



FCC RF Test Report

APPLICANT : Franklin Technology Inc.
EQUIPMENT : Mobile Hotspot
MODEL NAME : RG2100
FCC ID : XHG-RG2100
STANDARD : 47 CFR Part 2, 24, 27
CLASSIFICATION : PCS Licensed Transmitter (PCB)
TEST DATE(S) : Sep. 08, 2022

We, Sporton International Inc. (Kunshan), would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.26-2015 and shown compliance with the applicable technical standards.

This product installed a RF module (Model Name: M2500, FCC ID: XHG-M2500) during the test, only ERP/EIRP and RSE test items are tested in this report, all the other test results are leveraged from module RF report.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. (Kunshan), the test report shall not be reproduced except in full.

Jason Jia

Approved by: Jason Jia



Sporton International Inc. (Kunshan)

**No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300
People's Republic of China**



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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG262007-01D	Rev. 01	Initial issue of report	Sep. 09, 2022



SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	§2.1046	Conducted Output Power	Reporting Only	PASS	-
	§27.50(c)(10)	Effective Radiated Power (5G NR n71)	ERP < 3 Watt		
	§24.232(c) §27.50(h)(2)	Equivalent Isotropic Radiated Power (5G NR n25) (5G NR n41)	EIRP < 2Watt		
	§27.50(d)(4)	Equivalent Isotropic Radiated Power (5G NR n66)	EIRP < 1Watt		
	§27.50(j)(3)	Equivalent Isotropic Radiated Power (5G NR n77)	EIRP < 1Watt		
-	§24.232(d) §27.50(j)(4)	Peak-to-Average Ratio	<13 dB	-	1
-	§2.1049	Occupied Bandwidth	Reporting Only	-	1
-	§2.1051 §24.238(a) §27.53(h) §27.53(g) §27.53(l)(2)	Conducted Band Edge Measurement (5G NR n25) (5G NR n66) (5G NR n71) (5G NR n77)	< 43+10log ₁₀ (P[Watts])	-	1
	§27.53(m)(4)	Conducted Band Edge Measurement (5G NR n41)	§27.53(m)(4)		
-	§2.1051 §24.238(a) §27.53(h) §27.53(g) §27.53(l)(2)	Conducted Spurious Emission (5G NR n25) (5G NR n66) (5G NR n71) (5G NR n77)	< 43+10log ₁₀ (P[Watts])	-	1
	§2.1051 §27.53(m)(4)	Conducted Spurious Emission (5G NR n41)	< 55+10log ₁₀ (P[Watts])		
-	§2.1055 §22.355	Frequency Stability Temperature & Voltage	< 2.5 ppm for Part 22	-	1
	§24.235 §27.54		Within Authorized Band		
4.4	§2.1053 §24.238(a) §27.53(h) §27.53(g) §27.53(l)(2)	Radiated Spurious Emission (5G NR n25) (5G NR n66) (5G NR n71) (5G NR n77)	< 43+10log ₁₀ (P[Watts])	PASS	Under limit 17.13 dB at 7584.000 MHz
	§2.1053 §27.53(m)(4)	Radiated Spurious Emission (5G NR n41)	< 55+10log ₁₀ (P[Watts])		

Remark 1:

All test results were leveraged from module RF report which can refer to Report No. FG262007D & FG262007F.

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.



1 General Description

1.1 Applicant

Franklin Technology Inc.

906 JEI Platz, 186, Gasan digital 1-ro, Gumcheon-Gu, Seoul, South Korea, 08502

1.2 Manufacturer

Franklin Technology Inc.

906 JEI Platz, 186, Gasan digital 1-ro, Gumcheon-Gu, Seoul, South Korea, 08502

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Hotspot
Model Name	RG2100
FCC ID	XHG-RG2100
IMEI Code	Radiation : 358563790000959
HW Version	P1
SW Version	RG2100.TM.1354
EUT Stage	Identical Prototype

Remark:

Only 5G NR bands are tested in this report, all the other RF bands are tested in the other reports separately.



1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx Frequency	5G NR n25 : 1850 MHz ~ 1915 MHz 5G NR n41 : 2496 MHz ~ 2690 MHz 5G NR n66 : 1710 MHz ~ 1780 MHz 5G NR n71: 663 MHz ~ 698 MHz 5G NR n77: 3700 MHz ~ 3980 MHz
Rx Frequency	5G NR n25 : 1930 MHz ~ 1995 MHz 5G NR n41 : 2496 MHz ~ 2690 MHz 5G NR n66 : 2110 MHz~ 2200 MHz 5G NR n71: 617 MHz ~ 652 MHz 5G NR n77: 3700 MHz ~ 3980 MHz
SCS	n25/n66/n71:15kHz n41/n77:30kHz
Bandwidth	n25: 5/10/15/20/25/30/40MHz n66: 5/10/15/20/30/40MHz n41: 20MHz / 30MHz / 40MHz / 50MHz / 60MHz / 70MHz / 80MHz / 90MHz / 100MHz n71: 5MHz / 10MHz / 15MHz / 20MHz n77: 10MHz / 15MHz / 20MHz / 30MHz / 40MHz / 50MHz / 60MHz / 70MHz / 80MHz / 90MHz / 100MHz
Antenna Gain	<Ant. 0> n25: -1.66 dBi n41: -2.99 dBi n66: -1.56 dBi n71: -2.75 dBi <Ant. 2> n25: -1.54 dBi n66: -1.19 dBi <Ant. 3> n41: -2.18 dBi <Ant. 4> n77: -1.49 dBi
Type of Modulation	CP-OFDM: QPSK / 16QAM / 64QAM / 256QAM DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM

Remark:

1. The maximum ERP/EIRP is calculated from output power and antenna gain, only the maximum ERP/EIRP are shown in the report, 5G NR n25/n66 for Ant. 2 and n41 for Ant. 3 and n71 for Ant.0.
2. 5G NR n25/n41/n66/n71 support SA and NSA modely. According to the maximum power between SA and NSA mode, SA covers NSA mode.
3. The EN-DC mode combination could be referred to the product spec.
4. 5G NR n77 supports HPUE mode and SA mode only.
5. This device antenna is designed for the same Peak Gain/Type as the module for intentional transmit frequency bands and the power is lower as well, Radiated Spurious Emission is verified worse case.

1.5 Modification of EUT

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

1.6 Maximum ERP/EIRP and Emission Designator

5G NR n25		PI/2 BPSK / QPSK		16QAM / 64QAM / 256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
40	1870.0 ~ 1895.0	0.1262	-	0.1047	-

5G NR n41		PI/2 BPSK / QPSK		16QAM / 64QAM / 256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
100	2546.01 ~ 2640.00	0.1208	-	0.1026	-

5G NR n66		PI/2 BPSK / QPSK		16QAM / 64QAM / 256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
40	1730.0 ~ 1760.0	0.1346	-	0.1291	-

5G NR n71		PI/2 BPSK / QPSK		16QAM / 64QAM / 256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum ERP(W)	Emission Designator (99%OBW)	Maximum ERP(W)	Emission Designator (99%OBW)
20	673.0 ~ 688.0	0.0560	-	0.0426	-

5G NR n77		PI/2 BPSK / QPSK		16QAM / 64QAM / 256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
100	3750.00 ~ 3930.00	0.2138	-	0.1542	-

Note: All modulations have been tested, and only the worst test results of PSK & QAM are shown in the report .



1.7 Testing Location

Sporton International Inc. (Kunshan) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

Test Firm	Sporton International Inc. (Kunshan)		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158 FAX : +86-512-57900958		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	03CH04-KS 03CH08-KS	CN1257	314309

1.8 Test Software

Item	Site	Manufacturer	Name	Version
1.	03CH04-KS	AUDIX	E3	6.2009-8-24a
2.	03CH08-KS	AUDIX	E3	6.2009-8-24

1.9 Applicable Standards

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

- ♦ 47 CFR Part 2, 24, 27
- ♦ ANSI C63.26-2015
- ♦ FCC KDB 971168 D01 Power Meas License Digital Systems v03r01
- ♦ FCC KDB 412172 D01 Determining ERP and EIRP v01r01

Remark: All test items were verified and recorded according to the standards and without any deviation during the test.




2 Test Configuration of Equipment Under Test

2.1 Test Mode

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

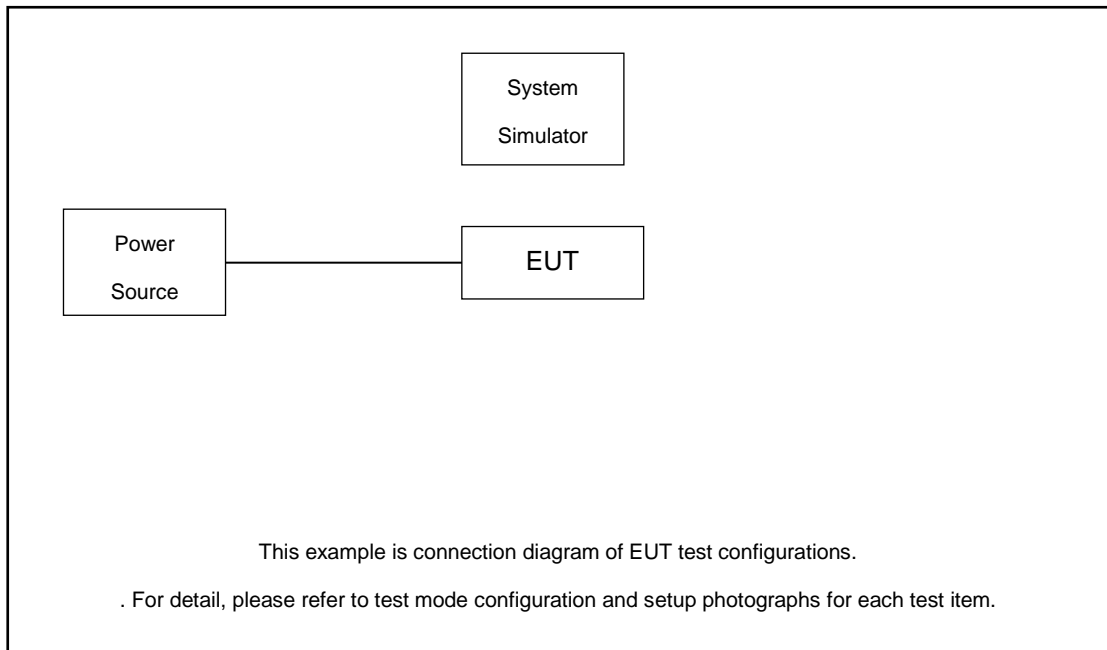
For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (Z/Y plane) were recorded in this report.

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.

Orthogonal Planes of EUT	X Plane	Y Plane	Z Plane
			

Test Items	5G NR	Bandwidth (MHz)											Modulation					RB #		Test Channel		
		5	10	15	20	25	30	40	50	60	70~90	100	PI/2 BPSK	QPSK	16QAM	64QAM	256QAM	1	Full	L	M	H
Max. Output Power	n25	v	v	v	v	v	v	v	-	-	-	v	v	v	v	v	v	v	v	v	v	v
	n41				v		v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	n66	v	v	v	v		v	v	-	-	-	v	v	v	v	v	v	v	v	v	v	v
	n71	v	v	v	v				-	-	-	v	v	v	v	v	v	v	v	v	v	v
	n77		v	v	v		v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
E.R.P / E.I.R.P	n25	v	v	v	v	v	v	v	-	-	-	v	v	v	v	v	v	v	v	v	v	v
	n41				v		v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	n66	v	v	v	v		v	v	-	-	-	v	v	v	v	v	v	v	v	v	v	v
	n71	v	v	v	v				-	-	-	v	v	v	v	v	v	v	v	v	v	v
	n77		v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
Radiated Spurious Emission	n66	Worst Case																			v	
	n77	Worst Case																			v	
Note	<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. Based on engineering evaluation, only the worst modulation test results are shown in the report. Normal Voltage = 3.8V ; Low Voltage =3.6V. ; High Voltage =4.2V 																					

2.2 Connection Diagram of Test System



2.3 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	LTE Base Station	Anritsu	MT8821C	N/A	N/A	Unshielded, 1.8 m
2.	NR Base Station	Anritsu	MT8000A	N/A	N/A	Unshielded, 1.8 m



2.4 Frequency List of Low/Middle/High Channels

5G NR n25 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
40	Channel	390000	392500	395000
	Frequency	1870	1882.5	1895
30	Channel	389000	392500	396000
	Frequency	1865	1882.5	1900
25	Channel	388500	392500	396500
	Frequency	1862.5	1882.5	1902.5
20	Channel	388000	392500	397000
	Frequency	1860	1882.5	1905
15	Channel	387500	392500	397500
	Frequency	1857.5	1882.5	1907.5
10	Channel	387000	392500	398000
	Frequency	1855	1882.5	1910
5	Channel	386500	392500	398500
	Frequency	1852.5	1882.5	1912.5

5G NR n41 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
100	Channel	509202	518598	528000
	Frequency	2546.01	2592.99	2640
90	Channel	508200	518598	528996
	Frequency	2541	2592.99	2644.98
80	Channel	507204	518598	529998
	Frequency	2536.02	2592.99	2649.99
70	Channel	506202	518598	531000
	Frequency	2531.01	2592.99	2655
60	Channel	505200	518598	531996
	Frequency	2526	2592.99	2659.98
50	Channel	504204	518598	532998
	Frequency	2521.02	2592.99	2664.99
40	Channel	503202	518598	534000
	Frequency	2516.01	2592.99	2670
30	Channel	502200	518598	534996
	Frequency	2511	2592.99	2674.98
20	Channel	501204	518598	535998
	Frequency	2506.02	2592.99	2679.99



5G NR n66 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
40	Channel	426000	429000	432000
	Frequency	1730	1745	1760
30	Channel	425000	429000	433000
	Frequency	1725	1745	1765
20	Channel	424000	429000	434000
	Frequency	1720	1745	1770
15	Channel	423500	429000	434500
	Frequency	1717.5	1745	1772.5
10	Channel	423000	429000	435000
	Frequency	1715	1745	1775
5	Channel	422500	429000	435500
	Frequency	1712.5	1745	1777.5

5G NR n71 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	125400	126900	128400
	Frequency	673	680.5	688
15	Channel	124900	126900	128900
	Frequency	670.5	680.5	690.5
10	Channel	124400	126900	129400
	Frequency	668	680.5	693
5	Channel	123900	126900	129900
	Frequency	665.5	680.5	695.5



5G n77 Channel and Frequency List				
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	3964.98
20	Channel	647334	656000	664666
	Frequency	3710.01	3840	3969.99
15	Channel	647168	656000	664832
	Frequency	3707.52	3840	3972.48
10	Channel	647000	656000	665000
	Frequency	3705	3840	3975



3 Conducted Test Items

3.1 Conducted Output Power and ERP/EIRP

3.1.1 Description of the Conducted Output Power Measurement and ERP/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 ERP of mobile transmitters must not exceed 3 Watts for 5G NR n71.

The EIRP of mobile transmitters must not exceed 2 Watts for 5G NR n25 and n41.

The EIRP of mobile transmitters must not exceed 1 Watts for 5G NR n66 and 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

3.1.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.2
2. The transmitter output port was connected to the system simulator.
3. Set EUT at maximum power through the system simulator.
4. Select lowest, middle, and highest channels for each band and different modulation.
5. Measure and record the power level from the system simulator.

3.1.3 Test Result

Please refer to Appendix A.

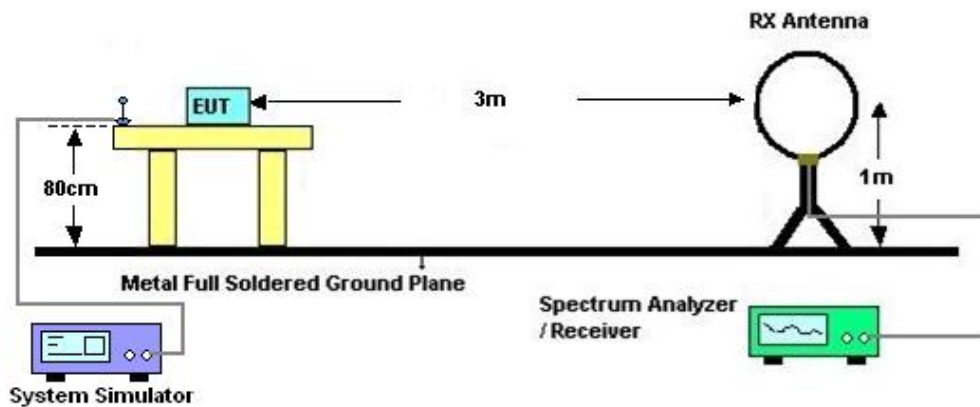
4 Radiated Test Items

4.1 Measuring Instruments

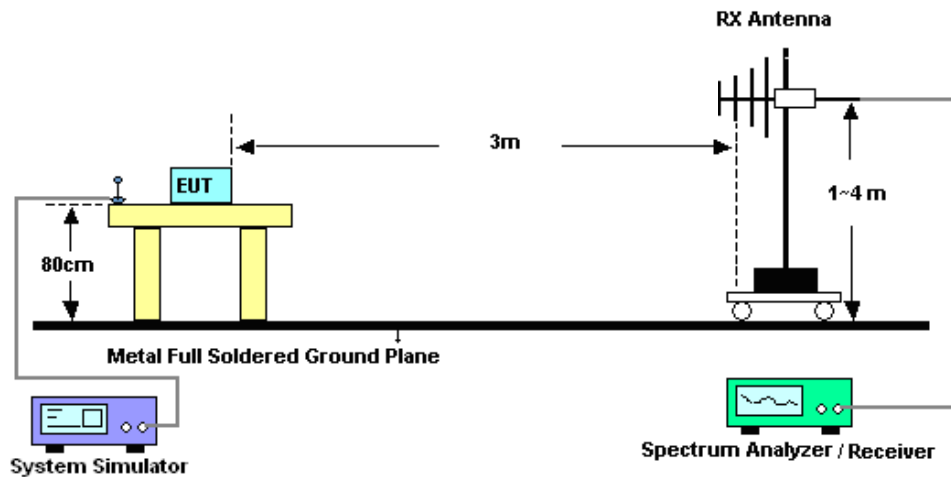
See list of measuring instruments of this test report.

4.2 Test Setup

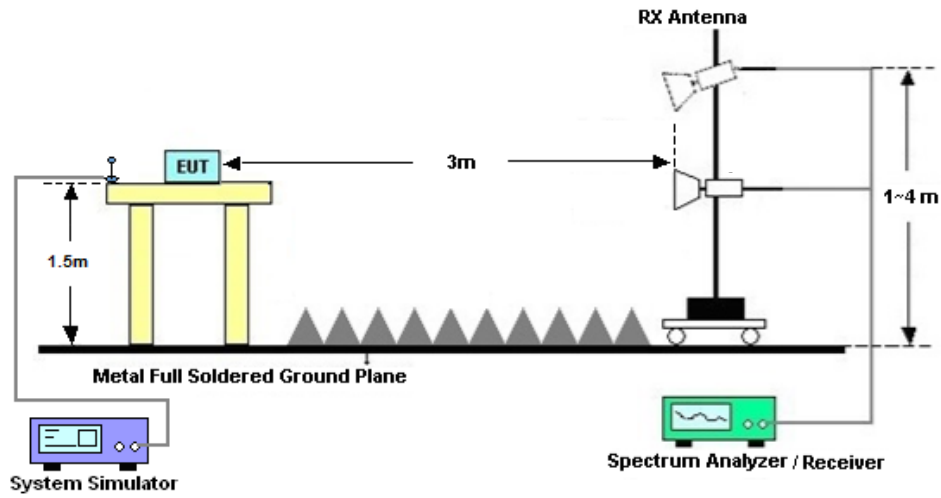
4.2.1 For radiated test below 30MHz



4.2.2 For radiated test from 30MHz to 1GHz



4.2.3 For radiated test above 1GHz



4.3 Test Result of Radiated Test

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.

Please refer to Appendix B.



4.4 Radiated Spurious Emission

4.4.1 Description of Radiated Spurious Emission

The radiated spurious emission was measured by substitution method according to ANSI C63.26. 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.

For 5G NR n41

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 $55 + 10 \log (P)$ dB.

The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

4.4.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.5
2. The EUT was placed on a turntable with 0.8 meter height for frequency below 1GHz and 1.5 meter height for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the receiving antenna mounted on the antenna tower.
4. The table was rotated 360 degrees to determine the position of the highest spurious emission.
5. The height of the receiving antenna is varied between 1m to 4m to search the maximum spurious emission for both horizontal and vertical polarizations.
6. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power.
7. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
8. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
9. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
10. $EIRP (dBm) = S.G. Power - Tx Cable Loss + Tx Antenna Gain$
11. $ERP (dBm) = EIRP - 2.15$
12. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)
 $= P(W) - [43 + 10\log(P)] (dB)$
 $= [30 + 10\log(P)] (dBm) - [43 + 10\log(P)] (dB)$
 $= -13dBm.$

13. For 5G NR n41:

The limit line is derived from $55 + 10\log(P)$ dB below the transmitter power P(Watts)The limit line is derived from $55 + 10\log(P)$ dB below the transmitter power P(Watts)



5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EXA Spectrum Analyzer	Keysight	N9010B	MY57541079	10Hz-44G,MAX 30dB	Oct. 14, 2021	Sep. 08, 2022	Oct. 13, 2022	Radiation (03CH04-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Oct. 30, 2021	Sep. 08, 2022	Oct. 29, 2022	Radiation (03CH04-KS)
Bilog Antenna	TeseQ	CBL6111D	49922	30MHz-1GHz	May 30, 2022	Sep. 08, 2022	May 29, 2023	Radiation (03CH04-KS)
Horn Antenna	Schwarzbeck	BBHA9120D	1284	1GHz~18GHz	Oct. 18, 2021	Sep. 08, 2022	Oct. 17, 2022	Radiation (03CH04-KS)
SHF-EHF Horn	Com-power	AH-840	101070	18GHz~40GHz	Jan. 05, 2022	Sep. 08, 2022	Jan. 04, 2023	Radiation (03CH04-KS)
Amplifier	SONOMA	310N	187289	9KHz-1GHz	Jan. 05, 2022	Sep. 08, 2022	Jan. 04, 2023	Radiation (03CH04-KS)
Amplifier	MITEQ	EM18G40G GA	060728	18~40GHz	Jan. 05, 2022	Sep. 08, 2022	Jan. 04, 2023	Radiation (03CH04-KS)
high gain Amplifier	EM	EM01G18G A	060839	1Ghz-18Ghz	Oct. 14, 2021	Sep. 08, 2022	Oct. 13, 2022	Radiation (03CH04-KS)
Amplifier	Keysight	83017A	MY57280106	500MHz~26.5GHz	Oct. 13, 2021	Sep. 08, 2022	Oct. 12, 2022	Radiation (03CH04-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Sep. 08, 2022	NCR	Radiation (03CH04-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Sep. 08, 2022	NCR	Radiation (03CH04-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Sep. 08, 2022	NCR	Radiation (03CH04-KS)
Spectrum Analyzer	R&S	FSV40	101932	10kHz~40GHz;Ma x 30dBm	Nov. 03, 2021	Sep. 08, 2022	Nov. 02, 2022	Radiation (03CH08-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Oct. 30, 2021	Sep. 08, 2022	Oct. 29, 2022	Radiation (03CH08-KS)
Bilog Antenna	TESEQ	CBL 6111D	59915	30MHz-1GHz	Sep. 01, 2022	Sep. 08, 2022	Aug. 31, 2023	Radiation (03CH08-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	75959	1GHz~18GHz	Dec. 24, 2021	Sep. 08, 2022	Dec. 23, 2022	Radiation (03CH08-KS)
high gain Amplifier	EM	EM01G18G A	060845	1Ghz-18Ghz	Jan. 05, 2022	Sep. 08, 2022	Jan. 04, 2023	Radiation (03CH08-KS)
SHF-EHF Horn	Com-power	AH-840	101070	18GHz~40GHz	Jan. 05, 2022	Sep. 08, 2022	Jan. 04, 2023	Radiation (03CH08-KS)
Amplifier	SONOMA	310N	413741	9KHz-1GHz	Jan. 13, 2022	Sep. 08, 2022	Jan. 12, 2023	Radiation (03CH08-KS)
Amplifier	EM	EM01G18G A	060834	1Ghz-18Ghz	Jan. 05, 2022	Sep. 08, 2022	Jan. 04, 2023	Radiation (03CH08-KS)
Amplifier	MITEQ	EM18G40G GA	060728	18~40GHz	Jan. 05, 2022	Sep. 08, 2022	Jan. 04, 2023	Radiation (03CH08-KS)
AC Power Source	Chroma	61601	616010002473	N/A	NCR	Sep. 08, 2022	NCR	Radiation (03CH08-KS)
Turn Table	MF	MF7802	N/A	0~360 degree	NCR	Sep. 08, 2022	NCR	Radiation (03CH08-KS)
Antenna Mast	MF	MF7802	N/A	1 m~4 m	NCR	Sep. 08, 2022	NCR	Radiation (03CH08-KS)

NCR: No Calibration Required



6 Uncertainty of Evaluation

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.26-2015. All the measurement uncertainty value were shown with a coverage K=2 to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

For 03CH04-KS:

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.3dB
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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))	2.8dB
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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))	2.8dB
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For 03CH08-KS:

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	2.1
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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))	2.1
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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))	4.7
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----- THE END -----



Appendix A. Test Results of Conducted Test

Test Engineer :	Smile Wang	Temperature :	22~23°C
		Relative Humidity :	40~42%

Conducted Output Power(Average power) and ERP/EIRP

5G NR n25:

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Gain	EIRP	EIRP	EIRP
Channel				374000	376500	379000		L	M	H
Frequency (MHz)				1870	1882.5	1895				
40	PI/2 BPSK	1	1	22.53	22.55	22.36	-1.54	0.1256	0.1262	0.1208
40	PI/2 BPSK	1	108	22.40	22.45	22.16	-1.54	0.1219	0.1233	0.1153
40	PI/2 BPSK	1	214	22.35	22.41	22.39	-1.54	0.1205	0.1222	0.1216
40	PI/2 BPSK	108	0	21.90	21.90	21.85	-1.54	0.1086	0.1086	0.1074
40	PI/2 BPSK	108	54	22.36	22.45	22.38	-1.54	0.1208	0.1233	0.1213
40	PI/2 BPSK	108	108	21.99	22.05	21.97	-1.54	0.1109	0.1125	0.1104
40	PI/2 BPSK	216	0	21.97	22.02	22.01	-1.54	0.1104	0.1117	0.1114
40	QPSK	1	1	22.40	22.47	22.38	-1.54	0.1219	0.1239	0.1213
40	QPSK	1	108	22.38	22.41	22.40	-1.54	0.1213	0.1222	0.1219
40	QPSK	1	214	22.32	22.40	22.34	-1.54	0.1197	0.1219	0.1202
40	QPSK	108	0	21.34	21.44	21.44	-1.54	0.0955	0.0977	0.0977
40	QPSK	108	54	22.40	22.42	22.32	-1.54	0.1219	0.1225	0.1197
40	QPSK	108	108	21.54	21.55	21.52	-1.54	0.1000	0.1002	0.0995
40	QPSK	216	0	21.46	21.56	21.49	-1.54	0.0982	0.1005	0.0989
40	16QAM	1	1	21.71	21.74	21.71	-1.54	0.1040	0.1047	0.1040
40	64QAM	1	1	20.22	20.23	20.20	-1.54	0.0738	0.0740	0.0735
40	256QAM	1	1	18.11	18.12	18.07	-1.54	0.0454	0.0455	0.0450
Channel				373000	376500	380000	Gain	EIRP	EIRP	EIRP
Frequency (MHz)				1865	1882.5	1900				
30	PI/2 BPSK	1	1	22.47	22.46	22.29	-1.54	0.1239	0.1236	0.1189
Channel				372500	376500	380500	Gain	EIRP	EIRP	EIRP
Frequency (MHz)				1862.5	1882.5	1902.5				
25	PI/2 BPSK	1	1	22.49	22.54	22.30	-1.54	0.1245	0.1259	0.1191
Channel				372000	376500	381000	Gain	EIRP	EIRP	EIRP
Frequency (MHz)				1860	1882.5	1905				
20	PI/2 BPSK	1	1	22.53	22.54	22.27	-1.54	0.1256	0.1259	0.1183
20	PI/2 BPSK	1	53	22.32	22.40	22.11	-1.54	0.1197	0.1219	0.1140
20	PI/2 BPSK	1	104	22.29	22.40	22.30	-1.54	0.1189	0.1219	0.1191
20	PI/2 BPSK	50	0	21.86	21.83	21.79	-1.54	0.1076	0.1069	0.1059
20	PI/2 BPSK	50	28	22.33	22.35	22.29	-1.54	0.1199	0.1205	0.1189
20	PI/2 BPSK	50	56	21.92	22.02	21.87	-1.54	0.1091	0.1117	0.1079
20	PI/2 BPSK	100	0	21.88	21.96	21.95	-1.54	0.1081	0.1102	0.1099
20	QPSK	1	1	22.35	22.45	22.32	-1.54	0.1205	0.1233	0.1197
20	QPSK	1	53	22.31	22.33	22.30	-1.54	0.1194	0.1199	0.1191
20	QPSK	1	104	22.27	22.37	22.32	-1.54	0.1183	0.1211	0.1197



20	QPSK	50	0	21.32	21.44	21.35	-1.54	0.0951	0.0977	0.0957
20	QPSK	50	28	22.36	22.35	22.23	-1.54	0.1208	0.1205	0.1172
20	QPSK	50	56	21.51	21.55	21.42	-1.54	0.0993	0.1002	0.0973
20	QPSK	100	0	21.43	21.48	21.41	-1.54	0.0975	0.0986	0.0971
20	16QAM	1	1	21.62	21.72	21.66	-1.54	0.1019	0.1042	0.1028
20	64QAM	1	1	20.21	20.22	20.10	-1.54	0.0736	0.0738	0.0718
20	256QAM	1	1	18.02	18.02	18.00	-1.54	0.0445	0.0445	0.0443
Channel				371500	376500	381500	Gain	EIRP	EIRP	EIRP
Frequency (MHz)				1857.5	1882.5	1907.5				
15	PI/2 BPSK	1	1	22.44	22.49	22.32	-1.54	0.1230	0.1245	0.1197
Channel				371000	376500	382000	Gain	EIRP	EIRP	EIRP
Frequency (MHz)				1855	1882.5	1910				
10	PI/2 BPSK	1	1	22.46	22.46	22.30	-1.54	0.1236	0.1236	0.1191
Channel				370500	376500	382500	Gain	EIRP	EIRP	EIRP
Frequency (MHz)				1852.5	1882.5	1912.5				
5	PI/2 BPSK	1	1	22.53	22.53	22.34	-1.54	0.1256	0.1256	0.1202



5G NR n41:

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Gain	EIRP / L	EIRP / M	EIRP / H
Channel				509202	518598	528000		L	M	H
Frequency (MHz)				2546.01	2592.99	2640				
100	PI/2 BPSK	1	1	22.62	23.00	22.76	-2.18	0.1107	0.1208	0.1143
100	PI/2 BPSK	1	137	22.35	22.70	22.46	-2.18	0.1040	0.1127	0.1067
100	PI/2 BPSK	1	271	22.42	22.76	22.47	-2.18	0.1057	0.1143	0.1069
100	PI/2 BPSK	135	0	22.00	22.40	22.19	-2.18	0.0959	0.1052	0.1002
100	PI/2 BPSK	135	69	22.45	22.76	22.49	-2.18	0.1064	0.1143	0.1074
100	PI/2 BPSK	135	138	21.75	22.07	21.83	-2.18	0.0906	0.0975	0.0923
100	PI/2 BPSK	270	0	21.92	22.27	21.97	-2.18	0.0942	0.1021	0.0953
100	QPSK	1	1	22.64	22.97	22.70	-2.18	0.1112	0.1199	0.1127
100	QPSK	1	137	22.37	22.72	22.51	-2.18	0.1045	0.1132	0.1079
100	QPSK	1	271	22.46	22.78	22.54	-2.18	0.1067	0.1148	0.1086
100	QPSK	135	0	22.41	22.40	22.35	-2.18	0.1054	0.1052	0.1040
100	QPSK	135	69	22.35	22.69	22.49	-2.18	0.1040	0.1125	0.1074
100	QPSK	135	138	22.35	22.30	22.31	-2.18	0.1040	0.1028	0.1030
100	QPSK	270	0	21.35	21.70	21.40	-2.18	0.0826	0.0895	0.0836
100	16QAM	1	1	21.99	22.29	22.09	-2.18	0.0957	0.1026	0.0979
100	64QAM	1	1	20.41	20.76	20.56	-2.18	0.0665	0.0721	0.0689
100	256QAM	1	1	18.20	18.52	18.24	-2.18	0.0400	0.0431	0.0404
Channel				508200	518598	528996	Gain	EIRP	EIRP	EIRP
Frequency (MHz)				2541	2592.99	2644.98				
90	PI/2 BPSK	1	1	22.53	22.96	22.68	-2.18	0.1084	0.1197	0.1122
Channel				507204	518598	529998	Gain	EIRP	EIRP	EIRP
Frequency (MHz)				2536.02	2592.99	2649.99				
80	PI/2 BPSK	1	1	22.60	22.95	22.72	-2.18	0.1102	0.1194	0.1132
Channel				506202	518598	531000	Gain	EIRP	EIRP	EIRP
Frequency (MHz)				2531.01	2592.99	2655				
70	PI/2 BPSK	1	1	22.58	22.92	22.67	-2.18	0.1096	0.1186	0.1119
Channel				505200	518598	531996	Gain	EIRP	EIRP	EIRP
Frequency (MHz)				2526	2592.99	2659.98				
60	PI/2 BPSK	1	1	22.54	22.97	22.71	-2.18	0.1086	0.1199	0.1130
Channel				504204	518598	532998	Gain	EIRP	EIRP	EIRP
Frequency (MHz)				2521.02	2592.99	2664.99				
50	PI/2 BPSK	1	1	22.56	22.94	22.76	-2.18	0.1091	0.1191	0.1143
Channel				503202	518598	534000	Gain	EIRP	EIRP	EIRP
Frequency (MHz)				2516.01	2592.99	2670				
40	PI/2 BPSK	1	1	22.52	22.91	22.71	-2.18	0.1081	0.1183	0.1130
Channel				502200	518598	534996	Gain	EIRP	EIRP	EIRP
Frequency (MHz)				2511	2592.99	2674.98				
30	PI/2 BPSK	1	1	22.60	22.96	22.74	-2.18	0.1102	0.1197	0.1138
Channel				501204	518598	535998	Gain	EIRP	EIRP	EIRP
Frequency (MHz)				2506.02	2592.99	2679.99				
20	PI/2 BPSK	1	1	22.59	22.97	22.71	-2.18	0.1099	0.1199	0.1130
Channel				500700	518598	536496	Gain	EIRP	EIRP	EIRP
Frequency (MHz)				2503.5	2592.99	2682.48				
15	PI/2 BPSK	1	1	22.61	22.90	22.70	-2.18	0.1104	0.1180	0.1127



Channel				500202	518598	537000	Gain	EIRP	EIRP	EIRP
Frequency (MHz)				2501.01	2592.99	2685				
10	PI/2 BPSK	1	1	22.53	22.96	22.68	-2.18	0.1084	0.1197	0.1122



5G NR n66:

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Gain	EIRP	EIRP	EIRP
Channel				346000	349000	352000		L	M	H
Frequency (MHz)				1730	1745	1760				
40	PI/2 BPSK	1	1	22.44	22.48	22.38	-1.19	0.1334	0.1346	0.1315
40	PI/2 BPSK	1	108	22.27	22.37	22.26	-1.19	0.1282	0.1312	0.1279
40	PI/2 BPSK	1	214	22.24	22.25	22.16	-1.19	0.1274	0.1276	0.1250
40	PI/2 BPSK	108	0	22.23	22.31	22.22	-1.19	0.1271	0.1294	0.1268
40	PI/2 BPSK	108	54	22.31	22.37	22.33	-1.19	0.1294	0.1312	0.1300
40	PI/2 BPSK	108	108	22.32	22.32	22.22	-1.19	0.1297	0.1297	0.1268
40	PI/2 BPSK	216	0	22.26	22.32	22.25	-1.19	0.1279	0.1297	0.1276
40	QPSK	1	1	22.45	22.47	22.40	-1.19	0.1337	0.1343	0.1321
40	QPSK	1	108	22.33	22.35	22.29	-1.19	0.1300	0.1306	0.1288
40	QPSK	1	214	22.18	22.22	22.15	-1.19	0.1256	0.1268	0.1247
40	QPSK	108	0	21.90	22.00	21.90	-1.19	0.1178	0.1205	0.1178
40	QPSK	108	54	22.35	22.36	22.33	-1.19	0.1306	0.1309	0.1300
40	QPSK	108	108	21.85	21.85	21.76	-1.19	0.1164	0.1164	0.1140
40	QPSK	216	0	21.87	21.93	21.86	-1.19	0.1169	0.1186	0.1167
40	16QAM	1	1	22.20	22.30	22.22	-1.19	0.1262	0.1291	0.1268
40	64QAM	1	1	20.85	20.87	20.77	-1.19	0.0925	0.0929	0.0908
40	256QAM	1	1	18.44	18.51	18.48	-1.19	0.0531	0.0540	0.0536
Channel				345000	349000	353000	Gain	EIRP	EIRP	EIRP
Frequency (MHz)				1725	1745	1765				
30	PI/2 BPSK	1	1	22.42	22.40	22.31	-1.19	0.1327	0.1321	0.1294
Channel				344500	349000	353500	Gain	EIRP	EIRP	EIRP
Frequency (MHz)				1722.5	1745	1767.5				
25	PI/2 BPSK	1	1	22.36	22.45	22.30	-1.19	0.1309	0.1337	0.1291
Channel				344000	349000	354000	Gain	EIRP	EIRP	EIRP
Frequency (MHz)				1720	1745	1770				
20	PI/2 BPSK	1	1	22.34	22.38	22.29	-1.19	0.1303	0.1315	0.1288
20	PI/2 BPSK	1	53	22.26	22.35	22.17	-1.19	0.1279	0.1306	0.1253
20	PI/2 BPSK	1	104	22.16	22.17	22.06	-1.19	0.1250	0.1253	0.1222
20	PI/2 BPSK	50	0	22.19	22.24	22.16	-1.19	0.1259	0.1274	0.1250
20	PI/2 BPSK	50	28	22.29	22.35	22.28	-1.19	0.1288	0.1306	0.1285
20	PI/2 BPSK	50	56	22.26	22.28	22.14	-1.19	0.1279	0.1285	0.1245
20	PI/2 BPSK	100	0	22.23	22.26	22.18	-1.19	0.1271	0.1279	0.1256
20	QPSK	1	1	22.40	22.43	22.32	-1.19	0.1321	0.1330	0.1297
20	QPSK	1	53	22.30	22.34	22.22	-1.19	0.1291	0.1303	0.1268
20	QPSK	1	104	22.16	22.12	22.12	-1.19	0.1250	0.1239	0.1239
20	QPSK	50	0	21.89	21.91	21.82	-1.19	0.1175	0.1180	0.1156
20	QPSK	50	28	22.34	22.31	22.25	-1.19	0.1303	0.1294	0.1276
20	QPSK	50	56	21.83	21.83	21.74	-1.19	0.1159	0.1159	0.1135
20	QPSK	100	0	21.81	21.90	21.85	-1.19	0.1153	0.1178	0.1164
20	16QAM	1	1	22.10	22.26	22.20	-1.19	0.1233	0.1279	0.1262
20	64QAM	1	1	20.75	20.80	20.75	-1.19	0.0904	0.0914	0.0904
20	256QAM	1	1	18.42	18.44	18.44	-1.19	0.0528	0.0531	0.0531
Channel				343500	349000	354500	Gain	EIRP	EIRP	EIRP
Frequency (MHz)				1717.5	1745	1772.5				



15	PI/2 BPSK	1	1	22.35	22.43	22.31	-1.19	0.1306	0.1330	0.1294
Channel				343000	349000	355000	Gain	EIRP	EIRP	EIRP
Frequency (MHz)				1715	1745	1775				
10	PI/2 BPSK	1	1	22.41	22.39	22.36	-1.19	0.1324	0.1318	0.1309
Channel				342500	349000	355500	Gain	EIRP	EIRP	EIRP
Frequency (MHz)				1712.5	1745	1777.5				
5	PI/2 BPSK	1	1	22.41	22.44	22.30	-1.19	0.1324	0.1334	0.1291



5G NR n71:

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Gain	ERP	ERP	ERP
Channel				134600	136100	137600		L	M	H
Frequency (MHz)				673	680.5	688				
20	PI/2 BPSK	1	1	22.38	22.23	22.36	-2.75	0.0560	0.0541	0.0557
20	PI/2 BPSK	1	53	22.37	22.32	22.10	-2.75	0.0558	0.0552	0.0525
20	PI/2 BPSK	1	104	22.25	22.16	22.29	-2.75	0.0543	0.0532	0.0548
20	PI/2 BPSK	50	0	21.91	21.99	21.91	-2.75	0.0502	0.0512	0.0502
20	PI/2 BPSK	50	28	22.31	22.16	22.10	-2.75	0.0551	0.0532	0.0525
20	PI/2 BPSK	50	56	21.97	21.89	21.92	-2.75	0.0509	0.0500	0.0504
20	PI/2 BPSK	100	0	21.94	21.88	21.93	-2.75	0.0506	0.0499	0.0505
20	QPSK	1	1	22.13	22.28	22.35	-2.75	0.0528	0.0547	0.0556
20	QPSK	1	53	22.30	22.35	22.28	-2.75	0.0550	0.0556	0.0547
20	QPSK	1	104	22.25	22.16	22.28	-2.75	0.0543	0.0532	0.0547
20	QPSK	50	0	21.31	21.23	21.34	-2.75	0.0438	0.0430	0.0441
20	QPSK	50	28	22.15	22.33	22.14	-2.75	0.0531	0.0553	0.0530
20	QPSK	50	56	21.18	21.11	21.23	-2.75	0.0425	0.0418	0.0430
20	QPSK	100	0	21.24	21.10	21.20	-2.75	0.0431	0.0417	0.0427
20	16QAM	1	1	21.19	21.09	21.18	-2.75	0.0426	0.0416	0.0425
20	64QAM	1	1	19.78	19.66	19.79	-2.75	0.0308	0.0299	0.0308
20	256QAM	1	1	17.92	17.81	17.94	-2.75	0.0200	0.0195	0.0201
Channel				134100	136100	138100	Gain	ERP	ERP	ERP
Frequency (MHz)				670.5	680.5	690.5				
15	PI/2 BPSK	1	1	22.36	22.18	22.26	-2.75	0.0557	0.0535	0.0545
Channel				133600	136100	138600	Gain	ERP	ERP	ERP
Frequency (MHz)				668	680.5	693				
10	PI/2 BPSK	1	1	22.35	22.18	22.29	-2.75	0.0556	0.0535	0.0548
Channel				133100	136100	139100	Gain	ERP	ERP	ERP
Frequency (MHz)				665.5	680.5	695.5				
5	PI/2 BPSK	1	1	22.28	22.17	22.30	-2.75	0.0547	0.0533	0.0550



5G NR n77:

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Conducted Power(dBm)	EIRP (dBm)	EIRP (W)
77	30	10	647000	3705	DFT-s-OFDM QPSK	1@1	23.5	22.01	0.1589
77	30	10	647000	3705	DFT-s-OFDM 16 QAM	1@1	22.56	21.07	0.1279
77	30	10	656000	3840	DFT-s-OFDM QPSK	1@1	24.1	22.61	0.1824
77	30	10	656000	3840	DFT-s-OFDM 16 QAM	1@1	23.24	21.75	0.1496
77	30	10	665000	3975	DFT-s-OFDM QPSK	1@1	24.75	23.26	0.2118
77	30	10	665000	3975	DFT-s-OFDM 16 QAM	1@1	23.81	22.32	0.1706
77	30	15	647168	3707.52	DFT-s-OFDM QPSK	1@1	23.63	22.14	0.1637
77	30	15	647168	3707.52	DFT-s-OFDM 16 QAM	1@1	22.77	21.28	0.1343
77	30	15	656000	3840	DFT-s-OFDM QPSK	1@1	24.27	22.78	0.1897
77	30	15	656000	3840	DFT-s-OFDM 16 QAM	1@1	23.4	21.91	0.1552
77	30	15	664832	3972.48	DFT-s-OFDM QPSK	1@1	24.77	23.28	0.2128
77	30	15	664832	3972.48	DFT-s-OFDM 16 QAM	1@1	23.91	22.42	0.1746
77	30	20	647334	3710.01	DFT-s-OFDM QPSK	1@1	23.61	22.12	0.1629
77	30	20	647334	3710.01	DFT-s-OFDM 16 QAM	1@1	22.75	21.26	0.1337
77	30	20	656000	3840	DFT-s-OFDM QPSK	1@1	24.33	22.84	0.1923
77	30	20	656000	3840	DFT-s-OFDM 16 QAM	1@1	23.46	21.97	0.1574
77	30	20	664666	3969.99	DFT-s-OFDM QPSK	1@1	24.6	23.11	0.2046
77	30	20	664666	3969.99	DFT-s-OFDM 16 QAM	1@1	23.92	22.43	0.1750
77	30	30	647668	3715.02	DFT-s-OFDM QPSK	1@1	23.56	22.07	0.1611
77	30	30	647668	3715.02	DFT-s-OFDM 16 QAM	1@1	22.74	21.25	0.1334
77	30	30	656000	3840	DFT-s-OFDM QPSK	1@1	24.23	22.74	0.1879
77	30	30	656000	3840	DFT-s-OFDM 16 QAM	1@1	23.43	21.94	0.1563
77	30	30	664332	3964.98	DFT-s-OFDM QPSK	1@1	24.62	23.13	0.2056
77	30	30	664332	3964.98	DFT-s-OFDM 16 QAM	1@1	24.07	22.58	0.1811
77	30	40	648000	3720	DFT-s-OFDM QPSK	1@1	23.67	22.18	0.1652
77	30	40	648000	3720	DFT-s-OFDM 16 QAM	1@1	22.89	21.4	0.1380
77	30	40	656000	3840	DFT-s-OFDM QPSK	1@1	24.39	22.9	0.1950
77	30	40	656000	3840	DFT-s-OFDM 16 QAM	1@1	23.6	22.11	0.1626
77	30	40	664000	3960	DFT-s-OFDM QPSK	1@1	24.65	23.16	0.2070
77	30	40	664000	3960	DFT-s-OFDM 16 QAM	1@1	24.27	22.78	0.1897
77	30	50	648334	3725.01	DFT-s-OFDM QPSK	1@1	23.43	21.94	0.1563
77	30	50	648334	3725.01	DFT-s-OFDM 16 QAM	1@1	22.53	21.04	0.1271
77	30	50	656000	3840	DFT-s-OFDM	1@1	24.16	22.67	0.1849



					QPSK				
77	30	50	656000	3840	DFT-s-OFDM 16 QAM	1@1	23.33	21.84	0.1528
77	30	50	663666	3954.99	DFT-s-OFDM QPSK	1@1	24.78	23.29	0.2133
77	30	50	663666	3954.99	DFT-s-OFDM 16 QAM	1@1	23.94	22.45	0.1758
77	30	60	648668	3730.02	DFT-s-OFDM QPSK	1@1	23.42	21.93	0.1560
77	30	60	648668	3730.02	DFT-s-OFDM 16 QAM	1@1	22.67	21.18	0.1312
77	30	60	656000	3840	DFT-s-OFDM QPSK	1@1	24.14	22.65	0.1841
77	30	60	656000	3840	DFT-s-OFDM 16 QAM	1@1	23.32	21.83	0.1524
77	30	60	663332	3949.98	DFT-s-OFDM QPSK	1@1	24.46	22.97	0.1982
77	30	60	663332	3949.98	DFT-s-OFDM 16 QAM	1@1	23.59	22.1	0.1622
77	30	70	649000	3735	DFT-s-OFDM QPSK	1@1	23.29	21.8	0.1514
77	30	70	649000	3735	DFT-s-OFDM 16 QAM	1@1	22.49	21	0.1259
77	30	70	656000	3840	DFT-s-OFDM QPSK	1@1	24	22.51	0.1782
77	30	70	656000	3840	DFT-s-OFDM 16 QAM	1@1	23.17	21.68	0.1472
77	30	70	663000	3945	DFT-s-OFDM QPSK	1@1	24.26	22.77	0.1892
77	30	70	663000	3945	DFT-s-OFDM 16 QAM	1@1	23.42	21.93	0.1560
77	30	80	649334	3740.01	DFT-s-OFDM QPSK	1@1	23.22	21.73	0.1489
77	30	80	649334	3740.01	DFT-s-OFDM 16 QAM	1@1	22.47	20.98	0.1253
77	30	80	656000	3840	DFT-s-OFDM QPSK	1@1	24.02	22.53	0.1791
77	30	80	656000	3840	DFT-s-OFDM 16 QAM	1@1	23.23	21.74	0.1493
77	30	80	662666	3939.99	DFT-s-OFDM QPSK	1@1	24.15	22.66	0.1845
77	30	80	662666	3939.99	DFT-s-OFDM 16 QAM	1@1	23.3	21.81	0.1517
77	30	90	649668	3745.02	DFT-s-OFDM QPSK	1@1	23.26	21.77	0.1503
77	30	90	649668	3745.02	DFT-s-OFDM 16 QAM	1@1	22.48	20.99	0.1256
77	30	90	656000	3840	DFT-s-OFDM QPSK	1@1	24.04	22.55	0.1799
77	30	90	656000	3840	DFT-s-OFDM 16 QAM	1@1	23.31	21.82	0.1521
77	30	90	662332	3934.98	DFT-s-OFDM QPSK	1@1	24.07	22.58	0.1811
77	30	90	662332	3934.98	DFT-s-OFDM 16 QAM	1@1	23.24	21.75	0.1496
77	30	100	650000	3750	DFT-s-OFDM PI/2 BPSK	135@67	23.98	22.49	0.1774
77	30	100	650000	3750	DFT-s-OFDM PI/2 BPSK	1@1	23.34	21.85	0.1531
77	30	100	650000	3750	DFT-s-OFDM PI/2 BPSK	1@271	24.28	22.79	0.1901
77	30	100	650000	3750	DFT-s-OFDM QPSK	135@67	23.96	22.47	0.1766
77	30	100	650000	3750	DFT-s-OFDM QPSK	1@1	23.39	21.9	0.1549
77	30	100	650000	3750	DFT-s-OFDM QPSK	1@271	24.19	22.7	0.1862
77	30	100	650000	3750	DFT-s-OFDM 16 QAM	135@67	22.92	21.43	0.1390



77	30	100	650000	3750	DFT-s-OFDM 16 QAM	1@1	22.46	20.97	0.1250
77	30	100	650000	3750	DFT-s-OFDM 16 QAM	1@271	23.37	21.88	0.1542
77	30	100	650000	3750	DFT-s-OFDM 64 QAM	135@67	21.41	19.92	0.0982
77	30	100	650000	3750	DFT-s-OFDM 64 QAM	1@1	20.85	19.36	0.0863
77	30	100	650000	3750	DFT-s-OFDM 64 QAM	1@271	21.8	20.31	0.1074
77	30	100	650000	3750	DFT-s-OFDM 256 QAM	135@67	19.38	17.89	0.0615
77	30	100	650000	3750	DFT-s-OFDM 256 QAM	1@1	18.56	17.07	0.0509
77	30	100	650000	3750	DFT-s-OFDM 256 QAM	1@271	19.63	18.14	0.0652
77	30	100	650000	3750	CP-OFDM QPSK	137@68	22.43	20.94	0.1242
77	30	100	650000	3750	CP-OFDM QPSK	1@1	21.78	20.29	0.1069
77	30	100	650000	3750	CP-OFDM QPSK	1@271	22.77	21.28	0.1343
77	30	100	656000	3840	DFT-s-OFDM PI/2 BPSK	135@67	24.07	22.58	0.1811
77	30	100	656000	3840	DFT-s-OFDM PI/2 BPSK	1@1	24.09	22.6	0.1820
77	30	100	656000	3840	DFT-s-OFDM PI/2 BPSK	1@271	24.17	22.68	0.1854
77	30	100	656000	3840	DFT-s-OFDM QPSK	135@67	24.03	22.54	0.1795
77	30	100	656000	3840	DFT-s-OFDM QPSK	1@1	24.08	22.59	0.1816
77	30	100	656000	3840	DFT-s-OFDM QPSK	1@271	24.15	22.66	0.1845
77	30	100	656000	3840	DFT-s-OFDM 16 QAM	135@67	23.08	21.59	0.1442
77	30	100	656000	3840	DFT-s-OFDM 16 QAM	1@1	23.14	21.65	0.1462
77	30	100	656000	3840	DFT-s-OFDM 16 QAM	1@271	23.32	21.83	0.1524
77	30	100	656000	3840	DFT-s-OFDM 64 QAM	135@67	21.54	20.05	0.1012
77	30	100	656000	3840	DFT-s-OFDM 64 QAM	1@1	21.6	20.11	0.1026
77	30	100	656000	3840	DFT-s-OFDM 64 QAM	1@271	21.75	20.26	0.1062
77	30	100	656000	3840	DFT-s-OFDM 256 QAM	135@67	19.52	18.03	0.0635
77	30	100	656000	3840	DFT-s-OFDM 256 QAM	1@1	19.38	17.89	0.0615
77	30	100	656000	3840	DFT-s-OFDM 256 QAM	1@271	19.62	18.13	0.0650
77	30	100	656000	3840	CP-OFDM QPSK	137@68	22.54	21.05	0.1274
77	30	100	656000	3840	CP-OFDM QPSK	1@1	22.54	21.05	0.1274
77	30	100	656000	3840	CP-OFDM QPSK	1@271	22.7	21.21	0.1321
77	30	100	662000	3930	DFT-s-OFDM PI/2 BPSK	135@67	24.35	22.86	0.1932
77	30	100	662000	3930	DFT-s-OFDM PI/2 BPSK	1@1	24.09	22.6	0.1820
77	30	100	662000	3930	DFT-s-OFDM PI/2 BPSK	1@271	24.3	22.81	0.1910
77	30	100	662000	3930	DFT-s-OFDM QPSK	135@67	24.79	23.3	0.2138
77	30	100	662000	3930	DFT-s-OFDM QPSK	1@1	24.13	22.64	0.1837
77	30	100	662000	3930	DFT-s-OFDM QPSK	1@271	24.2	22.71	0.1866



77	30	100	662000	3930	DFT-s-OFDM 16 QAM	135@67	23.36	21.87	0.1538
77	30	100	662000	3930	DFT-s-OFDM 16 QAM	1@1	23.18	21.69	0.1476
77	30	100	662000	3930	DFT-s-OFDM 16 QAM	1@271	23.33	21.84	0.1528
77	30	100	662000	3930	DFT-s-OFDM 64 QAM	135@67	21.85	20.36	0.1086
77	30	100	662000	3930	DFT-s-OFDM 64 QAM	1@1	21.64	20.15	0.1035
77	30	100	662000	3930	DFT-s-OFDM 64 QAM	1@271	21.82	20.33	0.1079
77	30	100	662000	3930	DFT-s-OFDM 256 QAM	135@67	19.84	18.35	0.0684
77	30	100	662000	3930	DFT-s-OFDM 256 QAM	1@1	19.42	17.93	0.0621
77	30	100	662000	3930	DFT-s-OFDM 256 QAM	1@271	19.71	18.22	0.0664
77	30	100	662000	3930	CP-OFDM QPSK	137@68	22.83	21.34	0.1361
77	30	100	662000	3930	CP-OFDM QPSK	1@1	22.53	21.04	0.1271
77	30	100	662000	3930	CP-OFDM QPSK	1@271	22.79	21.3	0.1349



Appendix B. Test Results of Radiated Test

Radiated Spurious Emission

Test Engineer :	Levi zhuo	Temperature :	23~25°C
		Relative Humidity :	41~42%

Note: Pre-scanned harmonic for the different antenna combinations, we choose the worst antenna mode to perform final test.

SA n66 / NR 40MHz / QPSK / ANT2								
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	3450	-53.22	-13	-40.22	-63.96	2.60	13.34	H
	5175	-54.30	-13	-41.30	-64.81	3.01	13.52	H
	6915	-52.96	-13	-39.96	-63.16	3.27	13.47	H
	3450	-52.11	-13	-39.11	-62.85	2.60	13.34	V
	5175	-54.49	-13	-41.49	-65.00	3.01	13.52	V
	6915	-53.00	-13	-40.00	-63.20	3.27	13.47	V

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

SA n77 / NR 100MHz / QPSK / ANT4								
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	7584	-32.64	-13	-19.64	-43.12	2.76	13.24	H
	11376	-39.95	-13	-26.95	-49.54	3.42	13.01	H
	15168	-35.25	-13	-22.25	-44.86	3.83	13.44	H
	7584	-30.13	-13	-17.13	-40.57	2.80	13.24	V
	11376	-40.29	-13	-27.29	-49.84	3.46	13.01	V
	15168	-37.47	-13	-24.47	-47.03	3.88	13.44	V

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