



FCC RADIO TEST REPORT

FCC ID : LHJ-FE5NA0010
Equipment : FE5NA0010, FE5NA0011
Brand Name : Continental
Model Name : FE5NA0010, FE5NA0011
Applicant : Continental Automotive Systems, Inc.
21440 W Lake Cook Rd., Deer Park, IL 60010, USA
Manufacturer : Continental Automotive Systems, Inc.
21440 W Lake Cook Rd., Deer Park, IL 60010, USA
Standard : FCC 47 CFR Part 2, 27

The product was received on Nov. 22, 2022 and testing was performed from Jan. 17, 2023 to Apr. 07, 2023. We, Sporton International Inc. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI / TIA-603-E and has been in compliance with the applicable technical standards.

The test results in this variant report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Louis Wu

Approved by: Louis Wu

Sporton International Inc. EMC & Wireless Communications Laboratory

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)



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History of this test report

Report No.	Version	Description	Issue Date
FG2N2201-01E	01	Initial issue of report	Apr. 25, 2023
FG2N2201-01E	02	Revise Summary note and Product Specification of Equipment Under Test This report is an updated version, replacing the report issued on Apr. 25, 2023.	Apr. 27, 2023
FG2N2201-01E	03	Revise Product Specification of Equipment Under Test This report is an updated version, replacing the report issued on Apr. 27, 2023.	Apr. 27, 2023



Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.2	§2.1046	Conducted Output Power	Reporting only	-
	§27.50 (j)(3)	Equivalent Isotropic Radiated Power (n77)	Pass	
-	§27.50 (j)(4)	Peak-to-Average Ratio	Not Required	-
-	§2.1049	Occupied Bandwidth	Not Required	-
-	§2.1051 §27.53 (l)(2)	Conducted Band Edge Measurement (n77)	Not Required	-
-	§2.1051 §27.53 (l)(2)	Conducted Spurious Emission (n77)	Not Required	-
-	§2.1055 §27.54	Frequency Stability Temperature & Voltage	Not Required	-
4.2	§2.1051 §27.53 (l)(2)	Radiated Spurious Emission (n77)	Pass	15.34 dB under the limit at 14805.000 MHz

Note:

1. Not required means after assessing, test items are not necessary to carry out.
2. This is a variant report by adding external antenna (Model: 42862899). All the test cases were performed on original report which can be referred to Sporton Report Number FG2N2201E. Based on the original report, only worst case was verified.

Conformity Assessment Condition:

1. The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacturer who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
2. The measurement uncertainty please refer to each test result in the section "Measurement Uncertainty".

Disclaimer:

The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.

Reviewed by: Yun Huang

Report Producer: Lucy Wu

1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature	
Equipment	FE5NA0010, FE5NA0011
Brand Name	Continental
Model Name	FE5NA0010, FE5NA0011
FCC ID	LHJ-FE5NA0010
Installed into the Host	Equipment name: G12N510G1, G12N500G1 Brand name: Continental Model name: G12N510G1, G12N500G1
EUT supports Radios application	WCDMA/HSPA/LTE/5G NR/GNSS
EUT Stage	Identical Prototype

Sample Information			
Sample	TA-code	L2/L5 GNSS	Band Difference
1	FE5NA0010	Support	/
2	FE5NA0011	Not Support	BOM change: depopulated passive components from the GNSS RF front-end

Remark: The above EUT's information was declared by manufacturer.

1.2 Product Specification of Equipment Under Test

Product Specification is subject to this standard	
Tx/Rx Frequency	5G NR n77: 3710.01 MHz ~ 3969.99 MHz
Bandwidth	5G NR n77: 20MHz / 30MHz / 40MHz / 50MHz / 60MHz / 70MHz / 80MHz / 90MHz / 100MHz
Maximum Output Power to Antenna	5G NR n77: 25.81 dBm for HPUE 5G NR n77: 21.11 dBm for MIMO Mode
Antenna Type	<External (Model: 86783279) >: External Sharkfin Antenna + XM + Dual GNSS +5G <External (Model: 42862899) >: external sharkfin antenna, sharkfin NA 5G+Dual GNSS+XM
Antenna Gain	<External (Model: 86783279) >: Primary cell antenna: 6.2 dBi Secondary cell antenna: 3.8 dBi <External (Model: 42862899) >: Primary cell antenna: 3.6 dBi Secondary cell antenna: 1.3 dBi
Type of Modulation	PI/2 BPSK/QPSK/16QAM/64QAM/256QAM

Remark:

- The EUT's information above is declared by manufacturer. Please refer to Disclaimer in report summary.
- Primary cell antenna is only available in MIMO mode.



1.3 Modification of EUT

No modifications are made to the EUT during all test items.

1.4 Testing Location

Test Site	Sporton International Inc. EMC & Wireless Communications Laboratory
Test Site Location	No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978
Test Site No.	Sporton Site No. TH03-HY
Test Engineer	Cotty Hsu and Luffy Lin
Temperature (°C)	22.1~22.8
Relative Humidity (%)	53~55

Test Site	Sporton International Inc. Wensan Laboratory
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855
Test Site No.	Sporton Site No. 03CH12-HY (TAF Code: 3786)
Test Engineer	Jesse Fan, Tim Lee and Wilson Wu
Temperature (°C)	20~25
Relative Humidity (%)	50~60
Remark	The Radiated Spurious Emission test item subcontracted to Sporton International Inc. Wensan Laboratory

Note: The test site complies with ANSI C63.4 2014 requirement.

FCC Designation No.: TW1190 and TW3786



1.5 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ ANSI C63.26-2015
- ♦ ANSI / TIA-603-E
- ♦ FCC 47 CFR Part 2, 27
- ♦ FCC KDB 971168 D01 Power Meas. License Digital Systems v03r01
- ♦ FCC KDB 412172 D01 Determining ERP and EIRP v01r01
- ♦ FCC KDB 414788 D01 Radiated Test Site v01r01.
- ♦ FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.
3. The TAF code is not including all the FCC KDB listed without accreditation.

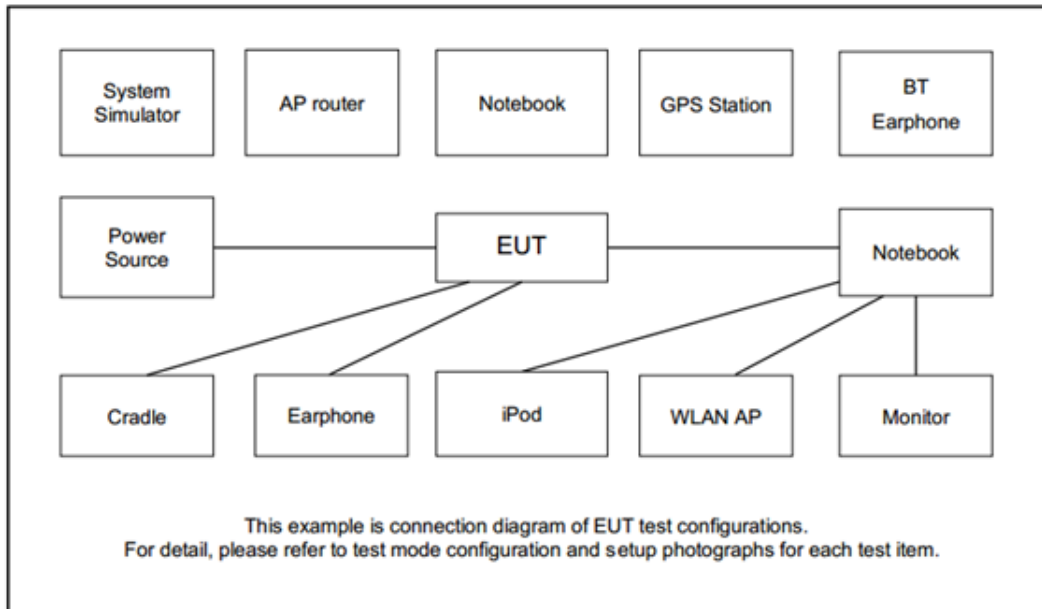
2 Test Configuration of Equipment Under Test

2.1 Test Mode

Antenna port conducted and radiated test items listed below are performed according to KDB 971168 D01 Power Meas. License Digital Systems v03r01 with maximum output power.

Test Items	NR Band	Bandwidth (MHz)									Modulation					RB #			Test Channel				
		20	30	40	50	60	70	80	90	100	PI/2 BPSK	QPSK	16QAM	64QAM	256QAM	1	Half	Full	L	M	H		
Max. Output Power	n77	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	
E.I.R.P	n77	v	v	v	v	v	v	v	v	v	v	v	v	v	v	Max. Power							
Radiated Spurious Emission	n77	v						v			v	v	v					v			v	v	v
Remark	<ol style="list-style-type: none"> The mark "v" means that this configuration is chosen for testing The mark "-" means that this bandwidth is not supported. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported. For radiated measurement, pre-scanned in two modes, DFT-s OFDM and CP OFDM. The worst cases (DFT-s OFDM) were recorded in this report, and the worst modes of FR1 and LTE for simultaneous transmission were verified and compliant. Test combination is EN-DC 2A_n77A. All the radiated test cases were performed with Sample 1. 																						

2.2 Connection Diagram of Test System





2.3 Support Unit used in test configuration and system

Item	Equipment	Brand Name	Model No.	FCC ID	Data Cable	Power Cord
1.	Sharkfin Antenna	Amphenol	42862899	N/A	N/A	Unshielded, 1.8 m
2.	Metal Plate	N/A	N/A	N/A	N/A	Unshielded, 1.8 m
3.	Adapter	TePoo	PT-WC-03	N/A	N/A	N/A
4.	Teddy Jr Load Box	Continental	N/A	N/A	N/A	N/A
5.	DC Power Supply	GW Instek	SP-606	N/A	N/A	N/A
6.	System Simulator	Anritsu	MT8821C	N/A	N/A	N/A
7.	System Simulator	Anritsu	MT8000A	N/A	N/A	N/A

2.4 Frequency List of Low/Middle/High Channels

5G NR n77 Channel and Frequency List for SCS 30kHz				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
100	Channel	650000	656000	662000
	Frequency	3750	3840	3930
90	Channel	649668	656000	662332
	Frequency	3745.02	3840	3934.98
80	Channel	649334	656000	662666
	Frequency	3740.01	3840	3939.99
70	Channel	649000	656000	663000
	Frequency	3735	3840	3945
60	Channel	648668	656000	663332
	Frequency	3730.02	3840	3949.98
50	Channel	648334	656000	663666
	Frequency	3725.01	3840	3954.99
40	Channel	648000	656000	664000
	Frequency	3720	3840	3960
30	Channel	647668	656000	664332
	Frequency	3715.02	3840	3965
20	Channel	647334	656000	664666
	Frequency	3710.01	3840	3969.99

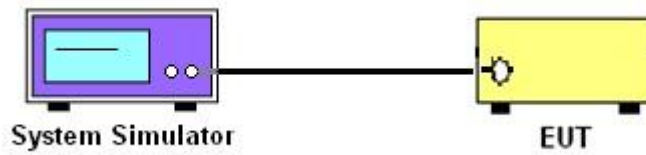
3 Conducted Test Items

3.1 Measuring Instruments

See list of measuring instruments of this test report.

3.1.1 Test Setup

3.1.2 Conducted Output Power



3.1.3 Test Result of Conducted Test

Please refer to Appendix A.



3.2 Conducted Output Power and EIRP

3.2.1 Description of the Conducted Output Power Measurement and EIRP Measurement

A system simulator was used to establish communication with the EUT. Its parameters were set to force the EUT transmitting at maximum output power. The measured power in the radio frequency on the transmitter output terminals shall be reported.

The EIRP of mobile transmitters must not exceed 1 Watts for 5G NR n77

According to KDB 412172 D01 Power Approach,

$EIRP = P_T + G_T - L_C$, $ERP = EIRP - 2.15$, where

P_T = transmitter output power in dBm

G_T = gain of the transmitting antenna in dBi

L_C = signal attenuation in the connecting cable between the transmitter and antenna in dB

3.2.2 Test Procedures

1. The transmitter output port was connected to the system simulator.
2. Set EUT at maximum power through the system simulator.
3. Select lowest, middle, and highest channels for each band and different modulation.
4. Measure and record the power level from the system simulator.
5. The MIMO mode is completely uncorrelated, so the directional gain is selected the maximum gain among all antennas.

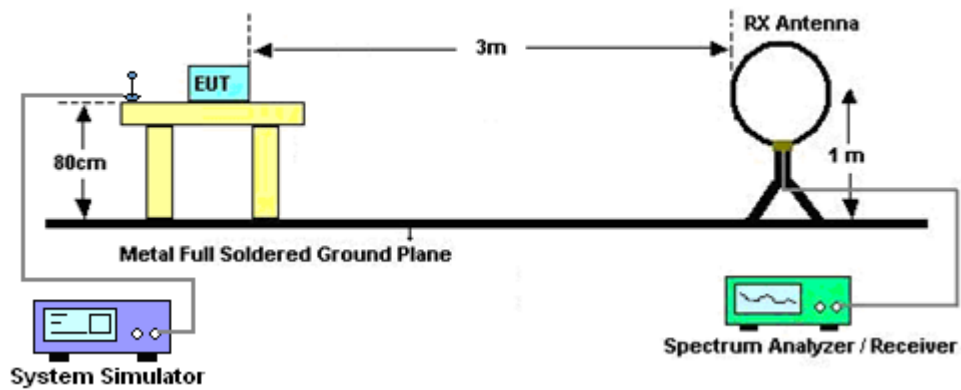
4 Radiated Test Items

4.1 Measuring Instruments

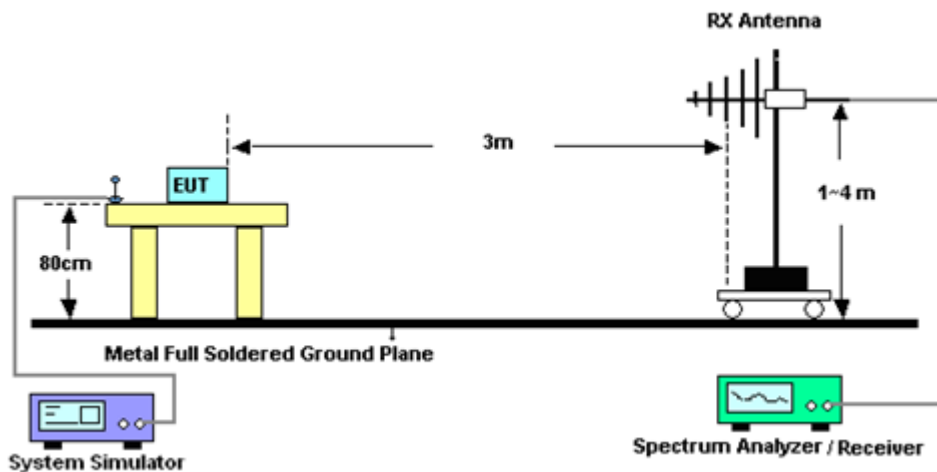
See list of measuring instruments of this test report.

4.1.1 Test Setup

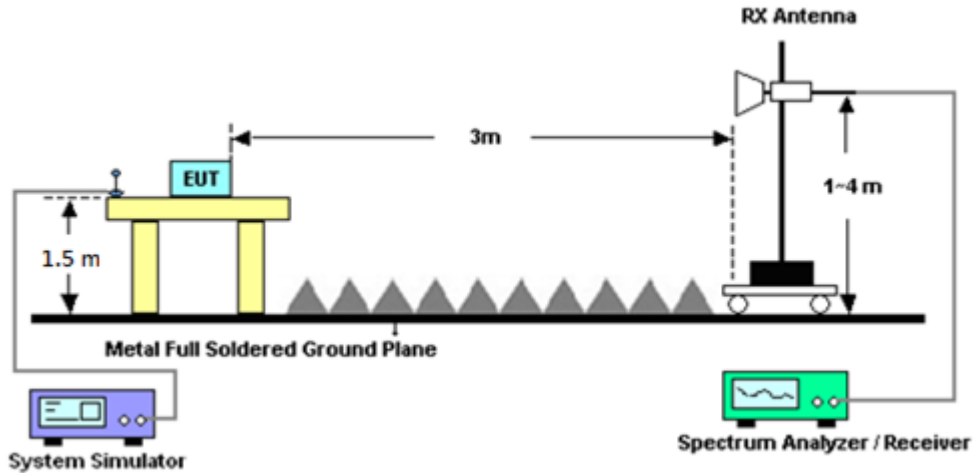
For radiated emissions below 30MHz



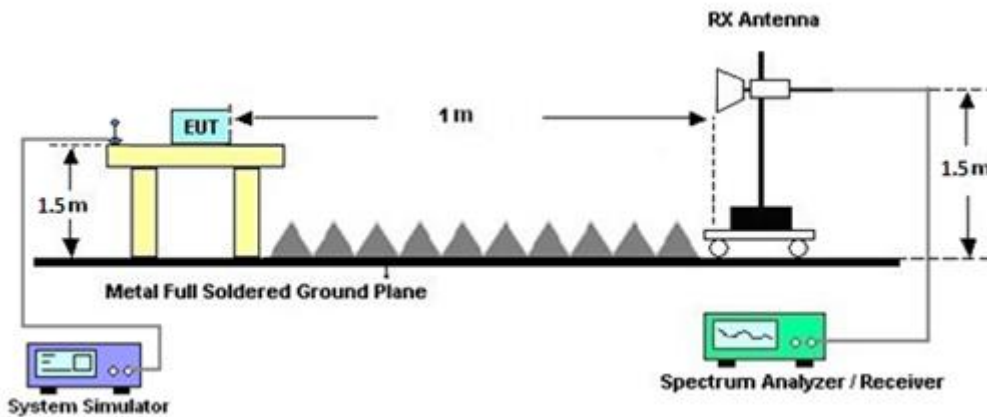
For radiated test from 30MHz to 1GHz



For radiated test from 1GHz to 18GHz



For radiated test above 18GHz



4.1.2 Test Result of Radiated Test

Please refer to Appendix B.

Note:

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

There is adequate comparison measurement of both open-field test site and alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result came out very similar.



4.2 Radiated Spurious Emission Measurement

4.2.1 Description of Radiated Spurious Emission Measurement

The radiated spurious emission was measured by substitution method according to ANSI / TIA-603-E. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB.

4.2.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 7 and ANSI / TIA-603-E Section 2.2.12.

1. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
2. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
6. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
7. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
8. Taking the record of output power at antenna port.
9. Repeat step 7 to step 8 for another polarization.
10. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.



5 List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Sep. 20, 2022	Mar. 18, 2023~ Apr. 07, 2023	Sep. 19, 2023	Radiation (03CH12-HY)
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01N-06	37059 & 01	30MHz~1GHz	Nov. 10, 2022	Mar. 18, 2023~ Apr. 07, 2023	Nov. 09, 2023	Radiation (03CH12-HY)
Horn Antenna	SCHWARZBE CK	BBHA 9120 D	9120D-02114	1GHz~18GHz	Aug. 09, 2022	Mar. 18, 2023~ Apr. 07, 2023	Aug. 08, 2023	Radiation (03CH12-HY)
SHF-EHF Horn Antenna	SCHWARZBE CK	BBHA9170	00993	18GHz~40GHz	Nov. 24, 2022	Mar. 18, 2023~ Apr. 07, 2023	Nov. 23, 2023	Radiation (03CH12-HY)
Preamplifier	COM-POWER	PA-103A	161241	10MHz~1GHz	Oct. 03, 2022	Mar. 18, 2023~ Apr. 07, 2023	Oct. 02, 2023	Radiation (03CH12-HY)
Preamplifier	Agilent	8449B	3008A02375	1GHz~26.5GHz	May 24, 2022	Mar. 18, 2023~ Apr. 07, 2023	May 23, 2023	Radiation (03CH12-HY)
Preamplifier	E-INSTRUME NT TECH LTD.	ERA-100M-18G-5 6-01-A70	EC1900249	1GHz-18GHz	Dec. 21, 2022	Mar. 18, 2023~ Apr. 07, 2023	Dec. 20, 2023	Radiation (03CH12-HY)
Preamplifier	EMEC	EM18G40G	060715	18GHz~40GHz	Dec. 07, 2022	Mar. 18, 2023~ Apr. 07, 2023	Dec. 06, 2023	Radiation (03CH12-HY)
Spectrum Analyzer	Agilent	N9010A	MY53470118	10Hz~44GHz	Jan. 10, 2023	Mar. 18, 2023~ Apr. 07, 2023	Jan. 09, 2024	Radiation (03CH12-HY)
Filter	Wainwright	WHKX12-1080-12 00-15000-60SS	SN1	1.2GHz High Pass Filter	Mar. 14, 2023	Mar. 18, 2023~ Apr. 07, 2023	Mar. 13, 2024	Radiation (03CH12-HY)
Filter	Wainwright	WHKX12-2700-30 00-18000-60ST	SN2	3GHz High Pass Filter	Mar. 14, 2023	Mar. 18, 2023~ Apr. 07, 2023	Mar. 13, 2024	Radiation (03CH12-HY)
Filter	Wainwright	WHKX8-5872.5-6 750-18000-40ST	SN2	6.75GHz High Pass Filter	Mar. 14, 2023	Mar. 18, 2023~ Apr. 07, 2023	Mar. 13, 2024	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	803951/2	9kHz~30MHz	Mar. 07, 2023	Mar. 18, 2023~ Apr. 07, 2023	Mar. 06, 2024	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 126E	0058/126E	30MHz~18GHz	Dec. 20, 2022	Mar. 18, 2023~ Apr. 07, 2023	Dec. 19, 2023	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	505134/2	30MHz~40GHz	Dec. 20, 2022	Mar. 18, 2023~ Apr. 07, 2023	Dec. 19, 2023	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	803953/2	30MHz~40GHz	Dec. 20, 2022	Mar. 18, 2023~ Apr. 07, 2023	Dec. 19, 2023	Radiation (03CH12-HY)
Hygrometer	TECPEL	DTM-303B	TP210090	N/A	Oct. 03, 2022	Mar. 18, 2023~ Apr. 07, 2023	Oct. 02, 2023	Radiation (03CH12-HY)
Controller	EMEC	EM1000	N/A	Control Turn table & Ant Mast	N/A	Mar. 18, 2023~ Apr. 07, 2023	N/A	Radiation (03CH12-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1m~4m	N/A	Mar. 18, 2023~ Apr. 07, 2023	N/A	Radiation (03CH12-HY)
Turn Table	EMEC	TT2000	N/A	0~360 Degree	N/A	Mar. 18, 2023~ Apr. 07, 2023	N/A	Radiation (03CH12-HY)
Software	Audix	E3 6.2009-8-24	RK-000989	N/A	N/A	Mar. 18, 2023~ Apr. 07, 2023	N/A	Radiation (03CH12-HY)



Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Radio Communication Analyzer	Anritsu	MT8821C	6262025353	LTE FDD/TDD LTE-2CC DLCA/ULCA	Oct. 13, 2022	Jan. 17, 2023~ Mar. 23, 2023	Oct. 12, 2023	Conducted (TH03-HY)
Thermal Chamber	ESPEC	SH-641	92013720	-40°C ~90°C	Sep. 07, 2022	Jan. 17, 2023~ Mar. 23, 2023	Sep. 06, 2023	Conducted (TH03-HY)
DC Power Supply	GW Instek	GPP-2323	GES906037	0V~64V ; 0A~6A	Dec. 29, 2022	Jan. 17, 2023~ Mar. 23, 2023	Dec. 28, 2023	Conducted (TH03-HY)
Coupler	Warison	20dB 25W SMA Directional Coupler	#B	1-18GHz	Jan. 06, 2023	Jan. 17, 2023~ Mar. 23, 2023	Jan. 05, 2024	Conducted (TH03-HY)
Base Station (Measure)	Anritsu	MT8000A	6262134933	FR1	Jun. 13, 2022	Jan. 17, 2023~ Mar. 23, 2023	Jun. 12, 2023	Conducted (TH03-HY)



6 Measurement Uncertainty

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.31 dB
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Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.25 dB
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Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.81 dB
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Appendix A. Test Results of Conducted Test

Conducted Output Power(Average power and EIRP)

<SISO Mode>

NR n77 HPUE Maximum Average Power [dBm] (GT - LC = 1.3 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)
20	1	1	PI/2 BPSK	24.35	24.75	25.77	27.11	0.5140
20	1	49		24.48	24.89	25.60		
20	25	12		24.37	24.81	25.64		
20	1	0		23.64	24.04	25.08		
20	1	50		23.78	24.21	24.84		
20	50	0		24.36	24.79	25.66		
20	1	1	QPSK	24.35	24.75	25.81		
20	1	49		24.49	24.90	25.64		
20	25	12		24.36	24.78	25.63		
20	1	0		23.62	24.03	25.12		
20	1	50		23.70	24.23	24.96		
20	50	0		24.37	24.78	25.57		
20	1	1	16-QAM	24.48	24.84	25.46	26.76	0.4742
20	1	1	64-QAM	24.01	24.45	24.93		
20	1	1	256-QAM	21.95	22.34	23.23		
Limit	EIRP < 1W			Result			Pass	

NR n77 HPUE Maximum Average Power [dBm] (GT - LC = 1.3 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)
30	1	1	PI/2 BPSK	23.99	25.07	25.72	27.08	0.5105
30	1	76		24.12	25.39	25.58		
30	36	18		24.15	25.21	25.71		
30	1	0		23.29	24.43	25.02		
30	1	77		23.42	24.69	24.89		
30	75	0		24.26	25.25	25.75		
30	1	1	QPSK	23.98	25.08	25.71		
30	1	76		24.13	25.45	25.61		
30	36	18		24.13	25.22	25.76		
30	1	0		23.33	24.49	25.10		
30	1	77		23.46	24.76	24.93		
30	75	0		23.64	25.32	25.78		
30	1	1	16-QAM	23.72	25.09	25.63	26.93	0.4932
30	1	1	64-QAM	22.27	23.78	23.93		
30	1	1	256-QAM	20.65	22.19	22.35		
Limit	EIRP < 1W			Result			Pass	



NR n77 HPUE Maximum Average Power [dBm] (GT - LC = 1.3 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)
40	1	1	PI/2 BPSK	24.09	24.69	25.59	26.95	0.4955
40	1	104		24.15	24.97	25.62		
40	50	25		24.18	24.76	25.57		
40	1	0		23.41	23.99	24.98		
40	1	105		23.44	24.24	24.92		
40	100	0		24.17	24.77	25.64		
40	1	1	QPSK	24.06	24.73	25.63		
40	1	104		24.16	24.97	25.59		
40	50	25		24.16	24.75	25.63		
40	1	0		23.45	24.01	24.86		
40	1	105		23.47	24.35	25.01		
40	100	0		23.98	24.86	25.65		
40	1	1	16-QAM	23.74	24.85	25.46	26.76	0.4742
40	1	1	64-QAM	23.12	24.13	24.96		
40	1	1	256-QAM	21.02	21.56	22.79		
Limit	EIRP < 1W			Result			Pass	

NR n77 HPUE Maximum Average Power [dBm] (GT - LC = 1.3 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)
50	1	1	PI/2 BPSK	23.94	24.55	25.47	26.97	0.4977
50	1	131		23.87	24.92	25.54		
50	64	32		24.01	24.77	25.66		
50	1	0		23.17	23.83	24.77		
50	1	132		23.19	24.24	24.87		
50	128	0		23.93	24.71	25.57		
50	1	1	QPSK	23.87	24.55	25.44		
50	1	131		23.87	24.96	25.54		
50	64	32		23.95	24.75	25.67		
50	1	0		23.17	23.87	24.70		
50	1	132		23.18	24.28	24.87		
50	128	0		23.89	24.69	25.62		
50	1	1	16-QAM	23.64	24.53	25.36	26.66	0.4634
50	1	1	64-QAM	22.68	23.54	24.63		
50	1	1	256-QAM	21.13	21.93	23.01		
Limit	EIRP < 1W			Result			Pass	



NR n77 HPUE Maximum Average Power [dBm] (GT - LC = 1.3 dB)										
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)		
60	1	1	PI/2 BPSK	24.04	24.64	25.33	26.93	0.4932		
60	1	160		23.96	24.99	25.52				
60	81	40		24.17	24.78	25.63				
60	1	0		23.34	23.96	24.64				
60	1	161		23.31	24.48	24.86				
60	162	0		24.12	24.81	25.52				
60	1	1	QPSK	24.05	24.69	25.31			26.62	0.4592
60	1	160		23.91	24.97	25.52				
60	81	40		24.21	24.82	25.61				
60	1	0		23.35	23.97	24.65				
60	1	161		23.24	24.30	24.84				
60	162	0		24.06	24.79	25.54				
60	1	1	16-QAM	23.47	24.63	25.32	26.62	0.4592		
60	1	1	64-QAM	22.36	23.62	24.99				
60	1	1	256-QAM	21.07	22.06	22.98				
Limit	EIRP < 1W			Result			Pass			

NR n77 HPUE Maximum Average Power [dBm] (GT - LC = 1.3 dB)										
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)		
70	1	1	PI/2 BPSK	24.01	24.64	25.35	26.84	0.4831		
70	1	187		23.95	24.96	25.46				
70	90	45		24.09	24.70	25.51				
70	1	0		23.33	23.90	24.57				
70	1	188		23.26	24.25	24.78				
70	180	0		24.08	24.82	25.54				
70	1	1	QPSK	24.07	24.54	25.28			26.72	0.4699
70	1	187		23.96	24.26	25.45				
70	90	45		24.12	24.74	25.51				
70	1	0		23.36	23.91	24.57				
70	1	188		23.32	24.26	24.97				
70	180	0		24.01	24.80	25.49				
70	1	1	16-QAM	23.89	24.65	25.42	26.72	0.4699		
70	1	1	64-QAM	22.76	23.54	24.68				
70	1	1	256-QAM	21.16	21.81	23.42				
Limit	EIRP < 1W			Result			Pass			



NR n77 HPUE Maximum Average Power [dBm] (GT - LC = 1.3 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)
80	1	1	PI/2 BPSK	24.14	24.71	25.38	26.95	0.4955
80	1	215		23.96	24.94	25.49		
80	108	54		24.08	24.82	25.65		
80	1	0		23.44	24.01	24.66		
80	1	216		23.26	24.24	24.80		
80	216	0		24.14	24.87	25.57		
80	1	1	QPSK	24.11	24.69	25.35		
80	1	215		23.95	24.98	25.49		
80	108	54		24.11	24.74	25.59		
80	1	0		23.42	24.02	24.72		
80	1	216		23.30	24.27	24.81		
80	216	0		23.94	24.88	25.53		
80	1	1	16-QAM	23.82	24.68	25.45	26.75	0.4732
80	1	1	64-QAM	22.71	23.44	24.98		
80	1	1	256-QAM	21.17	21.81	23.35		
Limit	EIRP < 1W			Result			Pass	

NR n77 HPUE Maximum Average Power [dBm] (GT - LC = 1.3 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)
90	1	1	PI/2 BPSK	24.09	24.76	25.54	26.87	0.4864
90	1	243		24.01	24.92	25.45		
90	120	60		23.97	24.82	25.54		
90	1	0		23.41	24.05	24.82		
90	1	244		23.33	24.23	24.78		
90	243	0		24.07	24.88	25.57		
90	1	1	QPSK	24.15	24.66	25.53		
90	1	243		24.07	25.02	25.51		
90	120	60		23.93	24.83	25.54		
90	1	0		23.40	24.10	24.75		
90	1	244		23.28	24.28	24.78		
90	243	0		24.08	24.86	25.56		
90	1	1	16-QAM	23.93	24.53	25.54	26.84	0.4831
90	1	1	64-QAM	22.34	22.84	24.43		
90	1	1	256-QAM	20.75	21.18	22.87		
Limit	EIRP < 1W			Result			Pass	



NR n77 HPUE Maximum Average Power [dBm] (GT - LC = 1.3 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)
100	1	1	PI/2 BPSK	24.12	24.99	25.73	27.03	0.5047
100	1	271		24.02	24.81	25.50		
100	135	67		24.03	24.55	25.45		
100	1	0		23.44	23.95	24.82		
100	1	272		23.36	24.10	24.79		
100	270	0		24.09	24.68	25.46		
100	1	1	QPSK	24.13	24.66	25.45	26.77	0.4753
100	1	271		24.07	24.86	25.53		
100	135	67		24.02	24.71	25.38		
100	1	0		23.68	23.95	24.82		
100	1	272		23.34	24.18	24.85		
100	270	0		24.12	24.61	25.49		
100	1	1	16-QAM	23.92	24.62	25.47	26.77	0.4753
100	1	1	64-QAM	22.48	22.91	24.42		
100	1	1	256-QAM	21.42	21.87	23.56		
Limit	EIRP < 1W			Result			Pass	



<MIMO Mode>

Part270 NR n77 Maximum Average Power [dBm], DG = 3.6 dBi														
BW (MHz)	RB Size	RB Offset	Mod	Antenna 1			Antenna 2			Combine			EIRP (dBm)	EIRP (W)
				Lowest	Middle	Highest	Lowest	Middle	Highest	Lowest	Middle	Highest		
20	1	1	QPSK	15.83	16.27	16.93	17.78	18.06	18.42	19.92	20.27	20.75	24.35	0.2723
20	1	49		15.81	16.45	16.83	17.69	17.98	18.32	19.86	20.29	20.65		
20	25	12		15.75	16.30	16.82	17.67	17.99	18.31	19.83	20.24	20.64		
20	1	0		13.87	14.25	14.96	15.77	16.01	16.45	17.93	18.23	18.78		
20	1	50		13.81	14.45	14.82	15.67	16.07	16.44	17.85	18.35	18.72		
20	51	0		14.32	14.85	15.38	16.19	16.52	16.98	18.37	18.78	19.26		
20	1	1	16-QAM	13.62	15.95	16.57	15.57	17.48	17.95	17.71	19.79	20.32	23.92	0.2466
20	1	1	64-QAM	13.56	14.07	14.76	15.56	15.80	16.25	17.68	18.03	18.58		
20	1	1	256-QAM	10.93	11.25	11.93	12.80	12.93	13.25	14.98	15.18	15.65		
Limit	EIRP < 1W			Result									Pass	

Part270 NR n77 Maximum Average Power [dBm], DG = 3.6 dBi														
BW (MHz)	RB Size	RB Offset	Mod	Antenna 1			Antenna 2			Combine			EIRP (dBm)	EIRP (W)
				Lowest	Middle	Highest	Lowest	Middle	Highest	Lowest	Middle	Highest		
30	1	1	QPSK	17.00	16.17	17.84	17.62	18.19	18.35	20.33	20.31	21.11	24.71	0.2958
30	1	76		15.75	16.62	17.73	17.65	18.30	18.32	19.81	20.55	21.05		
30	39	19		15.75	16.33	17.73	17.71	18.04	18.30	19.85	20.28	21.03		
30	1	0		13.60	14.29	15.83	15.64	16.06	16.42	17.75	18.27	19.15		
30	1	77		13.71	14.66	15.78	15.72	16.18	16.38	17.84	18.50	19.10		
30	78	0		14.24	14.83	16.34	16.18	16.54	16.86	18.33	18.78	19.62		
30	1	1	16-QAM	15.39	16.04	17.34	17.08	17.48	17.94	19.33	19.83	20.66	24.26	0.2667
30	1	1	64-QAM	13.49	14.09	15.62	15.38	15.87	16.17	17.55	18.08	18.91		
30	1	1	256-QAM	10.78	11.29	12.64	12.59	12.97	13.40	14.79	15.22	16.05		
Limit	EIRP < 1W			Result									Pass	

Part270 NR n77 Maximum Average Power [dBm], DG = 3.6 dBi														
BW (MHz)	RB Size	RB Offset	Mod	Antenna 1			Antenna 2			Combine			EIRP (dBm)	EIRP (W)
				Lowest	Middle	Highest	Lowest	Middle	Highest	Lowest	Middle	Highest		
40	1	1	QPSK	15.82	16.35	17.62	17.85	18.05	18.15	19.96	20.29	20.90	24.67	0.2931
40	1	104		15.86	16.74	17.75	17.75	18.18	18.35	19.92	20.53	21.07		
40	53	26		15.75	16.38	17.64	17.75	17.98	18.17	19.87	20.26	20.92		
40	1	0		13.80	14.28	15.57	15.80	16.12	16.32	17.92	18.31	18.97		
40	1	105		13.84	14.75	15.71	15.73	16.14	16.32	17.90	18.51	19.04		
40	106	0		14.25	14.95	16.24	16.29	16.53	16.77	18.40	18.82	19.52		
40	1	1	16-QAM	15.55	16.02	17.11	17.26	17.60	17.98	19.50	19.89	20.58	24.18	0.2618
40	1	1	64-QAM	13.58	14.09	15.35	15.65	15.70	16.06	17.75	17.98	18.73		
40	1	1	256-QAM	10.92	11.36	12.40	12.68	13.07	13.24	14.90	15.31	15.85		
Limit	EIRP < 1W			Result									Pass	



Part270 NR n77 Maximum Average Power [dBm], DG = 3.6 dBi														
BW	RB	RB	Mod	Antenna 1			Antenna 2			Combine			EIRP	EIRP
(MHz)	Size	Offset		Lowest	Middle	Highest	Lowest	Middle	Highest	Lowest	Middle	Highest	(dBm)	(W)
50	1	1	QPSK	15.53	16.04	17.40	17.41	17.90	18.30	19.58	20.08	20.88	24.58	0.2871
50	1	131		15.52	16.68	17.68	17.45	18.01	18.25	19.60	20.41	20.98		
50	67	33		15.57	16.37	17.70	17.51	17.94	18.13	19.66	20.24	20.93		
50	1	0		13.45	14.11	15.33	15.45	15.85	16.37	17.57	18.08	18.89		
50	1	132		13.53	14.72	15.67	15.43	16.02	16.18	17.59	18.43	18.94		
50	133	0		14.14	14.87	16.14	15.98	16.41	16.72	18.17	18.72	19.45		
50	1	1	16-QAM	14.98	15.78	16.90	17.13	17.41	17.95	19.20	19.68	20.47	24.07	0.2553
50	1	1	64-QAM	13.37	13.90	15.17	15.28	15.66	16.12	17.44	17.88	18.68		
50	1	1	256-QAM	10.63	11.05	12.11	12.65	12.64	13.18	14.76	14.93	15.69		
Limit	EIRP < 1W			Result									Pass	

Part270 NR n77 Maximum Average Power [dBm], DG = 3.6 dBi														
BW	RB	RB	Mod	Antenna 1			Antenna 2			Combine			EIRP	EIRP
(MHz)	Size	Offset		Lowest	Middle	Highest	Lowest	Middle	Highest	Lowest	Middle	Highest	(dBm)	(W)
60	1	1	QPSK	15.63	16.12	17.08	17.81	18.03	18.09	19.87	20.19	20.62	24.48	0.2805
60	1	160		15.57	16.76	17.60	17.72	18.11	17.92	19.79	20.50	20.77		
60	81	40		15.78	16.42	17.61	17.68	17.96	18.12	19.84	20.27	20.88		
60	1	0		13.68	14.22	15.15	15.61	15.89	15.93	17.76	18.15	18.57		
60	1	161		13.57	14.72	15.65	15.68	16.06	15.90	17.76	18.45	18.79		
60	162	0		14.28	14.92	16.12	16.18	16.46	16.51	18.34	18.77	19.33		
60	1	1	16-QAM	15.35	15.85	16.64	17.25	17.43	17.59	19.41	19.72	20.15	23.75	0.2371
60	1	1	64-QAM	13.45	14.38	14.94	15.35	15.93	15.74	17.51	18.23	18.37		
60	1	1	256-QAM	10.75	11.21	12.15	12.58	13.03	12.85	14.77	15.22	15.52		
Limit	EIRP < 1W			Result									Pass	

Part270 NR n77 Maximum Average Power [dBm], DG = 3.6 dBi														
BW	RB	RB	Mod	Antenna 1			Antenna 2			Combine			EIRP	EIRP
(MHz)	Size	Offset		Lowest	Middle	Highest	Lowest	Middle	Highest	Lowest	Middle	Highest	(dBm)	(W)
70	1	1	QPSK	15.78	16.35	17.06	17.61	18.05	17.98	19.80	20.29	20.55	24.48	0.2805
70	1	187		15.70	16.92	17.72	17.83	18.17	18.01	19.90	20.60	20.88		
70	95	47		15.89	16.45	17.55	17.62	18.06	17.98	19.85	20.34	20.78		
70	1	0		13.89	14.29	15.07	15.65	16.12	15.96	17.87	18.31	18.55		
70	1	188		13.83	14.78	15.63	15.81	16.19	15.88	17.94	18.55	18.77		
70	189	0		14.31	14.95	16.01	16.12	16.01	16.52	18.32	18.52	19.28		
70	1	1	16-QAM	15.25	16.05	16.77	17.35	17.54	17.43	19.44	19.87	20.12	23.72	0.2355
70	1	1	64-QAM	13.75	14.14	14.87	15.39	15.84	15.82	17.66	18.08	18.38		
70	1	1	256-QAM	10.74	11.28	12.03	12.65	12.82	12.82	14.81	15.13	15.45		
Limit	EIRP < 1W			Result									Pass	

Part270 NR n77 Maximum Average Power [dBm], DG = 3.6 dBi														
BW	RB	RB	Mod	Antenna 1			Antenna 2			Combine			EIRP	EIRP
(MHz)	Size	Offset		Lowest	Middle	Highest	Lowest	Middle	Highest	Lowest	Middle	Highest	(dBm)	(W)
80	1	1	QPSK	15.77	16.44	17.25	17.70	18.13	18.23	19.85	20.38	20.78	24.45	0.2786
80	1	215		15.74	16.86	17.79	17.74	18.11	17.88	19.86	20.54	20.85		
80	109	54		15.77	16.43	17.62	17.66	17.97	18.05	19.83	20.28	20.85		
80	1	0		13.81	14.45	15.20	15.62	16.05	16.30	17.82	18.33	18.80		
80	1	216		13.68	14.88	15.61	15.73	16.17	15.93	17.84	18.58	18.78		
80	217	0		14.35	15.01	16.07	16.31	16.56	16.58	18.45	18.86	19.34		
80	1	1	16-QAM	15.47	16.14	16.67	17.16	17.67	17.98	19.41	19.98	20.38	23.98	0.2500
80	1	1	64-QAM	13.56	14.26	15.02	15.46	15.84	16.04	17.62	18.13	18.57		
80	1	1	256-QAM	10.78	11.34	12.02	12.54	12.75	13.12	14.76	15.11	15.62		
Limit	EIRP < 1W			Result									Pass	



Part270 NR n77 Maximum Average Power [dBm], DG = 3.6 dBi														
BW	RB	RB	Mod	Antenna 1			Antenna 2			Combine			EIRP	EIRP
(MHz)	Size	Offset		Lowest	Middle	Highest	Lowest	Middle	Highest	Lowest	Middle	Highest	(dBm)	(W)
90	1	1	QPSK	15.78	16.49	17.35	17.68	18.17	18.27	19.84	20.42	20.84	24.44	0.2780
90	1	243		15.82	16.92	17.65	17.86	18.28	17.83	19.97	20.66	20.75		
90	123	61		15.65	16.47	16.98	17.61	18.00	17.57	19.75	20.31	20.30		
90	1	0		13.79	14.54	15.37	15.62	16.05	16.28	17.81	18.37	18.86		
90	1	244		13.78	14.92	15.60	15.91	16.24	15.88	17.98	18.64	18.75		
90	245	0		14.28	15.08	15.98	16.05	16.25	16.55	18.26	18.71	19.28		
90	1	1	16-QAM	15.45	16.24	17.07	17.14	17.63	17.83	19.39	20.00	20.48	24.08	0.2559
90	1	1	64-QAM	13.51	14.35	15.13	15.44	15.87	16.07	17.59	18.19	18.64		
90	1	1	256-QAM	10.82	11.37	12.18	12.57	12.85	13.09	14.79	15.18	15.67		
Limit	EIRP < 1W			Result									Pass	

Part270 NR n77 Maximum Average Power [dBm], DG = 3.6 dBi														
BW	RB	RB	Mod	Antenna 1			Antenna 2			Combine			EIRP	EIRP
(MHz)	Size	Offset		Lowest	Middle	Highest	Lowest	Middle	Highest	Lowest	Middle	Highest	(dBm)	(W)
100	1	1	QPSK	15.78	16.39	17.38	17.76	18.24	18.34	19.89	20.42	20.90	24.50	0.2818
100	1	271		15.74	16.95	17.75	17.86	18.32	18.01	19.94	20.70	20.89		
100	137	68		15.62	16.36	17.35	17.64	18.04	18.03	19.76	20.29	20.71		
100	1	0		13.75	14.46	15.42	15.70	16.12	16.33	17.84	18.38	18.91		
100	1	272		13.72	14.85	15.69	15.86	16.24	15.94	17.93	18.61	18.83		
100	273	0		14.23	15.04	16.01	16.32	16.54	16.58	18.41	18.86	19.31		
100	1	1	16-QAM	15.47	16.15	17.04	17.25	17.73	17.81	19.46	20.02	20.45	24.05	0.2541
100	1	1	64-QAM	13.57	14.35	15.24	15.57	15.87	16.11	17.69	18.19	18.71		
100	1	1	256-QAM	10.74	11.34	12.30	12.65	12.85	13.10	14.81	15.17	15.73		
Limit	EIRP < 1W			Result									Pass	



Appendix B. Test Results of Radiated Test

<External Antenna>

5G NR n77 (HPUE)

5G NR n77 (HPUE) / 20MHz / PI/2 BPSK									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	7403	-42.20	-13	-29.20	-72	-49.50	1.94	11.39	H
	11104	-36.92	-13	-23.92	-72.83	-43.15	2.24	10.62	H
	14805	-29.27	-13	-16.27	-71.17	-37.31	2.58	12.77	H
	18506	-62.88	-13	-49.88	-74.16	-75.08	3.24	17.59	H
	22207	-61.28	-13	-48.28	-76.11	-74.47	3.52	18.86	H
	25908	-59.54	-13	-46.54	-77.5	-72.55	3.92	19.08	H
	7403	-42.09	-13	-29.09	-71.99	-49.39	1.94	11.39	V
	11104	-37.06	-13	-24.06	-72.92	-43.29	2.24	10.62	V
	14805	-28.68	-13	-15.68	-71.69	-36.72	2.58	12.77	V
	18506	-62.90	-13	-49.90	-73.96	-75.10	3.24	17.59	V
	22207	-60.98	-13	-47.98	-75.41	-74.17	3.52	18.86	V
	25908	-59.82	-13	-46.82	-77.47	-72.83	3.92	19.08	V
Middle	7663	-42.50	-13	-29.50	-71.88	-50.09	1.89	11.63	H
	11494	-36.11	-13	-23.11	-72.44	-42.66	2.40	11.09	H
	15325	-30.13	-13	-17.13	-70.92	-39.97	2.64	14.63	H
	19156	-63.74	-13	-50.74	-74.97	-75.57	3.25	17.22	H
	22987	-60.62	-13	-47.62	-76.76	-73.51	3.57	18.61	H
	26818	-58.22	-13	-45.22	-77.69	-71.19	3.92	19.05	H
	7663	-42.14	-13	-29.14	-71.74	-49.73	1.89	11.63	V
	11494	-36.02	-13	-23.02	-72.47	-42.57	2.40	11.09	V
	15325	-29.70	-13	-16.70	-71.19	-39.54	2.64	14.63	V
	19156	-64.41	-13	-51.41	-75.4	-76.24	3.25	17.22	V
	22987	-61.12	-13	-48.12	-76.93	-74.01	3.57	18.61	V
	26818	-58.48	-13	-45.48	-77.56	-71.45	3.92	19.05	V



Highest	7923	-42.24	-13	-29.24	-72.28	-49.53	1.95	11.39	H
	11884	-34.15	-13	-21.15	-72.08	-41.92	2.56	12.48	H
	15845	-31.25	-13	-18.25	-70.75	-42.69	2.78	16.37	H
	19806	-63.64	-13	-50.64	-75.52	-75.73	3.20	17.44	H
	23767	-60.51	-13	-47.51	-76.96	-73.16	3.74	18.54	H
	27728	-57.86	-13	-44.86	-77.47	-71.35	3.95	19.59	H
	7923	-41.38	-13	-28.38	-71.77	-48.67	1.95	11.39	V
	11884	-34.71	-13	-21.71	-72.21	-42.48	2.56	12.48	V
	15845	-31.54	-13	-18.54	-71.26	-42.98	2.78	16.37	V
	19806	-64.04	-13	-51.04	-75.63	-76.13	3.20	17.44	V
	23767	-60.75	-13	-47.75	-76.84	-73.40	3.74	18.54	V
	27728	-57.86	-13	-44.86	-77.13	-71.35	3.95	19.59	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



5G NR n77 MIMO

5G NR n77 / 70MHz / QPSK									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	7408	-42.28	-13	-29.28	-72.07	-49.58	1.94	11.38	H
	11111	-36.14	-13	-23.14	-72.05	-42.38	2.24	10.63	H
	14815	-29.14	-13	-16.14	-71.03	-37.20	2.58	12.79	H
	18519	-63.48	-13	-50.48	-74.75	-75.67	3.24	17.58	H
	22223	-61.08	-13	-48.08	-75.93	-74.26	3.52	18.86	H
	25926	-59.02	-13	-46.02	-76.99	-72.03	3.92	19.09	H
	7408	-42.15	-13	-29.15	-72.04	-49.45	1.94	11.38	V
	11111	-36.86	-13	-23.86	-72.73	-43.10	2.24	10.63	V
	14815	-28.82	-13	-15.82	-71.84	-36.88	2.58	12.79	V
	18519	-63.23	-13	-50.23	-74.28	-75.42	3.24	17.58	V
	22223	-61.82	-13	-48.82	-76.26	-75.00	3.52	18.86	V
	25926	-59.61	-13	-46.61	-77.27	-72.62	3.92	19.09	V
Middle	7618	-41.90	-13	-28.90	-71.25	-49.47	1.89	11.61	H
	11426	-35.26	-13	-22.26	-71.53	-41.75	2.37	11.01	H
	15235	-30.00	-13	-17.00	-71.07	-39.46	2.62	14.23	H
	19044	-64.14	-13	-51.14	-75.17	-75.87	3.26	17.14	H
	22853	-60.05	-13	-47.05	-75.93	-73.00	3.56	18.66	H
	26661	-58.05	-13	-45.05	-77.14	-70.80	3.93	18.83	H
	7618	-41.99	-13	-28.99	-71.52	-49.56	1.89	11.61	V
	11426	-35.02	-13	-22.02	-71.38	-41.51	2.37	11.01	V
	15235	-28.59	-13	-15.59	-70.58	-38.05	2.62	14.23	V
	19044	-64.38	-13	-51.38	-75.18	-76.11	3.26	17.14	V
	22853	-60.90	-13	-47.90	-76.42	-73.85	3.56	18.66	V
	26661	-58.15	-13	-45.15	-76.85	-70.90	3.93	18.83	V



Highest	7828	-42.16	-13	-29.16	-71.77	-49.74	1.90	11.63	H
	11741	-34.45	-13	-21.45	-71.79	-41.77	2.50	11.97	H
	15655	-30.65	-13	-17.65	-70.56	-41.60	2.73	15.83	H
	19569	-63.13	-13	-50.13	-75.02	-75.25	3.22	17.49	H
	23483	-59.93	-13	-46.93	-76.34	-72.80	3.68	18.70	H
	27396	-57.54	-13	-44.54	-77.32	-70.91	3.94	19.46	H
	7828	-41.77	-13	-28.77	-71.68	-49.35	1.90	11.63	V
	11741	-34.41	-13	-21.41	-71.52	-41.73	2.50	11.97	V
	15655	-29.82	-13	-16.82	-69.98	-40.77	2.73	15.83	V
	19569	-63.61	-13	-50.61	-75.23	-75.73	3.22	17.49	V
	23483	-59.96	-13	-46.96	-76.05	-72.83	3.68	18.70	V
	27396	-58.20	-13	-45.20	-77.66	-71.57	3.94	19.46	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



EN-DC 2A-n77A

EN-DC 2A-n77A / 10+100MHz / PI/2 BPSK									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	7403	-42.87	-13	-29.87	-72.68	-50.17	1.94	11.39	H
	11104	-37.61	-13	-24.61	-73.52	-43.84	2.24	10.62	H
	14805	-30.31	-13	-17.31	-72.21	-38.35	2.58	12.77	H
	18506	-62.94	-13	-49.94	-74.22	-75.14	3.24	17.59	H
	22208	-61.50	-13	-48.50	-76.33	-74.69	3.52	18.86	H
	25909	-59.34	-13	-46.34	-77.3	-72.35	3.92	19.08	H
	7403	-42.81	-13	-29.81	-72.71	-50.11	1.94	11.39	V
	11104	-37.80	-13	-24.80	-73.66	-44.03	2.24	10.62	V
	14805	-28.34	-13	-15.34	-71.35	-36.38	2.58	12.77	V
	18506	-62.85	-13	-49.85	-73.91	-75.05	3.24	17.59	V
	22208	-61.88	-13	-48.88	-76.31	-75.07	3.52	18.86	V
	25909	-59.65	-13	-46.65	-77.3	-72.66	3.92	19.08	V
Middle	7583	-43.13	-13	-30.13	-72.49	-50.62	1.90	11.53	H
	11374	-36.92	-13	-23.92	-73.13	-43.37	2.35	10.95	H
	15165	-30.50	-13	-17.50	-71.8	-39.67	2.60	13.93	H
	18956	-64.09	-13	-51.09	-75.06	-75.83	3.26	17.14	H
	22748	-60.70	-13	-47.70	-76.38	-73.70	3.55	18.70	H
	26539	-58.39	-13	-45.39	-77.2	-70.97	3.93	18.65	H
	7583	-42.91	-13	-29.91	-72.44	-50.40	1.90	11.53	V
	11374	-36.89	-13	-23.89	-73.17	-43.34	2.35	10.95	V
	15165	-29.43	-13	-16.43	-71.81	-38.60	2.60	13.93	V
	18956	-64.36	-13	-51.36	-75.1	-76.10	3.26	17.14	V
	22748	-61.25	-13	-48.25	-76.55	-74.25	3.55	18.70	V
	26539	-58.71	-13	-45.71	-77.14	-71.29	3.93	18.65	V



Highest	7763	-43.29	-13	-30.29	-72.75	-50.94	1.88	11.68	H
	11644	-35.99	-13	-22.99	-72.92	-43.00	2.46	11.62	H
	15525	-31.26	-13	-18.26	-71.43	-41.88	2.70	15.47	H
	19406	-63.86	-13	-50.86	-75.57	-75.91	3.23	17.42	H
	23288	-60.18	-13	-47.18	-76.49	-73.05	3.63	18.66	H
	27169	-58.10	-13	-45.10	-77.94	-71.39	3.93	19.37	H
	7763	-43.10	-13	-30.10	-72.83	-50.75	1.88	11.68	V
	11644	-35.62	-13	-22.62	-72.47	-42.63	2.46	11.62	V
	15525	-31.37	-13	-18.37	-71.81	-41.99	2.70	15.47	V
	19406	-63.90	-13	-50.90	-75.35	-75.95	3.23	17.42	V
	23288	-60.19	-13	-47.19	-76.18	-73.06	3.63	18.66	V
	27169	-58.40	-13	-45.40	-77.88	-71.69	3.93	19.37	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.