TEST REPORT

FCC Sub6 n77 Test for SM-A566E/DS
Certification

APPLICANT
SAMSUNG Electronics Co., Ltd.

REPORT NO.
HCT-RF-2412-FC074

DATE OF ISSUE
December 23, 2024

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TEST REPORT

REPORT NO.
HCT-RF-2412-FC074

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Additional Model
SM-A566E

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-A566E/DS
Date of Test	November 08, 2024 ~ December 20, 2024
FCC ID	A3LSMA566E
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: § 27
Test Results	PASS

REVISION HISTORY

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

Revision No.	Date of Issue	Description
0	December 23, 2024	Initial Release

Notice

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

CONTENTS

MEASUREMENT REPORT

1. GENERAL INFORMATION

Applicant Name:	SAMSUNG Electronics Co., Ltd.
Address:	129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea
FCC ID:	A3LSMA566E
Application Type:	Certification
FCC Classification:	PCS Licensed Transmitter Held to Ear (PCE)
FCC Rule Part(s):	§ 27
EUT Type:	Mobile phone
Model(s):	SM-A566E/DS
Additional Model(s)	SM-A566E
SCS(kHz):	30
Bandwidth(MHz):	10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100
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: **(3450 MHz - 3550 MHz)**	3455.01 MHz – 3544.99 MHz (Sub6 n77(10 MHz)) 3457.50 MHz – 3542.50 MHz (Sub6 n77(15 MHz)) 3460.02 MHz – 3540.00 MHz (Sub6 n77(20 MHz)) 3465.00 MHz – 3534.99 MHz (Sub6 n77(30 MHz)) 3470.01 MHz – 3529.98 MHz (Sub6 n77(40 MHz)) 3475.02 MHz – 3525.00 MHz (Sub6 n77(50 MHz)) 3480.00 MHz – 3519.99 MHz (Sub6 n77(60 MHz)) 3485.01 MHz – 3514.98 MHz (Sub6 n77(70 MHz)) 3490.02 MHz – 3510.00 MHz (Sub6 n77(80 MHz)) 3495.00 MHz – 3504.99 MHz (Sub6 n77(90 MHz)) 3500.01 MHz (Sub6 n77(100 MHz))
Tx Frequency: **(3700 MHz - 3980 MHz)**	3705.00 MHz – 3975.00 MHz (Sub6 n77(10 MHz)) 3707.51 MHz – 3972.48 MHz (Sub6 n77(15 MHz)) 3710.01 MHz – 3969.99 MHz (Sub6 n77(20 MHz)) 3715.02 MHz – 3964.98 MHz (Sub6 n77(30 MHz)) 3720.00 MHz – 3960.00 MHz (Sub6 n77(40 MHz)) 3725.10 MHz – 3954.99 MHz (Sub6 n77(50 MHz)) 3730.02 MHz – 3949.98 MHz (Sub6 n77(60 MHz)) 3735.00 MHz – 3945.00 MHz (Sub6 n77(70 MHz)) 3740.01 MHz – 3939.99 MHz (Sub6 n77(80 MHz)) 3745.02 MHz – 3934.98 MHz (Sub6 n77(90 MHz)) 3745.02 MHz – 3934.98 MHz (Sub6 n77(90 MHz)) 3750.00 MHz – 3930.00 MHz (Sub6 n77(100 MHz))
Date(s) of Tests:	November 08, 2024 ~ December 20, 2024
Serial number:	Radiated : R3CXB08Q3NH Conducted : R3CXB08Q38B
Antenna Information	Please refer to the Antenna Approval Specification document.

1.1. MAXIMUM OUTPUT POWER

1. 3450 MHz - 3550 MHz

Mode (MHz)	Tx Frequency (MHz)	Emission Designator	Modulation	EIRP	
				Max. Power (W)	Max. Power (dBm)
Sub6 n77 (10)	3455.01 – 3544.99	8M74G7D	PI/2 BPSK	0.145	21.61
		8M70G7D	QPSK	0.141	21.48
		8M70W7D	16QAM	0.118	20.71
		8M68W7D	64QAM	0.080	19.05
		8M65W7D	256QAM	0.052	17.12
Sub6 n77 (15)	3457.50 – 3542.50	13M0G7D	PI/2 BPSK	0.153	21.84
		13M0G7D	QPSK	0.152	21.81
		13M0W7D	16QAM	0.122	20.86
		13M0W7D	64QAM	0.086	19.36
		13M1W7D	256QAM	0.054	17.31
Sub6 n77 (20)	3460.02 – 3540.00	18M0G7D	PI/2 BPSK	0.156	21.93
		18M0G7D	QPSK	0.154	21.87
		18M0W7D	16QAM	0.125	20.96
		17M9W7D	64QAM	0.088	19.43
		17M9W7D	256QAM	0.054	17.30
Sub6 n77 (30)	3465.00 – 3534.99	27M1G7D	PI/2 BPSK	0.155	21.91
		27M0G7D	QPSK	0.153	21.86
		27M0W7D	16QAM	0.125	20.96
		27M0W7D	64QAM	0.085	19.31
		26M9W7D	256QAM	0.055	17.44
Sub6 n77 (40)	3470.01 – 3529.98	36M0G7D	PI/2 BPSK	0.161	22.07
		36M1G7D	QPSK	0.160	22.05
		35M9W7D	16QAM	0.128	21.06
		36M0W7D	64QAM	0.089	19.50
		35M9W7D	256QAM	0.054	17.36
Sub6 n77 (50)	3475.02 – 3525.00	46M0G7D	PI/2 BPSK	0.160	22.03
		45M9G7D	QPSK	0.156	21.93
		46M1W7D	16QAM	0.129	21.09
		45M9W7D	64QAM	0.089	19.48
		46M1W7D	256QAM	0.056	17.49
Sub6 n77 (60)	3480.00 – 3519.99	58M2G7D	PI/2 BPSK	0.167	22.23
		58M3G7D	QPSK	0.164	22.16
		58M3W7D	16QAM	0.135	21.31
		58M1W7D	64QAM	0.092	19.63
		58M2W7D	256QAM	0.058	17.64
Sub6 n77 (70)	3485.01 – 3514.98	64M9G7D	PI/2 BPSK	0.161	22.08
		64M8G7D	QPSK	0.157	21.97
		64M7W7D	16QAM	0.129	21.09
		64M8W7D	64QAM	0.090	19.55
		64M7W7D	256QAM	0.056	17.47
Sub6 n77 (80)	3490.02 – 3510.00	77M6G7D	PI/2 BPSK	0.161	22.06
		77M5G7D	QPSK	0.155	21.91
		77M7W7D	16QAM	0.127	21.05
		77M7W7D	64QAM	0.086	19.37
		77M6W7D	256QAM	0.056	17.45
Sub6 n77 (90)	3495.00 – 3504.99	87M3G7D	PI/2 BPSK	0.150	21.76
		87M5G7D	QPSK	0.150	21.75
		87M1W7D	16QAM	0.121	20.83
		87M0W7D	64QAM	0.088	19.43
		87M3W7D	256QAM	0.054	17.34
Sub6 n77 (100)	3500.01	96M8G7D	PI/2 BPSK	0.144	21.59
		96M7G7D	QPSK	0.144	21.57
		96M7W7D	16QAM	0.110	20.40
		97M0W7D	64QAM	0.082	19.12
		96M8W7D	256QAM	0.051	17.09

2. 3700 MHz - 3980 MHz

Mode (MHz)	Tx Frequency (MHz)	Emission Designator	Modulation	EIRP	
				Max. Power (W)	Max. Power (dBm)
Sub6 n77 (10)	3705.00 – 3975.00	8M65G7D	PI/2 BPSK	0.151	21.78
		8M64G7D	QPSK	0.149	21.73
		8M67W7D	16QAM	0.115	20.60
		8M65W7D	64QAM	0.082	19.14
		8M70W7D	256QAM	0.053	17.22
Sub6 n77 (15)	3707.51 – 3972.48	13M0G7D	PI/2 BPSK	0.150	21.76
		12M9G7D	QPSK	0.148	21.69
		13M0W7D	16QAM	0.121	20.81
		13M0W7D	64QAM	0.086	19.32
		13M0W7D	256QAM	0.053	17.27
Sub6 n77 (20)	3710.01 – 3969.99	18M0G7D	PI/2 BPSK	0.148	21.70
		18M0G7D	QPSK	0.147	21.67
		17M9W7D	16QAM	0.119	20.75
		18M0W7D	64QAM	0.086	19.33
		18M0W7D	256QAM	0.053	17.24
Sub6 n77 (30)	3715.02 – 3964.98	27M0G7D	PI/2 BPSK	0.151	21.78
		26M9G7D	QPSK	0.148	21.70
		26M9W7D	16QAM	0.121	20.84
		27M0W7D	64QAM	0.083	19.17
		27M0W7D	256QAM	0.051	17.10
Sub6 n77 (40)	3720.00 – 3960.00	35M9G7D	PI/2 BPSK	0.149	21.74
		36M0G7D	QPSK	0.149	21.72
		35M9W7D	16QAM	0.117	20.67
		35M9W7D	64QAM	0.084	19.22
		35M9W7D	256QAM	0.052	17.14
Sub6 n77 (50)	3725.10 – 3954.99	45M9G7D	PI/2 BPSK	0.151	21.79
		46M0G7D	QPSK	0.150	21.75
		45M9W7D	16QAM	0.115	20.62
		45M8W7D	64QAM	0.084	19.25
		46M0W7D	256QAM	0.054	17.32
Sub6 n77 (60)	3730.02 – 3949.98	58M2G7D	PI/2 BPSK	0.156	21.92
		58M1G7D	QPSK	0.154	21.88
		58M0W7D	16QAM	0.123	20.89
		58M0W7D	64QAM	0.085	19.31
		58M0W7D	256QAM	0.054	17.32
Sub6 n77 (70)	3735.00 – 3945.00	64M7G7D	PI/2 BPSK	0.154	21.87
		64M6G7D	QPSK	0.152	21.82
		64M5W7D	16QAM	0.122	20.85
		64M7W7D	64QAM	0.087	19.39
		64M7W7D	256QAM	0.055	17.44
Sub6 n77 (80)	3740.01 – 3939.99	77M4G7D	PI/2 BPSK	0.154	21.88
		77M6G7D	QPSK	0.153	21.84
		77M4W7D	16QAM	0.122	20.85
		77M4W7D	64QAM	0.085	19.29
		77M4W7D	256QAM	0.055	17.44
Sub6 n77 (90)	3745.02 – 3934.98	87M2G7D	PI/2 BPSK	0.156	21.94
		87M2G7D	QPSK	0.156	21.92
		87M1W7D	16QAM	0.124	20.93
		87M2W7D	64QAM	0.086	19.35
		87M0W7D	256QAM	0.055	17.42
Sub6 n77 (100)	3750.00 – 3930.00	96M7G7D	PI/2 BPSK	0.156	21.92
		96M8G7D	QPSK	0.154	21.87
		96M9W7D	16QAM	0.125	20.98
		96M8W7D	64QAM	0.086	19.37
		96M9W7D	256QAM	0.055	17.37

2. INTRODUCTION

2.1. DESCRIPTION OF EUT

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

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

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 ≥ 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.

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;

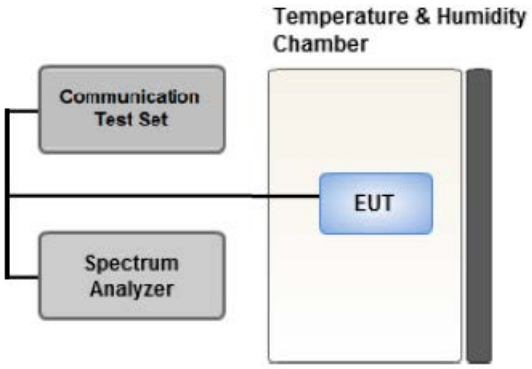
$$\text{Result}_{(dBm)} = \text{Pg}_{(dBm)} - \text{cable loss}_{(dB)} + \text{antenna gain}_{(dBi)}$$

   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)

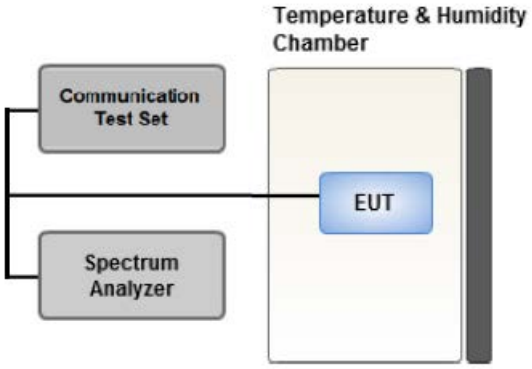
The measurement instrument must have a RBW that is greater than or equal to the OBW of the signal to be measured and a VBW ≥ 3 × RBW.

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.



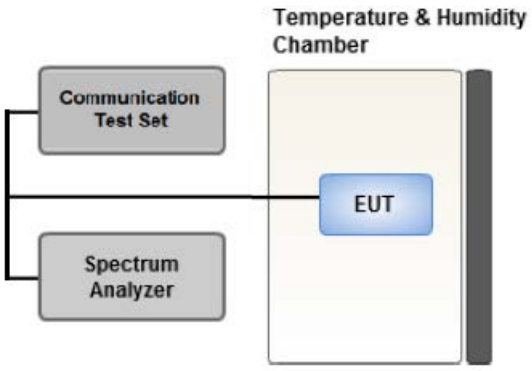
Test setup

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

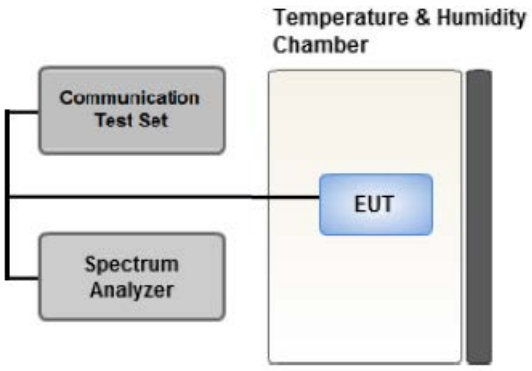
Test Overview

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 = Peak
4. Trace Mode = Max Hold
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

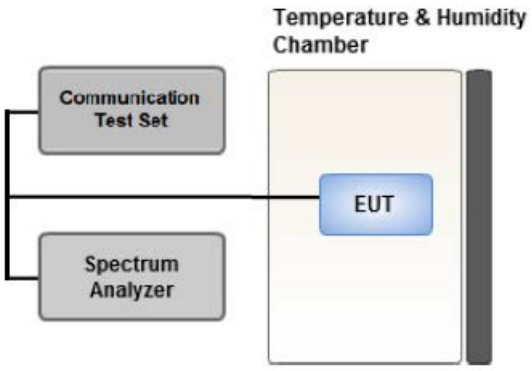
Test Notes

For mobile operations in the 3450-3550 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed −13 dBm/MHz.
Compliance with this paragraph is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater.
However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed, but limited to a maximum of 200 kHz.
In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 kHz.
The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

For mobile operations in the 3700-3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed −13 dBm/MHz.
Measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater.
However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be either one percent of the emission bandwidth of the fundamental emission of the transmitter or 350 kHz.
In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 kHz.
The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power. .

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

3.8 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE



Test setup

Test Overview

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

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

Test Settings

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

3.9 WORST CASE(RADIATED TEST)

- Waveform : All Waveform of operation were investigated and the worst case configuration results are reported.
  (Worst case: DFT-S-OFDM)
- The EUT was tested in three orthogonal planes(X, Y, Z) and in all possible test configurations and positioning.
- All modes of operation were investigated and the worst case configuration results are reported.
  Mode: 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.
- All power classes were tested, and the results were reported for the worst case PC3. (PC3 Only)
- 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 arereported.
  Please refer to the table below.
- In the case of radiated spurious emissions, all bandwidth of operation were investigated and the worst case bandwidth results are reported.
  (Worst case : 60 MHz(3450 MHz – 3550 MHz), 90 MHz (3700 MHz – 3980 MHz))
- SM-A566E/DS & additional models were tested and the worst case results are reported.
  (Worst case : SM-A566E/DS)

[3450 MHz - 3550 MHz 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		Y

[3700 MHz - 3980 MHz 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		Y
Radiated Spurious and Harmonic Emissions	PI/2 BPSK	See Section 9.2		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 power classes were tested, and the results were reported for the worst case PC3. (PC3 Only)
- All RB sizes, offsets of operation were investigated and the worst case configuration results are reported.
  Please refer to the table below.
- SM-A566E/DS & additional models were tested and the worst case results are reported.
  (Worst case : SM-A566E/DS)

[Worst case]

Test Description	Modulation	Bandwidth (MHz)	Frequency	RB size	RB offset
Occupied Bandwidth,	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100	Mid	Full RB	0
Peak-To-Average Ratio	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100	Mid	Full RB	0
Band Edge	PI/2 BPSK	10	Low	1	0
			High	1	23
		15	Low	1	0
			High	1	37
		20	Low	1	0
			High	1	50
		30	Low	1	0
			High	1	77
		40	Low	1	0
			High	1	105
		50	Low	1	0
			High	1	132
		60	Low	1	0
			High	1	161
		70	Low	1	0
			High	1	188
		80	Low	1	0
			High	1	216
		90	Low	1	0
			High	1	244
		100	Low	1	0
			High	1	272
		10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100	Low, High	Full RB	0
Spurious and Harmonic Emissions at Antenna Terminal	PI/2 BPSK	10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100	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	09/20/2026	Biennial
Horn Antenna(15~40 GHz)	BBHA 9170	Schwarzbeck	BBHA9170124	03/28/2025	Biennial
Loop Antenna(9 kHz~30 MHz)	FMZB1513	Rohde & Schwarz	1513-175	01/16/2025	Biennial
Bilog Antenna	VULB9160	Schwarzbeck	3150	03/09/2025	Biennial
Hybrid Antenna	VULB9160	Schwarzbeck	760	02/24/2025	Biennial
RF Switching System	FBSR-06B (1G HPF + LNA)	T&M SYSTEM	F3L1	05/14/2025	Annual
RF Switching System	FBSR-06B (3G HPF + LNA)	T&M SYSTEM	F3L2	05/14/2025	Annual
RF Switching System	FBSR-06B (6G HPF + LNA)	T&M SYSTEM	F3L3	05/14/2025	Annual
RF Switching System	FBSR-06B (LNA)	T&M SYSTEM	F3L4	05/14/2025	Annual
Power Amplifier	CBL18265035	CERNEX	22966	11/07/2025	Annual
Power Amplifier	CBL26405040	CERNEX	25956	02/26/2025	Annual
DC Power Supply	E3632A	Hewlett Packard	MY40004427	08/22/2025	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	08/05/2025	Annual
Wideband Radio Communication Tester	MT8821C	Anritsu Corp.	6262287701	05/16/2025	Annual
Wideband Radio Communication Tester	MT8000A	Anritsu Corp.	6262302511	05/14/2025	Annual
Signal Analyzer(5 Hz~40.0 GHz)	N9030B	KEYSIGHT	MY55480167	05/17/2025	Annual
4-Way Divider	ZC4PD-K1844+	Mini-Circuits	942907	09/10/2025	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 (±kHz)
Occupied Bandwidth	95 (Confidence level about 95 %, k=2)
Frequency stability	28 (Confidence level about 95 %, k=2)

Parameter	Expanded Uncertainty (±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)	5.70 (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(n)(2), § 27.53(l)(2)	< -13 dBm	PASS
Conducted Output Power	§ 2.1046	N/A	See Note1
Peak- to- Average Ratio	§ 27.50(k)(4), § 27.50(j)(4)	< 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(k)(3), § 27.50(j)(3)	< 1 Watts max. EIRP	PASS
Radiated Spurious and Harmonic Emissions	§ 2.1051, § 27.53(n)(2), § 27.53(l)(2)	< -13 dBm	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(3450 MHz - 3550 MHz)

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
3455.01	Sub6 n77/ 10 MHz [30 kHz]	PI/2 BPSK	-25.89	12.09	11.96	3.04	H	< 1.00	0.126	21.01	1	1
		QPSK	-25.92	12.06	11.96	3.04	H		0.125	20.98		
		16-QAM	-26.95	11.03	11.96	3.04	H		0.099	19.95		
		64-QAM	-28.41	9.57	11.96	3.04	H		0.071	18.49		
		256-QAM	-30.45	7.53	11.96	3.04	H		0.044	16.45		
3500.01		PI/2 BPSK	-25.74	12.58	12.04	3.04	H		0.144	21.58	1	12
		QPSK	-25.87	12.45	12.04	3.04	H		0.140	21.45		
		16-QAM	-26.67	11.65	12.04	3.04	H		0.116	20.65		
		64-QAM	-28.38	9.94	12.04	3.04	H		0.078	18.94		
		256-QAM	-30.21	8.11	12.04	3.04	H		0.051	17.11		
3544.99		PI/2 BPSK	-25.71	12.64	12.04	3.07	H		0.145	21.61	1	12
		QPSK	-25.84	12.51	12.04	3.07	H		0.141	21.48		
		16-QAM	-26.61	11.74	12.04	3.07	H		0.118	20.71		
		64-QAM	-28.27	10.08	12.04	3.07	H		0.080	19.05		
		256-QAM	-30.20	8.15	12.04	3.07	H		0.052	17.12		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
3457.50	Sub6 n77/ 15 MHz [30 kHz]	PI/2 BPSK	-25.57	12.44	12.00	3.04	H	< 1.00	0.138	21.40	1	1
		QPSK	-25.64	12.37	12.00	3.04	H		0.136	21.33		
		16-QAM	-26.64	11.37	12.00	3.04	H		0.108	20.33		
		64-QAM	-28.20	9.81	12.00	3.04	H		0.075	18.77		
		256-QAM	-30.03	7.98	12.00	3.04	H		0.049	16.94		
3500.01		PI/2 BPSK	-25.49	12.83	12.04	3.04	H		0.152	21.83	1	36
		QPSK	-25.51	12.81	12.04	3.04	H		0.152	21.81		
		16-QAM	-26.56	11.76	12.04	3.04	H		0.119	20.76		
		64-QAM	-27.96	10.36	12.04	3.04	H		0.086	19.36		
		256-QAM	-30.01	8.31	12.04	3.04	H		0.054	17.31		
3542.50		PI/2 BPSK	-25.48	12.87	12.04	3.07	H		0.153	21.84	1	1
		QPSK	-25.51	12.84	12.04	3.07	H		0.152	21.81		
		16-QAM	-26.46	11.89	12.04	3.07	H		0.122	20.86		
		64-QAM	-28.08	10.27	12.04	3.07	H		0.084	19.24		
		256-QAM	-30.04	8.31	12.04	3.07	H		0.054	17.28		

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
3460.02	Sub6 n77/ 20 MHz [30 kHz]	PI/2 BPSK	-25.58	12.43	12.00	3.04	H	< 1.00	0.138	21.39	1	49
		QPSK	-25.62	12.39	12.00	3.04	H		0.137	21.35		
		16-QAM	-26.54	11.47	12.00	3.04	H		0.110	20.43		
		64-QAM	-28.11	9.90	12.00	3.04	H		0.077	18.86		
		256-QAM	-30.19	7.82	12.00	3.04	H		0.048	16.78		
3500.01		PI/2 BPSK	-25.46	12.86	12.04	3.04	H		0.154	21.86	1	49
		QPSK	-25.48	12.84	12.04	3.04	H		0.153	21.84		
		16-QAM	-26.58	11.74	12.04	3.04	H		0.119	20.74		
		64-QAM	-28.09	10.23	12.04	3.04	H		0.084	19.23		
		256-QAM	-30.11	8.21	12.04	3.04	H		0.053	17.21		
3540.00		PI/2 BPSK	-25.33	12.95	12.04	3.06	H		0.156	21.93	1	1
		QPSK	-25.39	12.89	12.04	3.06	H		0.154	21.87		
		16-QAM	-26.30	11.98	12.04	3.06	H		0.125	20.96		
		64-QAM	-27.83	10.45	12.04	3.06	H		0.088	19.43		
		256-QAM	-29.96	8.32	12.04	3.06	H		0.054	17.30		

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
3465.00	Sub6 n77/ 30 MHz [30 kHz]	PI/2 BPSK	-25.64	12.36	12.02	3.02	H	< 1.00	0.137	21.36	1	39
		QPSK	-25.77	12.23	12.02	3.02	H		0.133	21.23		
		16-QAM	-26.67	11.33	12.02	3.02	H		0.108	20.33		
		64-QAM	-28.21	9.79	12.02	3.02	H		0.076	18.79		
		256-QAM	-30.19	7.81	12.02	3.02	H		0.048	16.81		
3500.01		PI/2 BPSK	-25.41	12.91	12.04	3.04	H		0.155	21.91	1	76
		QPSK	-25.46	12.86	12.04	3.04	H		0.154	21.86		
		16-QAM	-26.36	11.96	12.04	3.04	H		0.125	20.96		
		64-QAM	-28.01	10.31	12.04	3.04	H		0.085	19.31		
		256-QAM	-29.88	8.44	12.04	3.04	H		0.056	17.44		
3534.99		PI/2 BPSK	-25.39	12.91	12.04	3.05	H		0.155	21.90	1	39
		QPSK	-25.58	12.72	12.04	3.05	H		0.148	21.71		
		16-QAM	-26.45	11.85	12.04	3.05	H		0.121	20.84		
		64-QAM	-27.99	10.31	12.04	3.05	H		0.085	19.30		
		256-QAM	-29.97	8.33	12.04	3.05	H		0.054	17.32		

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
3470.01	Sub6 n77/ 40 MHz [30 kHz]	PI/2 BPSK	-25.63	12.37	12.04	3.01	H	< 1.00	0.138	21.40	1	53
		QPSK	-25.64	12.36	12.04	3.01	H		0.138	21.39		
		16-QAM	-26.65	11.35	12.04	3.01	H		0.109	20.38		
		64-QAM	-28.11	9.89	12.04	3.01	H		0.078	18.92		
		256-QAM	-30.01	7.99	12.04	3.01	H		0.050	17.02		
3500.01		PI/2 BPSK	-25.43	12.89	12.04	3.04	H		0.155	21.89	1	104
		QPSK	-25.47	12.85	12.04	3.04	H		0.153	21.85		
		16-QAM	-26.44	11.88	12.04	3.04	H		0.123	20.88		
		64-QAM	-27.88	10.44	12.04	3.04	H		0.088	19.44		
		256-QAM	-29.96	8.36	12.04	3.04	H		0.055	17.36		
3529.98		PI/2 BPSK	-25.24	13.08	12.04	3.05	H		0.161	22.07	1	53
		QPSK	-25.26	13.06	12.04	3.05	H		0.160	22.05		
		16-QAM	-26.25	12.07	12.04	3.05	H		0.128	21.06		
		64-QAM	-27.81	10.51	12.04	3.05	H		0.089	19.50		
		256-QAM	-29.95	8.37	12.04	3.05	H		0.055	17.36		

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
3475.02	Sub6 n77/ 50 MHz [30 kHz]	PI/2 BPSK	-25.54	12.48	12.04	3.02	H	< 1.00	0.141	21.50	1	66
		QPSK	-25.65	12.37	12.04	3.02	H		0.138	21.39		
		16-QAM	-26.67	11.35	12.04	3.02	H		0.109	20.37		
		64-QAM	-28.17	9.85	12.04	3.02	H		0.077	18.87		
		256-QAM	-30.16	7.86	12.04	3.02	H		0.049	16.88		
3500.01		PI/2 BPSK	-25.36	12.96	12.04	3.04	H		0.157	21.96	1	131
		QPSK	-25.39	12.93	12.04	3.04	H		0.156	21.93		
		16-QAM	-26.49	11.83	12.04	3.04	H		0.121	20.83		
		64-QAM	-28.06	10.26	12.04	3.04	H		0.084	19.26		
		256-QAM	-29.98	8.34	12.04	3.04	H		0.054	17.34		
3525.00		PI/2 BPSK	-25.37	13.03	12.04	3.04	H		0.160	22.03	1	66
		QPSK	-25.51	12.89	12.04	3.04	H		0.155	21.89		
		16-QAM	-26.31	12.09	12.04	3.04	H		0.129	21.09		
		64-QAM	-27.92	10.48	12.04	3.04	H		0.089	19.48		
		256-QAM	-29.91	8.49	12.04	3.04	H		0.056	17.49		

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
3480.00	Sub6 n77/ 60 MHz [30 kHz]	PI/2 BPSK	-25.57	12.46	12.04	3.02	H	< 1.00	0.141	21.48	1	81
		QPSK	-25.64	12.39	12.04	3.02	H		0.138	21.41		
		16-QAM	-26.72	11.31	12.04	3.02	H		0.108	20.33		
		64-QAM	-27.97	10.06	12.04	3.02	H		0.081	19.08		
		256-QAM	-30.17	7.86	12.04	3.02	H		0.049	16.88		
3500.01		PI/2 BPSK	-25.39	12.93	12.04	3.04	H		0.156	21.93	1	160
		QPSK	-25.41	12.91	12.04	3.04	H		0.155	21.91		
		16-QAM	-26.49	11.83	12.04	3.04	H		0.121	20.83		
		64-QAM	-28.00	10.32	12.04	3.04	H		0.086	19.32		
		256-QAM	-29.88	8.44	12.04	3.04	H		0.056	17.44		
3519.99		PI/2 BPSK	-25.26	13.23	12.04	3.04	H		0.167	22.23	1	81
		QPSK	-25.33	13.16	12.04	3.04	H		0.164	22.16		
		16-QAM	-26.18	12.31	12.04	3.04	H		0.135	21.31		
		64-QAM	-27.86	10.63	12.04	3.04	H		0.092	19.63		
		256-QAM	-29.85	8.64	12.04	3.04	H		0.058	17.64		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
3485.01	Sub6 n77/ 70 MHz [30 kHz]	PI/2 BPSK	-25.48	12.62	12.04	3.03	H	< 1.00	0.146	21.63	1	187
		QPSK	-25.53	12.57	12.04	3.03	H		0.144	21.58		
		16-QAM	-26.48	11.62	12.04	3.03	H		0.116	20.63		
		64-QAM	-27.90	10.20	12.04	3.03	H		0.083	19.21		
		256-QAM	-30.01	8.09	12.04	3.03	H		0.051	17.10		
3500.01		PI/2 BPSK	-25.42	12.90	12.04	3.04	H		0.155	21.90	1	187
		QPSK	-25.48	12.84	12.04	3.04	H		0.153	21.84		
		16-QAM	-26.31	12.01	12.04	3.04	H		0.126	21.01		
		64-QAM	-27.95	10.37	12.04	3.04	H		0.087	19.37		
		256-QAM	-30.01	8.31	12.04	3.04	H		0.054	17.31		
3514.98		PI/2 BPSK	-25.44	13.08	12.04	3.04	H		0.161	22.08	1	94
		QPSK	-25.55	12.97	12.04	3.04	H		0.157	21.97		
		16-QAM	-26.43	12.09	12.04	3.04	H		0.129	21.09		
		64-QAM	-27.97	10.55	12.04	3.04	H		0.090	19.55		
		256-QAM	-30.05	8.47	12.04	3.04	H		0.056	17.47		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
3490.02	Sub6 n77/ 80 MHz [30 kHz]	PI/2 BPSK	-25.42	12.75	12.04	3.04	H	< 1.00	0.150	21.75	1	215
		QPSK	-25.44	12.73	12.04	3.04	H		0.149	21.73		
		16-QAM	-26.40	11.77	12.04	3.04	H		0.119	20.77		
		64-QAM	-27.94	10.23	12.04	3.04	H		0.084	19.23		
		256-QAM	-29.94	8.23	12.04	3.04	H		0.053	17.23		
3500.01		PI/2 BPSK	-25.57	12.75	12.04	3.04	H		0.150	21.75	1	215
		QPSK	-25.63	12.69	12.04	3.04	H		0.148	21.69		
		16-QAM	-26.55	11.77	12.04	3.04	H		0.119	20.77		
		64-QAM	-28.11	10.21	12.04	3.04	H		0.083	19.21		
		256-QAM	-30.09	8.23	12.04	3.04	H		0.053	17.23		
3510.00		PI/2 BPSK	-25.50	13.07	12.04	3.05	H		0.161	22.06	1	108
		QPSK	-25.65	12.92	12.04	3.05	H		0.155	21.91		
		16-QAM	-26.51	12.06	12.04	3.05	H		0.127	21.05		
		64-QAM	-28.19	10.38	12.04	3.05	H		0.087	19.37		
		256-QAM	-30.11	8.46	12.04	3.05	H		0.056	17.45		

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
3495.00	Sub6 n77/ 90 MHz [30 kHz]	PI/2 BPSK	-25.55	12.70	12.04	3.04	H	< 1.00	0.148	21.70	1	243
		QPSK	-25.64	12.61	12.04	3.04	H		0.145	21.61		
		16-QAM	-26.55	11.70	12.04	3.04	H		0.118	20.70		
		64-QAM	-28.16	10.09	12.04	3.04	H		0.081	19.09		
		256-QAM	-30.11	8.14	12.04	3.04	H		0.052	17.14		
3500.01		PI/2 BPSK	-25.71	12.61	12.04	3.04	H		0.145	21.61	1	122
		QPSK	-25.74	12.58	12.04	3.04	H		0.144	21.58		
		16-QAM	-26.79	11.53	12.04	3.04	H		0.113	20.53		
		64-QAM	-28.36	9.96	12.04	3.04	H		0.079	18.96		
		256-QAM	-30.34	7.98	12.04	3.04	H		0.050	16.98		
3504.99		PI/2 BPSK	-25.68	12.77	12.04	3.05	H		0.150	21.76	1	122
		QPSK	-25.69	12.76	12.04	3.05	H		0.150	21.75		
		16-QAM	-26.61	11.84	12.04	3.05	H		0.121	20.83		
		64-QAM	-28.01	10.44	12.04	3.05	H		0.088	19.43		
		256-QAM	-30.10	8.35	12.04	3.05	H		0.054	17.34		

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
3500.01	Sub6 n77/ 100 MHz [30 kHz]	PI/2 BPSK	-25.73	12.59	12.04	3.04	H	< 1.00	0.144	21.59	1	136
		QPSK	-25.75	12.57	12.04	3.04	H		0.144	21.57		
		16-QAM	-26.92	11.40	12.04	3.04	H		0.110	20.40		
		64-QAM	-28.20	10.12	12.04	3.04	H		0.082	19.12		
		256-QAM	-30.23	8.09	12.04	3.04	H		0.051	17.09		

8.2 RADIATED SPURIOUS EMISSIONS

▣ NR Band: N77

▣ Bandwidth: 60 MHz

▣ Modulation: PI/2 BPSK

▣ Distance: 1 meters

▣ SCS: 30 kHz

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)	RB	
									Size	Offset
632000 (3480.00)	6 960.00	-60.59	11.16	-54.83	4.44	V	-48.11	-13.00	1	81
	10 440.00	-53.88	11.73	-43.89	5.57	V	-37.73	-13.00		
	13 920.00	-49.51	12.90	-38.86	6.54	H	-32.50	-13.00		
633334 (3500.01)	7 000.02	-61.58	11.13	-54.93	4.45	V	-48.25	-13.00	1	160
	10 500.03	-53.99	11.71	-42.74	5.64	V	-36.67	-13.00		
	14 000.04	-49.06	12.76	-39.48	6.55	H	-33.27	-13.00		
634666 (3519.99)	7 039.98	-62.22	11.01	-55.72	4.45	H	-49.16	-13.00	1	81
	10 559.97	-50.95	11.65	-39.57	5.63	V	-33.55	-13.00		
	14 079.96	-49.90	12.74	-40.86	6.55	H	-34.67	-13.00		

8.3 PEAK-TO-AVERAGE RATIO

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (dB)
Sub6 n77	10 MHz	3500.01	BPSK	Full RB	0	4.44
			QPSK			5.59
			16-QAM			6.28
			64-QAM			6.59
			256-QAM			6.47
	15 MHz		BPSK			4.41
			QPSK			5.66
			16-QAM			6.37
			64-QAM			6.53
			256-QAM			6.55
	20 MHz		BPSK			4.76
			QPSK			5.67
			16-QAM			6.35
			64-QAM			6.56
			256-QAM			6.52
	30 MHz		BPSK			5.08
			QPSK			5.64
			16-QAM			6.33
			64-QAM			6.64
			256-QAM			6.52
	40 MHz		BPSK			4.60
			QPSK			5.73
			16-QAM			6.41
			64-QAM			6.51
			256-QAM			6.61
	50 MHz		BPSK			4.45
			QPSK			5.71
			16-QAM			6.42
			64-QAM			6.51
			256-QAM			6.52
	60 MHz		BPSK			5.71
			QPSK			5.89
			16-QAM			6.39

			64-QAM			6.63
			256-QAM			6.58
	70 MHz		BPSK			4.49
			QPSK			5.66
			16-QAM			6.32
			64-QAM			6.51
			256-QAM			6.56
	80 MHz		BPSK			4.49
			QPSK			5.64
			16-QAM			6.40
			64-QAM			6.54
			256-QAM			6.58
	90 MHz		BPSK			4.51
			QPSK			5.68
			16-QAM			6.48
			64-QAM			6.56
			256-QAM			6.59
	100 MHz		BPSK			5.05
			QPSK			5.64
			16-QAM			6.32
			64-QAM			6.50
			256-QAM			6.57

Note:

1. Plots of the EUT's Peak- to- Average Ratio are shown Page 87 ~ 141.

8.4 OCCUPIED BANDWIDTH

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (MHz)
Sub6 n77	10 MHz	3500.01	BPSK	Full RB	0	8.7406
			QPSK			8.6990
			16-QAM			8.7034
			64-QAM			8.6840
			256-QAM			8.6488
	15 MHz		BPSK			12.958
			QPSK			13.004
			16-QAM			13.004
			64-QAM			12.959
			256-QAM			13.077
	20 MHz		BPSK			18.012
			QPSK			17.994
			16-QAM			18.001
			64-QAM			17.940
			256-QAM			17.946
	30 MHz		BPSK			27.071
			QPSK			27.022
			16-QAM			26.958
			64-QAM			27.044
			256-QAM			26.897
	40 MHz		BPSK			35.992
			QPSK			36.053
			16-QAM			35.850
			64-QAM			35.952
			256-QAM			35.882
	50 MHz		BPSK			46.014
			QPSK			45.928
			16-QAM			46.132
			64-QAM			45.912
			256-QAM			46.121
	60 MHz		BPSK			58.240
			QPSK			58.335
			16-QAM			58.277

			64-QAM			58.074
			256-QAM			58.150
	70 MHz		BPSK			64.872
			QPSK			64.775
			16-QAM			64.748
			64-QAM			64.790
			256-QAM			64.749
	80 MHz		BPSK			77.604
			QPSK			77.491
			16-QAM			77.656
			64-QAM			77.714
			256-QAM			77.624
	90 MHz		BPSK			87.265
			QPSK			87.462
			16-QAM			87.063
			64-QAM			87.024
			256-QAM			87.252
	100 MHz		BPSK			96.812
			QPSK			96.693
			16-QAM			96.720
			64-QAM			96.969
			256-QAM			96.825

Note:

1. Plots of the EUT's Occupied Bandwidth are shown Page 142 ~ 196.

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 n77	10	3455.010	8.8535	30.815	-63.686	-32.871	-13.00
		3500.010	7.1586	30.815	-62.875	-32.060	
		3544.980	5.4736	30.815	-63.572	-32.757	
	15	3457.500	8.5942	30.815	-63.866	-33.051	
		3500.010	9.9402	30.815	-62.601	-31.786	
		3542.490	9.2323	30.815	-63.418	-32.603	
	20	3460.020	8.8834	30.815	-62.911	-32.096	
		3500.010	8.8933	30.815	-63.177	-32.362	
		3540.000	4.9552	30.200	-62.414	-32.214	
	30	3465.000	8.1057	30.815	-63.182	-32.367	
		3500.010	9.5214	30.815	-63.383	-32.568	
		3534.990	4.9053	30.200	-63.294	-33.094	
	40	3470.010	8.3450	30.815	-63.529	-32.714	
		3500.010	9.6710	30.815	-62.336	-31.521	
		3529.980	9.9900	30.815	-62.819	-32.004	
	50	3475.020	5.7528	30.815	-62.906	-32.091	
		3500.010	9.1426	30.815	-62.823	-32.008	
		3525.000	9.4517	30.815	-63.576	-32.761	
	60	3480.000	5.5035	30.815	-62.746	-31.931	
		3500.010	9.6810	30.815	-63.760	-32.945	
		3519.990	8.0858	30.815	-63.130	-32.315	
	70	3485.010	6.0220	30.815	-63.347	-32.532	
		3500.010	6.0020	30.815	-63.573	-32.758	
		3514.980	9.7208	30.815	-63.509	-32.694	
	80	3490.020	7.7368	30.815	-63.248	-32.433	
		3500.010	4.8954	30.200	-62.655	-32.455	
		3510.000	5.2244	30.815	-63.073	-32.258	
	90	3495.000	9.2124	30.815	-63.532	-32.717	
		3500.010	5.7628	30.815	-63.304	-32.489	
		3504.990	8.2752	30.815	-62.722	-31.907	
	100	3500.010	8.2453	30.815	-63.435	-32.620	

Note:

1. Plots of the EUT's Conducted Spurious Emissions are shown Page 197 ~ 258.
2. Factor(dB)
   - Factor(dB) = Cable Loss + Ext. Attenuator + Power Splitter
   - Result(dBm) = Reading + Factor

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

1. Plots of the EUT's Band Edge are shown Page 259 ~ 390.
2. Duty Cycle factor already applied on the factor.
   - Factor(dB) = Duty Cycle factor + Cable Loss + Ext. Attenuator + Power Splitter
   - Result(dBm) = Reading + Factor
   - Duty Cycle Factor(dB) = 6.990

8.7 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE

▣ BandWidth: 10 MHz

▣ Voltage(100 %): 4.200 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)	(%)	
3455.010	100 %	+20(Ref)	3455 010 005	0.0	0.000 000	0.000
	100 %	-30	3455 010 004	-1.0	0.000 000	0.000
	100 %	-20	3455 010 016	11.1	0.000 000	0.003
	100 %	-10	3455 010 007	2.5	0.000 000	0.001
	100 %	0	3455 010 001	-3.5	0.000 000	-0.001
	100 %	+10	3455 010 006	0.8	0.000 000	0.000
	100 %	+30	3455 010 004	-0.3	0.000 000	0.000
	100 %	+40	3455 010 005	-0.2	0.000 000	0.000
	100 %	+50	3455 010 008	3.6	0.000 000	0.001
	Batt. Endpoint	+20	3455 010 000	-5.1	0.000 000	-0.001
3544.980	100 %	+20(Ref)	3544 979 992	0.0	0.000 000	0.000
	100 %	-30	3544 979 992	0.5	0.000 000	0.000
	100 %	-20	3544 979 983	-8.5	0.000 000	-0.002
	100 %	-10	3544 979 988	-3.3	0.000 000	-0.001
	100 %	0	3544 979 984	-7.8	0.000 000	-0.002
	100 %	+10	3544 979 990	-1.9	0.000 000	-0.001
	100 %	+30	3544 979 990	-1.8	0.000 000	-0.001
	100 %	+40	3544 979 987	-4.3	0.000 000	-0.001
	100 %	+50	3544 979 985	-6.5	0.000 000	-0.002
	Batt. Endpoint	+20	3544 979 989	-2.9	0.000 000	-0.001

▣ BandWidth: 15 MHz

▣ Voltage(100 %): 4.200 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)	(%)	
3457.500	100 %	+20(Ref)	3457 499 996	0.0	0.000 000	0.000
	100 %	-30	3457 499 993	-3.5	0.000 000	-0.001
	100 %	-20	3457 499 996	-0.2	0.000 000	0.000
	100 %	-10	3457 500 005	8.5	0.000 000	0.002
	100 %	0	3457 499 998	1.5	0.000 000	0.000
	100 %	+10	3457 499 995	-1.9	0.000 000	-0.001
	100 %	+30	3457 499 990	-6.7	0.000 000	-0.002
	100 %	+40	3457 499 999	2.2	0.000 000	0.001
	100 %	+50	3457 500 000	3.4	0.000 000	0.001
	Batt. Endpoint	+20	3457 499 993	-3.5	0.000 000	-0.001
3542.490	100 %	+20(Ref)	3542 490 007	0.0	0.000 000	0.000
	100 %	-30	3542 490 010	2.8	0.000 000	0.001
	100 %	-20	3542 490 010	2.1	0.000 000	0.001
	100 %	-10	3542 490 010	2.8	0.000 000	0.001
	100 %	0	3542 490 013	5.9	0.000 000	0.002
	100 %	+10	3542 490 013	5.4	0.000 000	0.002
	100 %	+30	3542 490 002	-5.1	0.000 000	-0.001
	100 %	+40	3542 490 011	3.9	0.000 000	0.001
	100 %	+50	3542 490 003	-4.6	0.000 000	-0.001
	Batt. Endpoint	+20	3542 490 011	3.5	0.000 000	0.001

▣ BandWidth: 20 MHz

▣ Voltage(100 %): 4.200 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)	(%)	
3460.020	100 %	+20(Ref)	3460 019 998	0.0	0.000 000	0.000
	100 %	-30	3460 019 997	-1.3	0.000 000	0.000
	100 %	-20	3460 019 999	1.0	0.000 000	0.000
	100 %	-10	3460 020 005	6.5	0.000 000	0.002
	100 %	0	3460 019 990	-8.2	0.000 000	-0.002
	100 %	+10	3460 019 998	-0.1	0.000 000	0.000
	100 %	+30	3460 020 001	3.1	0.000 000	0.001
	100 %	+40	3460 019 999	1.2	0.000 000	0.000
	100 %	+50	3460 019 997	-0.6	0.000 000	0.000
	Batt. Endpoint	+20	3460 020 003	4.8	0.000 000	0.001
3540.000	100 %	+20(Ref)	3540 000 006	0.0	0.000 000	0.000
	100 %	-30	3540 000 005	-0.7	0.000 000	0.000
	100 %	-20	3540 000 011	5.5	0.000 000	0.002
	100 %	-10	3540 000 010	4.8	0.000 000	0.001
	100 %	0	3540 000 012	6.5	0.000 000	0.002
	100 %	+10	3540 000 004	-2.0	0.000 000	-0.001
	100 %	+30	3539 999 999	-6.7	0.000 000	-0.002
	100 %	+40	3540 000 007	1.1	0.000 000	0.000
	100 %	+50	3540 000 010	4.1	0.000 000	0.001
	Batt. Endpoint	+20	3540 000 009	3.3	0.000 000	0.001

▣ BandWidth: 30 MHz

▣ Voltage(100 %): 4.200 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)	(%)	
3465.000	100 %	+20(Ref)	3464 999 990	0.0	0.000 000	0.000
	100 %	-30	3464 999 985	-5.6	0.000 000	-0.002
	100 %	-20	3464 999 988	-1.8	0.000 000	-0.001
	100 %	-10	3464 999 995	4.9	0.000 000	0.001
	100 %	0	3464 999 986	-4.1	0.000 000	-0.001
	100 %	+10	3464 999 997	6.6	0.000 000	0.002
	100 %	+30	3464 999 993	2.3	0.000 000	0.001
	100 %	+40	3464 999 993	3.0	0.000 000	0.001
	100 %	+50	3464 999 994	4.1	0.000 000	0.001
	Batt. Endpoint	+20	3464 999 990	0.2	0.000 000	0.000
3534.990	100 %	+20(Ref)	3534 990 006	0.0	0.000 000	0.000
	100 %	-30	3534 990 013	6.8	0.000 000	0.002
	100 %	-20	3534 990 005	-0.8	0.000 000	0.000
	100 %	-10	3534 990 005	-0.9	0.000 000	0.000
	100 %	0	3534 990 008	2.3	0.000 000	0.001
	100 %	+10	3534 990 008	2.2	0.000 000	0.001
	100 %	+30	3534 990 001	-4.6	0.000 000	-0.001
	100 %	+40	3534 990 002	-3.8	0.000 000	-0.001
	100 %	+50	3534 990 006	0.4	0.000 000	0.000
	Batt. Endpoint	+20	3534 990 006	-0.4	0.000 000	0.000

▣ BandWidth: 40 MHz

▣ Voltage(100 %): 4.200 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)	(%)	
3470.010	100 %	+20(Ref)	3470 010 000	0.0	0.000 000	0.000
	100 %	-30	3470 010 002	1.3	0.000 000	0.000
	100 %	-20	3470 010 006	5.8	0.000 000	0.002
	100 %	-10	3470 010 008	7.2	0.000 000	0.002
	100 %	0	3470 009 998	-2.2	0.000 000	-0.001
	100 %	+10	3470 010 001	1.1	0.000 000	0.000
	100 %	+30	3470 009 998	-2.2	0.000 000	-0.001
	100 %	+40	3470 010 002	1.4	0.000 000	0.000
	100 %	+50	3470 010 001	0.3	0.000 000	0.000
	Batt. Endpoint	+20	3470 010 007	6.3	0.000 000	0.002
3529.980	100 %	+20(Ref)	3529 980 033	0.0	0.000 000	0.000
	100 %	-30	3529 980 033	-0.1	0.000 000	0.000
	100 %	-20	3529 980 037	4.2	0.000 000	0.001
	100 %	-10	3529 980 054	21.6	0.000 001	0.006
	100 %	0	3529 980 035	2.4	0.000 000	0.001
	100 %	+10	3529 980 052	19.8	0.000 001	0.006
	100 %	+30	3529 980 035	2.8	0.000 000	0.001
	100 %	+40	3529 980 037	3.9	0.000 000	0.001
	100 %	+50	3529 980 029	-3.6	0.000 000	-0.001
	Batt. Endpoint	+20	3529 980 056	23.6	0.000 001	0.007

▣ BandWidth: 50 MHz

▣ Voltage(100 %): 4.200 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)	(%)	
3475.020	100 %	+20(Ref)	3475 019 994	0.0	0.000 000	0.000
	100 %	-30	3475 019 988	-5.5	0.000 000	-0.002
	100 %	-20	3475 019 988	-5.3	0.000 000	-0.002
	100 %	-10	3475 019 999	5.4	0.000 000	0.002
	100 %	0	3475 019 999	4.8	0.000 000	0.001
	100 %	+10	3475 019 992	-1.7	0.000 000	0.000
	100 %	+30	3475 019 991	-2.6	0.000 000	-0.001
	100 %	+40	3475 019 994	0.0	0.000 000	0.000
	100 %	+50	3475 019 996	2.6	0.000 000	0.001
	Batt. Endpoint	+20	3475 019 986	-7.3	0.000 000	-0.002
3525.000	100 %	+20(Ref)	3525 000 000	0.0	0.000 000	0.000
	100 %	-30	3525 000 005	4.9	0.000 000	0.001
	100 %	-20	3525 000 001	1.6	0.000 000	0.000
	100 %	-10	3525 000 007	7.1	0.000 000	0.002
	100 %	0	3525 000 002	2.3	0.000 000	0.001
	100 %	+10	3524 999 998	-1.9	0.000 000	-0.001
	100 %	+30	3524 999 998	-1.4	0.000 000	0.000
	100 %	+40	3525 000 002	2.0	0.000 000	0.001
	100 %	+50	3525 000 001	1.4	0.000 000	0.000
	Batt. Endpoint	+20	3524 999 997	-3.0	0.000 000	-0.001

▣ BandWidth: 60 MHz

▣ Voltage(100 %): 4.200 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)	(%)	
3480.000	100 %	+20(Ref)	3479 999 999	0.0	0.000 000	0.000
	100 %	-30	3479 999 996	-3.5	0.000 000	-0.001
	100 %	-20	3480 000 004	5.0	0.000 000	0.001
	100 %	-10	3479 999 997	-2.1	0.000 000	-0.001
	100 %	0	3479 999 987	-12.2	0.000 000	-0.004
	100 %	+10	3480 000 016	16.2	0.000 000	0.005
	100 %	+30	3480 000 000	0.6	0.000 000	0.000
	100 %	+40	3479 999 997	-2.8	0.000 000	-0.001
	100 %	+50	3479 999 998	-1.0	0.000 000	0.000
	Batt. Endpoint	+20	3479 999 998	-1.9	0.000 000	-0.001
3519.990	100 %	+20(Ref)	3519 990 010	0.0	0.000 000	0.000
	100 %	-30	3519 990 018	8.5	0.000 000	0.002
	100 %	-20	3519 990 008	-1.4	0.000 000	0.000
	100 %	-10	3519 990 007	-2.6	0.000 000	-0.001
	100 %	0	3519 990 017	7.6	0.000 000	0.002
	100 %	+10	3519 990 003	-6.9	0.000 000	-0.002
	100 %	+30	3519 990 015	5.5	0.000 000	0.002
	100 %	+40	3519 990 012	2.3	0.000 000	0.001
	100 %	+50	3519 990 003	-6.4	0.000 000	-0.002
	Batt. Endpoint	+20	3519 990 008	-1.9	0.000 000	-0.001

▣ BandWidth: 70 MHz

▣ Voltage(100 %): 4.200 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)	(%)	
3485.010	100 %	+20(Ref)	3485 010 003	0.0	0.000 000	0.000
	100 %	-30	3485 010 007	3.6	0.000 000	0.001
	100 %	-20	3485 010 008	4.5	0.000 000	0.001
	100 %	-10	3485 010 014	11.0	0.000 000	0.003
	100 %	0	3485 010 015	11.8	0.000 000	0.003
	100 %	+10	3485 010 015	11.8	0.000 000	0.003
	100 %	+30	3485 010 001	-2.5	0.000 000	-0.001
	100 %	+40	3485 010 003	0.3	0.000 000	0.000
	100 %	+50	3485 010 003	-0.3	0.000 000	0.000
	Batt. Endpoint	+20	3485 009 996	-7.0	0.000 000	-0.002
3514.980	100 %	+20(Ref)	3514 979 993	0.0	0.000 000	0.000
	100 %	-30	3514 979 995	1.5	0.000 000	0.000
	100 %	-20	3514 979 995	1.9	0.000 000	0.001
	100 %	-10	3514 979 994	0.7	0.000 000	0.000
	100 %	0	3514 979 996	3.2	0.000 000	0.001
	100 %	+10	3514 979 993	0.0	0.000 000	0.000
	100 %	+30	3514 979 999	5.3	0.000 000	0.002
	100 %	+40	3514 979 999	6.2	0.000 000	0.002
	100 %	+50	3514 979 990	-3.5	0.000 000	-0.001
	Batt. Endpoint	+20	3514 979 993	0.1	0.000 000	0.000

▣ BandWidth: 80 MHz

▣ Voltage(100 %): 4.200 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)	(%)	
3490.020	100 %	+20(Ref)	3490 020 005	0.0	0.000 000	0.000
	100 %	-30	3490 020 008	2.9	0.000 000	0.001
	100 %	-20	3490 020 013	7.4	0.000 000	0.002
	100 %	-10	3490 020 007	2.1	0.000 000	0.001
	100 %	0	3490 020 005	0.0	0.000 000	0.000
	100 %	+10	3490 020 007	1.4	0.000 000	0.000
	100 %	+30	3490 020 007	1.4	0.000 000	0.000
	100 %	+40	3490 020 018	12.7	0.000 000	0.004
	100 %	+50	3490 020 005	0.1	0.000 000	0.000
	Batt. Endpoint	+20	3490 020 009	3.5	0.000 000	0.001
3510.000	100 %	+20(Ref)	3509 999 998	0.0	0.000 000	0.000
	100 %	-30	3509 999 998	-0.7	0.000 000	0.000
	100 %	-20	3510 000 003	4.7	0.000 000	0.001
	100 %	-10	3509 999 994	-4.9	0.000 000	-0.001
	100 %	0	3509 999 995	-3.4	0.000 000	-0.001
	100 %	+10	3510 000 003	4.4	0.000 000	0.001
	100 %	+30	3509 999 992	-6.0	0.000 000	-0.002
	100 %	+40	3510 000 005	6.5	0.000 000	0.002
	100 %	+50	3509 999 998	-0.8	0.000 000	0.000
	Batt. Endpoint	+20	3510 000 001	2.8	0.000 000	0.001

▣ BandWidth: 90 MHz

▣ Voltage(100 %): 4.200 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)	(%)	
3495.000	100 %	+20(Ref)	3494 999 993	0.0	0.000 000	0.000
	100 %	-30	3494 999 998	5.7	0.000 000	0.002
	100 %	-20	3495 000 015	22.2	0.000 001	0.006
	100 %	-10	3494 999 985	-7.5	0.000 000	-0.002
	100 %	0	3495 000 052	59.3	0.000 002	0.017
	100 %	+10	3494 999 978	-15.0	0.000 000	-0.004
	100 %	+30	3494 999 998	5.9	0.000 000	0.002
	100 %	+40	3495 000 094	101.8	0.000 003	0.029
	100 %	+50	3494 999 853	-139.6	-0.000 004	-0.040
	Batt. Endpoint	+20	3494 999 853	-139.6	-0.000 004	-0.040
3504.990	100 %	+20(Ref)	3504 989 998	0.0	0.000 000	0.000
	100 %	-30	3504 989 997	-1.3	0.000 000	0.000
	100 %	-20	3504 989 997	-1.3	0.000 000	0.000
	100 %	-10	3504 989 997	-0.7	0.000 000	0.000
	100 %	0	3504 989 991	-6.7	0.000 000	-0.002
	100 %	+10	3504 989 996	-2.0	0.000 000	-0.001
	100 %	+30	3504 990 004	5.6	0.000 000	0.002
	100 %	+40	3504 989 999	1.4	0.000 000	0.000
	100 %	+50	3504 989 988	-9.8	0.000 000	-0.003
	Batt. Endpoint	+20	3504 989 997	-1.0	0.000 000	0.000

▣ BandWidth: 100 MHz

▣ Voltage(100 %): 4.200 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)	(%)	
3500.010	100 %	+20(Ref)	3500 010 004	0.0	0.000 000	0.000
	100 %	-30	3500 009 997	-6.1	0.000 000	-0.002
	100 %	-20	3500 010 012	8.5	0.000 000	0.002
	100 %	-10	3500 009 999	-4.3	0.000 000	-0.001
	100 %	0	3500 009 999	-4.3	0.000 000	-0.001
	100 %	+10	3500 010 007	3.3	0.000 000	0.001
	100 %	+30	3500 010 005	1.6	0.000 000	0.000
	100 %	+40	3500 010 005	1.6	0.000 000	0.000
	100 %	+50	3500 010 014	10.3	0.000 000	0.003
	Batt. Endpoint	+20	3500 010 002	-1.3	0.000 000	0.000

9. TEST DATA (3700 MHz - 3980 MHz)

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
3705.00	Sub6 n77/ 10 MHz [30 kHz]	PI/2 BPSK	-26.91	11.68	12.08	3.08	H	< 1.00	0.117	20.68	1	22
		QPSK	-26.97	11.62	12.08	3.08	H		0.115	20.62		
		16-QAM	-28.04	10.55	12.08	3.08	H		0.090	19.55		
		64-QAM	-29.38	9.21	12.08	3.08	H		0.066	18.21		
		256-QAM	-31.48	7.11	12.08	3.08	H		0.041	16.11		
3840.00		PI/2 BPSK	-26.55	13.40	11.58	3.20	H		0.151	21.78	1	22
		QPSK	-26.60	13.35	11.58	3.20	H		0.149	21.73		
		16-QAM	-27.73	12.22	11.58	3.20	H		0.115	20.60		
		64-QAM	-29.19	10.76	11.58	3.20	H		0.082	19.14		
		256-QAM	-31.11	8.84	11.58	3.20	H		0.053	17.22		
3975.00		PI/2 BPSK	-27.18	12.73	11.70	3.25	H		0.131	21.18	1	1
		QPSK	-27.26	12.65	11.70	3.25	H		0.129	21.10		
		16-QAM	-28.34	11.57	11.70	3.25	H		0.101	20.02		
		64-QAM	-29.72	10.19	11.70	3.25	H		0.073	18.64		
		256-QAM	-31.80	8.11	11.70	3.25	H		0.045	16.56		

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
3707.51	Sub6 n77/ 15 MHz [30 kHz]	PI/2 BPSK	-26.99	11.51	12.08	3.08	H	< 1.00	0.113	20.51	1	36
		QPSK	-27.03	11.47	12.08	3.08	H		0.111	20.47		
		16-QAM	-28.05	10.45	12.08	3.08	H		0.088	19.45		
		64-QAM	-29.43	9.07	12.08	3.08	H		0.064	18.07		
		256-QAM	-31.43	7.07	12.08	3.08	H		0.041	16.07		
3840.00		PI/2 BPSK	-26.57	13.38	11.58	3.20	H		0.150	21.76	1	36
		QPSK	-26.64	13.31	11.58	3.20	H		0.148	21.69		
		16-QAM	-27.52	12.43	11.58	3.20	H		0.121	20.81		
		64-QAM	-29.01	10.94	11.58	3.20	H		0.086	19.32		
		256-QAM	-31.06	8.89	11.58	3.20	H		0.053	17.27		
3972.48		PI/2 BPSK	-27.11	12.75	11.69	3.25	H		0.132	21.19	1	1
		QPSK	-27.22	12.64	11.69	3.25	H		0.128	21.08		
		16-QAM	-28.31	11.55	11.69	3.25	H		0.100	19.99		
		64-QAM	-29.59	10.27	11.69	3.25	H		0.074	18.71		
		256-QAM	-31.81	8.05	11.69	3.25	H		0.045	16.49		

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
3710.01	Sub6 n77/ 20 MHz [30 kHz]	PI/2 BPSK	-26.86	11.64	12.08	3.08	H	< 1.00	0.116	20.64	1	49
		QPSK	-26.89	11.61	12.08	3.08	H		0.115	20.61		
		16-QAM	-27.91	10.59	12.08	3.08	H		0.091	19.59		
		64-QAM	-29.53	8.97	12.08	3.08	H		0.063	17.97		
		256-QAM	-31.35	7.15	12.08	3.08	H		0.041	16.15		
3840.00		PI/2 BPSK	-26.63	13.32	11.58	3.20	H		0.148	21.70	1	49
		QPSK	-26.66	13.29	11.58	3.20	H		0.147	21.67		
		16-QAM	-27.58	12.37	11.58	3.20	H		0.119	20.75		
		64-QAM	-29.00	10.95	11.58	3.20	H		0.086	19.33		
		256-QAM	-31.09	8.86	11.58	3.20	H		0.053	17.24		
3969.99		PI/2 BPSK	-27.09	12.77	11.69	3.25	H		0.132	21.21	1	1
		QPSK	-27.10	12.76	11.69	3.25	H		0.132	21.20		
		16-QAM	-28.13	11.73	11.69	3.25	H		0.104	20.17		
		64-QAM	-29.56	10.30	11.69	3.25	H		0.075	18.74		
		256-QAM	-31.65	8.21	11.69	3.25	H		0.046	16.65		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
3715.02	Sub6 n77/ 30 MHz [30 kHz]	PI/2 BPSK	-26.81	11.76	12.08	3.11	H	< 1.00	0.118	20.73	1	76
		QPSK	-26.82	11.75	12.08	3.11	H		0.118	20.72		
		16-QAM	-27.93	10.64	12.08	3.11	H		0.091	19.61		
		64-QAM	-29.41	9.16	12.08	3.11	H		0.065	18.13		
		256-QAM	-31.41	7.16	12.08	3.11	H		0.041	16.13		
3840.00		PI/2 BPSK	-26.55	13.40	11.58	3.20	H		0.151	21.78	1	76
		QPSK	-26.63	13.32	11.58	3.20	H		0.148	21.70		
		16-QAM	-27.49	12.46	11.58	3.20	H		0.121	20.84		
		64-QAM	-29.16	10.79	11.58	3.20	H		0.083	19.17		
		256-QAM	-31.23	8.72	11.58	3.20	H		0.051	17.10		
3964.98		PI/2 BPSK	-26.81	13.12	11.67	3.24	H		0.143	21.55	1	1
		QPSK	-26.86	13.07	11.67	3.24	H		0.141	21.50		
		16-QAM	-27.94	11.99	11.67	3.24	H		0.110	20.42		
		64-QAM	-29.45	10.48	11.67	3.24	H		0.078	18.91		
		256-QAM	-31.39	8.54	11.67	3.24	H		0.050	16.97		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
3720.00	Sub6 n77/ 40 MHz [30 kHz]	PI/2 BPSK	-26.69	11.94	12.07	3.13	H	< 1.00	0.123	20.88	1	104
		QPSK	-26.71	11.92	12.07	3.13	H		0.122	20.86		
		16-QAM	-27.79	10.84	12.07	3.13	H		0.095	19.78		
		64-QAM	-29.11	9.52	12.07	3.13	H		0.070	18.46		
		256-QAM	-31.26	7.37	12.07	3.13	H		0.043	16.31		
3840.00		PI/2 BPSK	-26.59	13.36	11.58	3.20	H		0.149	21.74	1	104
		QPSK	-26.61	13.34	11.58	3.20	H		0.149	21.72		
		16-QAM	-27.66	12.29	11.58	3.20	H		0.117	20.67		
		64-QAM	-29.11	10.84	11.58	3.20	H		0.084	19.22		
		256-QAM	-31.19	8.76	11.58	3.20	H		0.052	17.14		
3960.00		PI/2 BPSK	-26.76	13.24	11.65	3.24	H		0.146	21.65	1	1
		QPSK	-26.80	13.20	11.65	3.24	H		0.145	21.61		
		16-QAM	-27.91	12.09	11.65	3.24	H		0.112	20.50		
		64-QAM	-29.33	10.67	11.65	3.24	H		0.081	19.08		
		256-QAM	-31.29	8.71	11.65	3.24	H		0.052	17.12		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
3725.10	Sub6 n77/ 50 MHz [30 kHz]	PI/2 BPSK	-26.73	12.03	12.06	3.15	H	< 1.00	0.124	20.94	1	66
		QPSK	-26.84	11.92	12.06	3.15	H		0.121	20.83		
		16-QAM	-27.85	10.91	12.06	3.15	H		0.096	19.82		
		64-QAM	-29.27	9.49	12.06	3.15	H		0.069	18.40		
		256-QAM	-31.45	7.31	12.06	3.15	H		0.042	16.22		
3840.00		PI/2 BPSK	-26.54	13.41	11.58	3.20	H		0.151	21.79	1	131
		QPSK	-26.58	13.37	11.58	3.20	H		0.150	21.75		
		16-QAM	-27.71	12.24	11.58	3.20	H		0.115	20.62		
		64-QAM	-29.22	10.73	11.58	3.20	H		0.082	19.11		
		256-QAM	-31.01	8.94	11.58	3.20	H		0.054	17.32		
3954.99		PI/2 BPSK	-26.71	13.32	11.63	3.23	H		0.149	21.72	1	1
		QPSK	-26.82	13.21	11.63	3.23	H		0.145	21.61		
		16-QAM	-27.87	12.16	11.63	3.23	H		0.114	20.56		
		64-QAM	-29.18	10.85	11.63	3.23	H		0.084	19.25		
		256-QAM	-31.20	8.83	11.63	3.23	H		0.053	17.23		

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
3730.02	Sub6 n77/ 60 MHz [30 kHz]	PI/2 BPSK	-26.71	12.19	12.04	3.17	H	< 1.00	0.128	21.06	1	81
		QPSK	-26.83	12.07	12.04	3.17	H		0.124	20.94		
		16-QAM	-27.76	11.14	12.04	3.17	H		0.100	20.01		
		64-QAM	-29.08	9.82	12.04	3.17	H		0.074	18.69		
		256-QAM	-31.18	7.72	12.04	3.17	H		0.046	16.59		
3840.00		PI/2 BPSK	-26.41	13.54	11.58	3.20	H		0.156	21.92	1	160
		QPSK	-26.45	13.50	11.58	3.20	H		0.154	21.88		
		16-QAM	-27.44	12.51	11.58	3.20	H		0.123	20.89		
		64-QAM	-29.02	10.93	11.58	3.20	H		0.085	19.31		
		256-QAM	-31.01	8.94	11.58	3.20	H		0.054	17.32		
3949.98		PI/2 BPSK	-26.63	13.42	11.61	3.22	H		0.152	21.81	1	1
		QPSK	-26.71	13.34	11.61	3.22	H		0.149	21.73		
		16-QAM	-27.81	12.24	11.61	3.22	H		0.116	20.63		
		64-QAM	-29.43	10.62	11.61	3.22	H		0.080	19.01		
		256-QAM	-31.29	8.76	11.61	3.22	H		0.052	17.15		

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
3735.00	Sub6 n77/ 70 MHz [30 kHz]	PI/2 BPSK	-26.67	12.35	12.02	3.18	H	< 1.00	0.132	21.19	1	94
		QPSK	-26.70	12.32	12.02	3.18	H		0.131	21.16		
		16-QAM	-27.80	11.22	12.02	3.18	H		0.101	20.06		
		64-QAM	-29.12	9.90	12.02	3.18	H		0.075	18.74		
		256-QAM	-31.21	7.81	12.02	3.18	H		0.046	16.65		
3840.00		PI/2 BPSK	-26.46	13.49	11.58	3.20	H		0.154	21.87	1	187
		QPSK	-26.51	13.44	11.58	3.20	H		0.152	21.82		
		16-QAM	-27.48	12.47	11.58	3.20	H		0.122	20.85		
		64-QAM	-28.94	11.01	11.58	3.20	H		0.087	19.39		
		256-QAM	-30.89	9.06	11.58	3.20	H		0.056	17.44		
3945.00		PI/2 BPSK	-26.57	13.46	11.60	3.23	H		0.152	21.83	1	1
		QPSK	-26.61	13.42	11.60	3.23	H		0.151	21.79		
		16-QAM	-27.63	12.40	11.60	3.23	H		0.119	20.77		
		64-QAM	-29.17	10.86	11.60	3.23	H		0.084	19.23		
		256-QAM	-31.15	8.88	11.60	3.23	H		0.053	17.25		

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
3740.01	Sub6 n77/ 80 MHz [30 kHz]	PI/2 BPSK	-26.41	12.74	12.00	3.19	H	< 1.00	0.143	21.55	1	108
		QPSK	-26.59	12.56	12.00	3.19	H		0.137	21.37		
		16-QAM	-27.56	11.59	12.00	3.19	H		0.110	20.40		
		64-QAM	-29.06	10.09	12.00	3.19	H		0.078	18.90		
		256-QAM	-31.19	7.96	12.00	3.19	H		0.048	16.77		
3840.00		PI/2 BPSK	-26.45	13.50	11.58	3.20	H		0.154	21.88	1	215
		QPSK	-26.49	13.46	11.58	3.20	H		0.153	21.84		
		16-QAM	-27.48	12.47	11.58	3.20	H		0.122	20.85		
		64-QAM	-29.04	10.91	11.58	3.20	H		0.085	19.29		
		256-QAM	-30.89	9.06	11.58	3.20	H		0.056	17.44		
3939.99		PI/2 BPSK	-26.54	13.46	11.58	3.23	H		0.152	21.81	1	1
		QPSK	-26.56	13.44	11.58	3.23	H		0.151	21.79		
		16-QAM	-27.68	12.32	11.58	3.23	H		0.117	20.67		
		64-QAM	-29.13	10.87	11.58	3.23	H		0.084	19.22		
		256-QAM	-30.99	9.01	11.58	3.23	H		0.055	17.36		

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
3745.02	Sub6 n77/ 90 MHz [30 kHz]	PI/2 BPSK	-26.49	12.68	11.97	3.18	H	< 1.00	0.140	21.47	1	122
		QPSK	-26.58	12.59	11.97	3.18	H		0.137	21.38		
		16-QAM	-27.56	11.61	11.97	3.18	H		0.110	20.40		
		64-QAM	-29.12	10.05	11.97	3.18	H		0.077	18.84		
		256-QAM	-31.09	8.08	11.97	3.18	H		0.049	16.87		
3840.00		PI/2 BPSK	-26.39	13.56	11.58	3.20	H		0.156	21.94	1	243
		QPSK	-26.41	13.54	11.58	3.20	H		0.156	21.92		
		16-QAM	-27.40	12.55	11.58	3.20	H		0.124	20.93		
		64-QAM	-28.98	10.97	11.58	3.20	H		0.086	19.35		
		256-QAM	-30.91	9.04	11.58	3.20	H		0.055	17.42		
3934.98		PI/2 BPSK	-26.43	13.52	11.56	3.24	H		0.153	21.84	1	1
		QPSK	-26.52	13.43	11.56	3.24	H		0.150	21.75		
		16-QAM	-27.62	12.33	11.56	3.24	H		0.116	20.65		
		64-QAM	-29.03	10.92	11.56	3.24	H		0.084	19.24		
		256-QAM	-31.00	8.95	11.56	3.24	H		0.053	17.27		

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
3750.00	Sub6 n77/ 100 MHz [30 kHz]	PI/2 BPSK	-26.56	12.63	11.95	3.17	H	< 1.00	0.138	21.41	1	136
		QPSK	-26.57	12.62	11.95	3.17	H		0.138	21.40		
		16-QAM	-27.63	11.56	11.95	3.17	H		0.108	20.34		
		64-QAM	-29.03	10.16	11.95	3.17	H		0.078	18.94		
		256-QAM	-31.08	8.11	11.95	3.17	H		0.049	16.89		
3840.00		PI/2 BPSK	-26.41	13.54	11.58	3.20	H		0.156	21.92	1	271
		QPSK	-26.46	13.49	11.58	3.20	H		0.154	21.87		
		16-QAM	-27.35	12.60	11.58	3.20	H		0.125	20.98		
		64-QAM	-28.99	10.96	11.58	3.20	H		0.086	19.34		
		256-QAM	-30.96	8.99	11.58	3.20	H		0.055	17.37		
3930.00		PI/2 BPSK	-26.39	13.51	11.54	3.26	H		0.151	21.79	1	1
		QPSK	-26.41	13.49	11.54	3.26	H		0.150	21.77		
		16-QAM	-27.51	12.39	11.54	3.26	H		0.117	20.67		
		64-QAM	-28.81	11.09	11.54	3.26	H		0.087	19.37		
		256-QAM	-30.95	8.95	11.54	3.26	H		0.053	17.23		

9.2 RADIATED SPURIOUS EMISSIONS

▣ NR Band: N77

▣ Bandwidth: 90 MHz

▣ Modulation: PI/2 BPSK

▣ Distance: 1 meters

▣ SCS: 30 kHz

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)	RB	
									Size	Offset
649668 (3745.02)	7 490.04	-63.85	11.48	-56.38	4.61	V	-49.51	-13.00	1	122
	11 235.06	-57.39	12.06	-46.58	5.82	H	-40.34	-13.00		
	14 980.08	-49.67	14.24	-43.27	6.79	H	-35.82	-13.00		
656000 (3840.00)	7 680.00	-63.28	11.47	-55.97	4.70	H	-49.20	-13.00	1	243
	11 520.00	-63.59	12.34	-52.28	5.87	H	-45.81	-13.00		
	15 360.00	-52.22	15.37	-45.64	6.88	H	-37.15	-13.00		
662332 (3934.98)	7 869.96	-63.47	11.06	-55.65	4.75	H	-49.34	-13.00	1	1
	11 804.94	-63.14	12.66	-53.21	5.97	H	-46.52	-13.00		
	15 739.92	-50.60	16.08	-43.49	6.93	H	-34.34	-13.00		

9.3 PEAK-TO-AVERAGE RATIO

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (dB)
Sub6 n77	10 MHz	3840.00	BPSK	Full RB	0	4.46
			QPSK			5.62
			16-QAM			6.38
			64-QAM			6.66
			256-QAM			6.66
	15 MHz		BPSK			4.44
			QPSK			5.68
			16-QAM			6.49
			64-QAM			6.75
			256-QAM			6.55
	20 MHz		BPSK			4.53
			QPSK			5.67
			16-QAM			6.49
			64-QAM			6.73
			256-QAM			6.59
	30 MHz		BPSK			4.47
			QPSK			5.67
			16-QAM			6.47
			64-QAM			6.81
			256-QAM			6.65
	40 MHz		BPSK			5.14
			QPSK			5.58
			16-QAM			6.33
			64-QAM			6.55
			256-QAM			6.56
	50 MHz		BPSK			4.51
			QPSK			5.72
			16-QAM			6.53
			64-QAM			6.66
			256-QAM			6.64
	60 MHz		BPSK			4.80
			QPSK			5.69
			16-QAM			6.50

			64-QAM			6.68
			256-QAM			6.69
	70 MHz		BPSK			4.90
			QPSK			5.69
			16-QAM			6.47
			64-QAM			6.60
			256-QAM			6.75
	80 MHz		BPSK			4.46
			QPSK			5.69
			16-QAM			6.46
			64-QAM			6.59
			256-QAM			6.64
	90 MHz		BPSK			4.50
			QPSK			5.69
			16-QAM			6.53
			64-QAM			6.58
			256-QAM			6.62
	100 MHz		BPSK			4.85
			QPSK			5.67
			16-QAM			6.44
			64-QAM			6.59
			256-QAM			6.71

Note:

1. Plots of the EUT's Peak- to- Average Ratio are shown Page 392 ~ 446.

9.4 OCCUPIED BANDWIDTH

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (MHz)
Sub6 n77	10 MHz	3840.00	BPSK	Full RB	0	8.6461
			QPSK			8.6404
			16-QAM			8.6659
			64-QAM			8.6479
			256-QAM			8.7032
	15 MHz		BPSK			12.971
			QPSK			12.934
			16-QAM			12.955
			64-QAM			12.980
			256-QAM			12.991
	20 MHz		BPSK			17.957
			QPSK			17.964
			16-QAM			17.948
			64-QAM			17.966
			256-QAM			17.952
	30 MHz		BPSK			27.039
			QPSK			26.906
			16-QAM			26.944
			64-QAM			26.958
			256-QAM			26.982
	40 MHz		BPSK			35.926
			QPSK			35.971
			16-QAM			35.894
			64-QAM			35.896
			256-QAM			35.856
	50 MHz		BPSK			45.949
			QPSK			46.027
			16-QAM			45.886
			64-QAM			45.814
			256-QAM			45.960
	60 MHz		BPSK			58.245
			QPSK			58.132
			16-QAM			58.030

			64-QAM			58.042
			256-QAM			58.035
	70 MHz		BPSK			64.692
			QPSK			64.624
			16-QAM			64.516
			64-QAM			64.663
			256-QAM			64.668
	80 MHz		BPSK			77.399
			QPSK			77.586
			16-QAM			77.391
			64-QAM			77.439
			256-QAM			77.371
	90 MHz		BPSK			87.209
			QPSK			87.200
			16-QAM			87.132
			64-QAM			87.162
			256-QAM			87.049
	100 MHz		BPSK			96.710
			QPSK			96.789
			16-QAM			96.886
			64-QAM			96.784
			256-QAM			96.931

Note:

1. Plots of the EUT's Occupied Bandwidth are shown Page 447~ 501.

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 n77	10	3705.000	9.1725	30.815	-62.513	-31.698	-13.00
		3840.000	9.7508	30.815	-62.891	-32.076	
		3975.000	4.9153	30.200	-62.634	-32.434	
	15	3707.520	7.9960	37.805	-63.698	-25.893	
		3840.000	9.7707	30.815	-63.462	-32.647	
		3972.480	5.2044	30.815	-62.960	-32.145	
	20	3710.010	8.2453	30.815	-63.095	-32.280	
		3840.000	9.0628	30.815	-62.922	-32.107	
		3969.990	4.9253	30.200	-64.001	-33.801	
	30	3715.020	4.9452	30.200	-62.715	-32.515	
		3840.000	9.1526	30.815	-63.128	-32.313	
		3964.980	7.1386	30.815	-62.488	-31.673	
	40	3720.000	9.0728	30.815	-63.056	-32.241	
		3840.000	6.2912	30.815	-62.868	-32.053	
		3960.000	4.8555	30.200	-62.776	-32.576	
	50	3725.010	7.4178	30.815	-63.088	-32.273	
		3840.000	8.9033	30.815	-62.450	-31.635	
		3954.990	8.4945	30.815	-63.186	-32.371	
	60	3730.020	8.0359	30.815	-63.387	-32.572	
		3840.000	8.2852	30.815	-62.624	-31.809	
		3949.980	5.2543	30.815	-63.776	-32.961	
	70	3735.000	9.6909	30.815	-62.731	-31.916	
		3840.000	8.8734	30.815	-62.763	-31.948	
		3945.000	9.4317	30.815	-63.902	-33.087	
	80	3740.010	6.0220	30.815	-63.032	-32.217	
		3840.000	9.9801	30.815	-63.173	-32.358	
		3939.990	9.1825	30.815	-63.154	-32.339	
	90	3745.020	9.8006	30.815	-62.434	-31.619	
		3840.000	4.2872	30.200	-63.308	-33.108	
		3934.980	8.8535	30.815	-62.906	-32.091	
	100	3750.000	9.6112	30.815	-63.810	-32.995	
		3840.000	4.2872	30.200	-62.753	-32.553	
		3930.000	9.6710	30.815	-62.059	-31.244	

Note:

1. Plots of the EUT's Conducted Spurious Emissions are shown Page 502 ~ 567.
2. Factor(dB)
   - Factor(dB) = Cable Loss + Ext. Attenuator + Power Splitter
   - Result(dBm) = Reading + Factor

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

9.6 BAND EDGE

1. Plots of the EUT's Band Edge are shown Page 568 ~ 699.
2. Duty Cycle factor already applied on the factor.
   - Factor(dB) = Duty Cycle factor + Cable Loss + Ext. Attenuator + Power Splitter
   - Result(dBm) = Reading + Factor
   - Duty Cycle Factor(dB) = 6.990

9.7 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE

▣ BandWidth: 10 MHz

▣ Voltage(100 %): 4.200 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)	(%)	
3705.000	100 %	+20(Ref)	3704 999 998	0.0	0.000 000	0.000
	100 %	-30	3704 999 996	-1.9	0.000 000	-0.001
	100 %	-20	3704 999 999	1.1	0.000 000	0.000
	100 %	-10	3705 000 000	1.8	0.000 000	0.000
	100 %	0	3705 000 003	4.4	0.000 000	0.001
	100 %	+10	3705 000 009	10.3	0.000 000	0.003
	100 %	+30	3704 999 986	-11.8	0.000 000	-0.003
	100 %	+40	3705 000 013	15.1	0.000 000	0.004
	100 %	+50	3704 999 995	-3.1	0.000 000	-0.001
	Batt. Endpoint	+20	3704 999 994	-4.2	0.000 000	-0.001
3975.000	100 %	+20(Ref)	3974 999 993	0.0	0.000 000	0.000
	100 %	-30	3974 999 990	-2.9	0.000 000	-0.001
	100 %	-20	3974 999 986	-6.3	0.000 000	-0.002
	100 %	-10	3974 999 992	-1.1	0.000 000	0.000
	100 %	0	3974 999 995	2.9	0.000 000	0.001
	100 %	+10	3974 999 988	-4.8	0.000 000	-0.001
	100 %	+30	3974 999 995	2.0	0.000 000	0.000
	100 %	+40	3974 999 980	-12.3	0.000 000	-0.003
	100 %	+50	3974 999 979	-13.2	0.000 000	-0.003
	Batt. Endpoint	+20	3974 999 980	-12.9	0.000 000	-0.003

▣ BandWidth: 15 MHz

▣ Voltage(100 %): 4.200 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)	(%)	
3707.520	100 %	+20(Ref)	3707 520 000	0.0	0.000 000	0.000
	100 %	-30	3707 520 004	3.1	0.000 000	0.001
	100 %	-20	3707 520 003	2.6	0.000 000	0.001
	100 %	-10	3707 520 010	9.5	0.000 000	0.003
	100 %	0	3707 519 995	-5.0	0.000 000	-0.001
	100 %	+10	3707 520 006	5.2	0.000 000	0.001
	100 %	+30	3707 520 001	0.9	0.000 000	0.000
	100 %	+40	3707 519 996	-4.1	0.000 000	-0.001
	100 %	+50	3707 519 996	-4.8	0.000 000	-0.001
	Batt. Endpoint	+20	3707 520 001	0.1	0.000 000	0.000
3972.480	100 %	+20(Ref)	3972 479 986	0.0	0.000 000	0.000
	100 %	-30	3972 479 972	-14.2	0.000 000	-0.004
	100 %	-20	3972 479 975	-11.1	0.000 000	-0.003
	100 %	-10	3972 479 984	-2.3	0.000 000	-0.001
	100 %	0	3972 479 972	-13.6	0.000 000	-0.003
	100 %	+10	3972 479 982	-4.3	0.000 000	-0.001
	100 %	+30	3972 479 983	-3.3	0.000 000	-0.001
	100 %	+40	3972 479 986	0.1	0.000 000	0.000
	100 %	+50	3972 479 987	1.0	0.000 000	0.000
	Batt. Endpoint	+20	3972 479 984	-1.8	0.000 000	0.000

▣ BandWidth: 20 MHz

▣ Voltage(100 %): 4.200 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)	(%)	
3710.010	100 %	+20(Ref)	3710 009 995	0.0	0.000 000	0.000
	100 %	-30	3710 009 995	0.0	0.000 000	0.000
	100 %	-20	3710 010 001	5.6	0.000 000	0.002
	100 %	-10	3710 009 989	-6.5	0.000 000	-0.002
	100 %	0	3710 009 992	-2.9	0.000 000	-0.001
	100 %	+10	3710 009 998	2.9	0.000 000	0.001
	100 %	+30	3710 009 999	3.8	0.000 000	0.001
	100 %	+40	3710 010 002	6.5	0.000 000	0.002
	100 %	+50	3710 009 996	0.8	0.000 000	0.000
	Batt. Endpoint	+20	3710 010 003	8.4	0.000 000	0.002
3969.990	100 %	+20(Ref)	3969 989 991	0.0	0.000 000	0.000
	100 %	-30	3969 989 994	3.2	0.000 000	0.001
	100 %	-20	3969 989 977	-13.1	0.000 000	-0.003
	100 %	-10	3969 989 984	-7.0	0.000 000	-0.002
	100 %	0	3969 989 993	2.5	0.000 000	0.001
	100 %	+10	3969 989 986	-4.7	0.000 000	-0.001
	100 %	+30	3969 989 976	-14.6	0.000 000	-0.004
	100 %	+40	3969 989 996	5.3	0.000 000	0.001
	100 %	+50	3969 989 979	-11.1	0.000 000	-0.003
	Batt. Endpoint	+20	3969 989 987	-3.8	0.000 000	-0.001

▣ BandWidth: 30 MHz

▣ Voltage(100 %): 4.200 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)	(%)	
3715.020	100 %	+20(Ref)	3715 019 993	0.0	0.000 000	0.000
	100 %	-30	3715 019 993	0.0	0.000 000	0.000
	100 %	-20	3715 020 006	12.7	0.000 000	0.003
	100 %	-10	3715 019 994	0.8	0.000 000	0.000
	100 %	0	3715 019 984	-8.7	0.000 000	-0.002
	100 %	+10	3715 019 997	4.2	0.000 000	0.001
	100 %	+30	3715 019 991	-1.4	0.000 000	0.000
	100 %	+40	3715 019 991	-2.3	0.000 000	-0.001
	100 %	+50	3715 019 992	-0.6	0.000 000	0.000
	Batt. Endpoint	+20	3715 019 994	0.9	0.000 000	0.000
3964.980	100 %	+20(Ref)	3964 980 006	0.0	0.000 000	0.000
	100 %	-30	3964 980 016	9.3	0.000 000	0.002
	100 %	-20	3964 980 007	0.9	0.000 000	0.000
	100 %	-10	3964 980 001	-5.0	0.000 000	-0.001
	100 %	0	3964 979 997	-9.1	0.000 000	-0.002
	100 %	+10	3964 980 011	4.1	0.000 000	0.001
	100 %	+30	3964 980 015	9.0	0.000 000	0.002
	100 %	+40	3964 980 007	0.0	0.000 000	0.000
	100 %	+50	3964 980 016	9.4	0.000 000	0.002
	Batt. Endpoint	+20	3964 980 006	-0.5	0.000 000	0.000

▣ BandWidth: 40 MHz

▣ Voltage(100 %): 4.200 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)	(%)	
3720.000	100 %	+20(Ref)	3720 000 005	0.0	0.000 000	0.000
	100 %	-30	3720 000 000	-5.1	0.000 000	-0.001
	100 %	-20	3720 000 008	2.7	0.000 000	0.001
	100 %	-10	3720 000 008	2.9	0.000 000	0.001
	100 %	0	3720 000 007	1.2	0.000 000	0.000
	100 %	+10	3720 000 003	-3.0	0.000 000	-0.001
	100 %	+30	3720 000 014	9.0	0.000 000	0.002
	100 %	+40	3720 000 008	2.8	0.000 000	0.001
	100 %	+50	3719 999 999	-6.6	0.000 000	-0.002
	Batt. Endpoint	+20	3720 000 007	1.1	0.000 000	0.000
3960.000	100 %	+20(Ref)	3959 999 992	0.0	0.000 000	0.000
	100 %	-30	3959 999 988	-3.5	0.000 000	-0.001
	100 %	-20	3959 999 986	-5.7	0.000 000	-0.001
	100 %	-10	3959 999 994	2.3	0.000 000	0.001
	100 %	0	3959 999 981	-10.6	0.000 000	-0.003
	100 %	+10	3959 999 985	-6.8	0.000 000	-0.002
	100 %	+30	3959 999 995	3.1	0.000 000	0.001
	100 %	+40	3959 999 995	3.8	0.000 000	0.001
	100 %	+50	3959 999 988	-3.8	0.000 000	-0.001
	Batt. Endpoint	+20	3959 999 995	3.2	0.000 000	0.001

▣ BandWidth: 50 MHz

▣ Voltage(100 %): 4.200 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)	(%)	
3725.010	100 %	+20(Ref)	3725 010 010	0.0	0.000 000	0.000
	100 %	-30	3725 010 012	2.5	0.000 000	0.001
	100 %	-20	3725 010 001	-9.2	0.000 000	-0.002
	100 %	-10	3725 010 016	6.5	0.000 000	0.002
	100 %	0	3725 010 013	3.2	0.000 000	0.001
	100 %	+10	3725 010 003	-6.5	0.000 000	-0.002
	100 %	+30	3725 010 014	4.1	0.000 000	0.001
	100 %	+40	3725 010 006	-4.3	0.000 000	-0.001
	100 %	+50	3725 010 006	-3.6	0.000 000	-0.001
	Batt. Endpoint	+20	3725 010 006	-3.8	0.000 000	-0.001
3954.990	100 %	+20(Ref)	3954 989 997	0.0	0.000 000	0.000
	100 %	-30	3954 989 995	-1.6	0.000 000	0.000
	100 %	-20	3954 989 991	-6.1	0.000 000	-0.002
	100 %	-10	3954 989 997	-0.3	0.000 000	0.000
	100 %	0	3954 989 988	-9.2	0.000 000	-0.002
	100 %	+10	3954 990 000	3.4	0.000 000	0.001
	100 %	+30	3954 990 007	10.2	0.000 000	0.003
	100 %	+40	3954 989 992	-4.9	0.000 000	-0.001
	100 %	+50	3954 989 991	-5.9	0.000 000	-0.002
	Batt. Endpoint	+20	3954 990 001	4.6	0.000 000	0.001

▣ BandWidth: 60 MHz

▣ Voltage(100 %): 4.200 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)	(%)	
3730.020	100 %	+20(Ref)	3730 020 003	0.0	0.000 000	0.000
	100 %	-30	3730 020 004	0.9	0.000 000	0.000
	100 %	-20	3730 020 006	2.6	0.000 000	0.001
	100 %	-10	3730 019 995	-7.6	0.000 000	-0.002
	100 %	0	3730 019 993	-9.5	0.000 000	-0.003
	100 %	+10	3730 019 999	-3.8	0.000 000	-0.001
	100 %	+30	3730 020 010	7.3	0.000 000	0.002
	100 %	+40	3730 020 012	9.1	0.000 000	0.002
	100 %	+50	3730 020 011	8.2	0.000 000	0.002
	Batt. Endpoint	+20	3730 020 004	0.8	0.000 000	0.000
3949.980	100 %	+20(Ref)	3949 979 994	0.0	0.000 000	0.000
	100 %	-30	3949 979 994	-0.6	0.000 000	0.000
	100 %	-20	3949 979 994	0.1	0.000 000	0.000
	100 %	-10	3949 979 992	-2.4	0.000 000	-0.001
	100 %	0	3949 979 994	0.0	0.000 000	0.000
	100 %	+10	3949 979 987	-6.8	0.000 000	-0.002
	100 %	+30	3949 979 993	-0.6	0.000 000	0.000
	100 %	+40	3949 979 990	-3.6	0.000 000	-0.001
	100 %	+50	3949 979 993	-0.8	0.000 000	0.000
	Batt. Endpoint	+20	3949 979 990	-4.5	0.000 000	-0.001

▣ BandWidth: 70 MHz

▣ Voltage(100 %): 4.200 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)	(%)	
3735.000	100 %	+20(Ref)	3734 999 997	0.0	0.000 000	0.000
	100 %	-30	3734 999 992	-4.2	0.000 000	-0.001
	100 %	-20	3734 999 996	-0.3	0.000 000	0.000
	100 %	-10	3734 999 990	-6.5	0.000 000	-0.002
	100 %	0	3734 999 995	-1.5	0.000 000	0.000
	100 %	+10	3734 999 994	-2.3	0.000 000	-0.001
	100 %	+30	3735 000 001	4.2	0.000 000	0.001
	100 %	+40	3734 999 993	-3.9	0.000 000	-0.001
	100 %	+50	3734 999 997	0.6	0.000 000	0.000
	Batt. Endpoint	+20	3734 999 997	0.5	0.000 000	0.000
3945.000	100 %	+20(Ref)	3944 999 988	0.0	0.000 000	0.000
	100 %	-30	3944 999 988	0.3	0.000 000	0.000
	100 %	-20	3944 999 989	1.0	0.000 000	0.000
	100 %	-10	3944 999 983	-4.5	0.000 000	-0.001
	100 %	0	3944 999 982	-5.6	0.000 000	-0.001
	100 %	+10	3944 999 979	-9.0	0.000 000	-0.002
	100 %	+30	3944 999 979	-9.0	0.000 000	-0.002
	100 %	+40	3944 999 987	-0.3	0.000 000	0.000
	100 %	+50	3944 999 984	-3.3	0.000 000	-0.001
	Batt. Endpoint	+20	3944 999 996	8.1	0.000 000	0.002

▣ BandWidth: 80 MHz

▣ Voltage(100 %): 4.200 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)	(%)	
3740.010	100 %	+20(Ref)	3740 010 002	0.0	0.000 000	0.000
	100 %	-30	3740 009 998	-3.7	0.000 000	-0.001
	100 %	-20	3740 010 008	6.3	0.000 000	0.002
	100 %	-10	3740 010 008	6.3	0.000 000	0.002
	100 %	0	3740 010 000	-2.1	0.000 000	-0.001
	100 %	+10	3740 010 001	-0.5	0.000 000	0.000
	100 %	+30	3740 009 999	-2.5	0.000 000	-0.001
	100 %	+40	3740 010 004	2.6	0.000 000	0.001
	100 %	+50	3740 009 991	-10.4	0.000 000	-0.003
	Batt. Endpoint	+20	3740 010 011	8.9	0.000 000	0.002
3939.990	100 %	+20(Ref)	3939 989 999	0.0	0.000 000	0.000
	100 %	-30	3939 990 008	9.6	0.000 000	0.002
	100 %	-20	3939 990 000	1.1	0.000 000	0.000
	100 %	-10	3939 990 000	1.1	0.000 000	0.000
	100 %	0	3939 990 001	2.0	0.000 000	0.001
	100 %	+10	3939 990 001	2.0	0.000 000	0.000
	100 %	+30	3939 989 989	-9.5	0.000 000	-0.002
	100 %	+40	3939 990 011	11.8	0.000 000	0.003
	100 %	+50	3939 990 000	1.0	0.000 000	0.000
	Batt. Endpoint	+20	3939 990 007	7.8	0.000 000	0.002

▣ BandWidth: 90 MHz

▣ Voltage(100 %): 4.200 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)	(%)	
3745.020	100 %	+20(Ref)	3745 020 003	0.0	0.000 000	0.000
	100 %	-30	3745 020 002	-0.6	0.000 000	0.000
	100 %	-20	3745 019 998	-4.8	0.000 000	-0.001
	100 %	-10	3745 020 001	-2.2	0.000 000	-0.001
	100 %	0	3745 019 996	-6.5	0.000 000	-0.002
	100 %	+10	3745 020 002	-0.8	0.000 000	0.000
	100 %	+30	3745 019 999	-3.5	0.000 000	-0.001
	100 %	+40	3745 020 011	7.8	0.000 000	0.002
	100 %	+50	3745 020 006	2.7	0.000 000	0.001
	Batt. Endpoint	+20	3745 020 002	-0.9	0.000 000	0.000
3934.980	100 %	+20(Ref)	3934 980 003	0.0	0.000 000	0.000
	100 %	-30	3934 979 992	-10.5	0.000 000	-0.003
	100 %	-20	3934 979 996	-7.0	0.000 000	-0.002
	100 %	-10	3934 980 006	3.0	0.000 000	0.001
	100 %	0	3934 980 001	-1.7	0.000 000	0.000
	100 %	+10	3934 980 003	0.4	0.000 000	0.000
	100 %	+30	3934 980 004	1.2	0.000 000	0.000
	100 %	+40	3934 980 004	1.2	0.000 000	0.000
	100 %	+50	3934 979 999	-3.8	0.000 000	-0.001
	Batt. Endpoint	+20	3934 980 003	0.6	0.000 000	0.000

▣ BandWidth: 100 MHz

▣ Voltage(100 %): 4.200 VDC

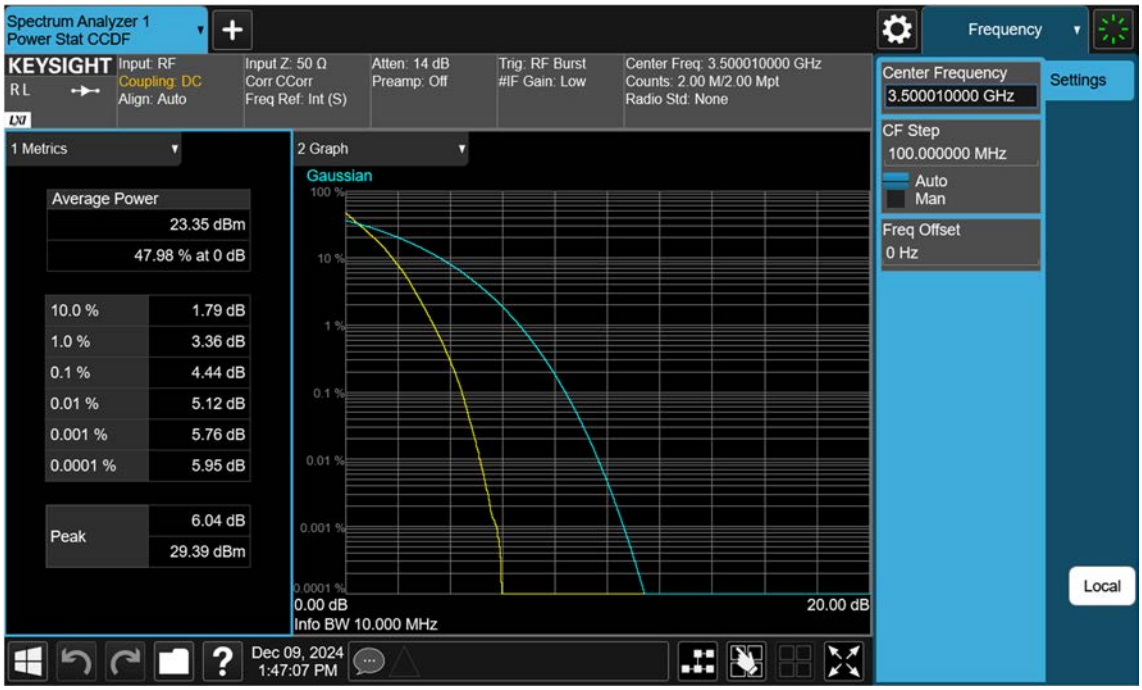
▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

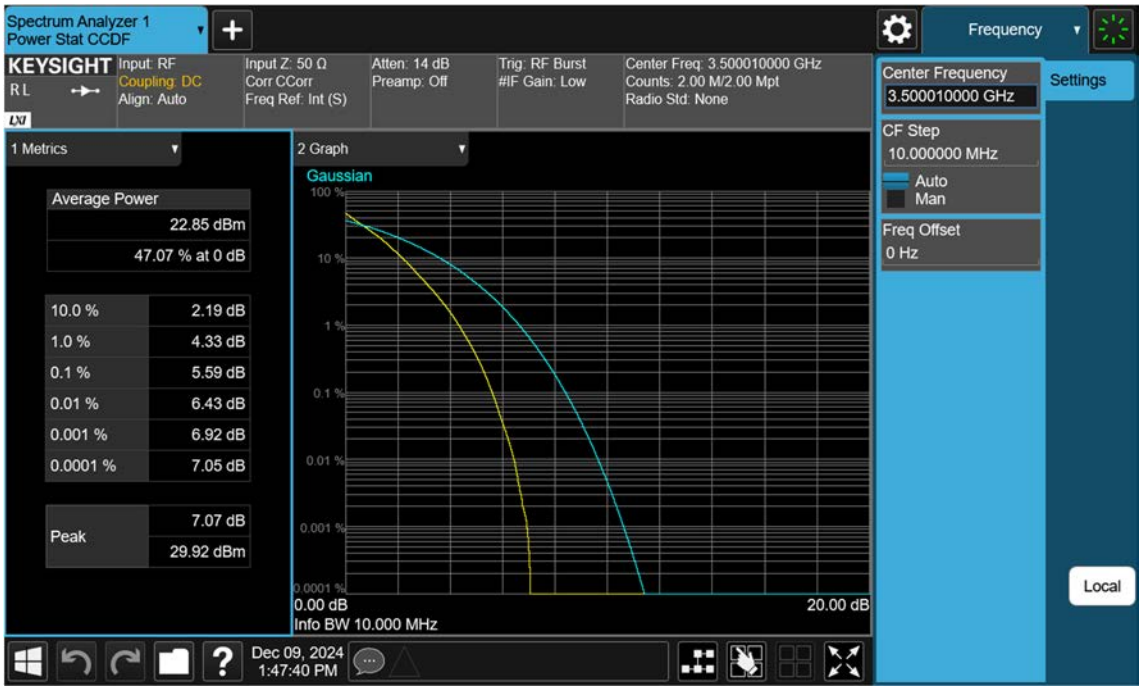
Test. Frequncy	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
3750.000	100 %	+20(Ref)	3749 999 996	0.0	0.000 000	0.000
	100 %	-30	3749 999 996	0.0	0.000 000	0.000
	100 %	-20	3750 000 006	10.2	0.000 000	0.003
	100 %	-10	3749 999 998	2.7	0.000 000	0.001
	100 %	0	3749 999 997	1.1	0.000 000	0.000
	100 %	+10	3749 999 997	1.1	0.000 000	0.000
	100 %	+30	3749 999 999	3.3	0.000 000	0.001
	100 %	+40	3749 999 994	-1.5	0.000 000	0.000
	100 %	+50	3749 999 995	-0.2	0.000 000	0.000
	Batt. Endpoint	+20	3750 000 003	7.8	0.000 000	0.002
3930.000	100 %	+20(Ref)	3929 999 998	0.0	0.000 000	0.000
	100 %	-30	3929 999 988	-9.8	0.000 000	-0.003
	100 %	-20	3929 999 996	-2.1	0.000 000	-0.001
	100 %	-10	3930 000 001	2.9	0.000 000	0.001
	100 %	0	3930 000 001	2.9	0.000 000	0.001
	100 %	+10	3929 999 995	-3.1	0.000 000	-0.001
	100 %	+30	3929 999 994	-4.2	0.000 000	-0.001
	100 %	+40	3929 999 991	-7.2	0.000 000	-0.002
	100 %	+50	3930 000 000	1.8	0.000 000	0.000
	Batt. Endpoint	+20	3929 999 999	0.9	0.000 000	0.000

10. TEST PLOTS(3450 MHz - 3550 MHz)

n77(3450~3550 MHz)_10 M_PAR_Mid_BPSK_FullRB



n77(3450~3550 MHz)_10 M_PAR_Mid_QPSK_FullRB



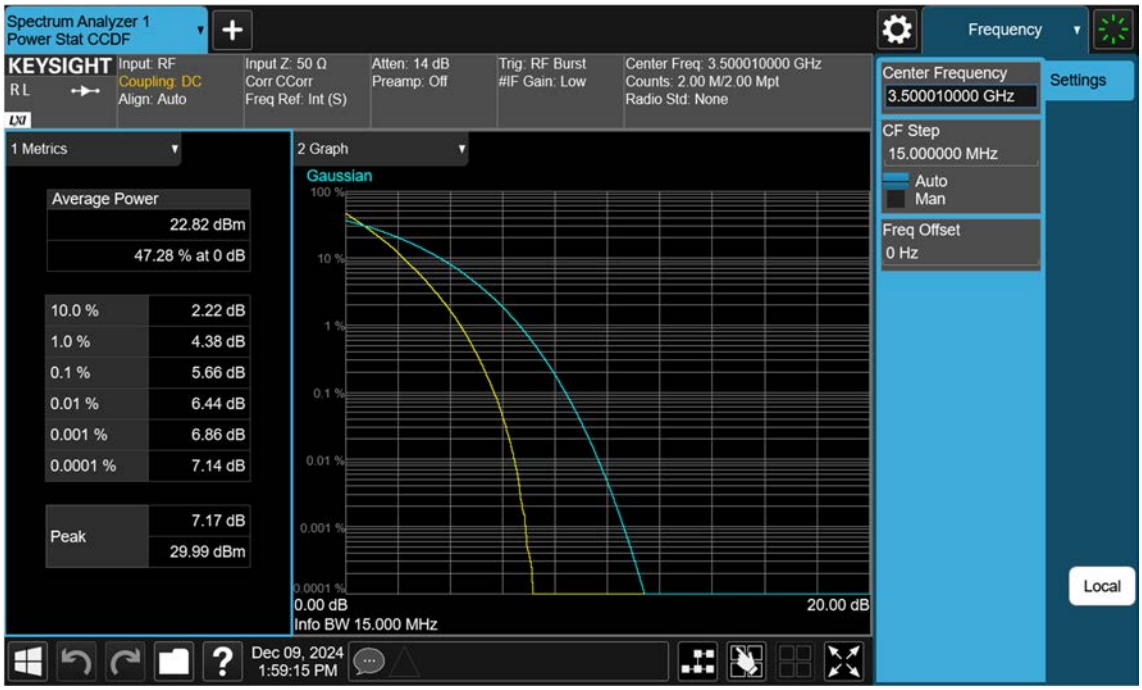
n77(3450~3550 MHz)_10 M_PAR_Mid_16QAM_FullRB

n77(3450~3550 MHz)_10 M_PAR_Mid_64QAM_FullRB

n77(3450~3550 MHz)_10 M_PAR_Mid_256QAM_FullRB

n77(3450~3550 MHz)_15 M_PAR_Mid_BPSK_FullRB

n77(3450~3550 MHz)_15 M_PAR_Mid_QPSK_FullRB



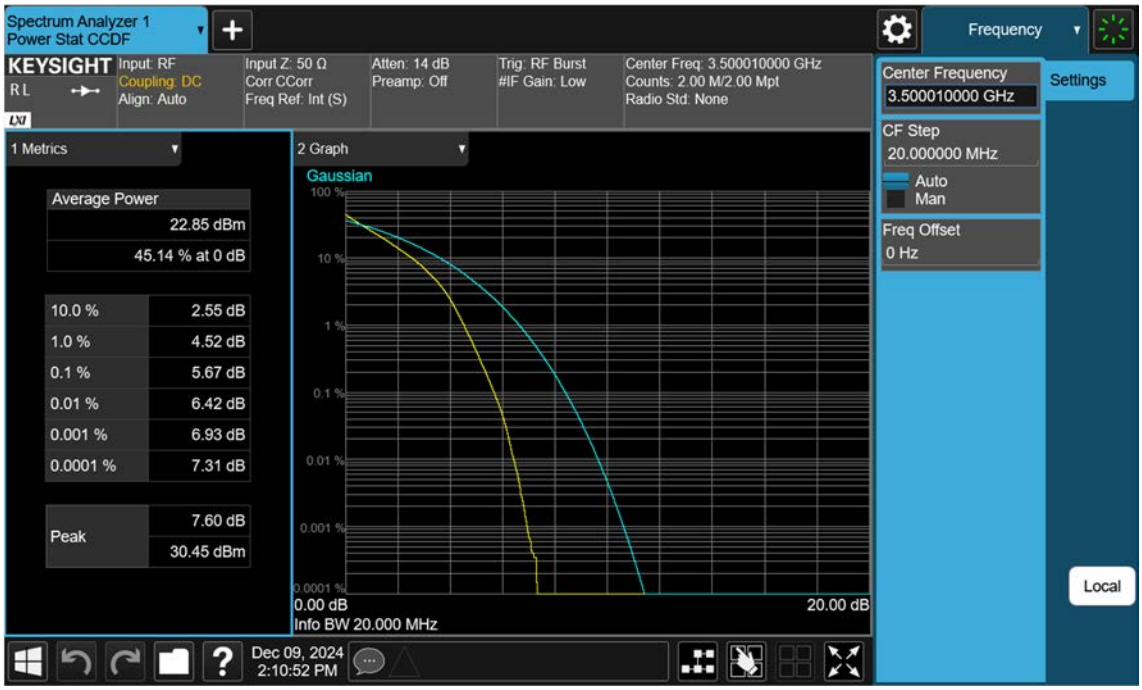
n77(3450~3550 MHz)_15 M_PAR_Mid_16QAM_FullRB

n77(3450~3550 MHz)_15 M_PAR_Mid_64QAM_FullRB

n77(3450~3550 MHz)_15 M_PAR_Mid_256QAM_FullRB

n77(3450~3550 MHz)_20 M_PAR_Mid_BPSK_FullRB

n77(3450~3550 MHz)_20 M_PAR_Mid_QPSK_FullRB

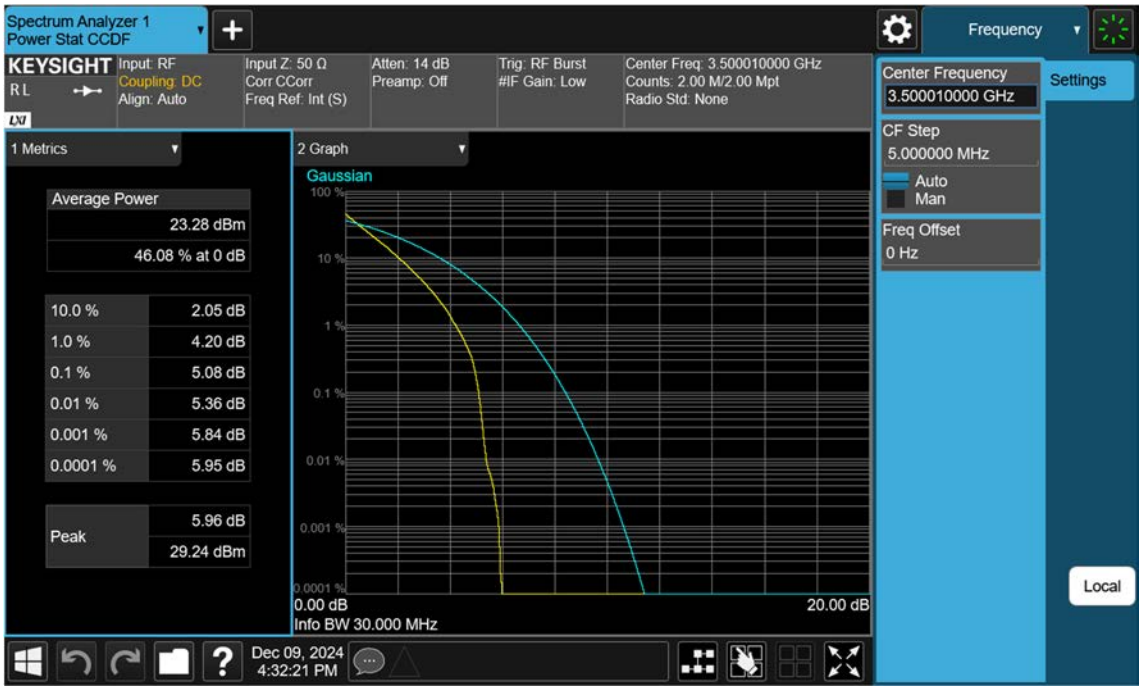


n77(3450~3550 MHz)_20 M_PAR_Mid_16QAM_FullRB

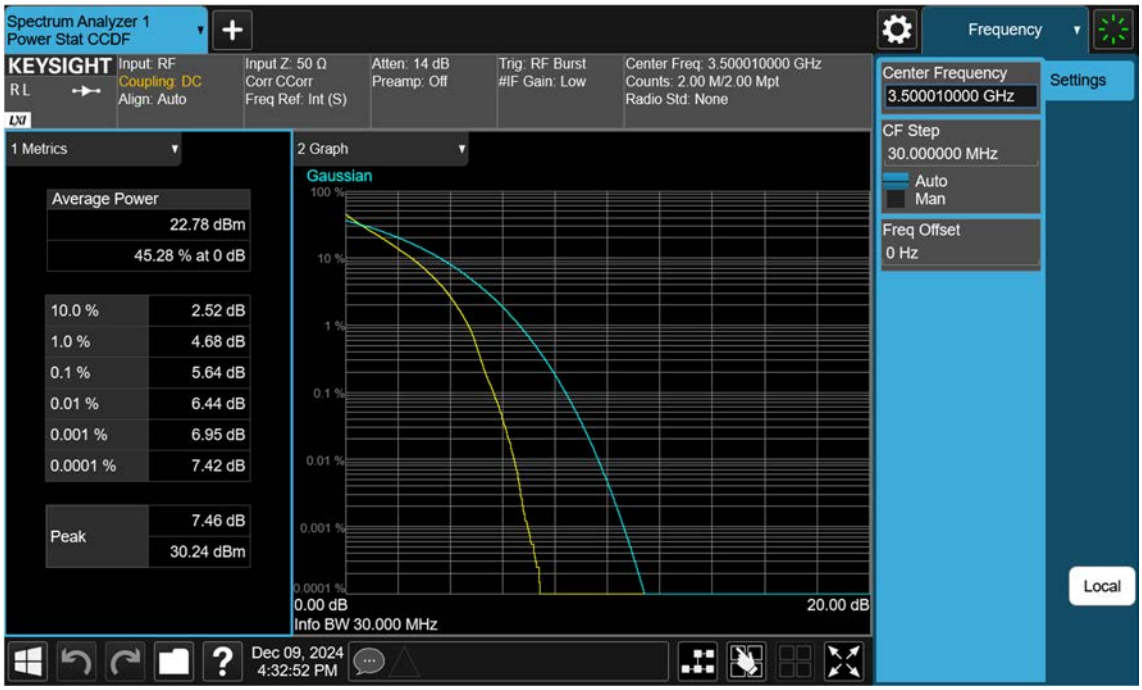
n77(3450~3550 MHz)_20 M_PAR_Mid_64QAM_FullRB

n77(3450~3550 MHz)_20 M_PAR_Mid_256QAM_FullRB

n77(3450~3550 MHz)_30 M_PAR_Mid_BPSK_FullRB



n77(3450~3550 MHz)_30 M_PAR_Mid_QPSK_FullRB

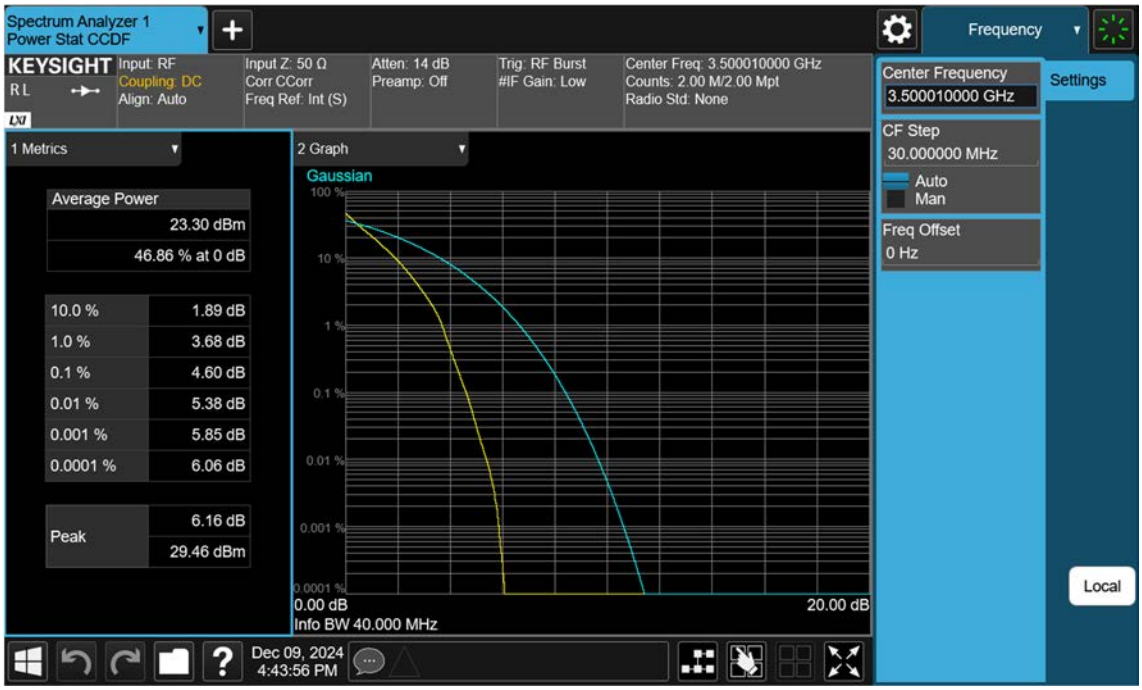


n77(3450~3550 MHz)_30 M_PAR_Mid_16QAM_FullRB

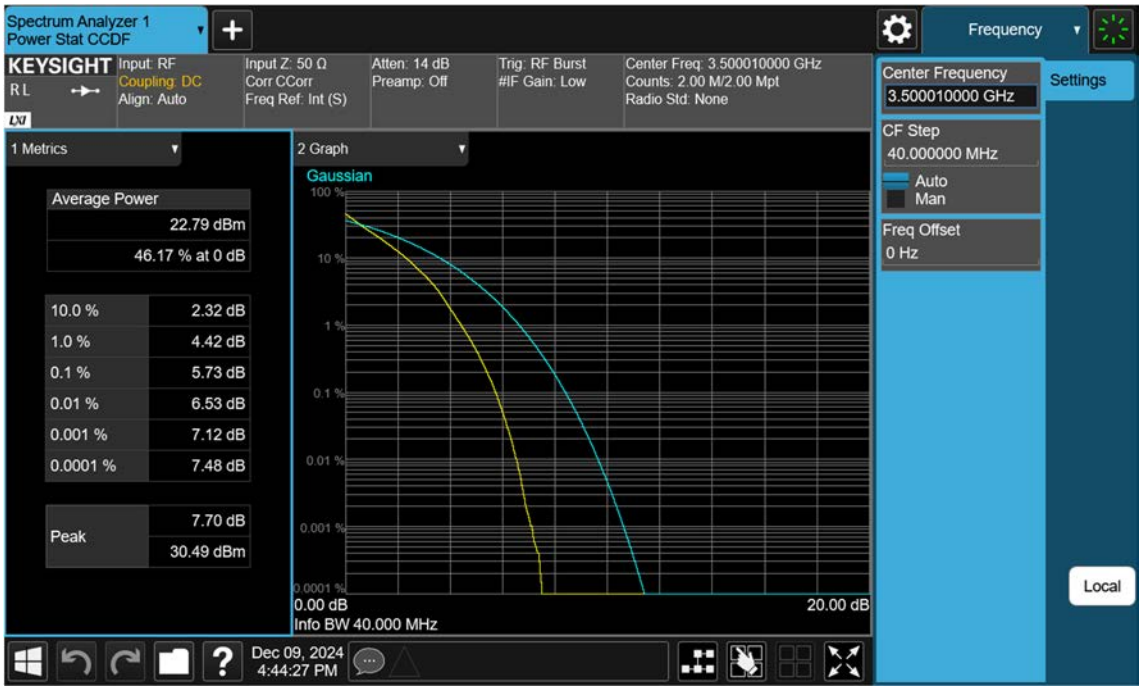
n77(3450~3550 MHz)_30 M_PAR_Mid_64QAM_FullRB

n77(3450~3550 MHz)_30 M_PAR_Mid_256QAM_FullRB

n77(3450~3550 MHz)_40 M_PAR_Mid_BPSK_FullRB



n77(3450~3550 MHz)_40 M_PAR_Mid_QPSK_FullRB



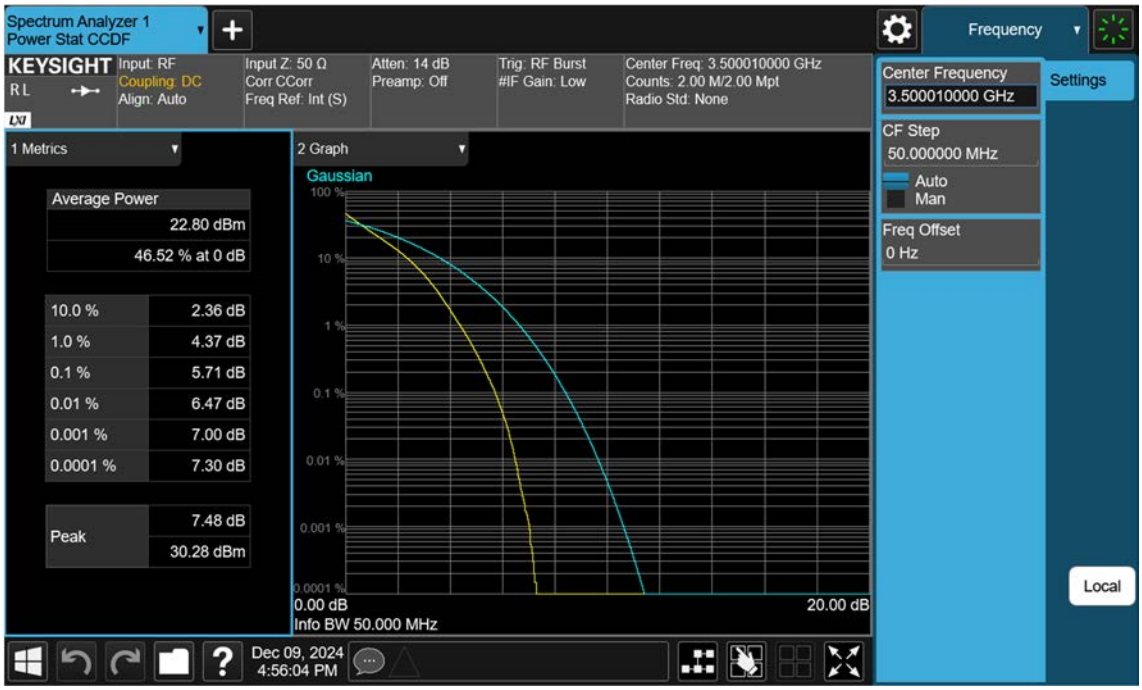
n77(3450~3550 MHz)_40 M_PAR_Mid_16QAM_FullRB

n77(3450~3550 MHz)_40 M_PAR_Mid_64QAM_FullRB

n77(3450~3550 MHz)_40 M_PAR_Mid_256QAM_FullRB

n77(3450~3550 MHz)_50 M_PAR_Mid_BPSK_FullRB

n77(3450~3550 MHz)_50 M_PAR_Mid_QPSK_FullRB

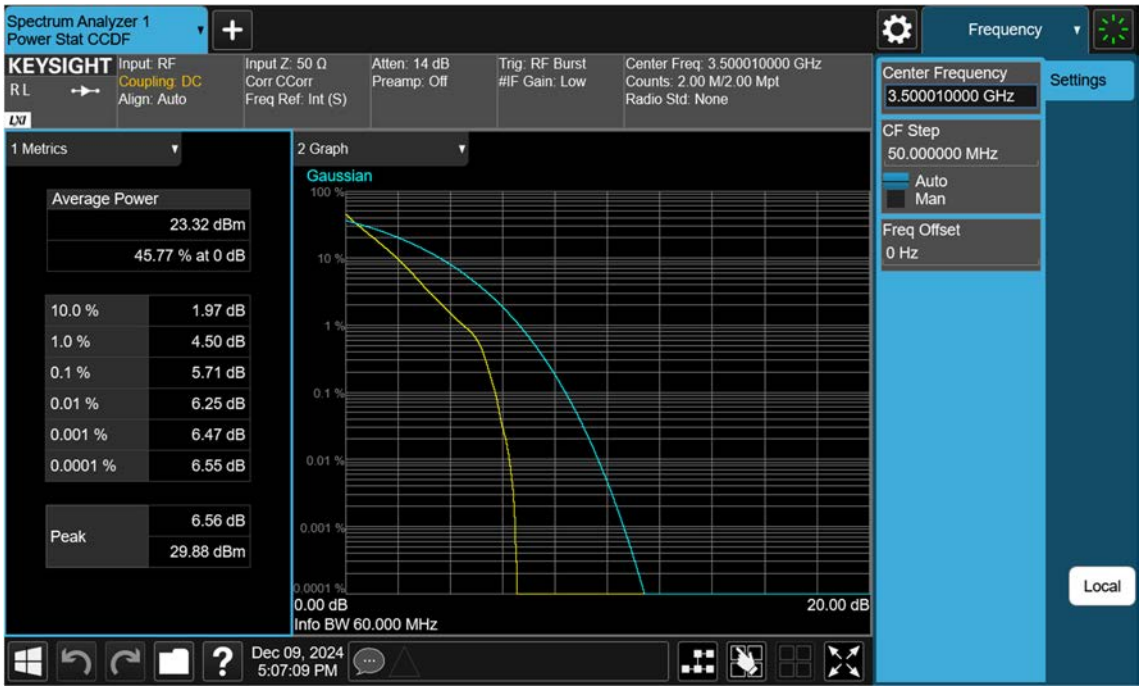


n77(3450~3550 MHz)_50 M_PAR_Mid_16QAM_FullRB

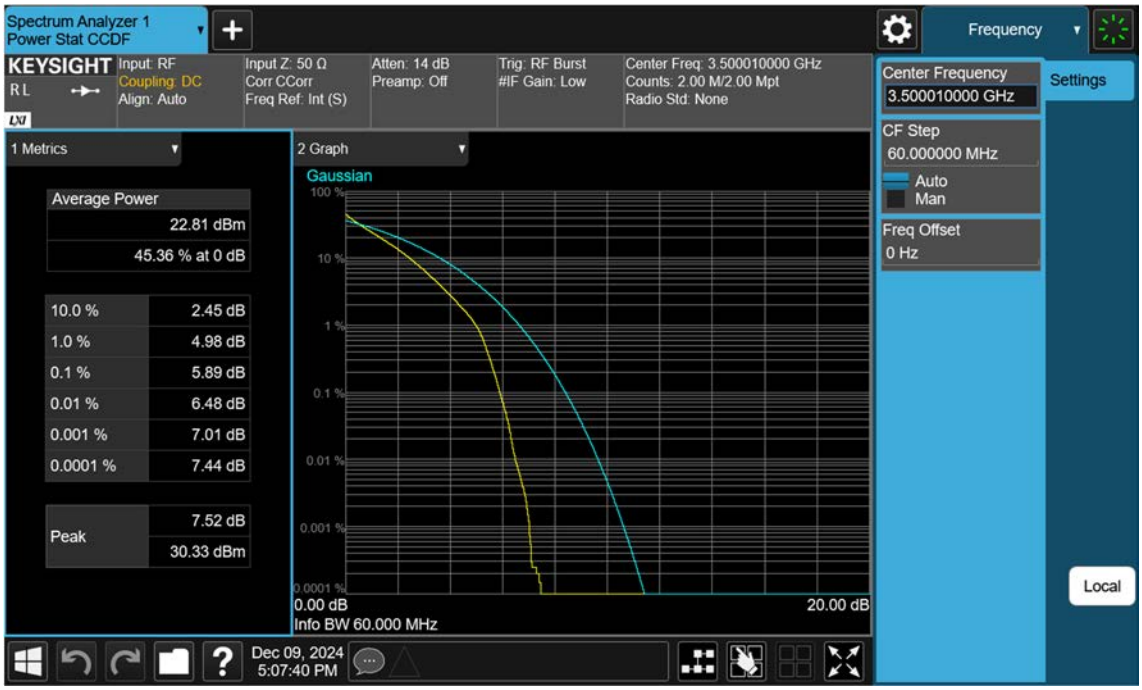
n77(3450~3550 MHz)_50 M_PAR_Mid_64QAM_FullRB

n77(3450~3550 MHz)_50 M_PAR_Mid_256QAM_FullRB

n77(3450~3550 MHz)_60 M_PAR_Mid_BPSK_FullRB



n77(3450~3550 MHz)_60 M_PAR_Mid_QPSK_FullRB



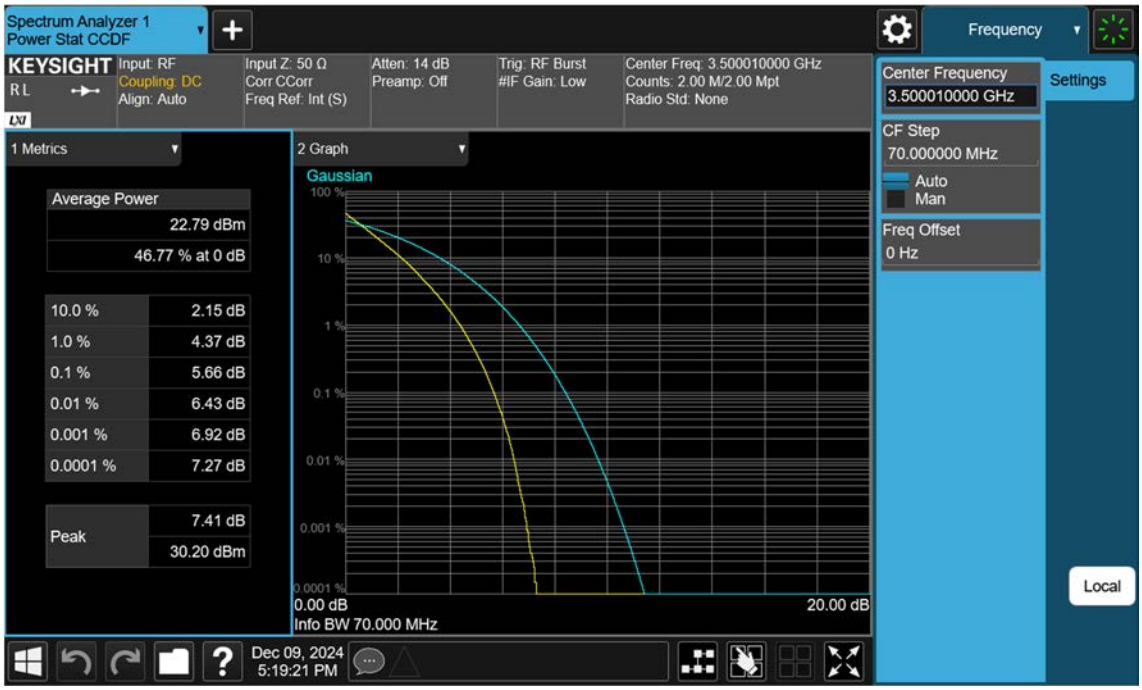
n77(3450~3550 MHz)_60 M_PAR_Mid_16QAM_FullRB

n77(3450~3550 MHz)_60 M_PAR_Mid_64QAM_FullRB

n77(3450~3550 MHz)_60 M_PAR_Mid_256QAM_FullRB

n77(3450~3550 MHz)_70 M_PAR_Mid_BPSK_FullRB

n77(3450~3550 MHz)_70 M_PAR_Mid_QPSK_FullRB

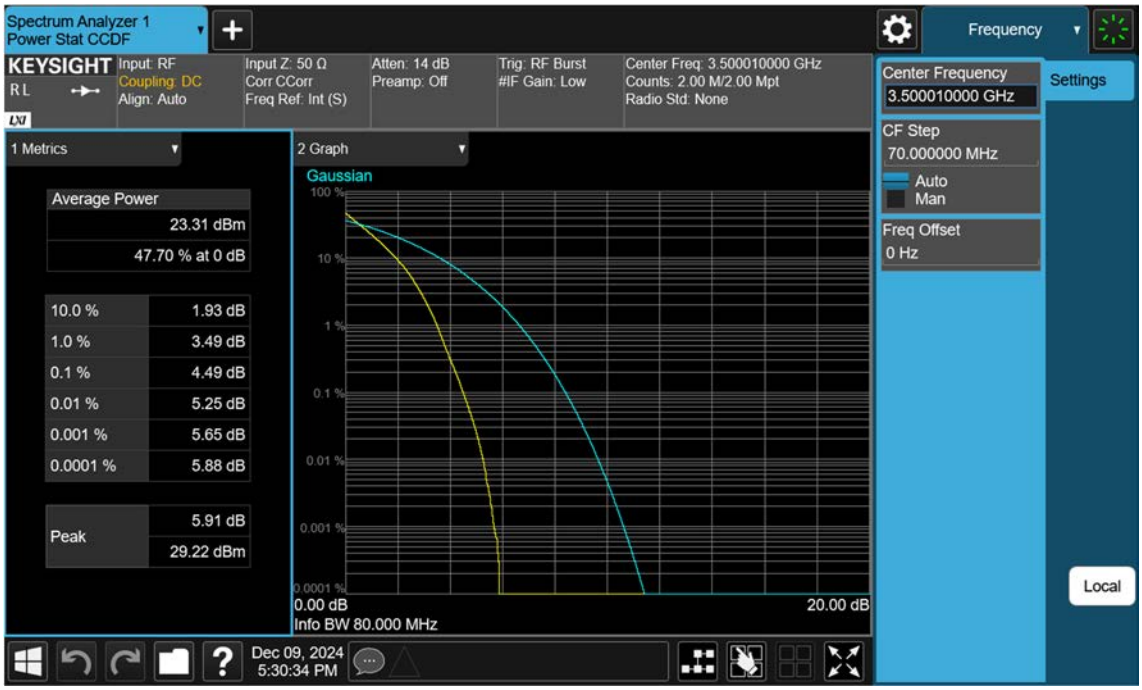


n77(3450~3550 MHz)_70 M_PAR_Mid_16QAM_FullRB

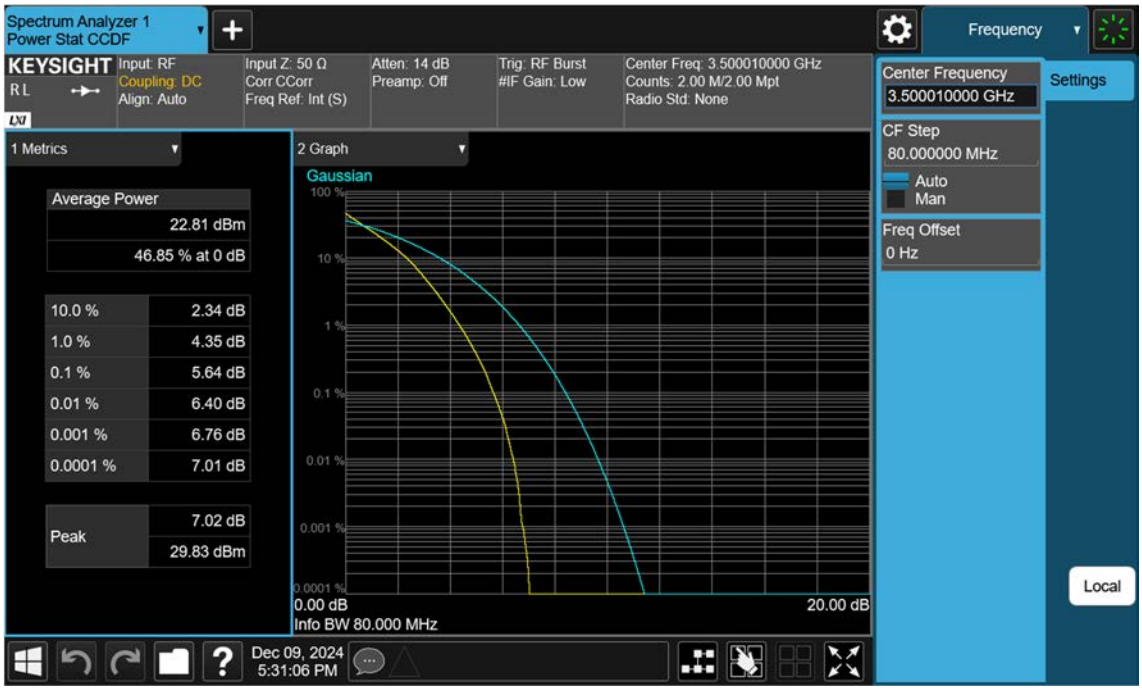
n77(3450~3550 MHz)_70 M_PAR_Mid_64QAM_FullRB

n77(3450~3550 MHz)_70 M_PAR_Mid_256QAM_FullRB

n77(3450~3550 MHz)_80 M_PAR_Mid_BPSK_FullRB



n77(3450~3550 MHz)_80 M_PAR_Mid_QPSK_FullRB



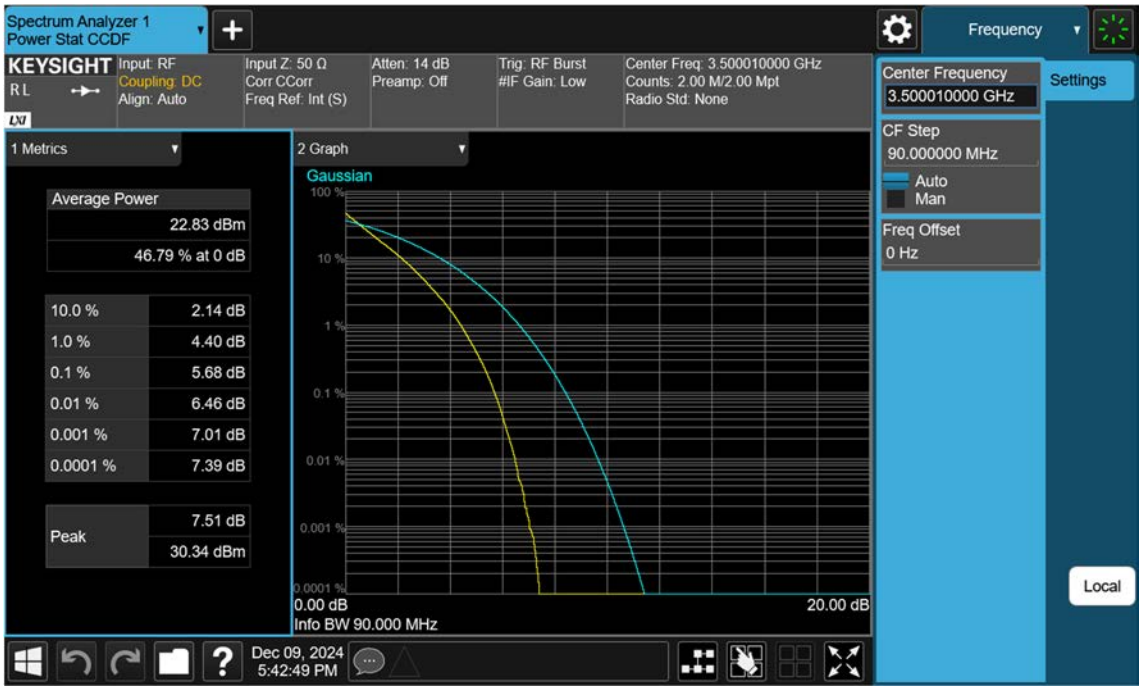
n77(3450~3550 MHz)_80 M_PAR_Mid_16QAM_FullRB

n77(3450~3550 MHz)_80 M_PAR_Mid_64QAM_FullRB

n77(3450~3550 MHz)_80 M_PAR_Mid_256QAM_FullRB

n77(3450~3550 MHz)_90 M_PAR_Mid_BPSK_FullRB

n77(3450~3550 MHz)_90 M_PAR_Mid_QPSK_FullRB



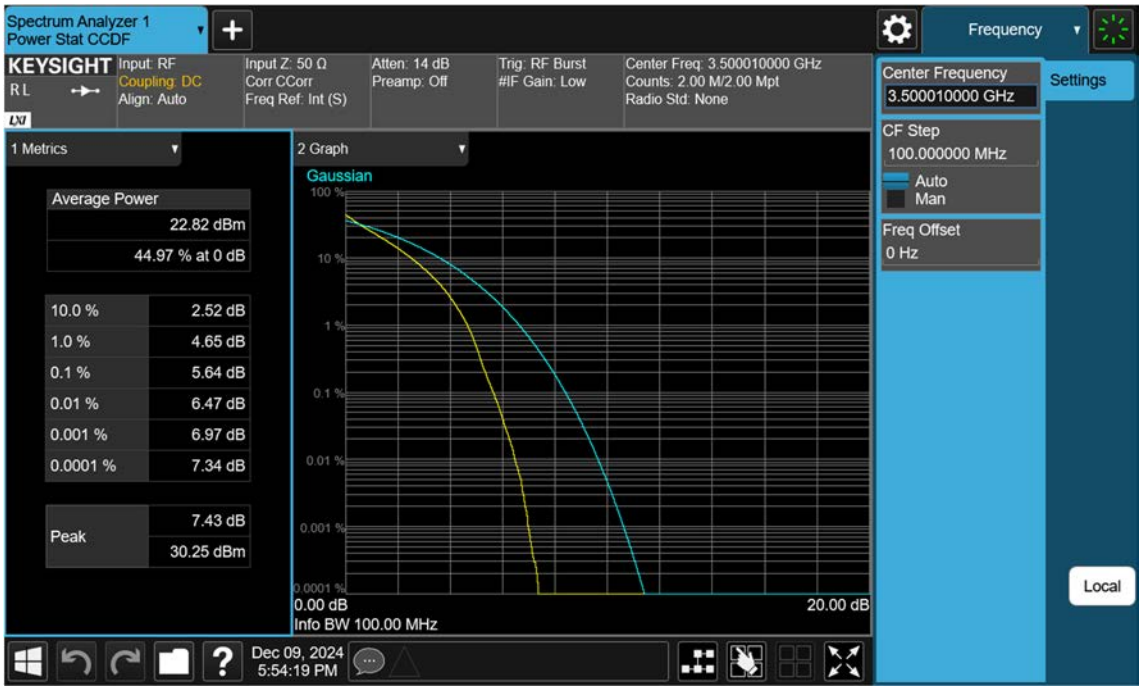
n77(3450~3550 MHz)_90 M_PAR_Mid_16QAM_FullRB

n77(3450~3550 MHz)_90 M_PAR_Mid_64QAM_FullRB

n77(3450~3550 MHz)_90 M_PAR_Mid_256QAM_FullRB

n77(3450~3550 MHz)_100 M_PAR_Mid_BPSK_FullRB

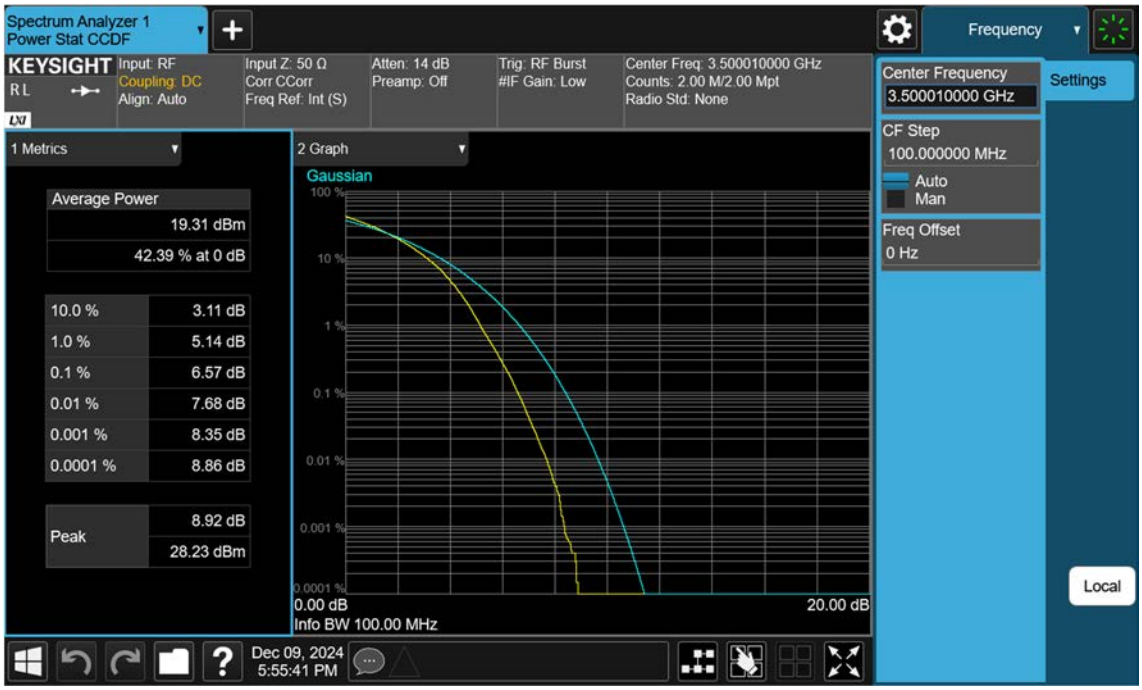
n77(3450~3550 MHz)_100 M_PAR_Mid_QPSK_FullRB



n77(3450~3550 MHz)_100 M_PAR_Mid_16QAM_FullRB

n77(3450~3550 MHz)_100 M_PAR_Mid_64QAM_FullRB

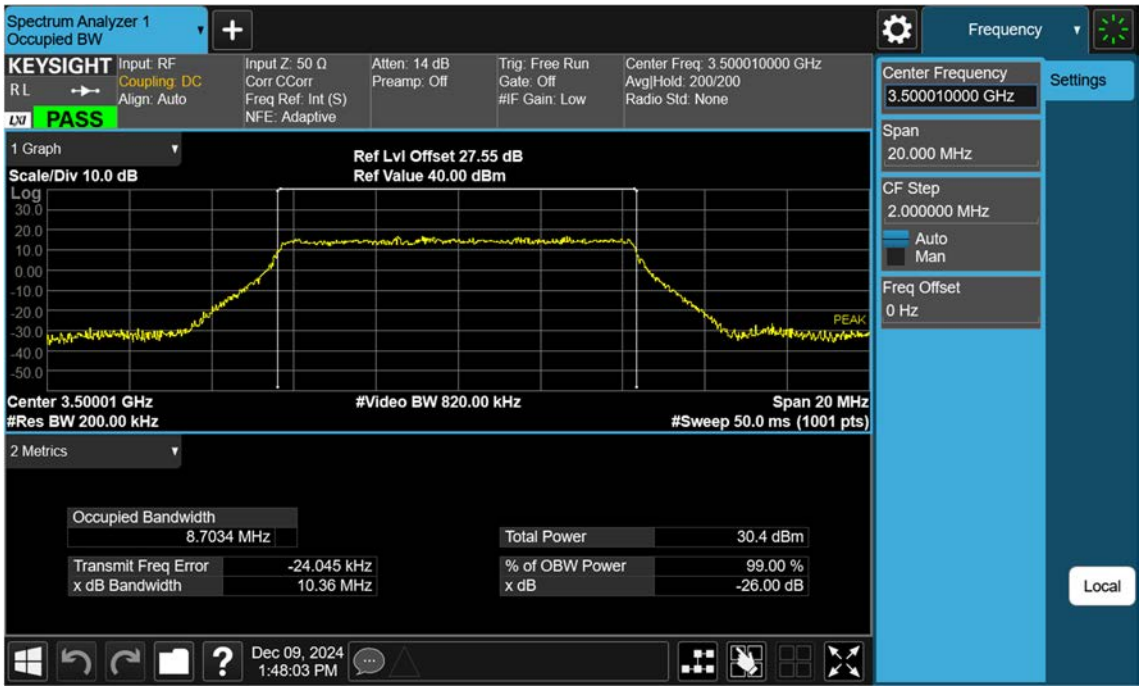
n77(3450~3550 MHz)_100 M_PAR_Mid_256QAM_FullRB



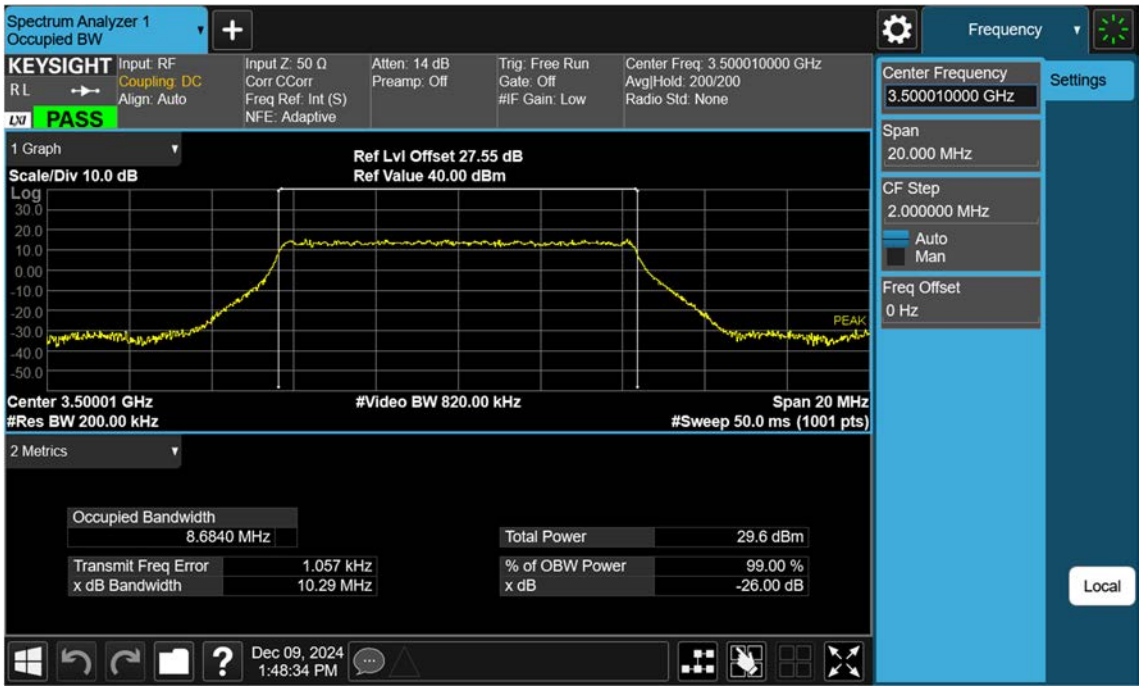
n77(3450~3550 MHz)_10 M_OBW_Mid_BPSK_FullRB

n77(3450~3550 MHz)_10 M_OBW_Mid_QPSK_FullRB

n77(3450~3550 MHz)_10 M_OBW_Mid_16QAM_FullRB



n77(3450~3550 MHz)_10 M_OBW_Mid_64QAM_FullRB



n77(3450~3550 MHz)_10 M_OBW_Mid_256QAM_FullRB

n77(3450~3550 MHz)_15 M_OBW_Mid_BPSK_FullRB

n77(3450~3550 MHz)_15 M_OBW_Mid_QPSK_FullRB

n77(3450~3550 MHz)_15 M_OBW_Mid_16QAM_FullRB