TEST REPORT

FCC Sub6 n7 Test for TFGMEIBBCD4
Class II Permissive Change

APPLICANT
LG Electronics Inc.

REPORT NO.
HCT-RF-2409-FC007-R1

DATE OF ISSUE
October 7, 2024

Tested by
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Additional Model
TFGMEIBBCD5, TFGMEIBBCD6, TFGMEIBBCD7, TFGMEIBBCD8, TFGMEIBBCD9, TFGMEIBBCDA, TFGMEIBBCDB, TFGMEIBBCDC

Applicant	**LG Electronics Inc.** 10, MagokJungang-ro, Gangseo-gu, Seoul 07796, Republic of Korea
Product Name Model Name	GM Onstar Gen12 ROW TFGMEIBBCD4
Date of Test	February 27, 2023 ~ October 05, 2023 May 07, 2024 ~ June 19, 2024 (Only 256QAM)
Location of Test	■ Permanent Testing Lab ☐ On Site Testing (Address: 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Republic of Korea)
FCC ID	BEJTFGMEIBBCD4
FCC Classification	PCS Licensed Transmitter (PCB)
Test Standard Used	FCC Rule Part(s) : § 27
Test Results	PASS

REVISION HISTORY

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

Revision No.	Date of Issue	Description
0	September 26, 2024	Initial Release
1	October 07, 2024	Added the Note (Page 5, 21)

Notice

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

CONTENTS

MEASUREMENT REPORT

1. GENERAL INFORMATION

Applicant Name:	LG Electronics Inc.
Address:	10, MagokJungang-ro, Gangseo-gu, Seoul 07796, Republic of Korea
FCC ID:	BEJTFGMEIBBCD4
Application Type:	Class II Permissive Change
FCC Classification:	PCS Licensed Transmitter (PCB)
FCC Rule Part(s):	§ 27
EUT Type:	GM Onstar Gen12 ROW
Model(s):	TFGMEIBBCD4
Additional Model(s)	TFGMEIBBCD5,TFGMEIBBCD6,TFGMEIBBCD7,TFGMEIBBCD8, TFGMEIBBCD9, TFGMEIBBCDA, TFGMEIBBCDB, TFGMEIBBCDC
SCS(kHz):	15
Bandwidth(MHz):	5, 10, 15, 20
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:	2502.5 MHz – 2567.5 MHz : 5 MHz 2505.0 MHz – 2565.0 MHz : 10 MHz 2507.5 MHz – 2562.5 MHz : 15 MHz 2510.0 MHz – 2560.0 MHz : 20 MHz
Date(s) of Tests:	February 27, 2023 ~ October 05, 2023 May 07, 2024 ~ June 19, 2024 (Only 256QAM)
Serial number:	Radiated - External Antenna : EBR36018942_#30 - Internal Antenna : EBR36018942K_#14 - EBR36018942K_#30 (Only 256QAM) Conducted : EBR36018829_#069, EBR36018942K_#30 (Only 256QAM)
External Antenna Information	ANT5 : 86531607 ANT4 : 86575530 DUT4 : 85608774

 # Note :
- Original Certification : PI/2 BPSK, QPSK, 16QAM, 64QAM (Report No. HCT-RF-2308-FC002)
- C2PC : It was tested only for 256QAM

1.1. MAXIMUM OUTPUT POWER

Mode (MHz)	Tx Frequency (MHz)	Emission Designator	Modulation	EIRP External Antenna		EIRP Internal Antenna	
				Max. Power (W)	Max. Power (dBm)	Max. Power (W)	Max. Power (dBm)
Sub6 n7 (5)	2502.5 – 2567.5	4M49G7D	PI/2 BPSK	0.413	26.16	0.944	29.75
		4M51G7D	QPSK	0.410	26.13	0.910	29.59
		4M50W7D	16QAM	0.308	24.88	0.746	28.73
		4M48W7D	64QAM	0.228	23.57	0.538	27.31
		4M66W7D	256QAM	0.145	21.60	0.341	25.33
Sub6 n7 (10)	2505.0 – 2565.0	8M99G7D	PI/2 BPSK	0.387	25.88	1.007	30.03
		8M97G7D	QPSK	0.367	25.65	0.973	29.88
		8M98W7D	16QAM	0.288	24.60	0.796	29.01
		8M97W7D	64QAM	0.215	23.33	0.594	27.74
		9M00W7D	256QAM	0.137	21.38	0.384	25.84
Sub6 n7 (15)	2507.5 – 2562.5	13M5G7D	PI/2 BPSK	0.372	25.71	1.005	30.02
		13M4G7D	QPSK	0.356	25.52	0.971	29.87
		13M5W7D	16QAM	0.290	24.63	0.800	29.03
		13M5W7D	64QAM	0.208	23.18	0.585	27.67
		13M5W7D	256QAM	0.134	21.28	0.372	25.71
Sub6 n7 (20)	2510.0 – 2560.0	17M9G7D	PI/2 BPSK	0.370	25.68	0.975	29.89
		17M9G7D	QPSK	0.362	25.59	0.953	29.79
		17M9W7D	16QAM	0.291	24.64	0.776	28.90
		17M9W7D	64QAM	0.217	23.37	0.586	27.68
		17M9W7D	256QAM	0.138	21.39	0.366	25.63

2. INTRODUCTION

2.1. DESCRIPTION OF EUT

The EUT was a GM Onstar Gen12 ROW with GSM/GPRS/EGPRS/UMTS and LTE, Sub6.

2.2. MEASURING INSTRUMENT CALIBRATION

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

2.3. TEST FACILITY

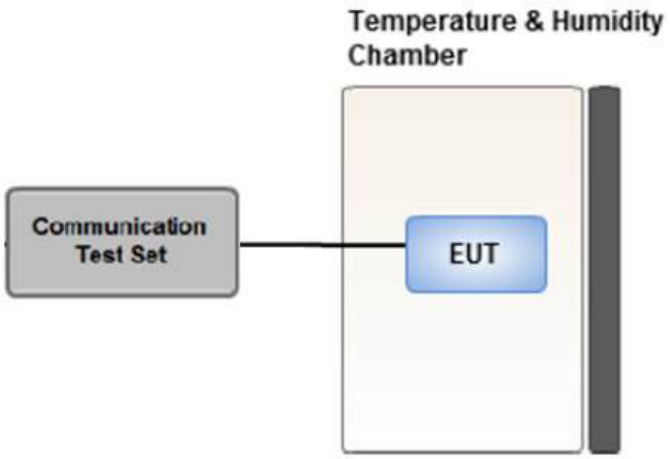
The Fully-anechoic chamber and conducted measurement facility used to collect the radiated data are located at the **74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Republic of Korea**

3. DESCRIPTION OF TESTS

3.1 TEST PROCEDURE

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

3.2 CONDUCTED OUTPUT POWER



Test setup

Test Overview

When an average power meter is used to perform RF output power measurements, the fundamental condition that measurements be performed only over durations of active transmissions at maximum output power level applies.

Conducted Output Power was tested in accordance with KDB971168 D01 Power Meas License Digital Systems v03r01, Section 5.2.

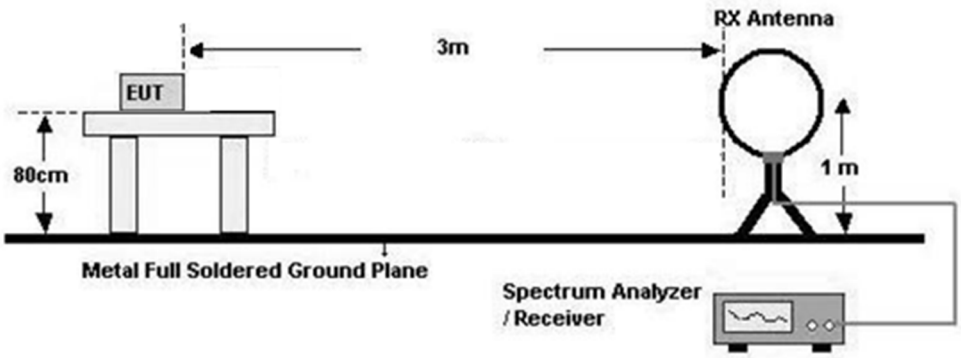
3.3 RADIATED TEST

Test Overview

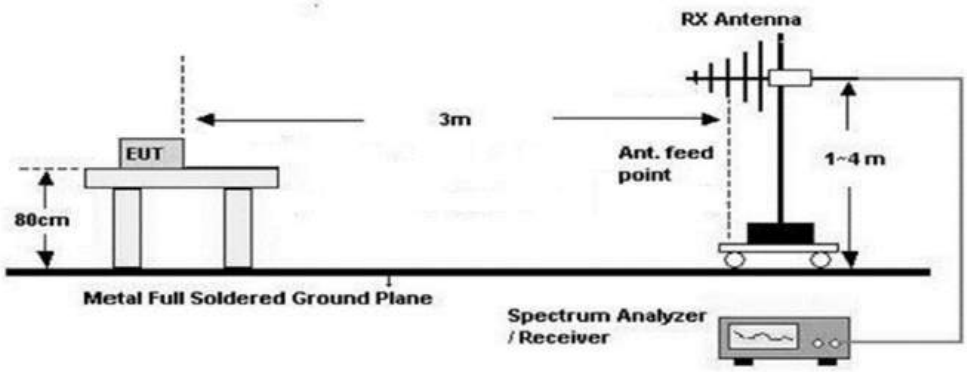
Radiated tests are performed in the semi-anechoic chamber. The equipment under test is placed on a non-conductive table on semi-anechoic chamber.

Test Configuration

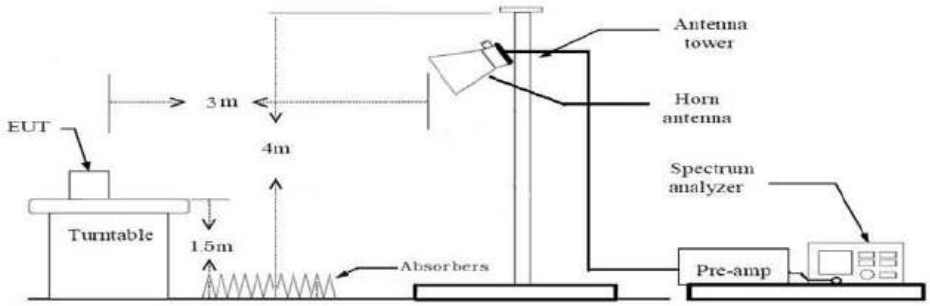
Below 30 MHz



30 MHz - 1 GHz



Above 1 GHz



3.3.1 RADIATED POWER

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 EUT is placed on a turntable, which is 0.8 m above ground plane. (Below 1 GHz)
2. The EUT is placed on a turntable, which is 1.5 m above ground plane. (Above 1 GHz)
3. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
4. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
5. EUT is set 3 m away from the receiving antenna, which is varied from 1 m to 4 m to find out the highest emissions.
6. 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.
7. Total(dBμV/m) = Measured Value(dBμV) + Cable Loss(dB) + Antenna Factor(dB/m) + Distance Factor(D.F)
8. EIRP (dBm)
   = Total (dBμV/m) + 20 log D − 104.8 (where D is the measurement distance in meters. D=3)
   = Total (dBμV/m) - 95.2(dB)
9. ERP(dBm) = EIRP(dBm) - 2.15(dB)

3.3.2 RADIATED SPURIOUS EMISSIONS

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 10th harmonics from 9 kHz.

Test Note

1. 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
2. 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.

Below 30 MHz

1. The loop antenna was placed at a location 3 m from the EUT
2. The EUT is placed on a turntable, which is 0.8 m above ground plane.
3. We have done x, y, z planes in EUT and horizontal and vertical polarization and Parallel to the ground plane in detecting antenna.
4. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
5. Distance Correction Factor(0.009 MHz – 0.490 MHz) = 40log(3 m/300 m) = - 80 dB
   Measurement Distance : 3 m
6. Distance Correction Factor(0.490 MHz – 30 MHz) = 40log(3 m/30 m) = - 40 dB
   Measurement Distance : 3 m
7. Total = Measured Value + Antenna Factor(A.F) + Cable Loss(C.L) + Distance Factor(D.F)
8. EIRP (dBm)
   = Total (dBμV/m) + 20 log D − 104.8 (where D is the measurement distance in meters. D=3)
   = Total (dBμV/m) - 95.2(dB)
9. ERP(dBm) = EIRP(dBm) - 2.15(dB)

KDB 414788 OFS and Chamber Correlation Justification

Base on FCC 15.31 (f) (2): measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field.

OFS and chamber correlation testing had been performed and chamber measured test result is the worst case test result.

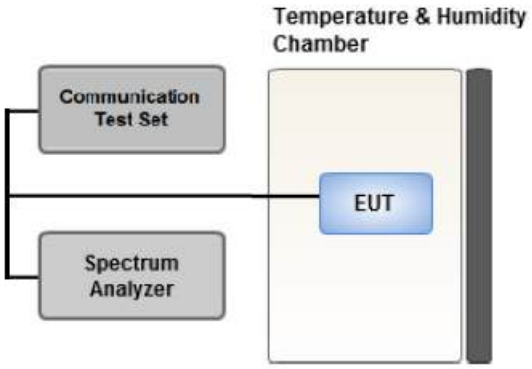
Below 1 GHz

1. The EUT is placed on a turntable, which is 0.8 m above ground plane.
2. The Hybrid antenna was placed at a location 3 m from the EUT, which is varied from 1 m to 4 m to find out the highest emissions.
3. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
4. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
5. Total = Measured Value + Antenna Factor(A.F) + Cable Loss(C.L)
7. Total(dBμV/m) = Measured Value(dBμV) + Cable Loss(dB) + Antenna Factor(dB/m) + Distance Factor(D.F)
8. EIRP (dBm)
   = Total (dBμV/m) + 20 log D − 104.8 (where D is the measurement distance in meters. D=3)
   = Total (dBμV/m) - 95.2(dB)
9. ERP(dBm) = EIRP(dBm) - 2.15(dB)

Above 1 GHz

1. The EUT is placed on a turntable, which is 1.5 m above ground plane.
2. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
3. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
4. EUT is set 3 m away from the receiving antenna, which is varied from 1 m to 4 m to find out the highest emissions.
5. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
6. Each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
7. Total(dBμV/m) = Measured Value(dBμV) + Cable Loss(dB) + Antenna Factor(dB/m) + Distance Factor(D.F)
   + H.P.F(dB) - Amp Gain(dB)
8. EIRP (dBm)
   = Total (dBμV/m) + 20 log D − 104.8 (where D is the measurement distance in meters. D=3)
   = Total (dBμV/m) - 95.2(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)

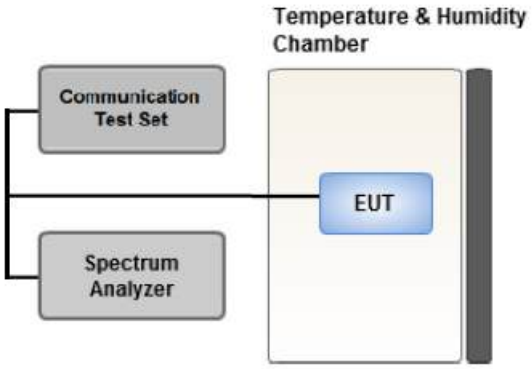
The measurement instrument must have a RBW that is greater than or equal to the OBW of the signal to be measured and a VBW ≥ 3 × RBW.

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.



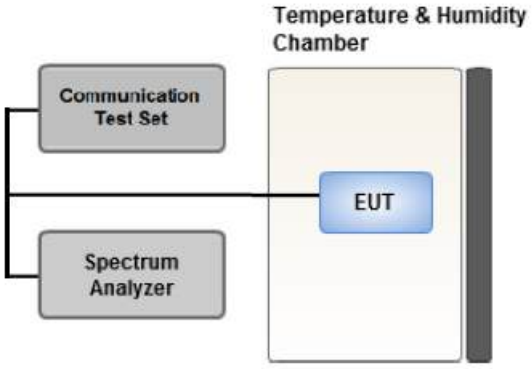
Test setup

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

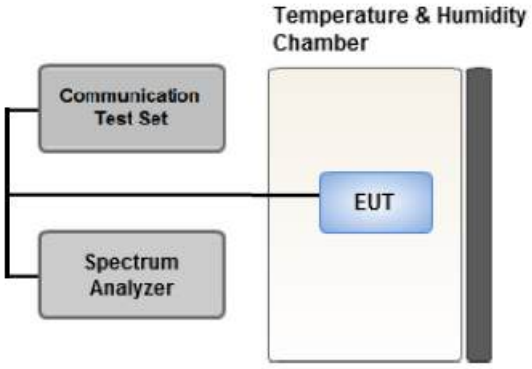
Test Overview

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 CHANNEL 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 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

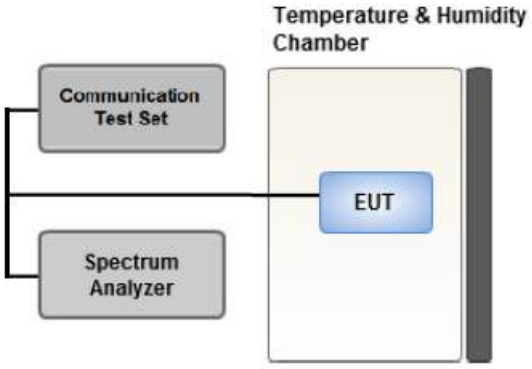
1. Start and stop frequency were set such that the band edge would be placed in the center of the plot
2. Span was set large enough so as to capture all out of band emissions near the band edge
3. Within 1MHz of the channel edge the RBW should be 2% of EBW, then 1 MHz after that.
4. VBW > 3 x RBW
5. 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

1. The attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge,
2. 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge.
3. 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge.
4. The attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz.
5. 55 + 10 log (P) dB at or below 2490.5 MHz.
6. X is the greater of 6MHz or the actual emission bandwidth
7. The band edge measurement used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer

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

3.8 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE



Test setup

Test Overview

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

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

Test Settings

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

3.9 WORST CASE(RADIATED TEST)

- 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 : SA, NSA
  Worst case : SA
  Mode : Internal Antenna, External Antenna (ANT 5, ANT 4, DUT 4)
  Worst case : Internal Antenna, External Antenna (ANT 5)
- The worst case is reported with the EUT positioning, modulations, and paging service configurations shown in the test data.
- Please refer to the table below.
- TFGMEIBBCD4 & additional models were tested and the worst case results are reported.
  (Worst case : TFGMEIBBCD4)
- Radiated Spurious emissions are measured while operating in EN-DC mode with Sub 6 NR carrier as well as an LTE carrier (anchor).
  All EN-DC mode of operation (=anchor) were investigated and the test results were measured No Peak Found.
  The test results which are attenuated more than 20 dB below the permissible value, so it was not reported.

[External Antenna 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		Only X
Radiated Spurious Emissions	PI/2 BPSK	See Section 8.1		Only X

[Internal Antenna Worst case]

Test Description	Modulation	RB size	RB offset	Axis
Effective Isotropic Radiated Power	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	See Section 8.1		Z
Radiated Spurious Emissions	PI/2 BPSK	See Section 8.1		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
  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.
- TFGMEIBBCD4 & additional models were tested and the worst case results are reported.
  (Worst case : TFGMEIBBCD4)

[Worst case]

Test Description	Modulation	Bandwidth (MHz)	Frequency	RB size	RB offset
Occupied Bandwidth Peak- to- Average Ratio	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	5, 10, 15, 20	Mid	Full RB	0
Channel Edge	PI/2 BPSK	5	Low	1	0
			High	1	24
		10	Low	1	0
			High	1	51
		15	Low	1	0
			High	1	78
		20	Low	1	0
			High	1	105
		5, 10, 15, 20	Low, High	Full RB	0
Spurious and Harmonic Emissions at Antenna Terminal	PI/2 BPSK	5, 10, 15, 20	Low, Mid, High	1	1

4. LIST OF TEST

Equipment	Model	Manufacturer	Serial No.	Due to Calibration	Calibration Interval
Antenna Position Tower	MA4640/800-XP-ET	Innco systems	N/A	N/A	N/A
Turn Table	DS2000-S	Innco systems	N/A	N/A	N/A
Turn Table	Turn Table	Ets	N/A	N/A	N/A
Controller (Antenna mast & Turn Table)	CO3000	Innco systems	CO3000/1542/ 57580623/G	N/A	N/A
Amp & Filter Bank Switch Controller	FBSM-01B	TNM system	TM20090001	N/A	N/A
RF Switch System	TMX0132C	TNM System	TM21100002	N/A	N/A
RF Switch System	FBSR-04C HPF1	TNM System	S5L1	03/12/2025	Annual
RF Switch System	FBSR-04C LNA1	TNM System	S5L4	03/12/2025	Annual
RF Switch System	FBSR-04C HPF2	TNM System	S5L5	03/12/2025	Annual
HIGHPASS FILTER	WHKX10-900-1000-15000-40SS	WAINWRIGHT INSTRUMENTS	16	07/24/2025	Annual
HIGHPASS FILTER	WHNX6.0/26.5G-6SS	WAINWRIGHT INSTRUMENTS	1	12/11/2024	Annual
Power Amplifier	CBL18265035	CERNEX	22966	11/17/2024	Annual
Power Amplifier	CBL26405040	CERNEX	25956	02/26/2025	Annual
Loop Antenna (9 kHz ~ 30 MHz)	FMZB1513	Schwarzbeck	1513-333	03/07/2026	Biennial
Horn Antenna(1 ~ 18 GHz)	HF907	ROHDE & SCHWARZ	103224	05/07/2026	Biennial
Horn Antenna(15 ~ 40 GHz)	BBHA 9170	Schwarzbeck	BBHA9170342	09/20/2026	Biennial
Bilog Antenna	VULB9160	Schwarzbeck	3150	03/09/2025	Biennial
Hybrid Antenna	VULB9160	Schwarzbeck	760	02/24/2025	Biennial
Trilog Broadband Antenna	VULB 9168	Schwarzbeck	1135	08/19/2026	Biennial
Chamber	SU-642	ESPEC	93008124	02/19/2025	Annual
Power Splitter(DC~26.5 GHz)	11667B	Hewlett Packard	11275	02/19/2025	Annual
DC Power Supply	E3632A	Hewlett Packard	KR01009150	04/18/2025	Annual
4-Way Divider	ZC4PD-K1844+	Mini-Circuits	942907	09/10/2025	Annual
ATTENUATOR(20 dB)	8493C	Hewlett Packard	17280	04/17/2025	Annual
Spectrum Analyzer(10 Hz ~ 40 GHz)	FSV40	ROHDE & SCHWARZ	101510	03/28/2025	Annual
Base Station	8960 (E5515C)	Agilent	MY48360800	08/05/2025	Annual
Wideband Radio Communication Tester	MT8821C	Anritsu Corp.	6262287701	05/16/2025	Annual
Wideband Radio Communication Tester	MT8000A	Anritsu Corp.	6262302511	05/14/2025	Annual
Signal Analyzer (10 Hz ~ 26.5 GHz)	N9020A	Agilent	MY52090906	04/19/2025	Annual
Signal Analyzer (5 Hz ~ 40.0 GHz)	N9030B	KEYSIGHT	MY55480167	05/17/2025	Annual
FCC LTE Mobile Conducted RF Automation Test Software	-	HCT CO., LTD.,	-	-	-

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

5. MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.4:2014.

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

Parameter	Expanded Uncertainty (±dB)
Conducted Disturbance (150 kHz ~ 30 MHz)	1.98 (Confidence level about 95 %, *k*=2)
Radiated Disturbance (9 kHz ~ 30 MHz)	4.36 (Confidence level about 95 %, *k*=2)
Radiated Disturbance (30 MHz ~ 1 GHz)	5.70 (Confidence level about 95 %, *k*=2)
Radiated Disturbance (1 GHz ~ 18 GHz)	5.52 (Confidence level about 95 %, *k*=2)
Radiated Disturbance (18 GHz ~ 40 GHz)	5.66 (Confidence level about 95 %, *k*=2)
Radiated Disturbance (Above 40 GHz)	5.58 (Confidence level about 95 %, *k*=2)

6. SUMMARY OF TEST RESULTS

6.1 Test Condition : Conducted Test

Test Description	FCC Part Section(s)	Test Limit	Test Result
Occupied Bandwidth	§2.1049	N/A	PASS
Band Edge / Spurious and Harmonic Emissions at Antenna Terminal.	§2.1051, §27.53(m)(4)	■ < 40 + 10log10 (P[Watts]) at Channel edges ■ < 43 + 10log10 (P[Watts]) between 5 and X MHz from Channel edges ■ < 55 + 10log10 (P[Watts]) beyond X MHz beyond from Channel edges ■ < 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz	PASS
Conducted Output Power	§2.1046	N/A	PASS
Frequency stability / variation of ambient temperature	§2.1055, §27.54	Emission must remain in band	PASS

Note:
1. 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(h)(2)	< 2 Watts max. EIRP	PASS
Radiated Spurious and Harmonic Emissions	§2.1053, §27.53(m)(4)	< 55 + 10log10 (P[Watts])	PASS

Note:
1. Radiated tests were tested using 5G Wireless Tester.

7. EMISSION DESIGNATOR

GSM Emission Designator

Emission Designator = 249KGXW
GSM BW = 249 kHz
G = Phase Modulation
X = Cases not otherwise covered
W = Combination (Audio/Data)

EDGE Emission Designator

Emission Designator = 249KG7W
GSM BW = 249 kHz
G = Phase Modulation
7 = Quantized/Digital Info
W = Combination (Audio/Data)

WCDMA Emission Designator

Emission Designator = 4M17F9W
WCDMA BW = 4.17 MHz
F = Frequency Modulation
9 = Composite Digital Info
W = Combination (Audio/Data)

QPSK Modulation

Emission Designator = 4M48G7D
LTE BW = 4.48 MHz
G = Phase Modulation
7 = Quantized/Digital Info
D = Data transmission; telemetry; telecommand

QAM Modulation

Emission Designator = 4M48W7D
LTE BW = 4.48 MHz
W = Amplitude/Angle Modulated
7 = Quantized/Digital Info
D = Data transmission; telemetry; telecommand

8. TEST DATA

8.1 Conducted Output Power

Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Max.Average Power (dBm)		
						500500	507000	513500
						2502.5 MHz	2535 MHz	2567.5 MHz
5 MHz	15	DFT-s	pi/2 BPSK	1	1	23.69	23.89	23.82
				1	13	23.55	23.82	23.60
				1	23	23.62	23.79	23.61
				12	0	23.06	23.30	23.26
				12	7	23.57	23.87	23.79
				12	13	23.12	23.40	23.25
				25	0	23.10	23.40	23.24
			QPSK	1	1	23.57	23.79	23.78
			16QAM	1	1	22.52	22.74	22.71
			64QAM	1	1	21.24	21.47	21.48
			256QAM	1	1	19.59	19.46	19.40
		CP	QPSK	1	1	21.92	22.16	22.13

Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Max.Average Power (dBm)		
						501000	507000	513000
						2505 MHz	2535 MHz	2565 MHz
10 MHz	15	DFT-s	pi/2 BPSK	1	1	23.83	23.96	23.84
				1	26	23.69	23.80	23.67
				1	50	23.72	23.79	23.69
				25	0	23.22	23.31	23.24
				25	14	23.73	23.91	23.73
				25	27	23.23	23.39	23.28
				50	0	23.25	23.33	23.21
			QPSK	1	1	23.70	23.81	23.75
			16QAM	1	1	22.71	22.86	22.64
			64QAM	1	1	21.33	21.49	21.44
			256QAM	1	1	19.50	19.47	19.42
		CP	QPSK	1	1	22.10	22.24	22.16

Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Max.Average Power (dBm)		
						501500	507000	512500
						2507.5 MHz	2535 MHz	2562.5 MHz
15 MHz	15	DFT-s	pi/2 BPSK	1	1	23.90	24.00	23.93
				1	40	23.86	23.86	23.79
				1	77	23.88	23.89	23.73
				36	0	23.29	23.50	23.32
				36	22	23.87	23.96	23.82
				36	43	23.36	23.43	23.27
				75	0	23.37	23.45	23.37
			QPSK	1	1	23.76	23.92	23.88
			16QAM	1	1	22.70	22.97	22.75
			64QAM	1	1	21.41	21.64	21.49
			256QAM	1	1	19.63	19.53	19.41
		CP	QPSK	1	1	22.13	22.50	22.23

Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Max.Average Power (dBm)		
						502000	507000	512000
						2510 MHz	2535 MHz	2560 MHz
20 MHz	15	DFT-s	pi/2 BPSK	1	1	23.95	23.98	23.96
				1	53	23.88	23.92	23.83
				1	104	24.01	23.85	23.66
				50	0	23.32	23.46	23.33
				50	28	23.91	23.93	23.85
				50	56	23.41	23.33	23.22
				100	0	23.35	23.44	23.33
			QPSK	1	1	23.77	23.94	23.86
			16QAM	1	1	22.69	22.85	22.77
			64QAM	1	1	21.37	21.60	21.45
			256QAM	1	1	19.65	19.59	19.42
		CP	QPSK	1	1	22.19	22.41	22.27

8.2 EQUIVALENT ISOTROPIC RADIATED POWER

8.2.1 External Antenna

Freq (MHz)	Bandwidth	Modulation	Measured Level (dBμV)	A.F+C.L+D.F (dB/m)	Total (dBμV/m)	Pol	Limit	EIRP		RB	
							W	W	dBm	Size	Offset
2502.5	Sub6 n7/ 5 MHz [15 kHz]	PI/2 BPSK	84.60	35.81	120.41	V	< 2.00	0.332	25.21	1	1
		QPSK	84.42	35.81	120.23	V		0.318	25.03		
		16-QAM	83.52	35.81	119.33	V		0.259	24.13		
		64-QAM	82.20	35.81	118.01	V		0.191	22.81		
		256-QAM	80.50	35.81	116.31	V		0.129	21.11		
2535.0		PI/2 BPSK	85.78	35.58	121.36	V		0.413	26.16	1	23
		QPSK	85.75	35.58	121.33	V		0.410	26.13		
		16-QAM	84.50	35.58	120.08	V		0.308	24.88		
		64-QAM	83.19	35.58	118.77	V		0.228	23.57		
		256-QAM	81.22	35.58	116.80	V		0.145	21.60		
2567.5		PI/2 BPSK	83.98	35.58	119.56	V		0.273	24.36	1	1
		QPSK	83.75	35.58	119.33	V		0.259	24.13		
		16-QAM	83.01	35.58	118.59	V		0.218	23.39		
		64-QAM	81.45	35.58	117.03	V		0.153	21.83		
		256-QAM	79.51	35.58	115.09	V		0.098	19.89		

Freq (MHz)	Bandwidth	Modulation	Measured Level (dBμV)	A.F+C.L+D.F (dB/m)	Total (dBμV/m)	Pol	Limit	EIRP		RB	
							W	W	dBm	Size	Offset
2505.0	Sub6 n7/ 10 MHz [15 kHz]	PI/2 BPSK	84.02	35.84	119.86	V	< 2.00	0.293	24.66	1	1
		QPSK	84.00	35.84	119.84	V		0.291	24.64		
		16-QAM	82.85	35.84	118.69	V		0.223	23.49		
		64-QAM	81.58	35.84	117.42	V		0.167	22.22		
		256-QAM	79.77	35.84	115.61	V		0.110	20.41		
2535.0		PI/2 BPSK	85.50	35.58	121.08	V		0.387	25.88	1	50
		QPSK	85.27	35.58	120.85	V		0.367	25.65		
		16-QAM	84.22	35.58	119.80	V		0.288	24.60		
		64-QAM	82.95	35.58	118.53	V		0.215	23.33		
		256-QAM	81.00	35.58	116.58	V		0.137	21.38		
2565.0		PI/2 BPSK	84.45	35.62	120.07	V		0.307	24.87	1	1
		QPSK	84.32	35.62	119.94	V		0.298	24.74		
		16-QAM	83.25	35.62	118.87	V		0.233	23.67		
		64-QAM	81.90	35.62	117.52	V		0.171	22.32		
		256-QAM	79.99	35.62	115.61	V		0.110	20.41		

Freq (MHz)	Bandwidth	Modulation	Measured Level (dBμV)	A.F+C.L+D.F (dB/m)	Total (dBμV/m)	Pol	Limit	EIRP		RB	
							W	W	dBm	Size	Offset
2507.5	Sub6 n7/ 15 MHz [15 kHz]	PI/2 BPSK	84.11	35.78	119.89	V	< 2.00	0.294	24.69	1	1
		QPSK	84.09	35.78	119.87	V		0.293	24.67		
		16-QAM	82.99	35.78	118.77	V		0.228	23.57		
		64-QAM	81.55	35.78	117.33	V		0.163	22.13		
		256-QAM	79.71	35.78	115.49	V		0.107	20.29		
2535.0		PI/2 BPSK	85.33	35.58	120.91	V		0.372	25.71	1	77
		QPSK	85.14	35.58	120.72	V		0.356	25.52		
		16-QAM	84.25	35.58	119.83	V		0.290	24.63		
		64-QAM	82.80	35.58	118.38	V		0.208	23.18		
		256-QAM	80.90	35.58	116.48	V		0.134	21.28		
2562.5		PI/2 BPSK	84.77	35.61	120.38	V		0.329	25.18	1	1
		QPSK	84.75	35.61	120.36	V		0.328	25.16		
		16-QAM	83.62	35.61	119.23	V		0.253	24.03		
		64-QAM	82.33	35.61	117.94	V		0.188	22.74		
		256-QAM	80.21	35.61	115.82	V		0.115	20.62		

Freq (MHz)	Bandwidth	Modulation	Measured Level (dBμV)	A.F+C.L+D.F (dB/m)	Total (dBμV/m)	Pol	Limit	EIRP		RB	
							W	W	dBm	Size	Offset
2510.0	Sub6 n7/ 20 MHz [15 kHz]	PI/2 BPSK	84.11	35.71	119.82	V	< 2.00	0.290	24.62	1	104
		QPSK	83.90	35.71	119.61	V		0.276	24.41		
		16-QAM	83.10	35.71	118.81	V		0.230	23.61		
		64-QAM	82.00	35.71	117.71	V		0.178	22.51		
		256-QAM	80.30	35.71	116.01	V		0.121	20.81		
2535.0		PI/2 BPSK	85.30	35.58	120.88	V		0.370	25.68	1	53
		QPSK	85.21	35.58	120.79	V		0.362	25.59		
		16-QAM	84.26	35.58	119.84	V		0.291	24.64		
		64-QAM	82.99	35.58	118.57	V		0.217	23.37		
		256-QAM	81.01	35.58	116.59	V		0.138	21.39		
2560.0		PI/2 BPSK	84.72	35.58	120.30	V		0.324	25.10	1	1
		QPSK	84.62	35.58	120.20	V		0.316	25.00		
		16-QAM	83.74	35.58	119.32	V		0.258	24.12		
		64-QAM	82.50	35.58	118.08	V		0.194	22.88		
		256-QAM	80.48	35.58	116.06	V		0.122	20.86		

8.2.2 Internal Antenna

Freq (MHz)	Bandwidth	Modulation	Measured Level (dBμV)	A.F+C.L+D.F (dB/m)	Total (dBμV/m)	Pol	Limit	EIRP		RB	
							W	W	dBm	Size	Offset
2502.5	Sub6 n7/ 5 MHz [15 kHz]	PI/2 BPSK	88.30	35.81	124.11	H	< 2.00	0.777	28.91	1	1
		QPSK	88.20	35.81	124.01	H		0.760	28.81		
		16-QAM	87.26	35.81	123.07	H		0.612	27.87		
		64-QAM	85.92	35.81	121.73	H		0.449	26.53		
		256-QAM	84.16	35.81	119.97	H		0.300	24.77		
2535.0		PI/2 BPSK	89.01	35.58	124.59	H		0.869	29.39	1	12
		QPSK	88.97	35.58	124.55	H		0.861	29.35		
		16-QAM	88.00	35.58	123.58	H		0.688	28.38		
		64-QAM	86.67	35.58	122.25	H		0.507	27.05		
		256-QAM	84.66	35.58	120.24	H		0.319	25.04		
2567.5		PI/2 BPSK	89.37	35.58	124.95	V		0.944	29.75	1	1
		QPSK	89.21	35.58	124.79	V		0.910	29.59		
		16-QAM	88.35	35.58	123.93	V		0.746	28.73		
		64-QAM	86.93	35.58	122.51	V		0.538	27.31		
		256-QAM	84.95	35.58	120.53	H		0.341	25.33		

Freq (MHz)	Bandwidth	Modulation	Measured Level (dBμV)	A.F+C.L+D.F (dB/m)	Total (dBμV/m)	Pol	Limit	EIRP		RB	
							W	W	dBm	Size	Offset
2505.0	Sub6 n7/ 10 MHz [15 kHz]	PI/2 BPSK	88.76	35.84	124.60	H	< 2.00	0.871	29.40	1	50
		QPSK	88.67	35.84	124.51	H		0.853	29.31		
		16-QAM	87.71	35.84	123.55	H		0.684	28.35		
		64-QAM	86.30	35.84	122.14	H		0.495	26.94		
		256-QAM	84.50	35.84	120.34	H		0.327	25.14		
2535.0		PI/2 BPSK	89.16	35.58	124.74	H		0.899	29.54	1	26
		QPSK	89.12	35.58	124.70	H		0.891	29.50		
		16-QAM	88.15	35.58	123.73	H		0.713	28.53		
		64-QAM	86.82	35.58	122.40	H		0.525	27.20		
		256-QAM	84.91	35.58	120.49	H		0.338	25.29		
2565.0		PI/2 BPSK	89.61	35.62	125.23	V		1.007	30.03	1	26
		QPSK	89.46	35.62	125.08	V		0.973	29.88		
		16-QAM	88.59	35.62	124.21	V		0.796	29.01		
		64-QAM	87.32	35.62	122.94	V		0.594	27.74		
		256-QAM	85.42	35.62	121.04	H		0.384	25.84		

Freq (MHz)	Bandwidth	Modulation	Measured Level (dBμV)	A.F+C.L+D.F (dB/m)	Total (dBμV/m)	Pol	Limit	EIRP		RB	
							W	W	dBm	Size	Offset
2507.5	Sub6 n7/ 15 MHz [15 kHz]	PI/2 BPSK	88.93	35.78	124.71	H	< 2.00	0.893	29.51	1	77
		QPSK	88.81	35.78	124.59	H		0.868	29.39		
		16-QAM	87.90	35.78	123.68	H		0.704	28.48		
		64-QAM	86.57	35.78	122.35	H		0.518	27.15		
		256-QAM	84.66	35.78	120.44	H		0.334	25.24		
2535.0		PI/2 BPSK	89.25	35.58	124.83	H		0.918	29.63	1	1
		QPSK	89.15	35.58	124.73	H		0.897	29.53		
		16-QAM	88.28	35.58	123.86	H		0.734	28.66		
		64-QAM	86.86	35.58	122.44	H		0.530	27.24		
		256-QAM	84.75	35.58	120.33	H		0.326	25.13		
2562.5		PI/2 BPSK	89.61	35.61	125.22	V		1.005	30.02	1	39
		QPSK	89.46	35.61	125.07	V		0.971	29.87		
		16-QAM	88.62	35.61	124.23	V		0.800	29.03		
		64-QAM	87.26	35.61	122.87	V		0.585	27.67		
		256-QAM	85.30	35.61	120.91	H		0.372	25.71		

Freq (MHz)	Bandwidth	Modulation	Measured Level (dBμV)	A.F+C.L+D.F (dB/m)	Total (dBμV/m)	Pol	Limit	EIRP		RB	
							W	W	dBm	Size	Offset
2510.0	Sub6 n7/ 20 MHz [15 kHz]	PI/2 BPSK	89.05	35.71	124.76	H	< 2.00	0.904	29.56	1	104
		QPSK	89.03	35.71	124.74	H		0.900	29.54		
		16-QAM	88.08	35.71	123.79	H		0.723	28.59		
		64-QAM	86.79	35.71	122.50	H		0.537	27.30		
		256-QAM	84.91	35.71	120.62	H		0.348	25.42		
2535.0		PI/2 BPSK	89.14	35.58	124.72	H		0.895	29.52	1	53
		QPSK	89.13	35.58	124.71	H		0.893	29.51		
		16-QAM	88.08	35.58	123.66	H		0.701	28.46		
		64-QAM	86.79	35.58	122.37	H		0.521	27.17		
		256-QAM	84.66	35.58	120.24	H		0.319	25.04		
2560.0		PI/2 BPSK	89.51	35.58	125.09	V		0.975	29.89	1	104
		QPSK	89.41	35.58	124.99	V		0.953	29.79		
		16-QAM	88.52	35.58	124.10	V		0.776	28.90		
		64-QAM	87.30	35.58	122.88	V		0.586	27.68		
		256-QAM	85.25	35.58	120.83	H		0.366	25.63		

8.3 RADIATED SPURIOUS EMISSIONS

8.3.1 External Antenna

▣ NR Band: N7

▣ Bandwidth: 5 MHz

▣ Modulation: PI/2 BPSK

▣ Distance: 3 meters

▣ SCS: 15 kHz

Ch	Freq (MHz)	Measured Level (dBμV)	A.F+C.L+D.F+H.P.F -A.G (dB/m)	Total (dBμV/m)	Pol.	Result (dBm)	Limit (dBm)	RB	
								Size	Offset
500500 (2502.5)	5 005.00	59.07	-8.71	50.36	V	-44.84	-25.00	1	1
	7 507.50	57.91	-1.78	56.13	V	-39.07	-25.00		
	10 010.00	48.68	2.89	51.57	V	-43.63	-25.00		
	12 512.50	47.34	3.25	50.59	V	-44.61	-25.00		
	15 015.00	49.27	6.35	55.62	V	-39.58	-25.00		
507000 (2535.0)	5 070.00	63.78	-8.53	55.25	V	-39.95	-25.00	1	23
	7 605.00	55.73	-2.08	53.65	V	-41.55	-25.00		
	10 140.00	49.58	2.71	52.29	V	-42.91	-25.00		
	12 675.00	46.98	3.78	50.76	V	-44.44	-25.00		
	15 210.00	48.42	5.27	53.69	V	-41.51	-25.00		
2513500 (2567.5)	5 135.00	66.07	-8.22	57.85	V	-37.35	-25.00	1	1
	7 702.50	54.36	-2.12	52.24	V	-42.96	-25.00		
	10 270.00	48.93	3.20	52.13	V	-43.07	-25.00		
	12 837.50	47.04	4.29	51.33	V	-43.88	-25.00		
	15 405.00	48.27	4.25	52.52	V	-42.68	-25.00		

▣ NR Band: N7

▣ Bandwidth: 10 MHz

▣ Modulation: PI/2 BPSK

▣ Distance: 3 meters

▣ SCS: 15 kHz

Ch	Freq (MHz)	Measured Level (dBμV)	A.F+C.L+D.F+H.P.F -A.G (dB/m)	Total (dBμV/m)	Pol.	Result (dBm)	Limit (dBm)	RB	
								Size	Offset
501000 (2505.0)	5 010.00	59.54	-8.58	50.96	V	-44.24	-25.00	1	1
	7 515.00	54.63	-1.78	52.85	V	-42.35	-25.00		
	10 020.00	49.73	2.78	52.51	V	-42.69	-25.00		
	12 525.00	48.56	3.35	51.91	V	-43.29	-25.00		
	15 030.00	49.19	5.83	55.02	V	-40.18	-25.00		
507000 (2535.0)	5 070.00	66.74	-8.53	58.21	V	-36.99	-25.00	1	50
	7 605.00	55.74	-2.08	53.66	V	-41.54	-25.00		
	10 140.00	49.78	2.71	52.49	V	-42.71	-25.00		
	12 675.00	48.64	3.78	52.42	V	-42.78	-25.00		
	15 210.00	48.41	5.27	53.68	V	-41.52	-25.00		
513000 (2565.0)	5 130.00	69.20	-8.24	60.96	V	-34.24	-25.00	1	1
	7 695.00	55.82	-1.97	53.85	V	-41.35	-25.00		
	10 260.00	48.89	3.26	52.15	V	-43.05	-25.00		
	12 825.00	49.19	3.71	52.90	V	-42.30	-25.00		
	15 390.00	49.47	4.16	53.63	V	-41.57	-25.00		

▣ NR Band: N7

▣ Bandwidth: 15 MHz

▣ Modulation: PI/2 BPSK

▣ Distance: 3 meters

▣ SCS: 15 kHz

Ch	Freq (MHz)	Measured Level (dBμV)	A.F+C.L+D.F+H.P.F -A.G (dB/m)	Total (dBμV/m)	Pol.	Result (dBm)	Limit (dBm)	RB	
								Size	Offset
501500 (2507.5)	5 015.00	59.58	-8.44	51.14	V	-44.06	-25.00	1	1
	7 522.50	54.24	-1.77	52.47	V	-42.73	-25.00		
	10 030.00	48.92	2.87	51.79	V	-43.42	-25.00		
	12 537.50	48.95	3.22	52.17	V	-43.03	-25.00		
	15 045.00	49.40	6.26	55.66	V	-39.54	-25.00		
507000 (2535.0)	5 070.00	65.99	-8.53	57.46	V	-37.74	-25.00	1	77
	7 605.00	55.37	-2.08	53.29	V	-41.91	-25.00		
	10 140.00	49.97	2.71	52.68	V	-42.52	-25.00		
	12 675.00	48.49	3.78	52.27	V	-42.93	-25.00		
	15 210.00	48.85	5.27	54.12	V	-41.08	-25.00		
212500 (2562.5)	5 125.00	69.43	-8.22	61.21	V	-33.99	-25.00	1	1
	7 687.50	54.72	-2.20	52.52	V	-42.68	-25.00		
	10 250.00	49.60	2.86	52.46	V	-42.74	-25.00		
	12 812.50	48.74	3.71	52.45	V	-42.75	-25.00		
	15 375.00	48.78	4.33	53.11	V	-42.09	-25.00		

▣ NR Band: N7

▣ Bandwidth: 20 MHz

▣ Modulation: PI/2 BPSK

▣ Distance: 3 meters

▣ SCS: 15 kHz

Ch	Freq (MHz)	Measured Level (dBμV)	A.F+C.L+D.F+H.P.F -A.G (dB/m)	Total (dBμV/m)	Pol.	Result (dBm)	Limit (dBm)	RB	
								Size	Offset
502000 (2510.0)	5 020.00	64.27	-8.54	55.73	V	-39.47	-25.00	1	104
	7 530.00	53.51	-1.65	51.86	V	-43.34	-25.00		
	10 040.00	49.44	2.44	51.89	V	-43.32	-25.00		
	12 550.00	48.21	2.94	51.15	V	-44.05	-25.00		
	15 060.00	49.72	5.86	55.58	V	-39.62	-25.00		
507000 (2535.0)	5 070.00	64.55	-8.53	56.02	V	-39.18	-25.00	1	53
	7 605.00	54.80	-2.08	52.72	V	-42.48	-25.00		
	10 140.00	49.87	2.71	52.58	V	-42.62	-25.00		
	12 675.00	48.16	3.78	51.94	V	-43.26	-25.00		
	15 210.00	48.94	5.27	54.21	V	-40.99	-25.00		
512000 (2560.0)	5 120.00	66.95	-8.34	58.61	V	-36.59	-25.00	1	1
	7 680.00	54.85	-2.24	52.62	V	-42.59	-25.00		
	10 240.00	49.51	2.74	52.25	V	-42.95	-25.00		
	12 800.00	48.54	3.87	52.41	V	-42.79	-25.00		
	15 360.00	49.59	4.36	53.95	V	-41.25	-25.00		

8.3.2 Internal Antenna

▣ NR Band: N7

▣ Bandwidth: 5 MHz

▣ Modulation: PI/2 BPSK

▣ Distance: 3 meters

▣ SCS: 15 kHz

Ch	Freq (MHz)	Measured Level (dBμV)	A.F+C.L+D.F+H.P.F -A.G (dB/m)	Total (dBμV/m)	Pol.	Result (dBm)	Limit (dBm)	RB	
								Size	Offset
500500 (2502.5)	5 005.00	60.71	-8.71	52.00	V	-43.20	-25.00	1	1
	7 507.50	52.77	-1.78	50.99	H	-44.21	-25.00		
	10 010.00	43.96	2.89	46.85	V	-48.35	-25.00		
	12 512.50	44.55	3.25	47.80	V	-47.40	-25.00		
	15 015.00	43.18	6.35	49.53	V	-45.67	-25.00		
507000 (2535.0)	5 070.00	62.20	-8.53	53.67	H	-41.53	-25.00	1	12
	7 605.00	51.67	-2.08	49.59	V	-45.61	-25.00		
	10 140.00	45.55	2.71	48.26	V	-46.94	-25.00		
	12 675.00	42.31	3.78	46.09	V	-49.11	-25.00		
	15 210.00	42.09	5.27	47.36	V	-47.84	-25.00		
2513500 (2567.5)	5 135.00	68.29	-8.22	60.07	H	-35.13	-25.00	1	1
	7 702.50	50.80	-2.12	48.68	V	-46.52	-25.00		
	10 270.00	44.92	3.20	48.12	H	-47.08	-25.00		
	12 837.50	46.77	4.29	51.06	V	-44.15	-25.00		
	15 405.00	44.74	4.25	48.99	H	-46.21	-25.00		

▣ NR Band: N7

▣ Bandwidth: 10 MHz

▣ Modulation: PI/2 BPSK

▣ Distance: 3 meters

▣ SCS: 15 kHz

Ch	Freq (MHz)	Measured Level (dBμV)	A.F+C.L+D.F+H.P.F -A.G (dB/m)	Total (dBμV/m)	Pol.	Result (dBm)	Limit (dBm)	RB	
								Size	Offset
501000 (2505.0)	5 010.00	60.56	-8.58	51.98	H	-43.22	-25.00	1	50
	7 515.00	50.79	-1.78	49.01	V	-46.19	-25.00		
	10 020.00	45.13	2.78	47.91	H	-47.29	-25.00		
	12 525.00	45.87	3.35	49.22	H	-45.98	-25.00		
	15 030.00	43.87	5.83	49.70	H	-45.50	-25.00		
507000 (2535.0)	5 070.00	63.28	-8.53	54.75	H	-40.45	-25.00	1	26
	7 605.00	52.50	-2.08	50.42	H	-44.78	-25.00		
	10 140.00	45.21	2.71	47.92	H	-47.28	-25.00		
	12 675.00	44.26	3.78	48.04	H	-47.16	-25.00		
	15 210.00	42.21	5.27	47.48	H	-47.72	-25.00		
513000 (2565.0)	5 130.00	67.80	-8.24	59.56	V	-35.64	-25.00	1	26
	7 695.00	51.23	-1.97	49.26	H	-45.94	-25.00		
	10 260.00	46.22	3.26	49.48	H	-45.72	-25.00		
	12 825.00	43.88	3.71	47.59	H	-47.61	-25.00		
	15 390.00	46.25	4.16	50.41	H	-44.79	-25.00		

▣ NR Band: N7

▣ Bandwidth: 15 MHz

▣ Modulation: PI/2 BPSK

▣ Distance: 3 meters

▣ SCS: 15 kHz

Ch	Freq (MHz)	Measured Level (dBμV)	A.F+C.L+D.F+H.P.F -A.G (dB/m)	Total (dBμV/m)	Pol.	Result (dBm)	Limit (dBm)	RB	
								Size	Offset
501500 (2507.5)	5 015.00	59.58	-8.44	51.14	H	-44.06	-25.00	1	77
	7 522.50	51.23	-1.77	49.46	H	-45.74	-25.00		
	10 030.00	45.71	2.87	48.58	H	-46.63	-25.00		
	12 537.50	44.83	3.22	48.05	H	-47.15	-25.00		
	15 045.00	44.81	6.26	51.07	H	-44.13	-25.00		
507000 (2535.0)	5 070.00	59.90	-8.53	51.37	H	-43.83	-25.00	1	1
	7 605.00	52.72	-2.08	50.64	H	-44.56	-25.00		
	10 140.00	46.22	2.71	48.93	H	-46.27	-25.00		
	12 675.00	44.50	3.78	48.28	H	-46.92	-25.00		
	15 210.00	43.54	5.27	48.81	H	-46.39	-25.00		
212500 (2562.5)	5 125.00	65.34	-8.22	57.12	H	-38.08	-25.00	1	39
	7 687.50	51.64	-2.20	49.44	H	-45.76	-25.00		
	10 250.00	44.81	2.86	47.67	H	-47.53	-25.00		
	12 812.50	44.61	3.71	48.32	H	-46.88	-25.00		
	15 375.00	45.27	4.33	49.60	H	-45.60	-25.00		

▣ NR Band: N7

▣ Bandwidth: 20 MHz

▣ Modulation: PI/2 BPSK

▣ Distance: 3 meters

▣ SCS: 15 kHz

Ch	Freq (MHz)	Measured Level (dBμV)	A.F+C.L+D.F+H.P.F -A.G (dB/m)	Total (dBμV/m)	Pol.	Result (dBm)	Limit (dBm)	RB	
								Size	Offset
502000 (2510.0)	5 020.00	56.14	-8.54	47.60	H	-47.60	-25.00	1	104
	7 530.00	50.62	-1.65	48.97	H	-46.23	-25.00		
	10 040.00	47.03	2.44	49.48	H	-45.73	-25.00		
	12 550.00	44.38	2.94	47.32	H	-47.88	-25.00		
	15 060.00	46.87	5.86	52.73	H	-42.47	-25.00		
507000 (2535.0)	5 070.00	62.16	-8.53	53.63	H	-41.57	-25.00	1	53
	7 605.00	52.33	-2.08	50.25	H	-44.95	-25.00		
	10 140.00	44.90	2.71	47.61	H	-47.59	-25.00		
	12 675.00	44.11	3.78	47.89	H	-47.31	-25.00		
	15 210.00	43.73	5.27	49.00	H	-46.20	-25.00		
512000 (2560.0)	5 120.00	68.98	-8.34	60.64	H	-34.56	-25.00	1	104
	7 680.00	50.60	-2.24	48.37	H	-46.84	-25.00		
	10 240.00	44.37	2.74	47.11	H	-48.09	-25.00		
	12 800.00	44.52	3.87	48.39	H	-46.81	-25.00		
	15 360.00	45.30	4.36	49.66	H	-45.54	-25.00		

8.4 PEAK-TO-AVERAGE RATIO

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (dB)
Sub6 n7	5 MHz	2535.0	BPSK	25	0	4.01
			QPSK			4.55
			16-QAM			5.65
			64-QAM			6.14
			256-QAM			6.55
	10 MHz		BPSK	50		4.17
			QPSK			4.70
			16-QAM			5.64
			64-QAM			5.99
			256-QAM			6.85
	15 MHz		BPSK	75		4.20
			QPSK			4.84
			16-QAM			5.77
			64-QAM			6.17
			256-QAM			6.81
	20 MHz		BPSK	100		4.10
			QPSK			4.71
			16-QAM			5.57
			64-QAM			6.10
			256-QAM			6.82

Note:

1. Plots of the EUT's Peak- to- Average Ratio are shown Page 74 ~ 93.

8.5 OCCUPIED BANDWIDTH

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (MHz)
Sub6 n7	5 MHz	2535.0	BPSK	25	0	4.4870
			QPSK			4.5069
			16-QAM			4.5002
			64-QAM			4.4821
			256-QAM			4.6597
	10 MHz		BPSK	50		8.9914
			QPSK			8.9725
			16-QAM			8.9785
			64-QAM			8.9684
			256-QAM			8.9961
	15 MHz		BPSK	75		13.479
			QPSK			13.416
			16-QAM			13.460
			64-QAM			13.450
			256-QAM			13.470
	20 MHz		BPSK	100		17.930
			QPSK			17.872
			16-QAM			17.903
			64-QAM			17.900
			256-QAM			17.940

Note:

1. Plots of the EUT's Occupied Bandwidth are shown Page 54~ 73.

8.6 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 n7	5	2502.5	5.0010	30.815	-80.436	-49.621	-25.00
		2535.0	9.7243	30.815	-80.744	-49.929	
		2567.5	8.3031	30.815	-80.245	-49.430	
	10	2505.0	9.9342	30.815	-80.394	-49.579	
		2535.0	8.2767	30.815	-80.381	-49.566	
		2565.0	9.1087	30.815	-80.756	-49.941	
	15	2507.5	5.0010	30.815	-80.400	-49.585	
		2535.0	9.1855	30.815	-80.421	-49.606	
		2562.5	9.6720	30.815	-79.837	-49.022	
	20	2510.0	9.6675	30.815	-79.699	-48.884	
		2535.0	9.0872	30.815	-80.729	-49.914	
		2560.0	8.8799	30.815	-80.882	-50.067	

Note:

1. Plots of the EUT's Conducted Spurious Emissions are shown Page 122 ~ 145.
2. Result (dBm) = Measurement Maximum Data (dBm) + Factor (dB)
3. Factor(dB) = Cable Loss + Attenuator + Power Splitter

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

8.7 CHANNEL EDGE

BW (MHz)	Frequency (MHz)	Mod	RB (Size/ Offset)	2 500 MHz ~ 2 496 MHz		C.E ~ (C.E +1 MHz)		2 490.5 MHz ~ 2 496 MHz	(C.E + 1 MHz) ~ (C.E + 5 MHz)	Below 2 490.5 MHz	(C.E + 5 MHz) ~ (C.E + X MHz)	Above (C.E + X MHz)
				Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Upper
5	2502.5	BPSK	Full RB	-21.99	-26.93	-36.71	-28.72	-45.59	-33.91	-34.41		
10	2505.0	BPSK	Full RB	-23.59	-29.12	-25.15	-25.06	-37.25	-31.16	-34.28		
15	2507.5	BPSK	Full RB	-27.33	-34.74	-32.43	-31.39	-34.89	-31.68	-37.91		
20	2510.0	BPSK	Full RB	-27.65	-28.34	-33.21	-28.45	-34.87	-34.31	-39.17		
Limit				-10.0	-10.0	-13.0	-10.0	-25.0	-13.0	-25.0		

BW (MHz)	Frequency (MHz)	Mod	RB (Size/ Offset)	C.E ~ (C.E ± 1 MHz)		(C.E ± 1 MHz) ~ (C.E ± 5 MHz)	
				Lower	Upper	Lower	Upper
5	2535.0	BPSK	Full RB	-26.80	-27.01	-30.79	-29.70
	2567.5	BPSK	Full RB	-21.96	-27.44	-30.33	-29.08
10	2535.0	BPSK	Full RB	-26.52	-36.05	-27.65	-31.18
	2565.0	BPSK	Full RB	-26.04	-33.58	-29.46	-28.64
15	2535.0	BPSK	Full RB	-27.94	-32.96	-30.11	-29.25
	2562.5	BPSK	Full RB	-26.95	-32.97	-28.85	-29.07
20	2535.0	BPSK	Full RB	-27.94	-32.44	-30.15	-28.93
	2560.0	BPSK	Full RB	-28.82	-32.76	-30.63	-30.81
Limit				-10.0		-10.0	

BW (MHz)	Frequency (MHz)	Mod	RB (Size/ Offset)	(C.E ± 5 MHz) ~ (C.E ± X MHz)		Above (C.E ± X MHz)	
				Lower	Upper	Lower	Upper
5	2535.0	BPSK	Full RB	-39.19	-37.83	-39.40	-38.57
	2567.5	BPSK	Full RB	-36.43	-36.93	-37.18	-37.50
10	2535.0	BPSK	Full RB	-32.23	-35.50	-41.82	-37.39
	2565.0	BPSK	Full RB	-35.23	-37.75	-38.36	-39.04
15	2535.0	BPSK	Full RB	-29.83	-31.90	-39.87	-36.33
	2562.5	BPSK	Full RB	-32.77	-28.93	-38.45	-41.02
20	2535.0	BPSK	Full RB	-28.09	-32.51	-43.20	-36.61
	2560.0	BPSK	Full RB	-32.33	-30.92	-37.60	-46.07
Limit				-13.0		-25.0	

Note:

1. C.E = Channel Edge
2. X = X is the greater of 6 MHz or the actual emission bandwidth
3. Duty Cycle factor already applied on the factor.
   - Factor(dB) = Cable Loss + Ext. Attenuator + Power Splitter
   - Result(dBm) = Reading + Factor
4. Plots of the EUT's Channel Edge are shown Page 94 ~ 121.

8.8 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE

▣ BandWidth: 5 MHz

▣ Voltage(100 %): 13.500 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
2502.500	100 %	+20(Ref)	2502 499 998	0.0	0.000 000	0.000
	100 %	-30	2502 500 005	7.1	0.000 000	0.003
	100 %	-20	2502 500 009	11.1	0.000 000	0.004
	100 %	-10	2502 500 008	9.5	0.000 000	0.004
	100 %	0	2502 500 007	8.8	0.000 000	0.004
	100 %	+10	2502 500 004	6.3	0.000 000	0.003
	100 %	+30	2502 500 011	13.2	0.000 001	0.005
	100 %	+40	2502 500 013	15.1	0.000 001	0.006
	100 %	+50	2502 499 989	-8.8	0.000 000	-0.004
	85 %	+20	2502 500 006	7.8	0.000 000	0.003
	115 %	+20	2502 500 006	8.1	0.000 000	0.003
2567.500	100 %	+20(Ref)	2567 499 995	0.0	0.000 000	0.000
	100 %	-30	2567 499 999	3.9	0.000 000	0.002
	100 %	-20	2567 500 004	9.2	0.000 000	0.004
	100 %	-10	2567 500 001	5.5	0.000 000	0.002
	100 %	0	2567 500 008	13.1	0.000 001	0.005
	100 %	+10	2567 500 004	9.4	0.000 000	0.004
	100 %	+30	2567 500 003	8.0	0.000 000	0.003
	100 %	+40	2567 499 990	-5.1	0.000 000	-0.002
	100 %	+50	2567 499 991	-4.5	0.000 000	-0.002
	85 %	+20	2567 499 988	-6.6	0.000 000	-0.003
	115 %	+20	2567 500 000	5.1	0.000 000	0.002

▣ BandWidth: 10 MHz

▣ Voltage(100 %): 13.500 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
2505.000	100 %	+20(Ref)	2505 000 003	0.0	0.000 000	0.000
	100 %	-30	2505 000 005	2.1	0.000 000	0.001
	100 %	-20	2505 000 006	2.5	0.000 000	0.001
	100 %	-10	2505 000 002	-0.8	0.000 000	0.000
	100 %	0	2505 000 003	0.1	0.000 000	0.000
	100 %	+10	2505 000 006	2.8	0.000 000	0.001
	100 %	+30	2505 000 007	4.4	0.000 000	0.002
	100 %	+40	2505 000 005	2.3	0.000 000	0.001
	100 %	+50	2505 000 005	1.5	0.000 000	0.001
	85 %	+20	2505 000 006	3.1	0.000 000	0.001
	115 %	+20	2505 000 004	1.1	0.000 000	0.000
2565.000	100 %	+20(Ref)	2564 999 991	0.0	0.000 000	0.000
	100 %	-30	2564 999 982	-8.8	0.000 000	-0.003
	100 %	-20	2564 999 985	-6.2	0.000 000	-0.002
	100 %	-10	2564 999 985	-6.2	0.000 000	-0.002
	100 %	0	2564 999 988	-3.5	0.000 000	-0.001
	100 %	+10	2564 999 981	-10.5	0.000 000	-0.004
	100 %	+30	2564 999 980	-11.1	0.000 000	-0.004
	100 %	+40	2564 999 982	-9.1	0.000 000	-0.004
	100 %	+50	2564 999 983	-8.5	0.000 000	-0.003
	85 %	+20	2564 999 984	-7.4	0.000 000	-0.003
	115 %	+20	2564 999 985	-6.3	0.000 000	-0.002

▣ BandWidth: 15 MHz

▣ Voltage(100 %): 13.500 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
2507.500	100 %	+20(Ref)	2507 500 001	0.0	0.000 000	0.000
	100 %	-30	2507 500 004	3.3	0.000 000	0.001
	100 %	-20	2507 500 003	1.9	0.000 000	0.001
	100 %	-10	2507 500 005	4.4	0.000 000	0.002
	100 %	0	2507 500 006	5.1	0.000 000	0.002
	100 %	+10	2507 500 000	-0.8	0.000 000	0.000
	100 %	+30	2507 500 001	0.4	0.000 000	0.000
	100 %	+40	2507 500 004	2.8	0.000 000	0.001
	100 %	+50	2507 500 004	2.9	0.000 000	0.001
	85 %	+20	2507 500 005	4.1	0.000 000	0.002
	115 %	+20	2507 500 004	3.4	0.000 000	0.001
2562.500	100 %	+20(Ref)	2562 499 997	0.0	0.000 000	0.000
	100 %	-30	2562 499 988	-8.8	0.000 000	-0.003
	100 %	-20	2562 499 990	-6.7	0.000 000	-0.003
	100 %	-10	2562 499 988	-9.1	0.000 000	-0.004
	100 %	0	2562 499 988	-9.4	0.000 000	-0.004
	100 %	+10	2562 499 990	-7.1	0.000 000	-0.003
	100 %	+30	2562 499 990	-6.9	0.000 000	-0.003
	100 %	+40	2562 499 987	-10.1	0.000 000	-0.004
	100 %	+50	2562 499 986	-11.5	0.000 000	-0.004
	85 %	+20	2562 499 988	-8.9	0.000 000	-0.003
	115 %	+20	2562 499 988	-9.4	0.000 000	-0.004

▣ BandWidth: 20 MHz

▣ Voltage(100 %): 13.500 VDC

▣ LIMIT: Emission must remain in band

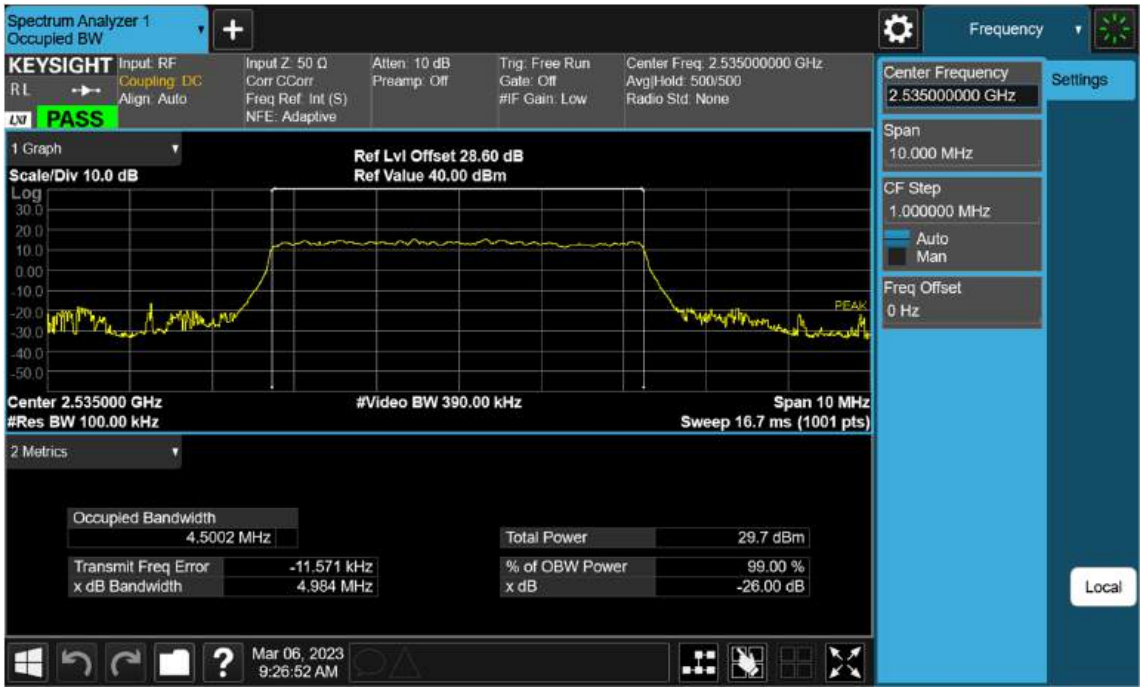
Test. Frequncy	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
2510.000	100 %	+20(Ref)	2510 000 007	0.0	0.000 000	0.000
	100 %	-30	2510 000 011	4.4	0.000 000	0.002
	100 %	-20	2510 000 013	5.6	0.000 000	0.002
	100 %	-10	2510 000 014	7.1	0.000 000	0.003
	100 %	0	2510 000 011	4.2	0.000 000	0.002
	100 %	+10	2510 000 013	5.9	0.000 000	0.002
	100 %	+30	2510 000 013	6.3	0.000 000	0.003
	100 %	+40	2510 000 013	6.0	0.000 000	0.002
	100 %	+50	2510 000 013	5.9	0.000 000	0.002
	85 %	+20	2510 000 011	4.4	0.000 000	0.002
	115 %	+20	2510 000 014	6.8	0.000 000	0.003
2560.000	100 %	+20(Ref)	2599 999 987	0.0	0.000 000	0.000
	100 %	-30	2599 999 977	-10.4	0.000 000	-0.004
	100 %	-20	2599 999 973	-14.1	-0.000 001	-0.005
	100 %	-10	2599 999 974	-13.5	-0.000 001	-0.005
	100 %	0	2599 999 973	-14.5	-0.000 001	-0.006
	100 %	+10	2599 999 972	-15.0	-0.000 001	-0.006
	100 %	+30	2599 999 973	-14.3	-0.000 001	-0.006
	100 %	+40	2599 999 972	-15.1	-0.000 001	-0.006
	100 %	+50	2599 999 974	-12.7	0.000 000	-0.005
	85 %	+20	2599 999 978	-9.5	0.000 000	-0.004
	115 %	+20	2599 999 977	-9.7	0.000 000	-0.004

9. TEST PLOTS

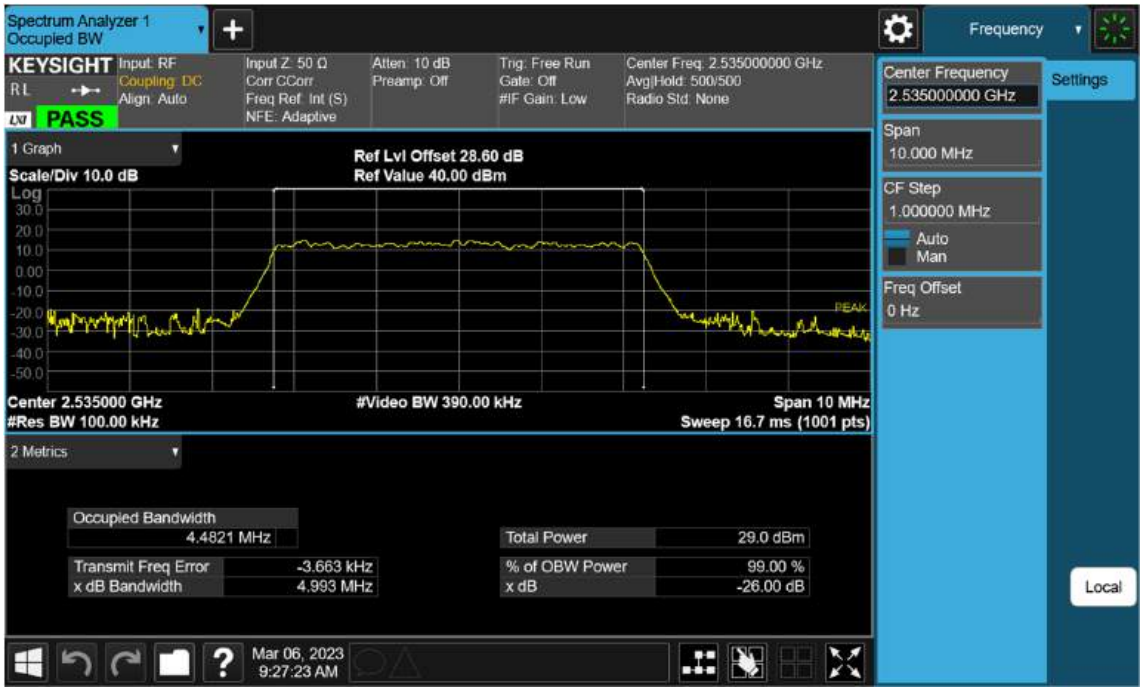
Sub6 n7. Occupied Bandwidth Plot (5 M BW Ch.507000 BPSK)

Sub6 n7. Occupied Bandwidth Plot (5 M BW Ch.507000 QPSK)

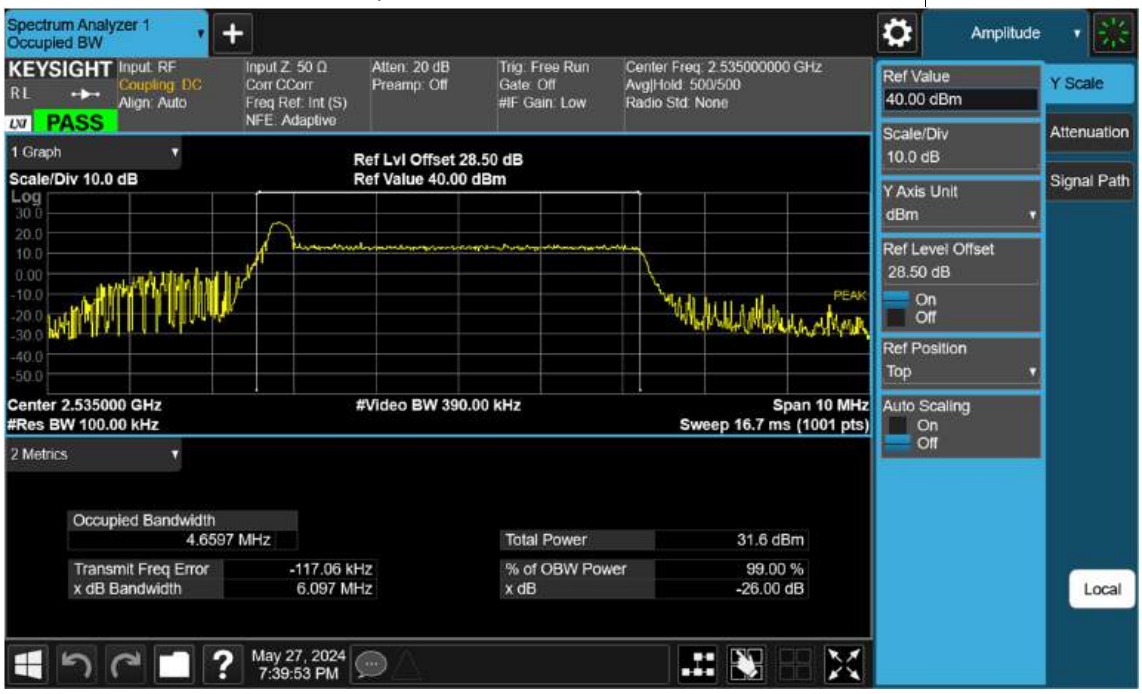
Sub6 n7. Occupied Bandwidth Plot (5 M BW Ch.507000 16QAM)



Sub6 n7. Occupied Bandwidth Plot (5 M BW Ch.507000 64QAM)



Sub6 n7. Occupied Bandwidth Plot (5 M BW Ch.507000 256QAM)

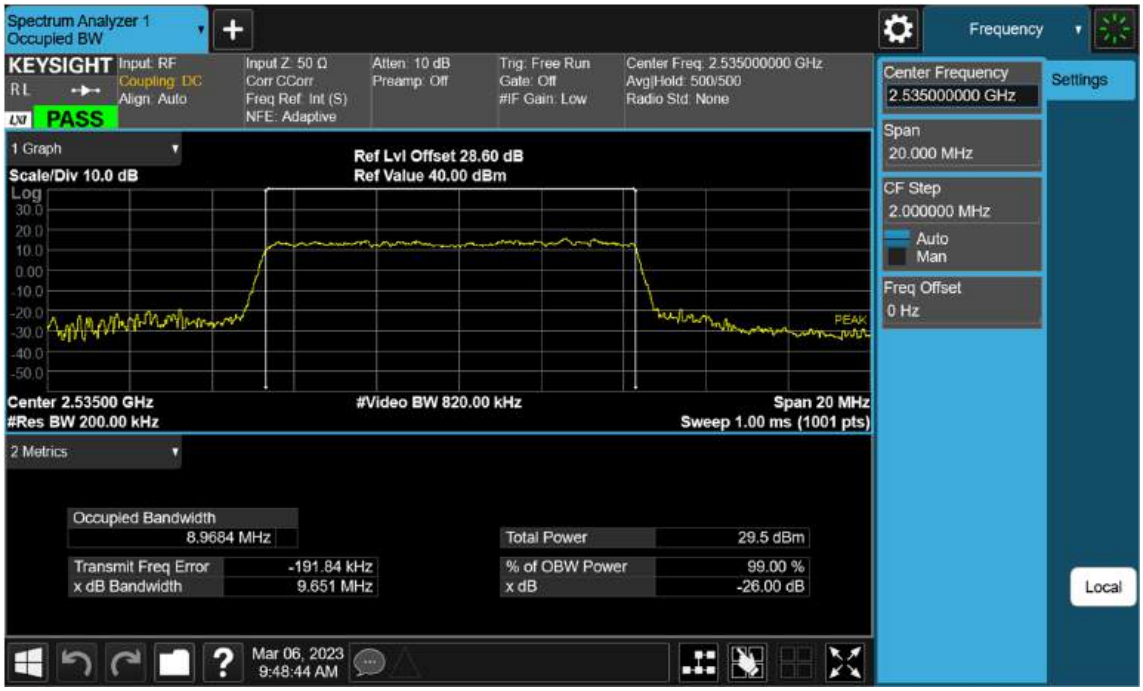


Sub6 n7. Occupied Bandwidth Plot (10 M BW Ch.507000 BPSK)

Sub6 n7. Occupied Bandwidth Plot (10 M BW Ch.507000 QPSK)

Sub6 n7. Occupied Bandwidth Plot (10 M BW Ch.507000 16QAM)

Sub6 n7. Occupied Bandwidth Plot (10 M BW Ch.507000 64QAM)



Sub6 n7. Occupied Bandwidth Plot (10 M BW Ch.507000 256QAM)

Sub6 n7. Occupied Bandwidth Plot (15 M BW Ch.507000 BPSK)

Sub6 n7. Occupied Bandwidth Plot (15 M BW Ch.507000 QPSK)

Sub6 n7. Occupied Bandwidth Plot (15 M BW Ch.507000 16QAM)

Sub6 n7. Occupied Bandwidth Plot (15 M BW Ch.507000 64QAM)

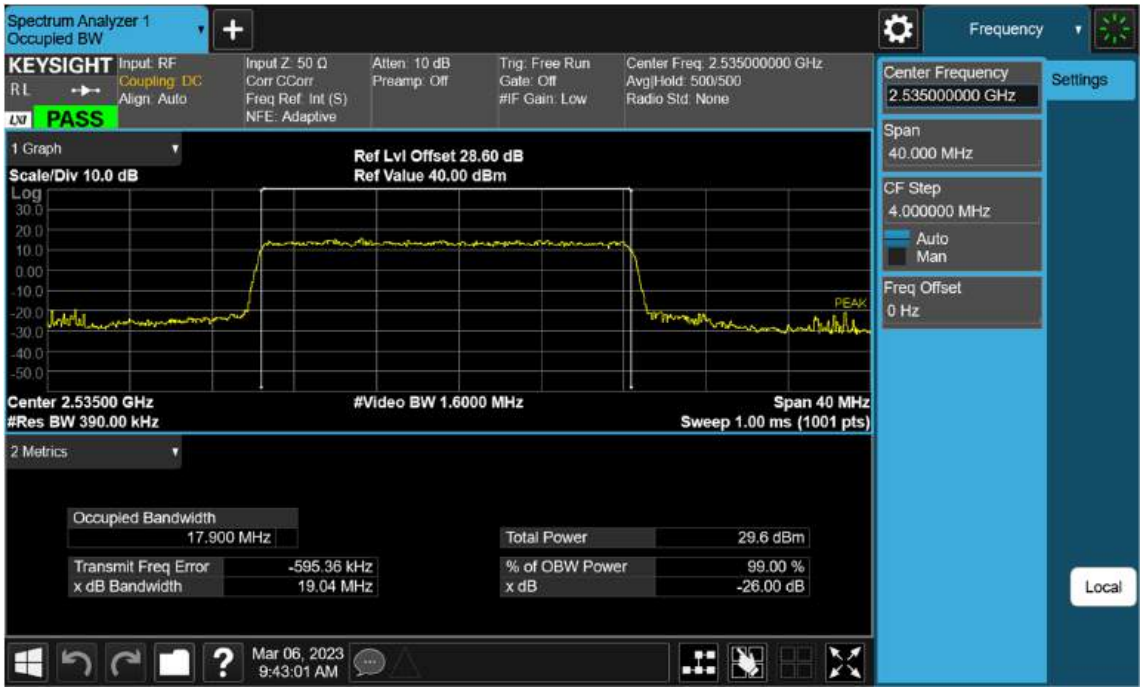
Sub6 n7. Occupied Bandwidth Plot (15 M BW Ch.507000 256QAM)

Sub6 n7. Occupied Bandwidth Plot (20 M BW Ch.507000 BPSK)

Sub6 n7. Occupied Bandw idth Plot (20 M BW Ch.507000 QPSK)

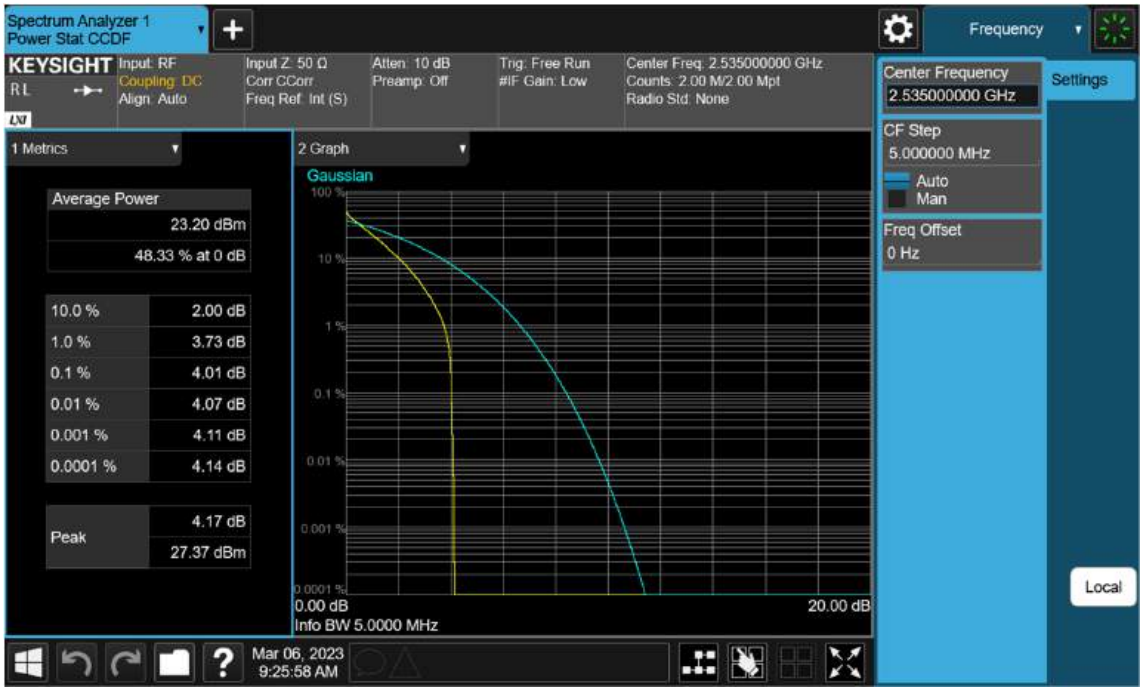
Sub6 n7. Occupied Bandwidth Plot (20 M BW Ch.507000 16QAM)

Sub6 n7. Occupied Bandwidth Plot (20 M BW Ch.507000 64QAM)

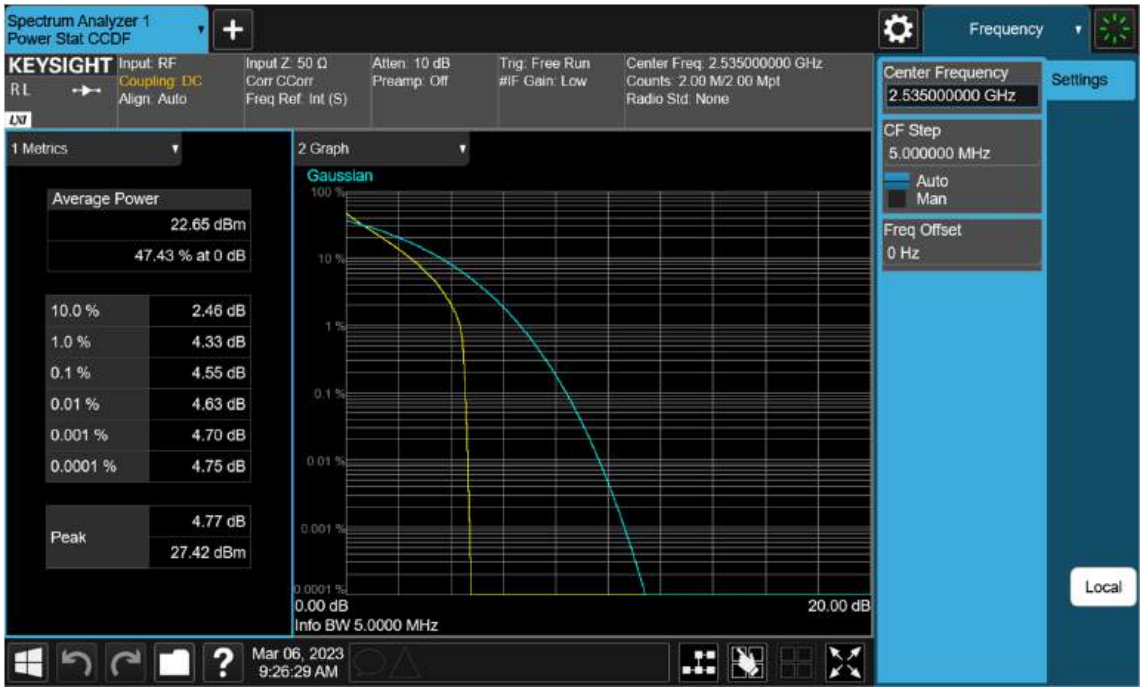


Sub6 n7. Occupied Bandwidth Plot (20 M BW Ch.507000 256QAM)

Sub6 n7. PAR Plot (5 M BW_Ch.507000_ BPSK)



Sub6 n7. PAR Plot (5 M BW_Ch.507000_QPSK)

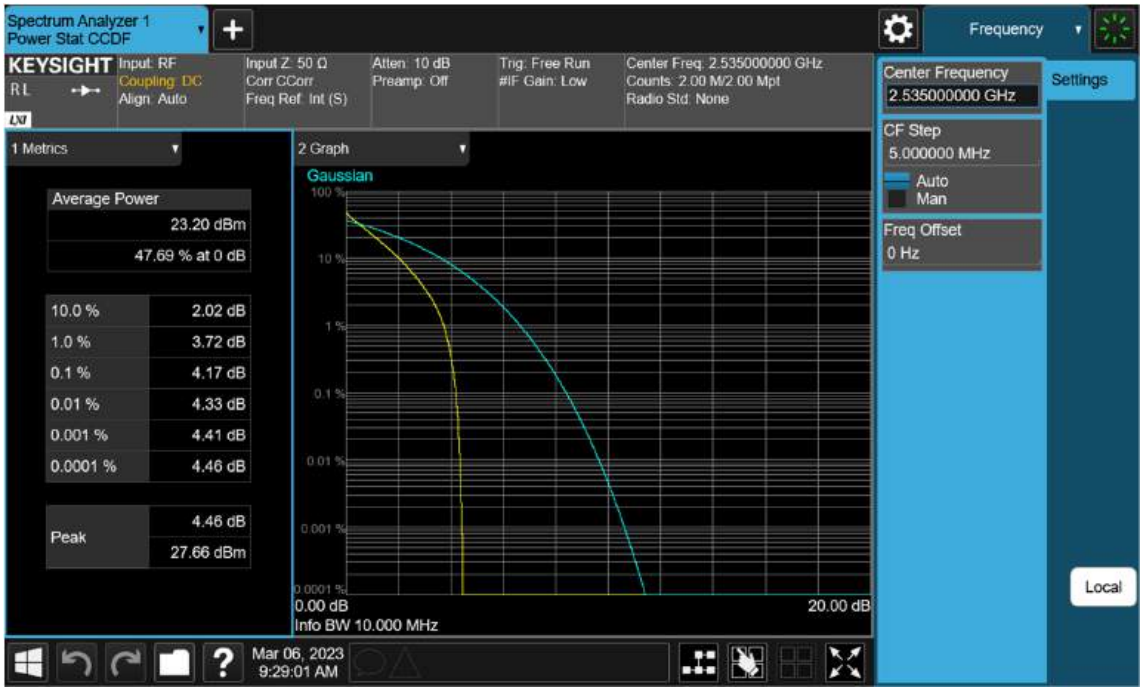


Sub6 n7. PAR Plot (5 M BW_Ch.507000_16QAM)

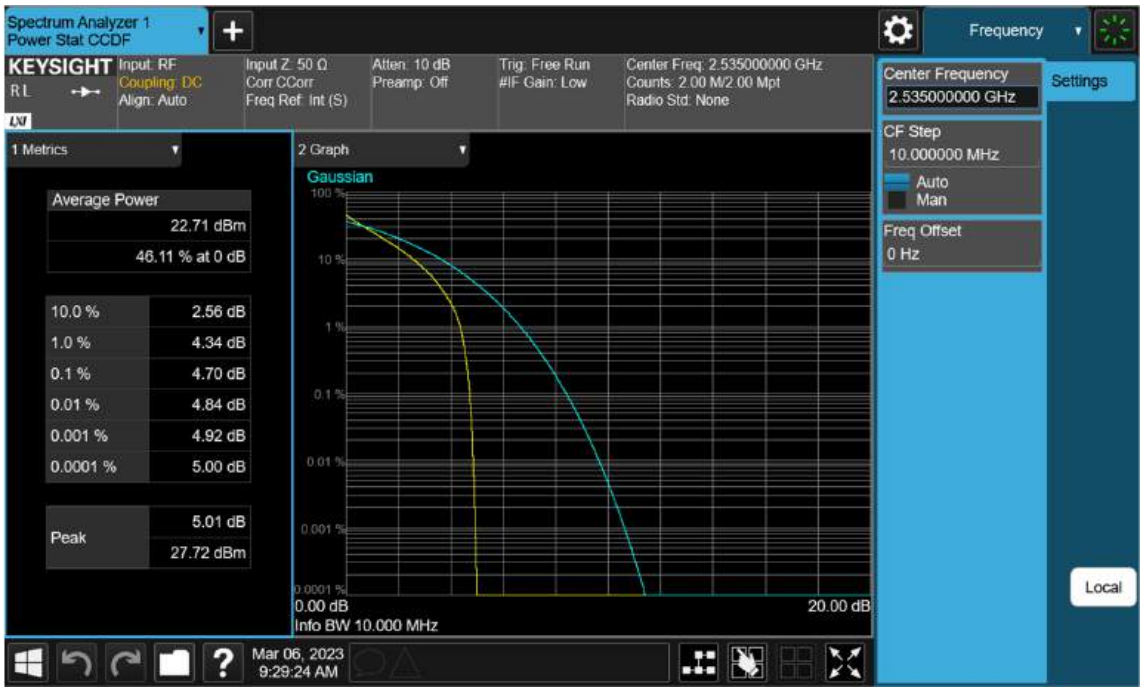
Sub6 n7. PAR Plot (5 M BW_Ch.507000_64QAM)

Sub6 n7. PAR Plot (5 M BW_Ch.507000_256QAM)

Sub6 n7. PAR Plot (10 M BW_Ch.507000_ BPSK)



Sub6 n7. PAR Plot (10 M BW_Ch.507000_QPSK)

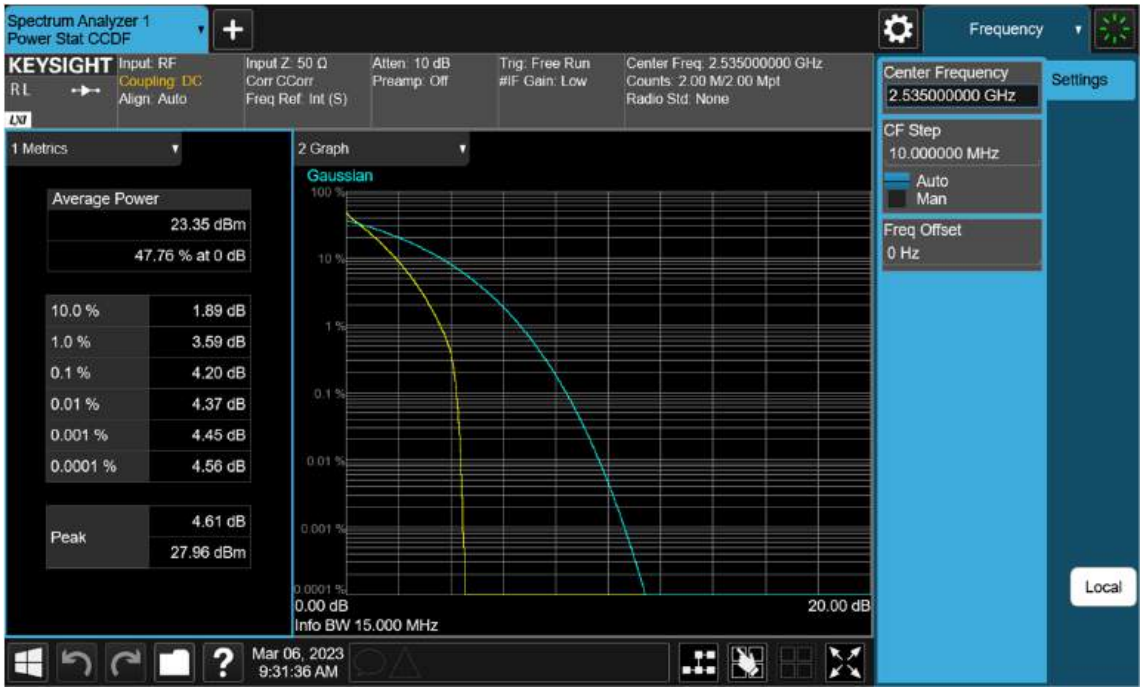


Sub6 n7. PAR Plot (10 M BW_Ch.507000_16QAM)

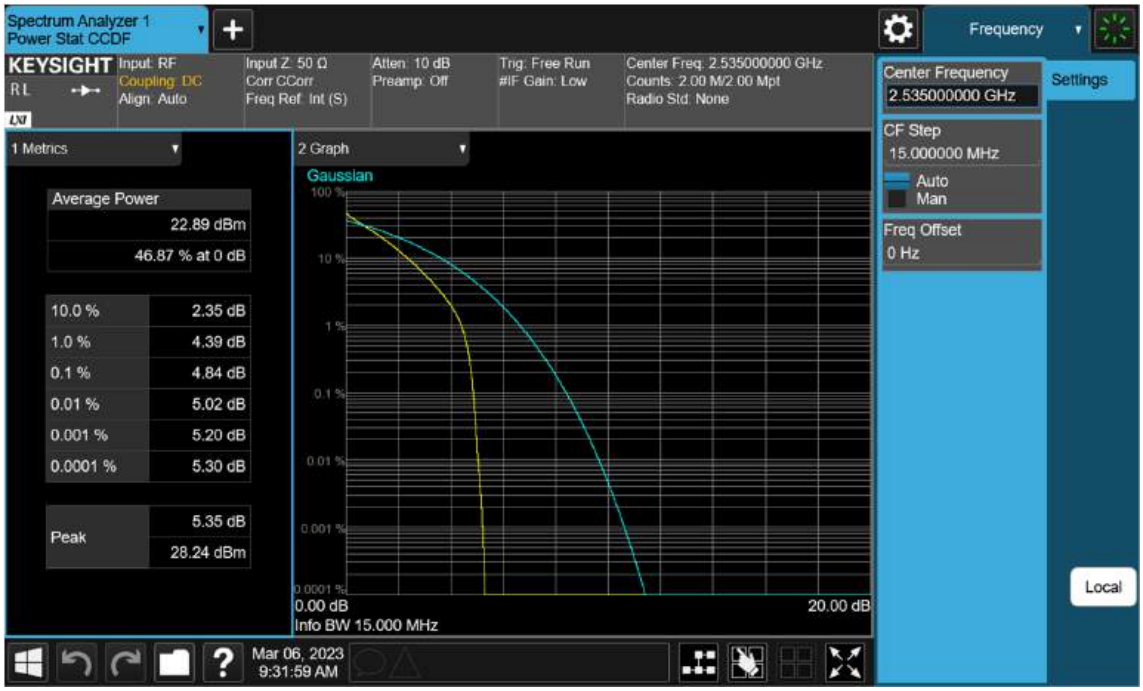
Sub6 n7. PAR Plot (10 M BW_Ch.507000_64QAM)

Sub6 n7. PAR Plot (10 M BW_Ch.507000_256QAM)

Sub6 n7. PAR Plot (15 M BW_Ch.507000_ BPSK)



Sub6 n7. PAR Plot (15 M BW_Ch.507000_QPSK)

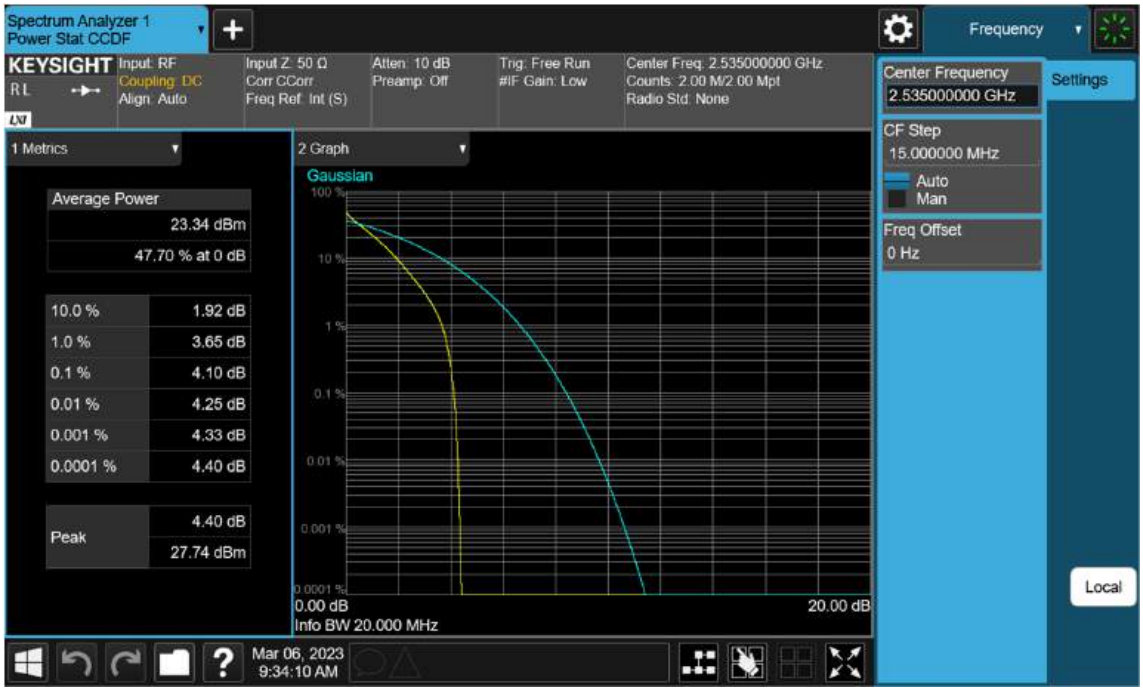


Sub6 n7. PAR Plot (15 M BW_Ch.507000_16QAM)

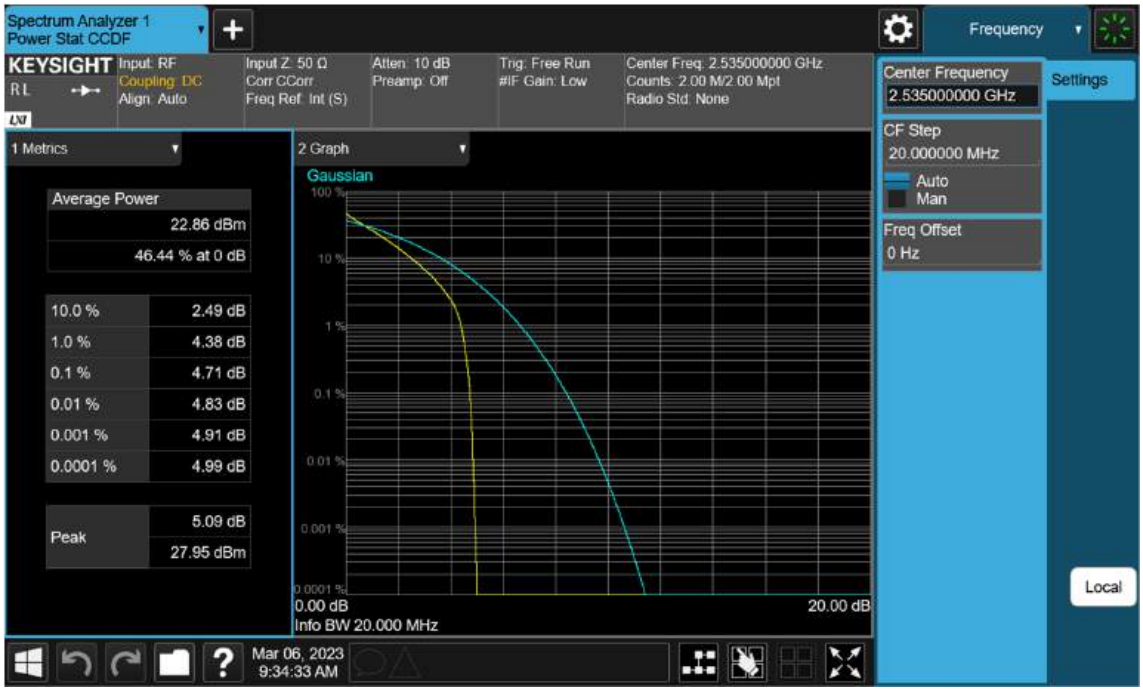
Sub6 n7. PAR Plot (15 M BW_Ch.507000_64QAM)

Sub6 n7. PAR Plot (15 M BW_Ch.507000_256QAM)

Sub6 n7. PAR Plot (20 M BW_Ch.507000_ BPSK)



Sub6 n7. PAR Plot (20 M BW_Ch.507000_QPSK)



Sub6 n7. PAR Plot (20 M BW_Ch.507000_16QAM)

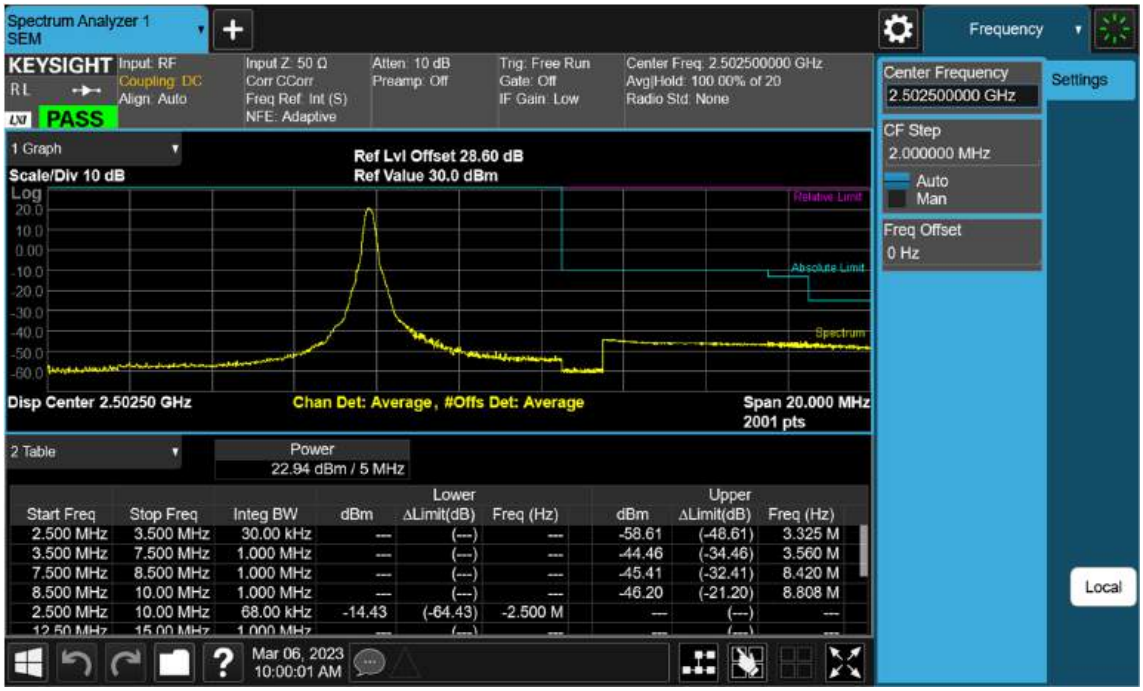
Sub6 n7. PAR Plot (20 M BW_Ch.507000_64QAM)

Sub6 n7. PAR Plot (20 M BW_Ch.507000_256QAM)

Sub6 n7. Low Channel Edge Plot (5 MHz Ch.500500 BPSK RB 1)-1

Sub6 n7. Low Channel Edge Plot (5 MHz Ch.500500 BPSK)-1

Sub6 n7. Low Channel Edge Plot (5 MHz Ch.500500 BPSK_RB 1)-2



Sub6 n7. Low Channel Edge Plot (5 MHz Ch.500500 BPSK)-2

Sub6 n7. Mid Channel Edge Plot (5 MHz Ch.507000 BPSK)

Sub6 n7. High Channel Edge Plot (5 MHz Ch.513500 BPSK RB 1)

Sub6 n7. High Channel Edge Plot (5 MHz Ch.513500 BPSK)

Sub6 n7. Low Channel Edge Plot (10 MHz Ch.501000 BPSK RB 1)-1

Sub6 n7. Low Channel Edge Plot (10 MHz Ch.501000 BPSK)-1

Sub6 n7. Low Channel Edge Plot (10 MHz Ch.501000 BPSK RB 1)-2

Sub6 n7. Low Channel Edge Plot (10 MHz Ch.501000 BPSK)-2

Sub6 n7. Mid Channel Edge Plot (10 MHz Ch.507000 BPSK)

Sub6 n7. High Channel Edge Plot (10 MHz Ch.513000 BPSK RB 1)

Sub6 n7. High Channel Edge Plot (10 MHz Ch.513000 BPSK)

Sub6 n7. Low Channel Edge Plot (15 MHz Ch.501500 BPSK RB 1)-1

Sub6 n7. Low Channel Edge Plot (15 MHz Ch.501500 BPSK)-1

Sub6 n7. Low Channel Edge Plot (15 MHz Ch.501500 BPSK_RB1)-2

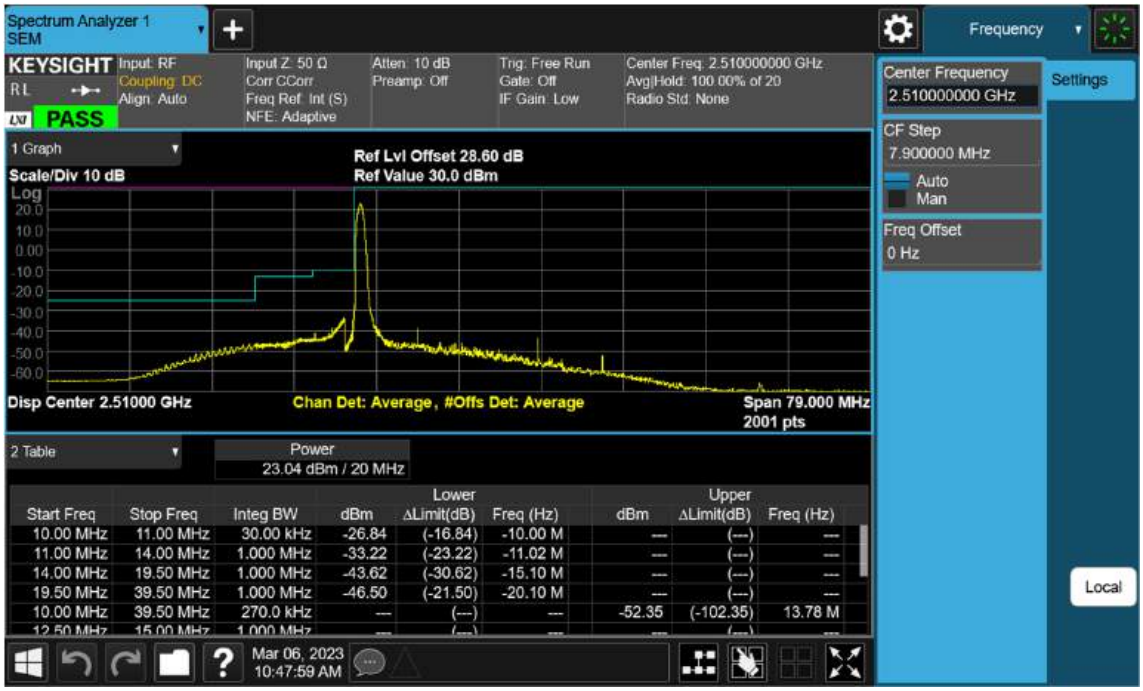
Sub6 n7. Low Channel Edge Plot (15 MHz Ch.501500 BPSK)-2

Sub6 n7. Mid Channel Edge Plot (15 MHz Ch.507000 BPSK)

Sub6 n7. High Channel Edge Plot (15 MHz Ch.512500 BPSK RB 1)

Sub6 n7. High Channel Edge Plot (15 MHz Ch.512500 BPSK)

Sub6 n7. Low Channel Edge Plot (20 MHz Ch.502000 BPSK RB 1)-1



Sub6 n7. Low Channel Edge Plot (20 MHz Ch.502000 BPSK)-1

Sub6 n7. Low Channel Edge Plot (20 MHz Ch.502000 BPSK_RB1)-2

Sub6 n7. Low Channel Edge Plot (20 MHz Ch.502000 BPSK)-2

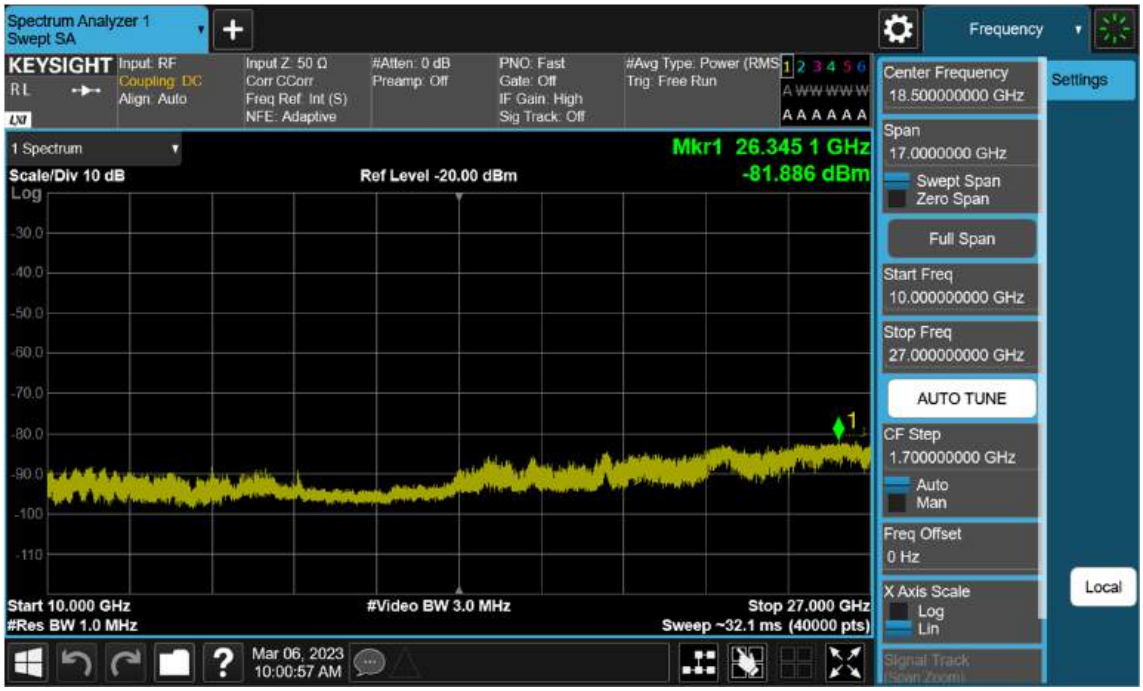
Sub6 n7. Mid Channel Edge Plot (20 MHz Ch.507000 BPSK)

Sub6 n7. High Channel Edge Plot (20 MHz Ch.512000 BPSK RB 1)

Sub6 n7. High Channel Edge Plot (20 MHz Ch.512000 BPSK)

Sub6 n7. Conducted Spurious_1 (500500ch_5 MHz_BPSK_RB 1)

Sub6 n7. Conducted Spurious_2 (500500ch_5 MHz_BPSK_RB 1)



Sub6 n7. Conducted Spurious_1 (507000ch_5 MHz_BPSK_RB 1)

Sub6 n7. Conducted Spurious_2 (507000ch_5 MHz_BPSK_RB 1)

Sub6 n7. Conducted Spurious_1 (513500ch_5 MHz_BPSK_RB 1)

Sub6 n7. Conducted Spurious_2 (513500ch_5 MHz_BPSK_RB 1)

Sub6 n7. Conducted Spurious_1 (501000ch_10 MHz_BPSK_RB 1)

Sub6 n7. Conducted Spurious_2 (501000ch_10 MHz_BPSK_RB 1)

Sub6 n7. Conducted Spurious_1 (507000ch_10 MHz_BPSK_RB 1)

Sub6 n7. Conducted Spurious_2 (507000ch_10 MHz_BPSK_RB 1)

Sub6 n7. Conducted Spurious_1 (513000ch_10 MHz_BPSK_RB 1)

Sub6 n7. Conducted Spurious_2 (513000ch_10 MHz_BPSK_RB 1)

Sub6 n7. Conducted Spurious_1 (501500ch_15 MHz_BPSK_RB 1)

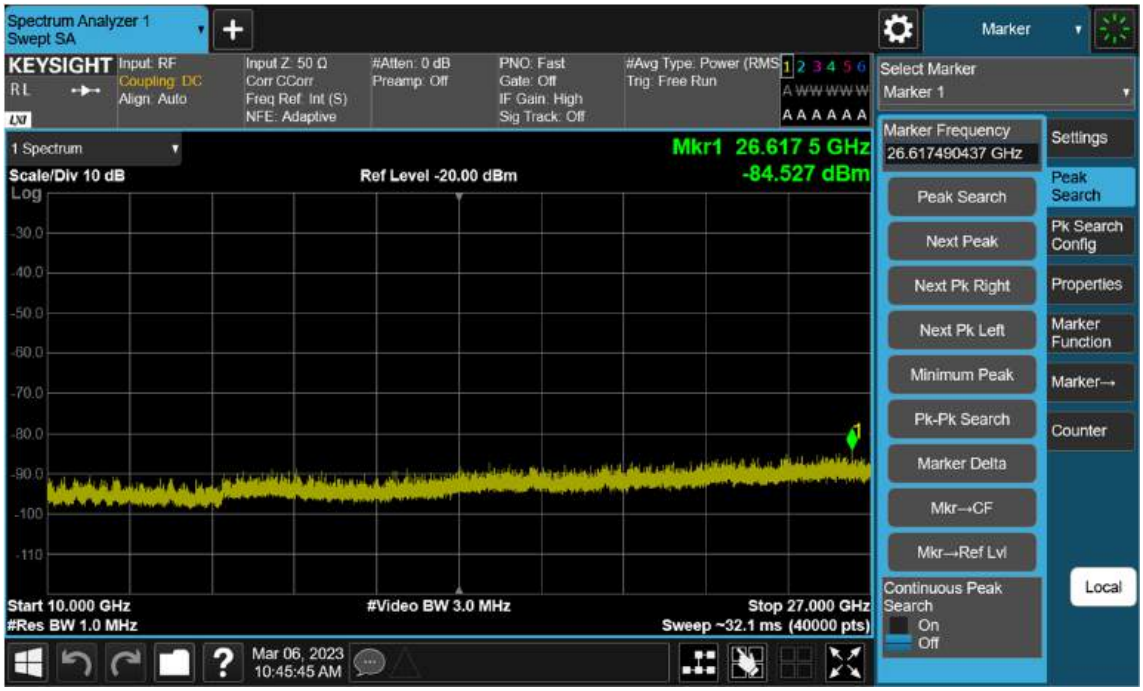
Sub6 n7. Conducted Spurious_2 (501500ch_15 MHz_BPSK_RB 1)

Sub6 n7. Conducted Spurious_1 (507000ch_15 MHz_BPSK_RB 1)

Sub6 n7. Conducted Spurious_2 (507000ch_15 MHz_BPSK_RB 1)

Sub6 n7. Conducted Spurious_1 (512500ch_15 MHz_BPSK_RB 1)

Sub6 n7. Conducted Spurious_2 (512500ch_15 MHz_BPSK_RB 1)



Sub6 n7. Conducted Spurious_1 (502000ch_20 MHz_BPSK_RB 1)

Sub6 n7. Conducted Spurious_2 (502000ch_20 MHz_BPSK_RB 1)

Sub6 n7. Conducted Spurious_1 (507000ch_20 MHz_BPSK_RB 1)

Sub6 n7. Conducted Spurious_2 (507000ch_20 MHz_BPSK_RB 1)

Sub6 n7. Conducted Spurious_1 (512000ch_20 MHz_BPSK_RB 1)

Sub6 n7. Conducted Spurious_2 (512000ch_20 MHz_BPSK_RB 1)

10. ANNEX A_ TEST SETUP PHOTO

Please refer to test setup photo file no. as follows;

No.	Description
1	HCT-RF-2409-FC007-P