

TEST REPORT



Dt&C Co., Ltd.

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1. Report No : DRTFCC2312-0176

2. Customer

- Name (FCC) : LG Electronics USA, Inc. / Name (IC) : LG ELECTRONICS INC.
- Address (FCC) : 111 Sylvan Avenue North Building Englewood Cliffs New Jersey United States 07632
Address (IC) : 222, LG-ro, Jinwi-myeon Pyeongtaek-si, Gyeonggi-do 451-713 Korea (Republic Of)

3. Use of Report : FCC & IC Certification

4. Product Name / Model Name : Telematics(24CY DCM 5G) / TF24IENE
FCC ID : BEJTF24IENE2
IC : 2703H-TF24IENE2

5. FCC Regulation(s): Part 22, 24, 27

IC Standard(s): RSS-Gen Issue 5, 130 Issue 2, 132 Issue 4, 133 Issue 6, 139 Issue 4

Test Method used: KDB971168 D01v03, ANSI/TIA-603-E-2016, ANSI C63.26-2015

6. Date of Test : 2023.12.05 ~ 2023.12.22



7. Location of Test : Permanent Testing Lab On Site Testing

8. Testing Environment : See appended test report.

9. Test Result : Refer to the attached Test Result

The results shown in this test report refer only to the sample(s) tested unless otherwise stated.

This test report is not related to KOLAS accreditation.

Affirmation	Tested by	Technical Manager
	Name : SeokHo Han  (Signature)	Name : JaeJin Lee  (Signature)

2023 . 12 . 28 .

Dt&C Co., Ltd.

If this report is required to confirmation of authenticity, please contact to report@dtnc.net

Test Report Version

Test Report No.	Date	Description	Revised by	Reviewed by
DRTFCC2312-0176	Dec. 28, 2023	Initial issue	SeokHo Han	JaeJin Lee

Table of Contents

1. GENERAL INFORMATION	4
2. INTRODUCTION	5
2.1. EUT DESCRIPTION	5
2.2. TESTING ENVIRONMENT	5
2.3. MEASURING INSTRUMENT CALIBRATION.....	5
2.4. MEASUREMENT UNCERTAINTY	5
2.5. TEST FACILITY.....	5
3. DESCRIPTION OF TESTS.....	6
3.1. ERP & EIRP (Effective Radiated Power & Equivalent Isotropic Radiated Power)	6
3.2. UNDESIRABLE EMISSIONS	8
4. LIST OF TEST EQUIPMENT	9
5. SUMMARY OF TEST RESULTS.....	10
6. SAMPLE CALCULATION	11
7. TEST DATA.....	12
7.1. ERP&EIRP	12
7.1.1. NR Band n12.....	12
7.1.2. NR Band n5.....	14
7.1.3. NR Band n66.....	16
7.1.4. NR Band n2.....	18
7.2. UNDESIRABLE EMISSIONS (Radiated).....	20
7.2.1. NR Band n12.....	20
7.2.2. NR Band n5.....	21
7.2.3. NR Band n66.....	22
7.2.4. NR Band n2.....	23

1. GENERAL INFORMATION

FCC Classification	PCS Licensed Transmitter (PCB)
FCC ID	BEJTF24IENE2
IC	2703H-TF24IENE2
Product Name	Telematics(24CY DCM 5G)
Model Name	TF24IENE
Add Model Name	-
PMN(Product Marketing Name)	TF24IENE
FVIN(Firmware Version Identification Number)	N/A
EUT Serial Number	No specified
Supplying power	DC 12 V
Waveform	CP-OFDM, DFT-S-OFDM
Modulation type	$\pi/2$ BPSK, QPSK, 16QAM, 64QAM, 256QAM
Channel Bandwidth(MHz)	NR Band n12: 15, 10, 5 NR Band n5: 20, 15, 10, 5 NR Band n66: 40, 20, 15, 10, 5 NR Band n2: 20, 15, 10, 5

NR Band	Antenna Gain(dBi)	
	Antenna 1 (Sharkfin Antenna)	Antenna 2 (Pannel Antenna)
n12	-0.9	-3.0
n5	-0.7	-2.1
n66	0.1	0.5
n2	-0.9	-2.2

Note: The antenna gain was corrected for path loss from the conducted feed point to the antenna terminal.

2. INTRODUCTION

2.1. EUT DESCRIPTION

This device supports the following capabilities:

Multi-Band LTE, LTE up-link carrier aggregation, 5G NR(FR1) and ENDC
 5G NR supports SCS 15 kHz for FDD Band and SCS 30 kHz for TDD Band.

This device has 2 antennas and RF switch circuit.

5G NR Band	Antenna 1	Antenna 2
n12, n5, n66, n2	Support	Support
n77	Not support	Support

The device does not support MIMO technology.

2.2. TESTING ENVIRONMENT

Ambient Condition	
▪ Temperature	+21 °C ~ +23 °C
▪ Relative Humidity	39 % ~ 42 %

2.3. 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.

2.4. MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with requirements of ANSI C 63.4-2014. All measurement uncertainty values are shown with a coverage factor of $k = 2$ to indicate a 95 % level of confidence.

Parameter	Measurement uncertainty
Radiated Disturbance (Below 1 GHz)	4.8 dB (The confidence level is about 95 %, $k = 2$)
Radiated Disturbance (1 GHz ~ 18 GHz)	5.0 dB (The confidence level is about 95 %, $k = 2$)
Radiated Disturbance (Above 18 GHz)	5.2 dB (The confidence level is about 95 %, $k = 2$)

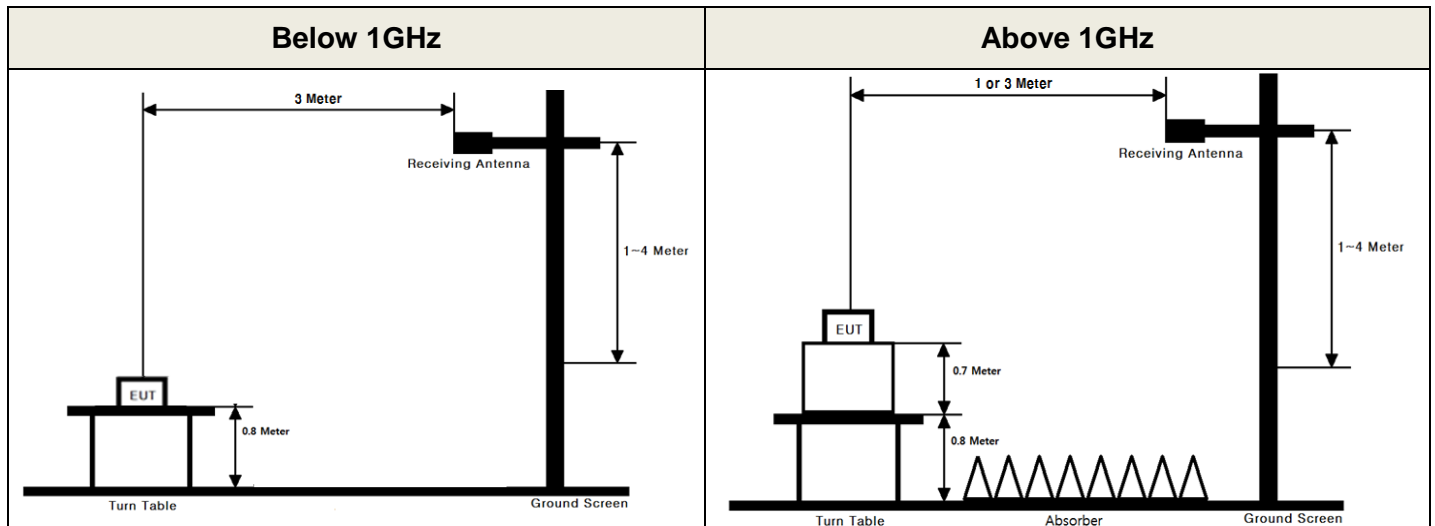
2.5. TEST FACILITY

Dt&C Co., Ltd.	
The 3 m test site and conducted measurement facility used to collect the radiated data are located at the 42, Yurim-ro, 154beon-gil, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea 17042.	
The test site complies with the requirements of Part 2.948 according to ANSI C63.4-2014.	
- FCC & IC MRA Designation No. : KR0034	
- ISED#: 5740A	
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3. DESCRIPTION OF TESTS

3.1. ERP & EIRP (Effective Radiated Power & Equivalent Isotropic Radiated Power)

Test Set-up



These measurements were performed at 3 m test site. The equipment under test is placed on a non-conductive table 0.8 or 1.5-meters above a turntable which is flush with the ground plane and 3 meters from the receive antenna. For measurements above 1GHz absorbers are placed on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections. For measurements below 1 GHz, the absorbers are removed.

Test Procedure

- ANSI/TIA-603-E-2016 - Section 2.2.17
- KDB971168 D01v03 - Section 5.2.2
- ANSI C63.26-2015 – Section 5.2.4.4.1

Test setting

1. Set span to 2 x to 3 x the OBW.
2. Set RBW = 1 % to 5 % of the OBW.
3. Set VBW \geq 3 x RBW.
4. Set number of points in sweep \geq 2 x span / RBW.
5. Sweep time:
 - 1) Set = auto-couple, or
 - 2) Set \geq $[10 \times (\text{number of points in sweep}) \times (\text{transmission period})]$ for single sweep (automation-compatible) measurement. Transmission period is the on and off time of the transmitter.
6. Detector = power averaging (rms).
7. If the EUT can be configured to transmit continuously, then set the trigger to free run.
8. If the EUT cannot be configured to transmit continuously, then use a sweep trigger with the level set to enable triggering only on full power bursts and configure the EUT to transmit at full power for the entire duration of each sweep. Verify that the sweep time is less than or equal to the transmission burst duration. Time gating can also be used under similar constraints (i.e., configured such that measurement data is collected only during active full-power transmissions).

9. 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 multiple symbols, 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.
10. Compute the power by integrating the spectrum across the OBW of the signal using the instrument's band or channel power measurement function, with the band/channel limits set equal to the OBW band edges. If the instrument does not have a band or channel power function, then sum the spectrum levels (in linear power units) at intervals equal to the RBW extending across the entire OBW of the spectrum.

The receiver antenna height and turntable rotations were adjusted for the highest reading on the receive spectrum analyzer.

A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. The conducted power at the terminal of the substitute antenna is measured.

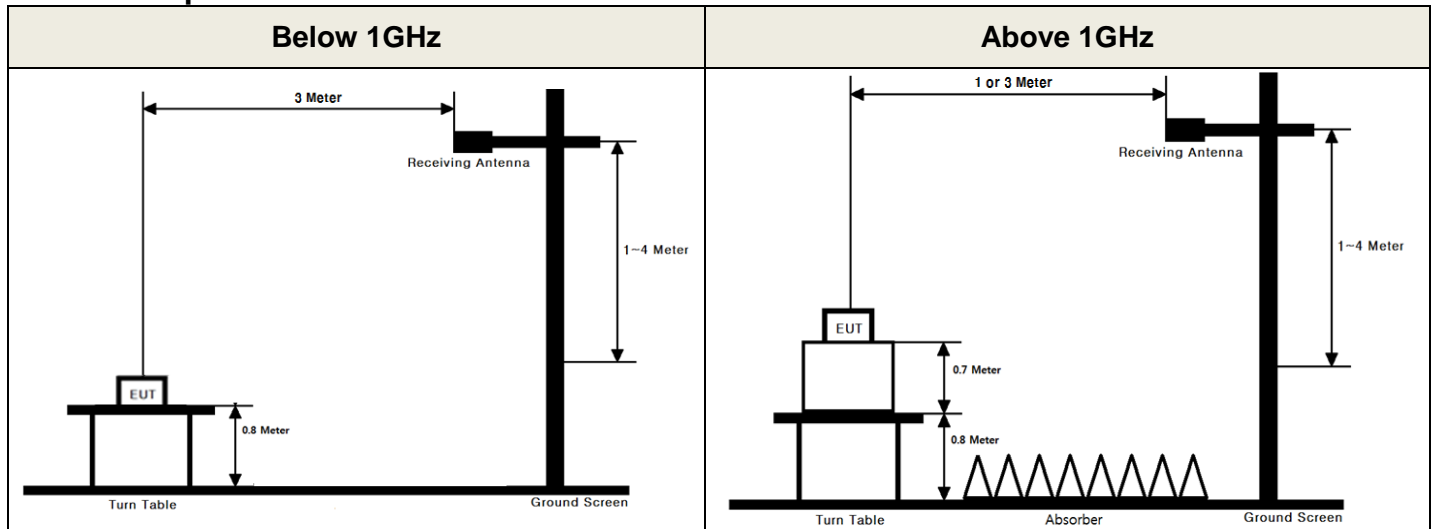
The ERP/EIRP is calculated using the following formula:

ERP/EIRP = The conducted power at the substitute antenna's terminal [dBm] + Substitute Antenna gain [dBd for ERP , dBi for EIRP]

For readings above 1 GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn antenna and an isotropic antenna are taken into consideration.

3.2. UNDESIRABLE EMISSIONS

Test Set-up



These measurements were performed at 3 test site. The equipment under test is placed on a non-conductive table 0.8 or 1.5 meters above a turntable which is flush with the ground plane and 3 meters from the receive antenna. For measurements above 1 GHz absorbers are placed on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections. For measurements below 1 GHz, the absorbers are removed.

Test Procedure

- KDB971168 D01v03 - Section 6
- ANSI C63.26-2015 – Section 5.5
- ANSI/TIA-603-E-2016 - Section 2.2.12

Test setting

1. RBW = 100 kHz for below 1 GHz and 1 MHz for above 1 GHz / VBW \geq 3 X RBW
2. Detector = RMS & Trace mode = Max hold
3. Sweep time = Auto couple
4. Number of sweep point \geq 2 X span / RBW
5. The trace was allowed to stabilize

The receive antenna height and turntable rotations were adjusted for the highest reading on the receive spectrum analyzer.

For radiated power measurements below 1 GHz, a half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same spectrum analyzer reading.

For radiated power measurements above 1 GHz, a Horn antenna was substituted in place of the EUT. This Horn antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same spectrum analyzer reading. The difference between the gain of the horn and an isotropic antenna are taken into consideration. This measurement was performed with the EUT oriented in 3 orthogonal axis.

4. LIST OF TEST EQUIPMENT

Type	Manufacturer	Model	Cal.Date (yy/mm/dd)	Next.Cal. Date (yy/mm/dd)	S/N
Spectrum Analyzer	Agilent Technologies	N9020A	22/12/16	23/12/16	MY50110097
			23/12/15	24/12/15	
Multimeter	FLUKE	17B+	22/12/16	23/12/16	36390701WS
			23/12/15	24/12/15	
Radio Communication Analyzer	KEYSIGHT	E7515B	23/06/23	24/06/23	MY60192461
Thermohyrometer	BODYCOM	BJ5478	22/12/16	23/12/16	120612-2
			23/12/15	24/12/15	
Signal Generator	Rohde Schwarz	SMBV100A	22/12/16	23/12/16	255571
			23/12/15	24/12/15	
Signal Generator	ANRITSU	MG3695C	22/12/16	23/12/16	173501
			23/12/15	24/12/15	
Hybrid Antenna	Schwarzbeck	VULB 9160	22/12/16	23/12/16	3362
			23/12/15	24/12/15	
Dipole Antenna	Schwarzbeck	UHA9105	22/12/16	23/12/16	2262
			23/12/15	24/12/15	
Horn Antenna	ETS-Lindgren	3117	22/12/16	23/12/16	00140394
			23/12/15	24/12/15	
Horn Antenna	A.H.Systems Inc.	SAS-574	23/06/23	24/06/23	155
PreAmplifier	H.P	8447D	22/12/16	23/12/16	2944A07774
			23/12/15	24/12/15	
PreAmplifier	Agilent	8449B	22/12/16	23/12/16	3008A02108
			23/12/15	24/12/15	
PreAmplifier	tsj	MLA-1840-J02-45	23/06/23	24/06/23	16966-10728
Band Reject Fliter	Wainwright	WTRCTV5-1710-2000-20-60-40SSM	23/06/23	24/06/23	1
High Pass Filter	Wainwright Instruments	WHKX12-935-1000-15000-40SS	23/06/23	24/06/23	7
High Pass Filter	Wainwright Instruments	WHKX10-2838-3300-18000-60SS	23/06/23	24/06/23	2
High Pass Filter	Wainwright Instruments	WHKX6-6320-8000-26500-40CC	23/06/23	24/06/23	2
Cable	HUBER+SUHNER	SUCOFLEX100	23/01/04	24/01/04	M-1
Cable	HUBER+SUHNER	SUCOFLEX100	23/01/04	24/01/04	M-2
Cable	Junkosha	MWX241/B	23/01/04	24/01/04	M-3
Cable	Junkosha	MWX221	23/01/04	24/01/04	M-4
Cable	Junkosha	MWX221	23/01/04	24/01/04	M-5
Cable	JUNFLON	J12J101757-00	23/01/04	24/01/04	M-7
Cable	HUBER+SUHNER	SUCOFLEX104	23/01/04	24/01/04	M-8
Cable	HUBER+SUHNER	SUCOFLEX106	23/01/04	24/01/04	M-9
Cable	Junkosha	MWX315	23/01/04	24/01/04	M-10
Cable	DTNC	Cable	23/01/04	24/01/04	RFC-44
Cable	JUNKOSHA	MWX241	23/01/03	24/01/03	mmW-1
Cable	JUNKOSHA	MWX241	23/01/03	24/01/03	mmW-4

Note1: The measurement antennas were calibrated in accordance to the requirements of ANSI C63.5-2017.

Note2: The cable is not a regular calibration item, so it has been calibrated by Dt&C itself.

5. SUMMARY OF TEST RESULTS

FCC Part Section(s)	RSS Section(s)	Test Description	Test Limit	Test Condition	Status Note 1
27.50(c.9)	RSS-130 [4.6]	Radiated Output Power (n12)	For mobile equipment: < 3 Watts max. ERP	Radiated	C
22.913(a.5)	RSS-132 [5.4]	Radiated Output Power (n5)	For mobile equipment: < 7 Watts max. ERP		C
27.50(d.4)	RSS-139 [5.5]	Radiated Output Power (B66)	For mobile equipment: < 1 Watts max. EIRP		C
24.232(c)	RSS-133 [6.4]	Radiated Output Power (n2)	For mobile equipment: < 2 Watts max. EIRP		C
2.1053 22.917(a) 24.238(a) 27.53(g) 27.53(h)	RSS-130 [4.7] RSS-132 [5.5] RSS-133 [6.5] RSS-139 [5.6]	Undesirable Emissions	> 43 + 10log ₁₀ (P) dB for all out-of-band emissions		C

Note 1: **C**=Comply **NC**=Not Comply **NT**=Not Tested **NA**=Not Applicable

Note 2: This test item was performed in three orthogonal EUT positions and the worst case data was reported.

Note 3: This device uses the certified module.(FCC ID: BEJTM15FNNATY0, IC: 2703H-TM15FNNATY0)

Please refer to the module test report for conducted signal test items. The conducted output power was verified to be the same as module.

Note 4: All antenna configuration were investigated and worst case data were reported.

Note 5: The DFT-s-OFDM and CP-OFDM waveforms were investigated, and worst case(DFT-s-OFDM) configuration results are reported.

6. SAMPLE CALCULATION

A. Emission Designator

- 1) The EUT was placed on a turntable with 0.8 meter height for frequency below 1GHz and 1.5 meter height for frequency above 1 GHz respectively above ground.
- 2) The EUT was set 3 meters from the receiving antenna mounted on the antenna tower.
- 3) During the test, the turn table is rotated until the maximum signal is found.
- 4) Record the field strength meter's level. (ex. Spectrum reading level is -8.5 dBm)
- 5) Replace the EUT with dipole/Horn antenna that is connected to a calibrated signal generator.
- 6) Increase the signal generator output till the field strength meter's level is equal to the item (4).
(ex. Signal generator level is -18.04 dBm)
- 7) The gain of the cable and amplifier between the signal generator and terminals of substituted antenna is 46.92 dB at test frequency.
- 8) Record the level at substituted antenna terminal. (ex. 28.88dBm)
- 9) The result is calculated as below;

$$\text{EIRP(dBm)} = \text{LEVLE@ANTENNA TERMINAL} + \text{TX Antenna Gain (dBi)}$$

$$\text{ERP(dBm)} = \text{LEVLE@ANTENNA TERMINAL} + \text{TX Antenna Gain (dBd)}$$

$$\text{Where, TX Antenna Gain (dBd)} = \text{TX Antenna Gain (dBi)} - 2.15 \text{ dB}$$

7. TEST DATA

7.1. ERP&EIRP

- Test Notes

- 1) This is device was tested under all bandwidths, modulations and RB configurations and the worst case data are reported in the below table.

7.1.1. NR Band n12

<Test case: ANT 2>

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBd)	ERP (dBm)	ERP (W)
15	706.5	$\pi/2$ BPSK	1/77	H	19.86	-1.31	18.55	0.072
		QPSK		H	19.74	-1.31	18.43	0.070
		16QAM		H	18.81	-1.31	17.50	0.056
		64QAM		H	17.48	-1.31	16.17	0.041
		256QAM		H	15.21	-1.31	13.90	0.025
	708.5	$\pi/2$ BPSK	1/77	H	20.00	-1.33	18.67	0.074
		QPSK		H	19.86	-1.33	18.53	0.071
		16QAM		H	19.06	-1.33	17.73	0.059
		64QAM		H	17.37	-1.33	16.04	0.040
		256QAM		H	15.56	-1.33	14.23	0.026
10	704	$\pi/2$ BPSK	1/50	H	19.05	-1.28	17.77	0.060
		QPSK		H	19.02	-1.28	17.74	0.059
		16QAM		H	18.12	-1.28	16.84	0.048
		64QAM		H	16.70	-1.28	15.42	0.035
		256QAM		H	14.63	-1.28	13.35	0.022
	711	$\pi/2$ BPSK	1/26	H	20.14	-1.36	18.78	0.076
		QPSK		H	20.09	-1.36	18.73	0.075
		16QAM		H	19.17	-1.36	17.81	0.060
		64QAM		H	17.85	-1.36	16.49	0.045
		256QAM		H	15.55	-1.36	14.19	0.026
5	701.5	$\pi/2$ BPSK	1/23	H	18.54	-1.26	17.28	0.053
		QPSK		H	18.51	-1.26	17.25	0.053
		16QAM		H	17.66	-1.26	16.40	0.044
		64QAM		H	16.01	-1.26	14.75	0.030
		256QAM		H	13.99	-1.26	12.73	0.019
	707.5	$\pi/2$ BPSK	1/23	H	19.66	-1.32	18.34	0.068
		QPSK		H	19.60	-1.32	18.28	0.067
		16QAM		H	18.67	-1.32	17.35	0.054
		64QAM		H	17.22	-1.32	15.90	0.039
		256QAM		H	15.33	-1.32	14.01	0.025
	713.5	$\pi/2$ BPSK	1/1	H	20.72	-1.39	19.33	0.086
		QPSK		H	20.68	-1.39	19.29	0.085
		16QAM		H	20.00	-1.39	18.61	0.073
		64QAM		H	18.50	-1.39	17.11	0.051
		256QAM		H	16.41	-1.39	15.02	0.032

<Test case: ANT 1>

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBd)	ERP (dBm)	ERP (W)
5	713.5	$\pi/2$ BPSK	1/1	V	22.40	17.85	-1.39	16.46
		QPSK		V	22.38	17.55	-1.39	16.16
		16QAM		V	21.52	16.79	-1.39	15.40
		64QAM		V	20.38	15.28	-1.39	13.89
		256QAM		V	18.26	13.33	-1.39	11.94

7.1.2. NR Band n5
<Test case: ANT 2>

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBd)	ERP (dBm)	ERP (W)
20	834	$\pi/2$ BPSK	1/53	H	20.52	-1.44	19.08	0.081
		QPSK		H	20.49	-1.44	19.05	0.080
		16QAM		H	19.73	-1.44	18.29	0.067
		64QAM		H	18.38	-1.44	16.94	0.049
		256QAM		H	16.29	-1.44	14.85	0.031
	836.5	$\pi/2$ BPSK	1/53	H	21.12	-1.44	19.68	0.093
		QPSK		H	21.05	-1.44	19.61	0.091
		16QAM		H	19.96	-1.44	18.52	0.071
		64QAM		H	18.89	-1.44	17.45	0.056
		256QAM		H	17.08	-1.44	15.64	0.037
	839	$\pi/2$ BPSK	1/1	H	21.40	-1.45	19.95	0.099
		QPSK		H	21.38	-1.45	19.93	0.098
		16QAM		H	20.83	-1.45	19.38	0.087
		64QAM		H	19.14	-1.45	17.69	0.059
		256QAM		H	16.70	-1.45	15.25	0.033
15	831.5	$\pi/2$ BPSK	1/39	H	20.69	-1.44	19.25	0.084
		QPSK		H	20.55	-1.44	19.11	0.081
		16QAM		H	19.72	-1.44	18.28	0.067
		64QAM		H	18.37	-1.44	16.93	0.049
		256QAM		H	16.15	-1.44	14.71	0.030
	836.5	$\pi/2$ BPSK	1/1	H	21.27	-1.44	19.83	0.096
		QPSK		H	21.13	-1.44	19.69	0.093
		16QAM		H	20.30	-1.44	18.86	0.077
		64QAM		H	18.73	-1.44	17.29	0.054
		256QAM		H	16.84	-1.44	15.40	0.035
	841.5	$\pi/2$ BPSK	1/1	H	21.30	-1.45	19.85	0.097
		QPSK		H	21.26	-1.45	19.81	0.096
		16QAM		H	20.46	-1.45	19.01	0.080
		64QAM		H	18.96	-1.45	17.51	0.056
		256QAM		H	16.85	-1.45	15.40	0.035
10	829	$\pi/2$ BPSK	1/26	H	20.94	-1.43	19.51	0.089
		QPSK		H	20.90	-1.43	19.47	0.089
		16QAM		H	20.14	-1.43	18.71	0.074
		64QAM		H	18.61	-1.43	17.18	0.052
		256QAM		H	16.53	-1.43	15.10	0.032
	836.5	$\pi/2$ BPSK	1/1	H	21.11	-1.44	19.67	0.093
		QPSK		H	21.07	-1.44	19.63	0.092
		16QAM		H	19.98	-1.44	18.54	0.071
		64QAM		H	18.89	-1.44	17.45	0.056
		256QAM		H	17.02	-1.44	15.58	0.036
	844	$\pi/2$ BPSK	1/1	H	21.05	-1.45	19.60	0.091
		QPSK		H	20.99	-1.45	19.54	0.090
		16QAM		H	20.16	-1.45	18.71	0.074
		64QAM		H	18.82	-1.45	17.37	0.055
		256QAM		H	16.77	-1.45	15.32	0.034

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBd)	ERP (dBm)	ERP (W)
5	826.5	$\pi/2$ BPSK	1/23	H	21.05	-1.43	19.62	0.092
		QPSK		H	20.89	-1.43	19.46	0.088
		16QAM		H	19.97	-1.43	18.54	0.071
		64QAM		H	18.70	-1.43	17.27	0.053
		256QAM		H	16.45	-1.43	15.02	0.032
	836.5	$\pi/2$ BPSK	1/1	H	21.10	-1.44	19.66	0.092
		QPSK		H	21.06	-1.44	19.62	0.092
		16QAM		H	20.20	-1.44	18.76	0.075
		64QAM		H	18.90	-1.44	17.46	0.056
		256QAM		H	17.00	-1.44	15.56	0.036
	846.5	$\pi/2$ BPSK	1/1	H	19.31	-1.46	17.85	0.061
		QPSK		H	19.23	-1.46	17.77	0.060
		16QAM		H	18.26	-1.46	16.80	0.048
		64QAM		H	16.81	-1.46	15.35	0.034
		256QAM		H	14.99	-1.46	13.53	0.023

<Test case: ANT 1>

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBd)	ERP (dBm)	ERP (W)
20	839	$\pi/2$ BPSK	1/1	V	20.15	-1.45	18.70	0.074
		QPSK		V	19.88	-1.45	18.43	0.070
		16QAM		V	19.05	-1.45	17.60	0.058
		64QAM		V	17.54	-1.45	16.09	0.041
		256QAM		V	15.56	-1.45	14.11	0.026

7.1.3. NR Band n66
<Test case: ANT 2>

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	EIRP (dBm)	EIRP (W)
40	1 730	$\pi/2$ BPSK	1/1	V	19.51	5.75	25.26	0.336
		QPSK		V	19.43	5.75	25.18	0.330
		16QAM		V	18.62	5.75	24.37	0.274
		64QAM		V	16.87	5.75	22.62	0.183
		256QAM		V	15.21	5.75	20.96	0.125
	1 745	$\pi/2$ BPSK	1/1	V	18.76	5.60	24.36	0.273
		QPSK		V	18.62	5.60	24.22	0.264
		16QAM		V	17.87	5.60	23.47	0.222
		64QAM		V	16.31	5.60	21.91	0.155
		256QAM		V	14.44	5.60	20.04	0.101
	1 760	$\pi/2$ BPSK	1/1	V	18.40	5.42	23.82	0.241
		QPSK		V	18.32	5.42	23.74	0.237
		16QAM		V	17.71	5.42	23.13	0.206
		64QAM		V	15.61	5.42	21.03	0.127
		256QAM		V	14.22	5.42	19.64	0.092
20	1 720	$\pi/2$ BPSK	1/1	V	18.84	5.86	24.70	0.295
		QPSK		V	18.72	5.86	24.58	0.287
		16QAM		V	17.80	5.86	23.66	0.232
		64QAM		V	16.15	5.86	22.01	0.159
		256QAM		V	14.34	5.86	20.20	0.105
	1 745	$\pi/2$ BPSK	1/1	V	18.47	5.60	24.07	0.255
		QPSK		V	18.33	5.60	23.93	0.247
		16QAM		V	17.33	5.60	22.93	0.196
		64QAM		V	15.88	5.60	21.48	0.141
		256QAM		V	13.84	5.60	19.44	0.088
	1 770	$\pi/2$ BPSK	1/1	V	18.81	5.29	24.10	0.257
		QPSK		V	18.56	5.29	23.85	0.243
		16QAM		V	17.75	5.29	23.04	0.201
		64QAM		V	16.07	5.29	21.36	0.137
		256QAM		V	14.48	5.29	19.77	0.095
15	1 717.5	$\pi/2$ BPSK	1/1	V	19.02	5.89	24.91	0.310
		QPSK		V	18.97	5.89	24.86	0.306
		16QAM		V	18.04	5.89	23.93	0.247
		64QAM		V	16.61	5.89	22.50	0.178
		256QAM		V	14.67	5.89	20.56	0.114
	1 745	$\pi/2$ BPSK	1/1	V	18.34	5.60	23.94	0.248
		QPSK		V	18.10	5.60	23.70	0.234
		16QAM		V	17.50	5.60	23.10	0.204
		64QAM		V	15.78	5.60	21.38	0.137
		256QAM		V	13.88	5.60	19.48	0.089
	1 772.5	$\pi/2$ BPSK	1/1	V	18.15	5.26	23.41	0.219
		QPSK		V	18.12	5.26	23.38	0.218
		16QAM		V	17.14	5.26	22.40	0.174
		64QAM		V	15.82	5.26	21.08	0.128
		256QAM		V	13.50	5.26	18.76	0.075

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	EIRP (dBm)	EIRP (W)
10	1 715	$\pi/2$ BPSK	1/1	V	18.94	5.91	24.85	0.305
		QPSK		V	18.87	5.91	24.78	0.301
		16QAM		V	17.87	5.91	23.78	0.239
		64QAM		V	16.23	5.91	22.14	0.164
		256QAM		V	14.55	5.91	20.46	0.111
	1 745	$\pi/2$ BPSK	1/1	V	17.84	5.60	23.44	0.221
		QPSK		V	17.77	5.60	23.37	0.217
		16QAM		V	16.87	5.60	22.47	0.177
		64QAM		V	15.72	5.60	21.32	0.136
		256QAM		V	13.42	5.60	19.02	0.080
	1 775	$\pi/2$ BPSK	1/1	V	17.30	5.23	22.53	0.179
		QPSK		V	17.22	5.23	22.45	0.176
		16QAM		V	16.25	5.23	21.48	0.141
		64QAM		V	14.80	5.23	20.03	0.101
		256QAM		V	12.70	5.23	17.93	0.062
5	1 712.5	$\pi/2$ BPSK	1/1	V	18.45	5.94	24.39	0.275
		QPSK		V	18.40	5.94	24.34	0.272
		16QAM		V	17.48	5.94	23.42	0.220
		64QAM		V	16.40	5.94	22.34	0.171
		256QAM		V	14.42	5.94	20.36	0.109
	1 745	$\pi/2$ BPSK	1/1	V	18.44	5.60	24.04	0.254
		QPSK		V	18.42	5.60	24.02	0.252
		16QAM		V	17.73	5.60	23.33	0.215
		64QAM		V	16.08	5.60	21.68	0.147
		256QAM		V	14.15	5.60	19.75	0.094
	1 777.5	$\pi/2$ BPSK	1/1	V	17.24	5.20	22.44	0.175
		QPSK		V	17.19	5.20	22.39	0.173
		16QAM		V	16.33	5.20	21.53	0.142
		64QAM		V	14.97	5.20	20.17	0.104
		256QAM		V	13.19	5.20	18.39	0.069

<Test case: ANT 1>

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	EIRP (dBm)	EIRP (W)
40	1 730	$\pi/2$ BPSK	1/1	V	14.84	5.75	20.59	0.115
		QPSK		V	14.55	5.75	20.30	0.107
		16QAM		V	14.13	5.75	19.88	0.097
		64QAM		V	12.36	5.75	18.11	0.065
		256QAM		V	10.18	5.75	15.93	0.039

7.1.4. NR Band n2
<Test case: ANT 2>

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	EIRP (dBm)	EIRP (W)
20	1 860	$\pi/2$ BPSK	1/1	H	17.45	4.31	21.76	0.150
		QPSK		H	17.22	4.31	21.53	0.142
		16QAM		H	16.68	4.31	20.99	0.126
		64QAM		H	14.69	4.31	19.00	0.079
		256QAM		H	12.94	4.31	17.25	0.053
	1 880	$\pi/2$ BPSK	1/1	H	17.54	4.26	21.80	0.151
		QPSK		H	17.49	4.26	21.75	0.150
		16QAM		H	16.87	4.26	21.13	0.130
		64QAM		H	15.30	4.26	19.56	0.090
		256QAM		H	13.52	4.26	17.78	0.060
	1 900	$\pi/2$ BPSK	1/53	H	18.82	4.20	23.02	0.200
		QPSK		H	18.77	4.20	22.97	0.198
		16QAM		H	17.80	4.20	22.00	0.158
		64QAM		H	16.14	4.20	20.34	0.108
		256QAM		H	14.26	4.20	18.46	0.070
15	1 857.5	$\pi/2$ BPSK	1/39	H	17.12	4.32	21.44	0.139
		QPSK		H	17.08	4.32	21.40	0.138
		16QAM		H	16.06	4.32	20.38	0.109
		64QAM		H	14.40	4.32	18.72	0.074
		256QAM		H	12.46	4.32	16.78	0.048
	1 880	$\pi/2$ BPSK	1/1	H	17.41	4.26	21.67	0.147
		QPSK		H	17.36	4.26	21.62	0.145
		16QAM		H	16.68	4.26	20.94	0.124
		64QAM		H	15.49	4.26	19.75	0.094
		256QAM		H	13.25	4.26	17.51	0.056
	1 902.5	$\pi/2$ BPSK	1/39	H	19.62	4.21	23.83	0.242
		QPSK		H	19.56	4.21	23.77	0.238
		16QAM		H	18.58	4.21	22.79	0.190
		64QAM		H	17.23	4.21	21.44	0.139
		256QAM		H	15.25	4.21	19.46	0.088
10	1 855	$\pi/2$ BPSK	1/26	H	17.16	4.33	21.49	0.141
		QPSK		H	17.08	4.33	21.41	0.138
		16QAM		H	16.16	4.33	20.49	0.112
		64QAM		H	14.73	4.33	19.06	0.081
		256QAM		H	12.71	4.33	17.04	0.051
	1 880	$\pi/2$ BPSK	1/1	H	16.67	4.26	20.93	0.124
		QPSK		H	16.63	4.26	20.89	0.123
		16QAM		H	15.82	4.26	20.08	0.102
		64QAM		H	14.19	4.26	18.45	0.070
		256QAM		H	12.44	4.26	16.70	0.047
	1 905	$\pi/2$ BPSK	1/1	H	19.30	4.22	23.52	0.225
		QPSK		H	19.26	4.22	23.48	0.223
		16QAM		H	18.38	4.22	22.60	0.182
		64QAM		H	16.96	4.22	21.18	0.131
		256QAM		H	14.80	4.22	19.02	0.080

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	EIRP (dBm)	EIRP (W)
5	1 852.5	$\pi/2$ BPSK	1/1	H	16.98	4.33	21.31	0.135
		QPSK		H	16.90	4.33	21.23	0.133
		16QAM		H	16.03	4.33	20.36	0.109
		64QAM		H	14.54	4.33	18.87	0.077
		256QAM		H	12.57	4.33	16.90	0.049
	1 880	$\pi/2$ BPSK	1/1	H	16.77	4.26	21.03	0.127
		QPSK		H	16.75	4.26	21.01	0.126
		16QAM		H	15.85	4.26	20.11	0.103
		64QAM		H	14.40	4.26	18.66	0.073
		256QAM		H	12.38	4.26	16.64	0.046
	1 907.5	$\pi/2$ BPSK	1/1	H	18.94	4.23	23.17	0.207
		QPSK		H	18.90	4.23	23.13	0.206
		16QAM		H	18.27	4.23	22.50	0.178
		64QAM		H	16.87	4.23	21.10	0.129
		256QAM		H	14.72	4.23	18.95	0.079

<Test case: ANT 1>

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB Size/ Offset	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	EIRP (dBm)	EIRP (W)
15	1 902.5	$\pi/2$ BPSK	1/39	H	15.88	4.21	20.09	0.102
		QPSK		H	15.81	4.21	20.02	0.100
		16QAM		H	14.92	4.21	19.13	0.082
		64QAM		H	13.23	4.21	17.44	0.055
		256QAM		H	11.79	4.21	16.00	0.040

7.2. UNDESIRABLE EMISSIONS (Radiated)

- Test Notes

- 1) This device was tested under all bandwidths, modulations and RB configurations and the worst case data are reported.
- 2) ENDC mode operation were investigated and the worst case configuration results are reported.
- 3) The frequency spectrum is examined from 9 kHz to the 10th harmonic of the fundamental frequency of the transmitter.
No other spurious and harmonic emissions were reported greater than listed emissions.
- 4) Limit Calculation for $n2/66/12/5 = 43 + 10 \log_{10} (P[\text{Watts}])$

7.2.1. NR Band n12

<Test case: ANT 2>

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB size/offset	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBd)	Result (dBm)	Limit (dBm)	Margin (dB)
15	706.5	π/2 BPSK	1/77	1 431.13	V	-68.55	3.29	-65.26	-13.00	52.26
				2 139.85	V	-65.23	3.16	-62.07	-13.00	49.07
		QPSK	1/77	1 431.59	V	-68.58	3.29	-65.29	-13.00	52.29
				2 140.05	V	-64.82	3.16	-61.66	-13.00	48.66
		16QAM	1/77	1 431.26	V	-68.56	3.29	-65.27	-13.00	52.27
				2 139.80	V	-65.15	3.16	-61.99	-13.00	48.99
		64QAM	1/77	1 431.34	V	-68.55	3.29	-65.26	-13.00	52.26
				2 139.93	V	-65.80	3.16	-62.64	-13.00	49.64
		256QAM	1/77	1 431.60	V	-68.42	3.29	-65.13	-13.00	52.13
				2 139.80	V	-66.26	3.16	-63.10	-13.00	50.10
	708.5	π/2 BPSK	1/77	1 432.29	V	-68.26	3.30	-64.96	-13.00	51.96
				2 145.91	V	-64.37	3.15	-61.22	-13.00	48.22
		QPSK	1/77	1 431.60	V	-68.56	3.29	-65.27	-13.00	52.27
				2 145.80	V	-64.50	3.15	-61.35	-13.00	48.35
		16QAM	1/77	1 431.88	V	-68.52	3.30	-65.22	-13.00	52.22
				2 146.03	V	-64.98	3.15	-61.83	-13.00	48.83
		64QAM	1/77	1 432.14	V	-68.54	3.30	-65.24	-13.00	52.24
				2 146.00	V	-65.64	3.15	-62.49	-13.00	49.49
		256QAM	1/77	1 431.03	V	-68.24	3.29	-64.95	-13.00	51.95
				2 145.83	V	-66.23	3.15	-63.08	-13.00	50.08

<Test case: ANT 1>

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB size/offset	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBd)	Result (dBm)	Limit (dBm)	Margin (dB)
15	708.5	π/2 BPSK	1/77	1433.20	V	-68.87	3.31	-65.56	-13.00	52.56
				2146.06	V	-66.44	3.15	-63.29	-13.00	50.29
		QPSK		1432.78	V	-69.23	3.30	-65.93	-13.00	52.93
				2145.87	V	-66.23	3.15	-63.08	-13.00	50.08
		16QAM		1432.72	V	-69.01	3.30	-65.71	-13.00	52.71
				2146.03	V	-66.60	3.15	-63.45	-13.00	50.45
		64QAM		1432.42	V	-69.16	3.30	-65.86	-13.00	52.86
				2146.14	V	-67.18	3.15	-64.03	-13.00	51.03
		256QAM		1432.86	V	-69.23	3.30	-65.93	-13.00	52.93
				2145.97	V	-67.51	3.15	-64.36	-13.00	51.36

7.2.2. NR Band n5
<Test case: ANT 2>

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB size/offset	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBd)	Result (dBm)	Limit (dBm)	Margin (dB)	
20	834	$\pi/2$ BPSK	1/53	1 668.21	H	-68.80	4.02	-64.78	-13.00	51.78	
				2 502.34	V	-61.31	3.58	-57.73	-13.00	44.73	
		QPSK	1/53	1 667.97	H	-68.79	4.03	-64.76	-13.00	51.76	
				2 502.24	V	-60.81	3.58	-57.23	-13.00	44.23	
		16QAM	1/53	1 668.16	H	-69.00	4.02	-64.98	-13.00	51.98	
				2 502.22	V	-61.74	3.58	-58.16	-13.00	45.16	
		64QAM	1/53	1 668.09	H	-69.68	4.02	-65.66	-13.00	52.66	
				2 502.45	V	-63.58	3.58	-60.00	-13.00	47.00	
		256QAM	1/53	1 668.34	H	-69.73	4.02	-65.71	-13.00	52.71	
				2 502.43	V	-65.18	3.58	-61.60	-13.00	48.60	
		836.5	$\pi/2$ BPSK	1/53	1 672.94	H	-69.82	4.01	-65.81	-13.00	52.81
					2 509.69	V	-62.23	3.64	-58.59	-13.00	45.59
	QPSK		1/53	1 672.91	H	-69.72	4.01	-65.71	-13.00	52.71	
				2 509.69	V	-61.35	3.64	-57.71	-13.00	44.71	
	16QAM		1/53	1 673.10	H	-69.80	4.01	-65.79	-13.00	52.79	
				2 509.73	V	-62.32	3.64	-58.68	-13.00	45.68	
	64QAM		1/53	1 673.10	H	-70.05	4.01	-66.04	-13.00	53.04	
				2 509.76	V	-63.64	3.64	-60.00	-13.00	47.00	
	256QAM		1/53	1 673.04	H	-70.00	4.01	-65.99	-13.00	52.99	
				2 509.87	V	-65.35	3.64	-61.71	-13.00	48.71	
	839		$\pi/2$ BPSK	1/1	1 656.93	H	-69.91	4.07	-65.84	-13.00	52.84
					2 489.11	V	-60.62	3.63	-56.99	-13.00	43.99
		QPSK	1/1	1 657.25	H	-69.92	4.06	-65.86	-13.00	52.86	
				2 489.19	V	-59.67	3.63	-56.04	-13.00	43.04	
		16QAM	1/1	1 656.83	H	-69.89	4.07	-65.82	-13.00	52.82	
				2 488.98	V	-60.88	3.63	-57.25	-13.00	44.25	
		64QAM	1/1	1 657.46	H	-69.90	4.06	-65.84	-13.00	52.84	
				2 489.23	V	-62.87	3.63	-59.24	-13.00	46.24	
		256QAM	1/1	1 656.91	H	-69.58	4.07	-65.51	-13.00	52.51	
				2 489.33	V	-64.63	3.63	-61.00	-13.00	48.00	

<Test case: ANT 1>

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB size/offset	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBd)	Result (dBm)	Limit (dBm)	Margin (dB)
20	839	$\pi/2$ BPSK	1/1	1656.83	H	-70.29	4.07	-66.22	-13.00	53.22
				2489.03	H	-62.48	3.63	-58.85	-13.00	45.85
		QPSK		1656.57	H	-70.08	4.07	-66.01	-13.00	53.01
				2489.06	H	-61.99	3.63	-58.36	-13.00	45.36
		16QAM		1656.54	H	-70.17	4.07	-66.10	-13.00	53.10
				2489.28	H	-62.60	3.63	-58.97	-13.00	45.97
		64QAM		1656.41	H	-70.14	4.07	-66.07	-13.00	53.07
				2489.30	H	-64.05	3.63	-60.42	-13.00	47.42
		256QAM		1656.52	H	-70.19	4.07	-66.12	-13.00	53.12
				2489.12	H	-66.06	3.63	-62.43	-13.00	49.43

7.2.3. NR Band n66

<Test case: ANT 2>

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB size/offset	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
40	1 730	$\pi/2$ BPSK	1/1	3 421.62	H	-63.65	8.17	-55.48	-13.00	42.48
		QPSK	1/1	3 421.56	H	-64.11	8.17	-55.94	-13.00	42.94
		16QAM	1/1	3 421.46	H	-64.43	8.17	-56.26	-13.00	43.26
		64QAM	1/1	3 421.57	H	-64.86	8.17	-56.69	-13.00	43.69
		256QAM	1/1	3 421.71	H	-64.50	8.17	-56.33	-13.00	43.33
	1 745	$\pi/2$ BPSK	1/1	3 451.63	H	-64.81	8.28	-56.53	-13.00	43.53
		QPSK	1/1	3 451.65	H	-65.28	8.28	-57.00	-13.00	44.00
		16QAM	1/1	3 451.74	H	-65.62	8.28	-57.34	-13.00	44.34
		64QAM	1/1	3 451.60	H	-65.88	8.28	-57.60	-13.00	44.60
		256QAM	1/1	3 451.58	H	-65.70	8.28	-57.42	-13.00	44.42
	1 760	$\pi/2$ BPSK	1/1	3 481.56	H	-62.31	8.40	-53.91	-13.00	40.91
		QPSK	1/1	3 481.63	H	-61.17	8.40	-52.77	-13.00	39.77
		16QAM	1/1	3 481.47	H	-61.88	8.40	-53.48	-13.00	40.48
		64QAM	1/1	3 481.71	H	-62.68	8.40	-54.28	-13.00	41.28
		256QAM	1/1	3 481.73	H	-63.83	8.40	-55.43	-13.00	42.43

<Test case: ANT 1>

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB size/offset	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
40	1 760	$\pi/2$ BPSK	1/1	3481.63	H	-62.05	8.40	-53.65	-13.00	40.65
		QPSK		3481.58	H	-62.36	8.40	-53.96	-13.00	40.96
		16QAM		3481.57	H	-63.33	8.40	-54.93	-13.00	41.93
		64QAM		3481.64	H	-63.73	8.40	-55.33	-13.00	42.33
		256QAM		3481.70	H	-64.60	8.40	-56.20	-13.00	43.20

7.2.4. NR Band n2

<Test case: ANT 2>

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB size/offset	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
20	1 860	$\pi/2$ BPSK	1/1	3 701.48	H	-63.27	8.34	-54.93	-13.00	41.93
		QPSK	1/1	3 701.33	H	-63.47	8.34	-55.13	-13.00	42.13
		16QAM	1/1	3 701.31	H	-64.20	8.34	-55.86	-13.00	42.86
		64QAM	1/1	3 701.42	H	-64.69	8.34	-56.35	-13.00	43.35
		256QAM	1/1	3 701.48	H	-65.32	8.34	-56.98	-13.00	43.98
	1 880	$\pi/2$ BPSK	1/1	3 741.46	H	-65.39	8.29	-57.10	-13.00	44.10
		QPSK	1/1	3 741.40	H	-64.94	8.29	-56.65	-13.00	43.65
		16QAM	1/1	3 741.52	H	-65.27	8.29	-56.98	-13.00	43.98
		64QAM	1/1	3 741.43	H	-65.43	8.29	-57.14	-13.00	44.14
		256QAM	1/1	3 741.54	H	-65.67	8.29	-57.38	-13.00	44.38
	1 900	$\pi/2$ BPSK	1/53	3 800.21	H	-64.81	8.48	-56.33	-13.00	43.33
		QPSK	1/53	3 800.13	H	-64.81	8.48	-56.33	-13.00	43.33
		16QAM	1/53	3 800.19	H	-65.30	8.48	-56.82	-13.00	43.82
		64QAM	1/53	3 800.13	H	-65.47	8.48	-56.99	-13.00	43.99
		256QAM	1/53	3 800.11	H	-65.78	8.48	-57.30	-13.00	44.30

<Test case: ANT 1>

Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB size/offset	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
20	1 860	$\pi/2$ BPSK	1/1	3701.45	H	-64.69	8.34	-56.35	-13.00	43.35
		QPSK		3701.34	H	-64.95	8.34	-56.61	-13.00	43.61
		16QAM		3701.44	H	-65.46	8.34	-57.12	-13.00	44.12
		64QAM		3701.51	H	-65.78	8.34	-57.44	-13.00	44.44
		256QAM		3701.42	H	-66.76	8.34	-58.42	-13.00	45.42

<Test case: ANT 2>
ENDC MODE

Band	Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB size/offset
NR n2	20	1 900	QPSK	1/53
LTE B5	10	836.5	QPSK	1/0

Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBd)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
1663.55	H	-69.97	4.04	-	-65.93	-13.00	52.93
3800.04	H	-66.73	-	8.48	-58.25	-13.00	45.25
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-

Band	Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB size/offset
NR n5	20	839	QPSK	1/1
LTE B2	20	1 860	QPSK	1/50

Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBd)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
1655.52	H	-69.26	4.07	-	-65.19	-13.00	52.19
2488.94	V	-65.07	3.63	-	-61.44	-13.00	48.44
3720.17	H	-67.50	-	8.32	-59.18	-13.00	46.18
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-

Band	Channel Bandwidth (MHz)	Frequency (MHz)	Modulation	RB size/offset
NR n66	40	1 730	QPSK	1/1
LTE B14	10	793	QPSK	1/0

Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBd)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
1577.02	H	-70.81	3.89	-	-66.92	-13.00	53.92
3421.68	H	-65.80	-	8.17	-57.63	-13.00	44.63
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-