TEST REPORT

FCC Sub6 n66 Test for TM18FNNABM0
Certification

APPLICANT
LG Electronics Inc.

REPORT NO.
HCT-RF-2506-FC069

DATE OF ISSUE
June 17, 2025

Tested by
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Accredited by KOLAS, Republic of KOREA

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Applicant	**LG Electronics Inc.** 128, Yeoui-daero, Yeongdeungpo-gu, Seoul, Republic of Korea
Product Name Model Name	Telematics TM18FNNABM0
Date of Test	February 08, 2025 ~ June 13, 2025
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	2BO3LTM18FNNABM0
FCC Classification:	PCS Licensed Transmitter (PCB)
Test Standard Used	FCC Rule Part: § 27
Test Results	PASS

REVISION HISTORY

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

Revision No.	Date of Issue	Description
0	June 17, 2025	Initial Release

Notice

Content
The measurements shown in this report were made in accordance with the procedures specified in CFR47 section § 2.947. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them. HCT CO., LTD. Certifies that no party to this application has subject to a denial of Federal benefits that includes FCC benefits pursuant to section 5301 of the Anti-Drug Abuse Act of 1998,21 U.S. C.853(a) The results shown in this test report only apply to the sample(s), as received, provided by the applicant, unless otherwise stated. The test results have only been applied with the test methods required by the standard(s). The laboratory is not accredited for the test results marked *. Information provided by the applicant is marked **. Test results provided by external providers are marked ***. When confirmation of authenticity of this test report is required, please contact www.hct.co.kr This test report provides test result(s) under the scope accredited by the Korea Laboratory Accreditation Scheme (KOLAS), which signed the ILAC-MRA. (KOLAS (KS Q ISO/IEC 17025) Accreditation No. KT197)

CONTENTS

1. GENERAL INFORMATION 5
1.1. SUPPORTED BANDS PER ANTENNA PORT 6
1.2 MAXIMUM OUTPUT POWER 7
2. INTRODUCTION 8
2.1. DESCRIPTION OF EUT 8
2.2. MEASURING INSTRUMENT CALIBRATION 8
2.3. TEST FACILITY 8
3. DESCRIPTION OF TESTS 9
3.1 TEST PROCEDURE 9
3.2 RADIATED POWER 10
3.3 RADIATED SPURIOUS EMISSIONS 12
3.4 PEAK- TO- AVERAGE RATIO 13
3.5 OCCUPIED BANDWIDTH. 14
3.6 SPURIOUS AND HARMONIC EMISSIONS AT ANTENNA TERMINAL 15
3.7 BAND EDGE 16
3.8 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE 18
3.9 WORST CASE(RADIATED TEST) 19
3.10 WORST CASE(CONDUCTED TEST) 20
4. LIST OF TEST EQUIPMENT 21
5. MEASUREMENT UNCERTAINTY 24
6. SUMMARY OF TEST RESULTS 25
7. SAMPLE CALCULATION 26
8. TEST DATA (MIMO1) 28
8.1 EQUIVALENT ISOTROPIC RADIATED POWER 28
8.2 RADIATED SPURIOUS EMISSIONS 37
8.3 PEAK-TO-AVERAGE RATIO 38
8.4 OCCUPIED BANDWIDTH 39
8.5 CONDUCTED SPURIOUS EMISSIONS 40
8.6 BAND EDGE 40
8.7 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE 41
9. TEST DATA (Internal(BUA)) 50
9.1 EQUIVALENT ISOTROPIC RADIATED POWER 50
9.2 RADIATED SPURIOUS EMISSIONS 59
10. TEST PLOTS 60
11. ANNEX A_ TEST SETUP PHOTO 259

MEASUREMENT REPORT

1. GENERAL INFORMATION

Applicant Name:	LG Electronics Inc.
Address:	128, Yeoui-daero, Yeongdeungpo-gu, Seoul, Republic of Korea
FCC ID:	2BO3LTM18FNNABM0
Application Type:	Certification
FCC Classification:	PCS Licensed Transmitter (PCB)
FCC Rule Part(s):	§ 27
EUT Type:	Telematics
Model(s):	TM18FNNABM0
Voltage:	4.2V
SCS(kHz):	15
Bandwidth(MHz):	5, 10, 15, 20, 25, 30, 35, 40, 45
Waveform:	CP-OFDM, DFT-S-OFDM
Modulation:	DFT-S-OFDM: PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM CP-OFDM: QPSK, 16QAM, 64QAM, 256QAM
Tx Frequency:	1712.5 MHz – 1777.5 MHz (Sub6 n66(5 MHz)) 1715.0 MHz – 1775.0 MHz (Sub6 n66(10 MHz)) 1717.5 MHz – 1772.5 MHz (Sub6 n66(15 MHz)) 1720.0 MHz – 1770.0 MHz (Sub6 n66(20 MHz)) 1722.5 MHz – 1767.5 MHz (Sub6 n66(25 MHz)) 1725.0 MHz – 1765.0 MHz (Sub6 n66(30 MHz)) 1727.5 MHz – 1762.5 MHz (Sub6 n66(35 MHz)) 1730.0 MHz – 1760.0 MHz (Sub6 n66(40 MHz)) 1732.5 MHz – 1757.5 MHz (Sub6 n66(45 MHz))
Date(s) of Tests:	February 08, 2025 ~ June 13, 2025
EUT Serial number:	Radiated : BMW ICON-25SF Radiated #1 Conducted : BMW ICON-25SF Conducted #3
Antenna Information	Please refer to the Antenna Specification document.

1.1. SUPPORTED BANDS PER ANTENNA PORT

Antenna Port	Supported bands
MIMO 1	- WCDMA: B2, 5 - LTE: B2, 4, 5, 7, 12, 13, 17, 25, 66, 26, 38, 42, 48, 71 - NR: n2, 5, 7, 12, 25, 41, 48, 66, 71, 77, 78
MIMO 2	- LTE: B42, 48 - NR: n48, 77, 78
MIMO 3	Only RX
MIMO 4	Only RX
Int. BUA (Back Up Antenna)	- WCDMA: B2, 5 - LTE: B2, 4, 5, 7, 25, 26, 38, 66 - NR: n2, 5, 7, 25, 41, 66

Note:

1. Since the Int. BUA uses the same antenna port as MIMO1, only radiated testing was performed.

1.2 MAXIMUM OUTPUT POWER

Mode (MHz)	Tx Frequency (MHz)	Emission Designator	Modulation	Conducted Output Power	
				Max. Power (W)	Max. Power (dBm)
Sub6 n66 (5)	1712.5 – 1777.5	4M49G7D	PI/2 BPSK	0.228	23.57
		4M50G7D	QPSK	0.226	23.55
		4M48W7D	16QAM	0.190	22.78
		4M49W7D	64QAM	0.129	21.11
		4M47W7D	256QAM	0.080	19.02
Sub6 n66 (10)	1715.0 – 1775.0	8M98G7D	PI/2 BPSK	0.229	23.60
		8M95G7D	QPSK	0.231	23.63
		8M98W7D	16QAM	0.190	22.79
		8M95W7D	64QAM	0.128	21.08
		8M96W7D	256QAM	0.079	18.99
Sub6 n66 (15)	1717.5 – 1772.5	13M4G7D	PI/2 BPSK	0.229	23.59
		13M4G7D	QPSK	0.230	23.62
		13M4W7D	16QAM	0.191	22.82
		13M5W7D	64QAM	0.129	21.11
		13M4W7D	256QAM	0.076	18.80
Sub6 n66 (20)	1720.0 – 1770.0	17M9G7D	PI/2 BPSK	0.228	23.57
		17M9G7D	QPSK	0.232	23.66
		18M0W7D	16QAM	0.193	22.85
		17M9W7D	64QAM	0.131	21.17
		17M9W7D	256QAM	0.079	18.99
Sub6 n66 (25)	1722.5 – 1767.5	23M1G7D	PI/2 BPSK	0.217	23.37
		22M9G7D	QPSK	0.219	23.40
		23M0W7D	16QAM	0.159	22.02
		23M0W7D	64QAM	0.131	21.16
		22M9W7D	256QAM	0.079	18.96
Sub6 n66 (30)	1725.0 – 1765.0	28M7G7D	PI/2 BPSK	0.215	23.33
		28M6G7D	QPSK	0.219	23.41
		28M7W7D	16QAM	0.152	21.83
		28M7W7D	64QAM	0.123	20.91
		28M6W7D	256QAM	0.074	18.71
Sub6 n66 (35)	1727.5 – 1762.5	32M3G7D	PI/2 BPSK	0.217	23.36
		32M2G7D	QPSK	0.218	23.38
		32M1W7D	16QAM	0.149	21.72
		32M2W7D	64QAM	0.120	20.79
		32M2W7D	256QAM	0.073	18.64
Sub6 n66 (40)	1730.0 – 1760.0	38M7G7D	PI/2 BPSK	0.223	23.49
		38M5G7D	QPSK	0.224	23.50
		38M6W7D	16QAM	0.169	22.27
		38M5W7D	64QAM	0.118	20.72
		38M5W7D	256QAM	0.071	18.54
Sub6 n66 (45)	1732.5 - 1757.5	42M9G7D	PI/2 BPSK	0.219	23.40
		42M8G7D	QPSK	0.219	23.40
		42M8W7D	16QAM	0.145	21.60
		43M1W7D	64QAM	0.118	20.71
		42M9W7D	256QAM	0.072	18.55

2. INTRODUCTION

2.1. DESCRIPTION OF EUT

Please refer to the [3G] Test Report.

2.2. MEASURING INSTRUMENT CALIBRATION

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

2.3. TEST FACILITY

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

3. DESCRIPTION OF TESTS

3.1 TEST PROCEDURE

Test Description	Test Procedure Used
Occupied Bandwidth	- KDB 971168 D01 v03r01 – Section 4.3 - ANSI C63.26-2015 – Section 5.4.4
Band Edge	- KDB 971168 D01 v03r01 – Section 6.0 - ANSI C63.26-2015 – Section 5.7
Spurious and Harmonic Emissions at Antenna Terminal	- KDB 971168 D01 v03r01 – Section 6.0 - ANSI C63.26-2015 – Section 5.7
Conducted Output Power	- N/A (See SAR Report)
Peak- to- Average Ratio	- KDB 971168 D01 v03r01 – Section 5.7 - ANSI C63.26-2015 – Section 5.2.3.4
Frequency stability	- ANSI C63.26-2015 – Section 5.6
Radiated Power	- ANSI C63.26-2015 – Section 5.2.4.4 - KDB 971168 D01 v03r01 – Section 5.8
Radiated Spurious and Harmonic Emissions	- ANSI C63.26-2015 – Section 5.5.3 - KDB 971168 D01 v03r01 – Section 5.8

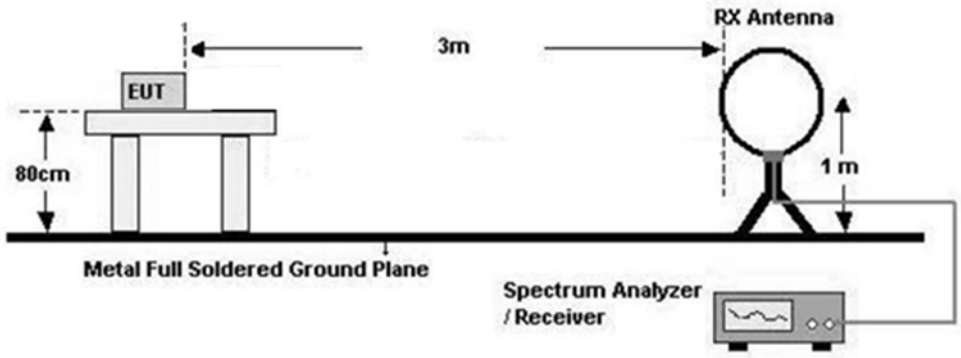
3.2 RADIATED POWER

Test Overview

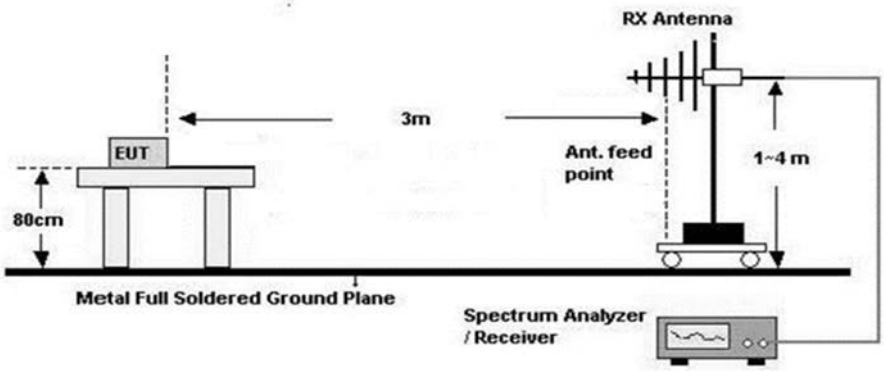
Radiated tests are performed in the semi-anechoic chamber. The equipment under test is placed on a non-conductive table on semi-anechoic chamber.

Test Configuration

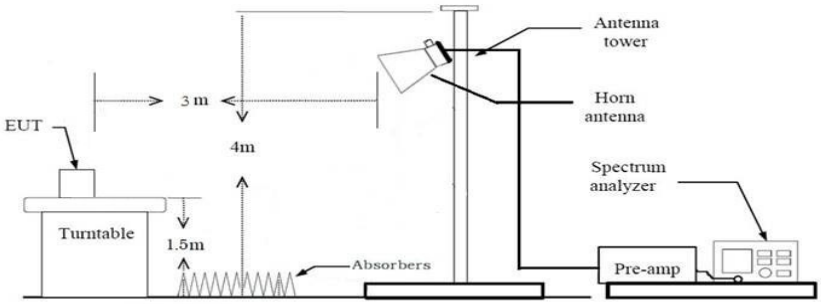
Below 30 MHz



30 MHz - 1 GHz



Above 1 GHz



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(dB V/m) = Measured Value(dB V) + Cable Loss(dB) + Antenna Factor(dB/m) + Distance Factor(D.F)
8. EIRP (dBm)
= Total (dB V/m) + 20 log D – 104.8 (where D is the measurement distance in meters. D=3)
= Total (dB V/m) - 95.2(dB)
9. ERP(dBm) = EIRP(dBm) - 2.15(dB)

3.3 RADIATED SPURIOUS EMISSIONS

Test Overview

Radiated tests are performed in the Fully-anechoic chamber.

Radiated Spurious Emission Measurements at 3 meters by Substitution Method.

Test Settings

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

Test Note

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

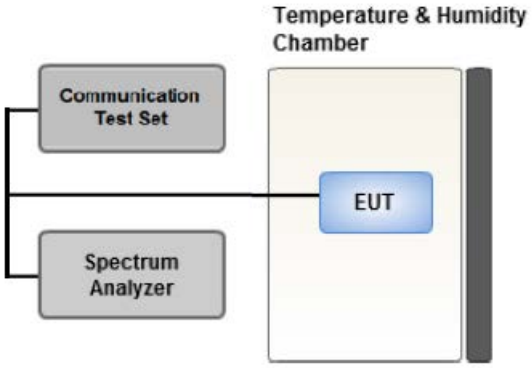
$$\text{Result}_{(dBm)} = \text{Pg}_{(dBm)} - \text{cable loss}_{(dB)} + \text{antenna gain}_{(dBi)}$$

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

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

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

3.4 PEAK- TO- AVERAGE RATIO



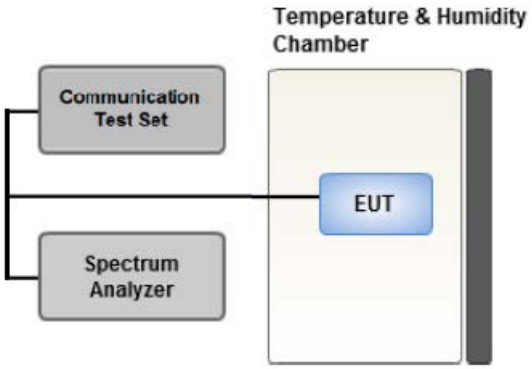
Test setup

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 %.

3.5 OCCUPIED BANDWIDTH.



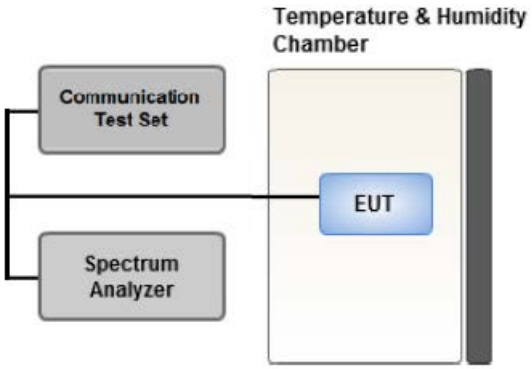
Test setup

The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 % of the total mean power of a given emission.
The EUT makes a call to the communication simulator.
The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.
The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth

Test Settings

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

3.6 SPURIOUS AND HARMONIC EMISSIONS AT ANTENNA TERMINAL



Test setup

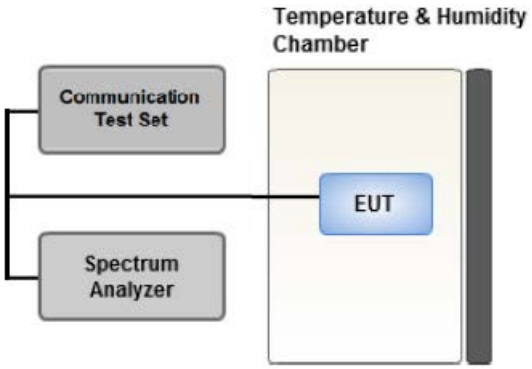
Test Overview

The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic. All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

Test Settings

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

3.7 BAND EDGE



Test setup

Test Overview

All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum 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

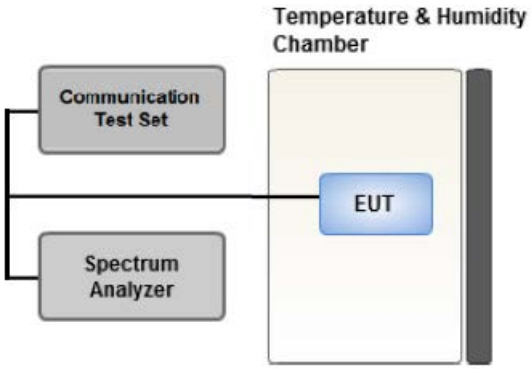
1. Start and stop frequency were set such that the band edge would be placed in the center of the plot
2. Span was set large enough so as to capture all out of band emissions near the band edge
3. Within 1MHz of the channel edge the RBW should be 2 % of EBW, then 1 MHz after that.
4. VBW > 3 x RBW
5.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

Test Notes

According to FCC 22.917, 24.238, 27.53 specified that power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.
All measurements were done at 2 channels(low and high operational frequency range.)
The band edge measurement used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.

Where Margin < 1 dB the emission level is either corrected by 10 log(1 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.
- The worst case is reported with the EUT positioning, modulations, and paging service configurations shown in the test data.
- All modes of operation were investigated and the worst case configuration results are reported.
  Mode: SA, NSA (Worst case: SA)
- Radiated Spurious emissions are measured while operating in EN-DC mode with Sub 6 NR carrier as well as an LTE carrier (anchor).
  All EN-DC mode of operation (=anchor) were investigated and the test results were measured No Peak Found.
  The test results which are attenuated more than 20 dB below the permissible value, so it was not reported.
- All RB sizes, offsets of operation were investigated and the worst case configuration results are reported.
  Please refer to the table below.
- In the case of radiated spurious emissions, all bandwidth of operation was investigated and the worst case bandwidth results are reported. (Worst case : 20 MHz(External(MIMO1)), 5 MHz(Internal(BUA)))
- MIMO3 and MIMO4 have three types of Rx antennas. Operating modes were investigated for all Rx antennas, and the worst-case configuration results were reported.
  (Worst-case: HKL antenna(Maximum gain: 5dBi))

[External(MIMO1) Worst case]

Test Description	Modulation	RB size	RB offset	Axis
Equivalent Isotropic Radiated Power	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	See Section 8.1		Y
Radiated Spurious Emissions	PI/2 BPSK	See Section 8.2		Y

[Internal(BUA) Worst case]

Test Description	Modulation	RB size	RB offset	Axis
Equivalent Isotropic Radiated Power	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	See Section 9.1		Z
Radiated Spurious 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. (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.
- Both 85% and 115% conditions were measured for the Frequency Stability test, and results for the worst-case configuration (85%) were reported.
- In accordance with the customer's specification of 3.7V as the lowest operating voltage, testing was performed at 3.7V instead of 85% (3.57V).

[Worst case]

Test Description	Modulation	Bandwidth (MHz)	Frequency	RB size	RB offset
Occupied Bandwidth, Peak-To-Average Ratio	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	5, 10, 15, 20, 25,30,35,40,45	Mid	Full RB	0
Band Edge	PI/2 BPSK	5	Low	1	0
			High	1	24
		10	Low	1	0
			High	1	51
		15	Low	1	0
			High	1	78
		20	Low	1	0
			High	1	105
		25	Low	1	0
			High	1	132
		30	Low	1	0
			High	1	159
		35	Low	1	0
			High	1	187
		40	Low	1	0
			High	1	215
		45	Low	1	0
			High	1	241
		5, 10, 15, 20, 25,30,35,40,45	Low, High	Full RB	0
Spurious and Harmonic Emissions at Antenna Terminal	PI/2 BPSK	5, 10, 15, 20, 25,30,35,40,45	Low, Mid, High	1	1

4. LIST OF TEST EQUIPMENT

[Radiated]

Equipment	Model	Manufacturer	Serial No.	Due to Calibration	Calibration Interval
RF Switch System	FBSR-04C(3G HPF+LNA)	TNM System	S4L1	03/12/2026	Annual
RF Switch System	FBSR-04C(7G HPF+LNA)	TNM System	S4L5	03/12/2026	Annual
RF Switch System	FBSR-04C(LNA)	TNM System	S4L4	03/12/2026	Annual
RF Switch System	FBSR-04C(Thru)	TNM System	S4L6	03/12/2026	Annual
Antenna Position Tower	MA4640	Innco systems	S4AM	08/07/2025	Annual
Turn Table	DS2000-S	Innco systems	N/A	N/A	-
Controller (Antenna mast & Turn Table)	CO3000	Innco systems	CO3000/1251/48920320/P	N/A	-
Amp & Filter Bank Switch Controller	FBSM-01B	TNM system	TM20090002	N/A	-
RF Switching System	Switch box(1 G HPF+LNA)	HCT CO., LTD.,	F2L2	12/12/2025	Annual
RF Switching System	Switch box(3 G HPF+LNA)	HCT CO., LTD.,	F2L3	12/12/2025	Annual
RF Switching System	Switch box(LNA)	HCT CO., LTD.,	F2L5	12/12/2025	Annual
RF Switching System	Switch box(6 G HPF+LNA)	HCT CO., LTD.,	F2L14	12/12/2025	Annual
HIGHPASS FILTER	WHKX10-900-1000-15000-40SS	WAINWRIGHT INSTRUMENTS	16	07/24/2025	Annual
LOW NOISE AMPLIFIER	310N	SONOMA Instrument	186169	02/05/2026	Annual
LOW NOISE AMPLIFIER	TK-PA1840H	TESTEK	170011-L	10/11/2025	Annual
Power Amplifier	CBL18265035	CERNEX	22966	11/07/2025	Annual
Power Amplifier	CBL26405040	CERNEX	25956	02/19/2026	Annual
Power Splitter(DC ~ 26.5 GHz)	11667B	Hewlett Packard	5001	04/10/2026	Annual
DC Power Supply	E3632A	Agilent	MY40010147	08/06/2025	Annual
Dipole Antenna	UHAP	Schwarzbeck	01274	03/10/2026	Biennial
Dipole Antenna	UHAP	Schwarzbeck	01288	08/07/2026	Biennial
Horn Antenna(1 ~ 18 GHz)	BBHA 9120D	Schwarzbeck	03197	11/28/2025	Biennial
Horn Antenna(1 ~ 18 GHz)	BBHA 9120D	Schwarzbeck	03201	11/28/2025	Biennial
Horn Antenna(1 ~ 18 GHz)	BBHA 9120	Schwarzbeck	937	02/07/2027	Biennial
Horn Antenna(15 ~ 40 GHz)	BBHA 9170	Schwarzbeck	BBHA9170124	03/23/2027	Biennial
Horn Antenna(15 ~ 40 GHz)	BBHA 9170	Schwarzbeck	BBHA9170342	09/20/2026	Biennial

Equipment	Model	Manufacturer	Serial No.	Due to Calibration	Calibration Interval
Spectrum Analyzer(10 Hz ~ 40 GHz)	FSV40	ROHDE & SCHWARZ	101733	09/19/2025	Annual
Spectrum Analyzer(10 Hz ~ 40 GHz)	FSV40	REOHDE & SCHWARZ	101436	02/04/2026	Annual
Signal & Spectrum Analyzer (2 Hz~67 GHz)	FSW67	REOHDE & SCHWARZ	101736	05/27/2026	Annual
Base Station	8960 (E5515C)	Agilent	MY48360800	08/05/2025	Annual
Loop Antenna(9 kHz ~ 30 MHz)	FMZB1513	Schwarzbeck	1513-333	03/07/2026	Biennial
Trilog Broadband Antenna	VULB 9168	Schwarzbeck	9168-0895	08/28/2026	Biennial
Trilog Broadband Antenna	VULB9168	Schwarzbeck	895	08/28/2026	Biennial
Trilog Broadband Antenna	VULB9168	Schwarzbeck	1135	08/19/2026	Biennial
Wideband Radio Communication Tester	MT8821C	Anritsu Corp.	6262287701	05/14/2026	Annual
Wideband Radio Communication Tester	MT8000A	Anritsu Corp.	6272613402	08/28/2025	Annual
SIGNAL GENERATOR (100 kHz ~ 40 GHz)	SMB100A	REOHDE & SCHWARZ	177633	07/26/2025	Annual
Automation Software	FCC LTE Radiated	HCT CO., LTD	-	-	-
Automation Software	FCC NR Radiated	HCT CO., LTD	-	-	-

[Conducted]

Equipment	Model	Manufacturer	Serial No.	Due to Calibration	Calibration Interval
Power Splitter (DC ~ 26.5 GHz)	11667B	Hewlett Packard	5001	04/10/2026	Annual
DC Power Supply	E3632A	Agilent	MY40010147	08/06/2025	Annual
Chamber	SU-642	ESPEC	93008124	02/11/2026	Annual
ATTENUATOR (20 dB)	8493C	Hewlett Packard	17280	04/10/2026	Annual
Base Station	8960 (E5515C)	Agilent	MY48360800	08/05/2025	Annual
Wideband Radio Communication Tester	MT8821C	Anritsu Corp.	6262094331	11/13/2025	Annual
UXM 5G Wireless Test Platform	E7515B	KEYSIGHT	MY60101126	02/10/2026	Annual
Signal Analyzer (2 Hz ~ 50.0 GHz)	N9030B	KEYSIGHT	MY56320554	02/03/2026	Annual
FCC LTE Mobile Conducted RF Automation Test Software	-	HCT CO., LTD.	-	-	-
Automation Software	FCC 2G/3G/4G Conducted	HCT CO., LTD	–	–	–
Automation Software	FCC NR Conducted	HCT CO., LTD	–	–	–

Note:

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

5. MEASUREMENT UNCERTAINTY

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

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

Parameter	Expanded Uncertainty (±kHz)
Occupied Bandwidth	95 (Confidence level about 95 %, k=2)
Frequency stability	28 (Confidence level about 95 %, k=2)

Parameter	Expanded Uncertainty (±dB)
Block Edge	0.70 (Confidence level about 95 %, k=2)
Conducted Spurious Emissions	1.18 (Confidence level about 95 %, k=2)
Peak- to- Average Ratio	0.68 (Confidence level about 95 %, k=2)
Radiated Power	4.74 (Confidence level about 95 %, k=2)
Radiated Disturbance (9 kHz ~ 30 MHz)	4.36 (Confidence level about 95 %, k=2)
Radiated Disturbance (30 MHz ~ 1 GHz)	5.68 (Confidence level about 95 %, k=2)
Radiated Disturbance (1 GHz ~ 18 GHz)	5.75 (Confidence level about 95 %, k=2)
Radiated Disturbance (18 GHz ~ 40 GHz)	5.82 (Confidence level about 95 %, k=2)
Radiated Disturbance (Above 40 GHz)	5.58 (Confidence level about 95 %, k=2)

6. SUMMARY OF TEST RESULTS

-. The decision rule applies 'simple acceptance'

6.1 Test Condition: Conducted Test

Test Description	FCC Part Section(s)	Test Limit	Test Result
Occupied Bandwidth	§ 2.1049	N/A	PASS
Band Edge / Spurious and Harmonic Emissions at Antenna Terminal.	§ 2.1051, § 27.53(h)	< 43 + 10log10 (P[Watts]) at Band Edge and for all out-of-band emissions	PASS
Conducted Output Power	§ 2.1046	N/A	Note[1]
Peak- to- Average Ratio	§ 27.50(d)(5)	< 13 dB	PASS
Frequency stability / variation of ambient temperature	§ 2.1055, § 27.54	Emission must remain in band	PASS

Note:

1. Refer to the SAR report.

2. All conducted tests were tested using 5G Wireless Tester.

6.2 Test Condition: Radiated Test

Test Description	FCC Part Section(s)	Test Limit	Test Result
Equivalent Isotropic Radiated Power	§ 27.50(d)(4)	< 1 Watts max. EIRP	PASS
Radiated Spurious and Harmonic Emissions	§ 2.1053, § 27.53(h)	< 43 + 10log10 (P[Watts]) for all out-of band emissions	PASS

Note:

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

7. SAMPLE CALCULATION

7.1 ERP Sample Calculation

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

ERP = Substitute LEVEL(dBm) + Ant. Gain – CL(Cable Loss)

1) The EUT mounted on a non-conductive turntable is 2.5 meter above test site ground level.
2) During the test, the turn table is rotated until the maximum signal is found.
3) Record the field strength meter's level.
4) Replace the EUT with dipole/Horn antenna that is connected to a calibrated signal generator.
5) Increase the signal generator output till the field strength meter's level is equal to the item (3).
6) The signal generator output level with Ant. Gain and cable loss are the rating of effective radiated power.

7.2 EIRP Sample Calculation

Ch./ Freq.		Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol.	EIRP	
channel	Freq.(MHz)						W	dBm
20175	1,732.50	-15.75	18.45	9.90	1.76	H	0.456	26.59

EIRP = Substitute LEVEL(dBm) + Ant. Gain – CL(Cable Loss)

1) The EUT mounted on a non-conductive turntable is 2.5 meter above test site ground level.
2) During the test, the turn table is rotated until the maximum signal is found.
3) Record the field strength meter's level.
4) Replace the EUT with dipole/Horn antenna that is connected to a calibrated signal generator.
5) Increase the signal generator output till the field strength meter's level is equal to the item (3).
6) The signal generator output level with Ant. Gain and cable loss are the rating of equivalent isotropic radiated power.

7.3. Emission Designator

GSM Emission Designator

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

EDGE Emission Designator

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

WCDMA Emission Designator

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

QPSK Modulation

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

QAM Modulation

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

8. TEST DATA (MIMO1)

8.1 EQUIVALENT ISOTROPIC RADIATED POWER

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured (dBµV/m)	Ant. Factor + Dis. Factor(dB)	Cable loss(dB)	Total (dBµV/m)	Pol.	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1712.5	Sub6 n66/ 5 MHz [15 kHz]	PI/2 BPSK	84.71	27.50	3.85	116.06	V	< 1.00	0.122	20.86	1	12
		QPSK	84.59	27.50	3.85	115.94	V		0.119	20.74		
		16-QAM	83.59	27.50	3.85	114.94	V		0.094	19.74		
		64-QAM	82.23	27.50	3.85	113.58	V		0.069	18.38		
		256-QAM	80.37	27.50	3.85	111.72	V		0.045	16.52		
1745.0		PI/2 BPSK	87.15	27.50	3.89	118.54	V		0.216	23.34	1	12
		QPSK	86.99	27.50	3.89	118.37	V		0.208	23.17		
		16-QAM	85.90	27.50	3.89	117.29	V		0.162	22.09		
		64-QAM	84.49	27.50	3.89	115.88	V		0.117	20.68		
		256-QAM	82.70	27.50	3.89	114.09	V		0.077	18.89		
1777.5		PI/2 BPSK	86.65	27.60	3.92	118.17	V		0.198	22.97	1	23
		QPSK	86.54	27.60	3.92	118.05	V		0.193	22.85		
		16-QAM	85.39	27.60	3.92	116.91	V		0.148	21.71		
		64-QAM	84.00	27.60	3.92	115.52	V		0.108	20.32		
		256-QAM	82.21	27.60	3.92	113.73	V		0.071	18.53		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured (dBµV/m)	Ant. Factor + Dis. Factor(dB)	Cable loss(dB)	Total (dBµV/m)	Pol.	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1715.0	Sub6 n66/ 10 MHz [15 kHz]	PI/2 BPSK	85.42	27.50	3.85	116.76	V	< 1.00	0.143	21.56	1	26
		QPSK	85.15	27.50	3.85	116.50	V		0.135	21.30		
		16-QAM	84.54	27.50	3.85	115.89	V		0.117	20.69		
		64-QAM	82.98	27.50	3.85	114.33	V		0.082	19.13		
		256-QAM	80.79	27.50	3.85	112.14	V		0.049	16.94		
1745.0		PI/2 BPSK	86.46	27.50	3.89	117.85	V		0.184	22.65	1	50
		QPSK	86.38	27.50	3.89	117.77	V		0.181	22.57		
		16-QAM	85.55	27.50	3.89	116.94	V		0.149	21.74		
		64-QAM	84.07	27.50	3.89	115.46	V		0.106	20.26		
		256-QAM	82.01	27.50	3.89	113.40	V		0.066	18.20		
1775.0		PI/2 BPSK	86.17	27.60	3.92	117.68	V		0.177	22.48	1	1
		QPSK	86.16	27.60	3.92	117.68	V		0.177	22.48		
		16-QAM	85.62	27.60	3.92	117.13	V		0.156	21.93		
		64-QAM	83.61	27.60	3.92	115.12	V		0.098	19.92		
		256-QAM	81.83	27.60	3.92	113.35	V		0.065	18.15		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured (dBµV/m)	Ant. Factor + Dis. Factor(dB)	Cable loss(dB)	Total (dBµV/m)	Pol.	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1717.5	Sub6 n66/ 15 MHz [15 kHz]	PI/2 BPSK	85.68	27.50	3.85	117.03	V	< 1.00	0.153	21.83	1	77
		QPSK	85.55	27.50	3.85	116.90	V		0.148	21.70		
		16-QAM	84.88	27.50	3.85	116.23	V		0.127	21.03		
		64-QAM	82.88	27.50	3.85	114.23	V		0.080	19.03		
		256-QAM	80.96	27.50	3.85	112.31	V		0.051	17.11		
1745.0		PI/2 BPSK	86.60	27.50	3.89	117.99	V		0.190	22.79	1	77
		QPSK	86.45	27.50	3.89	117.84	V		0.184	22.64		
		16-QAM	86.02	27.50	3.89	117.41	V		0.166	22.21		
		64-QAM	83.67	27.50	3.89	115.06	V		0.097	19.86		
		256-QAM	82.18	27.50	3.89	113.57	V		0.069	18.37		
1772.5		PI/2 BPSK	86.82	27.60	3.92	118.34	V		0.206	23.14	1	1
		QPSK	86.72	27.60	3.92	118.24	V		0.201	23.04		
		16-QAM	85.79	27.60	3.92	117.31	V		0.162	22.11		
		64-QAM	83.76	27.60	3.92	115.28	V		0.102	20.08		
		256-QAM	82.35	27.60	3.92	113.87	V		0.074	18.67		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured (dBµV/m)	Ant. Factor + Dis. Factor(dB)	Cable loss(dB)	Total (dBµV/m)	Pol.	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1720.0	Sub6 n66/ 20 MHz [15 kHz]	PI/2 BPSK	85.76	27.50	3.85	117.11	V	< 1.00	0.155	21.91	1	104
		QPSK	85.73	27.50	3.85	117.08	V		0.154	21.88		
		16-QAM	85.04	27.50	3.85	116.39	V		0.132	21.19		
		64-QAM	83.33	27.50	3.85	114.68	V		0.089	19.48		
		256-QAM	81.20	27.50	3.85	112.55	V		0.054	17.35		
1745.0		PI/2 BPSK	86.87	27.50	3.89	118.26	V		0.202	23.06	1	104
		QPSK	86.69	27.50	3.89	118.07	V		0.194	22.87		
		16-QAM	85.86	27.50	3.89	117.25	V		0.160	22.05		
		64-QAM	84.24	27.50	3.89	115.63	V		0.110	20.43		
		256-QAM	82.30	27.50	3.89	113.69	V		0.071	18.49		
1770.0		PI/2 BPSK	87.03	27.60	3.92	118.55	V		0.216	23.35	1	1
		QPSK	86.88	27.60	3.92	118.40	V		0.209	23.20		
		16-QAM	86.23	27.60	3.92	117.75	V		0.180	22.55		
		64-QAM	83.89	27.60	3.92	115.41	V		0.105	20.21		
		256-QAM	82.58	27.60	3.92	114.10	V		0.078	18.90		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured (dBµV/m)	Ant. Factor + Dis. Factor(dB)	Cable loss(dB)	Total (dBµV/m)	Pol.	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1722.5	Sub6 n66/ 25 MHz [15 kHz]	PI/2 BPSK	85.11	27.50	3.85	116.45	V	< 1.00	0.133	21.25	1	66
		QPSK	84.86	27.50	3.85	116.20	V		0.126	21.00		
		16-QAM	84.08	27.50	3.85	115.43	V		0.106	20.23		
		64-QAM	81.93	27.50	3.85	113.28	V		0.064	18.08		
		256-QAM	80.53	27.50	3.85	111.88	V		0.047	16.68		
1745.0		PI/2 BPSK	86.24	27.50	3.89	117.63	V		0.175	22.43	1	131
		QPSK	86.05	27.50	3.89	117.44	V		0.168	22.24		
		16-QAM	85.50	27.50	3.89	116.89	V		0.148	21.69		
		64-QAM	83.33	27.50	3.89	114.71	V		0.089	19.51		
		256-QAM	81.61	27.50	3.89	113.00	V		0.060	17.80		
1767.5		PI/2 BPSK	86.26	27.60	3.92	117.78	V		0.181	22.58	1	1
		QPSK	86.25	27.60	3.92	117.76	V		0.181	22.56		
		16-QAM	85.57	27.60	3.92	117.09	V		0.155	21.89		
		64-QAM	83.55	27.60	3.92	115.07	V		0.097	19.87		
		256-QAM	81.90	27.60	3.92	113.42	V		0.066	18.22		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured (dBµV/m)	Ant. Factor + Dis. Factor(dB)	Cable loss(dB)	Total (dBµV/m)	Pol.	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1725.0	Sub6 n66/ 30 MHz [15 kHz]	PI/2 BPSK	84.81	27.50	3.85	116.16	V	< 1.00	0.125	20.96	1	158
		QPSK	84.78	27.50	3.85	116.13	V		0.124	20.93		
		16-QAM	84.09	27.50	3.85	115.44	V		0.106	20.24		
		64-QAM	81.93	27.50	3.85	113.28	V		0.064	18.08		
		256-QAM	80.42	27.50	3.85	111.77	V		0.045	16.57		
1745.0		PI/2 BPSK	86.25	27.50	3.89	117.64	V		0.175	22.44	1	158
		QPSK	86.24	27.50	3.89	117.63	V		0.175	22.43		
		16-QAM	85.58	27.50	3.89	116.96	V		0.150	21.76		
		64-QAM	83.65	27.50	3.89	115.04	V		0.096	19.84		
		256-QAM	81.75	27.50	3.89	113.14	V		0.062	17.94		
1765.0		PI/2 BPSK	86.25	27.60	3.92	117.77	V		0.181	22.57	1	80
		QPSK	86.23	27.60	3.92	117.75	V		0.180	22.55		
		16-QAM	85.47	27.60	3.92	116.99	V		0.151	21.79		
		64-QAM	83.70	27.60	3.92	115.22	V		0.100	20.02		
		256-QAM	81.87	27.60	3.92	113.39	V		0.066	18.19		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured (dBµV/m)	Ant. Factor + Dis. Factor(dB)	Cable loss(dB)	Total (dBµV/m)	Pol.	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1727.5	Sub6 n66/ 35 MHz [15 kHz]	PI/2 BPSK	85.40	27.50	3.85	116.74	V	< 1.00	0.143	21.54	1	186
		QPSK	85.37	27.50	3.85	116.72	V		0.142	21.52		
		16-QAM	84.66	27.50	3.85	116.01	V		0.121	20.81		
		64-QAM	82.81	27.50	3.85	114.15	V		0.079	18.95		
		256-QAM	80.99	27.50	3.85	112.34	V		0.052	17.14		
1745.0		PI/2 BPSK	86.36	27.50	3.89	117.75	V		0.180	22.55	1	186
		QPSK	86.19	27.50	3.89	117.58	V		0.173	22.38		
		16-QAM	85.69	27.50	3.89	117.08	V		0.154	21.88		
		64-QAM	83.38	27.50	3.89	114.77	V		0.091	19.57		
		256-QAM	82.13	27.50	3.89	113.51	V		0.068	18.31		
1762.5		PI/2 BPSK	86.61	27.60	3.92	118.13	V		0.197	22.93	1	94
		QPSK	86.34	27.60	3.92	117.86	V		0.185	22.66		
		16-QAM	85.55	27.60	3.92	117.07	V		0.154	21.87		
		64-QAM	83.43	27.60	3.92	114.95	V		0.094	19.75		
		256-QAM	82.19	27.60	3.92	113.70	V		0.071	18.50		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured (dBµV/m)	Ant. Factor + Dis. Factor(dB)	Cable loss(dB)	Total (dBµV/m)	Pol.	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1730.0	Sub6 n66/ 40 MHz [15 kHz]	PI/2 BPSK	85.74	27.50	3.85	117.09	V	< 1.00	0.154	21.89	1	214
		QPSK	85.73	27.50	3.85	117.08	V		0.154	21.88		
		16-QAM	85.23	27.50	3.85	116.58	V		0.137	21.38		
		64-QAM	83.05	27.50	3.85	114.40	V		0.083	19.20		
		256-QAM	81.54	27.50	3.85	112.89	V		0.059	17.69		
1745.0		PI/2 BPSK	86.45	27.50	3.89	117.84	V		0.184	22.64	1	214
		QPSK	86.42	27.50	3.89	117.81	V		0.182	22.61		
		16-QAM	85.27	27.50	3.89	116.66	V		0.140	21.46		
		64-QAM	83.29	27.50	3.89	114.68	V		0.089	19.48		
		256-QAM	81.96	27.50	3.89	113.35	V		0.065	18.15		
1760.0		PI/2 BPSK	86.35	27.60	3.92	117.87	V		0.185	22.67	1	108
		QPSK	86.16	27.60	3.92	117.68	V		0.177	22.48		
		16-QAM	85.47	27.60	3.92	116.99	V		0.151	21.79		
		64-QAM	83.41	27.60	3.92	114.93	V		0.094	19.73		
		256-QAM	82.15	27.60	3.92	113.67	V		0.070	18.47		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured (dBµV/m)	Ant. Factor + Dis. Factor(dB)	Cable loss(dB)	Total (dBµV/m)	Pol.	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1732.5	Sub6 n66/ 45 MHz [15 kHz]	PI/2 BPSK	86.14	27.50	3.85	117.49	V	< 1.00	0.169	22.29	1	240
		QPSK	85.95	27.50	3.85	117.30	V		0.162	22.10		
		16-QAM	85.57	27.50	3.85	116.92	V		0.149	21.72		
		64-QAM	83.47	27.50	3.85	114.82	V		0.092	19.62		
		256-QAM	81.77	27.50	3.85	113.12	V		0.062	17.92		
1745.0		PI/2 BPSK	86.04	27.50	3.89	117.43	V		0.167	22.23	1	240
		QPSK	86.03	27.50	3.89	117.41	V		0.167	22.21		
		16-QAM	85.09	27.50	3.89	116.48	V		0.134	21.28		
		64-QAM	83.11	27.50	3.89	114.50	V		0.085	19.30		
		256-QAM	81.57	27.50	3.89	112.96	V		0.060	17.76		
1757.5		PI/2 BPSK	86.46	27.60	3.92	117.98	V		0.190	22.78	1	122
		QPSK	86.22	27.60	3.92	117.74	V		0.179	22.54		
		16-QAM	85.38	27.60	3.92	116.90	V		0.148	21.70		
		64-QAM	83.34	27.60	3.92	114.86	V		0.092	19.66		
		256-QAM	81.84	27.60	3.92	113.36	V		0.065	18.16		

8.2 RADIATED SPURIOUS EMISSIONS

- ▣ NR Band: N66
- ▣ Bandwidth: 20 MHz
- ▣ Modulation: PI/2 BPSK
- ▣ Distance: 3 meters
- ▣ SCS: 15 kHz

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)	RB	
									Size	Offset
344000 (1720.0)	3 440.00	-53.81	11.41	-61.40	3.04	V	-53.03	-13.00	1	104
	5 160.00	-54.76	11.32	-56.78	3.76	V	-49.22	-13.00		
	6 880.00	-55.38	11.11	-51.80	4.44	V	-45.13	-13.00		
	8 600.00	-55.46	11.14	-46.24	4.99	V	-40.09	-13.00		
	10 320.00	-55.20	11.76	-47.32	5.55	V	-41.11	-13.00		
349000 (1745.0)	3 490.00	-53.79	11.56	-62.02	3.04	V	-53.50	-13.00	1	104
	5 235.00	-55.08	11.53	-56.39	3.78	H	-48.64	-13.00		
	6 980.00	-54.40	11.12	-51.22	4.48	V	-44.58	-13.00		
	8 725.00	-56.35	11.18	-46.39	5.03	V	-40.24	-13.00		
	10 470.00	-54.32	11.89	-47.60	5.59	V	-41.30	-13.00		
354000 (1770.0)	3 540.00	-55.09	11.64	-63.07	3.06	H	-54.49	-13.00	1	1
	5 310.00	-55.00	11.69	-56.40	3.82	V	-48.53	-13.00		
	7 080.00	-55.59	10.83	-51.67	4.49	H	-45.33	-13.00		
	8 850.00	-55.77	11.26	-46.08	5.05	V	-39.87	-13.00		
	10 620.00	-54.79	11.74	-47.88	5.65	H	-41.79	-13.00		

8.3 PEAK-TO-AVERAGE RATIO

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (dB)
Sub6 n66	5 MHz	1745.0	BPSK	25	0	6.20
			QPSK			6.37
			16-QAM			6.66
			64-QAM			6.69
			256-QAM			6.60
	10 MHz		BPSK	50		5.58
			QPSK			5.87
			16-QAM			6.56
			64-QAM			6.59
			256-QAM			6.62
	15 MHz		BPSK	75		4.78
			QPSK			5.84
			16-QAM			6.56
			64-QAM			6.61
			256-QAM			6.48
	20 MHz		BPSK	100		6.01
			QPSK			6.12
			16-QAM			6.59
			64-QAM			6.59
			256-QAM			6.56
	25 MHz		BPSK	128		4.55
			QPSK			5.92
			16-QAM			6.49
			64-QAM			6.70
			256-QAM			6.66
	30 MHz		BPSK	160		4.65
			QPSK			5.85
			16-QAM			6.42
			64-QAM			6.76
			256-QAM			6.63
	35 MHz		BPSK	187		4.78
			QPSK			5.75
			16-QAM			6.49
			64-QAM			6.70
			256-QAM			6.55
	40 MHz		BPSK	216		4.86
			QPSK			5.76
			16-QAM			6.39
			64-QAM			6.63
			256-QAM			6.52
	45 MHz		BPSK	242		4.59
			QPSK			5.77
			16-QAM			6.40
			64-QAM			6.69
			256-QAM			6.46

Note:

1. Plots of the EUT's Peak- to- Average Ratio are shown Page 61 ~ 105.

8.4 OCCUPIED BANDWIDTH

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (MHz)
Sub6 n66	5 MHz	1745.0	BPSK	25	0	4.4941
			QPSK			4.5012
			16-QAM			4.4841
			64-QAM			4.4873
			256-QAM			4.4710
	10 MHz		BPSK	50		8.9781
			QPSK			8.9538
			16-QAM			8.9844
			64-QAM			8.9526
			256-QAM			8.9595
	15 MHz		BPSK	75		13.427
			QPSK			13.411
			16-QAM			13.409
			64-QAM			13.455
			256-QAM			13.401
	20 MHz		BPSK	100		17.909
			QPSK			17.921
			16-QAM			17.948
			64-QAM			17.897
			256-QAM			17.888
	25 MHz		BPSK	128		23.062
			QPSK			22.908
			16-QAM			22.964
			64-QAM			22.993
			256-QAM			22.944
	30 MHz		BPSK	160		28.661
			QPSK			28.563
			16-QAM			28.695
			64-QAM			28.677
			256-QAM			28.638
	35 MHz		BPSK	187		32.273
			QPSK			32.168
			16-QAM			32.131
			64-QAM			32.158
			256-QAM			32.148
	40 MHz		BPSK	216		38.679
			QPSK			38.530
			16-QAM			38.603
			64-QAM			38.530
			256-QAM			38.503
	45 MHz		BPSK	242		42.934
			QPSK			42.804
			16-QAM			42.810
			64-QAM			43.085
			256-QAM			42.875

Note:

1. Plots of the EUT's Occupied Bandwidth are shown Page 106 ~ 150.

8.5 CONDUCTED SPURIOUS EMISSIONS

Band	Band Width (MHz)	Frequency (MHz)	Frequency of Maximum Harmonic (GHz)	Factor (dB)	Measurement Maximum Data (dBm)	Result (dBm)	Limit (dBm)
Sub6 n66	5	1712.5	4.9552	29.320	-61.397	-32.077	-13.00
		1745.0	4.9452	29.320	-61.441	-32.121	
		1777.5	5.1745	29.910	-61.163	-31.253	
	10	1715.0	4.0080	29.320	-61.752	-32.432	
		1745.0	4.0180	29.320	-61.325	-32.005	
		1775.0	3.7688	29.320	-60.703	-31.383	
	15	1717.5	3.8485	29.320	-61.403	-32.083	
		1745.0	3.7787	29.320	-62.205	-32.885	
		1772.5	3.7887	29.320	-61.650	-32.330	
	20	1720.0	4.9552	29.320	-61.272	-31.952	
		1745.0	4.0379	29.320	-60.769	-31.449	
		1770.0	4.9153	29.320	-61.964	-32.644	
	25	1722.5	3.9981	29.320	-61.196	-31.876	
		1745.0	4.8854	29.320	-61.691	-32.371	
		1767.5	5.9622	29.910	-61.250	-31.340	
	30	1725.0	8.1456	29.910	-60.886	-30.976	
		1745.0	3.7688	29.320	-59.837	-30.517	
		1765.0	3.8286	29.320	-61.937	-32.617	
	35	1727.5	5.1446	29.910	-61.326	-31.416	
		1745.0	3.8086	29.320	-60.475	-31.155	
		1762.5	4.0579	29.320	-61.103	-31.783	
	40	1730.0	3.7987	29.910	-59.919	-30.009	
		1745.0	3.8086	29.320	-60.527	-31.207	
		1760.0	5.2443	29.320	-61.016	-31.696	
	45	1732.5	5.1845	29.910	-61.823	-31.913	
		1745.0	3.7787	29.320	-61.242	-31.922	
		1757.5	4.9153	29.320	-60.695	-31.375	

Note:

1. Plots of the EUT's Conducted Spurious Emissions are shown Page 151 ~ 204.
2. Result (dBm) = Measurement Maximum Data (dBm) + Factor (dB)
3. Factor(dB) = Cable Loss + Ext. Attenuator + Power Splitter

Frequency Range (GHz)	Factor [dB]
0.03 – 1	27.250
1 – 5	29.320
5 – 10	29.910
10 – 15	30.530
15 – 20	31.840
Above 20(26.5)	32.520

8.6 BAND EDGE

- Plots of the EUT's Band Edge are shown Page 205 ~ 258.

8.7 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE

▣ BandWidth: 5 MHz

▣ Voltage(100 %): 4.200 VDC

▣ Lowest voltage: 3.700 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
1712.5	100 %	+20(Ref)	1712 499 994	0.0	0.000 000	0.000
	100 %	-30	1712 499 991	-3.5	0.000 000	-0.002
	100 %	-20	1712 499 990	-4.1	0.000 000	-0.002
	100 %	-10	1712 499 990	-4.8	0.000 000	-0.003
	100 %	0	1712 499 991	-3.1	0.000 000	-0.002
	100 %	+10	1712 499 992	-2.7	0.000 000	-0.002
	100 %	+30	1712 499 989	-5.0	0.000 000	-0.003
	100 %	+40	1712 499 991	-3.8	0.000 000	-0.002
	100 %	+50	1712 499 990	-4.4	0.000 000	-0.003
	Lowest voltage	+20	1712 499 990	-4.5	0.000 000	-0.003
1777.5	100 %	+20(Ref)	1777 499 994	0.0	0.000 000	0.000
	100 %	-30	1777 499 989	-4.9	0.000 000	-0.003
	100 %	-20	1777 499 991	-3.2	0.000 000	-0.002
	100 %	-10	1777 499 989	-4.7	0.000 000	-0.003
	100 %	0	1777 499 989	-5.1	0.000 000	-0.003
	100 %	+10	1777 499 988	-6.5	0.000 000	-0.004
	100 %	+30	1777 499 987	-7.1	0.000 000	-0.004
	100 %	+40	1777 499 989	-5.5	0.000 000	-0.003
	100 %	+50	1777 499 989	-5.0	0.000 000	-0.003
	Lowest voltage	+20	1777 499 989	-5.2	0.000 000	-0.003

▣ BandWidth: 10 MHz

▣ Voltage(100 %): 4.200 VDC

▣ Lowest voltage: 3.700 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
1715.0	100 %	+20(Ref)	1715 000 000	0.0	0.000 000	0.000
	100 %	-30	1714 999 997	-3.0	0.000 000	-0.002
	100 %	-20	1714 999 996	-3.8	0.000 000	-0.002
	100 %	-10	1714 999 998	-1.7	0.000 000	-0.001
	100 %	0	1714 999 998	-1.4	0.000 000	-0.001
	100 %	+10	1714 999 998	-2.0	0.000 000	-0.001
	100 %	+30	1714 999 997	-2.6	0.000 000	-0.002
	100 %	+40	1714 999 998	-1.7	0.000 000	-0.001
	100 %	+50	1714 999 998	-1.3	0.000 000	-0.001
	Lowest voltage	+20	1714 999 997	-2.9	0.000 000	-0.002
1775.0	100 %	+20(Ref)	1775 000 000	0.0	0.000 000	0.000
	100 %	-30	1775 000 002	1.9	0.000 000	0.001
	100 %	-20	1775 000 000	0.1	0.000 000	0.000
	100 %	-10	1774 999 999	-0.4	0.000 000	0.000
	100 %	0	1775 000 001	1.7	0.000 000	0.001
	100 %	+10	1775 000 002	2.8	0.000 000	0.002
	100 %	+30	1775 000 002	2.4	0.000 000	0.001
	100 %	+40	1775 000 001	1.6	0.000 000	0.001
	100 %	+50	1774 999 997	-3.1	0.000 000	-0.002
	Lowest voltage	+20	1774 999 996	-3.2	0.000 000	-0.002

▣ BandWidth: 15 MHz

▣ Voltage(100 %): 4.200 VDC

▣ Lowest voltage: 3.700 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
1717.5	100 %	+20(Ref)	1717 499 998	0.0	0.000 000	0.000
	100 %	-30	1717 499 993	-4.8	0.000 000	-0.003
	100 %	-20	1717 499 994	-3.9	0.000 000	-0.002
	100 %	-10	1717 499 994	-3.5	0.000 000	-0.002
	100 %	0	1717 499 997	-1.3	0.000 000	-0.001
	100 %	+10	1717 499 995	-2.6	0.000 000	-0.001
	100 %	+30	1717 499 996	-2.1	0.000 000	-0.001
	100 %	+40	1717 499 997	-0.7	0.000 000	0.000
	100 %	+50	1717 499 997	-0.8	0.000 000	0.000
	Lowest voltage	+20	1717 499 996	-1.6	0.000 000	-0.001
1772.5	100 %	+20(Ref)	1772 499 994	0.0	0.000 000	0.000
	100 %	-30	1772 499 990	-4.5	0.000 000	-0.003
	100 %	-20	1772 499 988	-6.1	0.000 000	-0.003
	100 %	-10	1772 499 990	-4.2	0.000 000	-0.002
	100 %	0	1772 499 990	-4.9	0.000 000	-0.003
	100 %	+10	1772 499 992	-2.8	0.000 000	-0.002
	100 %	+30	1772 499 989	-5.5	0.000 000	-0.003
	100 %	+40	1772 499 989	-5.5	0.000 000	-0.003
	100 %	+50	1772 499 988	-6.2	0.000 000	-0.003
	Lowest voltage	+20	1772 499 989	-5.6	0.000 000	-0.003

▣ BandWidth: 20 MHz

▣ Voltage(100 %): 4.200 VDC

▣ Lowest voltage: 3.700 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
1720.0	100 %	+20(Ref)	1719 999 994	0.0	0.000 000	0.000
	100 %	-30	1719 999 987	-6.6	0.000 000	-0.004
	100 %	-20	1719 999 987	-6.7	0.000 000	-0.004
	100 %	-10	1719 999 988	-6.4	0.000 000	-0.004
	100 %	0	1719 999 988	-6.4	0.000 000	-0.004
	100 %	+10	1719 999 986	-8.3	0.000 000	-0.005
	100 %	+30	1719 999 990	-4.1	0.000 000	-0.002
	100 %	+40	1719 999 986	-7.7	0.000 000	-0.004
	100 %	+50	1719 999 988	-5.7	0.000 000	-0.003
	Lowest voltage	+20	1719 999 989	-4.6	0.000 000	-0.003
1770.0	100 %	+20(Ref)	1769 999 991	0.0	0.000 000	0.000
	100 %	-30	1769 999 981	-9.9	-0.000 001	-0.006
	100 %	-20	1769 999 981	-10.0	-0.000 001	-0.006
	100 %	-10	1769 999 979	-11.8	-0.000 001	-0.007
	100 %	0	1769 999 982	-8.2	0.000 000	-0.005
	100 %	+10	1769 999 984	-6.1	0.000 000	-0.003
	100 %	+30	1769 999 985	-6.0	0.000 000	-0.003
	100 %	+40	1769 999 983	-7.8	0.000 000	-0.004
	100 %	+50	1769 999 982	-8.3	0.000 000	-0.005
	Lowest voltage	+20	1769 999 982	-8.7	0.000 000	-0.005

▣ BandWidth: 25 MHz

▣ Voltage(100 %): 4.200 VDC

▣ Lowest voltage: 3.700 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
1722.5	100 %	+20(Ref)	1720 000 002	0.0	0.000 000	0.000
	100 %	-30	1720 000 003	1.4	0.000 000	0.001
	100 %	-20	1720 000 004	1.9	0.000 000	0.001
	100 %	-10	1720 000 002	0.6	0.000 000	0.000
	100 %	0	1720 000 001	-0.6	0.000 000	0.000
	100 %	+10	1720 000 001	-0.6	0.000 000	0.000
	100 %	+30	1720 000 000	-2.2	0.000 000	-0.001
	100 %	+40	1720 000 005	3.3	0.000 000	0.002
	100 %	+50	1720 000 000	-1.5	0.000 000	-0.001
	Lowest voltage	+20	1720 000 001	-1.2	0.000 000	-0.001
1767.5	100 %	+20(Ref)	1767 499 999	0.0	0.000 000	0.000
	100 %	-30	1767 499 998	-0.9	0.000 000	0.000
	100 %	-20	1767 499 999	-0.3	0.000 000	0.000
	100 %	-10	1767 499 998	-0.7	0.000 000	0.000
	100 %	0	1767 500 000	0.8	0.000 000	0.000
	100 %	+10	1767 499 999	-0.1	0.000 000	0.000
	100 %	+30	1767 499 998	-0.8	0.000 000	0.000
	100 %	+40	1767 499 997	-1.8	0.000 000	-0.001
	100 %	+50	1767 499 996	-2.5	0.000 000	-0.001
	Lowest voltage	+20	1767 499 997	-2.2	0.000 000	-0.001

▣ BandWidth: 30 MHz

▣ Voltage(100 %): 4.200 VDC

▣ Lowest voltage: 3.700 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
1725.0	100 %	+20(Ref)	1724 999 995	0.0	0.000 000	0.000
	100 %	-30	1724 999 992	-3.5	0.000 000	-0.002
	100 %	-20	1724 999 992	-3.5	0.000 000	-0.002
	100 %	-10	1724 999 990	-4.8	0.000 000	-0.003
	100 %	0	1724 999 991	-4.2	0.000 000	-0.002
	100 %	+10	1724 999 990	-5.1	0.000 000	-0.003
	100 %	+30	1724 999 990	-5.1	0.000 000	-0.003
	100 %	+40	1724 999 991	-4.7	0.000 000	-0.003
	100 %	+50	1724 999 989	-6.3	0.000 000	-0.004
	Lowest voltage	+20	1724 999 989	-6.3	0.000 000	-0.004
1765.0	100 %	+20(Ref)	1764 999 996	0.0	0.000 000	0.000
	100 %	-30	1764 999 992	-4.2	0.000 000	-0.002
	100 %	-20	1764 999 994	-1.8	0.000 000	-0.001
	100 %	-10	1764 999 994	-2.4	0.000 000	-0.001
	100 %	0	1764 999 995	-0.9	0.000 000	0.000
	100 %	+10	1764 999 992	-3.8	0.000 000	-0.002
	100 %	+30	1764 999 993	-2.6	0.000 000	-0.001
	100 %	+40	1764 999 993	-3.1	0.000 000	-0.002
	100 %	+50	1764 999 995	-1.0	0.000 000	-0.001
	Lowest voltage	+20	1764 999 993	-3.3	0.000 000	-0.002

▣ BandWidth: 35 MHz

▣ Voltage(100 %): 4.200 VDC

▣ Lowest voltage: 3.700 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
1727.5	100 %	+20(Ref)	1724 999 994	0.0	0.000 000	0.000
	100 %	-30	1724 999 989	-5.7	0.000 000	-0.003
	100 %	-20	1724 999 987	-7.1	0.000 000	-0.004
	100 %	-10	1724 999 988	-6.0	0.000 000	-0.003
	100 %	0	1724 999 988	-6.3	0.000 000	-0.004
	100 %	+10	1724 999 989	-5.5	0.000 000	-0.003
	100 %	+30	1724 999 989	-5.5	0.000 000	-0.003
	100 %	+40	1724 999 989	-5.9	0.000 000	-0.003
	100 %	+50	1724 999 988	-6.2	0.000 000	-0.004
	Lowest voltage	+20	1724 999 989	-5.6	0.000 000	-0.003
1762.5	100 %	+20(Ref)	1762 499 997	0.0	0.000 000	0.000
	100 %	-30	1762 499 993	-3.6	0.000 000	-0.002
	100 %	-20	1762 499 993	-3.2	0.000 000	-0.002
	100 %	-10	1762 499 994	-2.6	0.000 000	-0.001
	100 %	0	1762 499 993	-3.3	0.000 000	-0.002
	100 %	+10	1762 499 993	-3.3	0.000 000	-0.002
	100 %	+30	1762 499 995	-2.0	0.000 000	-0.001
	100 %	+40	1762 499 994	-2.6	0.000 000	-0.001
	100 %	+50	1762 499 993	-3.5	0.000 000	-0.002
	Lowest voltage	+20	1762 499 993	-4.1	0.000 000	-0.002

▣ BandWidth: 40 MHz

▣ Voltage(100 %): 4.200 VDC

▣ Lowest voltage: 3.700 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
1730.0	100 %	+20(Ref)	1730 000 001	0.0	0.000 000	0.000
	100 %	-30	1730 000 000	-0.3	0.000 000	0.000
	100 %	-20	1730 000 000	-0.9	0.000 000	-0.001
	100 %	-10	1730 000 000	-1.0	0.000 000	-0.001
	100 %	0	1729 999 999	-1.6	0.000 000	-0.001
	100 %	+10	1729 999 998	-2.1	0.000 000	-0.001
	100 %	+30	1729 999 997	-3.8	0.000 000	-0.002
	100 %	+40	1729 999 999	-1.5	0.000 000	-0.001
	100 %	+50	1729 999 998	-2.5	0.000 000	-0.001
	Lowest voltage	+20	1730 000 001	0.1	0.000 000	0.000
1760.0	100 %	+20(Ref)	1759 999 997	0.0	0.000 000	0.000
	100 %	-30	1759 999 994	-3.8	0.000 000	-0.002
	100 %	-20	1759 999 992	-5.9	0.000 000	-0.003
	100 %	-10	1759 999 991	-6.2	0.000 000	-0.004
	100 %	0	1759 999 994	-3.3	0.000 000	-0.002
	100 %	+10	1759 999 991	-6.3	0.000 000	-0.004
	100 %	+30	1759 999 992	-5.0	0.000 000	-0.003
	100 %	+40	1759 999 993	-4.4	0.000 000	-0.003
	100 %	+50	1759 999 994	-3.2	0.000 000	-0.002
	Lowest voltage	+20	1759 999 993	-4.1	0.000 000	-0.002

▣ BandWidth: 45 MHz

▣ Voltage(100 %): 4.200 VDC

▣ Lowest voltage: 3.700 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
1732.5	100 %	+20(Ref)	1732 499 995	0.0	0.000 000	0.000
	100 %	-30	1732 499 992	-2.8	0.000 000	-0.002
	100 %	-20	1732 499 991	-4.0	0.000 000	-0.002
	100 %	-10	1732 499 992	-2.7	0.000 000	-0.002
	100 %	0	1732 499 994	-0.5	0.000 000	0.000
	100 %	+10	1732 499 994	-1.0	0.000 000	-0.001
	100 %	+30	1732 499 993	-1.6	0.000 000	-0.001
	100 %	+40	1732 499 994	-0.9	0.000 000	-0.001
	100 %	+50	1732 499 995	0.2	0.000 000	0.000
	Lowest voltage	+20	1732 499 994	-1.0	0.000 000	-0.001
1757.5	100 %	+20(Ref)	1757 499 992	0.0	0.000 000	0.000
	100 %	-30	1757 499 985	-7.5	0.000 000	-0.004
	100 %	-20	1757 499 985	-7.7	0.000 000	-0.004
	100 %	-10	1757 499 983	-9.2	-0.000 001	-0.005
	100 %	0	1757 499 983	-8.8	-0.000 001	-0.005
	100 %	+10	1757 499 985	-7.8	0.000 000	-0.004
	100 %	+30	1757 499 984	-7.9	0.000 000	-0.005
	100 %	+40	1757 499 982	-10.7	-0.000 001	-0.006
	100 %	+50	1757 499 983	-9.5	-0.000 001	-0.005
	Lowest voltage	+20	1757 499 984	-8.0	0.000 000	-0.005

9. TEST DATA (Internal(BUA))

9.1 EQUIVALENT ISOTROPIC RADIATED POWER

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured (dBµV/m)	Ant. Factor + Dis. Factor(dB)	Cable loss(dB)	Total (dBµV/m)	Pol.	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1712.5	Sub6 n66/ 5 MHz [15 kHz]	PI/2 BPSK	82.90	27.50	3.85	114.25	V	< 1.00	0.080	19.05	1	23
		QPSK	82.76	27.50	3.85	114.11	V		0.078	18.91		
		16-QAM	82.19	27.50	3.85	113.54	V		0.068	18.34		
		64-QAM	80.32	27.50	3.85	111.67	V		0.044	16.47		
		256-QAM	78.85	27.50	3.85	110.20	V		0.032	15.00		
1745.0		PI/2 BPSK	84.77	27.50	3.89	116.16	V		0.125	20.96	1	23
		QPSK	84.53	27.50	3.89	115.92	V		0.118	20.72		
		16-QAM	83.69	27.50	3.89	115.08	V		0.097	19.88		
		64-QAM	82.56	27.50	3.89	113.95	V		0.075	18.75		
		256-QAM	80.47	27.50	3.89	111.86	V		0.046	16.66		
1777.5		PI/2 BPSK	84.55	27.60	3.92	116.07	V		0.122	20.87	1	23
		QPSK	84.45	27.60	3.92	115.97	V		0.119	20.77		
		16-QAM	83.34	27.60	3.92	114.86	V		0.092	19.66		
		64-QAM	82.17	27.60	3.92	113.69	V		0.071	18.49		
		256-QAM	80.21	27.60	3.92	111.73	V		0.045	16.53		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured (dBµV/m)	Ant. Factor + Dis. Factor(dB)	Cable loss(dB)	Total (dBµV/m)	Pol.	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1715.0	Sub6 n66/ 10 MHz [15 kHz]	PI/2 BPSK	83.37	27.50	3.85	114.72	V	< 1.00	0.090	19.52	1	50
		QPSK	83.36	27.50	3.85	114.71	V		0.089	19.51		
		16-QAM	82.38	27.50	3.85	113.73	V		0.071	18.53		
		64-QAM	80.97	27.50	3.85	112.32	V		0.052	17.12		
		256-QAM	79.57	27.50	3.85	110.92	V		0.037	15.72		
1745.0		PI/2 BPSK	84.69	27.50	3.89	116.08	V		0.122	20.88	1	26
		QPSK	84.65	27.50	3.89	116.04	V		0.121	20.84		
		16-QAM	83.53	27.50	3.89	114.92	V		0.094	19.72		
		64-QAM	82.49	27.50	3.89	113.88	V		0.074	18.68		
		256-QAM	80.26	27.50	3.89	111.65	V		0.044	16.45		
1775.0		PI/2 BPSK	84.48	27.60	3.92	116.00	V		0.120	20.80	1	1
		QPSK	84.48	27.60	3.92	116.00	V		0.120	20.80		
		16-QAM	83.40	27.60	3.92	114.92	V		0.094	19.72		
		64-QAM	81.97	27.60	3.92	113.48	V		0.067	18.28		
		256-QAM	80.47	27.60	3.92	111.98	V		0.048	16.78		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured (dBµV/m)	Ant. Factor + Dis. Factor(dB)	Cable loss(dB)	Total (dBµV/m)	Pol.	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1717.5	Sub6 n66/ 15 MHz [15 kHz]	PI/2 BPSK	83.72	27.50	3.85	115.07	V	< 1.00	0.097	19.87	1	77
		QPSK	83.64	27.50	3.85	114.99	V		0.095	19.79		
		16-QAM	82.42	27.50	3.85	113.77	V		0.072	18.57		
		64-QAM	81.05	27.50	3.85	112.40	V		0.052	17.20		
		256-QAM	79.52	27.50	3.85	110.87	V		0.037	15.67		
1745.0		PI/2 BPSK	84.61	27.50	3.89	115.99	V		0.120	20.79	1	39
		QPSK	84.56	27.50	3.89	115.95	V		0.119	20.75		
		16-QAM	83.42	27.50	3.89	114.80	V		0.091	19.60		
		64-QAM	82.63	27.50	3.89	114.02	V		0.076	18.82		
		256-QAM	80.22	27.50	3.89	111.61	V		0.044	16.41		
1772.5		PI/2 BPSK	84.62	27.60	3.92	116.14	V		0.124	20.94	1	1
		QPSK	84.35	27.60	3.92	115.86	V		0.117	20.66		
		16-QAM	83.87	27.60	3.92	115.39	V		0.104	20.19		
		64-QAM	81.95	27.60	3.92	113.47	V		0.067	18.27		
		256-QAM	80.51	27.60	3.92	112.03	V		0.048	16.83		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured (dBµV/m)	Ant. Factor + Dis. Factor(dB)	Cable loss(dB)	Total (dBµV/m)	Pol.	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1720.0	Sub6 n66/ 20 MHz [15 kHz]	PI/2 BPSK	84.04	27.50	3.85	115.39	V	< 1.00	0.105	20.19	1	104
		QPSK	83.90	27.50	3.85	115.25	V		0.101	20.05		
		16-QAM	83.38	27.50	3.85	114.73	V		0.090	19.53		
		64-QAM	81.30	27.50	3.85	112.65	V		0.056	17.45		
		256-QAM	80.07	27.50	3.85	111.42	V		0.042	16.22		
1745.0		PI/2 BPSK	84.50	27.50	3.89	115.89	V		0.117	20.69	1	53
		QPSK	84.48	27.50	3.89	115.87	V		0.117	20.67		
		16-QAM	83.86	27.50	3.89	115.25	V		0.101	20.05		
		64-QAM	82.17	27.50	3.89	113.56	V		0.069	18.36		
		256-QAM	80.48	27.50	3.89	111.87	V		0.046	16.67		
1770.0		PI/2 BPSK	84.63	27.60	3.92	116.15	V		0.124	20.95	1	1
		QPSK	84.53	27.60	3.92	116.05	V		0.122	20.85		
		16-QAM	83.91	27.60	3.92	115.43	V		0.105	20.23		
		64-QAM	81.84	27.60	3.92	113.36	V		0.065	18.16		
		256-QAM	80.58	27.60	3.92	112.10	V		0.049	16.90		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured (dBμV/m)	Ant. Factor + Dis. Factor(dB)	Cable loss(dB)	Total (dBμV/m)	Pol.	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1722.5	Sub6 n66/ 25 MHz [15 kHz]	PI/2 BPSK	83.46	27.50	3.85	114.81	V	< 1.00	0.091	19.61	1	131
		QPSK	83.38	27.50	3.85	114.73	V		0.090	19.53		
		16-QAM	82.80	27.50	3.85	114.15	V		0.079	18.95		
		64-QAM	80.92	27.50	3.85	112.27	V		0.051	17.07		
		256-QAM	79.27	27.50	3.85	110.62	V		0.035	15.42		
1745.0		PI/2 BPSK	83.87	27.50	3.89	115.26	V		0.101	20.06	1	66
		QPSK	83.87	27.50	3.89	115.25	V		0.101	20.05		
		16-QAM	83.16	27.50	3.89	114.55	V		0.086	19.35		
		64-QAM	81.60	27.50	3.89	112.98	V		0.060	17.78		
		256-QAM	79.71	27.50	3.89	111.10	V		0.039	15.90		
1767.5		PI/2 BPSK	83.90	27.60	3.92	115.42	V		0.105	20.22	1	66
		QPSK	83.89	27.60	3.92	115.41	V		0.105	20.21		
		16-QAM	83.22	27.60	3.92	114.74	V		0.090	19.54		
		64-QAM	81.22	27.60	3.92	112.74	V		0.057	17.54		
		256-QAM	79.93	27.60	3.92	111.45	V		0.042	16.25		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured (dBμV/m)	Ant. Factor + Dis. Factor(dB)	Cable loss(dB)	Total (dBμV/m)	Pol.	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1725.0	Sub6 n66/ 30 MHz [15 kHz]	PI/2 BPSK	83.50	27.50	3.85	114.85	V	< 1.00	0.092	19.65	1	158
		QPSK	83.28	27.50	3.85	114.63	V		0.088	19.43		
		16-QAM	82.75	27.50	3.85	114.10	V		0.078	18.90		
		64-QAM	80.98	27.50	3.85	112.33	V		0.052	17.13		
		256-QAM	79.18	27.50	3.85	110.53	V		0.034	15.33		
1745.0		PI/2 BPSK	83.94	27.50	3.89	115.33	V		0.103	20.13	1	80
		QPSK	83.89	27.50	3.89	115.28	V		0.102	20.08		
		16-QAM	83.17	27.50	3.89	114.56	V		0.086	19.36		
		64-QAM	81.39	27.50	3.89	112.78	V		0.057	17.58		
		256-QAM	79.63	27.50	3.89	111.01	V		0.038	15.81		
1765.0		PI/2 BPSK	83.86	27.60	3.92	115.37	V		0.104	20.17	1	1
		QPSK	83.85	27.60	3.92	115.37	V		0.104	20.17		
		16-QAM	83.28	27.60	3.92	114.80	V		0.091	19.60		
		64-QAM	81.55	27.60	3.92	113.07	V		0.061	17.87		
		256-QAM	79.78	27.60	3.92	111.30	V		0.041	16.10		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured (dBµV/m)	Ant. Factor + Dis. Factor(dB)	Cable loss(dB)	Total (dBµV/m)	Pol.	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1727.5	Sub6 n66/ 35 MHz [15 kHz]	PI/2 BPSK	83.90	27.50	3.85	115.24	V	< 1.00	0.101	20.04	1	186
		QPSK	83.86	27.50	3.85	115.21	V		0.100	20.01		
		16-QAM	82.61	27.50	3.85	113.95	V		0.075	18.75		
		64-QAM	81.57	27.50	3.85	112.92	V		0.059	17.72		
		256-QAM	79.58	27.50	3.85	110.93	V		0.037	15.73		
1745.0		PI/2 BPSK	83.98	27.50	3.89	115.37	V		0.104	20.17	1	94
		QPSK	83.98	27.50	3.89	115.37	V		0.104	20.17		
		16-QAM	82.88	27.50	3.89	114.27	V		0.081	19.07		
		64-QAM	81.76	27.50	3.89	113.15	V		0.062	17.95		
		256-QAM	79.72	27.50	3.89	111.11	V		0.039	15.91		
1762.5		PI/2 BPSK	84.02	27.60	3.92	115.53	V		0.108	20.33	1	1
		QPSK	83.86	27.60	3.92	115.38	V		0.104	20.18		
		16-QAM	83.14	27.60	3.92	114.66	V		0.088	19.46		
		64-QAM	81.48	27.60	3.92	113.00	V		0.060	17.80		
		256-QAM	79.87	27.60	3.92	111.39	V		0.042	16.19		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured (dBµV/m)	Ant. Factor + Dis. Factor(dB)	Cable loss(dB)	Total (dBµV/m)	Pol.	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1730.0	Sub6 n66/ 40 MHz [15 kHz]	PI/2 BPSK	83.93	27.50	3.85	115.28	V	< 1.00	0.102	20.08	1	214
		QPSK	83.77	27.50	3.85	115.12	V		0.098	19.92		
		16-QAM	83.21	27.50	3.85	114.55	V		0.086	19.35		
		64-QAM	81.45	27.50	3.85	112.80	V		0.058	17.60		
		256-QAM	79.72	27.50	3.85	111.07	V		0.039	15.87		
1745.0		PI/2 BPSK	83.92	27.50	3.89	115.31	V		0.103	20.11	1	108
		QPSK	83.84	27.50	3.89	115.23	V		0.101	20.03		
		16-QAM	83.24	27.50	3.89	114.63	V		0.088	19.43		
		64-QAM	81.43	27.50	3.89	112.82	V		0.058	17.62		
		256-QAM	79.81	27.50	3.89	111.20	V		0.040	16.00		
1760.0		PI/2 BPSK	83.93	27.60	3.92	115.45	V		0.106	20.25	1	108
		QPSK	83.91	27.60	3.92	115.43	V		0.105	20.23		
		16-QAM	83.18	27.60	3.92	114.70	V		0.089	19.50		
		64-QAM	81.23	27.60	3.92	112.74	V		0.057	17.54		
		256-QAM	79.73	27.60	3.92	111.25	V		0.040	16.05		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured (dBμV/m)	Ant. Factor + Dis. Factor(dB)	Cable loss(dB)	Total (dBμV/m)	Pol.	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1732.5	Sub6 n66/ 45 MHz [15 kHz]	PI/2 BPSK	83.85	27.50	3.85	115.20	V	< 1.00	0.100	20.00	1	240
		QPSK	83.71	27.50	3.85	115.06	V		0.097	19.86		
		16-QAM	83.21	27.50	3.85	114.56	V		0.086	19.36		
		64-QAM	81.32	27.50	3.85	112.67	V		0.056	17.47		
		256-QAM	79.59	27.50	3.85	110.94	V		0.037	15.74		
1745.0		PI/2 BPSK	84.04	27.50	3.89	115.43	V		0.105	20.23	1	122
		QPSK	83.97	27.50	3.89	115.36	V		0.104	20.16		
		16-QAM	83.23	27.50	3.89	114.62	V		0.087	19.42		
		64-QAM	81.45	27.50	3.89	112.84	V		0.058	17.64		
		256-QAM	79.66	27.50	3.89	111.05	V		0.038	15.85		
1757.5		PI/2 BPSK	83.73	27.60	3.92	115.25	V		0.101	20.05	1	122
		QPSK	83.64	27.60	3.92	115.16	V		0.099	19.96		
		16-QAM	82.74	27.60	3.92	114.26	V		0.081	19.06		
		64-QAM	81.34	27.60	3.92	112.86	V		0.058	17.66		
		256-QAM	79.84	27.60	3.92	111.36	V		0.041	16.16		

9.2 RADIATED SPURIOUS EMISSIONS

▣ NR Band: N66
▣ Bandwidth: 5 MHz
▣ Modulation: PI/2 BPSK
▣ Distance: 3 meters
▣ SCS: 15 kHz

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)	RB	
									Size	Offset
342500 (1712.5)	3 425.00	-53.20	11.33	-60.78	2.99	V	-52.44	-13.00	1	23
	5 137.50	-55.75	11.27	-57.48	3.80	H	-50.01	-13.00		
	6 850.00	-56.25	11.07	-52.40	4.36	H	-45.69	-13.00		
	8 562.50	-55.09	11.13	-46.60	4.92	H	-40.39	-13.00		
	10 275.00	-54.21	11.66	-46.31	5.58	V	-40.23	-13.00		
349000 (1745.0)	3 490.00	-52.79	11.56	-61.02	3.04	V	-52.50	-13.00	1	23
	5 235.00	-54.19	11.53	-55.50	3.78	V	-47.75	-13.00		
	6 980.00	-55.00	11.12	-51.82	4.48	H	-45.18	-13.00		
	8 725.00	-55.54	11.18	-45.58	5.03	H	-39.43	-13.00		
	10 470.00	-53.69	11.89	-46.97	5.59	V	-40.67	-13.00		
355500 (1777.5)	3 555.00	-53.96	11.67	-62.12	3.09	H	-53.54	-13.00	1	23
	5 332.50	-52.25	11.72	-53.80	3.79	H	-45.87	-13.00		
	7 110.00	-54.77	10.74	-50.58	4.48	V	-44.32	-13.00		
	8 887.50	-54.65	11.34	-44.91	5.08	V	-38.65	-13.00		
	10 665.00	-54.94	11.71	-47.84	5.68	H	-41.81	-13.00		

10. TEST PLOTS

NR66_5 M_PAR_Mid_BPSK_FullRB

NR66_5 M_PAR_Mid_QPSK_FullRB

NR66_5 M_PAR_Mid_16QAM_FullRB

NR66_5 M_PAR_Mid_64QAM_FullRB

NR66_5 M_PAR_Mid_256QAM_FullRB

NR66_10 M_PAR_Mid_BPSK_FullRB

NR66_10 M_PAR_Mid_QPSK_FullRB

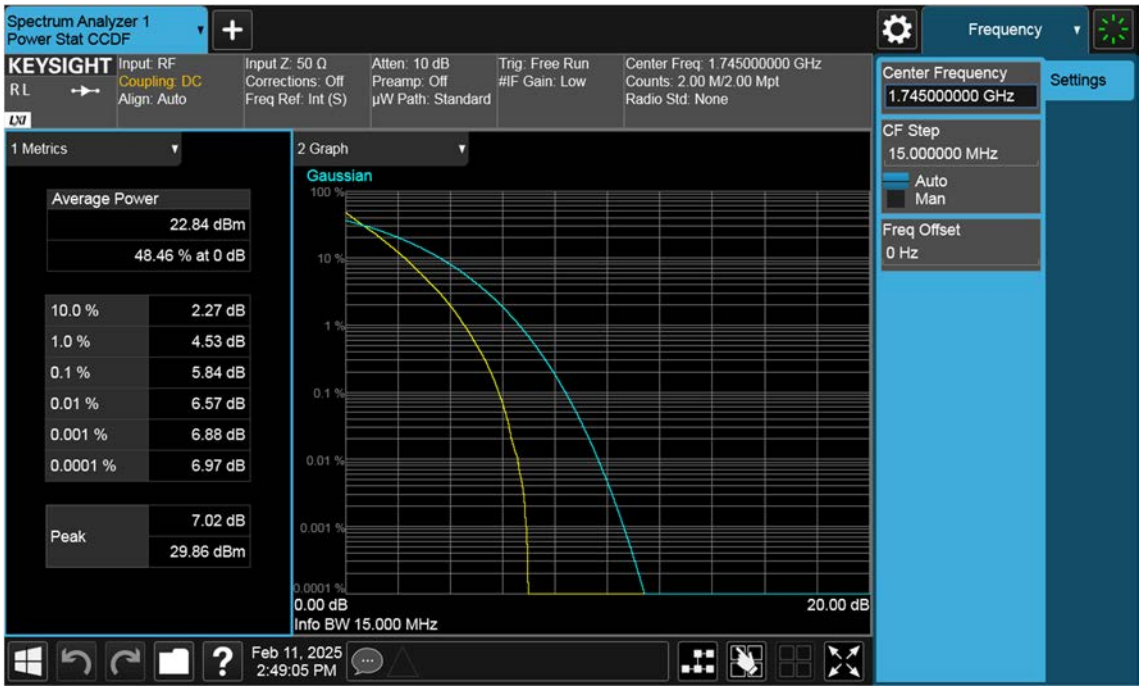
NR66_10 M_PAR_Mid_16QAM_FullRB

NR66_10 M_PAR_Mid_64QAM_FullRB

NR66_10 M_PAR_Mid_256QAM_FullRB

NR66_15 M_PAR_Mid_BPSK_FullRB

NR66_15 M_PAR_Mid_QPSK_FullRB



NR66_15 M_PAR_Mid_16QAM_FullRB

NR66_15 M_PAR_Mid_64QAM_FullRB

NR66_15 M_PAR_Mid_256QAM_FullRB

NR66_20 M_PAR_Mid_BPSK_FullRB

NR66_20 M_PAR_Mid_QPSK_FullRB

NR66_20 M_PAR_Mid_16QAM_FullRB

NR66_20 M_PAR_Mid_64QAM_FullRB

NR66_20 M_PAR_Mid_256QAM_FullRB

NR66_25 M_PAR_Mid_BPSK_FullRB

NR66_25 M_PAR_Mid_QPSK_FullRB

NR66_25 M_PAR_Mid_16QAM_FullRB

NR66_25 M_PAR_Mid_64QAM_FullRB

NR66_25 M_PAR_Mid_256QAM_FullRB

NR66_30 M_PAR_Mid_BPSK_FullRB

NR66_30 M_PAR_Mid_QPSK_FullRB

NR66_30 M_PAR_Mid_16QAM_FullRB

NR66_30 M_PAR_Mid_64QAM_FullRB

NR66_30 M_PAR_Mid_256QAM_FullRB

NR66_35 M_PAR_Mid_BPSK_FullRB

NR66_35 M_PAR_Mid_QPSK_FullRB

NR66_35 M_PAR_Mid_16QAM_FullRB

NR66_35 M_PAR_Mid_64QAM_FullRB

NR66_35 M_PAR_Mid_256QAM_FullRB

NR66_40 M_PAR_Mid_BPSK_FullRB

NR66_40 M_PAR_Mid_QPSK_FullRB

NR66_40 M_PAR_Mid_16QAM_FullRB

NR66_40 M_PAR_Mid_64QAM_FullRB

NR66_40 M_PAR_Mid_256QAM_FullRB

NR66_45 M_PAR_Mid_BPSK_FullRB

NR66_45 M_PAR_Mid_QPSK_FullRB

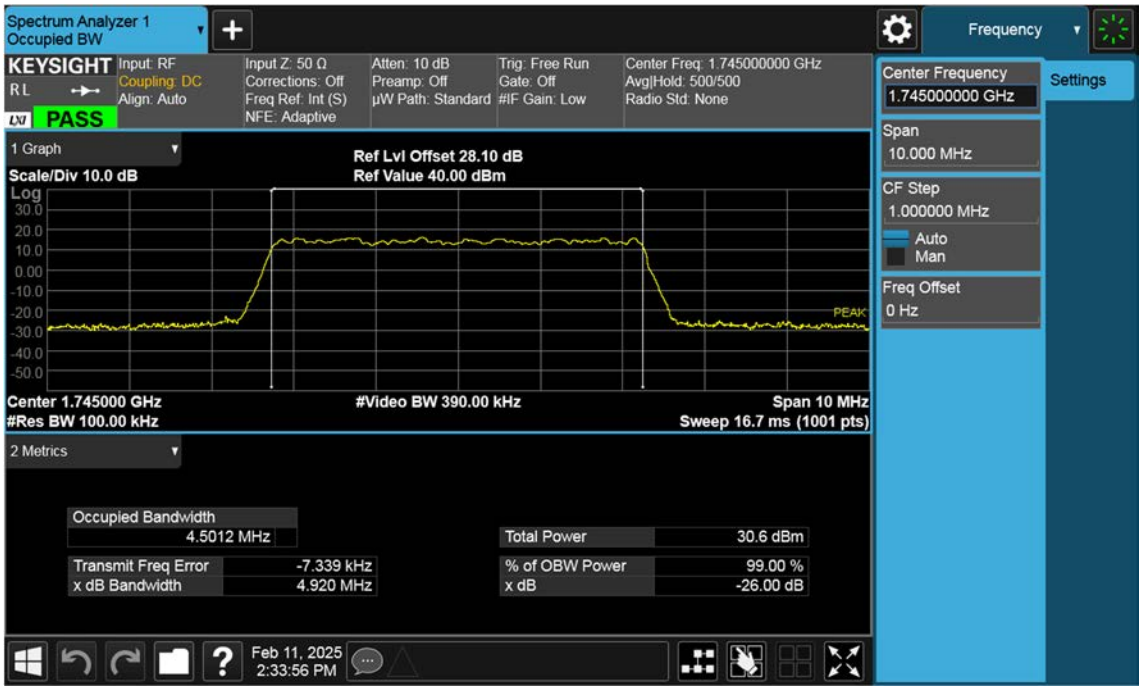
NR66_45 M_PAR_Mid_16QAM_FullRB

NR66_45 M_PAR_Mid_64QAM_FullRB

NR66_45 M_PAR_Mid_256QAM_FullRB

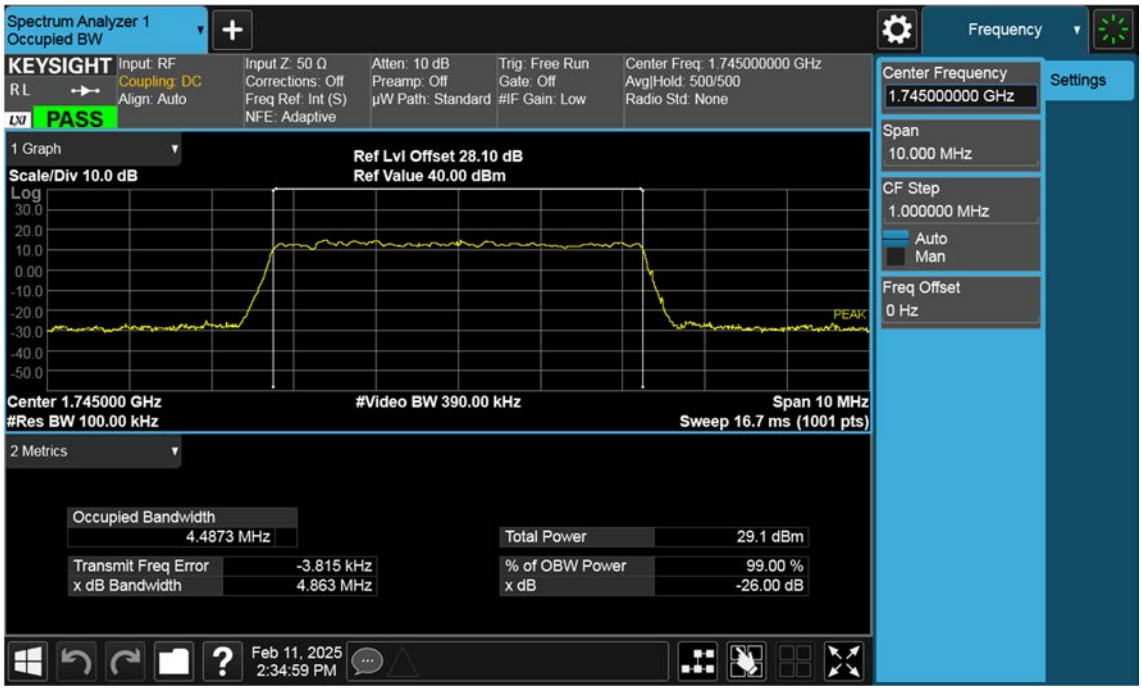
NR66_5 M_OBW_Mid_BPSK_FullRB

NR66_5 M_OBW_Mid_QPSK_FullRB

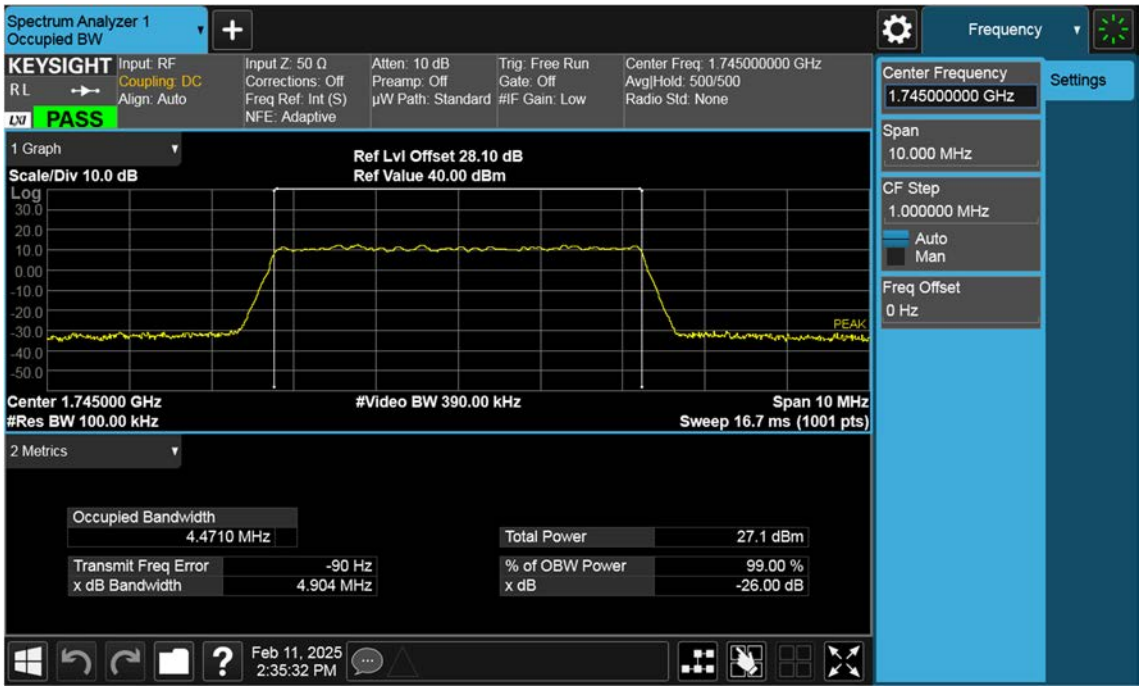


NR66_5 M_OBW_Mid_16QAM_FullRB

NR66_5 M_OBW_Mid_64QAM_FullRB



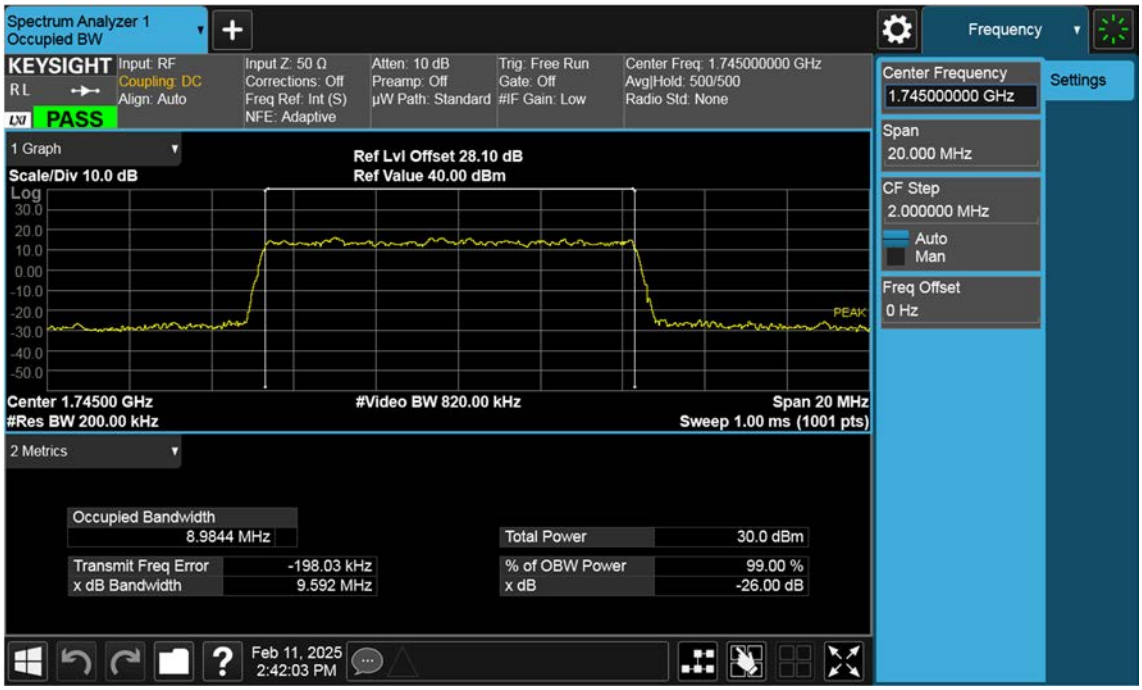
NR66_5 M_OBW_Mid_256QAM_FullRB



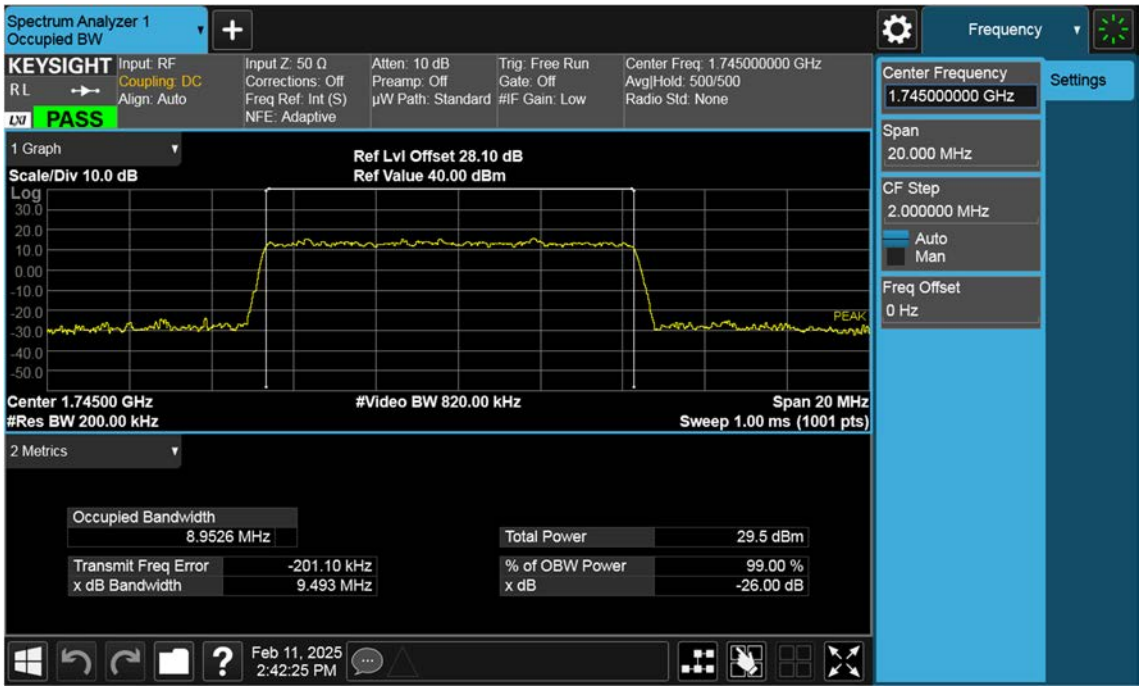
NR66_10 M_OBW_Mid_BPSK_FullRB

NR66_10 M_OBW_Mid_QPSK_FullRB

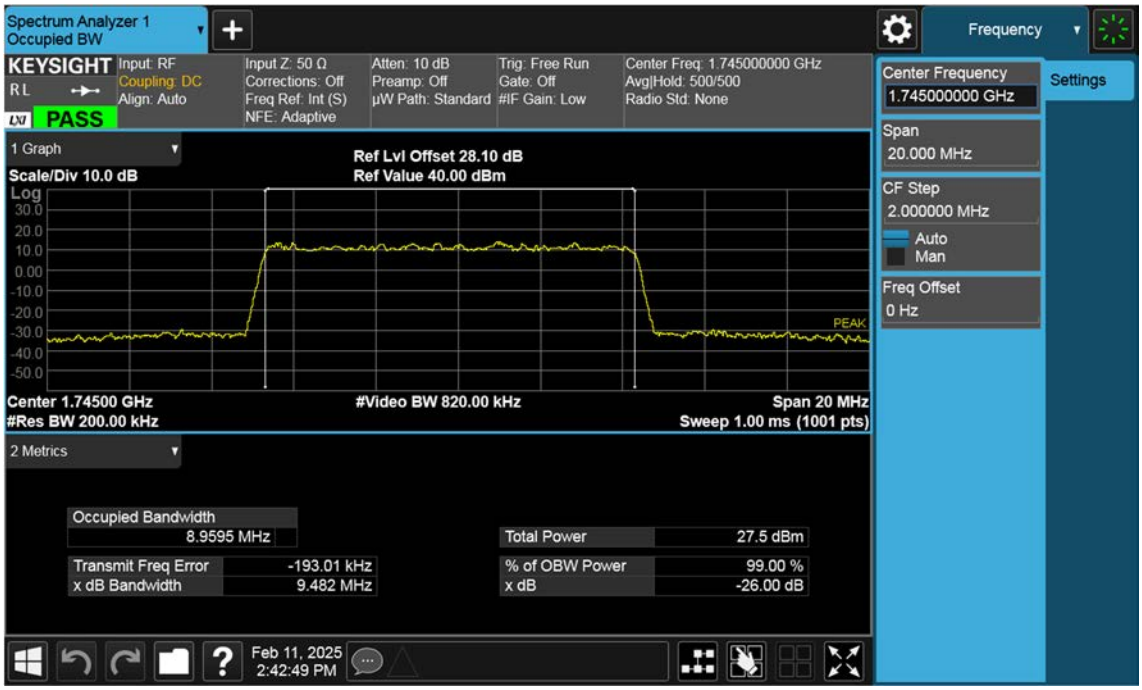
NR66_10 M_OBW_Mid_16QAM_FullRB



NR66_10 M_OBW_Mid_64QAM_FullRB



NR66_10 M_OBW_Mid_256QAM_FullRB



NR66_15 M_OBW_Mid_BPSK_FullRB

NR66_15 M_OBW_Mid_QPSK_FullRB

NR66_15 M_OBW_Mid_16QAM_FullRB

NR66_15 M_OBW_Mid_64QAM_FullRB

NR66_15 M_OBW_Mid_256QAM_FullRB

NR66_20 M_OBW_Mid_BPSK_FullRB

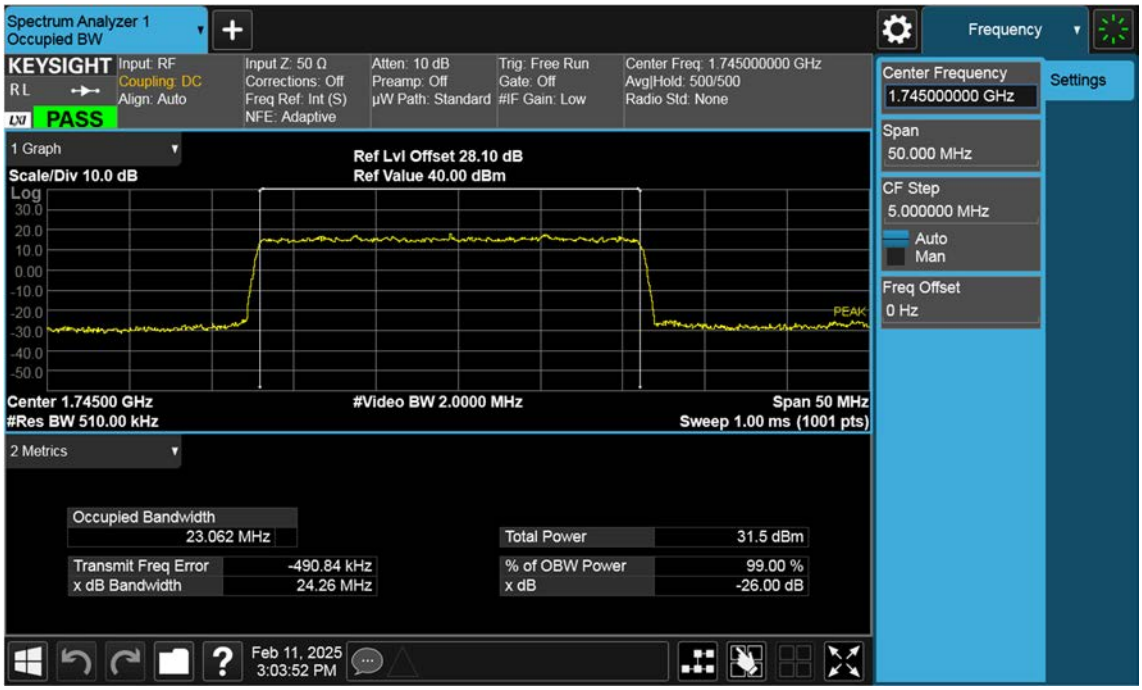
NR66_20 M_OBW_Mid_QPSK_FullRB

NR66_20 M_OBW_Mid_16QAM_FullRB

NR66_20 M_OBW_Mid_64QAM_FullRB

NR66_20 M_OBW_Mid_256QAM_FullRB

NR66_25 M_OBW_Mid_BPSK_FullRB



NR66_25 M_OBW_Mid_QPSK_FullRB