74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA
TEL: +82-31-645-6300 FAX: +82-31-645-6401

FCC Sub6 REPORT

Certification

Applicant Name:
SAMSUNG Electronics Co., Ltd.

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

Date of Issue:
October 17, 2023

Location:
HCT CO., LTD.,
74, Seoicheon-ro 578beon-gil, Majang-myeon,
Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA

Report No.: HCT-RF-2310-FC075

FCC ID:	**A3LSMS926B**
APPLICANT:	**SAMSUNG Electronics Co., Ltd.**

Model(s):	SM-S926B/DS
Additional Model(s):	SM-S926B
EUT Type:	Mobile Phone
FCC Classification:	PCS Licensed Transmitter Held to Ear (PCE)
FCC Rule Part(s):	§27

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)

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	8M68G7D	PI/2 BPSK	0.123	20.89
		8M69G7D	QPSK	0.122	20.87
		8M74W7D	16QAM	0.103	20.13
		8M68W7D	64QAM	0.069	18.41
		8M66W7D	256QAM	0.044	16.43
Sub6 n77 (15)	3457.50 – 3542.50	13M0G7D	PI/2 BPSK	0.121	20.81
		13M0G7D	QPSK	0.117	20.69
		13M0W7D	16QAM	0.096	19.81
		13M0W7D	64QAM	0.069	18.36
		12M9W7D	256QAM	0.042	16.21
Sub6 n77 (20)	3460.02 – 3540.00	18M0G7D	PI/2 BPSK	0.119	20.75
		18M0G7D	QPSK	0.118	20.73
		18M0W7D	16QAM	0.095	19.79
		17M9W7D	64QAM	0.067	18.24
		18M0W7D	256QAM	0.043	16.32
Sub6 n77 (30)	3465.00 – 3534.99	27M0G7D	PI/2 BPSK	0.113	20.54
		26M9G7D	QPSK	0.112	20.50
		26M9W7D	16QAM	0.087	19.42
		26M9W7D	64QAM	0.063	18.02
		27M0W7D	256QAM	0.040	16.04
Sub6 n77 (40)	3470.01 – 3529.98	35M9G7D	PI/2 BPSK	0.112	20.51
		35M9G7D	QPSK	0.110	20.42
		35M9W7D	16QAM	0.088	19.45
		36M0W7D	64QAM	0.063	18.02
		35M9W7D	256QAM	0.040	16.02
Sub6 n77 (50)	3475.02 – 3525.00	45M9G7D	PI/2 BPSK	0.115	20.59
		45M9G7D	QPSK	0.114	20.58
		46M0W7D	16QAM	0.089	19.48
		46M1W7D	64QAM	0.064	18.08
		45M9W7D	256QAM	0.041	16.09
Sub6 n77 (60)	3480.00 – 3519.99	58M1G7D	PI/2 BPSK	0.120	20.79
		58M3G7D	QPSK	0.117	20.67
		58M2W7D	16QAM	0.095	19.79
		58M1W7D	64QAM	0.067	18.29
		58M1W7D	256QAM	0.041	16.16
Sub6 n77 (70)	3485.01 – 3514.98	64M7G7D	PI/2 BPSK	0.124	20.92
		64M8G7D	QPSK	0.122	20.86
		64M7W7D	16QAM	0.099	19.94
		64M8W7D	64QAM	0.069	18.37
		64M4W7D	256QAM	0.044	16.40
Sub6 n77 (80)	3490.02 – 3510.00	77M5G7D	PI/2 BPSK	0.130	21.15
		77M6G7D	QPSK	0.130	21.13
		77M7W7D	16QAM	0.106	20.27
		77M6W7D	64QAM	0.073	18.62
		77M8W7D	256QAM	0.045	16.57
Sub6 n77 (90)	3495.00 – 3504.99	87M4G7D	PI/2 BPSK	0.132	21.20
		87M3G7D	QPSK	0.132	21.19
		87M5W7D	16QAM	0.106	20.25
		87M0W7D	64QAM	0.075	18.77
		87M1W7D	256QAM	0.046	16.64
Sub6 n77 (100)	3500.01	96M7G7D	PI/2 BPSK	0.129	21.12
		96M7G7D	QPSK	0.129	21.10
		96M7W7D	16QAM	0.106	20.27
		96M7W7D	64QAM	0.075	18.73
		96M4W7D	256QAM	0.046	16.61

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	8M68G7D	PI/2 BPSK	0.223	23.49
		8M64G7D	QPSK	0.222	23.46
		8M66W7D	16QAM	0.179	22.54
		8M72W7D	64QAM	0.123	20.91
		8M70W7D	256QAM	0.079	18.97
Sub6 n77 (15)	3707.51 – 3972.48	13M0G7D	PI/2 BPSK	0.225	23.53
		13M0G7D	QPSK	0.223	23.49
		12M9W7D	16QAM	0.182	22.60
		13M0W7D	64QAM	0.125	20.98
		13M0W7D	256QAM	0.081	19.11
Sub6 n77 (20)	3710.01 – 3969.99	18M0G7D	PI/2 BPSK	0.238	23.77
		18M0G7D	QPSK	0.234	23.69
		17M9W7D	16QAM	0.190	22.79
		18M0W7D	64QAM	0.132	21.22
		18M0W7D	256QAM	0.085	19.29
Sub6 n77 (30)	3715.02 – 3964.98	27M0G7D	PI/2 BPSK	0.248	23.94
		26M9G7D	QPSK	0.243	23.86
		26M9W7D	16QAM	0.192	22.83
		26M9W7D	64QAM	0.136	21.35
		26M9W7D	256QAM	0.087	19.42
Sub6 n77 (40)	3720.00 – 3960.00	35M9G7D	PI/2 BPSK	0.237	23.75
		35M9G7D	QPSK	0.237	23.74
		35M8W7D	16QAM	0.183	22.62
		35M9W7D	64QAM	0.129	21.12
		35M9W7D	256QAM	0.084	19.25
Sub6 n77 (50)	3725.10 – 3954.99	46M1G7D	PI/2 BPSK	0.245	23.89
		46M0G7D	QPSK	0.244	23.88
		45M9W7D	16QAM	0.190	22.79
		45M9W7D	64QAM	0.133	21.25
		45M9W7D	256QAM	0.087	19.41
Sub6 n77 (60)	3730.02 – 3949.98	58M1G7D	PI/2 BPSK	0.265	24.24
		58M1G7D	QPSK	0.263	24.20
		58M3W7D	16QAM	0.208	23.19
		58M3W7D	64QAM	0.149	21.73
		58M2W7D	256QAM	0.095	19.76
Sub6 n77 (70)	3735.00 – 3945.00	64M7G7D	PI/2 BPSK	0.269	24.30
		64M7G7D	QPSK	0.264	24.21
		64M6W7D	16QAM	0.217	23.36
		64M8W7D	64QAM	0.152	21.83
		64M7W7D	256QAM	0.097	19.89
Sub6 n77 (80)	3740.01 – 3939.99	77M4G7D	PI/2 BPSK	0.273	24.36
		77M6G7D	QPSK	0.272	24.35
		77M3W7D	16QAM	0.223	23.48
		77M5W7D	64QAM	0.154	21.88
		77M6W7D	256QAM	0.097	19.86
Sub6 n77 (90)	3745.02 – 3934.98	86M9G7D	PI/2 BPSK	0.276	24.41
		87M0G7D	QPSK	0.272	24.35
		87M0W7D	16QAM	0.214	23.30
		86M9W7D	64QAM	0.154	21.88
		87M0W7D	256QAM	0.100	20.00
Sub6 n77 (100)	3750.00 – 3930.00	96M6G7D	PI/2 BPSK	0.282	24.50
		96M6G7D	QPSK	0.279	24.46
		96M6W7D	16QAM	0.229	23.60
		96M6W7D	64QAM	0.157	21.95
		96M3W7D	256QAM	0.101	20.05

REVIEWED BY

Report prepared by : Jae Ryang Do
Engineer of Telecommunication Testing Center

Report approved by : Jong Seok Lee
Manager of Telecommunication Testing Center

The result shown in this test report refer only to the sample(s) tested unless otherwise stated.
This test results were applied only to the test methods required by the standard.

Test Report Statement:
The above Test Report is not related to the accredited test result by (KS Q) ISO/IEC 17025 and KOLAS(Korea Laboratory Accreditation Scheme), which signed the ILAC-MRA.

Version

TEST REPORT NO.	DATE	DESCRIPTION
HCT-RF-2310-FC075	October 17, 2023	- First Approval Report

Table of 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:	A3LSMS926B
Application Type:	Certification
FCC Classification:	PCS Licensed Transmitter Held to Ear (PCE)
FCC Rule Part(s):	§27
EUT Type:	Mobile Phone
Model(s):	SM-S926B/DS
Additional Model(s):	SM-S926B
SCS(kHz):	30
Bandwidth(MHz):	10, 15, 20, 25, 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:	September 10, 2023 ~ October 11, 2023
Serial number:	Radiated: R3CW70NE1JK Conducted: R3CW70NDTRM

2. INTRODUCTION

2.1. DESCRIPTION OF EUT

The EUT was a Mobile Phone with GSM/GPRS/EGPRS/UMTS and LTE, Sub6.

It also supports IEEE 802.11 a/b/g/n/ac/ax (20/40/80/160 MHz), WIFI 6E, Bluetooth, BT LE, NFC, UWB, WPT.

2.2. MEASURING INSTRUMENT CALIBRATION

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

2.3. TEST FACILITY

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

3. DESCRIPTION OF TESTS

3.1 TEST PROCEDURE

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

3.2 RADIATED POWER

Test Overview

Radiated tests are performed in the Fully-anechoic chamber.

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

Test Settings

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

Test Note

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

   The power is calculated by the following formula;

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

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

3.3 RADIATED SPURIOUS EMISSIONS

Test Overview

Radiated tests are performed in the Fully-anechoic chamber.

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

Test Settings

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

Test Note

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

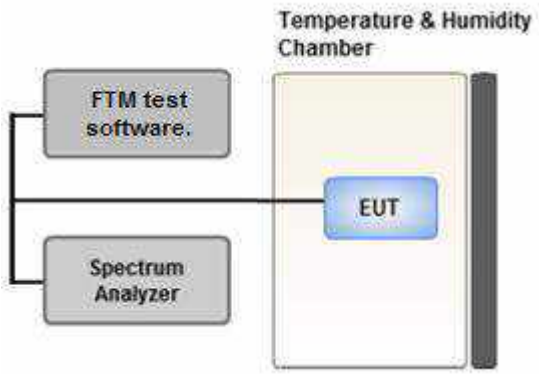
$$\text{Result}_{(dBm)} = \text{Pg}_{(dBm)} - \text{cable loss}_{(dB)} + \text{antenna gain}_{(dBi)}$$

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

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

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

3.4 PEAK- TO- AVERAGE RATIO



Test setup

① **CCDF Procedure for PAPR**

Test Settings

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

② **Alternate Procedure for PAPR**

Use one of the procedures presented in 5.2(ANSI C63.26-2015) to measure the total peak power and record as P_{Pk}.

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

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

Test Settings(Peak Power)

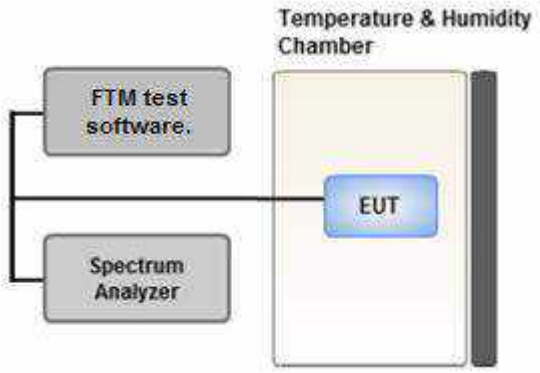
The measurement instrument must have a RBW that is greater than or equal to the OBW of the signal to be measured and a VBW ≥ 3 × RBW.

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

Test Settings(Average Power)

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

3.5 OCCUPIED BANDWIDTH.



Test setup

The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 % of the total mean power of a given emission.

The EUT makes a call to the communication simulator.

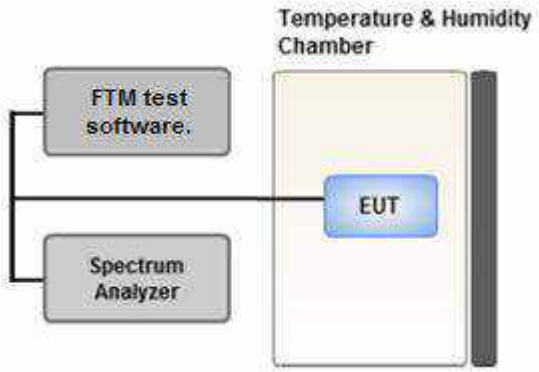
The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.

The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth

Test Settings

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

3.6 SPURIOUS AND HARMONIC EMISSIONS AT ANTENNA TERMINAL



Test setup

Test Overview

The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic.

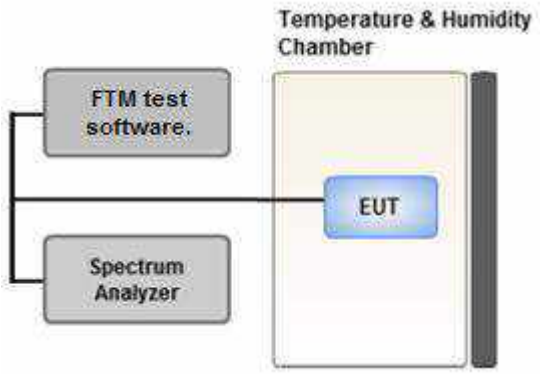
All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies.

All data rates were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

Test Settings

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

3.7 BAND EDGE



Test setup

Test Overview

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

Test Settings

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

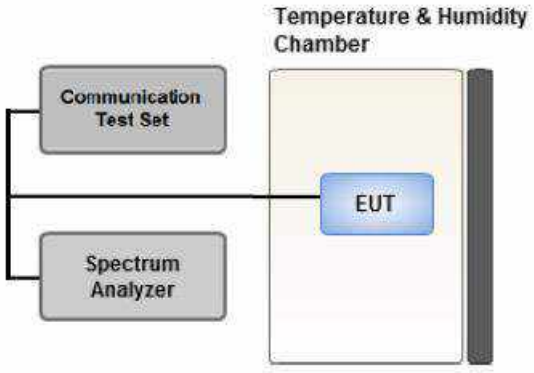
Test Notes

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 : Stand alone, Stand alone + External accessories (Earphone, AC adapter, etc)
  Worst case : Stand alone
  Mode: SA, NSA, SRS
  Worst case: SA
- We were performed the RSE test in condition of co-location.
  Mode : Stand alone, Simultaneous transmission scenarios
  Worst case : Stand alone
- Radiated Spurious emissions are measured while operating in EN-DC mode with Sub 6 NR carrier as well as an LTE carrier (anchor).
  All EN-DC mode of operation (=anchor) were investigated and the test results were measured No Peak Found.
  The test results which are attenuated more than 20 dB below the permissible value, so it were not reported.
- All RB sizes, offsets of operation were investigated and the worst case configuration results are reported.
  Please refer to the table below.

-In the case of radiated spurious emissions, all bandwidth of operation were investigated and the worst case bandwidth results are reported.
(Worst case : 90 MHz (3450 MHz – 3550 MHz), 100 MHz(3700 MHz – 3980 MHz))

- SM-S926B/DS & additional models were tested and the worst case results are reported.
  (Worst case : SM-S926B/DS)

[3450 MHz - 3550 MHz Worst case]

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

3.10 WORST CASE(CONDUCTED TEST)

- Waveform : All Waveform of operation were investigated and the worst case configuration results are reported.
  (Worst case: DFT-S-OFDM)
- Modulation : All Modulation of operation were investigated and the worst case configuration results are reported.
  (Worst case: PI/2 BPSK)
- All modes of operation were investigated and the worst case configuration results are reported.
  Mode: SA, NSA, SRS
  Worst case: SA
- All RB sizes, offsets of operation were investigated and the worst case configuration results are reported.
  Please refer to the table below.
- SM-S926B/DS & additional models were tested and the worst case results are reported.
  (Worst case : SM-S926B/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	03/27/2024	Biennial
Precision Dipole Antenna	UHAP	Schwarzbeck	01274	03/27/2024	Biennial
Horn Antenna(1~18 GHz)	BBHA 9120D	Schwarzbeck	02289	03/21/2024	Biennial
Horn Antenna(1~18 GHz)	BBHA 9120D	Schwarzbeck	9120D-1299	04/27/2025	Biennial
Horn Antenna(15~40 GHz)	BBHA 9170	Schwarzbeck	BBHA9170342	09/29/2024	Biennial
Horn Antenna(15~40 GHz)	BBHA 9170	Schwarzbeck	BBHA9170124	03/28/2025	Biennial
Loop Antenna(9 kHz~30 MHz)	FMZB1513	Rohde & Schwarz	1513-175	01/16/2025	Biennial
Bilog Antenna	VULB9160	Schwarzbeck	3150	03/09/2025	Biennial
Hybrid Antenna	VULB9160	Schwarzbeck	760	02/24/2025	Biennial
RF Switching System	FBSR-06B (1G HPF + LNA)	T&M SYSTEM	F3L1	05/22/2024	Annual
RF Switching System	FBSR-06B (3G HPF + LNA)	T&M SYSTEM	F3L2	05/22/2024	Annual
RF Switching System	FBSR-06B (6G HPF + LNA)	T&M SYSTEM	F3L3	05/22/2024	Annual
RF Switching System	FBSR-06B (LNA)	T&M SYSTEM	F3L4	05/22/2024	Annual
Power Amplifier	CBL18265035	CERNEX	22966	12/01/2023	Annual
Power Amplifier	CBL26405040	CERNEX	25956	03/02/2024	Annual
DC Power Supply	E3632A	Hewlett Packard	MY40004427	08/25/2024	Annual
Power Splitter(DC~26.5 GHz)	11667B	Hewlett Packard	11275	03/02/2024	Annual
Chamber	SU-642	ESPEC	93008124	02/22/2024	Annual
Signal Analyzer(10 Hz~26.5 GHz)	N9020A	Agilent	MY51110063	04/11/2024	Annual
ATTENUATOR(20 dB)	8493C	Hewlett Packard	17280	04/19/2024	Annual
Spectrum Analyzer(10 Hz~40 GHz)	FSV40	REOHDE & SCHWARZ	101436	02/22/2024	Annual
Base Station	8960 (E5515C)	Agilent	MY48360800	08/10/2024	Annual
Wideband Radio Communication Tester	MT8821C	Anritsu Corp.	6262287701	05/22/2024	Annual
Wideband Radio Communication Tester	MT8000A	Anritsu Corp.	6262302511	05/23/2024	Annual
SIGNAL GENERATOR (100 kHz~40 GHz)	SMB100A	REOHDE & SCHWARZ	177633	06/22/2024	Annual
Signal Analyzer(5 Hz~40.0 GHz)	N9030B	KEYSIGHT	MY55480167	05/24/2024	Annual
4-Way Divider	ZC4PD-K1844+	Mini-Circuits	942907	09/19/2024	Annual
FCC LTE Mobile Conducted RF Automation Test Software	-	HCT CO., LTD.,	-	-	-

Note:

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

5. MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.4:2014. All measurement uncertainty values are shown with a coverage factor of k = 2 to indicate a 95 % level of confidence. The measurement data shown herein meets or exceeds the U_{CISPR} measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Parameter	Expanded Uncertainty (±dB)
Conducted Disturbance (150 kHz ~ 30 MHz)	1.90 (Confidence level about 95 %, k=2)
Radiated Disturbance (9 kHz ~ 30 MHz)	4.14 (Confidence level about 95 %, k=2)
Radiated Disturbance (30 MHz ~ 1 GHz)	5.16 (Confidence level about 95 %, k=2)
Radiated Disturbance (1 GHz ~ 18 GHz)	5.57 (Confidence level about 95 %, k=2)
Radiated Disturbance (18 GHz ~ 40 GHz)	5.76 (Confidence level about 95 %, k=2)
Radiated Disturbance (Above 40 GHz)	5.52 (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
349000	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)

PSK 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	-25.97	11.97	11.20	2.96	H	< 1.00	0.105	20.22	1	1
		QPSK	-26.00	11.94	11.20	2.96	H		0.104	20.19		
		16-QAM	-27.02	10.92	11.20	2.96	H		0.083	19.17		
		64-QAM	-28.44	9.50	11.20	2.96	H		0.060	17.75		
		256-QAM	-30.43	7.51	11.20	2.96	H		0.038	15.76		
3500.01		PI/2 BPSK	-25.81	12.44	11.30	3.00	H		0.119	20.74	1	12
		QPSK	-25.94	12.31	11.30	3.00	H		0.115	20.61		
		16-QAM	-26.98	11.27	11.30	3.00	H		0.091	19.57		
		64-QAM	-28.38	9.87	11.30	3.00	H		0.066	18.17		
		256-QAM	-30.33	7.92	11.30	3.00	H		0.042	16.22		
3544.99		PI/2 BPSK	-25.51	12.56	11.35	3.02	H		0.123	20.89	1	12
		QPSK	-25.53	12.54	11.35	3.02	H		0.122	20.87		
		16-QAM	-26.27	11.80	11.35	3.02	H		0.103	20.13		
		64-QAM	-27.99	10.08	11.35	3.02	H		0.069	18.41		
		256-QAM	-29.97	8.10	11.35	3.02	H		0.044	16.43		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain(dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
3457.50	Sub6 n77/ 15 MHz [30 kHz]	PI/2 BPSK	-25.92	11.99	11.20	2.95	H	< 1.00	0.106	20.24	1	1
		QPSK	-25.91	12.00	11.20	2.95	H		0.106	20.25		
		16-QAM	-26.90	11.01	11.20	2.95	H		0.084	19.26		
		64-QAM	-28.38	9.53	11.20	2.95	H		0.060	17.78		
		256-QAM	-30.50	7.41	11.20	2.95	H		0.037	15.66		
3500.01		PI/2 BPSK	-25.74	12.51	11.30	3.00	H		0.121	20.81	1	19
		QPSK	-25.91	12.34	11.30	3.00	H		0.116	20.64		
		16-QAM	-26.83	11.42	11.30	3.00	H		0.094	19.72		
		64-QAM	-28.19	10.06	11.30	3.00	H		0.069	18.36		
		256-QAM	-30.34	7.91	11.30	3.00	H		0.042	16.21		
3542.50		PI/2 BPSK	-25.52	12.43	11.30	3.02	H		0.118	20.71	1	19
		QPSK	-25.54	12.41	11.30	3.02	H		0.117	20.69		
		16-QAM	-26.42	11.53	11.30	3.02	H		0.096	19.81		
		64-QAM	-27.96	9.99	11.30	3.02	H		0.067	18.27		
		256-QAM	-30.06	7.89	11.30	3.02	H		0.041	16.17		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain(dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
3460.02	Sub6 n77/ 20 MHz [30 kHz]	PI/2 BPSK	-25.99	11.92	11.20	2.95	H	< 1.00	0.104	20.17	1	1
		QPSK	-26.02	11.89	11.20	2.95	H		0.103	20.14		
		16-QAM	-26.84	11.07	11.20	2.95	H		0.086	19.32		
		64-QAM	-28.34	9.57	11.20	2.95	H		0.061	17.82		
		256-QAM	-30.45	7.46	11.20	2.95	H		0.037	15.71		
3500.01		PI/2 BPSK	-25.85	12.40	11.30	3.00	H		0.117	20.70	1	25
		QPSK	-25.90	12.35	11.30	3.00	H		0.116	20.65		
		16-QAM	-26.76	11.49	11.30	3.00	H		0.095	19.79		
		64-QAM	-28.31	9.94	11.30	3.00	H		0.067	18.24		
		256-QAM	-30.26	7.99	11.30	3.00	H		0.043	16.29		
3540.00		PI/2 BPSK	-25.48	12.47	11.30	3.02	H		0.119	20.75	1	25
		QPSK	-25.50	12.45	11.30	3.02	H		0.118	20.73		
		16-QAM	-26.53	11.42	11.30	3.02	H		0.093	19.70		
		64-QAM	-28.06	9.89	11.30	3.02	H		0.066	18.17		
		256-QAM	-29.91	8.04	11.30	3.02	H		0.043	16.32		

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
3465.00	Sub6 n77/ 30 MHz [30 kHz]	PI/2 BPSK	-26.14	11.73	11.20	2.95	H	< 1.00	0.100	19.98	1	1
		QPSK	-26.16	11.71	11.20	2.95	H		0.099	19.96		
		16-QAM	-27.20	10.67	11.20	2.95	H		0.078	18.92		
		64-QAM	-28.76	9.11	11.20	2.95	H		0.054	17.36		
		256-QAM	-30.58	7.29	11.20	2.95	H		0.036	15.54		
3500.01		PI/2 BPSK	-26.01	12.24	11.30	3.00	H		0.113	20.54	1	39
		QPSK	-26.05	12.20	11.30	3.00	H		0.112	20.50		
		16-QAM	-27.13	11.12	11.30	3.00	H		0.087	19.42		
		64-QAM	-28.53	9.72	11.30	3.00	H		0.063	18.02		
		256-QAM	-30.51	7.74	11.30	3.00	H		0.040	16.04		
3534.99		PI/2 BPSK	-25.76	12.15	11.30	3.01	H		0.111	20.45	1	76
		QPSK	-25.83	12.08	11.30	3.01	H		0.109	20.38		
		16-QAM	-26.79	11.12	11.30	3.01	H		0.087	19.42		
		64-QAM	-28.34	9.57	11.30	3.01	H		0.061	17.87		
		256-QAM	-30.29	7.62	11.30	3.01	H		0.039	15.92		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain(dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
3470.01	Sub6 n77/ 40 MHz [30 kHz]	PI/2 BPSK	-26.17	11.66	11.20	2.95	H	< 1.00	0.098	19.91	1	1
		QPSK	-26.19	11.64	11.20	2.95	H		0.097	19.89		
		16-QAM	-27.11	10.72	11.20	2.95	H		0.079	18.97		
		64-QAM	-28.76	9.07	11.20	2.95	H		0.054	17.32		
		256-QAM	-30.56	7.27	11.20	2.95	H		0.036	15.52		
3500.01		PI/2 BPSK	-26.04	12.21	11.30	3.00	H		0.112	20.51	1	53
		QPSK	-26.13	12.12	11.30	3.00	H		0.110	20.42		
		16-QAM	-27.10	11.15	11.30	3.00	H		0.088	19.45		
		64-QAM	-28.53	9.72	11.30	3.00	H		0.063	18.02		
		256-QAM	-30.53	7.72	11.30	3.00	H		0.040	16.02		
3529.98		PI/2 BPSK	-25.76	12.12	11.30	2.99	H		0.110	20.43	1	104
		QPSK	-25.82	12.06	11.30	2.99	H		0.109	20.37		
		16-QAM	-26.74	11.14	11.30	2.99	H		0.088	19.45		
		64-QAM	-28.25	9.63	11.30	2.99	H		0.062	17.94		
		256-QAM	-30.18	7.70	11.30	2.99	H		0.040	16.01		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain(dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
3475.02	Sub6 n77/ 50 MHz [30 kHz]	PI/2 BPSK	-25.97	11.91	11.20	2.97	H	< 1.00	0.103	20.14	1	131
		QPSK	-26.01	11.87	11.20	2.97	H		0.102	20.10		
		16-QAM	-27.07	10.81	11.20	2.97	H		0.080	19.04		
		64-QAM	-28.51	9.37	11.20	2.97	H		0.058	17.60		
		256-QAM	-30.47	7.41	11.20	2.97	H		0.037	15.64		
3500.01		PI/2 BPSK	-25.96	12.29	11.30	3.00	H		0.115	20.59	1	66
		QPSK	-25.97	12.28	11.30	3.00	H		0.114	20.58		
		16-QAM	-27.07	11.18	11.30	3.00	H		0.089	19.48		
		64-QAM	-28.47	9.78	11.30	3.00	H		0.064	18.08		
		256-QAM	-30.48	7.77	11.30	3.00	H		0.040	16.07		
3525.00		PI/2 BPSK	-25.71	12.19	11.30	2.98	H		0.112	20.51	1	131
		QPSK	-25.74	12.16	11.30	2.98	H		0.112	20.48		
		16-QAM	-26.78	11.12	11.30	2.98	H		0.088	19.44		
		64-QAM	-28.35	9.55	11.30	2.98	H		0.061	17.87		
		256-QAM	-30.13	7.77	11.30	2.98	H		0.041	16.09		

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	-25.97	11.97	11.20	2.99	H	< 1.00	0.104	20.18	1	1
		QPSK	-25.98	11.96	11.20	2.99	H		0.104	20.17		
		16-QAM	-26.85	11.09	11.20	2.99	H		0.085	19.30		
		64-QAM	-28.36	9.58	11.20	2.99	H		0.060	17.79		
		256-QAM	-30.41	7.53	11.20	2.99	H		0.037	15.74		
3500.01		PI/2 BPSK	-25.76	12.49	11.30	3.00	H		0.120	20.79	1	81
		QPSK	-25.88	12.37	11.30	3.00	H		0.117	20.67		
		16-QAM	-26.76	11.49	11.30	3.00	H		0.095	19.79		
		64-QAM	-28.29	9.96	11.30	3.00	H		0.067	18.26		
		256-QAM	-30.39	7.86	11.30	3.00	H		0.041	16.16		
3519.99		PI/2 BPSK	-25.57	12.35	11.30	2.97	H		0.117	20.68	1	160
		QPSK	-25.59	12.33	11.30	2.97	H		0.116	20.66		
		16-QAM	-26.69	11.23	11.30	2.97	H		0.090	19.56		
		64-QAM	-27.96	9.96	11.30	2.97	H		0.067	18.29		
		256-QAM	-30.13	7.79	11.30	2.97	H		0.041	16.12		

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
3485.01	Sub6 n77/ 70 MHz [30 kHz]	PI/2 BPSK	-25.95	12.06	11.20	3.00	H	< 1.00	0.106	20.26	1	1
		QPSK	-25.99	12.02	11.20	3.00	H		0.105	20.22		
		16-QAM	-26.96	11.05	11.20	3.00	H		0.084	19.25		
		64-QAM	-28.51	9.50	11.20	3.00	H		0.059	17.70		
		256-QAM	-30.36	7.65	11.20	3.00	H		0.038	15.85		
3500.01		PI/2 BPSK	-25.63	12.62	11.30	3.00	H		0.124	20.92	1	187
		QPSK	-25.69	12.56	11.30	3.00	H		0.122	20.86		
		16-QAM	-26.61	11.64	11.30	3.00	H		0.099	19.94		
		64-QAM	-28.18	10.07	11.30	3.00	H		0.069	18.37		
		256-QAM	-30.15	8.10	11.30	3.00	H		0.044	16.40		
3514.98		PI/2 BPSK	-25.53	12.53	11.30	2.98	H		0.122	20.86	1	187
		QPSK	-25.65	12.41	11.30	2.98	H		0.119	20.74		
		16-QAM	-26.66	11.40	11.30	2.98	H		0.094	19.73		
		64-QAM	-28.10	9.96	11.30	2.98	H		0.067	18.29		
		256-QAM	-30.12	7.94	11.30	2.98	H		0.042	16.27		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain(dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
3490.02	Sub6 n77/ 80 MHz [30 kHz]	PI/2 BPSK	-25.73	12.35	11.20	3.00	H	< 1.00	0.114	20.55	1	215
		QPSK	-25.74	12.34	11.20	3.00	H		0.113	20.54		
		16-QAM	-26.69	11.39	11.20	3.00	H		0.091	19.59		
		64-QAM	-28.29	9.79	11.20	3.00	H		0.063	17.99		
		256-QAM	-30.23	7.85	11.20	3.00	H		0.040	16.05		
3500.01		PI/2 BPSK	-25.40	12.85	11.30	3.00	H		0.130	21.15	1	215
		QPSK	-25.42	12.83	11.30	3.00	H		0.130	21.13		
		16-QAM	-26.28	11.97	11.30	3.00	H		0.106	20.27		
		64-QAM	-27.93	10.32	11.30	3.00	H		0.073	18.62		
		256-QAM	-29.98	8.27	11.30	3.00	H		0.045	16.57		
3510.00		PI/2 BPSK	-25.46	12.75	11.30	2.98	H		0.128	21.07	1	215
		QPSK	-25.55	12.66	11.30	2.98	H		0.125	20.98		
		16-QAM	-26.42	11.79	11.30	2.98	H		0.103	20.11		
		64-QAM	-27.98	10.23	11.30	2.98	H		0.072	18.55		
		256-QAM	-30.09	8.12	11.30	2.98	H		0.044	16.44		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain(dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
3495.00	Sub6 n77/ 90 MHz [30 kHz]	PI/2 BPSK	-25.35	12.82	11.25	3.00	H	< 1.00	0.128	21.07	1	243
		QPSK	-25.40	12.77	11.25	3.00	H		0.126	21.02		
		16-QAM	-26.31	11.86	11.25	3.00	H		0.103	20.11		
		64-QAM	-27.86	10.31	11.25	3.00	H		0.072	18.56		
		256-QAM	-29.91	8.26	11.25	3.00	H		0.045	16.51		
3500.01		PI/2 BPSK	-25.35	12.90	11.30	3.00	H		0.132	21.20	1	243
		QPSK	-25.36	12.89	11.30	3.00	H		0.132	21.19		
		16-QAM	-26.30	11.95	11.30	3.00	H		0.106	20.25		
		64-QAM	-27.78	10.47	11.30	3.00	H		0.075	18.77		
		256-QAM	-29.91	8.34	11.30	3.00	H		0.046	16.64		
3504.99		PI/2 BPSK	-25.45	12.78	11.30	2.99	H		0.129	21.09	1	243
		QPSK	-25.47	12.76	11.30	2.99	H		0.128	21.07		
		16-QAM	-26.41	11.82	11.30	2.99	H		0.103	20.13		
		64-QAM	-27.96	10.27	11.30	2.99	H		0.072	18.58		
		256-QAM	-29.95	8.28	11.30	2.99	H		0.046	16.59		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain(dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
3500.01	Sub6 n77/ 100 MHz [30 kHz]	PI/2 BPSK	-25.43	12.82	11.30	3.00	H	< 1.00	0.129	21.12	1	271
		QPSK	-25.45	12.80	11.30	3.00	H		0.129	21.10		
		16-QAM	-26.28	11.97	11.30	3.00	H		0.106	20.27		
		64-QAM	-27.82	10.43	11.30	3.00	H		0.075	18.73		
		256-QAM	-29.94	8.31	11.30	3.00	H		0.046	16.61		

8.2 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
633000 (3495.00)	6 990.00	-64.77	10.90	-58.80	4.30	V	-52.20	-13.00	1	243
	10 485.00	-63.48	11.30	-53.09	5.43	V	-47.21	-13.00		
	13 980.00	-59.58	12.30	-49.87	6.35	V	-43.92	-13.00		
	17 475.00	-66.24	15.80	-46.34	7.26	V	-37.79	-13.00		
633334 (3500.01)	7 000.02	-63.45	10.90	-57.53	4.32	V	-50.95	-13.00	1	243
	10 500.03	-63.37	11.30	-52.77	5.41	V	-46.88	-13.00		
	14 000.04	-59.91	12.30	-50.56	6.35	V	-44.61	-13.00		
	17 500.05	-66.81	15.70	-46.72	7.23	V	-38.25	-13.00		
636666 (3504.99)	7 009.98	-64.98	10.90	-58.89	4.34	V	-52.33	-13.00	1	243
	10 514.97	-62.87	11.30	-52.49	5.40	V	-46.59	-13.00		
	14 019.96	-58.86	12.30	-49.76	6.38	V	-43.84	-13.00		
	17 524.95	-66.38	15.70	-45.12	7.26	V	-36.67	-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	5.38
			QPSK			5.83
			16-QAM			6.52
			64-QAM			6.33
			256-QAM			6.57
	15 MHz		BPSK			4.55
			QPSK			5.71
			16-QAM			6.46
			64-QAM			6.41
			256-QAM			6.71
	20 MHz		BPSK			5.29
			QPSK			5.77
			16-QAM			6.45
			64-QAM			6.42
			256-QAM			6.68
	30 MHz		BPSK			4.78
			QPSK			5.78
			16-QAM			6.53
			64-QAM			6.44
			256-QAM			6.78
	40 MHz		BPSK			5.72
			QPSK			6.00
			16-QAM			6.62
			64-QAM			6.50
			256-QAM			6.83
	50 MHz		BPSK			4.62
			QPSK			5.78
			16-QAM			6.59
			64-QAM			6.75
			256-QAM			6.72

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (dB)
	60 MHz		BPSK			4.72
			QPSK			5.69
			16-QAM			6.46
			64-QAM			6.66
			256-QAM			6.61
	70 MHz		BPSK			4.70
			QPSK			5.78
			16-QAM			6.53
			64-QAM			6.58
			256-QAM			6.63
	80 MHz		BPSK			4.85
			QPSK			5.75
			16-QAM			6.52
			64-QAM			6.55
			256-QAM			6.72
	90 MHz		BPSK			4.91
			QPSK			5.76
			16-QAM			6.50
			64-QAM			6.60
			256-QAM			6.57
	100 MHz		BPSK			5.17
			QPSK			5.75
			16-QAM			6.52
			64-QAM			6.54
			256-QAM			6.67

Note:

1. Plots of the EUT's Peak- to- Average Ratio are shown Page 143 ~ 197.

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	8.6788
			QPSK			8.6910
			16-QAM			8.7372
			64-QAM			8.6818
			256-QAM			8.6592
	15 MHz		BPSK			12.993
			QPSK			12.985
			16-QAM			12.955
			64-QAM			12.970
			256-QAM			12.902
	20 MHz		BPSK			18.022
			QPSK			18.016
			16-QAM			17.947
			64-QAM			17.917
			256-QAM			17.947
	30 MHz		BPSK			26.964
			QPSK			26.927
			16-QAM			26.930
			64-QAM			26.918
			256-QAM			27.022
	40 MHz		BPSK			35.941
			QPSK			35.931
			16-QAM			35.916
			64-QAM			35.945
			256-QAM			35.867
	50 MHz		BPSK			45.923
			QPSK			45.939
			16-QAM			46.027
			64-QAM			46.092
			256-QAM			45.895

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (MHz)
	60 MHz		BPSK			58.122
			QPSK			58.302
			16-QAM			58.189
			64-QAM			58.139
			256-QAM			58.086
	70 MHz		BPSK			64.719
			QPSK			64.830
			16-QAM			64.685
			64-QAM			64.781
			256-QAM			64.424
	80 MHz		BPSK			77.541
			QPSK			77.566
			16-QAM			77.716
			64-QAM			77.610
			256-QAM			77.789
	90 MHz		BPSK			87.361
			QPSK			87.256
			16-QAM			87.503
			64-QAM			86.997
			256-QAM			87.068
	100 MHz		BPSK			96.733
			QPSK			96.668
			16-QAM			96.667
			64-QAM			96.722
			256-QAM			96.405

Note:

1. Plots of the EUT's Occupied Bandwidth are shown Page 88 ~ 142.

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	3455.01	8.2612	37.805	-71.392	-33.587	-13.00
		3500.01	8.3081	37.805	-70.918	-33.113	
		3544.98	8.2941	37.805	-70.516	-32.711	
	15	3457.50	4.9796	37.190	-71.023	-33.833	
		3500.01	9.1560	37.805	-71.265	-33.460	
		3542.49	8.2428	37.805	-70.517	-32.712	
	20	3460.02	8.2782	37.805	-70.617	-32.812	
		3500.01	8.2423	37.805	-70.855	-33.050	
		3540.00	8.0444	37.805	-70.935	-33.130	
	30	3465.00	9.6685	37.805	-70.987	-33.182	
		3500.01	8.8530	37.805	-70.992	-33.187	
		3534.99	9.7343	37.805	-71.283	-33.478	
	40	3470.01	4.9552	37.190	-70.439	-33.249	
		3500.01	9.9427	37.805	-70.700	-32.895	
		3529.98	5.2134	37.805	-71.242	-33.437	
	50	3475.02	8.8629	37.805	-70.380	-32.575	
		3500.01	6.0384	37.805	-71.202	-33.397	
		3525.00	6.0499	37.805	-70.011	-32.206	
	60	3480.00	9.9970	37.805	-71.142	-33.337	
		3500.01	6.0688	37.805	-71.314	-33.509	
		3519.99	8.0494	37.805	-71.117	-33.312	
	70	3485.01	4.9123	37.190	-71.263	-34.073	
		3500.01	9.9397	37.805	-71.239	-33.434	
		3514.98	9.9088	37.805	-70.823	-33.018	
	80	3490.02	9.7004	37.805	-71.057	-33.252	
		3500.01	9.9940	37.805	-70.534	-32.729	
		3510.00	5.2059	37.805	-70.767	-32.962	
	90	3495.00	8.0484	37.805	-71.184	-33.379	
		3500.01	8.2418	37.805	-71.063	-33.258	
		3504.99	4.9253	37.190	-70.933	-33.743	
	100	3500.01	9.9576	37.805	-69.836	-32.031	

Note:

1. Plots of the EUT's Conducted Spurious Emissions are shown Page 330 ~ 391.

2. Duty Cycle factor already applied on the factor.

- Duty Cycle Factor(dB) = 6.990

- Factor(dB) = Duty Cycle factor + Cable Loss + Ext. Attenuator + Power Splitter

- Result(dBm) = Reading + Factor

3. Factor(dB)

Frequency Range (GHz)	Factor [dB]
0.03 – 1	34.484
1 – 5	37.190
5 – 10	37.805
10 – 15	38.330
15 – 20	38.703
Above 20	39.345

8.6 BAND EDGE

1. Plots of the EUT's Band Edge are shown Page 198 ~ 329.
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 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
3455.010	100 %	+20(Ref)	3455 010 002	0.0	0.000 000	0.000
	100 %	-30	3455 010 006	4.5	0.000 000	0.001
	100 %	-20	3455 010 001	-1.2	0.000 000	0.000
	100 %	-10	3455 010 001	-0.6	0.000 000	0.000
	100 %	0	3455 010 000	-1.5	0.000 000	0.000
	100 %	+10	3455 010 000	-1.4	0.000 000	0.000
	100 %	+30	3455 010 003	1.3	0.000 000	0.000
	100 %	+40	3455 010 003	1.4	0.000 000	0.000
	100 %	+50	3455 010 003	1.5	0.000 000	0.000
	Batt. Endpoint	+20	3455 010 002	0.7	0.000 000	0.000
3544.980	100 %	+20(Ref)	3544 980 001	0.0	0.000 000	0.000
	100 %	-30	3544 980 001	0.1	0.000 000	0.000
	100 %	-20	3544 980 001	-0.1	0.000 000	0.000
	100 %	-10	3544 980 000	-0.9	0.000 000	0.000
	100 %	0	3544 980 000	-0.9	0.000 000	0.000
	100 %	+10	3544 979 998	-2.4	0.000 000	-0.001
	100 %	+30	3544 979 999	-1.9	0.000 000	-0.001
	100 %	+40	3544 980 004	3.7	0.000 000	0.001
	100 %	+50	3544 979 999	-1.4	0.000 000	0.000
	Batt. Endpoint	+20	3544 980 004	3.3	0.000 000	0.001

▣ BandWidth: 15 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
3457.500	100 %	+20(Ref)	3457 500 003	0.0	0.000 000	0.000
	100 %	-30	3457 500 007	4.1	0.000 000	0.001
	100 %	-20	3457 500 007	4.8	0.000 000	0.001
	100 %	-10	3457 500 005	2.2	0.000 000	0.001
	100 %	0	3457 500 010	7.3	0.000 000	0.002
	100 %	+10	3457 500 004	1.8	0.000 000	0.001
	100 %	+30	3457 500 008	5.3	0.000 000	0.002
	100 %	+40	3457 500 001	-1.8	0.000 000	-0.001
	100 %	+50	3457 500 007	4.5	0.000 000	0.001
	Batt. Endpoint	+20	3457 500 004	1.0	0.000 000	0.000
3542.490	100 %	+20(Ref)	3542 489 998	0.0	0.000 000	0.000
	100 %	-30	3542 489 996	-1.8	0.000 000	-0.001
	100 %	-20	3542 489 996	-1.4	0.000 000	0.000
	100 %	-10	3542 489 999	1.5	0.000 000	0.000
	100 %	0	3542 490 000	2.2	0.000 000	0.001
	100 %	+10	3542 490 001	2.9	0.000 000	0.001
	100 %	+30	3542 489 996	-2.2	0.000 000	-0.001
	100 %	+40	3542 489 993	-4.2	0.000 000	-0.001
	100 %	+50	3542 489 994	-3.5	0.000 000	-0.001
	Batt. Endpoint	+20	3542 489 998	0.1	0.000 000	0.000

▣ BandWidth: 20 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
3460.020	100 %	+20(Ref)	3460 020 000	0.0	0.000 000	0.000
	100 %	-30	3460 020 000	0.1	0.000 000	0.000
	100 %	-20	3460 020 005	5.8	0.000 000	0.002
	100 %	-10	3460 020 001	1.5	0.000 000	0.000
	100 %	0	3460 019 997	-2.8	0.000 000	-0.001
	100 %	+10	3460 020 002	2.4	0.000 000	0.001
	100 %	+30	3460 019 997	-2.6	0.000 000	-0.001
	100 %	+40	3460 020 004	5.0	0.000 000	0.001
	100 %	+50	3460 020 001	1.5	0.000 000	0.000
	Batt. Endpoint	+20	3460 020 001	1.9	0.000 000	0.001
3540.000	100 %	+20(Ref)	3539 999 999	0.0	0.000 000	0.000
	100 %	-30	3539 999 998	-0.9	0.000 000	0.000
	100 %	-20	3540 000 003	3.2	0.000 000	0.001
	100 %	-10	3539 999 999	0.1	0.000 000	0.000
	100 %	0	3540 000 002	2.6	0.000 000	0.001
	100 %	+10	3540 000 000	0.2	0.000 000	0.000
	100 %	+30	3539 999 999	0.0	0.000 000	0.000
	100 %	+40	3540 000 000	0.8	0.000 000	0.000
	100 %	+50	3540 000 001	2.0	0.000 000	0.001
	Batt. Endpoint	+20	3539 999 998	-1.4	0.000 000	0.000

▣ BandWidth: 30 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
3465.000	100 %	+20(Ref)	3465 000 001	0.0	0.000 000	0.000
	100 %	-30	3465 000 002	1.7	0.000 000	0.000
	100 %	-20	3465 000 004	3.3	0.000 000	0.001
	100 %	-10	3464 999 999	-1.4	0.000 000	0.000
	100 %	0	3465 000 000	-0.9	0.000 000	0.000
	100 %	+10	3465 000 003	2.4	0.000 000	0.001
	100 %	+30	3465 000 003	2.1	0.000 000	0.001
	100 %	+40	3465 000 000	-0.9	0.000 000	0.000
	100 %	+50	3464 999 996	-4.3	0.000 000	-0.001
	Batt. Endpoint	+20	3465 000 002	0.9	0.000 000	0.000
3534.990	100 %	+20(Ref)	3534 990 003	0.0	0.000 000	0.000
	100 %	-30	3534 990 004	1.6	0.000 000	0.000
	100 %	-20	3534 990 004	1.7	0.000 000	0.000
	100 %	-10	3534 990 004	0.9	0.000 000	0.000
	100 %	0	3534 990 004	1.2	0.000 000	0.000
	100 %	+10	3534 990 002	-0.7	0.000 000	0.000
	100 %	+30	3534 990 011	7.9	0.000 000	0.002
	100 %	+40	3534 990 002	-0.8	0.000 000	0.000
	100 %	+50	3534 990 008	4.8	0.000 000	0.001
	Batt. Endpoint	+20	3534 990 004	1.1	0.000 000	0.000

▣ BandWidth: 40 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
3470.010	100 %	+20(Ref)	3470 010 001	0.0	0.000 000	0.000
	100 %	-30	3470 010 004	2.9	0.000 000	0.001
	100 %	-20	3470 010 003	1.4	0.000 000	0.000
	100 %	-10	3470 010 002	1.0	0.000 000	0.000
	100 %	0	3470 010 001	-0.9	0.000 000	0.000
	100 %	+10	3470 010 005	3.6	0.000 000	0.001
	100 %	+30	3470 010 002	0.6	0.000 000	0.000
	100 %	+40	3470 010 003	2.1	0.000 000	0.001
	100 %	+50	3470 010 000	-1.8	0.000 000	-0.001
	Batt. Endpoint	+20	3470 010 004	2.6	0.000 000	0.001
3529.980	100 %	+20(Ref)	3529 979 998	0.0	0.000 000	0.000
	100 %	-30	3529 979 998	-0.3	0.000 000	0.000
	100 %	-20	3529 979 996	-2.6	0.000 000	-0.001
	100 %	-10	3529 980 001	2.4	0.000 000	0.001
	100 %	0	3529 980 001	2.9	0.000 000	0.001
	100 %	+10	3529 979 995	-3.8	0.000 000	-0.001
	100 %	+30	3529 980 003	4.2	0.000 000	0.001
	100 %	+40	3529 979 995	-3.9	0.000 000	-0.001
	100 %	+50	3529 980 000	1.2	0.000 000	0.000
	Batt. Endpoint	+20	3529 980 000	1.9	0.000 000	0.001

▣ BandWidth: 50 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
3475.020	100 %	+20(Ref)	3475 019 998	0.0	0.000 000	0.000
	100 %	-30	3475 020 000	1.9	0.000 000	0.001
	100 %	-20	3475 019 999	0.6	0.000 000	0.000
	100 %	-10	3475 020 000	2.3	0.000 000	0.001
	100 %	0	3475 019 995	-3.2	0.000 000	-0.001
	100 %	+10	3475 019 999	0.9	0.000 000	0.000
	100 %	+30	3475 020 000	2.3	0.000 000	0.001
	100 %	+40	3475 020 003	4.4	0.000 000	0.001
	100 %	+50	3475 019 996	-2.1	0.000 000	-0.001
	Batt. Endpoint	+20	3475 019 996	-2.0	0.000 000	-0.001
3525.000	100 %	+20(Ref)	3524 999 998	0.0	0.000 000	0.000
	100 %	-30	3524 999 999	1.0	0.000 000	0.000
	100 %	-20	3524 999 994	-3.5	0.000 000	-0.001
	100 %	-10	3524 999 994	-3.4	0.000 000	-0.001
	100 %	0	3524 999 998	0.7	0.000 000	0.000
	100 %	+10	3524 999 997	-1.2	0.000 000	0.000
	100 %	+30	3524 999 997	-0.7	0.000 000	0.000
	100 %	+40	3524 999 994	-3.6	0.000 000	-0.001
	100 %	+50	3524 999 999	0.9	0.000 000	0.000
	Batt. Endpoint	+20	3524 999 995	-2.9	0.000 000	-0.001

▣ BandWidth: 60 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
3480.000	100 %	+20(Ref)	3480 000 000	0.0	0.000 000	0.000
	100 %	-30	3480 000 002	1.7	0.000 000	0.000
	100 %	-20	3480 000 005	4.8	0.000 000	0.001
	100 %	-10	3479 999 999	-1.1	0.000 000	0.000
	100 %	0	3479 999 998	-2.2	0.000 000	-0.001
	100 %	+10	3480 000 000	-0.2	0.000 000	0.000
	100 %	+30	3479 999 996	-4.1	0.000 000	-0.001
	100 %	+40	3480 000 005	4.0	0.000 000	0.001
	100 %	+50	3480 000 003	2.9	0.000 000	0.001
	Batt. Endpoint	+20	3480 000 003	2.6	0.000 000	0.001
3519.990	100 %	+20(Ref)	3519 989 998	0.0	0.000 000	0.000
	100 %	-30	3519 990 002	4.1	0.000 000	0.001
	100 %	-20	3519 989 998	0.5	0.000 000	0.000
	100 %	-10	3519 989 995	-3.0	0.000 000	-0.001
	100 %	0	3519 989 999	0.7	0.000 000	0.000
	100 %	+10	3519 989 997	-1.0	0.000 000	0.000
	100 %	+30	3519 989 998	0.5	0.000 000	0.000
	100 %	+40	3519 990 000	2.2	0.000 000	0.001
	100 %	+50	3519 989 996	-1.7	0.000 000	0.000
	Batt. Endpoint	+20	3519 990 000	2.3	0.000 000	0.001

▣ BandWidth: 70 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
3485.010	100 %	+20(Ref)	3485 009 995	0.0	0.000 000	0.000
	100 %	-30	3485 009 991	-4.7	0.000 000	-0.001
	100 %	-20	3485 009 999	3.7	0.000 000	0.001
	100 %	-10	3485 009 997	1.5	0.000 000	0.000
	100 %	0	3485 009 999	3.6	0.000 000	0.001
	100 %	+10	3485 009 997	2.0	0.000 000	0.001
	100 %	+30	3485 009 991	-4.2	0.000 000	-0.001
	100 %	+40	3485 009 995	-0.7	0.000 000	0.000
	100 %	+50	3485 009 998	2.5	0.000 000	0.001
	Batt. Endpoint	+20	3485 009 992	-3.0	0.000 000	-0.001
3514.980	100 %	+20(Ref)	3514 979 994	0.0	0.000 000	0.000
	100 %	-30	3514 979 993	-1.1	0.000 000	0.000
	100 %	-20	3514 979 994	-0.2	0.000 000	0.000
	100 %	-10	3514 979 998	3.5	0.000 000	0.001
	100 %	0	3514 979 992	-1.7	0.000 000	0.000
	100 %	+10	3514 979 995	0.7	0.000 000	0.000
	100 %	+30	3514 979 995	0.9	0.000 000	0.000
	100 %	+40	3514 979 993	-0.7	0.000 000	0.000
	100 %	+50	3514 979 996	1.5	0.000 000	0.000
	Batt. Endpoint	+20	3514 979 992	-2.2	0.000 000	-0.001

▣ BandWidth: 80 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
3490.020	100 %	+20(Ref)	3490 020 001	0.0	0.000 000	0.000
	100 %	-30	3490 020 006	5.0	0.000 000	0.001
	100 %	-20	3490 019 998	-3.2	0.000 000	-0.001
	100 %	-10	3490 020 001	0.1	0.000 000	0.000
	100 %	0	3490 019 997	-3.7	0.000 000	-0.001
	100 %	+10	3490 019 994	-6.9	0.000 000	-0.002
	100 %	+30	3490 020 002	1.2	0.000 000	0.000
	100 %	+40	3490 020 001	0.4	0.000 000	0.000
	100 %	+50	3490 019 998	-2.8	0.000 000	-0.001
	Batt. Endpoint	+20	3490 019 998	-2.8	0.000 000	-0.001
3510.000	100 %	+20(Ref)	3510 000 001	0.0	0.000 000	0.000
	100 %	-30	3509 999 999	-1.8	0.000 000	-0.001
	100 %	-20	3510 000 000	-1.4	0.000 000	0.000
	100 %	-10	3510 000 004	3.3	0.000 000	0.001
	100 %	0	3509 999 998	-3.3	0.000 000	-0.001
	100 %	+10	3510 000 002	0.7	0.000 000	0.000
	100 %	+30	3510 000 003	1.8	0.000 000	0.001
	100 %	+40	3509 999 999	-2.0	0.000 000	-0.001
	100 %	+50	3509 999 999	-2.0	0.000 000	-0.001
	Batt. Endpoint	+20	3510 000 000	-0.8	0.000 000	0.000

▣ BandWidth: 90 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
3495.000	100 %	+20(Ref)	3494 999 999	0.0	0.000 000	0.000
	100 %	-30	3494 999 998	-1.1	0.000 000	0.000
	100 %	-20	3495 000 002	3.1	0.000 000	0.001
	100 %	-10	3494 999 999	0.1	0.000 000	0.000
	100 %	0	3495 000 002	2.7	0.000 000	0.001
	100 %	+10	3494 999 999	-0.5	0.000 000	0.000
	100 %	+30	3495 000 000	1.2	0.000 000	0.000
	100 %	+40	3495 000 001	1.4	0.000 000	0.000
	100 %	+50	3495 000 001	1.4	0.000 000	0.000
	Batt. Endpoint	+20	3494 999 998	-0.9	0.000 000	0.000
3504.990	100 %	+20(Ref)	3504 989 999	0.0	0.000 000	0.000
	100 %	-30	3504 989 998	-1.1	0.000 000	0.000
	100 %	-20	3504 990 002	2.5	0.000 000	0.001
	100 %	-10	3504 990 002	2.5	0.000 000	0.001
	100 %	0	3504 989 996	-3.1	0.000 000	-0.001
	100 %	+10	3504 990 000	0.4	0.000 000	0.000
	100 %	+30	3504 990 001	2.2	0.000 000	0.001
	100 %	+40	3504 990 002	2.7	0.000 000	0.001
	100 %	+50	3504 989 995	-4.3	0.000 000	-0.001
	Batt. Endpoint	+20	3504 989 996	-2.9	0.000 000	-0.001

▣ BandWidth: 100 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
3500.010	100 %	+20(Ref)	3500 009 995	0.0	0.000 000	0.000
	100 %	-30	3500 009 990	-4.8	0.000 000	-0.001
	100 %	-20	3500 009 992	-3.3	0.000 000	-0.001
	100 %	-10	3500 009 995	-0.1	0.000 000	0.000
	100 %	0	3500 009 997	2.1	0.000 000	0.001
	100 %	+10	3500 009 990	-5.5	0.000 000	-0.002
	100 %	+30	3500 009 990	-4.8	0.000 000	-0.001
	100 %	+40	3500 009 997	2.1	0.000 000	0.001
	100 %	+50	3500 009 997	2.1	0.000 000	0.001
	Batt. Endpoint	+20	3500 009 994	-0.9	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	-23.31	15.18	11.40	3.09	H	< 1.00	0.223	23.49	1	12
		QPSK	-23.34	15.15	11.40	3.09	H		0.222	23.46		
		16-QAM	-24.26	14.23	11.40	3.09	H		0.179	22.54		
		64-QAM	-25.89	12.60	11.40	3.09	H		0.123	20.91		
		256-QAM	-27.83	10.66	11.40	3.09	H		0.079	18.97		
3840.00		PI/2 BPSK	-24.60	15.08	11.10	3.14	H		0.201	23.04	1	1
		QPSK	-24.61	15.07	11.10	3.14	H		0.201	23.03		
		16-QAM	-25.62	14.06	11.10	3.14	H		0.159	22.02		
		64-QAM	-27.05	12.63	11.10	3.14	H		0.115	20.59		
		256-QAM	-29.01	10.67	11.10	3.14	H		0.073	18.63		
3975.00		PI/2 BPSK	-24.75	14.90	10.90	3.20	H		0.182	22.60	1	1
		QPSK	-24.81	14.84	10.90	3.20	H		0.179	22.54		
		16-QAM	-25.64	14.01	10.90	3.20	H		0.148	21.71		
		64-QAM	-27.32	12.33	10.90	3.20	H		0.101	20.03		
		256-QAM	-29.26	10.39	10.90	3.20	H		0.064	18.09		

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	-23.27	15.22	11.40	3.09	H	< 1.00	0.225	23.53	1	36
		QPSK	-23.31	15.18	11.40	3.09	H		0.223	23.49		
		16-QAM	-24.20	14.29	11.40	3.09	H		0.182	22.60		
		64-QAM	-25.82	12.67	11.40	3.09	H		0.125	20.98		
		256-QAM	-27.69	10.80	11.40	3.09	H		0.081	19.11		
3840.00		PI/2 BPSK	-24.54	15.14	11.10	3.14	H		0.204	23.10	1	1
		QPSK	-24.57	15.11	11.10	3.14	H		0.203	23.07		
		16-QAM	-25.41	14.27	11.10	3.14	H		0.167	22.23		
		64-QAM	-27.09	12.59	11.10	3.14	H		0.114	20.55		
		256-QAM	-28.94	10.74	11.10	3.14	H		0.074	18.70		
3972.48		PI/2 BPSK	-24.53	15.12	10.90	3.20	H		0.191	22.82	1	1
		QPSK	-24.62	15.03	10.90	3.20	H		0.187	22.73		
		16-QAM	-25.53	14.12	10.90	3.20	H		0.152	21.82		
		64-QAM	-27.15	12.50	10.90	3.20	H		0.105	20.20		
		256-QAM	-29.03	10.62	10.90	3.20	H		0.068	18.32		

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
3710.01	Sub6 n77/ 20 MHz [30 kHz]	PI/2 BPSK	-23.04	15.48	11.40	3.11	H	< 1.00	0.238	23.77	1	49
		QPSK	-23.12	15.40	11.40	3.11	H		0.234	23.69		
		16-QAM	-24.02	14.50	11.40	3.11	H		0.190	22.79		
		64-QAM	-25.59	12.93	11.40	3.11	H		0.132	21.22		
		256-QAM	-27.52	11.00	11.40	3.11	H		0.085	19.29		
3840.00		PI/2 BPSK	-24.36	15.32	11.10	3.14	H		0.213	23.28	1	1
		QPSK	-24.41	15.27	11.10	3.14	H		0.210	23.23		
		16-QAM	-25.40	14.28	11.10	3.14	H		0.167	22.24		
		64-QAM	-26.96	12.72	11.10	3.14	H		0.117	20.68		
		256-QAM	-35.80	3.88	11.10	3.14	H		0.015	11.84		
3969.99		PI/2 BPSK	-24.35	15.27	10.90	3.20	H		0.198	22.97	1	1
		QPSK	-24.41	15.21	10.90	3.20	H		0.195	22.91		
		16-QAM	-25.25	14.37	10.90	3.20	H		0.161	22.07		
		64-QAM	-26.88	12.74	10.90	3.20	H		0.111	20.44		
		256-QAM	-28.81	10.81	10.90	3.20	H		0.071	18.51		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain(dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
3715.02	Sub6 n77/ 30 MHz [30 kHz]	PI/2 BPSK	-23.01	15.66	11.40	3.12	H	< 1.00	0.248	23.94	1	76
		QPSK	-23.09	15.58	11.40	3.12	H		0.243	23.86		
		16-QAM	-24.12	14.55	11.40	3.12	H		0.192	22.83		
		64-QAM	-25.60	13.07	11.40	3.12	H		0.136	21.35		
		256-QAM	-27.53	11.14	11.40	3.12	H		0.087	19.42		
3840.00		PI/2 BPSK	-24.28	15.40	11.10	3.14	H		0.217	23.36	1	1
		QPSK	-24.30	15.38	11.10	3.14	H		0.216	23.34		
		16-QAM	-25.31	14.37	11.10	3.14	H		0.171	22.33		
		64-QAM	-26.84	12.84	11.10	3.14	H		0.120	20.80		
		256-QAM	-28.78	10.90	11.10	3.14	H		0.077	18.86		
3964.98		PI/2 BPSK	-24.36	15.33	10.90	3.21	H		0.200	23.02	1	1
		QPSK	-24.47	15.22	10.90	3.21	H		0.195	22.91		
		16-QAM	-25.48	14.21	10.90	3.21	H		0.155	21.90		
		64-QAM	-26.94	12.75	10.90	3.21	H		0.111	20.44		
		256-QAM	-28.75	10.94	10.90	3.21	H		0.073	18.63		

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	-23.77	14.92	11.40	3.14	H	< 1.00	0.208	23.18	1	104
		QPSK	-23.78	14.91	11.40	3.14	H		0.207	23.17		
		16-QAM	-24.81	13.88	11.40	3.14	H		0.164	22.14		
		64-QAM	-26.26	12.43	11.40	3.14	H		0.117	20.69		
		256-QAM	-28.29	10.40	11.40	3.14	H		0.073	18.66		
3840.00		PI/2 BPSK	-23.89	15.79	11.10	3.14	H		0.237	23.75	1	1
		QPSK	-23.90	15.78	11.10	3.14	H		0.237	23.74		
		16-QAM	-25.02	14.66	11.10	3.14	H		0.183	22.62		
		64-QAM	-26.52	13.16	11.10	3.14	H		0.129	21.12		
		256-QAM	-28.39	11.29	11.10	3.14	H		0.084	19.25		
3960.00		PI/2 BPSK	-24.52	15.26	10.90	3.21	H		0.197	22.95	1	1
		QPSK	-24.56	15.22	10.90	3.21	H		0.195	22.91		
		16-QAM	-25.58	14.20	10.90	3.21	H		0.155	21.89		
		64-QAM	-27.17	12.61	10.90	3.21	H		0.107	20.30		
		256-QAM	-29.05	10.73	10.90	3.21	H		0.070	18.42		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain(dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
3725.10	Sub6 n77/ 50 MHz [30 kHz]	PI/2 BPSK	-23.76	15.04	11.40	3.14	H	< 1.00	0.216	23.34	1	131
		QPSK	-23.77	15.07	11.40	3.14	H		0.215	23.33		
		16-QAM	-24.81	14.03	11.40	3.14	H		0.169	22.29		
		64-QAM	-26.29	12.55	11.40	3.14	H		0.121	20.81		
		256-QAM	-28.32	10.52	11.40	3.14	H		0.076	18.78		
3840.00		PI/2 BPSK	-23.75	15.93	11.10	3.14	H		0.245	23.89	1	1
		QPSK	-23.76	15.92	11.10	3.14	H		0.244	23.88		
		16-QAM	-24.85	14.83	11.10	3.14	H		0.190	22.79		
		64-QAM	-26.39	13.29	11.10	3.14	H		0.133	21.25		
		256-QAM	-28.23	11.45	11.10	3.14	H		0.087	19.41		
3954.99		PI/2 BPSK	-24.93	14.86	10.90	3.21	H		0.180	22.55	1	1
		QPSK	-24.97	14.82	10.90	3.21	H		0.178	22.51		
		16-QAM	-25.98	13.81	10.90	3.21	H		0.141	21.50		
		64-QAM	-27.46	12.33	10.90	3.21	H		0.101	20.02		
		256-QAM	-29.45	10.34	10.90	3.21	H		0.064	18.03		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain(dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
3730.02	Sub6 n77/ 60 MHz [30 kHz]	PI/2 BPSK	-23.47	15.39	11.40	3.14	H	< 1.00	0.232	23.65	1	160
		QPSK	-23.48	15.38	11.40	3.14	H		0.231	23.64		
		16-QAM	-24.45	14.41	11.40	3.14	H		0.185	22.67		
		64-QAM	-26.00	12.86	11.40	3.14	H		0.129	21.12		
		256-QAM	-27.96	10.90	11.40	3.14	H		0.082	19.16		
3840.00		PI/2 BPSK	-23.40	16.28	11.10	3.14	H		0.265	24.24	1	1
		QPSK	-23.44	16.24	11.10	3.14	H		0.263	24.20		
		16-QAM	-24.45	15.23	11.10	3.14	H		0.208	23.19		
		64-QAM	-25.91	13.77	11.10	3.14	H		0.149	21.73		
		256-QAM	-27.88	11.80	11.10	3.14	H		0.095	19.76		
3949.98		PI/2 BPSK	-24.89	14.89	10.90	3.20	H		0.182	22.59	1	1
		QPSK	-24.94	14.84	10.90	3.20	H		0.179	22.54		
		16-QAM	-25.85	13.93	10.90	3.20	H		0.146	21.63		
		64-QAM	-27.27	12.51	10.90	3.20	H		0.105	20.21		
		256-QAM	-29.36	10.42	10.90	3.20	H		0.065	18.12		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain(dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
3735.00	Sub6 n77/ 70 MHz [30 kHz]	PI/2 BPSK	-23.01	15.85	11.40	3.12	H	< 1.00	0.259	24.13	1	187
		QPSK	-23.04	15.82	11.40	3.12	H		0.257	24.10		
		16-QAM	-24.05	14.81	11.40	3.12	H		0.204	23.09		
		64-QAM	-25.66	13.20	11.40	3.12	H		0.141	21.48		
		256-QAM	-27.49	11.37	11.40	3.12	H		0.092	19.65		
3840.00		PI/2 BPSK	-23.34	16.34	11.10	3.14	H		0.269	24.30	1	1
		QPSK	-23.43	16.25	11.10	3.14	H		0.264	24.21		
		16-QAM	-24.28	15.40	11.10	3.14	H		0.217	23.36		
		64-QAM	-25.81	13.87	11.10	3.14	H		0.152	21.83		
		256-QAM	-27.75	11.93	11.10	3.14	H		0.097	19.89		
3945.00		PI/2 BPSK	-24.71	15.13	10.85	3.18	H		0.191	22.80	1	1
		QPSK	-24.76	15.08	10.85	3.18	H		0.188	22.75		
		16-QAM	-25.79	14.05	10.85	3.18	H		0.149	21.72		
		64-QAM	-27.28	12.56	10.85	3.18	H		0.105	20.23		
		256-QAM	-29.17	10.67	10.85	3.18	H		0.068	18.34		

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
3740.01	Sub6 n77/ 80 MHz [30 kHz]	PI/2 BPSK	-22.80	16.06	11.40	3.10	H	< 1.00	0.273	24.36	1	215
		QPSK	-22.81	16.05	11.40	3.10	H		0.272	24.35		
		16-QAM	-23.68	15.18	11.40	3.10	H		0.223	23.48		
		64-QAM	-25.28	13.58	11.40	3.10	H		0.154	21.88		
		256-QAM	-27.30	11.56	11.40	3.10	H		0.097	19.86		
3840.00		PI/2 BPSK	-23.29	16.39	11.10	3.14	H		0.272	24.35	1	1
		QPSK	-23.35	16.33	11.10	3.14	H		0.269	24.29		
		16-QAM	-24.29	15.39	11.10	3.14	H		0.216	23.35		
		64-QAM	-25.80	13.88	11.10	3.14	H		0.153	21.84		
		256-QAM	-27.80	11.88	11.10	3.14	H		0.096	19.84		
3939.99		PI/2 BPSK	-24.82	14.41	11.40	3.10	H		0.187	22.71	1	1
		QPSK	-24.83	14.40	11.40	3.10	H		0.186	22.70		
		16-QAM	-25.86	13.37	11.40	3.10	H		0.147	21.67		
		64-QAM	-27.23	12.00	11.40	3.10	H		0.107	20.30		
		256-QAM	-29.29	9.94	11.40	3.10	H		0.067	18.24		

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	-23.09	15.65	11.35	3.09	H	< 1.00	0.246	23.91	1	243
		QPSK	-23.12	15.62	11.35	3.09	H		0.244	23.88		
		16-QAM	-24.12	14.62	11.35	3.09	H		0.194	22.88		
		64-QAM	-25.63	13.11	11.35	3.09	H		0.137	21.37		
		256-QAM	-27.50	11.24	11.35	3.09	H		0.089	19.50		
3840.00		PI/2 BPSK	-23.23	16.45	11.10	3.14	H		0.276	24.41	1	1
		QPSK	-23.29	16.39	11.10	3.14	H		0.272	24.35		
		16-QAM	-24.34	15.34	11.10	3.14	H		0.214	23.30		
		64-QAM	-25.76	13.92	11.10	3.14	H		0.154	21.88		
		256-QAM	-27.64	12.04	11.10	3.14	H		0.100	20.00		
3934.98		PI/2 BPSK	-24.81	15.11	10.80	3.16	H		0.188	22.75	1	243
		QPSK	-24.83	15.09	10.80	3.16	H		0.188	22.73		
		16-QAM	-25.78	14.14	10.80	3.16	H		0.151	21.78		
		64-QAM	-27.37	12.55	10.80	3.16	H		0.104	20.19		
		256-QAM	-29.28	3.65	10.80	3.16	H		0.067	18.28		

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
3750.00	Sub6 n77/ 100 MHz [30 kHz]	PI/2 BPSK	-23.20	15.43	11.30	3.08	H	< 1.00	0.232	23.65	1	271
		QPSK	-23.21	15.42	11.30	3.08	H		0.231	23.64		
		16-QAM	-24.09	14.54	11.30	3.08	H		0.189	22.76		
		64-QAM	-25.74	12.89	11.30	3.08	H		0.129	21.11		
		256-QAM	-27.64	10.99	11.30	3.08	H		0.083	19.21		
3840.00		PI/2 BPSK	-23.14	16.54	11.10	3.14	H		0.282	24.50	1	1
		QPSK	-23.18	16.50	11.10	3.14	H		0.279	24.46		
		16-QAM	-24.04	15.64	11.10	3.14	H		0.229	23.60		
		64-QAM	-25.69	13.99	11.10	3.14	H		0.157	21.95		
		256-QAM	-27.59	12.09	11.10	3.14	H		0.101	20.05		
3930.00		PI/2 BPSK	-24.72	15.23	10.80	3.16	H		0.194	22.87	1	271
		QPSK	-24.77	15.18	10.80	3.16	H		0.191	22.82		
		16-QAM	-25.70	14.25	10.80	3.16	H		0.155	21.89		
		64-QAM	-27.26	12.69	10.80	3.16	H		0.108	20.33		
		256-QAM	-29.26	10.69	10.80	3.16	H		0.068	18.33		

9.2 RADIATED SPURIOUS EMISSIONS

▣ NR Band: N77

▣ Bandwidth: 100 MHz

▣ Modulation: PI/2 BPSK

▣ Distance: 1 meter

▣ 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
650000 (3750.00)	7 500.00	-63.06	11.10	-55.95	4.50	V	-49.35	-13.00	1	271
	11 250.00	-65.28	11.40	-54.74	5.64	V	-48.98	-13.00		
	15 000.00	-60.53	13.80	-54.04	6.65	V	-46.89	-13.00		
656000 (3840.00)	7 680.00	-63.46	11.10	-56.60	4.55	V	-50.05	-13.00	1	1
	11 520.00	-65.26	11.50	-54.12	5.70	V	-48.32	-13.00		
	15 360.00	-60.63	15.10	-54.84	6.72	V	-46.46	-13.00		
662000 (3930.00)	7 860.00	-61.54	10.60	-54.18	4.61	V	-48.19	-13.00	1	271
	11 790.00	-63.47	12.20	-53.51	5.78	V	-47.09	-13.00		
	15 720.00	-60.93	15.10	-55.37	6.82	V	-47.09	-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	4.47
			QPSK			5.53
			16-QAM			6.29
			64-QAM			6.27
			256-QAM			6.69
	15 MHz		BPSK			4.38
			QPSK			5.43
			16-QAM			6.23
			64-QAM			6.30
			256-QAM			6.59
	20 MHz		BPSK			4.41
			QPSK			5.44
			16-QAM			6.23
			64-QAM			6.25
			256-QAM			6.67
	30 MHz		BPSK			4.75
			QPSK			5.42
			16-QAM			6.20
			64-QAM			6.22
			256-QAM			6.64
	40 MHz		BPSK			4.46
			QPSK			5.35
			16-QAM			6.19
			64-QAM			6.22
			256-QAM			6.62
	50 MHz		BPSK			4.96
			QPSK			5.66
			16-QAM			6.34
			64-QAM			6.70
			256-QAM			6.62

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (dB)
	60 MHz		BPSK			5.59
			QPSK			5.87
			16-QAM			6.56
			64-QAM			6.73
			256-QAM			6.74
	70 MHz		BPSK			4.49
			QPSK			5.51
			16-QAM			6.34
			64-QAM			6.49
			256-QAM			6.72
	80 MHz		BPSK			4.54
			QPSK			5.49
			16-QAM			6.26
			64-QAM			6.44
			256-QAM			6.78
	90 MHz		BPSK			4.40
			QPSK			5.50
			16-QAM			6.24
			64-QAM			6.43
			256-QAM			6.58
	100 MHz		BPSK			4.96
			QPSK			5.49
			16-QAM			6.26
			64-QAM			6.39
			256-QAM			6.65

Note:

1. Plots of the EUT's Peak- to- Average Ratio are shown Page 448 ~ 502.

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	8.6753
			QPSK			8.6414
			16-QAM			8.6634
			64-QAM			8.7236
			256-QAM			8.6975
	15 MHz		BPSK			12.948
			QPSK			12.963
			16-QAM			12.920
			64-QAM			12.992
			256-QAM			12.971
	20 MHz		BPSK			17.945
			QPSK			18.000
			16-QAM			17.928
			64-QAM			17.953
			256-QAM			17.954
	30 MHz		BPSK			26.966
			QPSK			26.932
			16-QAM			26.915
			64-QAM			26.942
			256-QAM			26.864
	40 MHz		BPSK			35.916
			QPSK			35.879
			16-QAM			35.806
			64-QAM			35.901
			256-QAM			35.914
	50 MHz		BPSK			46.053
			QPSK			45.964
			16-QAM			45.880
			64-QAM			45.904
			256-QAM			45.892

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (MHz)
	60 MHz		BPSK			58.065
			QPSK			58.077
			16-QAM			58.326
			64-QAM			58.250
			256-QAM			58.222
	70 MHz		BPSK			64.708
			QPSK			64.739
			16-QAM			64.577
			64-QAM			64.783
			256-QAM			64.681
	80 MHz		BPSK			77.384
			QPSK			77.577
			16-QAM			77.323
			64-QAM			77.495
			256-QAM			77.579
	90 MHz		BPSK			86.919
			QPSK			87.043
			16-QAM			86.959
			64-QAM			86.865
			256-QAM			86.968
	100 MHz		BPSK			96.618
			QPSK			96.631
			16-QAM			96.627
			64-QAM			96.561
			256-QAM			96.255

Note:

1. Plots of the EUT's Occupied Bandwidth are shown Page 393 ~ 447.

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	3705.00	9.9556	37.805	-71.458	-33.653	-13.00
		3840.00	8.2687	37.805	-70.850	-33.045	
		3975.00	9.6790	37.805	-70.404	-32.599	
	15	3707.52	4.9462	37.190	-69.409	-32.219	
		3840.00	5.7548	37.805	-71.374	-33.569	
		3972.48	8.2313	37.805	-71.086	-33.281	
	20	3710.01	4.9332	37.190	-71.116	-33.926	
		3840.00	4.9003	37.190	-70.221	-33.031	
		3969.99	5.1855	37.805	-70.618	-32.813	
	30	3715.02	5.2059	37.805	-71.734	-33.929	
		3840.00	3.1920	37.190	-67.335	-30.145	
		3964.98	5.2289	37.805	-70.606	-32.801	
	40	3720.00	8.2857	37.805	-70.839	-33.034	
		3840.00	9.9372	37.805	-71.662	-33.857	
		3960.00	9.3998	37.805	-71.256	-33.451	
	50	3725.10	8.3280	37.805	-70.971	-33.166	
		3840.00	9.7253	37.805	-70.962	-33.157	
		3954.99	8.3006	37.805	-71.091	-33.286	
	60	3730.02	5.2408	37.805	-71.098	-33.293	
		3840.00	4.8974	37.190	-71.007	-33.817	
		3949.98	5.9990	37.805	-71.085	-33.280	
	70	3735.00	7.9826	37.805	-70.967	-33.162	
		3840.00	8.2707	37.805	-71.529	-33.724	
		3945.00	8.2582	37.805	-71.073	-33.268	
	80	3740.01	8.3201	37.805	-71.146	-33.341	
		3840.00	8.2886	37.805	-70.678	-32.873	
		3939.99	9.4487	37.805	-71.143	-33.338	
	90	3745.02	8.2946	37.805	-71.280	-33.475	
		3840.00	9.1705	37.805	-71.145	-33.340	
		3934.98	8.0414	37.805	-71.239	-33.434	
	100	3750.00	8.5563	37.805	-70.436	-32.631	
		3840.00	8.3091	37.805	-71.422	-33.617	
		3930.00	8.2577	37.805	-69.974	-32.169	

Note:

1. Plots of the EUT's Conducted Spurious Emissions are shown Page 635 ~ 700.

2. Duty Cycle factor already applied on the factor.

- Duty Cycle Factor(dB) = 6.990

- Factor(dB) = Duty Cycle factor + Cable Loss + Ext. Attenuator + Power Splitter

- Result(dBm) = Reading + Factor

3. Factor(dB)

Frequency Range (GHz)	Factor [dB]
0.03 – 1	34.484
1 – 5	37.190
5 – 10	37.805
10 – 15	38.330
15 – 20	38.703
Above 20	39.345

9.6 BAND EDGE

1. Plots of the EUT's Band Edge are shown Page 503 ~ 634.
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 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
3705.000	100 %	+20(Ref)	3704 999 998	0.0	0.000 000	0.000
	100 %	-30	3705 000 003	5.2	0.000 000	0.001
	100 %	-20	3704 999 999	1.4	0.000 000	0.000
	100 %	-10	3704 999 999	1.3	0.000 000	0.000
	100 %	0	3704 999 999	1.0	0.000 000	0.000
	100 %	+10	3704 999 995	-2.7	0.000 000	-0.001
	100 %	+30	3705 000 000	2.9	0.000 000	0.001
	100 %	+40	3704 999 998	0.0	0.000 000	0.000
	100 %	+50	3705 000 001	3.2	0.000 000	0.001
	Batt. Endpoint	+20	3705 000 002	4.5	0.000 000	0.001
3975.000	100 %	+20(Ref)	3974 999 998	0.0	0.000 000	0.000
	100 %	-30	3975 000 005	7.2	0.000 000	0.002
	100 %	-20	3974 999 993	-5.3	0.000 000	-0.001
	100 %	-10	3974 999 998	0.2	0.000 000	0.000
	100 %	0	3974 999 996	-2.2	0.000 000	-0.001
	100 %	+10	3974 999 994	-3.8	0.000 000	-0.001
	100 %	+30	3974 999 999	0.8	0.000 000	0.000
	100 %	+40	3975 000 000	2.2	0.000 000	0.001
	100 %	+50	3974 999 993	-4.9	0.000 000	-0.001
	Batt. Endpoint	+20	3974 999 998	-0.3	0.000 000	0.000

▣ BandWidth: 15 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
3707.520	100 %	+20(Ref)	3707 520 001	0.0	0.000 000	0.000
	100 %	-30	3707 520 001	0.1	0.000 000	0.000
	100 %	-20	3707 520 002	0.6	0.000 000	0.000
	100 %	-10	3707 519 998	-2.6	0.000 000	-0.001
	100 %	0	3707 520 010	8.8	0.000 000	0.002
	100 %	+10	3707 520 004	3.1	0.000 000	0.001
	100 %	+30	3707 520 000	-0.5	0.000 000	0.000
	100 %	+40	3707 519 997	-3.5	0.000 000	-0.001
	100 %	+50	3707 520 003	1.6	0.000 000	0.000
	Batt. Endpoint	+20	3707 520 000	-1.0	0.000 000	0.000
3972.480	100 %	+20(Ref)	3972 479 998	0.0	0.000 000	0.000
	100 %	-30	3972 480 002	4.4	0.000 000	0.001
	100 %	-20	3972 480 001	3.4	0.000 000	0.001
	100 %	-10	3972 479 999	0.7	0.000 000	0.000
	100 %	0	3972 479 998	-0.3	0.000 000	0.000
	100 %	+10	3972 479 997	-0.6	0.000 000	0.000
	100 %	+30	3972 480 006	7.9	0.000 000	0.002
	100 %	+40	3972 479 999	0.8	0.000 000	0.000
	100 %	+50	3972 479 998	-0.3	0.000 000	0.000
	Batt. Endpoint	+20	3972 479 998	0.6	0.000 000	0.000

▣ BandWidth: 20 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
3710.010	100 %	+20(Ref)	3710 009 994	0.0	0.000 000	0.000
	100 %	-30	3710 009 992	-2.3	0.000 000	-0.001
	100 %	-20	3710 009 992	-1.9	0.000 000	-0.001
	100 %	-10	3710 009 997	2.2	0.000 000	0.001
	100 %	0	3710 009 988	-6.2	0.000 000	-0.002
	100 %	+10	3710 009 995	0.9	0.000 000	0.000
	100 %	+30	3710 009 995	0.3	0.000 000	0.000
	100 %	+40	3710 009 990	-4.6	0.000 000	-0.001
	100 %	+50	3710 009 992	-1.9	0.000 000	-0.001
	Batt. Endpoint	+20	3710 009 993	-1.4	0.000 000	0.000
3969.990	100 %	+20(Ref)	3969 990 004	0.0	0.000 000	0.000
	100 %	-30	3969 990 003	-1.1	0.000 000	0.000
	100 %	-20	3969 990 001	-3.4	0.000 000	-0.001
	100 %	-10	3969 990 007	2.5	0.000 000	0.001
	100 %	0	3969 990 005	1.0	0.000 000	0.000
	100 %	+10	3969 990 003	-1.3	0.000 000	0.000
	100 %	+30	3969 990 008	3.3	0.000 000	0.001
	100 %	+40	3969 989 999	-5.2	0.000 000	-0.001
	100 %	+50	3969 990 011	6.5	0.000 000	0.002
	Batt. Endpoint	+20	3969 990 003	-1.2	0.000 000	0.000

▣ BandWidth: 30 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
3715.020	100 %	+20(Ref)	3715 020 003	0.0	0.000 000	0.000
	100 %	-30	3715 020 007	3.4	0.000 000	0.001
	100 %	-20	3715 020 001	-2.3	0.000 000	-0.001
	100 %	-10	3715 019 999	-4.6	0.000 000	-0.001
	100 %	0	3715 020 003	-0.1	0.000 000	0.000
	100 %	+10	3715 020 006	2.2	0.000 000	0.001
	100 %	+30	3715 020 004	0.2	0.000 000	0.000
	100 %	+40	3715 020 006	3.0	0.000 000	0.001
	100 %	+50	3715 019 996	-7.8	0.000 000	-0.002
	Batt. Endpoint	+20	3715 020 001	-2.1	0.000 000	-0.001
3964.980	100 %	+20(Ref)	3964 980 001	0.0	0.000 000	0.000
	100 %	-30	3964 980 002	1.0	0.000 000	0.000
	100 %	-20	3964 980 002	0.7	0.000 000	0.000
	100 %	-10	3964 980 000	-0.9	0.000 000	0.000
	100 %	0	3964 980 004	2.7	0.000 000	0.001
	100 %	+10	3964 980 005	4.0	0.000 000	0.001
	100 %	+30	3964 980 003	2.4	0.000 000	0.001
	100 %	+40	3964 980 007	5.4	0.000 000	0.001
	100 %	+50	3964 980 008	6.7	0.000 000	0.002
	Batt. Endpoint	+20	3964 980 001	0.1	0.000 000	0.000

▣ BandWidth: 40 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
3720.000	100 %	+20(Ref)	3720 000 002	0.0	0.000 000	0.000
	100 %	-30	3719 999 999	-3.5	0.000 000	-0.001
	100 %	-20	3720 000 003	1.0	0.000 000	0.000
	100 %	-10	3720 000 005	3.0	0.000 000	0.001
	100 %	0	3720 000 004	1.2	0.000 000	0.000
	100 %	+10	3720 000 000	-2.8	0.000 000	-0.001
	100 %	+30	3719 999 999	-3.7	0.000 000	-0.001
	100 %	+40	3720 000 001	-1.7	0.000 000	0.000
	100 %	+50	3720 000 000	-2.6	0.000 000	-0.001
	Batt. Endpoint	+20	3719 999 998	-4.5	0.000 000	-0.001
3960.000	100 %	+20(Ref)	3959 999 996	0.0	0.000 000	0.000
	100 %	-30	3959 999 997	0.6	0.000 000	0.000
	100 %	-20	3959 999 997	1.1	0.000 000	0.000
	100 %	-10	3959 999 996	-0.2	0.000 000	0.000
	100 %	0	3959 999 999	3.1	0.000 000	0.001
	100 %	+10	3959 999 999	3.1	0.000 000	0.001
	100 %	+30	3959 999 994	-1.8	0.000 000	0.000
	100 %	+40	3959 999 997	0.7	0.000 000	0.000
	100 %	+50	3959 999 994	-1.9	0.000 000	0.000
	Batt. Endpoint	+20	3959 999 998	2.1	0.000 000	0.001

▣ BandWidth: 50 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
3725.010	100 %	+20(Ref)	3725 009 998	0.0	0.000 000	0.000
	100 %	-30	3725 009 997	-1.6	0.000 000	0.000
	100 %	-20	3725 010 002	3.2	0.000 000	0.001
	100 %	-10	3725 009 995	-3.8	0.000 000	-0.001
	100 %	0	3725 009 999	0.3	0.000 000	0.000
	100 %	+10	3725 010 004	5.8	0.000 000	0.002
	100 %	+30	3725 010 002	4.0	0.000 000	0.001
	100 %	+40	3725 010 001	2.8	0.000 000	0.001
	100 %	+50	3725 010 000	1.4	0.000 000	0.000
	Batt. Endpoint	+20	3725 010 002	3.2	0.000 000	0.001
3954.990	100 %	+20(Ref)	3954 990 000	0.0	0.000 000	0.000
	100 %	-30	3954 989 998	-2.0	0.000 000	-0.001
	100 %	-20	3954 989 999	-1.0	0.000 000	0.000
	100 %	-10	3954 990 007	6.7	0.000 000	0.002
	100 %	0	3954 990 001	0.6	0.000 000	0.000
	100 %	+10	3954 989 995	-5.1	0.000 000	-0.001
	100 %	+30	3954 989 999	-0.7	0.000 000	0.000
	100 %	+40	3954 989 994	-6.3	0.000 000	-0.002
	100 %	+50	3954 990 002	2.5	0.000 000	0.001
	Batt. Endpoint	+20	3954 990 001	0.7	0.000 000	0.000

▣ BandWidth: 60 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
3730.020	100 %	+20(Ref)	3730 020 004	0.0	0.000 000	0.000
	100 %	-30	3730 020 005	1.3	0.000 000	0.000
	100 %	-20	3730 020 003	-1.4	0.000 000	0.000
	100 %	-10	3730 020 010	6.0	0.000 000	0.002
	100 %	0	3730 019 998	-5.8	0.000 000	-0.002
	100 %	+10	3730 020 005	0.7	0.000 000	0.000
	100 %	+30	3730 020 000	-3.9	0.000 000	-0.001
	100 %	+40	3730 020 006	1.6	0.000 000	0.000
	100 %	+50	3730 020 006	1.9	0.000 000	0.001
	Batt. Endpoint	+20	3730 020 000	-4.3	0.000 000	-0.001
3949.980	100 %	+20(Ref)	3949 980 008	0.0	0.000 000	0.000
	100 %	-30	3949 980 011	3.1	0.000 000	0.001
	100 %	-20	3949 980 008	0.3	0.000 000	0.000
	100 %	-10	3949 980 011	3.7	0.000 000	0.001
	100 %	0	3949 980 008	0.0	0.000 000	0.000
	100 %	+10	3949 980 009	1.5	0.000 000	0.000
	100 %	+30	3949 980 007	-1.2	0.000 000	0.000
	100 %	+40	3949 980 006	-1.2	0.000 000	0.000
	100 %	+50	3949 980 006	-1.4	0.000 000	0.000
	Batt. Endpoint	+20	3949 980 009	1.8	0.000 000	0.000

▣ BandWidth: 70 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
3735.000	100 %	+20(Ref)	3734 999 997	0.0	0.000 000	0.000
	100 %	-30	3734 999 996	-1.2	0.000 000	0.000
	100 %	-20	3734 999 999	1.9	0.000 000	0.001
	100 %	-10	3734 999 995	-2.4	0.000 000	-0.001
	100 %	0	3734 999 993	-4.2	0.000 000	-0.001
	100 %	+10	3734 999 995	-2.5	0.000 000	-0.001
	100 %	+30	3734 999 997	-0.3	0.000 000	0.000
	100 %	+40	3734 999 996	-0.8	0.000 000	0.000
	100 %	+50	3734 999 995	-2.2	0.000 000	-0.001
	Batt. Endpoint	+20	3734 999 996	-1.6	0.000 000	0.000
3945.000	100 %	+20(Ref)	3944 999 998	0.0	0.000 000	0.000
	100 %	-30	3945 000 003	5.1	0.000 000	0.001
	100 %	-20	3944 999 996	-1.7	0.000 000	0.000
	100 %	-10	3944 999 992	-5.3	0.000 000	-0.001
	100 %	0	3944 999 999	1.8	0.000 000	0.000
	100 %	+10	3944 999 999	1.4	0.000 000	0.000
	100 %	+30	3945 000 005	6.9	0.000 000	0.002
	100 %	+40	3944 999 998	-0.1	0.000 000	0.000
	100 %	+50	3944 999 998	0.8	0.000 000	0.000
	Batt. Endpoint	+20	3944 999 996	-1.2	0.000 000	0.000

▣ BandWidth: 80 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
3740.010	100 %	+20(Ref)	3740 010 001	0.0	0.000 000	0.000
	100 %	-30	3740 010 003	2.1	0.000 000	0.001
	100 %	-20	3740 010 001	0.1	0.000 000	0.000
	100 %	-10	3740 010 004	3.3	0.000 000	0.001
	100 %	0	3740 010 006	4.9	0.000 000	0.001
	100 %	+10	3740 010 005	3.7	0.000 000	0.001
	100 %	+30	3740 010 002	0.8	0.000 000	0.000
	100 %	+40	3740 010 005	3.7	0.000 000	0.001
	100 %	+50	3740 009 999	-2.1	0.000 000	-0.001
	Batt. Endpoint	+20	3740 009 996	-5.2	0.000 000	-0.001
3939.990	100 %	+20(Ref)	3939 990 004	0.0	0.000 000	0.000
	100 %	-30	3939 990 005	1.2	0.000 000	0.000
	100 %	-20	3939 990 012	8.5	0.000 000	0.002
	100 %	-10	3939 990 004	0.0	0.000 000	0.000
	100 %	0	3939 990 006	2.5	0.000 000	0.001
	100 %	+10	3939 990 003	-1.1	0.000 000	0.000
	100 %	+30	3939 990 003	-1.5	0.000 000	0.000
	100 %	+40	3939 990 007	3.0	0.000 000	0.001
	100 %	+50	3939 990 010	6.0	0.000 000	0.002
	Batt. Endpoint	+20	3939 990 010	6.0	0.000 000	0.002

▣ BandWidth: 90 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
3745.020	100 %	+20(Ref)	3745 019 997	0.0	0.000 000	0.000
	100 %	-30	3745 019 997	-0.7	0.000 000	0.000
	100 %	-20	3745 020 001	3.7	0.000 000	0.001
	100 %	-10	3745 019 996	-1.8	0.000 000	0.000
	100 %	0	3745 019 997	-0.9	0.000 000	0.000
	100 %	+10	3745 019 998	0.7	0.000 000	0.000
	100 %	+30	3745 019 995	-2.4	0.000 000	-0.001
	100 %	+40	3745 019 997	-0.4	0.000 000	0.000
	100 %	+50	3745 019 998	0.7	0.000 000	0.000
	Batt. Endpoint	+20	3745 019 996	-1.6	0.000 000	0.000
3934.980	100 %	+20(Ref)	3934 979 999	0.0	0.000 000	0.000
	100 %	-30	3934 980 002	2.3	0.000 000	0.001
	100 %	-20	3934 980 004	4.3	0.000 000	0.001
	100 %	-10	3934 979 997	-2.1	0.000 000	-0.001
	100 %	0	3934 980 002	2.4	0.000 000	0.001
	100 %	+10	3934 980 003	4.0	0.000 000	0.001
	100 %	+30	3934 979 999	0.0	0.000 000	0.000
	100 %	+40	3934 979 996	-3.1	0.000 000	-0.001
	100 %	+50	3934 980 001	1.7	0.000 000	0.000
	Batt. Endpoint	+20	3934 979 999	-0.6	0.000 000	0.000

▣ BandWidth: 100 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

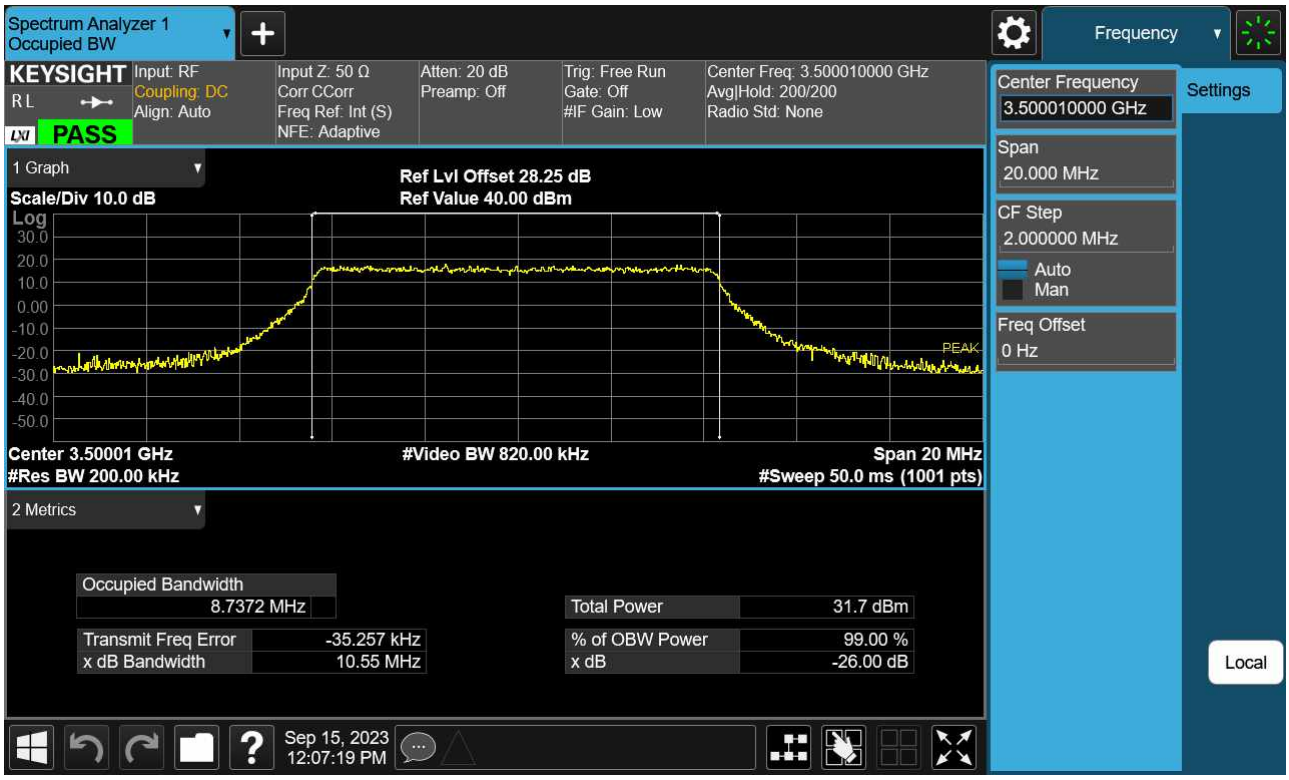
Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
3750.000	100 %	+20(Ref)	3750 000 003	0.0	0.000 000	0.000
	100 %	-30	3750 000 000	-3.7	0.000 000	-0.001
	100 %	-20	3750 000 006	2.6	0.000 000	0.001
	100 %	-10	3750 000 006	2.6	0.000 000	0.001
	100 %	0	3750 000 003	0.0	0.000 000	0.000
	100 %	+10	3750 000 002	-1.1	0.000 000	0.000
	100 %	+30	3750 000 000	-3.6	0.000 000	-0.001
	100 %	+40	3750 000 001	-2.1	0.000 000	-0.001
	100 %	+50	3750 000 000	-3.0	0.000 000	-0.001
	Batt. Endpoint	+20	3750 000 001	-2.3	0.000 000	-0.001
3930.000	100 %	+20(Ref)	3930 000 006	0.0	0.000 000	0.000
	100 %	-30	3930 000 004	-1.6	0.000 000	0.000
	100 %	-20	3930 000 009	2.9	0.000 000	0.001
	100 %	-10	3930 000 003	-2.7	0.000 000	-0.001
	100 %	0	3930 000 004	-1.5	0.000 000	0.000
	100 %	+10	3930 000 004	-1.5	0.000 000	0.000
	100 %	+30	3930 000 012	6.3	0.000 000	0.002
	100 %	+40	3930 000 012	6.4	0.000 000	0.002
	100 %	+50	3930 000 005	-0.3	0.000 000	0.000
	Batt. Endpoint	+20	3930 000 008	2.1	0.000 000	0.001

10. TEST PLOTS(3450 MHz - 3550 MHz)

Sub6 n77. Occupied Bandwidth Plot (10 M BW Ch.633334 BPSK)

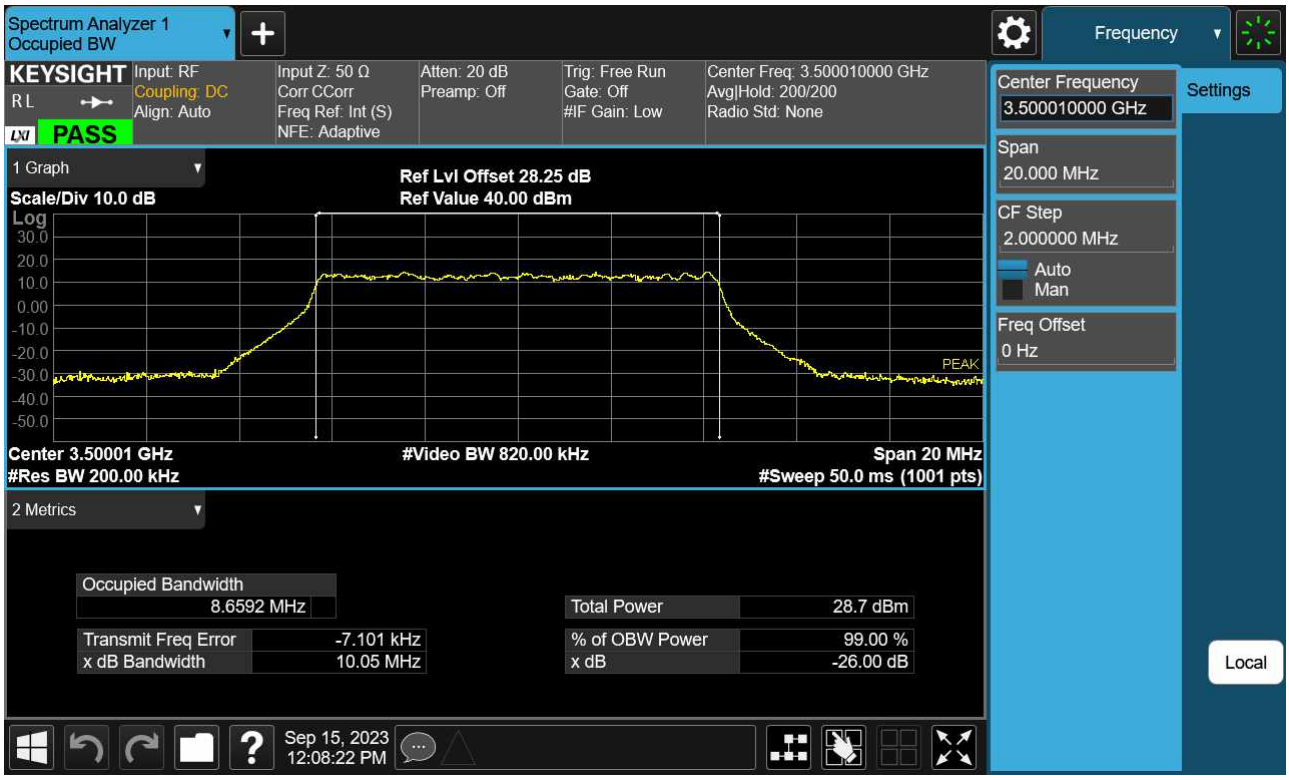
Sub6 n77. Occupied Bandwidth Plot (10 M BW Ch.633334 QPSK)

Sub6 n77. Occupied Bandwidth Plot (10 M BW Ch.633334 16QAM)



Sub6 n77. Occupied Bandwidth Plot (10 M BW Ch.633334 64QAM)

Sub6 n77. Occupied Bandwidth Plot (10 M BW Ch.633334 256QAM)



Sub6 n77. Occupied Bandwidth Plot (15 M BW Ch.633334 BPSK)

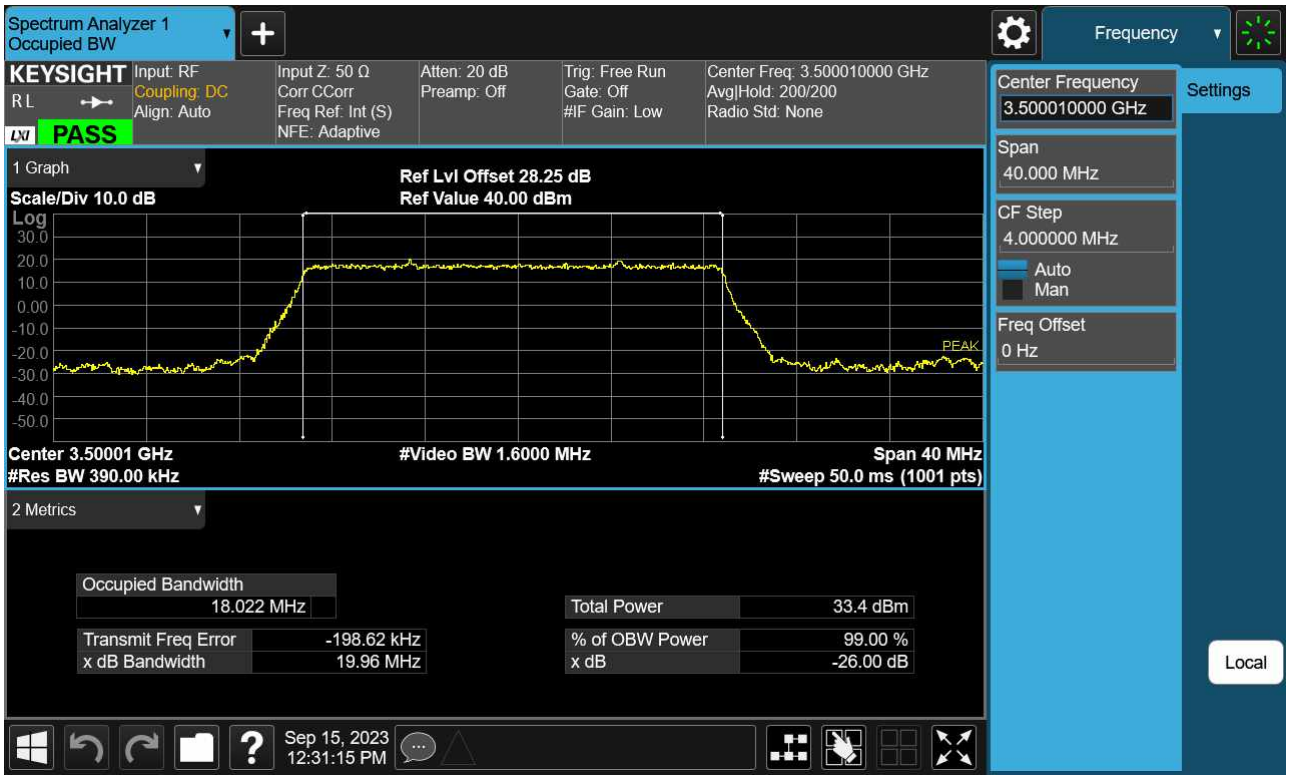
Sub6 n77. Occupied Bandwidth Plot (15 M BW Ch.633334 QPSK)

Sub6 n77. Occupied Bandwidth Plot (15 M BW Ch.633334 16QAM)

Sub6 n77. Occupied Bandwidth Plot (15 M BW Ch.633334 64QAM)

Sub6 n77. Occupied Bandwidth Plot (15 M BW Ch.633334 256QAM)

Sub6 n77. Occupied Bandwidth Plot (20 M BW Ch.633334 BPSK)



Sub6 n77. Occupied Bandwidth Plot (20 M BW Ch.633334 QPSK)

Sub6 n77. Occupied Bandwidth Plot (20 M BW Ch.633334 16QAM)

Sub6 n77. Occupied Bandwidth Plot (20 M BW Ch.633334 64QAM)

Sub6 n77. Occupied Bandwidth Plot (20 M BW Ch.633334 256QAM)

Sub6 n77. Occupied Bandwidth Plot (30 M BW Ch.633334 BPSK)

Sub6 n77. Occupied Bandwidth Plot (30 M BW Ch.633334 QPSK)

Sub6 n77. Occupied Bandwidth Plot (30 M BW Ch.633334 16QAM)

Sub6 n77. Occupied Bandwidth Plot (30 M BW Ch.633334 64QAM)

Sub6 n77. Occupied Bandwidth Plot (30 M BW Ch.633334 256QAM)

Sub6 n77. Occupied Bandwidth Plot (40 M BW Ch.633334 BPSK)

Sub6 n77. Occupied Bandwidth Plot (40 M BW Ch.633334 QPSK)

Sub6 n77. Occupied Bandwidth Plot (40 M BW Ch.633334 16QAM)

Sub6 n77. Occupied Bandwidth Plot (40 M BW Ch.633334 64QAM)

Sub6 n77. Occupied Bandwidth Plot (40 M BW Ch.633334 256QAM)

Sub6 n77. Occupied Bandwidth Plot (50 M BW Ch.633334 BPSK)

Sub6 n77. Occupied Bandwidth Plot (50 M BW Ch.633334 QPSK)

Sub6 n77. Occupied Bandwidth Plot (50 M BW Ch.633334 16QAM)

Sub6 n77. Occupied Bandwidth Plot (50 M BW Ch.633334 64QAM)

Sub6 n77. Occupied Bandwidth Plot (50 M BW Ch.633334 256QAM)

Sub6 n77. Occupied Bandwidth Plot (60 M BW Ch.633334 BPSK)

Sub6 n77. Occupied Bandwidth Plot (60 M BW Ch.633334 QPSK)

Sub6 n77. Occupied Bandwidth Plot (60 M BW Ch.633334 16QAM)

Sub6 n77. Occupied Bandwidth Plot (60 M BW Ch.633334 64QAM)

Sub6 n77. Occupied Bandwidth Plot (60 M BW Ch.633334 256QAM)

Sub6 n77. Occupied Bandwidth Plot (70 M BW Ch.633334 BPSK)

Sub6 n77. Occupied Bandwidth Plot (70 M BW Ch.633334 QPSK)

Sub6 n77. Occupied Bandwidth Plot (70 M BW Ch.633334 16QAM)

Sub6 n77. Occupied Bandwidth Plot (70 M BW Ch.633334 64QAM)

Sub6 n77. Occupied Bandwidth Plot (70 M BW Ch.633334 256QAM)

Sub6 n77. Occupied Bandwidth Plot (80 M BW Ch.633334 BPSK)

Sub6 n77. Occupied Bandwidth Plot (80 M BW Ch.633334 QPSK)

Sub6 n77. Occupied Bandwidth Plot (80 M BW Ch.633334 16QAM)

Sub6 n77. Occupied Bandwidth Plot (80 M BW Ch.633334 64QAM)

Sub6 n77. Occupied Bandwidth Plot (80 M BW Ch.633334 256QAM)

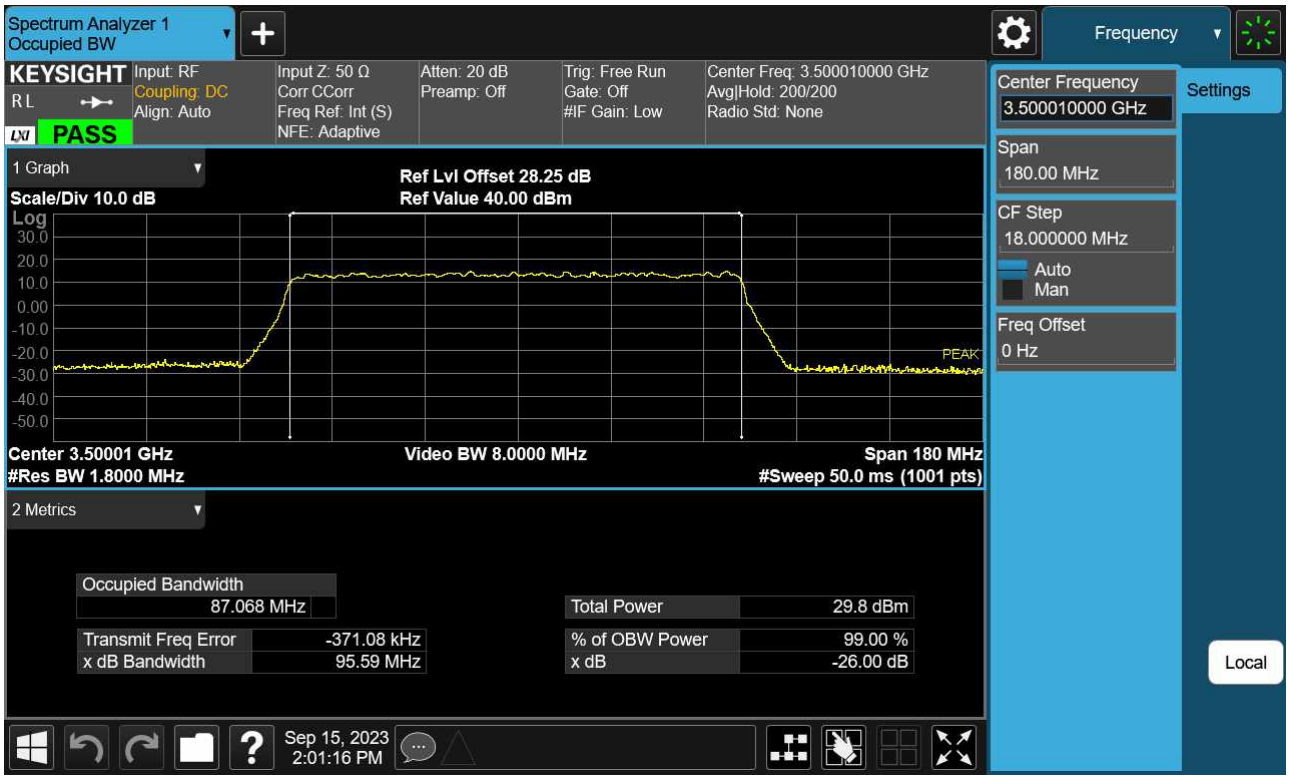
Sub6 n77. Occupied Bandwidth Plot (90 M BW Ch.633334 BPSK)

Sub6 n77. Occupied Bandwidth Plot (90 M BW Ch.633334 QPSK)

Sub6 n77. Occupied Bandwidth Plot (90 M BW Ch.633334 16QAM)

Sub6 n77. Occupied Bandwidth Plot (90 M BW Ch.633334 64QAM)

Sub6 n77. Occupied Bandwidth Plot (90 M BW Ch.633334 256QAM)



Sub6 n77. Occupied Bandwidth Plot (100 M BW Ch.633334 BPSK)

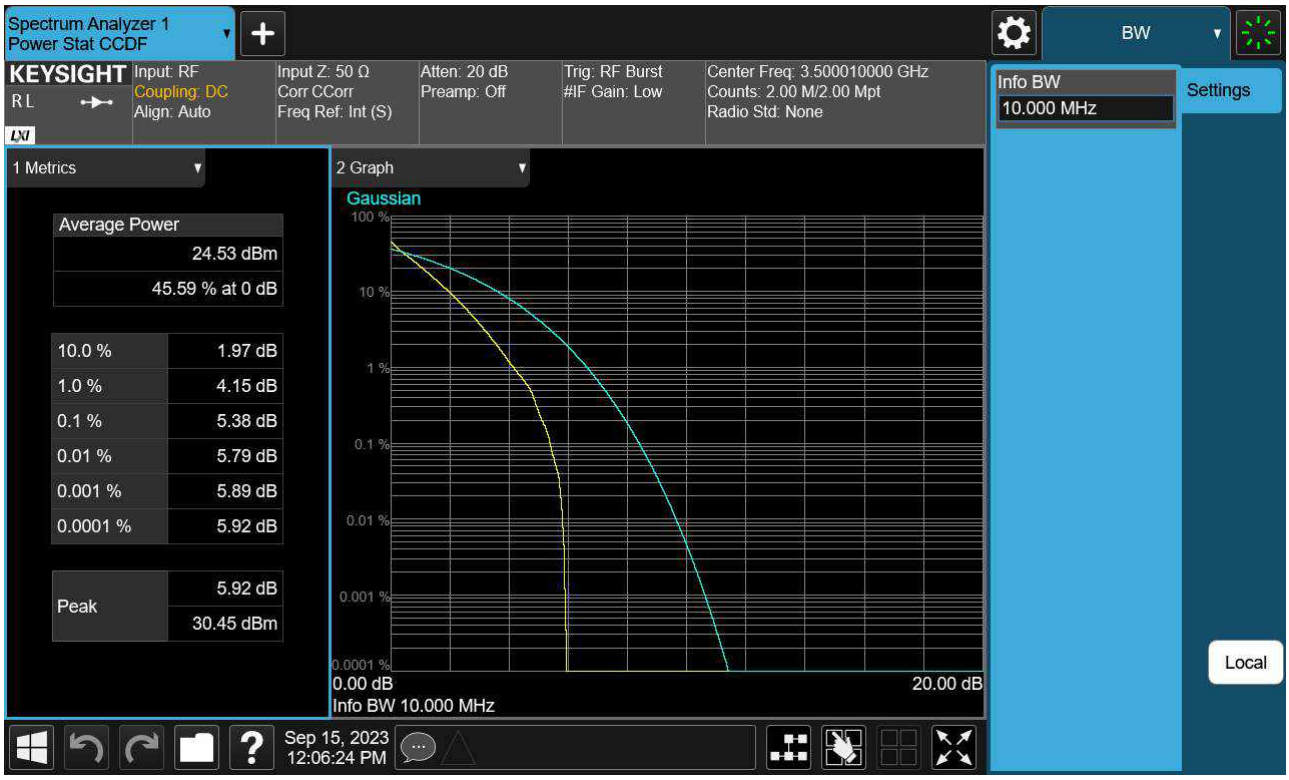
Sub6 n77. Occupied Bandwidth Plot (100 M BW Ch.633334 QPSK)

Sub6 n77. Occupied Bandwidth Plot (100 M BW Ch.633334 16QAM)

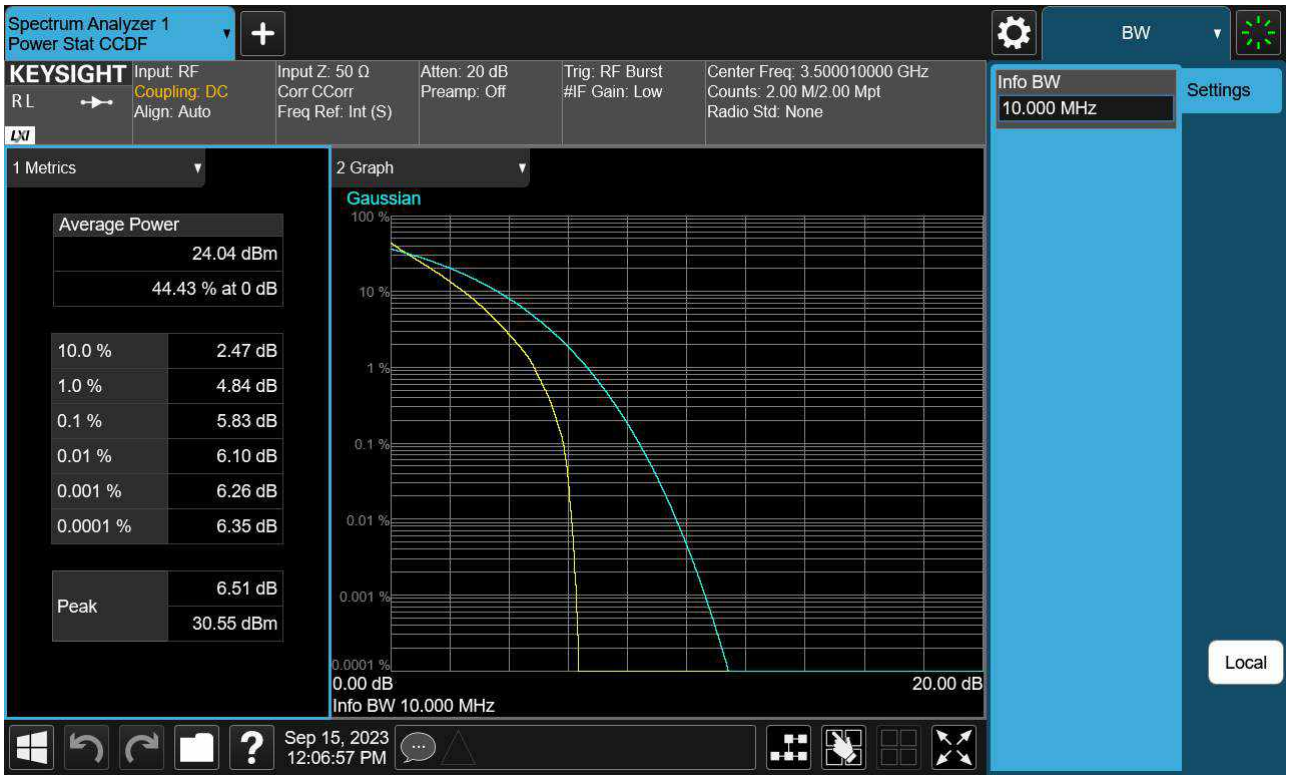
Sub6 n77. Occupied Bandwidth Plot (100 M BW Ch.633334 64QAM)

Sub6 n77. Occupied Bandwidth Plot (100 M BW Ch.633334 256QAM)

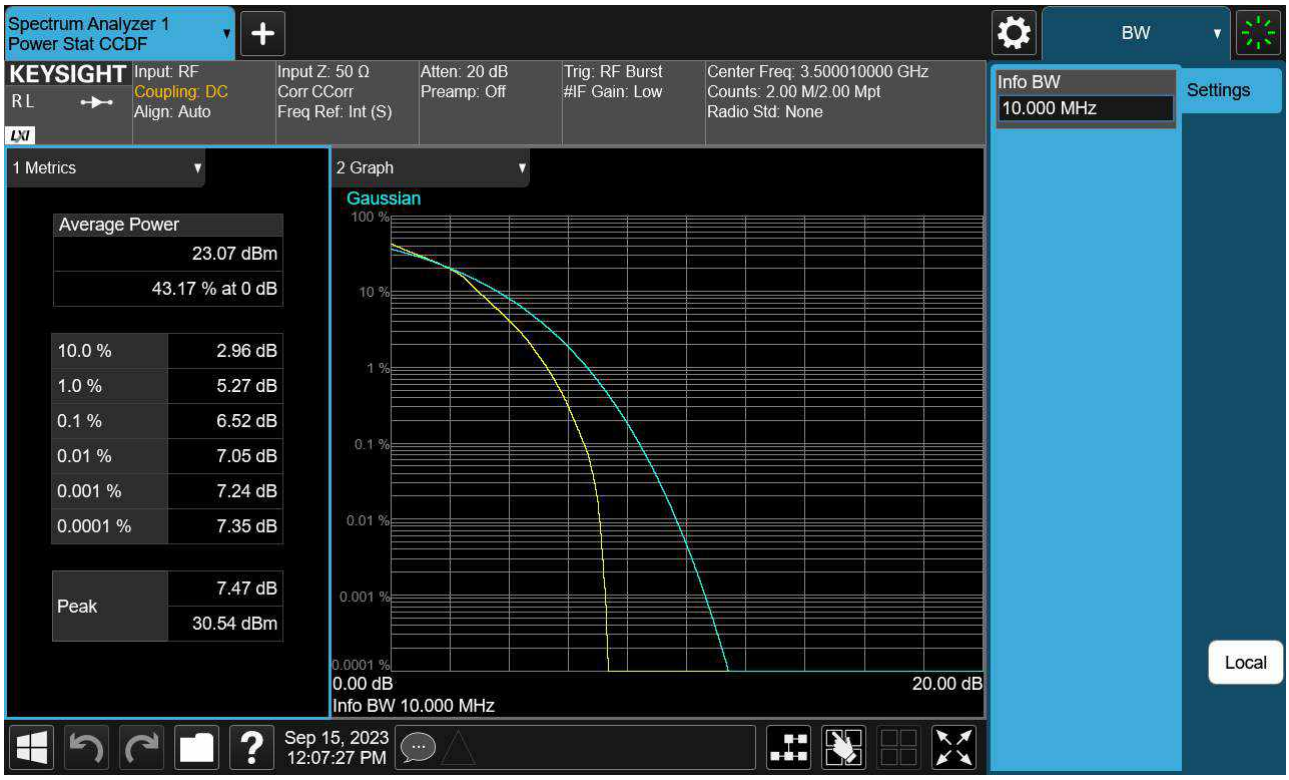
Sub6 n77. PAR Plot (10 M BW_Ch.633334_ BPSK)



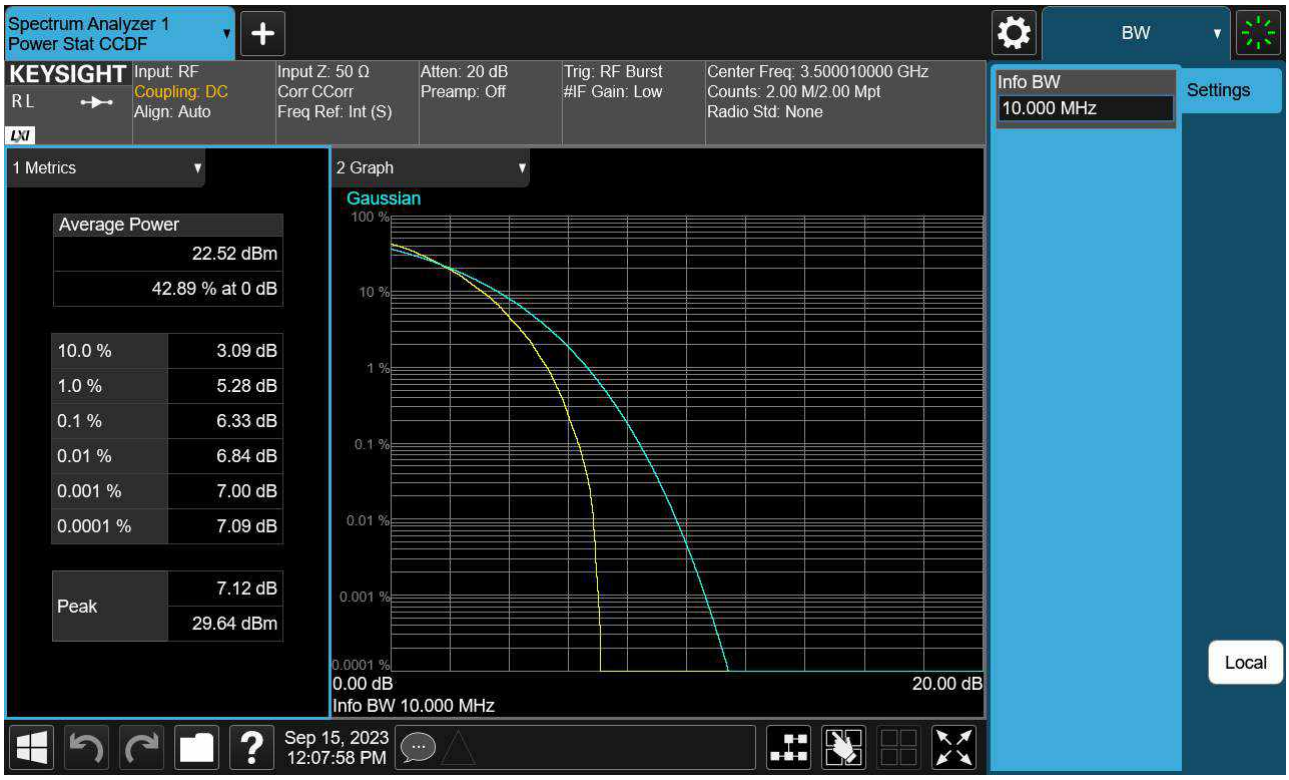
Sub6 n77. PAR Plot (10 M BW_Ch.633334_QPSK)



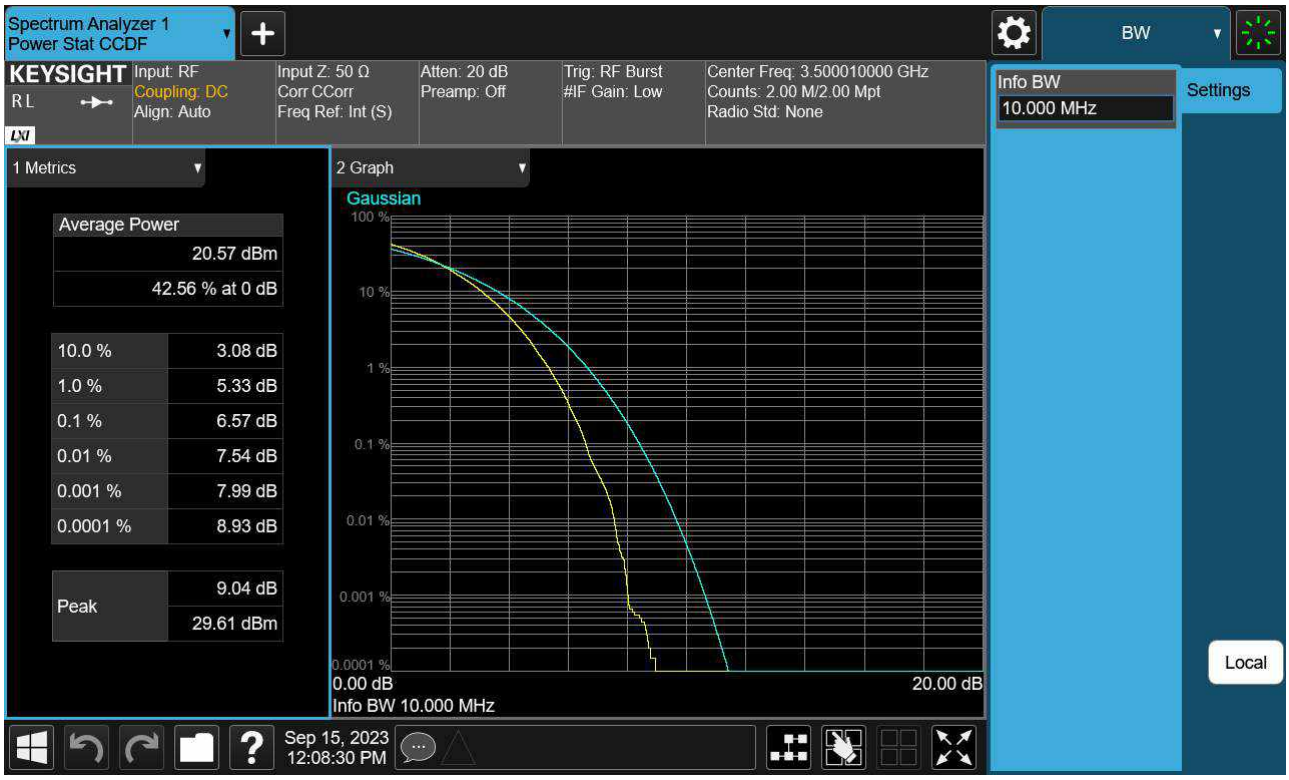
Sub6 n77. PAR Plot (10 M BW_Ch.633334_16QAM)



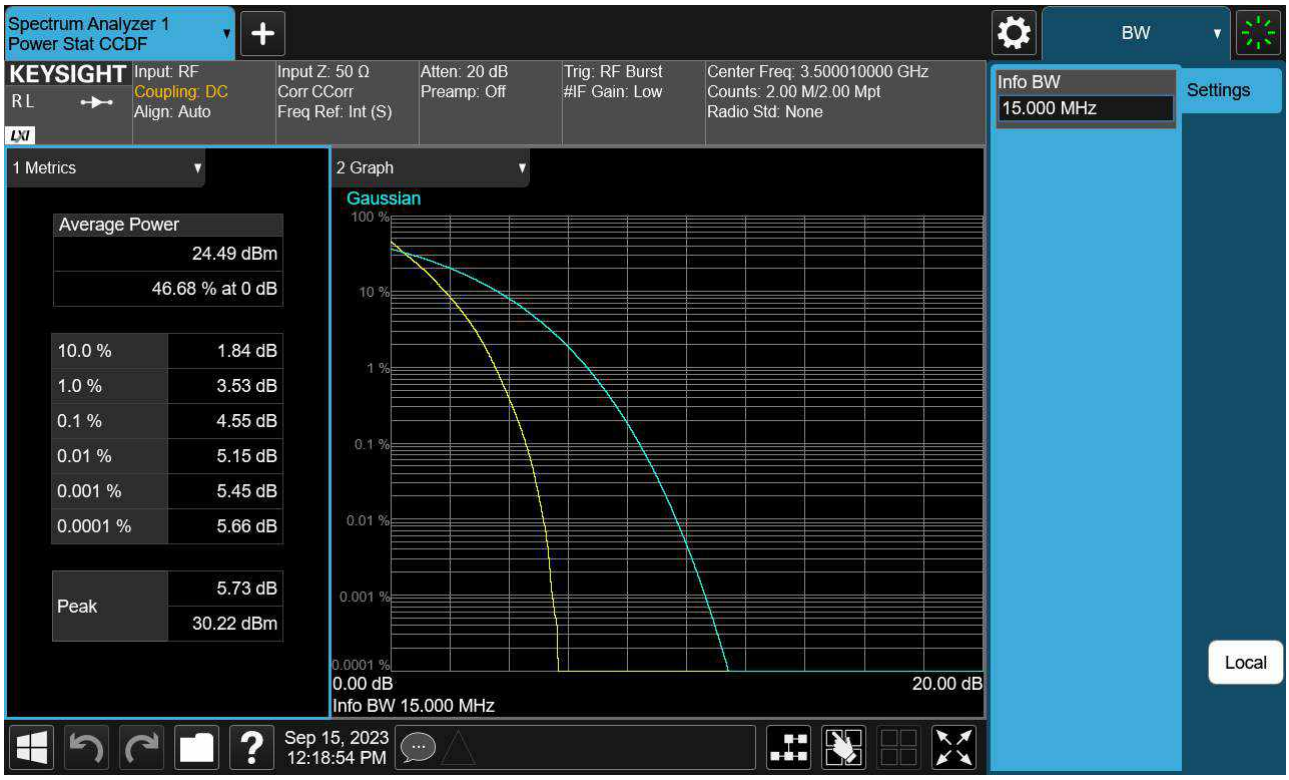
Sub6 n77. PAR Plot (10 M BW_Ch.633334_64QAM)



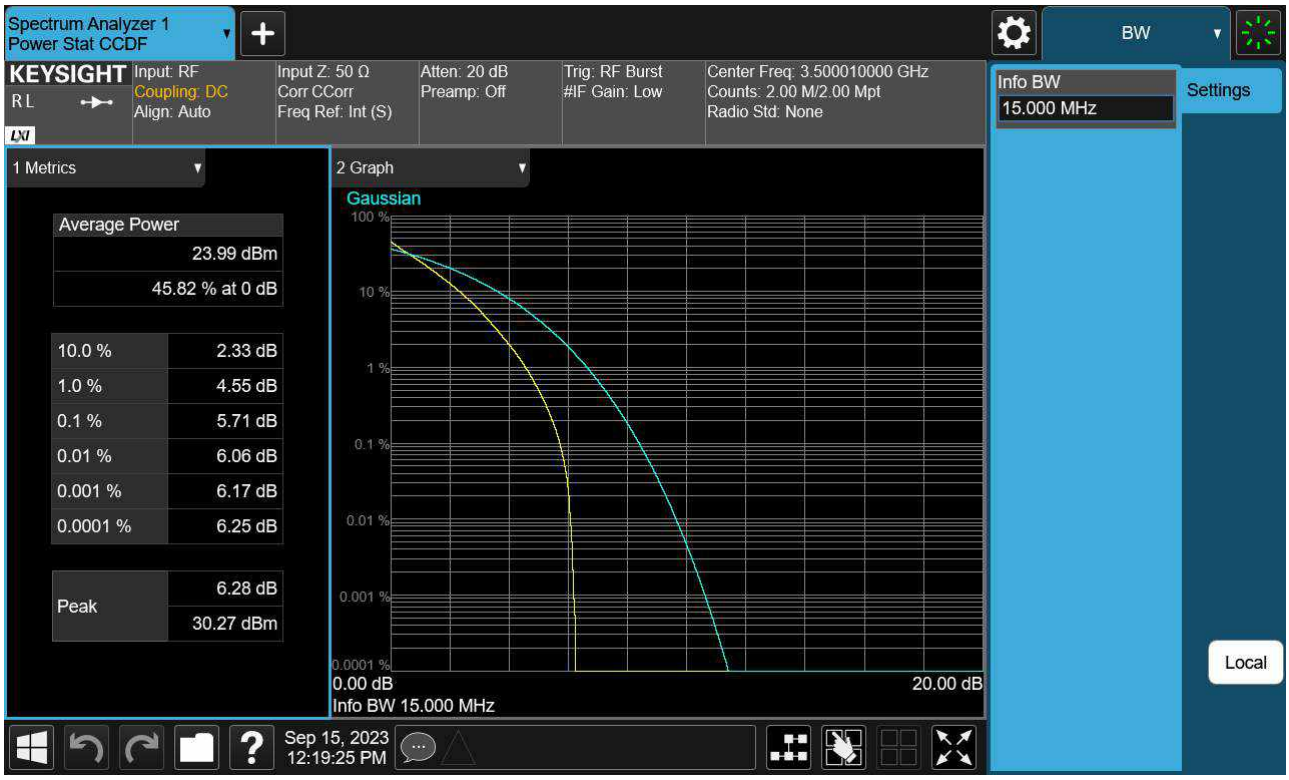
Sub6 n77. PAR Plot (10 M BW_Ch.633334_256QAM)



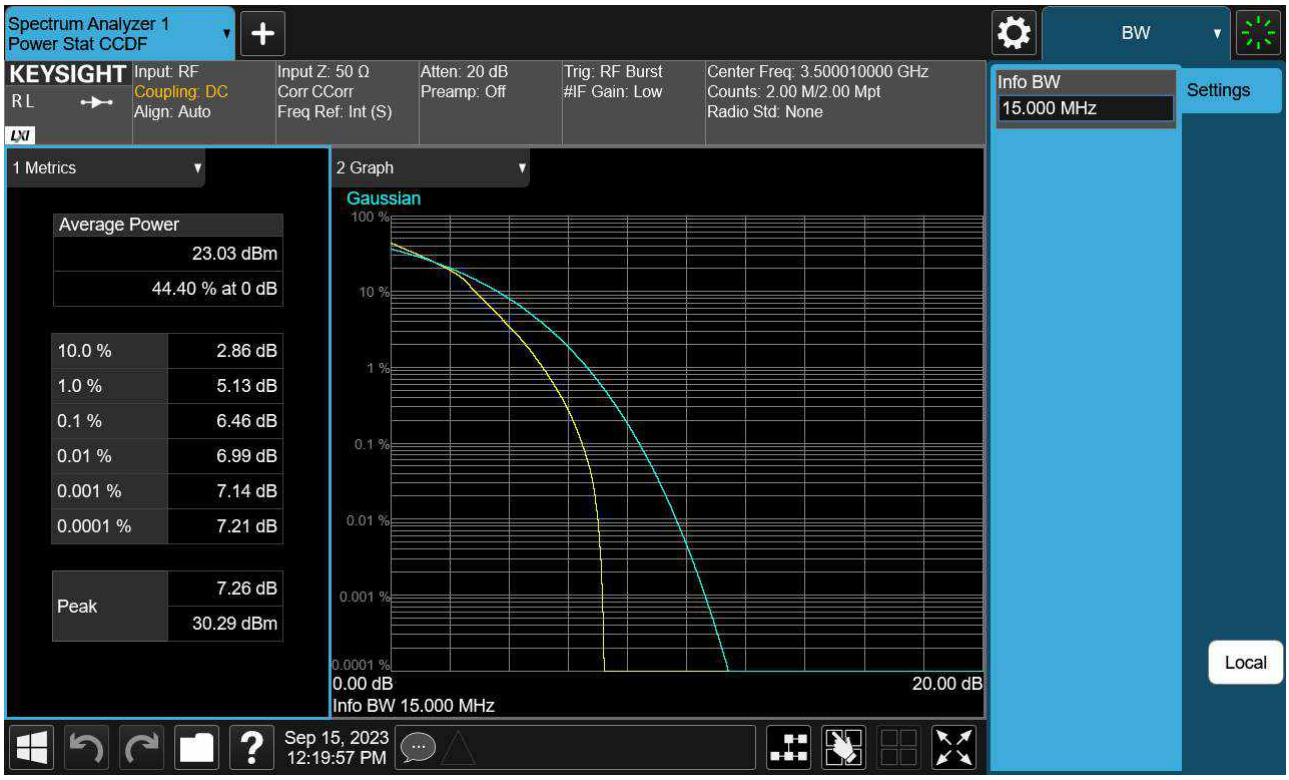
Sub6 n77. PAR Plot (15 M BW_Ch.633334_ BPSK)



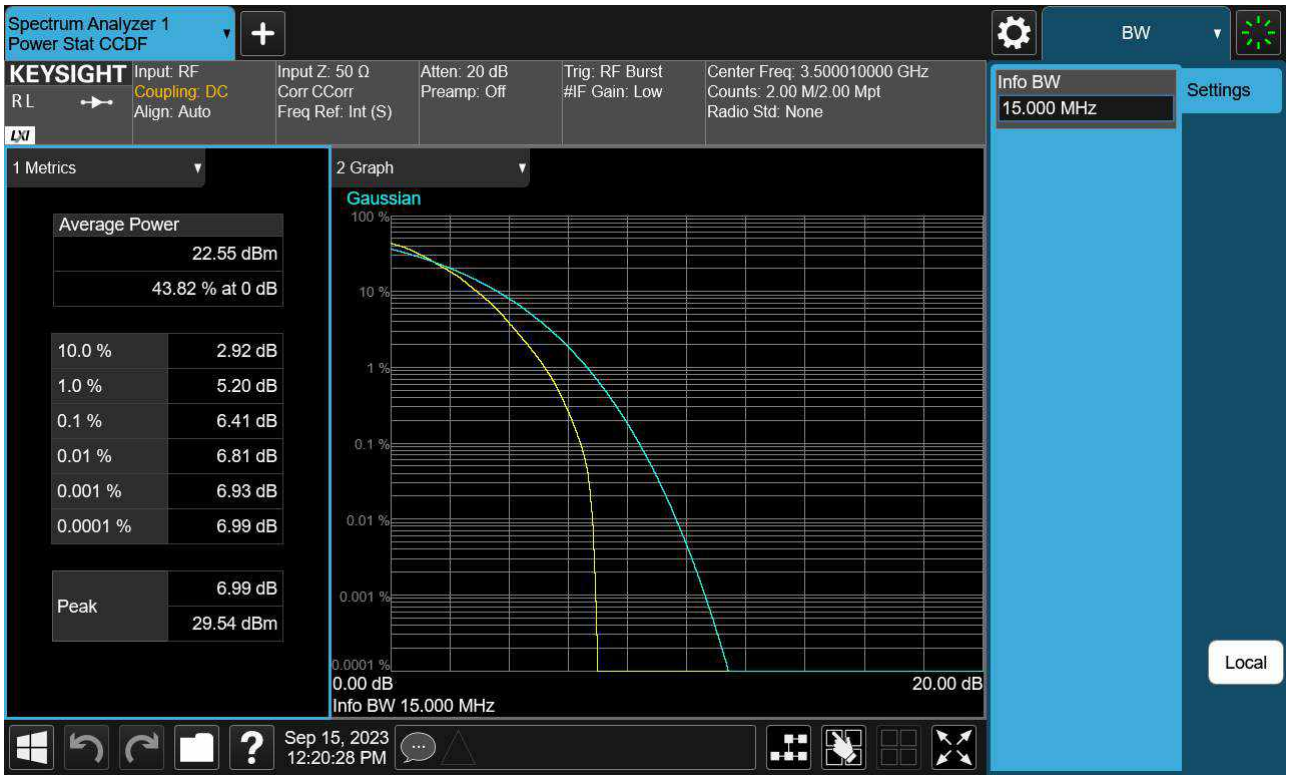
Sub6 n77. PAR Plot (15 M BW_Ch.633334_QPSK)



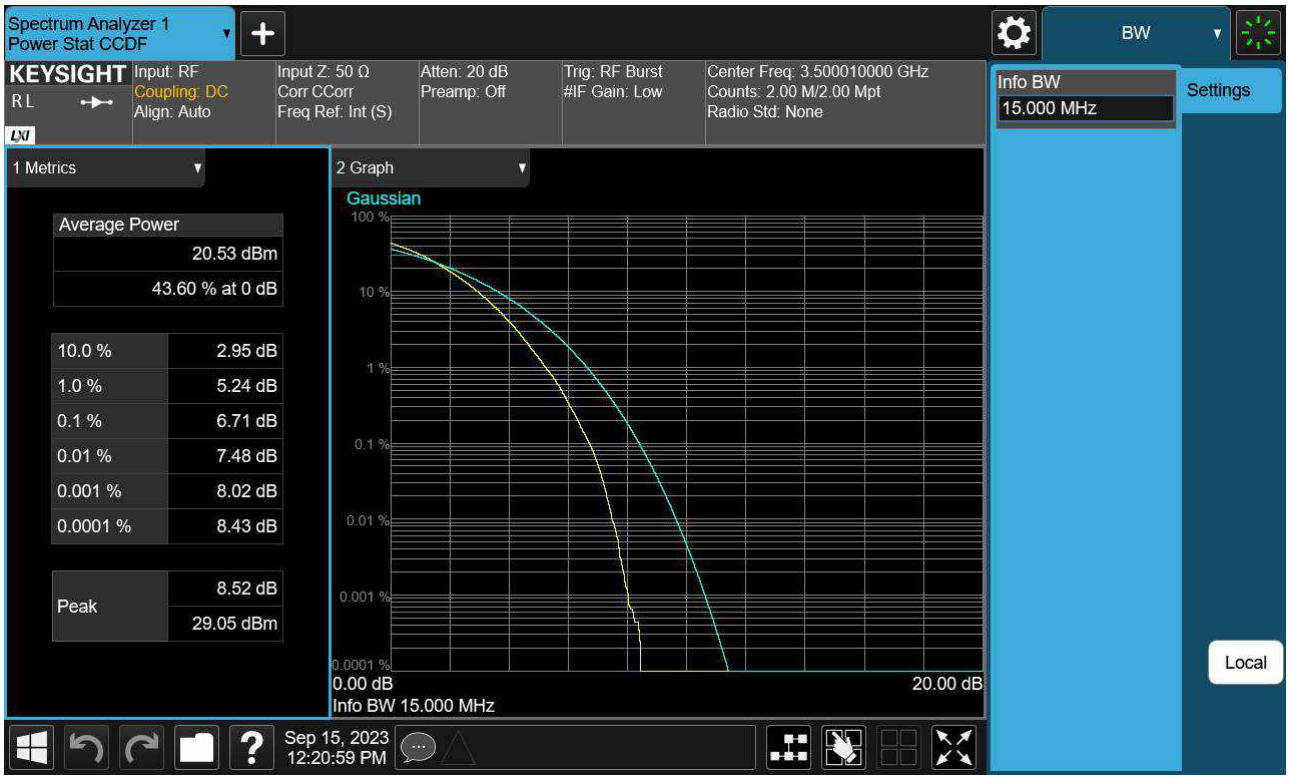
Sub6 n77. PAR Plot (15 M BW_Ch.633334_16QAM)



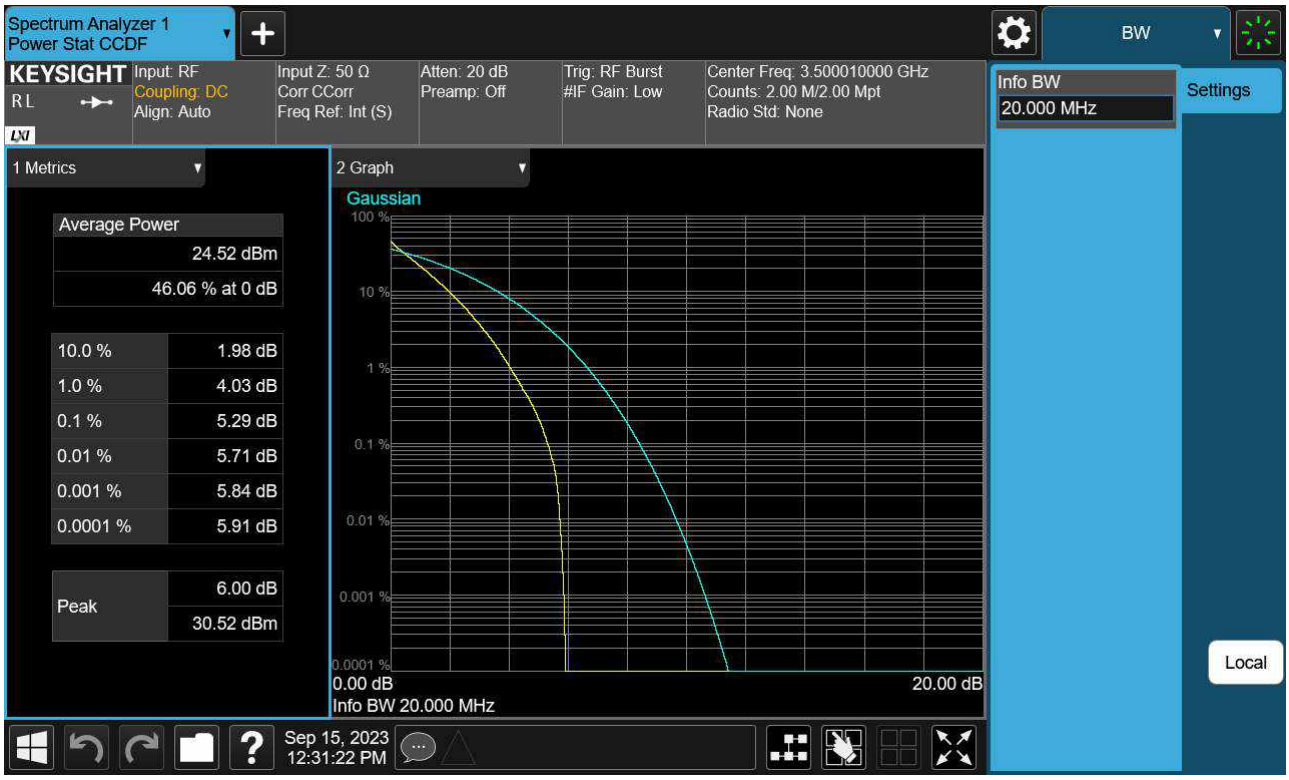
Sub6 n77. PAR Plot (15 M BW_Ch.633334_64QAM)



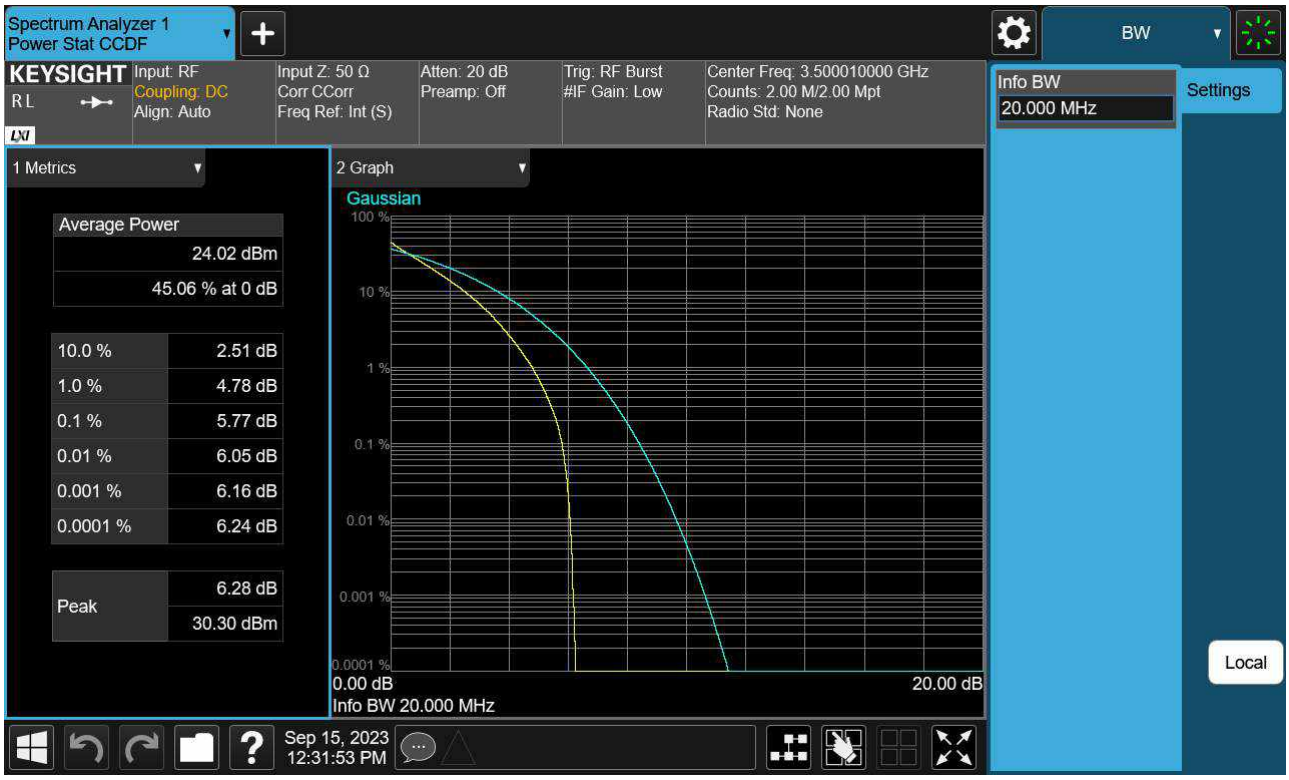
Sub6 n77. PAR Plot (15 M BW_Ch.633334_256QAM)



Sub6 n77. PAR Plot (20 M BW_Ch.633334_ BPSK)



Sub6 n77. PAR Plot (20 M BW_Ch.633334_QPSK)



Sub6 n77. PAR Plot (20 M BW_Ch.633334_16QAM)