17	H		0.219	23.41		
		16-QAM	-19.49	14.41	10.21	2.17	H		0.176	22.45		
		64-QAM	-21.08	12.82	10.21	2.17	H		0.122	20.86		
		256-QAM	-23.07	10.83	10.21	2.17	H		0.077	18.87		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1857.5		PI/2 BPSK	-18.09	15.23	10.43	2.10	H	< 2.00	0.227	23.56	1	39
		QPSK	-18.17	15.15	10.43	2.10	H		0.223	23.48		
		16-QAM	-19.20	14.12	10.43	2.10	H		0.176	22.45		
		64-QAM	-20.68	12.64	10.43	2.10	H		0.125	20.97		
		256-QAM	-22.68	10.64	10.43	2.10	H		0.079	18.97		
1882.5	Sub6 n25(2)/ 15 MHz [15 kHz]	PI/2 BPSK	-17.67	16.22	10.32	2.21	H	< 2.00	0.271	24.33	1	39
		QPSK	-17.77	16.12	10.32	2.21	H		0.265	24.23		
		16-QAM	-18.68	15.21	10.32	2.21	H		0.215	23.32		
		64-QAM	-20.31	13.58	10.32	2.21	H		0.148	21.69		
		256-QAM	-22.23	11.66	10.32	2.21	H		0.095	19.77		
1907.5		PI/2 BPSK	-18.27	15.63	10.21	2.17	H	< 2.00	0.233	23.67	1	1
		QPSK	-18.28	15.62	10.21	2.17	H		0.232	23.66		
		16-QAM	-19.31	14.59	10.21	2.17	H		0.183	22.63		
		64-QAM	-20.79	13.11	10.21	2.17	H		0.130	21.15		
		256-QAM	-22.74	11.16	10.21	2.17	H		0.083	19.20		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1860.0		PI/2 BPSK	-17.86	15.46	10.43	2.10	H	< 2.00	0.239	23.79	1	53
		QPSK	-18.03	15.29	10.43	2.10	H		0.230	23.62		
		16-QAM	-18.97	14.35	10.43	2.10	H		0.186	22.68		
		64-QAM	-20.38	12.94	10.43	2.10	H		0.134	21.27		
		256-QAM	-22.32	11.00	10.43	2.10	H		0.086	19.33		
1882.5	Sub6 n25(2)/ 20 MHz [15 kHz]	PI/2 BPSK	-17.78	16.11	10.32	2.21	H		0.264	24.22	1	53
		QPSK	-17.85	16.04	10.32	2.21	H		0.260	24.15		
		16-QAM	-18.77	15.12	10.32	2.21	H		0.210	23.23		
		64-QAM	-20.24	13.65	10.32	2.21	H		0.150	21.76		
		256-QAM	-22.20	11.69	10.32	2.21	H		0.095	19.80		
1905.0		PI/2 BPSK	-18.25	15.79	10.23	2.19	H		0.241	23.83	1	1
		QPSK	-18.26	15.78	10.23	2.19	H		0.241	23.82		
		16-QAM	-19.23	14.81	10.23	2.19	H		0.193	22.85		
		64-QAM	-20.71	13.33	10.23	2.19	H		0.137	21.37		
		256-QAM	-22.66	11.38	10.23	2.19	H		0.087	19.42		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1862.5		PI/2 BPSK	-17.96	15.65	10.41	2.13	H	< 2.00	0.247	23.93	1	66
		QPSK	-18.01	15.60	10.41	2.13	H		0.244	23.88		
		16-QAM	-19.08	14.53	10.41	2.13	H		0.191	22.81		
		64-QAM	-20.53	13.08	10.41	2.13	H		0.137	21.36		
		256-QAM	-22.46	11.15	10.41	2.13	H		0.088	19.43		
1882.5	Sub6 n25(2)/ 25 MHz [15 kHz]	PI/2 BPSK	-17.69	16.20	10.32	2.21	H		0.270	24.31	1	66
		QPSK	-17.79	16.10	10.32	2.21	H		0.264	24.21		
		16-QAM	-18.89	15.00	10.32	2.21	H		0.205	23.11		
		64-QAM	-20.34	13.55	10.32	2.21	H		0.147	21.66		
		256-QAM	-22.23	11.66	10.32	2.21	H		0.095	19.77		
1902.5		PI/2 BPSK	-18.10	15.94	10.23	2.19	H		0.250	23.98	1	1
		QPSK	-18.16	15.88	10.23	2.19	H		0.247	23.92		
		16-QAM	-19.18	14.86	10.23	2.19	H		0.195	22.90		
		64-QAM	-20.72	13.32	10.23	2.19	H		0.137	21.36		
		256-QAM	-22.59	11.45	10.23	2.19	H		0.089	19.49		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1865.0		PI/2 BPSK	-17.78	15.83	10.41	2.13	H	< 2.00	0.258	24.11	1	158
		QPSK	-17.79	15.82	10.41	2.13	H		0.257	24.10		
		16-QAM	-18.73	14.88	10.41	2.13	H		0.207	23.16		
		64-QAM	-20.26	13.35	10.41	2.13	H		0.145	21.63		
		256-QAM	-22.25	11.36	10.41	2.13	H		0.092	19.64		
1882.5	Sub6 n25(2)/ 30 MHz [15 kHz]	PI/2 BPSK	-17.81	16.08	10.32	2.21	H		0.262	24.19	1	80
		QPSK	-17.82	16.07	10.32	2.21	H		0.262	24.18		
		16-QAM	-18.84	15.05	10.32	2.21	H		0.207	23.16		
		64-QAM	-20.30	13.59	10.32	2.21	H		0.148	21.70		
		256-QAM	-22.27	11.62	10.32	2.21	H		0.094	19.73		
1900.0		PI/2 BPSK	-17.85	16.32	10.25	2.20	H		0.274	24.37	1	1
		QPSK	-17.86	16.31	10.25	2.20	H		0.273	24.36		
		16-QAM	-18.86	15.31	10.25	2.20	H		0.217	23.36		
		64-QAM	-20.38	13.79	10.25	2.20	H		0.153	21.84		
		256-QAM	-22.35	11.82	10.25	2.20	H		0.097	19.87		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1867.5		PI/2 BPSK	-17.88	16.03	10.39	2.16	H	< 2.00	0.267	24.26	1	186
		QPSK	-17.91	16.00	10.39	2.16	H		0.265	24.23		
		16-QAM	-18.87	15.04	10.39	2.16	H		0.212	23.27		
		64-QAM	-20.37	13.54	10.39	2.16	H		0.150	21.77		
		256-QAM	-22.33	11.58	10.39	2.16	H		0.096	19.81		
1882.5	Sub6 n25(2)/ 35 MHz [15 kHz]	PI/2 BPSK	-17.82	16.07	10.32	2.21	H		0.262	24.18	1	94
		QPSK	-17.83	16.06	10.32	2.21	H		0.261	24.17		
		16-QAM	-18.91	14.98	10.32	2.21	H		0.204	23.09		
		64-QAM	-20.36	13.53	10.32	2.21	H		0.146	21.64		
		256-QAM	-22.24	11.65	10.32	2.21	H		0.095	19.76		
1897.5		PI/2 BPSK	-17.80	16.37	10.25	2.20	H		0.277	24.42	1	1
		QPSK	-17.86	16.31	10.25	2.20	H		0.273	24.36		
		16-QAM	-18.87	15.30	10.25	2.20	H		0.216	23.35		
		64-QAM	-20.29	13.88	10.25	2.20	H		0.156	21.93		
		256-QAM	-22.24	11.93	10.25	2.20	H		0.100	19.98		

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
1870.0		PI/2 BPSK	-17.88	16.03	10.39	2.16	H	< 2.00	0.267	24.26	1	108
		QPSK	-18.00	15.91	10.39	2.16	H		0.259	24.14		
		16-QAM	-18.81	15.10	10.39	2.16	H		0.215	23.33		
		64-QAM	-20.44	13.47	10.39	2.16	H		0.148	21.70		
		256-QAM	-22.37	11.54	10.39	2.16	H		0.095	19.77		
1882.5	Sub6 n25(2)/ 40 MHz [15 kHz]	PI/2 BPSK	-17.82	16.07	10.32	2.21	H		0.262	24.18	1	108
		QPSK	-17.84	16.05	10.32	2.21	H		0.261	24.16		
		16-QAM	-18.85	15.04	10.32	2.21	H		0.207	23.15		
		64-QAM	-20.33	13.56	10.32	2.21	H		0.147	21.67		
		256-QAM	-22.31	11.58	10.32	2.21	H		0.093	19.69		
1895.0		PI/2 BPSK	-17.88	16.30	10.28	2.20	H		0.274	24.38	1	1
		QPSK	-17.95	16.23	10.28	2.20	H		0.270	24.31		
		16-QAM	-18.96	15.22	10.28	2.20	H		0.214	23.30		
		64-QAM	-20.46	13.72	10.28	2.20	H		0.151	21.80		
		256-QAM	-22.43	11.75	10.28	2.20	H		0.096	19.83		

8.2 RADIATED SPURIOUS EMISSIONS

NR Band:	<u>N25(2)</u>
Bandwidth:	<u>35 MHz</u>
Modulation:	<u>PI/2 BPSK</u>
Distance:	<u>3 meters</u>
SCS:	<u>15 kHz</u>

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)	RB	
									Size	Offset
373500 (1867.5)	3 735.00	-61.15	12.02	-61.05	3.18	V	-52.21	-13.00	1	186
	5 602.50	-62.39	12.21	-56.38	3.94	V	-48.11	-13.00		
	7 470.00	-63.44	11.41	-48.50	4.61	V	-41.70	-13.00		
376500 (1882.5)	3 765.00	-60.99	11.88	-60.38	3.11	V	-51.61	-13.00	1	94
	5 647.50	-61.94	12.11	-55.75	3.96	V	-47.60	-13.00		
	7 530.00	-62.05	11.57	-47.28	4.60	V	-40.31	-13.00		
379500 (1897.5)	3 795.00	-60.55	11.74	-59.91	3.20	V	-51.37	-13.00	1	1
	5 692.50	-63.16	11.97	-56.36	4.02	V	-48.41	-13.00		
	7 590.00	-63.34	11.62	-48.92	4.64	V	-41.94	-13.00		

8.3 PEAK-TO-AVERAGE RATIO

Band	Band Width	Frequenc y (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (dB)	Limit (dB)
Sub6 n25(2)	5 MHz	1882.5	BPSK	25	0	4.10	13.00
			QPSK			4.71	
			16-QAM			5.30	
			64-QAM			5.55	
			256-QAM			6.08	
	10 MHz		BPSK	50		4.23	
			QPSK			4.86	
			16-QAM			5.46	
			64-QAM			5.72	
			256-QAM			5.78	
	15 MHz		BPSK	75		4.34	
			QPSK			4.84	
			16-QAM			5.45	
			64-QAM			5.79	
			256-QAM			5.68	
	20 MHz		BPSK	100		3.94	
			QPSK			4.90	
			16-QAM			5.50	
			64-QAM			5.77	
			256-QAM			5.73	

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (dB)	Limit (dB)
Sub6 n25(2)	25 MHz	1882.5	BPSK	128	0	4.14	13.00
			QPSK			5.08	
			16-QAM			5.71	
			64-QAM			5.93	
			256-QAM			5.86	
	30 MHz		BPSK	160		4.20	
			QPSK			5.12	
			16-QAM			5.75	
			64-QAM			6.04	
			256-QAM			5.92	
	35 MHz		BPSK	180		4.25	
			QPSK			5.15	
			16-QAM			5.70	
			64-QAM			6.00	
			256-QAM			5.96	
	40 MHz		BPSK	216		4.24	
			QPSK			5.20	
			16-QAM			5.83	
			64-QAM			6.07	
			256-QAM			6.03	

Note:

1. Plots of the EUT's Peak- to- Average Ratio are shown Page 72 ~ 111.

8.4 OCCUPIED BANDWIDTH

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (MHz)
Sub6 n25(2)	5 MHz	1882.5	BPSK	25	0	4.6763
			QPSK			4.6912
			16-QAM			4.6714
			64-QAM			4.6781
			256-QAM			4.6123
	10 MHz		BPSK	50		9.0075
			QPSK			9.0122
			16-QAM			9.0249
			64-QAM			9.0067
			256-QAM			9.0030
	15 MHz		BPSK	75		13.471
			QPSK			13.511
			16-QAM			13.473
			64-QAM			13.512
			256-QAM			13.447
	20 MHz		BPSK	100		17.922
			QPSK			17.962
			16-QAM			17.891
			64-QAM			17.941
			256-QAM			17.871

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (MHz)
Sub6 n25(2)	25 MHz	1882.5	BPSK	128	0	22.961
			QPSK			22.969
			16-QAM			23.025
			64-QAM			22.938
			256-QAM			23.028
	30 MHz		BPSK	160		28.752
			QPSK			28.783
			16-QAM			28.837
			64-QAM			28.749
			256-QAM			28.847
	35 MHz		BPSK	180		32.421
			QPSK			32.353
			16-QAM			32.322
			64-QAM			32.237
			256-QAM			32.366
	40 MHz		BPSK	216		38.850
			QPSK			38.840
			16-QAM			38.869
			64-QAM			38.874
			256-QAM			38.818

Note:

1. Plots of the EUT's Occupied Bandwidth are shown Page 112 ~ 151.

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 n25(2)	5	1852.5	3.7787	29.722	-62.559	-32.837	-13.00
		1882.5	8.3749	30.315	-62.723	-32.408	
		1912.5	3.8186	29.722	-62.941	-33.219	
	10	1855.0	5.7628	30.315	-62.932	-32.617	
		1882.5	8.2951	30.315	-63.500	-33.185	
		1910.0	9.9103	30.315	-61.735	-31.420	
	15	1857.5	4.9253	29.722	-63.242	-33.520	
		1882.5	8.8933	30.315	-63.548	-33.233	
		1907.5	8.5942	30.315	-63.744	-33.429	
	20	1860.0	6.0020	30.315	-63.276	-32.961	
		1882.5	5.9921	30.315	-63.091	-32.776	
		1905.0	3.9981	29.722	-63.458	-33.736	
	25	1862.5	4.0379	29.722	-63.687	-33.965	
		1882.5	9.2523	30.315	-62.960	-32.645	
		1902.5	5.2343	30.315	-62.497	-32.182	
	30	1865.0	9.2323	30.315	-63.525	-33.210	
		1882.5	8.2852	30.315	-63.251	-32.936	
		1900.0	4.9652	29.722	-62.898	-33.176	
	35	1867.5	9.0927	30.315	-62.660	-32.345	
		1882.5	9.1825	30.315	-63.456	-33.141	
		1897.5	5.2343	30.315	-62.214	-31.899	
	40	1870.0	4.8056	29.722	-62.927	-33.205	
		1882.5	1.8246	29.722	-62.392	-32.670	
		1895.0	9.1326	30.315	-63.390	-33.075	

Note:

1. Plots of the EUT's Conducted Spurious Emissions are shown Page 152 ~ 199.
2. Result (dBm) = Measurement Maximum Data (dBm) + Factor (dB)
3. Factor(dB) = Cable Loss + Attenuator + Power Splitter

Frequency Range (GHz)	Factor [dB]
0.03 - 1	27.012
1 - 5	29.722
5 - 10	30.315
10 - 15	30.840
15 - 20	31.213
Above 20	31.855

8.6 BAND EDGE

- Plots of the EUT's Band Edge are shown Page 200 ~ 247.

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. Frequency	Voltage	Temp.	Frequency	Frequency Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1852.5	100 %	+20(Ref)	1852 500 000	0.0	0.000 000	0.000
	100 %	-30	1852 499 999	-1.0	0.000 000	-0.001
	100 %	-20	1852 500 000	0.2	0.000 000	0.000
	100 %	-10	1852 500 000	-0.2	0.000 000	0.000
	100 %	0	1852 500 000	0.4	0.000 000	0.000
	100 %	+10	1852 500 000	-0.2	0.000 000	0.000
	100 %	+30	1852 500 000	0.1	0.000 000	0.000
	100 %	+40	1852 500 000	0.7	0.000 000	0.000
	100 %	+50	1852 500 000	0.2	0.000 000	0.000
	Batt. Endpoint	+20	1852 500 000	0.1	0.000 000	0.000
1912.5	100 %	+20(Ref)	1912 500 001	0.0	0.000 000	0.000
	100 %	-30	1912 500 001	0.5	0.000 000	0.000
	100 %	-20	1912 500 001	0.6	0.000 000	0.000
	100 %	-10	1912 500 001	0.8	0.000 000	0.000
	100 %	0	1912 500 001	0.4	0.000 000	0.000
	100 %	+10	1912 500 001	-0.1	0.000 000	0.000
	100 %	+30	1912 500 001	-0.1	0.000 000	0.000
	100 %	+40	1912 500 001	0.3	0.000 000	0.000
	100 %	+50	1912 500 001	0.6	0.000 000	0.000
	Batt. Endpoint	+20	1912 500 001	0.0	0.000 000	0.000

■ BandWidth:	<u>10 MHz</u>
■ Voltage(100 %):	<u>3.880 VDC</u>
■ Batt. Endpoint:	<u>3.300 VDC</u>
■ LIMIT:	<u>Emission must remain in band</u>

Test. Frequency	Voltage	Temp.	Frequency	Frequency Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1855.0	100 %	+20(Ref)	1855 000 000	0.0	0.000 000	0.000
	100 %	-30	1855 000 001	0.5	0.000 000	0.000
	100 %	-20	1855 000 000	0.1	0.000 000	0.000
	100 %	-10	1855 000 001	0.2	0.000 000	0.000
	100 %	0	1855 000 001	0.9	0.000 000	0.000
	100 %	+10	1855 000 001	0.2	0.000 000	0.000
	100 %	+30	1855 000 000	-0.8	0.000 000	0.000
	100 %	+40	1855 000 001	0.8	0.000 000	0.000
	100 %	+50	1855 000 000	-0.2	0.000 000	0.000
	Batt. Endpoint	+20	1855 000 000	0.1	0.000 000	0.000
1910.0	100 %	+20(Ref)	1910 000 000	0.0	0.000 000	0.000
	100 %	-30	1910 000 000	0.1	0.000 000	0.000
	100 %	-20	1910 000 000	0.2	0.000 000	0.000
	100 %	-10	1910 000 000	-0.1	0.000 000	0.000
	100 %	0	1909 999 999	-0.7	0.000 000	0.000
	100 %	+10	1909 999 999	-0.6	0.000 000	0.000
	100 %	+30	1910 000 000	-0.1	0.000 000	0.000
	100 %	+40	1910 000 000	0.0	0.000 000	0.000
	100 %	+50	1909 999 999	-0.9	0.000 000	0.000
	Batt. Endpoint	+20	1910 000 000	0.5	0.000 000	0.000

■ BandWidth:	<u>15 MHz</u>
■ Voltage(100 %):	<u>3.880 VDC</u>
■ Batt. Endpoint:	<u>3.300 VDC</u>
■ LIMIT:	<u>Emission must remain in band</u>

Test. Frequency	Voltage	Temp.	Frequency	Frequency Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1857.5	100 %	+20(Ref)	1857 500 001	0.0	0.000 000	0.000
	100 %	-30	1857 500 001	0.4	0.000 000	0.000
	100 %	-20	1857 500 000	-0.3	0.000 000	0.000
	100 %	-10	1857 500 001	0.7	0.000 000	0.000
	100 %	0	1857 500 000	-0.9	0.000 000	-0.001
	100 %	+10	1857 500 001	0.8	0.000 000	0.000
	100 %	+30	1857 500 000	-0.2	0.000 000	0.000
	100 %	+40	1857 500 000	-0.1	0.000 000	0.000
	100 %	+50	1857 500 001	0.2	0.000 000	0.000
	Batt. Endpoint	+20	1857 500 001	0.4	0.000 000	0.000
1907.5	100 %	+20(Ref)	1907 500 000	0.0	0.000 000	0.000
	100 %	-30	1907 500 001	0.7	0.000 000	0.000
	100 %	-20	1907 500 000	0.0	0.000 000	0.000
	100 %	-10	1907 500 001	0.6	0.000 000	0.000
	100 %	0	1907 500 000	0.1	0.000 000	0.000
	100 %	+10	1907 499 999	-0.6	0.000 000	0.000
	100 %	+30	1907 500 000	0.1	0.000 000	0.000
	100 %	+40	1907 500 001	0.5	0.000 000	0.000
	100 %	+50	1907 500 000	-0.3	0.000 000	0.000
	Batt. Endpoint	+20	1907 500 001	0.5	0.000 000	0.000

■ BandWidth:	<u>20 MHz</u>
■ Voltage(100 %):	<u>3.880 VDC</u>
■ Batt. Endpoint:	<u>3.300 VDC</u>
■ LIMIT:	<u>Emission must remain in band</u>

Test. Frequency	Voltage	Temp.	Frequency	Frequency Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1860.0	100 %	+20(Ref)	1859 999 999	0.0	0.000 000	0.000
	100 %	-30	1859 999 999	0.1	0.000 000	0.000
	100 %	-20	1859 999 999	0.2	0.000 000	0.000
	100 %	-10	1859 999 999	-0.2	0.000 000	0.000
	100 %	0	1859 999 998	-0.9	0.000 000	0.000
	100 %	+10	1859 999 999	0.1	0.000 000	0.000
	100 %	+30	1859 999 999	-0.8	0.000 000	0.000
	100 %	+40	1859 999 998	-0.9	0.000 000	-0.001
	100 %	+50	1859 999 998	-0.8	0.000 000	0.000
	Batt. Endpoint	+20	1859 999 999	0.1	0.000 000	0.000
1905.0	100 %	+20(Ref)	1904 999 999	0.0	0.000 000	0.000
	100 %	-30	1904 999 998	-1.0	0.000 000	-0.001
	100 %	-20	1904 999 998	-1.1	0.000 000	-0.001
	100 %	-10	1904 999 998	-0.8	0.000 000	0.000
	100 %	0	1904 999 998	-0.7	0.000 000	0.000
	100 %	+10	1904 999 997	-1.4	0.000 000	-0.001
	100 %	+30	1904 999 999	-0.1	0.000 000	0.000
	100 %	+40	1904 999 998	-0.8	0.000 000	0.000
	100 %	+50	1904 999 998	-0.5	0.000 000	0.000
	Batt. Endpoint	+20	1904 999 998	-0.7	0.000 000	0.000

- ▣ BandWidth: 25 MHz
- ▣ Voltage(100 %): 3.880 VDC
- ▣ Batt. Endpoint: 3.300 VDC
- ▣ LIMIT: Emission must remain in band

Test. Frequency	Voltage	Temp.	Frequency	Frequency Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1862.5	100 %	+20(Ref)	1862 500 000	0.0	0.000 000	0.000
	100 %	-30	1862 499 999	-0.7	0.000 000	0.000
	100 %	-20	1862 500 000	-0.1	0.000 000	0.000
	100 %	-10	1862 499 999	-1.2	0.000 000	-0.001
	100 %	0	1862 500 000	0.2	0.000 000	0.000
	100 %	+10	1862 500 000	0.5	0.000 000	0.000
	100 %	+30	1862 499 999	-1.3	0.000 000	-0.001
	100 %	+40	1862 499 999	-0.6	0.000 000	0.000
	100 %	+50	1862 499 999	-0.7	0.000 000	0.000
	Batt. Endpoint	+20	1862 499 999	-0.9	0.000 000	0.000
1902.5	100 %	+20(Ref)	1902 500 000	0.0	0.000 000	0.000
	100 %	-30	1902 499 999	-0.9	0.000 000	0.000
	100 %	-20	1902 500 000	-0.3	0.000 000	0.000
	100 %	-10	1902 499 999	-0.9	0.000 000	0.000
	100 %	0	1902 499 999	-1.1	0.000 000	-0.001
	100 %	+10	1902 499 999	-1.0	0.000 000	-0.001
	100 %	+30	1902 500 000	0.2	0.000 000	0.000
	100 %	+40	1902 499 999	-0.7	0.000 000	0.000
	100 %	+50	1902 500 000	-0.5	0.000 000	0.000
	Batt. Endpoint	+20	1902 499 999	-0.6	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. Frequency	Voltage	Temp.	Frequency	Frequency Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1865.0	100 %	+20(Ref)	1865 000 000	0.0	0.000 000	0.000
	100 %	-30	1864 999 999	-0.5	0.000 000	0.000
	100 %	-20	1865 000 000	0.0	0.000 000	0.000
	100 %	-10	1864 999 999	-1.2	0.000 000	-0.001
	100 %	0	1865 000 000	0.1	0.000 000	0.000
	100 %	+10	1865 000 000	-0.3	0.000 000	0.000
	100 %	+30	1865 000 001	1.0	0.000 000	0.001
	100 %	+40	1865 000 000	0.6	0.000 000	0.000
	100 %	+50	1864 999 999	-0.6	0.000 000	0.000
	Batt. Endpoint	+20	1865 000 000	0.5	0.000 000	0.000
1900.0	100 %	+20(Ref)	1900 000 000	0.0	0.000 000	0.000
	100 %	-30	1900 000 001	0.7	0.000 000	0.000
	100 %	-20	1900 000 001	0.5	0.000 000	0.000
	100 %	-10	1900 000 001	0.9	0.000 000	0.000
	100 %	0	1900 000 001	0.6	0.000 000	0.000
	100 %	+10	1900 000 001	0.8	0.000 000	0.000
	100 %	+30	1900 000 000	0.2	0.000 000	0.000
	100 %	+40	1900 000 000	0.0	0.000 000	0.000
	100 %	+50	1900 000 001	0.7	0.000 000	0.000
	Batt. Endpoint	+20	1900 000 001	0.9	0.000 000	0.000

- ▣ BandWidth: 35 MHz
- ▣ Voltage(100 %): 3.880 VDC
- ▣ Batt. Endpoint: 3.300 VDC
- ▣ LIMIT: Emission must remain in band

Test. Frequency	Voltage	Temp.	Frequency	Frequency Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1867.5	100 %	+20(Ref)	1867 499 999	0.0	0.000 000	0.000
	100 %	-30	1867 499 998	-0.5	0.000 000	0.000
	100 %	-20	1867 499 999	-0.3	0.000 000	0.000
	100 %	-10	1867 499 997	-1.8	0.000 000	-0.001
	100 %	0	1867 499 999	-0.2	0.000 000	0.000
	100 %	+10	1867 499 999	-0.2	0.000 000	0.000
	100 %	+30	1867 499 998	-0.6	0.000 000	0.000
	100 %	+40	1867 499 997	-1.6	0.000 000	-0.001
	100 %	+50	1867 499 999	-0.3	0.000 000	0.000
	Batt. Endpoint	+20	1867 499 999	-0.2	0.000 000	0.000
1897.5	100 %	+20(Ref)	1897 500 000	0.0	0.000 000	0.000
	100 %	-30	1897 500 001	0.6	0.000 000	0.000
	100 %	-20	1897 500 001	0.7	0.000 000	0.000
	100 %	-10	1897 500 001	0.4	0.000 000	0.000
	100 %	0	1897 499 999	-0.9	0.000 000	0.000
	100 %	+10	1897 500 000	0.0	0.000 000	0.000
	100 %	+30	1897 500 000	-0.5	0.000 000	0.000
	100 %	+40	1897 499 999	-0.7	0.000 000	0.000
	100 %	+50	1897 500 000	0.3	0.000 000	0.000
	Batt. Endpoint	+20	1897 500 000	-0.2	0.000 000	0.000

- ▣ BandWidth: 40 MHz
- ▣ Voltage(100 %): 3.880 VDC
- ▣ Batt. Endpoint: 3.300 VDC
- ▣ LIMIT: Emission must remain in band

Test. Frequency	Voltage	Temp.	Frequency	Frequency Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1870.0	100 %	+20(Ref)	1870 000 000	0.0	0.000 000	0.000
	100 %	-30	1870 000 001	1.3	0.000 000	0.001
	100 %	-20	1870 000 000	-0.2	0.000 000	0.000
	100 %	-10	1870 000 000	-0.2	0.000 000	0.000
	100 %	0	1870 000 000	-0.4	0.000 000	0.000
	100 %	+10	1870 000 001	0.5	0.000 000	0.000
	100 %	+30	1870 000 000	0.0	0.000 000	0.000
	100 %	+40	1870 000 000	-0.6	0.000 000	0.000
	100 %	+50	1870 000 000	0.3	0.000 000	0.000
	Batt. Endpoint	+20	1869 999 999	-0.7	0.000 000	0.000
1895.0	100 %	+20(Ref)	1895 000 000	0.0	0.000 000	0.000
	100 %	-30	1894 999 999	-0.5	0.000 000	0.000
	100 %	-20	1894 999 999	-0.8	0.000 000	0.000
	100 %	-10	1894 999 999	-0.2	0.000 000	0.000
	100 %	0	1894 999 999	-0.1	0.000 000	0.000
	100 %	+10	1894 999 999	-0.6	0.000 000	0.000
	100 %	+30	1894 999 999	-0.6	0.000 000	0.000
	100 %	+40	1894 999 999	-0.2	0.000 000	0.000
	100 %	+50	1894 999 999	-0.5	0.000 000	0.000
	Batt. Endpoint	+20	1894 999 998	-1.3	0.000 000	-0.001

9. TEST DATA(Sub 2 ANT)

9.1 EQUIVALENT ISOTROPIC RADIATED POWER

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1852.5	Sub6 n25(2)/ 5 MHz [15 kHz]	PI/2 BPSK	-21.26	12.37	10.45	2.08	H	< 2.00	0.119	20.74	1	12
		QPSK	-21.43	12.20	10.45	2.08	H		0.114	20.57		
		16-QAM	-22.32	11.31	10.45	2.08	H		0.093	19.68		
		64-QAM	-23.79	9.84	10.45	2.08	H		0.066	18.21		
		256-QAM	-25.58	8.05	10.45	2.08	H		0.044	16.42		
1882.5		PI/2 BPSK	-22.43	11.46	10.32	2.21	H		0.091	19.57	1	1
		QPSK	-22.47	11.42	10.32	2.21	H		0.090	19.53		
		16-QAM	-23.45	10.44	10.32	2.21	H		0.072	18.55		
		64-QAM	-24.84	9.05	10.32	2.21	H		0.052	17.16		
		256-QAM	-26.58	7.31	10.32	2.21	H		0.035	15.42		
1912.5		PI/2 BPSK	-23.04	11.14	10.19	2.17	H		0.082	19.16	1	1
		QPSK	-23.07	11.11	10.19	2.17	H		0.082	19.13		
		16-QAM	-24.04	10.14	10.19	2.17	H		0.065	18.16		
		64-QAM	-25.53	8.65	10.19	2.17	H		0.046	16.67		
		256-QAM	-27.39	6.79	10.19	2.17	H		0.030	14.81		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1855.0		PI/2 BPSK	-21.47	12.16	10.45	2.08	H	< 2.00	0.113	20.53	1	50
		QPSK	-21.47	12.16	10.45	2.08	H		0.113	20.53		
		16-QAM	-22.48	11.15	10.45	2.08	H		0.090	19.52		
		64-QAM	-23.88	9.75	10.45	2.08	H		0.065	18.12		
		256-QAM	-25.79	7.84	10.45	2.08	H		0.042	16.21		
1882.5	Sub6 n25(2)/ 10 MHz [15 kHz]	PI/2 BPSK	-22.27	11.62	10.32	2.21	H	< 2.00	0.094	19.73	1	1
		QPSK	-22.32	11.57	10.32	2.21	H		0.093	19.68		
		16-QAM	-23.31	10.58	10.32	2.21	H		0.074	18.69		
		64-QAM	-24.78	9.11	10.32	2.21	H		0.053	17.22		
		256-QAM	-26.59	7.30	10.32	2.21	H		0.035	15.41		
1910.0		PI/2 BPSK	-22.77	11.13	10.21	2.17	H	< 2.00	0.083	19.17	1	26
		QPSK	-22.97	10.93	10.21	2.17	H		0.079	18.97		
		16-QAM	-23.82	10.08	10.21	2.17	H		0.065	18.12		
		64-QAM	-25.31	8.59	10.21	2.17	H		0.046	16.63		
		256-QAM	-27.19	6.71	10.21	2.17	H		0.030	14.75		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1857.5		PI/2 BPSK	-21.40	11.92	10.43	2.10	H	< 2.00	0.106	20.25	1	39
		QPSK	-21.49	11.83	10.43	2.10	H		0.104	20.16		
		16-QAM	-22.57	10.75	10.43	2.10	H		0.081	19.08		
		64-QAM	-23.96	9.36	10.43	2.10	H		0.059	17.69		
		256-QAM	-25.86	7.46	10.43	2.10	H		0.038	15.79		
1882.5	Sub6 n25(2)/ 15 MHz [15 kHz]	PI/2 BPSK	-22.14	11.75	10.32	2.21	H	< 2.00	0.097	19.86	1	1
		QPSK	-22.19	11.70	10.32	2.21	H		0.096	19.81		
		16-QAM	-23.17	10.72	10.32	2.21	H		0.076	18.83		
		64-QAM	-24.74	9.15	10.32	2.21	H		0.053	17.26		
		256-QAM	-26.35	7.54	10.32	2.21	H		0.037	15.65		
1907.5		PI/2 BPSK	-22.85	11.05	10.21	2.17	H	< 2.00	0.081	19.09	1	39
		QPSK	-23.03	10.87	10.21	2.17	H		0.078	18.91		
		16-QAM	-23.96	9.94	10.21	2.17	H		0.063	17.98		
		64-QAM	-25.41	8.49	10.21	2.17	H		0.045	16.53		
		256-QAM	-27.50	6.40	10.21	2.17	H		0.028	14.44		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1860.0		PI/2 BPSK	-21.35	11.97	10.43	2.10	H	< 2.00	0.107	20.30	1	53
		QPSK	-21.51	11.81	10.43	2.10	H		0.103	20.14		
		16-QAM	-22.37	10.95	10.43	2.10	H		0.085	19.28		
		64-QAM	-23.87	9.45	10.43	2.10	H		0.060	17.78		
		256-QAM	-25.65	7.67	10.43	2.10	H		0.040	16.00		
1882.5	Sub6 n25(2)/ 20 MHz [15 kHz]	PI/2 BPSK	-22.01	11.88	10.32	2.21	H		0.100	19.99	1	1
		QPSK	-22.04	11.85	10.32	2.21	H		0.099	19.96		
		16-QAM	-23.07	10.82	10.32	2.21	H		0.078	18.93		
		64-QAM	-24.41	9.48	10.32	2.21	H		0.057	17.59		
		256-QAM	-26.46	7.43	10.32	2.21	H		0.036	15.54		
1905.0		PI/2 BPSK	-22.72	11.32	10.23	2.19	H		0.086	19.36	1	1
		QPSK	-22.75	11.29	10.23	2.19	H		0.086	19.33		
		16-QAM	-23.71	10.33	10.23	2.19	H		0.069	18.37		
		64-QAM	-25.14	8.90	10.23	2.19	H		0.049	16.94		
		256-QAM	-27.21	6.83	10.23	2.19	H		0.031	14.87		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1862.5		PI/2 BPSK	-21.27	12.34	10.41	2.13	H	< 2.00	0.115	20.62	1	66
		QPSK	-21.35	12.26	10.41	2.13	H		0.113	20.54		
		16-QAM	-22.44	11.17	10.41	2.13	H		0.088	19.45		
		64-QAM	-24.02	9.59	10.41	2.13	H		0.061	17.87		
		256-QAM	-25.98	7.63	10.41	2.13	H		0.039	15.91		
1882.5	Sub6 n25(2)/ 25 MHz [15 kHz]	PI/2 BPSK	-21.84	12.05	10.32	2.21	H		0.104	20.16	1	1
		QPSK	-21.86	12.03	10.32	2.21	H		0.103	20.14		
		16-QAM	-22.88	11.01	10.32	2.21	H		0.082	19.12		
		64-QAM	-24.38	9.51	10.32	2.21	H		0.058	17.62		
		256-QAM	-26.20	7.69	10.32	2.21	H		0.038	15.80		
1902.5		PI/2 BPSK	-22.67	11.37	10.23	2.19	H		0.087	19.41	1	1
		QPSK	-22.68	11.36	10.23	2.19	H		0.087	19.40		
		16-QAM	-23.72	10.32	10.23	2.19	H		0.069	18.36		
		64-QAM	-25.09	8.95	10.23	2.19	H		0.050	16.99		
		256-QAM	-27.07	6.97	10.23	2.19	H		0.032	15.01		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1865.0		PI/2 BPSK	-21.39	12.22	10.41	2.13	H	< 2.00	0.112	20.50	1	80
		QPSK	-21.56	12.05	10.41	2.13	H		0.108	20.33		
		16-QAM	-22.58	11.03	10.41	2.13	H		0.085	19.31		
		64-QAM	-23.93	9.68	10.41	2.13	H		0.063	17.96		
		256-QAM	-25.94	7.67	10.41	2.13	H		0.039	15.95		
1882.5	Sub6 n25(2)/ 30 MHz [15 kHz]	PI/2 BPSK	-21.62	12.27	10.32	2.21	H		0.109	20.38	1	1
		QPSK	-21.64	12.25	10.32	2.21	H		0.109	20.36		
		16-QAM	-22.71	11.18	10.32	2.21	H		0.085	19.29		
		64-QAM	-24.12	9.77	10.32	2.21	H		0.061	17.88		
		256-QAM	-26.08	7.81	10.32	2.21	H		0.039	15.92		
1900.0		PI/2 BPSK	-22.36	11.81	10.25	2.20	H		0.097	19.86	1	1
		QPSK	-22.37	11.80	10.25	2.20	H		0.097	19.85		
		16-QAM	-23.33	10.84	10.25	2.20	H		0.078	18.89		
		64-QAM	-24.73	9.44	10.25	2.20	H		0.056	17.49		
		256-QAM	-26.69	7.48	10.25	2.20	H		0.036	15.53		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1867.5		PI/2 BPSK	-21.56	12.35	10.39	2.16	H	< 2.00	0.114	20.58	1	94
		QPSK	-21.63	12.28	10.39	2.16	H		0.112	20.51		
		16-QAM	-22.55	11.36	10.39	2.16	H		0.091	19.59		
		64-QAM	-24.11	9.80	10.39	2.16	H		0.064	18.03		
		256-QAM	-25.95	7.96	10.39	2.16	H		0.042	16.19		
1882.5	Sub6 n25(2)/ 35 MHz [15 kHz]	PI/2 BPSK	-21.65	12.24	10.32	2.21	H		0.108	20.35	1	1
		QPSK	-21.68	12.21	10.32	2.21	H		0.108	20.32		
		16-QAM	-22.52	11.37	10.32	2.21	H		0.089	19.48		
		64-QAM	-24.03	9.86	10.32	2.21	H		0.063	17.97		
		256-QAM	-26.02	7.87	10.32	2.21	H		0.040	15.98		
1897.5		PI/2 BPSK	-22.38	11.79	10.25	2.20	H		0.096	19.84	1	1
		QPSK	-22.40	11.77	10.25	2.20	H		0.096	19.82		
		16-QAM	-23.41	10.76	10.25	2.20	H		0.076	18.81		
		64-QAM	-24.67	9.50	10.25	2.20	H		0.057	17.55		
		256-QAM	-26.51	7.66	10.25	2.20	H		0.037	15.71		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1870.0		PI/2 BPSK	-21.55	12.36	10.39	2.16	H	< 2.00	0.115	20.59	1	1
		QPSK	-21.59	12.32	10.39	2.16	H		0.114	20.55		
		16-QAM	-22.62	11.29	10.39	2.16	H		0.090	19.52		
		64-QAM	-23.84	10.07	10.39	2.16	H		0.068	18.30		
		256-QAM	-25.71	8.20	10.39	2.16	H		0.044	16.43		
1882.5	Sub6 n25(2)/ 40 MHz [15 kHz]	PI/2 BPSK	-21.55	12.34	10.32	2.21	H		0.111	20.45	1	1
		QPSK	-21.56	12.33	10.32	2.21	H		0.111	20.44		
		16-QAM	-22.54	11.35	10.32	2.21	H		0.088	19.46		
		64-QAM	-23.92	9.97	10.32	2.21	H		0.064	18.08		
		256-QAM	-25.85	8.04	10.32	2.21	H		0.041	16.15		
1895.0		PI/2 BPSK	-22.07	12.11	10.28	2.20	H		0.104	20.19	1	1
		QPSK	-22.11	12.07	10.28	2.20	H		0.104	20.15		
		16-QAM	-23.12	11.06	10.28	2.20	H		0.082	19.14		
		64-QAM	-24.57	9.61	10.28	2.20	H		0.059	17.69		
		256-QAM	-26.34	7.84	10.28	2.20	H		0.039	15.92		

9.2 RADIATED SPURIOUS EMISSIONS

NR Band:	<u>N25(2)</u>
Bandwidth:	<u>5 MHz</u>
Modulation:	<u>PI/2 BPSK</u>
Distance:	<u>3 meters</u>
SCS:	<u>15 kHz</u>

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)	RB	
									Size	Offset
370500 (1852.5)	3 705.00	-61.35	12.08	-62.04	3.08	V	-53.04	-13.00	1	12
	5 557.50	-63.38	12.22	-57.61	3.88	V	-49.27	-13.00		
	7 410.00	-63.79	11.19	-48.36	4.57	V	-41.74	-13.00		
376500 (1882.5)	3 765.00	-61.42	11.88	-60.81	3.11	V	-52.04	-13.00	1	1
	5 647.50	-63.16	12.11	-56.97	3.96	V	-48.82	-13.00		
	7 530.00	-62.98	11.57	-48.21	4.60	V	-41.24	-13.00		
382500 (1912.5)	3 825.00	-60.00	11.62	-58.84	3.18	V	-50.40	-13.00	1	1
	5 737.50	-61.36	11.84	-55.04	3.99	V	-47.19	-13.00		
	7 650.00	-62.41	11.52	-48.29	4.68	V	-41.45	-13.00		

9.3 PEAK-TO-AVERAGE RATIO

Band	Band Width	Frequenc y (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (dB)	Limit (dB)
Sub6 n25(2)	5 MHz	1882.5	BPSK	25	0	4.61	13.00
			QPSK			5.79	
			16-QAM			6.47	
			64-QAM			6.74	
			256-QAM			6.87	
	10 MHz		BPSK	50		4.76	
			QPSK			5.68	
			16-QAM			6.29	
			64-QAM			6.52	
			256-QAM			6.61	
	15 MHz		BPSK	75		4.40	
			QPSK			5.64	
			16-QAM			6.37	
			64-QAM			6.56	
			256-QAM			6.69	
	20 MHz		BPSK	100		4.42	
			QPSK			5.63	
			16-QAM			6.34	
			64-QAM			6.51	
			256-QAM			6.73	

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (dB)	Limit (dB)
Sub6 n25(2)	25 MHz	1882.5	BPSK	128	0	4.56	13.00
			QPSK			5.82	
			16-QAM			6.42	
			64-QAM			6.66	
			256-QAM			6.65	
	30 MHz		BPSK	160		4.71	
			QPSK			5.82	
			16-QAM			6.54	
			64-QAM			6.61	
			256-QAM			6.72	
	35 MHz		BPSK	180		4.81	
			QPSK			5.87	
			16-QAM			6.56	
			64-QAM			6.65	
			256-QAM			6.75	
	40 MHz		BPSK	216		4.77	
			QPSK			5.91	
			16-QAM			6.63	
			64-QAM			6.79	
			256-QAM			6.74	

Note:

1. Plots of the EUT's Peak- to- Average Ratio are shown Page 249 ~ 288.

9.4 OCCUPIED BANDWIDTH

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (MHz)
Sub6 n25(2)	5 MHz	1882.5	BPSK	25	0	4.5349
			QPSK			4.5504
			16-QAM			4.5444
			64-QAM			4.5487
			256-QAM			4.5532
	10 MHz		BPSK	50		8.9879
			QPSK			9.0140
			16-QAM			8.9909
			64-QAM			9.0249
			256-QAM			9.0071
	15 MHz		BPSK	75		13.462
			QPSK			13.459
			16-QAM			13.454
			64-QAM			13.448
			256-QAM			13.446
	20 MHz		BPSK	100		17.897
			QPSK			17.942
			16-QAM			17.924
			64-QAM			17.955
			256-QAM			17.888

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (MHz)
Sub6 n25(2)	25 MHz	1882.5	BPSK	128	0	23.049
			QPSK			23.001
			16-QAM			22.957
			64-QAM			22.962
			256-QAM			22.982
	30 MHz		BPSK	160		28.753
			QPSK			28.812
			16-QAM			28.736
			64-QAM			28.789
			256-QAM			28.738
	35 MHz		BPSK	180		32.333
			QPSK			32.360
			16-QAM			32.386
			64-QAM			32.288
			256-QAM			32.484
	40 MHz		BPSK	216		38.792
			QPSK			38.863
			16-QAM			38.780
			64-QAM			38.834
			256-QAM			38.808

Note:

1. Plots of the EUT's Occupied Bandwidth are shown Page 289 ~ 328.

9.5 CONDUCTED SPURIOUS EMISSIONS

Band	Band Width (MHz)	Frequency (MHz)	Frequency of Maximum Harmonic (GHz)	Factor (dB)	Measurement Maximum Data (dBm)	Result (dBm)	Limit (dBm)
Sub6 n25(2)	5	1852.5	4.9552	29.722	-63.174	-33.452	-13.00
		1882.5	3.7488	29.722	-63.536	-33.814	
		1912.5	9.8804	30.315	-63.162	-32.847	
	10	1855.0	4.9751	29.722	-63.021	-33.299	
		1882.5	5.2443	30.315	-63.606	-33.291	
		1910.0	7.3978	30.315	-62.916	-32.601	
	15	1857.5	3.7488	29.722	-62.467	-32.745	
		1882.5	8.3051	30.315	-63.336	-33.021	
		1907.5	8.2453	30.315	-61.538	-31.223	
	20	1860.0	9.9502	30.315	-62.689	-32.374	
		1882.5	9.3420	30.315	-63.915	-33.600	
		1905.0	3.1307	29.722	-63.304	-33.582	
	25	1862.5	3.7388	29.722	-62.028	-32.306	
		1882.5	9.9003	30.315	-62.955	-32.640	
		1902.5	3.7887	29.722	-62.951	-33.229	
	30	1865.0	7.9960	30.315	-63.529	-33.214	
		1882.5	6.0020	30.315	-62.645	-32.330	
		1900.0	8.0359	30.315	-63.217	-32.902	
	35	1867.5	9.0828	30.315	-63.016	-32.701	
		1882.5	6.0120	30.315	-62.518	-32.203	
		1897.5	8.7637	30.315	-62.954	-32.639	
	40	1870.0	3.9981	29.722	-63.341	-33.619	
		1882.5	8.9631	30.315	-63.164	-32.849	
		1895.0	3.2703	29.722	-62.734	-33.012	

Note:

1. Plots of the EUT's Conducted Spurious Emissions are shown Page 329 ~ 376.
2. Result (dBm) = Measurement Maximum Data (dBm) + Factor (dB)
3. Factor(dB) = Cable Loss + Attenuator + Power Splitter

Frequency Range (GHz)	Factor [dB]
0.03 – 1	27.012
1 – 5	29.722
5 – 10	30.315
10 – 15	30.840
15 – 20	31.213
Above 20	31.855

9.6 BAND EDGE

- Plots of the EUT's Band Edge are shown Page 377 ~ 424.

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. Frequency	Voltage	Temp.	Frequency	Frequency Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1852.5	100 %	+20(Ref)	1852 499 997	0.0	0.000 000	0.000
	100 %	-30	1852 499 993	-4.0	0.000 000	-0.002
	100 %	-20	1852 499 993	-4.3	0.000 000	-0.002
	100 %	-10	1852 499 993	-4.0	0.000 000	-0.002
	100 %	0	1852 499 994	-2.6	0.000 000	-0.001
	100 %	+10	1852 499 994	-3.3	0.000 000	-0.002
	100 %	+30	1852 499 993	-3.4	0.000 000	-0.002
	100 %	+40	1852 499 994	-3.2	0.000 000	-0.002
	100 %	+50	1852 499 995	-1.7	0.000 000	-0.001
	Batt. Endpoint	+20	1852 499 994	-3.0	0.000 000	-0.002
1912.5	100 %	+20(Ref)	1912 500 000	0.0	0.000 000	0.000
	100 %	-30	1912 500 000	-0.6	0.000 000	0.000
	100 %	-20	1912 499 999	-1.1	0.000 000	-0.001
	100 %	-10	1912 499 999	-0.9	0.000 000	0.000
	100 %	0	1912 499 999	-1.3	0.000 000	-0.001
	100 %	+10	1912 500 000	0.0	0.000 000	0.000
	100 %	+30	1912 499 998	-2.0	0.000 000	-0.001
	100 %	+40	1912 499 999	-1.4	0.000 000	-0.001
	100 %	+50	1912 500 001	1.3	0.000 000	0.001
	Batt. Endpoint	+20	1912 499 999	-1.2	0.000 000	-0.001

■ BandWidth:	<u>10 MHz</u>
■ Voltage(100 %):	<u>3.880 VDC</u>
■ Batt. Endpoint:	<u>3.300 VDC</u>
■ LIMIT:	<u>Emission must remain in band</u>

Test. Frequency	Voltage	Temp.	Frequency	Frequency Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1855.0	100 %	+20(Ref)	1855 000 000	0.0	0.000 000	0.000
	100 %	-30	1854 999 999	-1.3	0.000 000	-0.001
	100 %	-20	1855 000 001	0.5	0.000 000	0.000
	100 %	-10	1855 000 002	1.2	0.000 000	0.001
	100 %	0	1855 000 000	-0.1	0.000 000	0.000
	100 %	+10	1855 000 000	-0.9	0.000 000	0.000
	100 %	+30	1855 000 000	-0.7	0.000 000	0.000
	100 %	+40	1855 000 001	0.5	0.000 000	0.000
	100 %	+50	1855 000 000	-0.5	0.000 000	0.000
	Batt. Endpoint	+20	1855 000 001	0.2	0.000 000	0.000
1910.0	100 %	+20(Ref)	1909 999 997	0.0	0.000 000	0.000
	100 %	-30	1909 999 996	-1.7	0.000 000	-0.001
	100 %	-20	1909 999 995	-2.6	0.000 000	-0.001
	100 %	-10	1909 999 994	-3.6	0.000 000	-0.002
	100 %	0	1909 999 994	-3.0	0.000 000	-0.002
	100 %	+10	1909 999 996	-1.0	0.000 000	-0.001
	100 %	+30	1909 999 994	-2.8	0.000 000	-0.001
	100 %	+40	1909 999 995	-2.0	0.000 000	-0.001
	100 %	+50	1909 999 995	-2.3	0.000 000	-0.001
	Batt. Endpoint	+20	1909 999 995	-2.2	0.000 000	-0.001

■ BandWidth:	<u>15 MHz</u>
■ Voltage(100 %):	<u>3.880 VDC</u>
■ Batt. Endpoint:	<u>3.300 VDC</u>
■ LIMIT:	<u>Emission must remain in band</u>

Test. Frequency	Voltage	Temp.	Frequency	Frequency Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1857.5	100 %	+20(Ref)	1857 499 999	0.0	0.000 000	0.000
	100 %	-30	1857 499 998	-0.6	0.000 000	0.000
	100 %	-20	1857 499 998	-0.6	0.000 000	0.000
	100 %	-10	1857 499 998	-0.7	0.000 000	0.000
	100 %	0	1857 499 997	-2.4	0.000 000	-0.001
	100 %	+10	1857 499 998	-1.1	0.000 000	-0.001
	100 %	+30	1857 499 998	-1.3	0.000 000	-0.001
	100 %	+40	1857 499 999	0.1	0.000 000	0.000
	100 %	+50	1857 499 998	-0.9	0.000 000	0.000
	Batt. Endpoint	+20	1857 499 996	-2.6	0.000 000	-0.001
1907.5	100 %	+20(Ref)	1907 499 999	0.0	0.000 000	0.000
	100 %	-30	1907 500 001	1.8	0.000 000	0.001
	100 %	-20	1907 499 998	-0.5	0.000 000	0.000
	100 %	-10	1907 499 999	0.5	0.000 000	0.000
	100 %	0	1907 500 000	0.5	0.000 000	0.000
	100 %	+10	1907 499 998	-0.8	0.000 000	0.000
	100 %	+30	1907 499 999	0.1	0.000 000	0.000
	100 %	+40	1907 500 001	1.7	0.000 000	0.001
	100 %	+50	1907 500 000	1.0	0.000 000	0.001
	Batt. Endpoint	+20	1907 499 998	-0.5	0.000 000	0.000

■ BandWidth:	<u>20 MHz</u>
■ Voltage(100 %):	<u>3.880 VDC</u>
■ Batt. Endpoint:	<u>3.300 VDC</u>
■ LIMIT:	<u>Emission must remain in band</u>

Test. Frequency	Voltage	Temp.	Frequency	Frequency Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1860.0	100 %	+20(Ref)	1860 000 002	0.0	0.000 000	0.000
	100 %	-30	1860 000 003	1.5	0.000 000	0.001
	100 %	-20	1860 000 002	0.1	0.000 000	0.000
	100 %	-10	1860 000 001	-0.3	0.000 000	0.000
	100 %	0	1859 999 998	-4.1	0.000 000	-0.002
	100 %	+10	1860 000 000	-1.5	0.000 000	-0.001
	100 %	+30	1860 000 001	-0.7	0.000 000	0.000
	100 %	+40	1860 000 001	-0.9	0.000 000	0.000
	100 %	+50	1860 000 002	0.7	0.000 000	0.000
	Batt. Endpoint	+20	1860 000 001	-0.8	0.000 000	0.000
1905.0	100 %	+20(Ref)	1905 000 003	0.0	0.000 000	0.000
	100 %	-30	1905 000 004	1.9	0.000 000	0.001
	100 %	-20	1905 000 003	0.9	0.000 000	0.000
	100 %	-10	1905 000 003	0.5	0.000 000	0.000
	100 %	0	1905 000 003	-0.1	0.000 000	0.000
	100 %	+10	1905 000 003	0.7	0.000 000	0.000
	100 %	+30	1905 000 003	0.3	0.000 000	0.000
	100 %	+40	1905 000 003	0.6	0.000 000	0.000
	100 %	+50	1905 000 002	-0.1	0.000 000	0.000
	Batt. Endpoint	+20	1905 000 003	0.5	0.000 000	0.000

- ▣ BandWidth: 25 MHz
- ▣ Voltage(100 %): 3.880 VDC
- ▣ Batt. Endpoint: 3.300 VDC
- ▣ LIMIT: Emission must remain in band

Test. Frequency	Voltage	Temp.	Frequency	Frequency Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1862.5	100 %	+20(Ref)	1862 499 998	0.0	0.000 000	0.000
	100 %	-30	1862 499 994	-3.2	0.000 000	-0.002
	100 %	-20	1862 499 994	-3.2	0.000 000	-0.002
	100 %	-10	1862 499 994	-3.4	0.000 000	-0.002
	100 %	0	1862 499 995	-2.5	0.000 000	-0.001
	100 %	+10	1862 499 996	-1.4	0.000 000	-0.001
	100 %	+30	1862 499 995	-2.2	0.000 000	-0.001
	100 %	+40	1862 499 996	-1.4	0.000 000	-0.001
	100 %	+50	1862 499 994	-3.2	0.000 000	-0.002
	Batt. Endpoint	+20	1862 499 997	-1.1	0.000 000	-0.001
1902.5	100 %	+20(Ref)	1902 499 996	0.0	0.000 000	0.000
	100 %	-30	1902 499 993	-3.4	0.000 000	-0.002
	100 %	-20	1902 499 992	-4.3	0.000 000	-0.002
	100 %	-10	1902 499 993	-2.8	0.000 000	-0.001
	100 %	0	1902 499 992	-3.9	0.000 000	-0.002
	100 %	+10	1902 499 992	-4.0	0.000 000	-0.002
	100 %	+30	1902 499 992	-3.7	0.000 000	-0.002
	100 %	+40	1902 499 992	-4.5	0.000 000	-0.002
	100 %	+50	1902 499 994	-2.4	0.000 000	-0.001
	Batt. Endpoint	+20	1902 499 992	-4.0	0.000 000	-0.002

- ▣ BandWidth: 30 MHz
- ▣ Voltage(100 %): 3.880 VDC
- ▣ Batt. Endpoint: 3.300 VDC
- ▣ LIMIT: Emission must remain in band

Test. Frequency	Voltage	Temp.	Frequency	Frequency Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1865.0	100 %	+20(Ref)	1864 999 999	0.0	0.000 000	0.000
	100 %	-30	1865 000 003	3.3	0.000 000	0.002
	100 %	-20	1865 000 000	0.6	0.000 000	0.000
	100 %	-10	1865 000 002	2.2	0.000 000	0.001
	100 %	0	1864 999 999	-0.7	0.000 000	0.000
	100 %	+10	1864 999 999	-0.6	0.000 000	0.000
	100 %	+30	1864 999 999	-0.1	0.000 000	0.000
	100 %	+40	1864 999 999	0.0	0.000 000	0.000
	100 %	+50	1864 999 999	-0.7	0.000 000	0.000
	Batt. Endpoint	+20	1865 000 000	0.5	0.000 000	0.000
1900.0	100 %	+20(Ref)	1899 999 998	0.0	0.000 000	0.000
	100 %	-30	1899 999 999	0.5	0.000 000	0.000
	100 %	-20	1900 000 000	1.7	0.000 000	0.001
	100 %	-10	1899 999 999	0.6	0.000 000	0.000
	100 %	0	1899 999 999	0.6	0.000 000	0.000
	100 %	+10	1899 999 999	0.4	0.000 000	0.000
	100 %	+30	1899 999 998	-0.9	0.000 000	0.000
	100 %	+40	1899 999 996	-2.2	0.000 000	-0.001
	100 %	+50	1900 000 000	1.1	0.000 000	0.001
	Batt. Endpoint	+20	1899 999 999	0.3	0.000 000	0.000

- ▣ BandWidth: 35 MHz
- ▣ Voltage(100 %): 3.880 VDC
- ▣ Batt. Endpoint: 3.300 VDC
- ▣ LIMIT: Emission must remain in band

Test. Frequency	Voltage	Temp.	Frequency	Frequency Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1867.5	100 %	+20(Ref)	1867 500 001	0.0	0.000 000	0.000
	100 %	-30	1867 500 002	1.1	0.000 000	0.001
	100 %	-20	1867 500 001	0.0	0.000 000	0.000
	100 %	-10	1867 500 001	0.1	0.000 000	0.000
	100 %	0	1867 500 002	1.2	0.000 000	0.001
	100 %	+10	1867 500 003	1.9	0.000 000	0.001
	100 %	+30	1867 500 001	0.8	0.000 000	0.000
	100 %	+40	1867 500 002	1.0	0.000 000	0.001
	100 %	+50	1867 500 003	2.7	0.000 000	0.001
	Batt. Endpoint	+20	1867 500 000	-0.4	0.000 000	0.000
1897.5	100 %	+20(Ref)	1897 499 998	0.0	0.000 000	0.000
	100 %	-30	1897 499 998	0.0	0.000 000	0.000
	100 %	-20	1897 499 998	-0.1	0.000 000	0.000
	100 %	-10	1897 499 998	0.3	0.000 000	0.000
	100 %	0	1897 499 998	0.3	0.000 000	0.000
	100 %	+10	1897 499 999	1.2	0.000 000	0.001
	100 %	+30	1897 499 998	-0.6	0.000 000	0.000
	100 %	+40	1897 499 998	-0.5	0.000 000	0.000
	100 %	+50	1897 499 998	0.1	0.000 000	0.000
	Batt. Endpoint	+20	1897 499 999	0.8	0.000 000	0.000

- ▣ BandWidth: 40 MHz
- ▣ Voltage(100 %): 3.880 VDC
- ▣ Batt. Endpoint: 3.300 VDC
- ▣ LIMIT: Emission must remain in band

Test. Frequency	Voltage	Temp.	Frequency	Frequency Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1870.0	100 %	+20(Ref)	1869 999 999	0.0	0.000 000	0.000
	100 %	-30	1869 999 999	-0.2	0.000 000	0.000
	100 %	-20	1870 000 000	0.8	0.000 000	0.000
	100 %	-10	1869 999 999	-0.2	0.000 000	0.000
	100 %	0	1869 999 999	0.1	0.000 000	0.000
	100 %	+10	1869 999 998	-1.1	0.000 000	-0.001
	100 %	+30	1869 999 999	0.3	0.000 000	0.000
	100 %	+40	1869 999 999	0.3	0.000 000	0.000
	100 %	+50	1869 999 998	-0.8	0.000 000	0.000
	Batt. Endpoint	+20	1869 999 998	-0.7	0.000 000	0.000
1895.0	100 %	+20(Ref)	1894 999 998	0.0	0.000 000	0.000
	100 %	-30	1894 999 998	0.1	0.000 000	0.000
	100 %	-20	1894 999 994	-3.6	0.000 000	-0.002
	100 %	-10	1895 000 000	2.5	0.000 000	0.001
	100 %	0	1894 999 997	-1.4	0.000 000	-0.001
	100 %	+10	1894 999 998	0.1	0.000 000	0.000
	100 %	+30	1894 999 997	-1.0	0.000 000	-0.001
	100 %	+40	1894 999 996	-2.5	0.000 000	-0.001
	100 %	+50	1894 999 996	-1.7	0.000 000	-0.001
	Batt. Endpoint	+20	1894 999 997	-0.9	0.000 000	0.000

10. TEST PLOTS(Main 1 ANT)

NR25_5 M_PAR_Mid_BPSK_FullRB



NR25_5 M_PAR_Mid_QPSK_FullRB



NR25_5 M_PAR_Mid_16QAM_FullRB



NR25_5 M_PAR_Mid_64QAM_FullRB



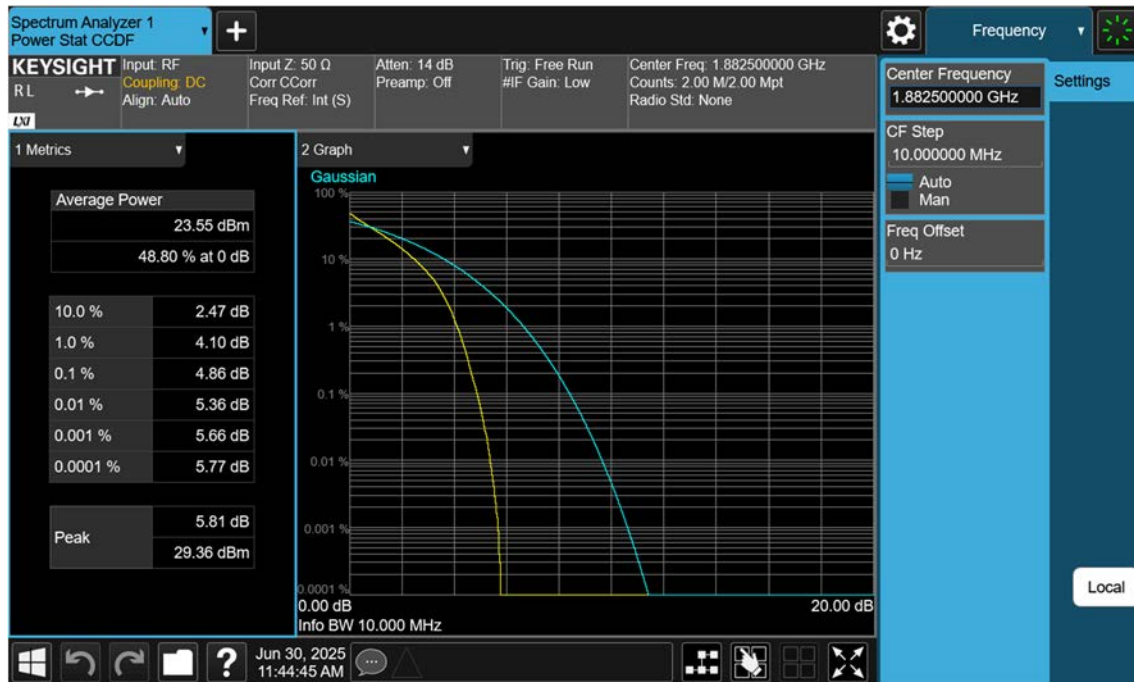
NR25_5 M_PAR_Mid_256QAM_FullRB



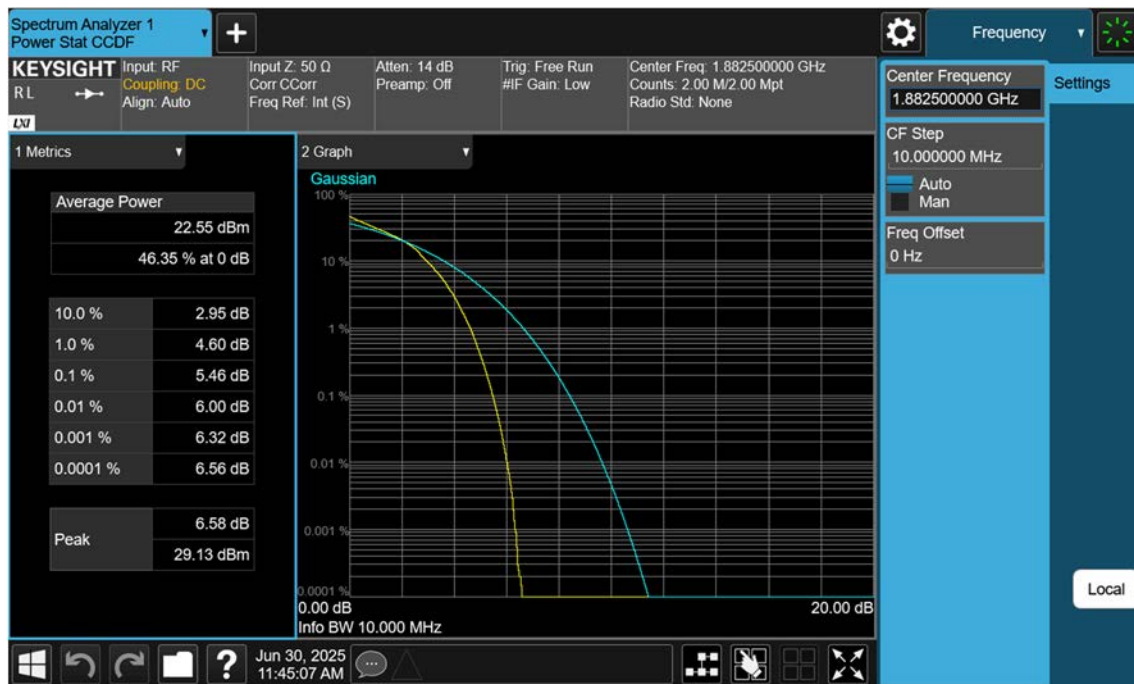
NR25_10 M_PAR_Mid_BPSK_FullIRB



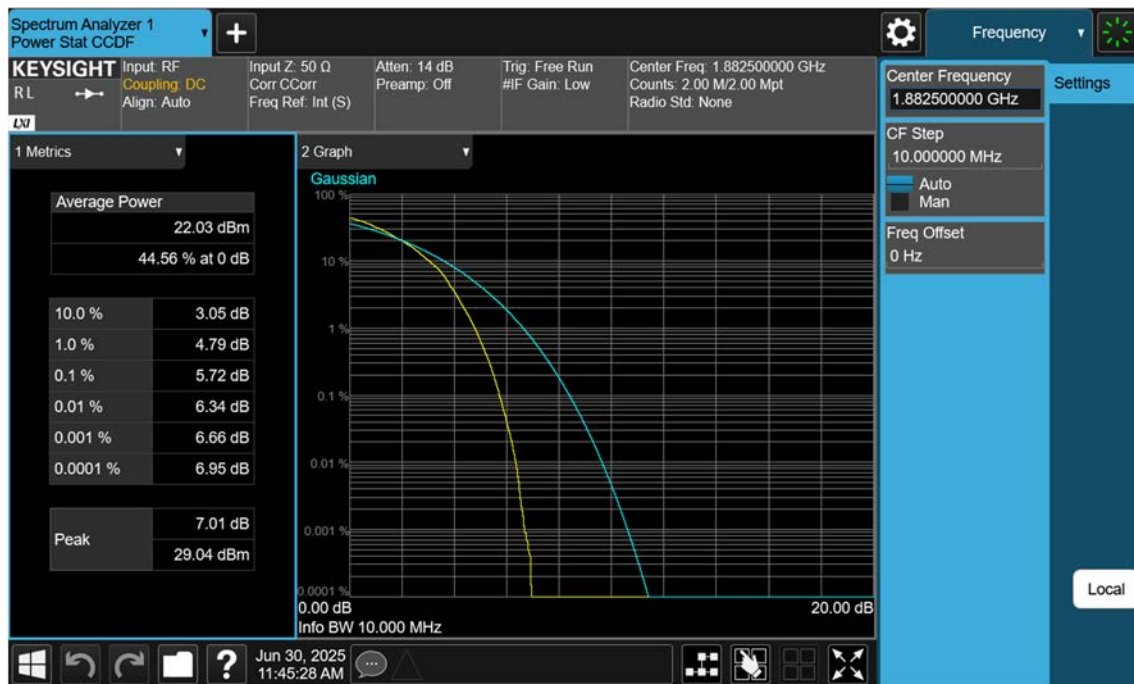
NR25_10 M_PAR_Mid_QPSK_FullRB



NR25_10 M_PAR_Mid_16QAM_FullRB



NR25_10 M_PAR_Mid_64QAM_FullRB



NR25_10 M_PAR_Mid_256QAM_FullRB



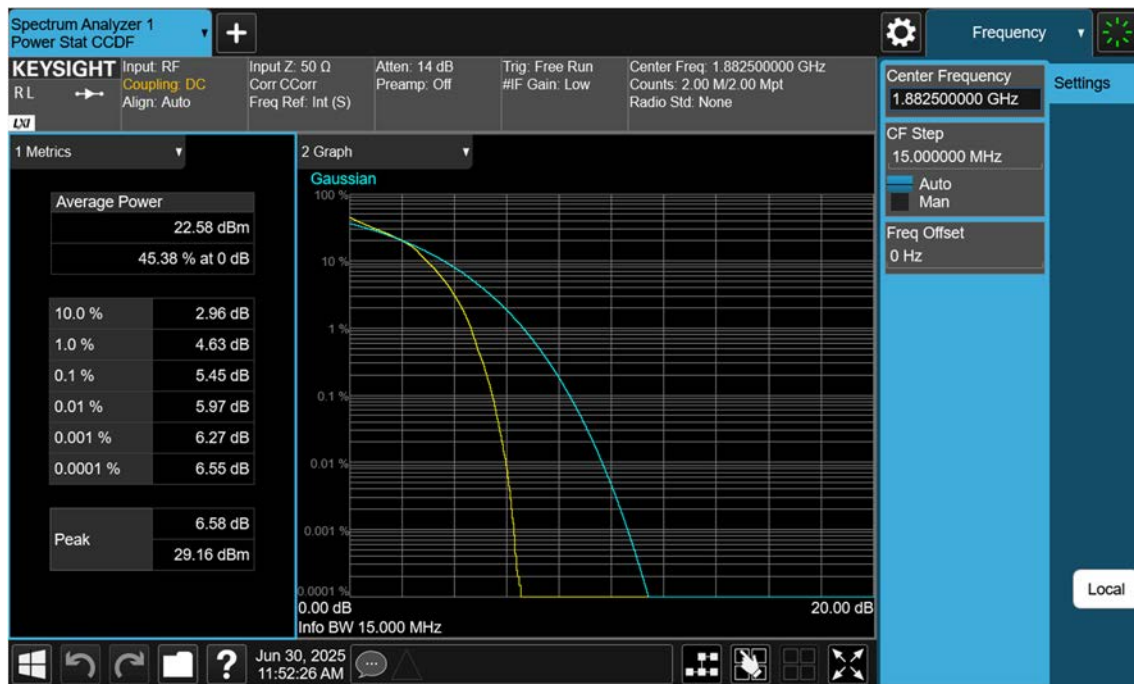
NR25_15 M_PAR_Mid_BPSK_FullIRB



NR25_15 M_PAR_Mid_QPSK_FullRB



NR25_15 M_PAR_Mid_16QAM_FullRB



NR25_15 M_PAR_Mid_64QAM_FullRB



NR25_15 M_PAR_Mid_256QAM_FullRB



NR25_20 M_PAR_Mid_BPSK_FullIRB



NR25_20 M_PAR_Mid_QPSK_FullRB



NR25_20 M_PAR_Mid_16QAM_FullRB



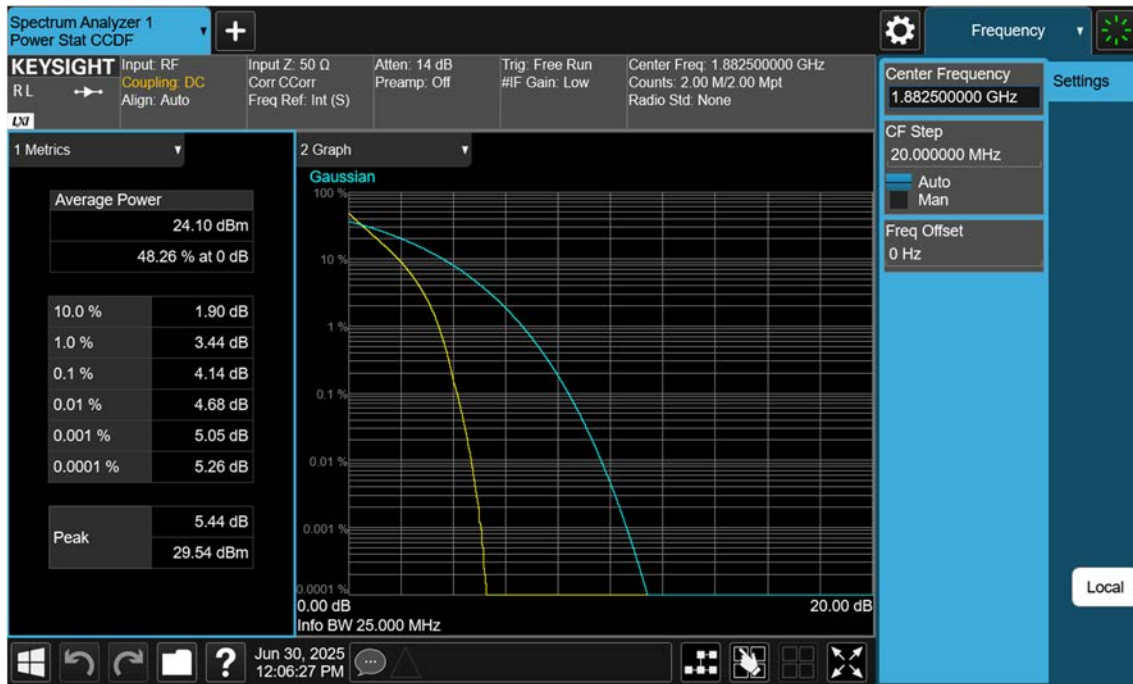
NR25_20 M_PAR_Mid_64QAM_FullRB



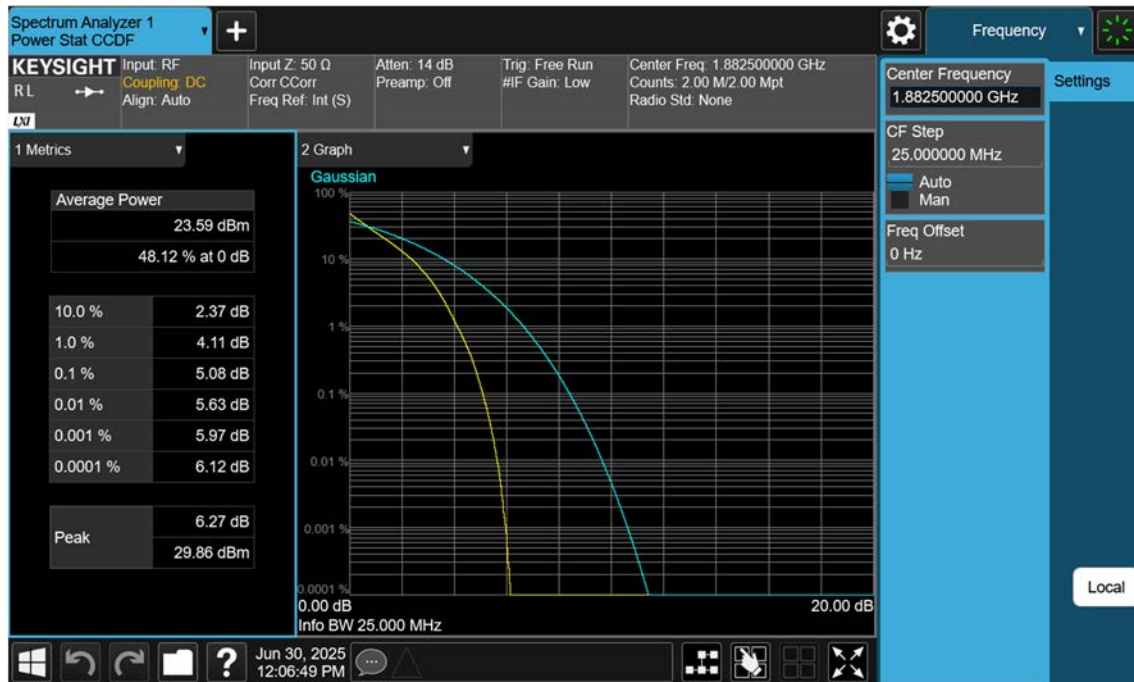
NR25_20 M_PAR_Mid_256QAM_FullRB



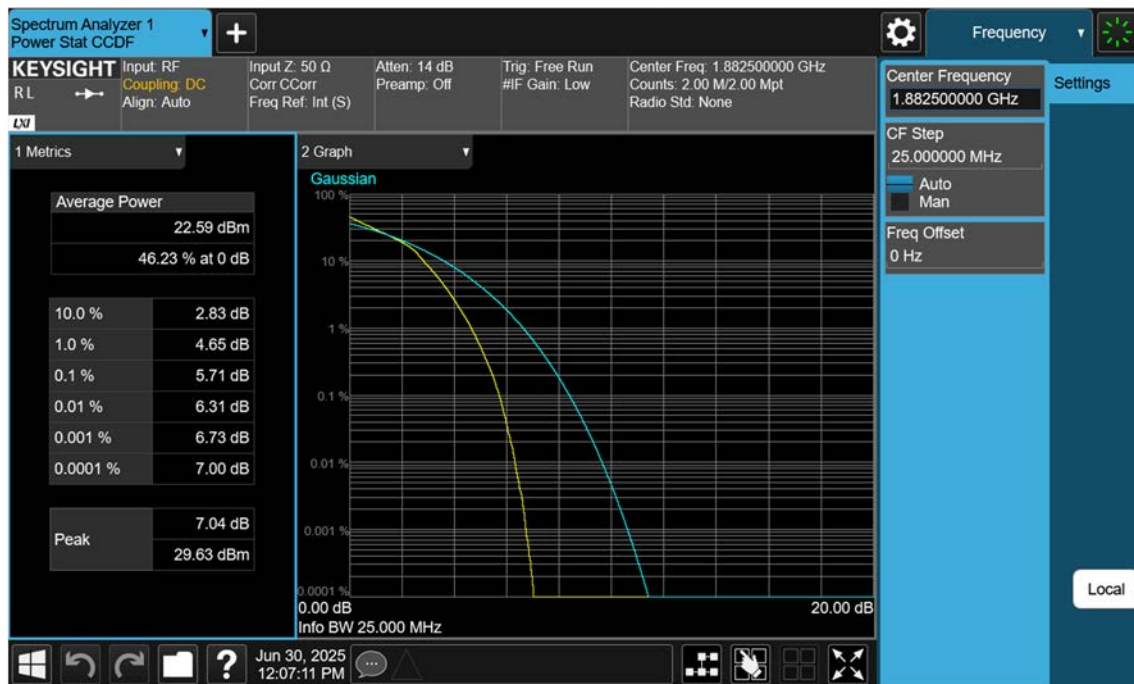
NR25_25 M_PAR_Mid_BPSK_FullIRB



NR25_25 M_PAR_Mid_QPSK_FullRB



NR25_25 M_PAR_Mid_16QAM_FullRB



NR25_25 M_PAR_Mid_64QAM_FullRB



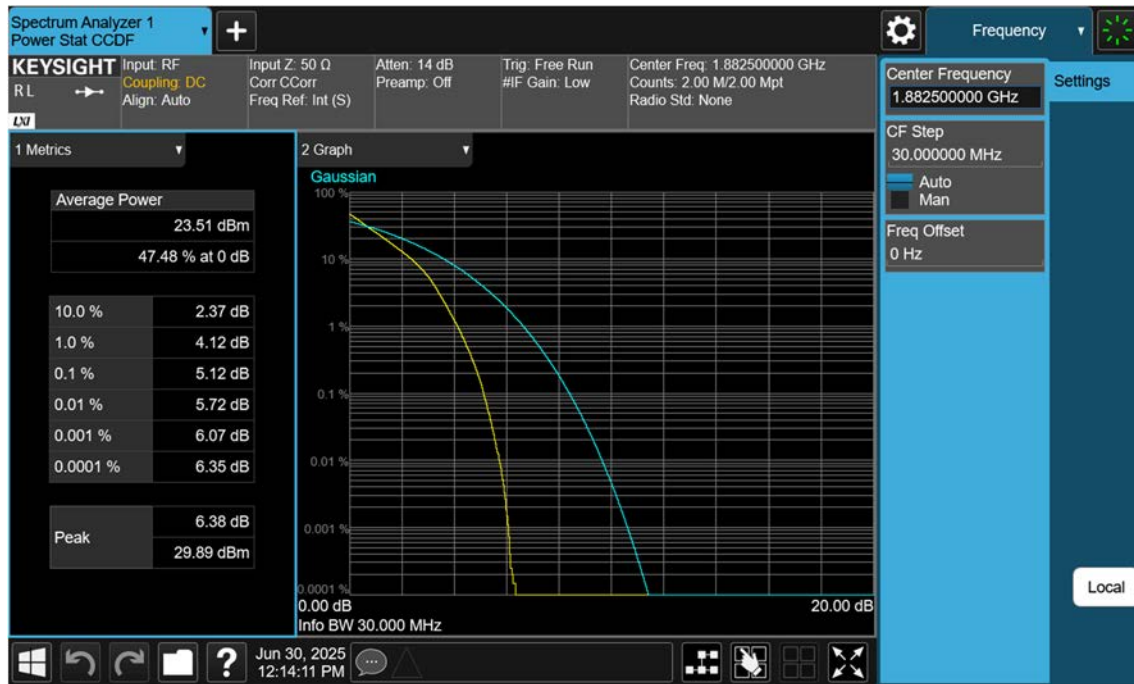
NR25_25 M_PAR_Mid_256QAM_FullRB



NR25_30 M_PAR_Mid_BPSK_FullIRB



NR25_30 M_PAR_Mid_QPSK_FullRB



NR25_30 M_PAR_Mid_16QAM_FullRB



NR25_30 M_PAR_Mid_64QAM_FullRB



Spectrum Analyzer 1
Power Stat CCDF

KEYSIGHT **RL** **→** **Input: RF** **Coupling: DC** **Align: Auto** **Input Z: 50 Ω** **Corr CCorr** **Freq Ref: Int (S)** **Atten: 14 dB** **Preamp: Off** **Trig: Free Run** **#IF Gain: Low** **Center Freq: 1.882500000 GHz** **Counts: 2.00 M/2.00 Mpt** **Radio Std: None**

1 Metrics

Average Power	
	19.98 dBm
	44.54 % at 0 dB

10.0 %	2.95 dB
1.0 %	4.86 dB
0.1 %	5.92 dB
0.01 %	6.51 dB
0.001 %	6.74 dB
0.0001 %	6.99 dB

Peak	
	7.01 dB
	26.99 dBm

2 Graph

Gaussian

0.0001 %
0.001 %
0.01 %
0.1 %
1 %
10 %
100 %

0.00 dB
20.00 dB

Info BW 30.000 MHz

Settings

Center Frequency
1.882500000 GHz

CF Step
30.000000 MHz

Auto
Man

Freq Offset
0 Hz

Local

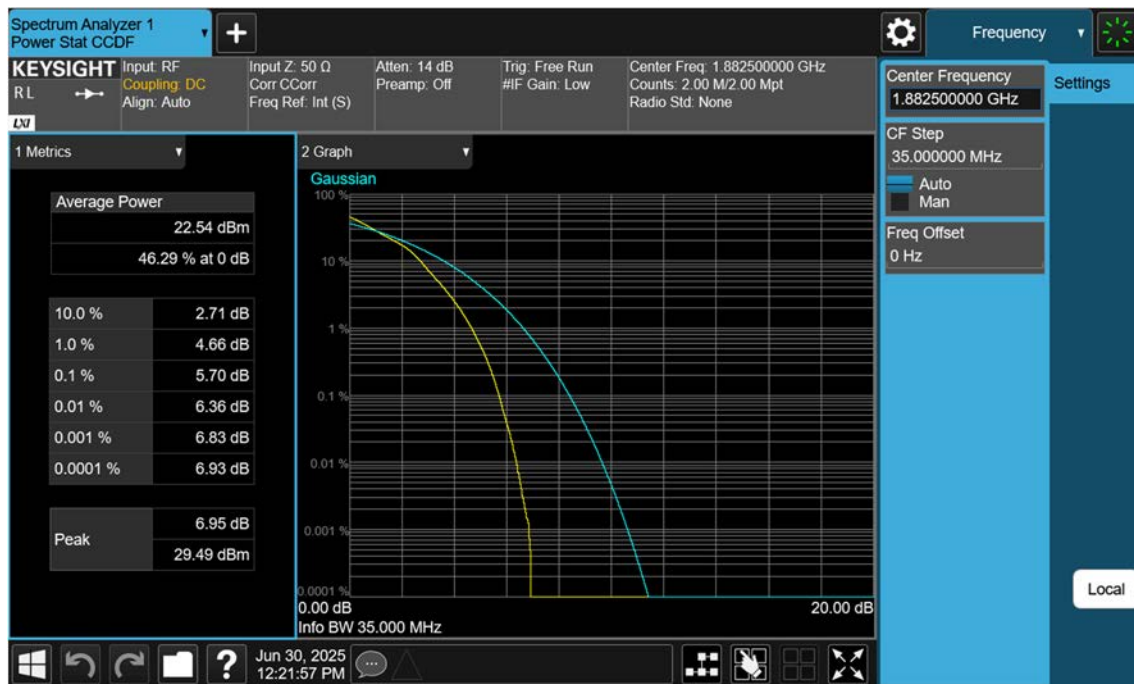
NR25_35 M_PAR_Mid_BPSK_FullRB



NR25_35 M_PAR_Mid_QPSK_FullRB



NR25_35 M_PAR_Mid_16QAM_FullRB



NR25_35 M_PAR_Mid_64QAM_FullRB



NR25_35 M_PAR_Mid_256QAM_FullRB



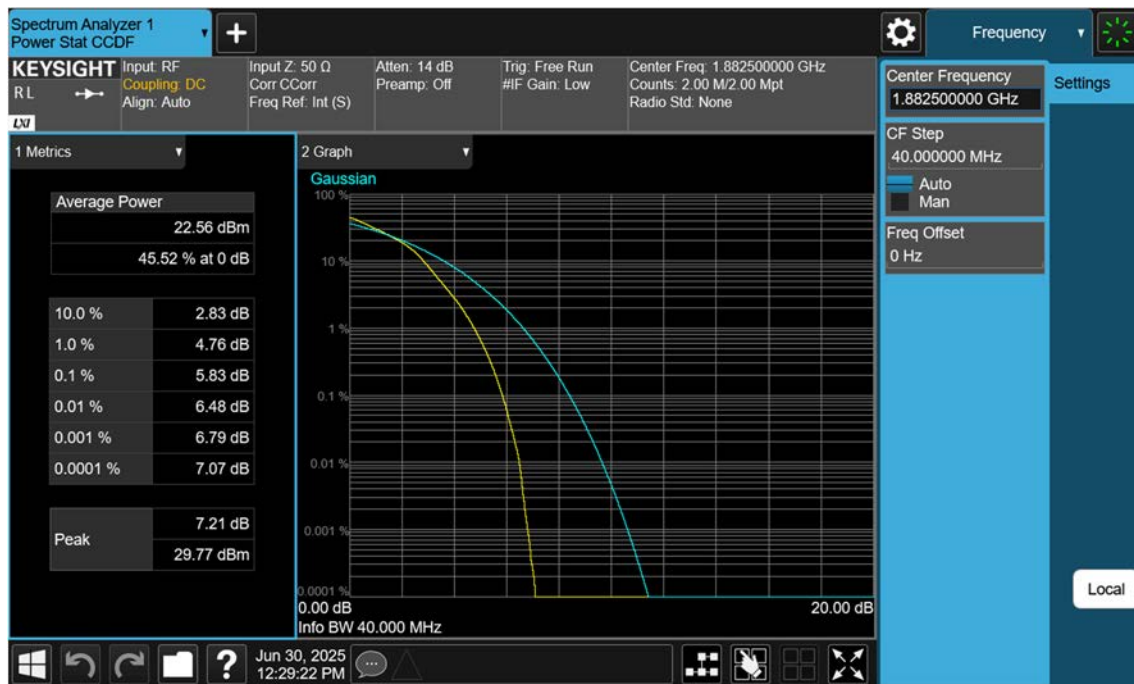
NR25_40 M_PAR_Mid_BPSK_FullIRB



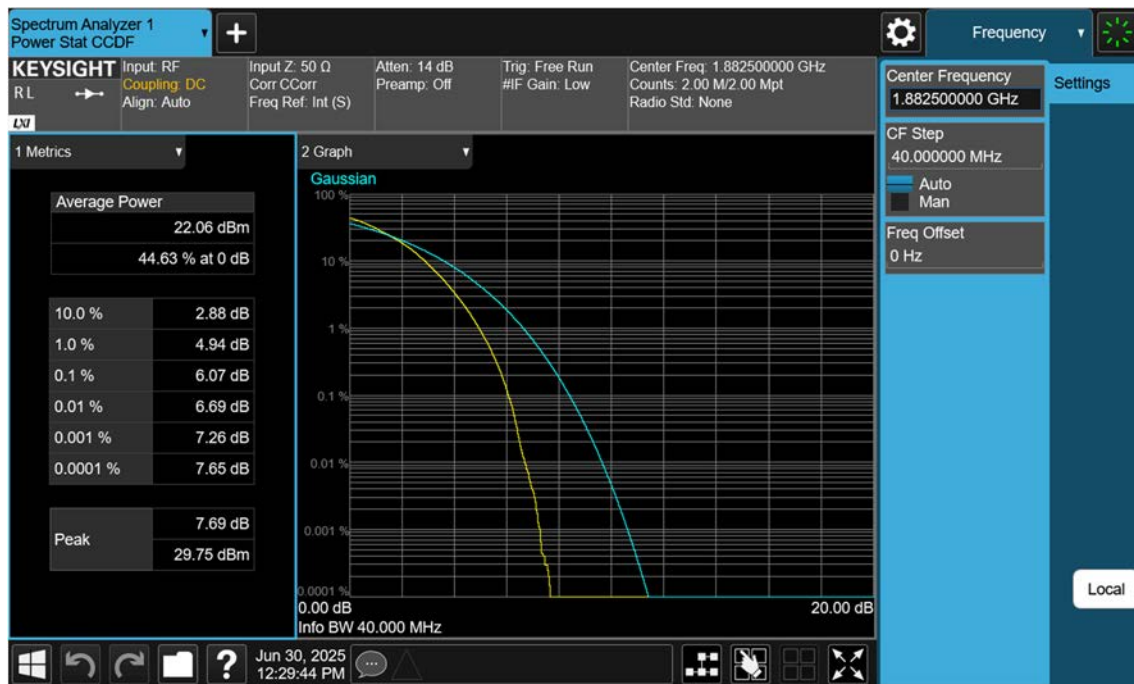
NR25_40 M_PAR_Mid_QPSK_FullRB



NR25_40 M_PAR_Mid_16QAM_FullRB



NR25_40 M_PAR_Mid_64QAM_FullRB



Spectrum Analyzer 1
Power Stat CCDF

KEYSIGHT **RL** **→** **Coupling: DC** **Align: Auto**

Input Z: 50 Ω Atten: 14 dB Trig: Free Run Center Freq: 1.882500000 GHz
Corr CCorr Preamp: Off #IF Gain: Low Counts: 2.00 M/2.00 Mpt
Freq Ref: Int (S) Radio Std: None

1 Metrics

Average Power

20.06 dBm	
44.60 % at 0 dB	

10.0 %	2.88 dB
1.0 %	4.93 dB
0.1 %	6.03 dB
0.01 %	6.71 dB
0.001 %	7.20 dB
0.0001 %	7.33 dB

Peak

7.35 dB
27.41 dBm

2 Graph

Gaussian

0.0001 % 0.001 % 0.01 % 0.1 % 1 % 10 % 100 %

0.00 dB 20.00 dB

Info BW 40.000 MHz

Settings

Center Frequency
1.882500000 GHz

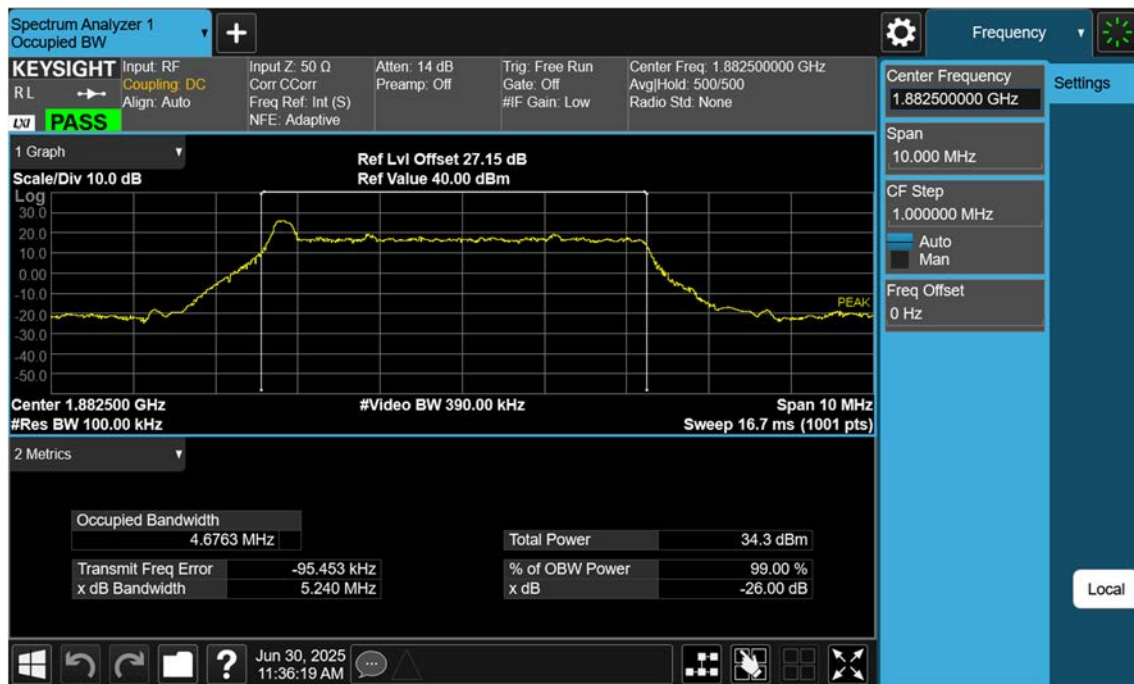
CF Step
40.000000 MHz

Auto
Man

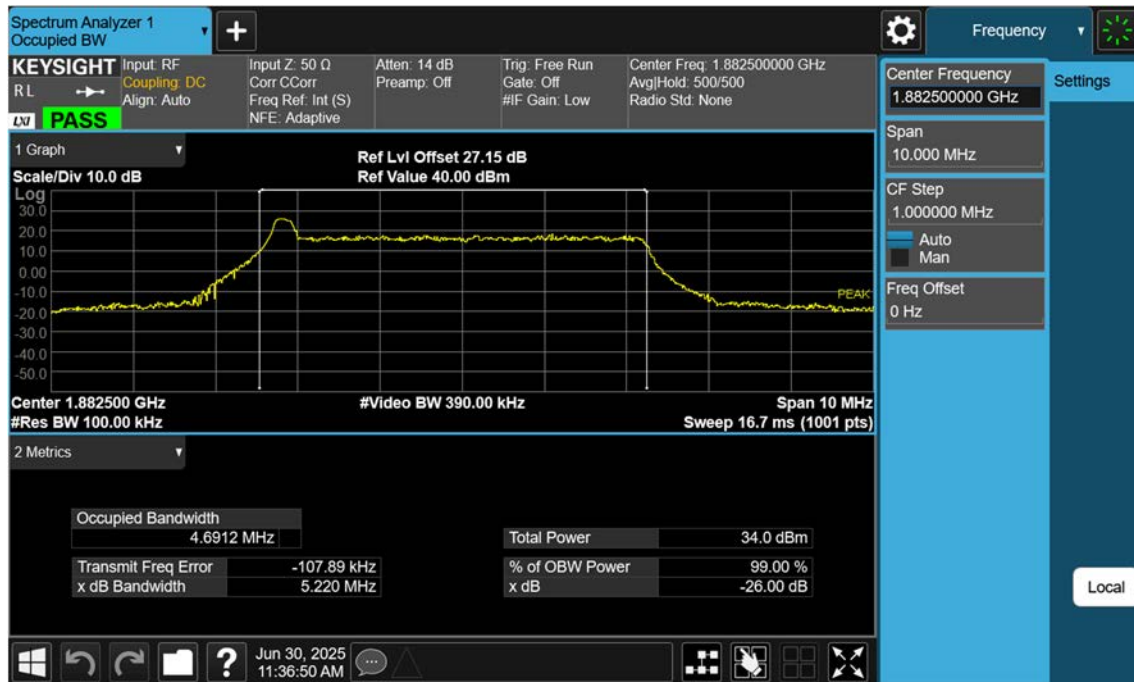
Freq Offset
0 Hz

Local

NR25_5 M_OBW_Mid_BPSK_FullRB



NR25_5 M_OBW_Mid_QPSK_FullRB



NR25_5 M_OBW_Mid_16QAM_FullRB



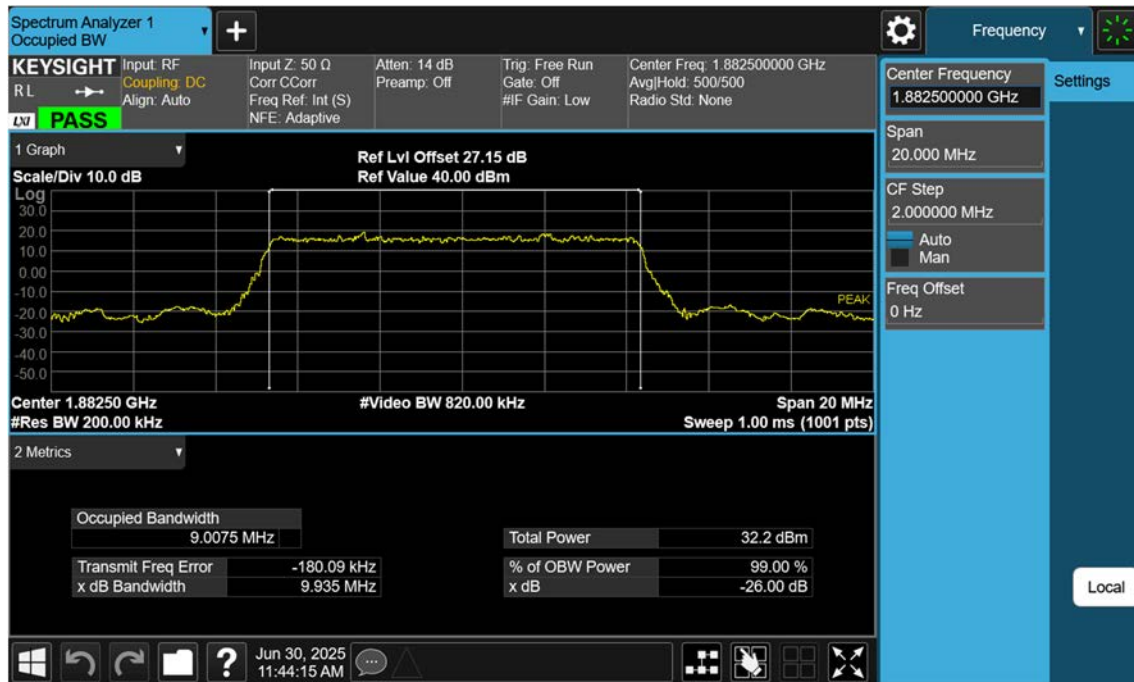
NR25_5 M_OBW_Mid_64QAM_FullRB



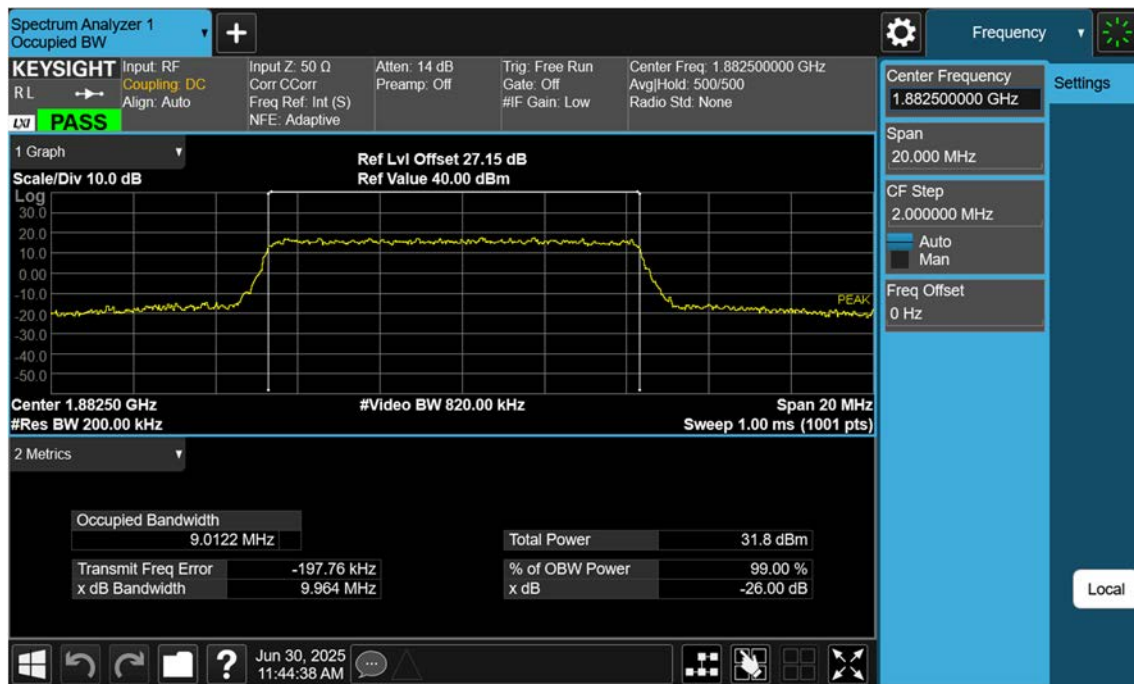
NR25_5 M_OBW_Mid_256QAM_FullRB



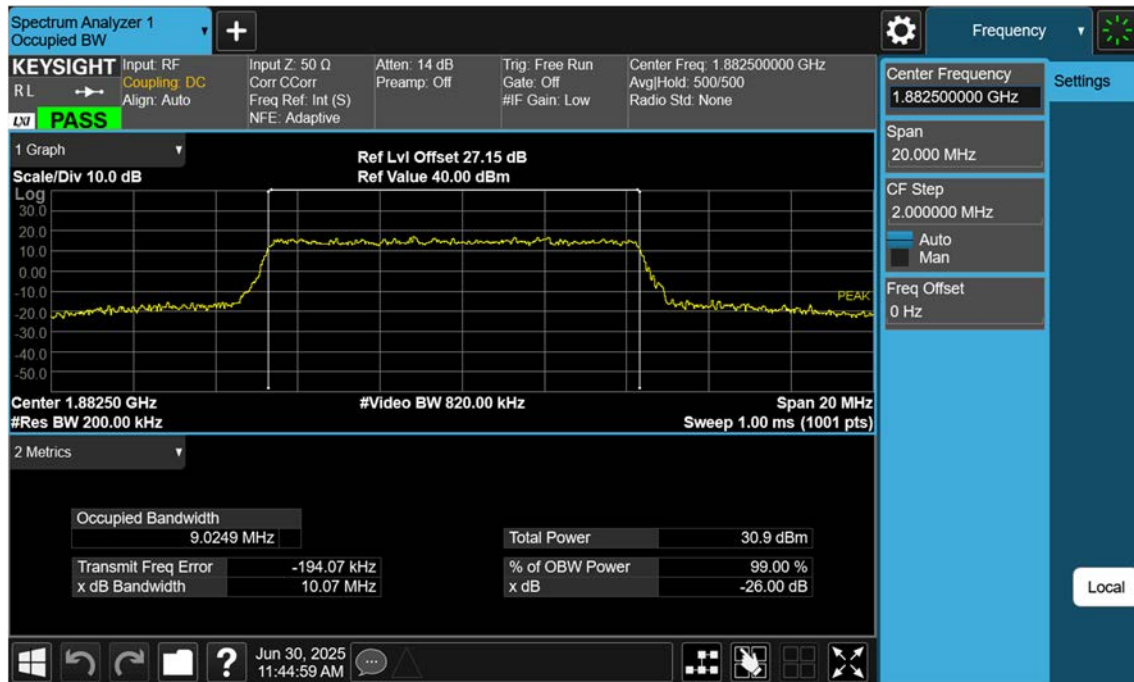
NR25_10 M_OBW_Mid_BPSK_FullRB



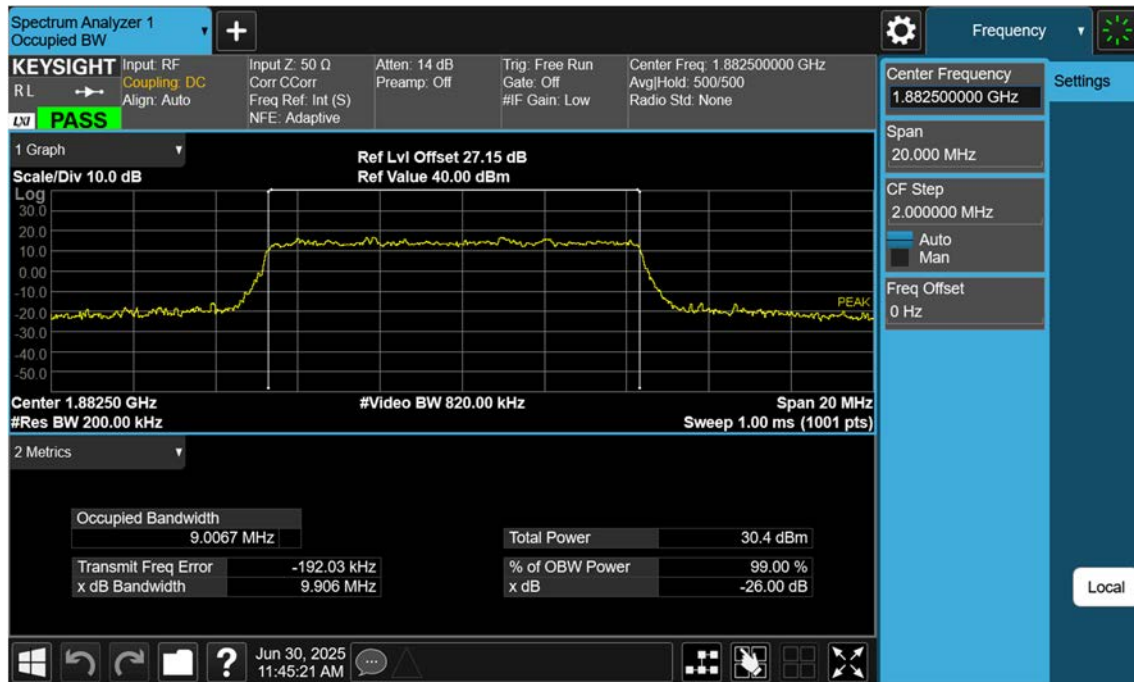
NR25_10 M_OBW_Mid_QPSK_FullRB



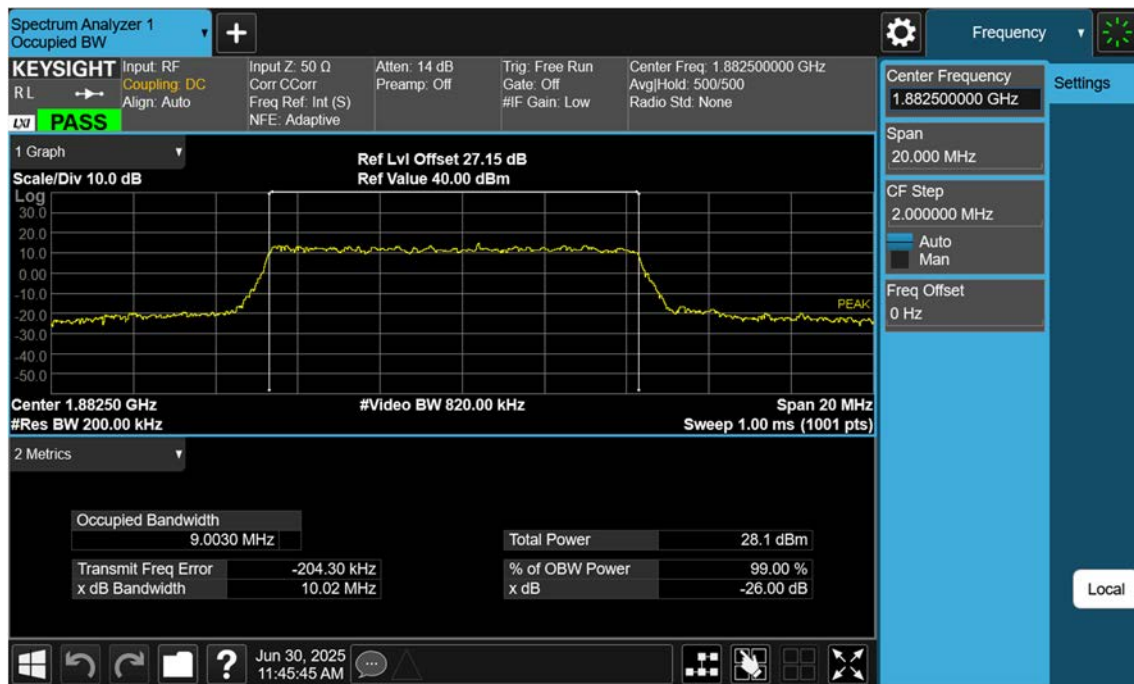
NR25_10 M_OBW_Mid_16QAM_FullRB



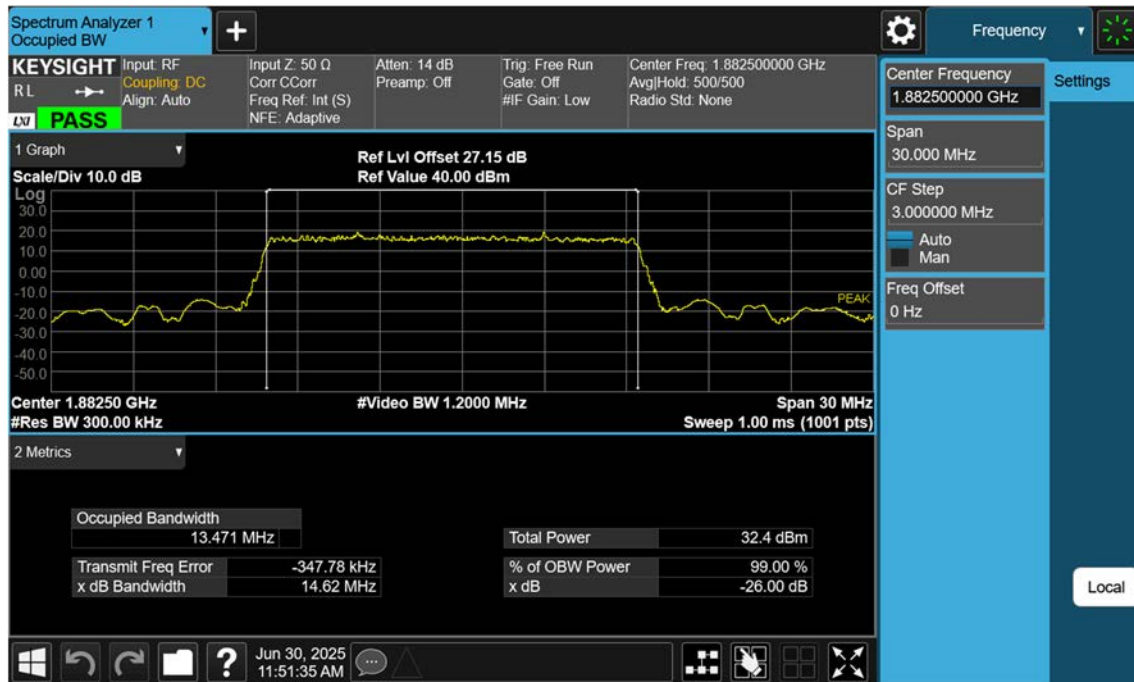
NR25_10 M_OBW_Mid_64QAM_FullRB



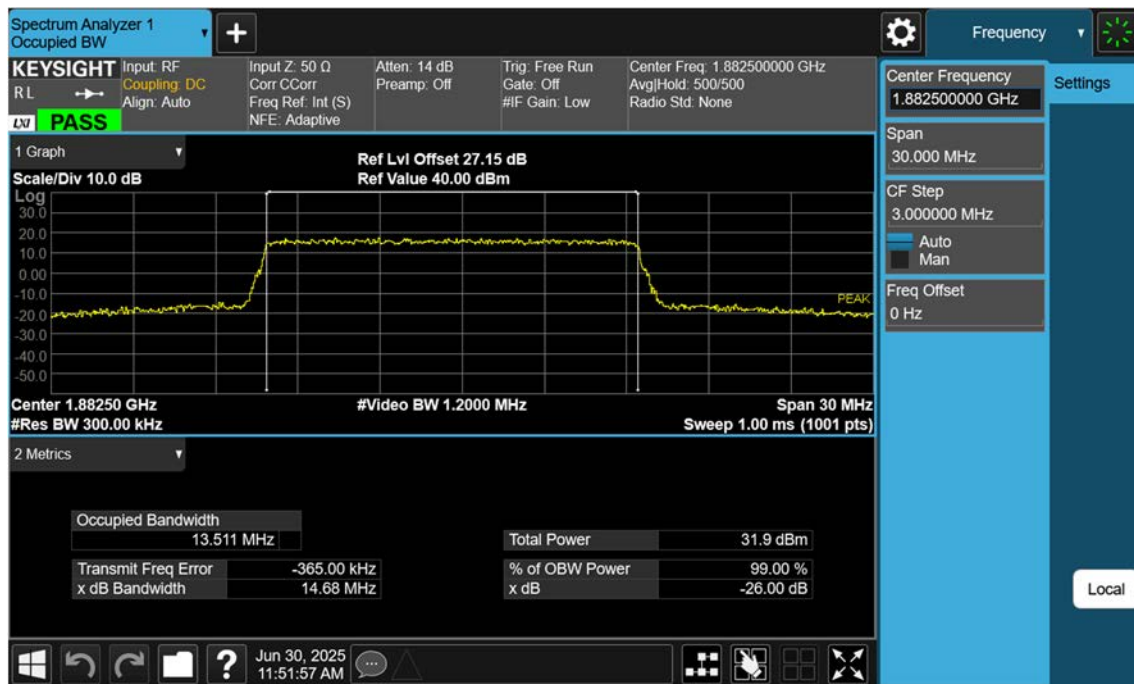
NR25_10 M_OBW_Mid_256QAM_FullRB



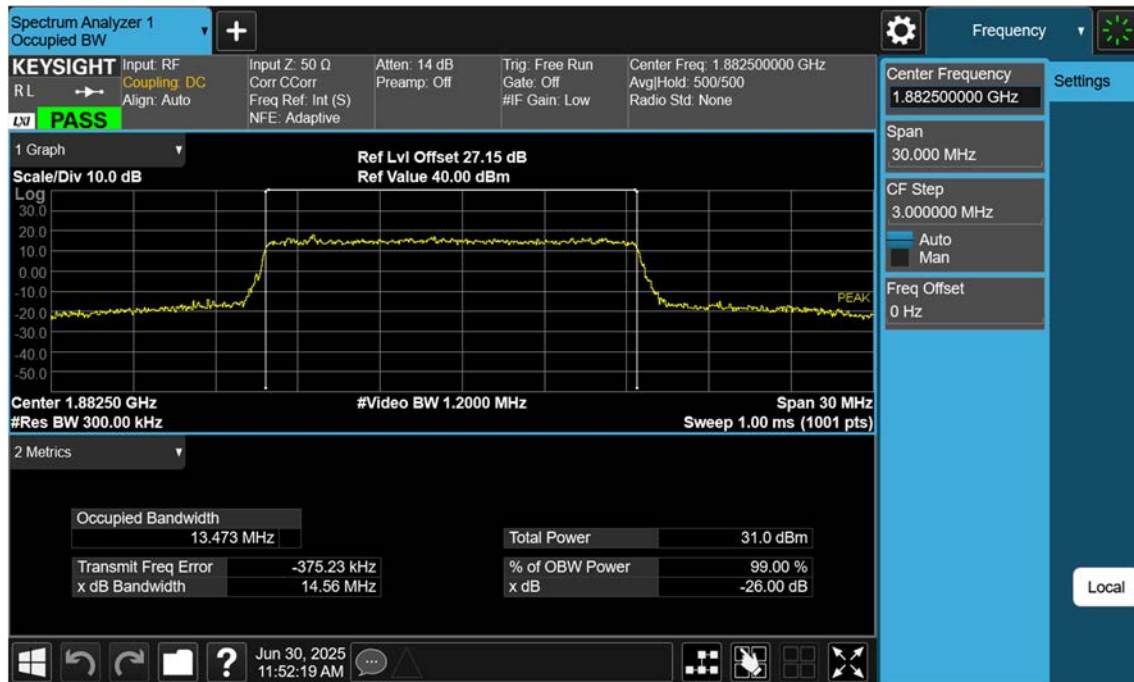
NR25_15 M_OBW_Mid_BPSK_FullRB



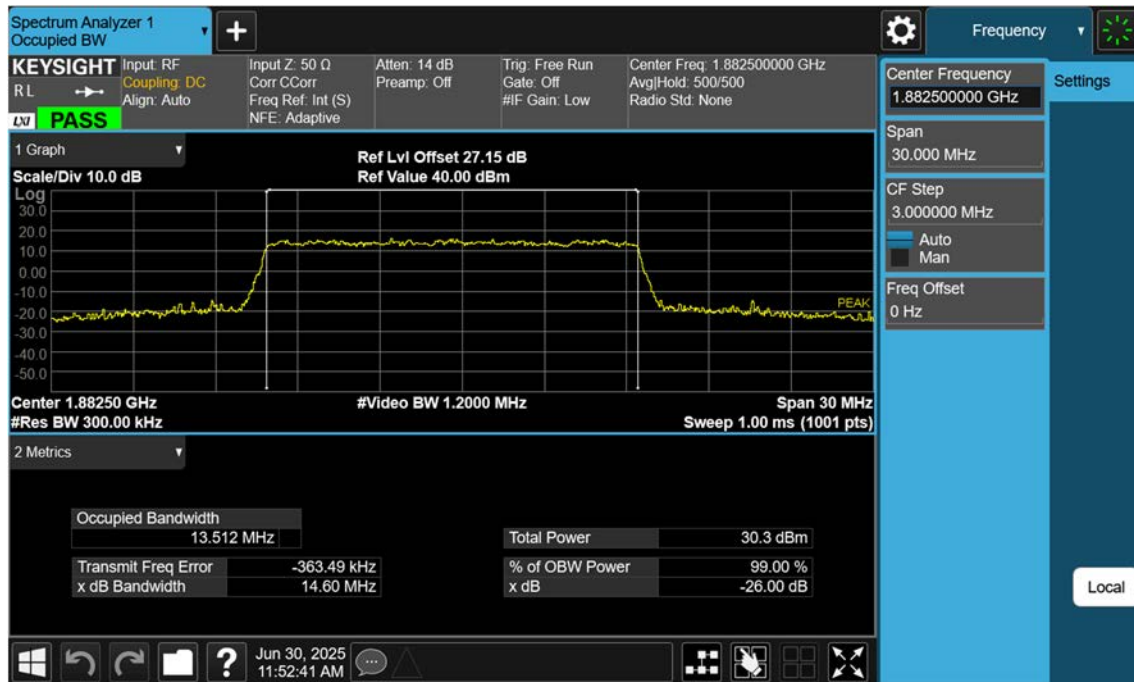
NR25_15 M_OBW_Mid_QPSK_FullRB



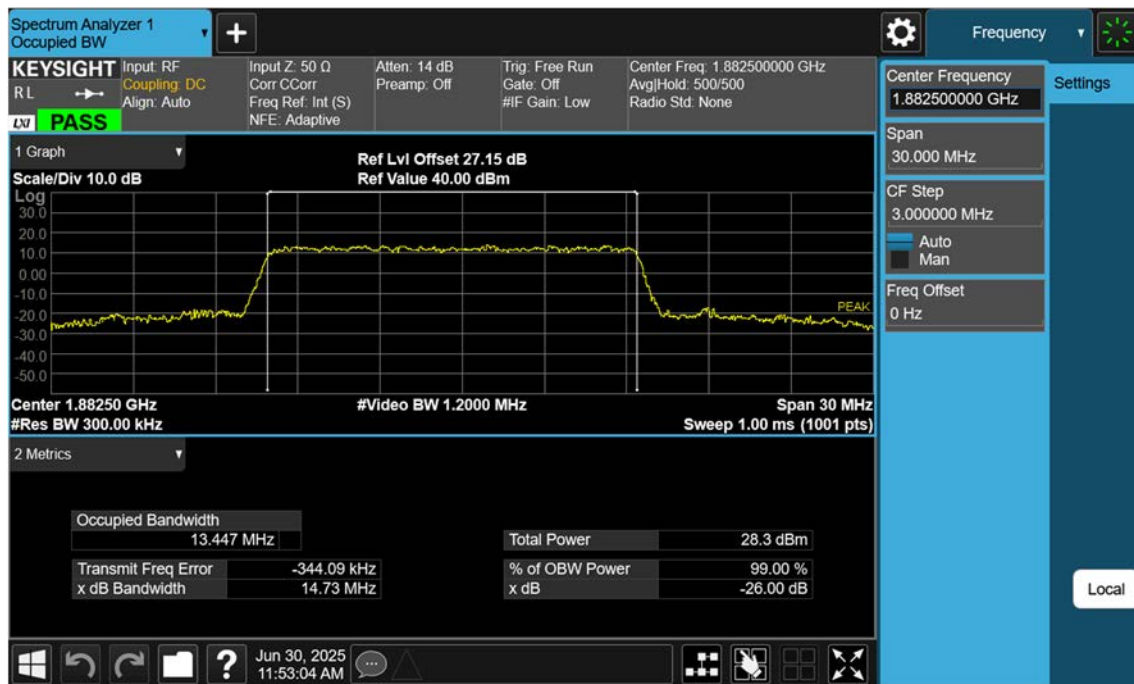
NR25_15 M_OBW_Mid_16QAM_FullRB



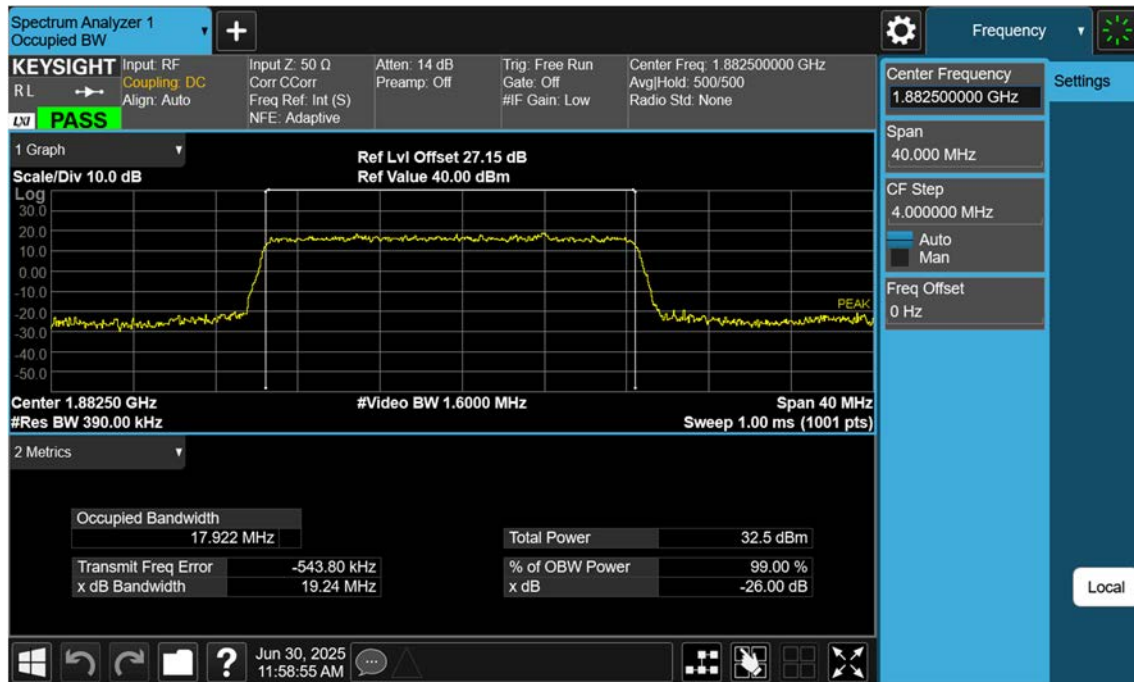
NR25_15 M_OBW_Mid_64QAM_FullRB



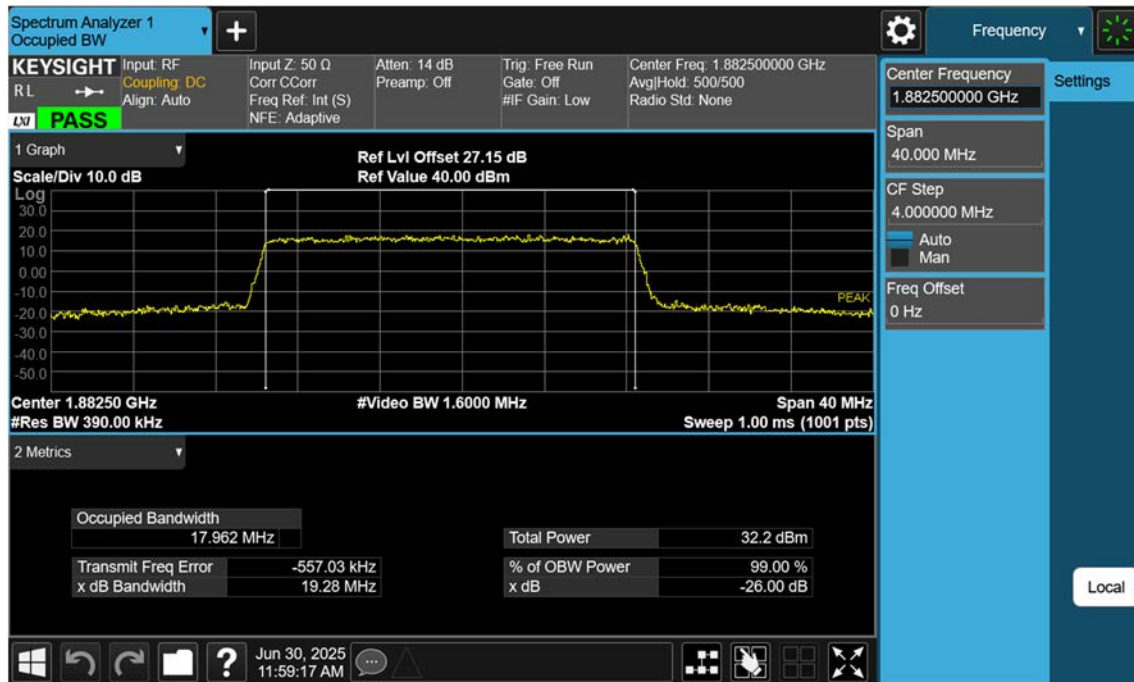
NR25_15 M_OBW_Mid_256QAM_FullRB



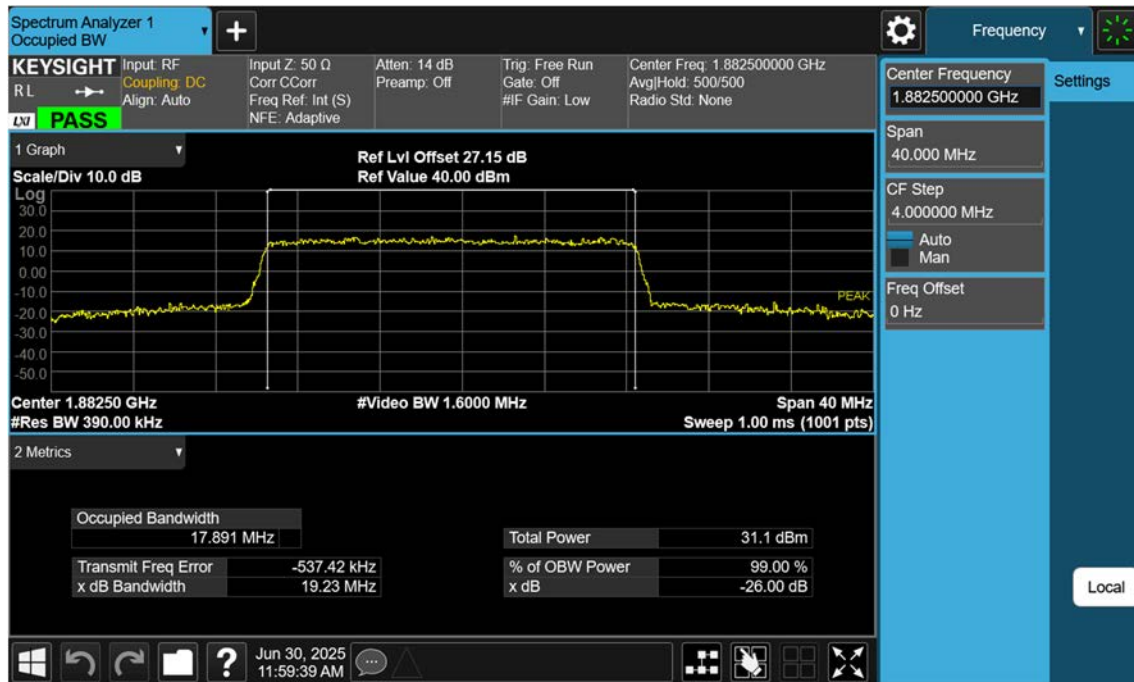
NR25_20 M_OBW_Mid_BPSK_FullRB



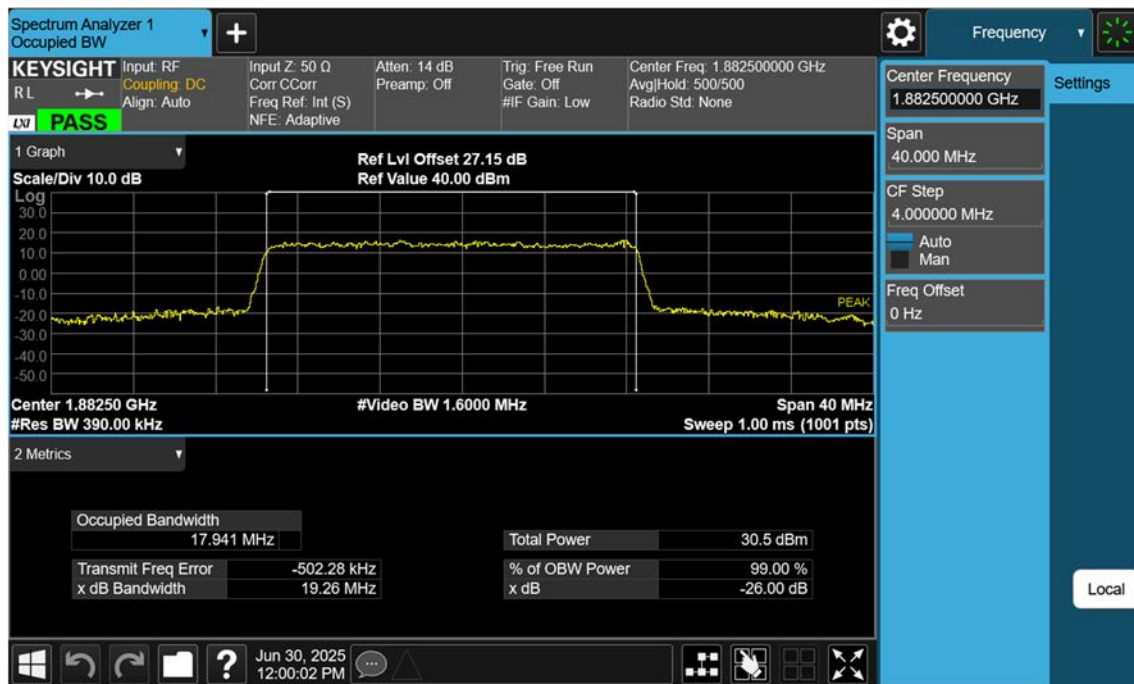
NR25_20 M_OBW_Mid_QPSK_FullRB



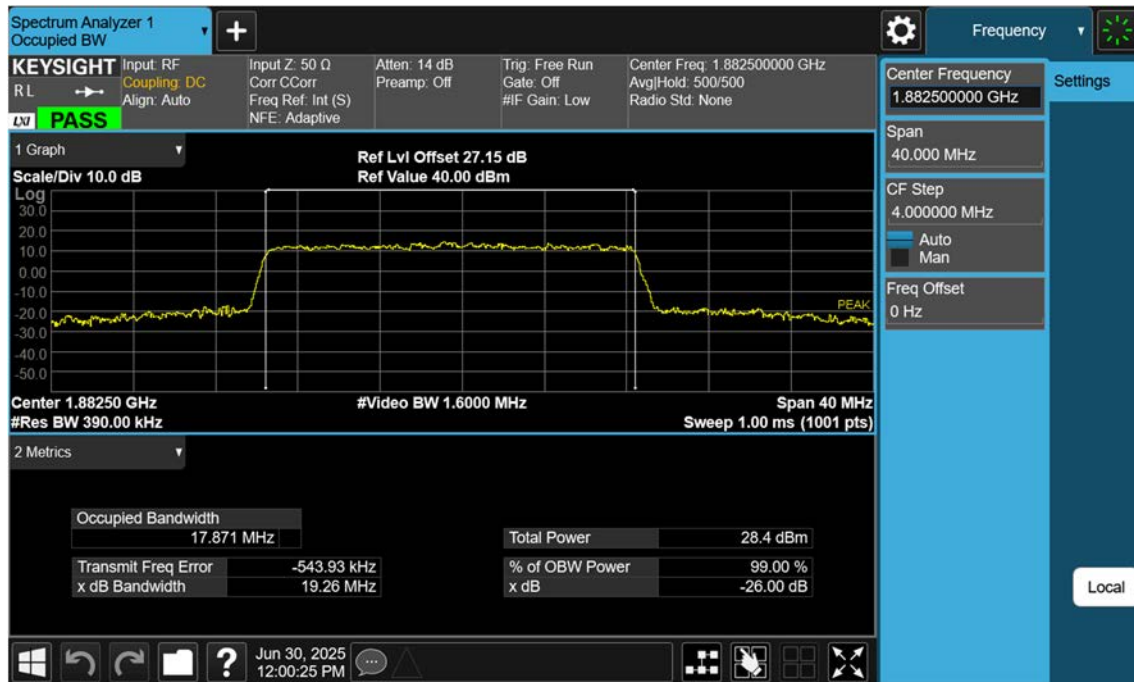
NR25_20 M_OBW_Mid_16QAM_FullRB



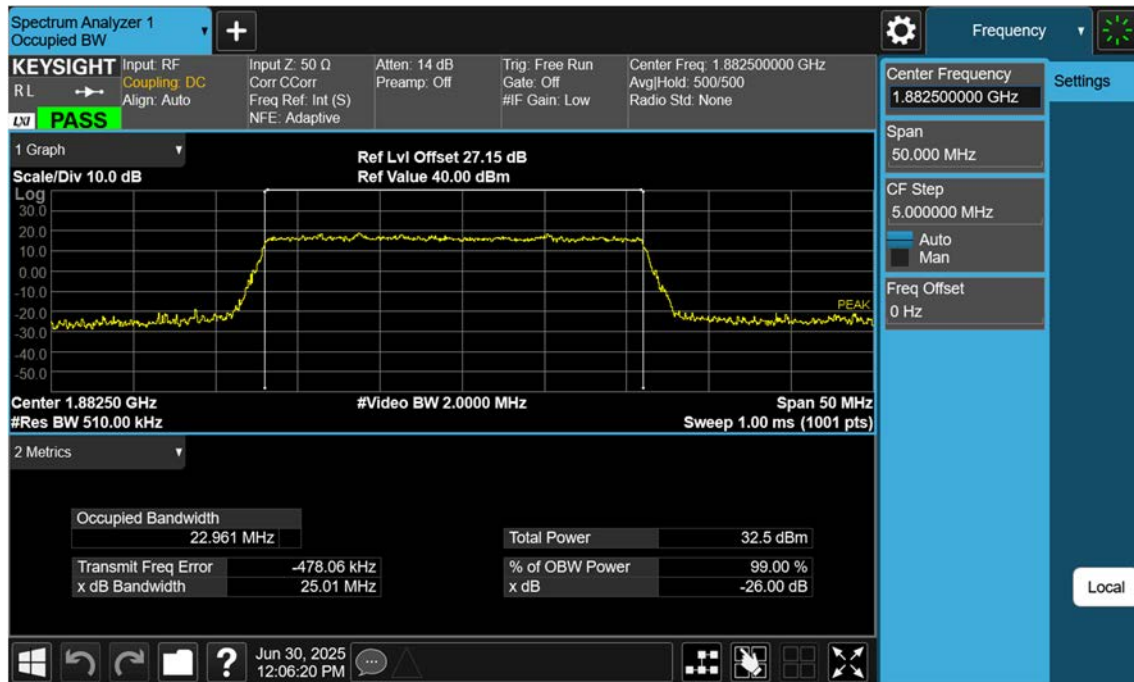
NR25_20 M_OBW_Mid_64QAM_FullRB



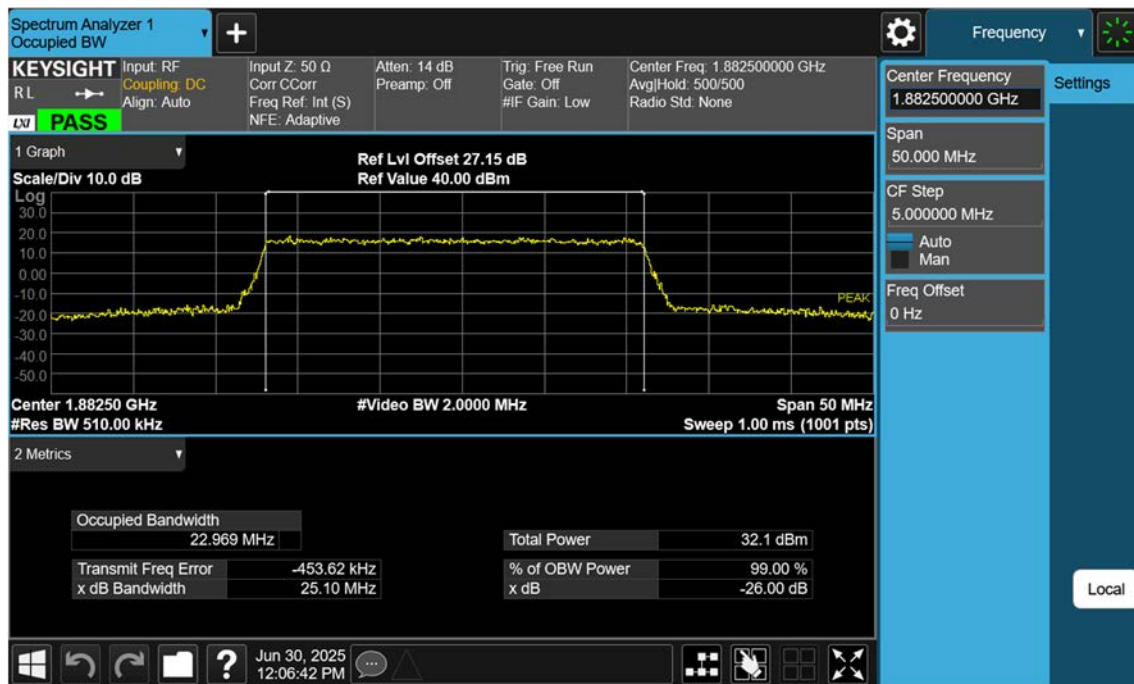
NR25_20 M_OBW_Mid_256QAM_FullRB



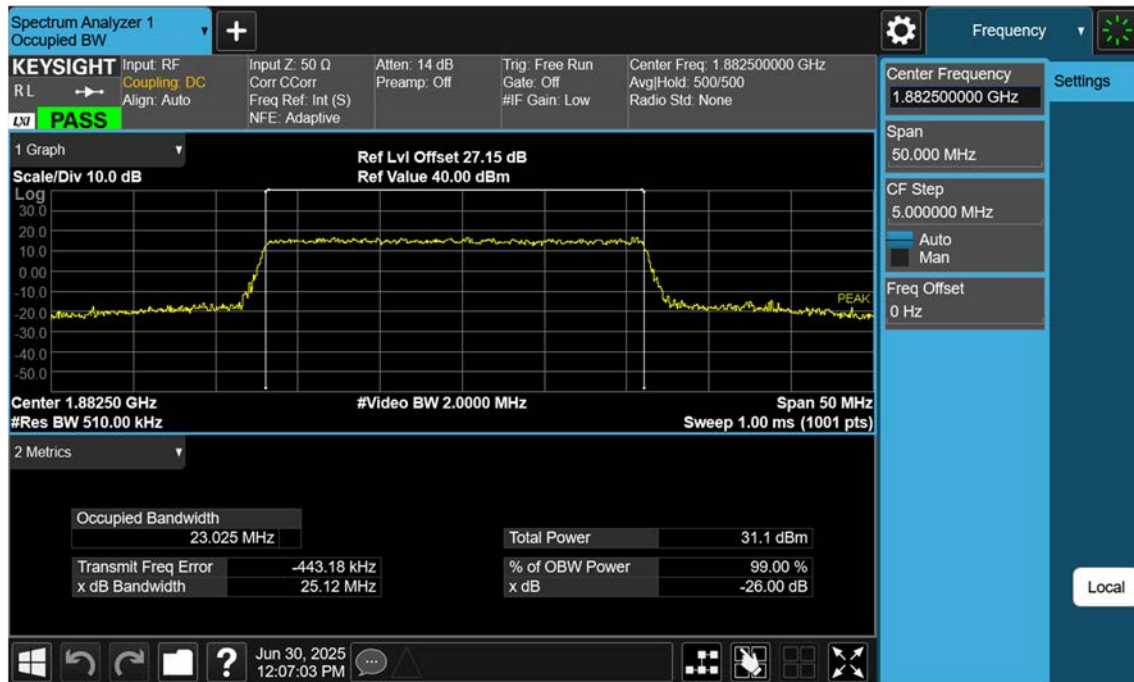
NR25_25 M_OBW_Mid_BPSK_FullRB



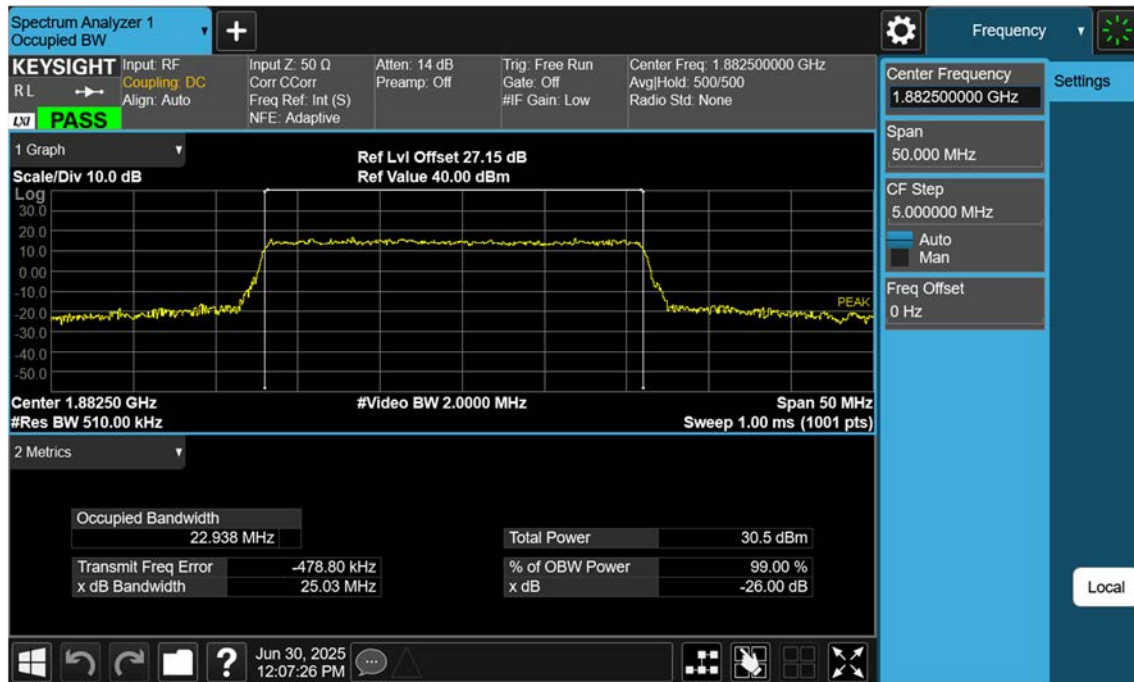
NR25_25 M_OBW_Mid_QPSK_FullRB



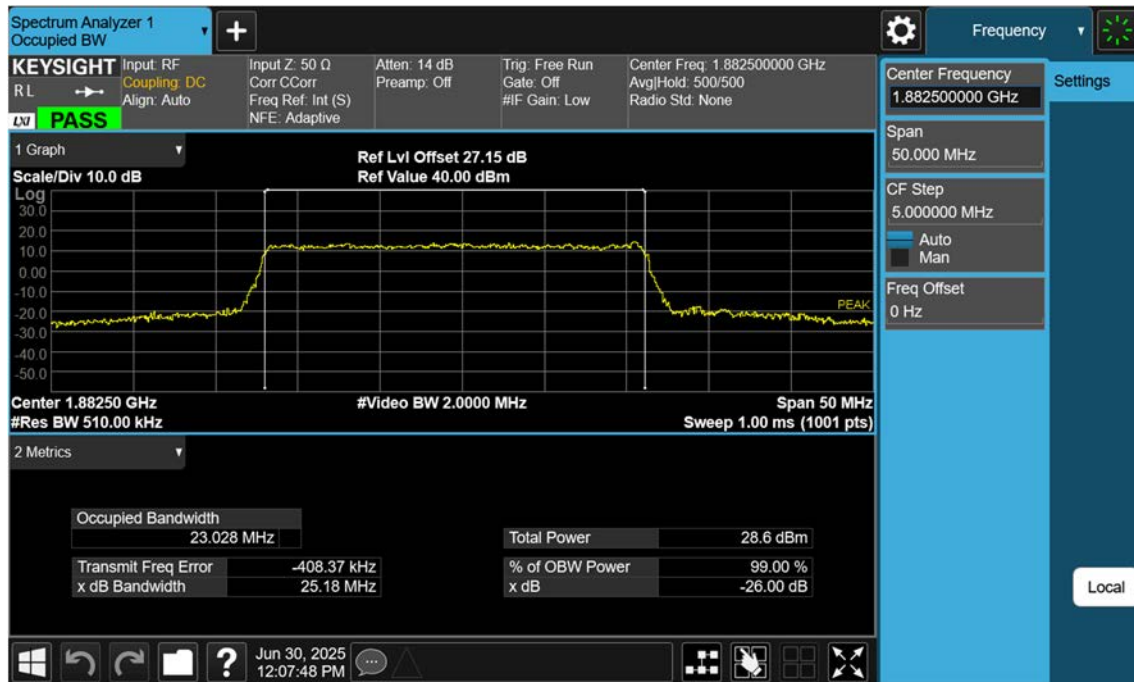
NR25_25 M_OBW_Mid_16QAM_FullRB



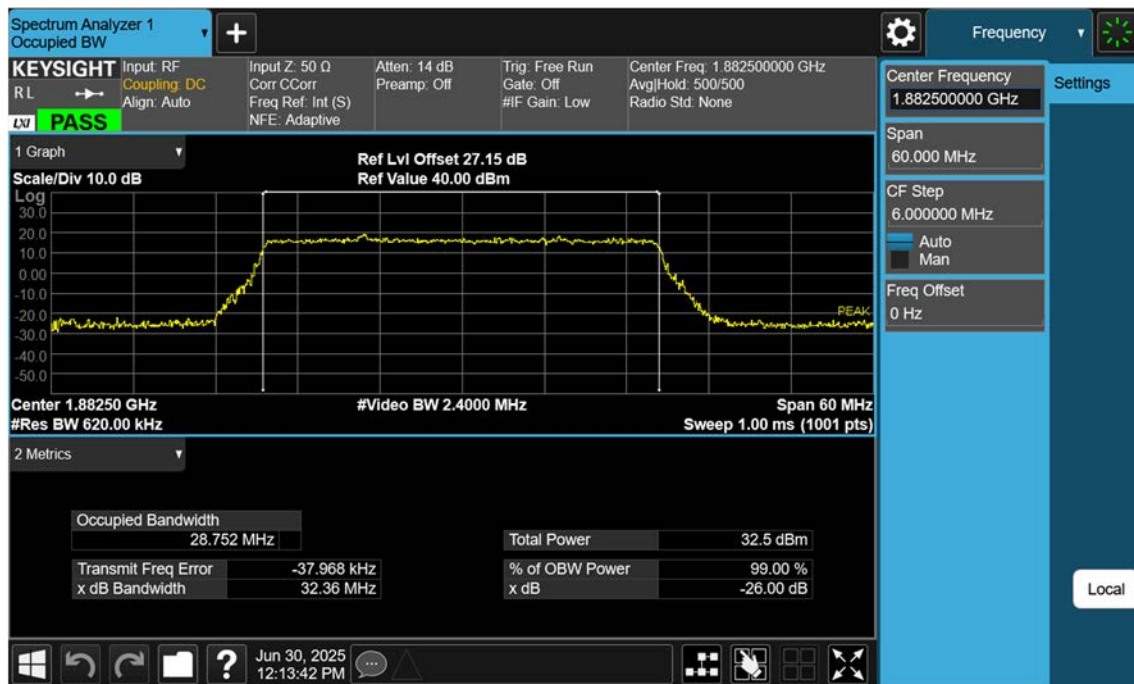
NR25_25 M_OBW_Mid_64QAM_FullRB



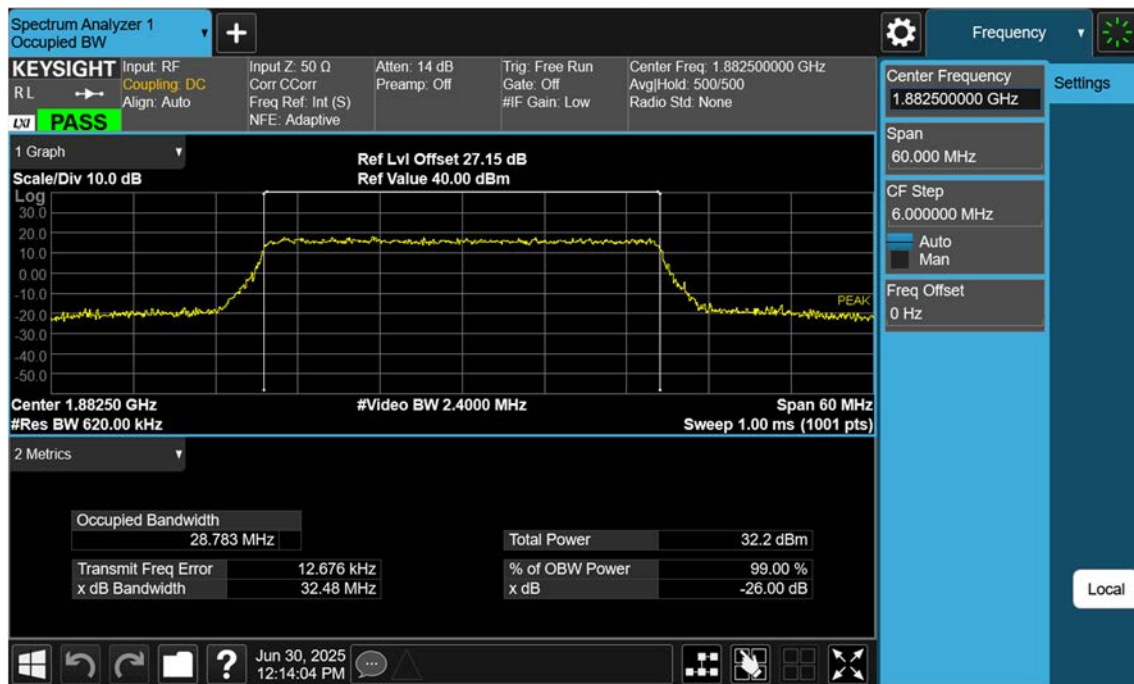
NR25_25 M_OBW_Mid_256QAM_FullRB



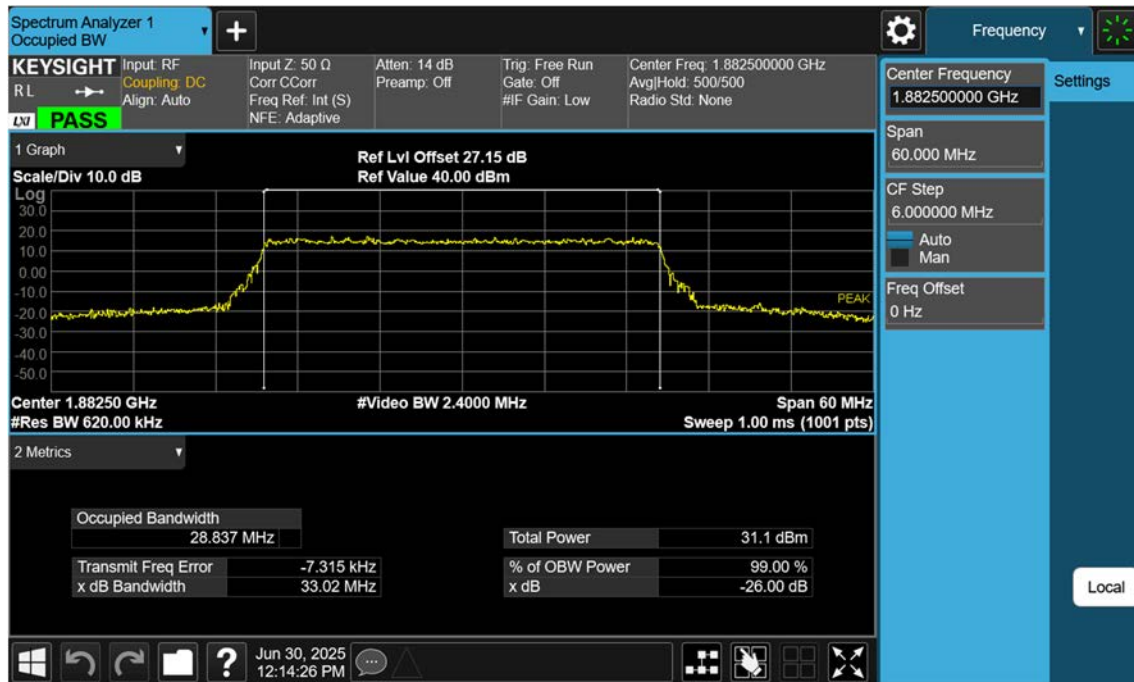
NR25_30 M_OBW_Mid_BPSK_FullRB



NR25_30 M_OBW_Mid_QPSK_FullRB



NR25_30 M_OBW_Mid_16QAM_FullRB



NR25_30 M_OBW_Mid_64QAM_FullRB

