



FCC RADIO TEST REPORT

FCC ID : 2AQ68T99W373M
Equipment : 5G WWAN Module
Brand Name : Foxconn
Model Name : T99W373M
Applicant : Hon Lin Technology Co., Ltd
11F, No.32, Jihu Rd., Neihu Dist., Taipei City 114,
Taiwan R.O.C.
Manufacturer : Hon Lin Technology Co., Ltd
11F, No.32, Jihu Rd., Neihu Dist., Taipei City 114,
Taiwan R.O.C.
Standard : FCC 47 CFR Part 2, 24(E), 27D

The product was received on Mar. 28, 2023 and testing was performed from Jun. 06, 2023 to Jul. 04, 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 from 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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Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.2	§2.1046	Conducted Output Power	Reporting only	-
	§24.232 (c) §27.50 (h)(2)	Equivalent Isotropic Radiated Power (n25) (n7)	Pass	
-	§24.232 (d)	Peak-to-Average Ratio	Not Required	-
-	§2.1049	Occupied Bandwidth	Reporting only	-
-	§2.1051 §24.238 (a)	Conducted Band Edge Measurement (n25)	Not Required	-
	§2.1051 §27.53 (m)(4)	Conducted Band Edge Measurement (n7)		
-	§2.1051 §24.238 (a)	Conducted Spurious Emission (n25)	Not Required	-
	§2.1051 §27.53 (m)(4)	Conducted Spurious Emission (n7)		
-	§2.1055 §24.235 §27.54	Frequency Stability Temperature & Voltage	Not Required	-
4.2	§2.1053 §24.238 (a)	Radiated Spurious Emission (n25)	Pass	16.59 dB under the limit at 10105.00 MHz
	§2.1051 §27.53 (m)(4)	Radiated Spurious Emission (n7)		

Remark:

1. Not required means after assessing, test items are not necessary to carry out.
2. This is a variant report by adding ENDC and CA function. All the test cases were performed on original report which can be referred to FCC ID: 2AQ68T99W373M. Based on the original report, the test cases were 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: Keven Cheng

Report Producer: Clio Lo



1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature
General Specs WCDMA/LTE/5G NR and GNSS

The following antennas were provided to the EUT

	Band	Brand	Model	Antenna Type	RF Exposure Max Antenna Gain(dBi)
5G NR	n7	WHA YU	C107-511722-A	PIFA	4.3
	n25	WHA YU	C107-511722-A	PIFA	5.9

Remark: The EUT's information above is declared by manufacturer and used for Radiated Spurious Emission test.

There are three different HW of T99W373M

Brand	Model	HW
Foxconn	T99W373M	WCDMA+LTE+Sub6+mmWave+eSIM
		WCDMA+LTE+Sub6+mmWave w/o eSIM
		WCDMA+LTE+Sub6+mmWave w/o eSim+FPC connector on bottom

1.2 Modification of EUT

No modifications made to the EUT during the testing.



1.3 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	Jimmy Chang and Ivy Yeh
Temperature (°C)	23.5~24.1
Relative Humidity (%)	48~52

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	Jack Cheng, Wilson Wu, Jesse Fan and Tim Lee
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



1.4 Applicable Standards

According to the specifications declared by 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, 24(E), 27D
- ♦ 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 the test items were validated and recorded in accordance with the standards without any modification during the testing.
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

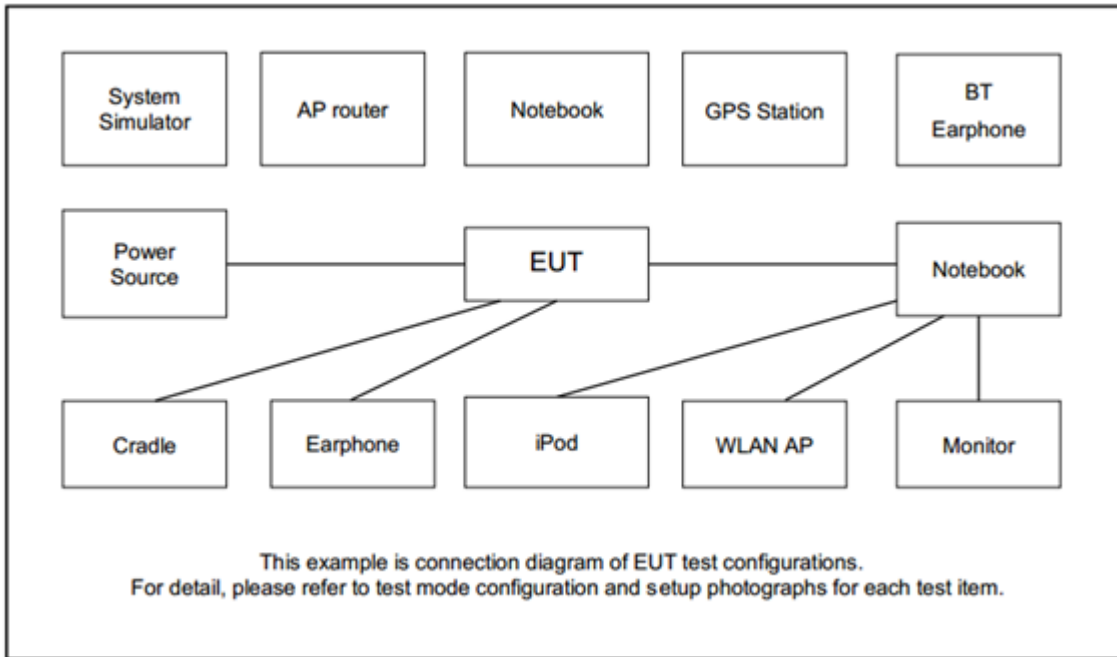
2.1 Test Mode

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.

For radiated measurement, the measured emission level of the EUT was maximized by rotating the EUT on a turntable, adjusting the orientation of the EUT and EUT antenna in three orthogonal axis (X: flat, Y: portrait, Z: landscape), and adjusting the measurement antenna orientation, following C63.26 exploratory test procedures and only the worst case emissions were reported in this report..

Test Items	NR Band	Bandwidth (MHz)												Modulation				RB #			Test Channel			
		5	10	15	20	25	30	40	50	60	80	90	100	PI/2 BPSK	QPSK	16QA M	64QA M	256QA M	1	Half	Full	L	M	H
Max. Output Power	n7	v	v	v	v	v	v	v	-	-	-	-	-	v	v	v	v	v	v	v	v	v	v	v
	n25	v	v	v	v	v	v	v	-	-	-	-	-	v	v	v	v	v	v	v	v	v	v	v
E.I.R.P	n7	v	v	v	v	v	v	v	-	-	-	-	-	v	v	v	v	v	Max. Power					
	n25	v	v	v	v	v	v	v	-	-	-	-	-	v	v	v	v	v						
Radiated Spurious Emission	n7				v				-	-	-	-	-	v					v			v	v	v
	n25							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 are EN-DC 4A-n7A and EN-DC 26A-n25A. 5G NR nn7,n25 support Ant. 0, Ant.2, after verified, the worst case is Ant. 0. Therefore, Conducted only performed the Ant. 0 test results in this report. 																							

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.	System Simulator	Anritsu	MT8821C	N/A	N/A	Unshielded, 1.8 m
2.	5G Wireless Test Platform	Anritsu	MT8000A	N/A	N/A	Unshielded, 1.8 m
3.	5G Wireless Test Platform	Keysight	E7515B	N/A	N/A	Unshielded, 1.8 m
4.	Fixture	Foxconn	95.2580T00	N/A	N/A	N/A



2.4 Frequency List of Low/Middle/High Channels

5G NR n7 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
40	Channel	504000	507000	510000
	Frequency	2520	2535	2550
30	Channel	503000	507000	511000
	Frequency	2515	2535	2555
25	Channel	502500	507000	511500
	Frequency	2512.5	2535	2557.5
20	Channel	502000	507000	512000
	Frequency	2510	2535	2560
15	Channel	501500	507000	512500
	Frequency	2507.5	2535	2562.5
10	Channel	501000	507000	513000
	Frequency	2505	2535	2565
5	Channel	500500	507000	513500
	Frequency	2502.5	2535	2567.5

5G NR n25 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
40	Channel	374000	376500	379000
	Frequency	1870	1882.5	1895
30	Channel	373000	376500	380000
	Frequency	1865	1882.5	1900
25	Channel	372500	376500	380500
	Frequency	1862.5	1882.5	1902.5
20	Channel	372000	376500	381000
	Frequency	1860	1882.5	1905
15	Channel	371500	376500	381500
	Frequency	1857.5	1882.5	1907.5
10	Channel	371000	376500	382000
	Frequency	1855	1882.5	1910
5	Channel	370500	376500	382500
	Frequency	1852.5	1882.5	1912.5

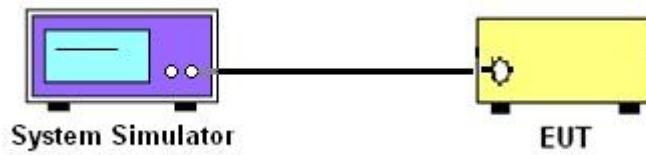
3 Conducted Test Items

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 2 Watts for 5G NR n25, n7

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

The MIMO mode is completely uncorrelated, so the directional gain is selected the maximum gain among all antennas.

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.

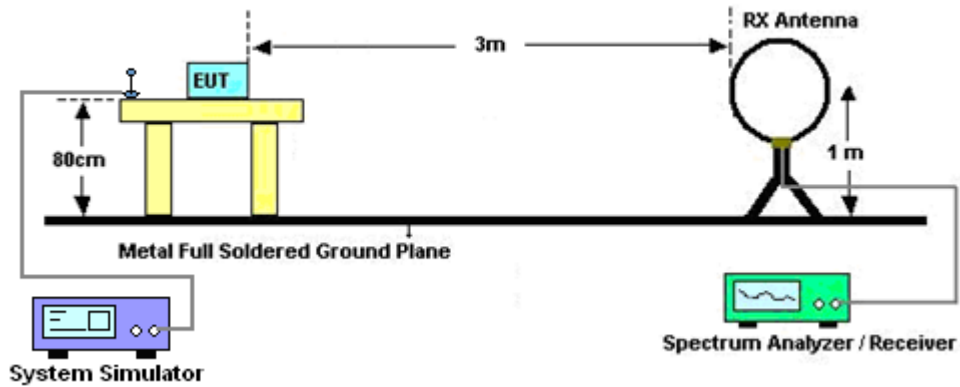
4 Radiated Test Items

4.1 Measuring Instruments

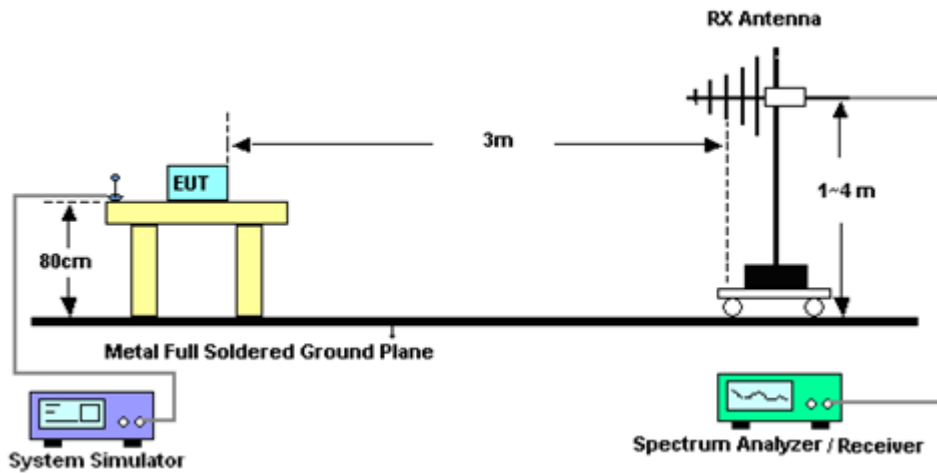
See list of measuring instruments of this test report.

4.1.1 Test Setup

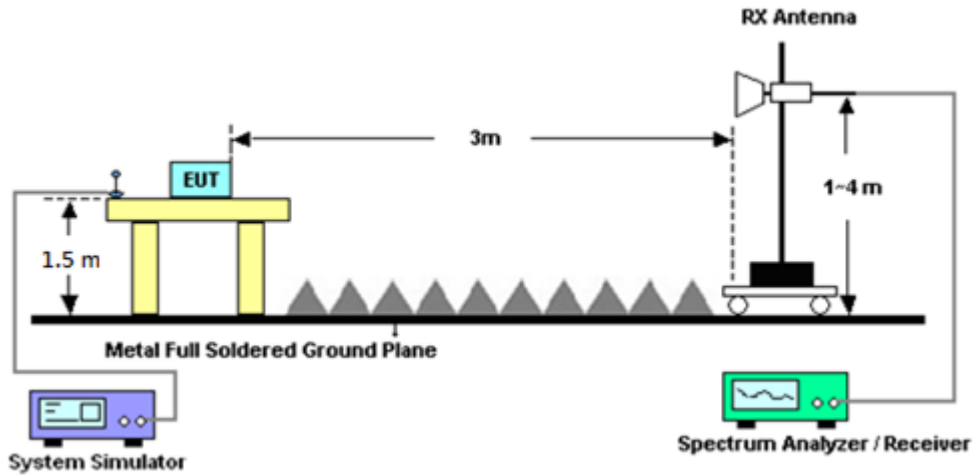
For radiated test below 30MHz



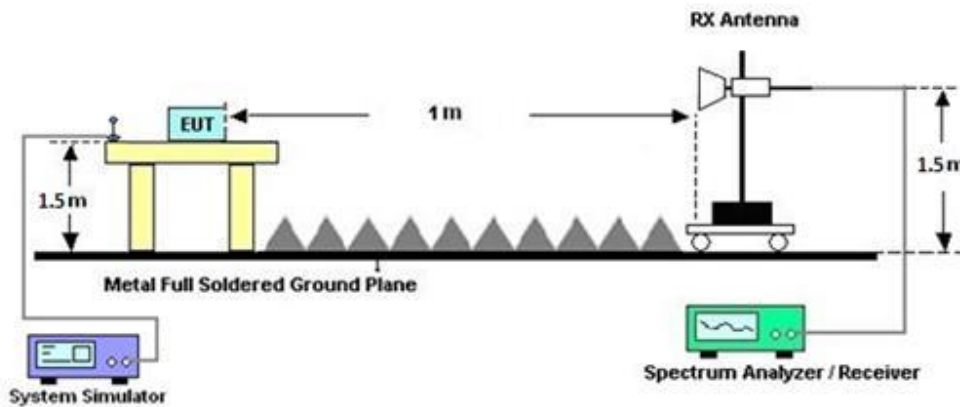
For radiated test from 30MHz to 1GHz



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

For 5G NR n7

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.

4.2.2 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.

The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)

For 5G NR n7

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

$EIRP (dBm) = S.G. Power - Tx Cable Loss + Tx Antenna Gain$

$ERP (dBm) = EIRP - 2.15$



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	Jun. 06, 2023~ Jun. 26, 2023	Sep. 19, 2023	Radiation (03CH12-HY)
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01N-06	37059 & 01	30MHz~1GHz	Nov. 10, 2022	Jun. 06, 2023~ Jun. 26, 2023	Nov. 09, 2023	Radiation (03CH12-HY)
Horn Antenna	SCHWARZBE CK	BBHA 9120 D	9120D-02114	1GHz~18GHz	Aug. 09, 2022	Jun. 06, 2023~ Jun. 26, 2023	Aug. 08, 2023	Radiation (03CH12-HY)
SHF-EHF Horn Antenna	SCHWARZBE CK	BBHA9170	00993	18GHz~40GHz	Nov. 24, 2022	Jun. 06, 2023~ Jun. 26, 2023	Nov. 23, 2023	Radiation (03CH12-HY)
Preamplifier	COM-POWER	PA-103A	161241	10MHz~1GHz	Oct. 03, 2022	Jun. 06, 2023~ Jun. 26, 2023	Oct. 02, 2023	Radiation (03CH12-HY)
Preamplifier	Agilent	8449B	3008A02375	1GHz~26.5GHz	May 23, 2023	Jun. 06, 2023~ Jun. 26, 2023	May 22, 2024	Radiation (03CH12-HY)
Preamplifier	E-INSTRUME NT TECH LTD.	ERA-100M-18G-5 6-01-A70	EC1900249	1GHz-18GHz	Dec. 21, 2022	Jun. 06, 2023~ Jun. 26, 2023	Dec. 20, 2023	Radiation (03CH12-HY)
Preamplifier	EMEC	EM18G40G	060715	18GHz~40GHz	Dec. 07, 2022	Jun. 06, 2023~ Jun. 26, 2023	Dec. 06, 2023	Radiation (03CH12-HY)
Spectrum Analyzer	Agilent	N9010A	MY53470118	10Hz~44GHz	Jan. 10, 2023	Jun. 06, 2023~ Jun. 26, 2023	Jan. 09, 2024	Radiation (03CH12-HY)
Filter	Wainwright	WHKX12-1080-1 200-15000-60SS	SN1	1.2GHz High Pass Filter	Mar. 14, 2023	Jun. 06, 2023~ Jun. 26, 2023	Mar. 13, 2024	Radiation (03CH12-HY)
Filter	Wainwright	WHKX12-2700-3 000-18000-60ST	SN2	3GHz High Pass Filter	Mar. 14, 2023	Jun. 06, 2023~ Jun. 26, 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	Jun. 06, 2023~ Jun. 26, 2023	Mar. 13, 2024	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	803951/2	9kHz~30MHz	Mar. 07, 2023	Jun. 06, 2023~ Jun. 26, 2023	Mar. 06, 2024	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 126E	0058/126E	30MHz~18GHz	Dec. 20, 2022	Jun. 06, 2023~ Jun. 26, 2023	Dec. 19, 2023	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	505134/2	30MHz~40GHz	Dec. 20, 2022	Jun. 06, 2023~ Jun. 26, 2023	Dec. 19, 2023	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	803953/2	30MHz~40GHz	Dec. 20, 2022	Jun. 06, 2023~ Jun. 26, 2023	Dec. 19, 2023	Radiation (03CH12-HY)
Hygrometer	TECPEL	DTM-303B	TP210090	N/A	Oct. 03, 2022	Jun. 06, 2023~ Jun. 26, 2023	Oct. 02, 2023	Radiation (03CH12-HY)
Controller	EMEC	EM1000	N/A	Control Turn table & Ant Mast	N/A	Jun. 06, 2023~ Jun. 26, 2023	N/A	Radiation (03CH12-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1m~4m	N/A	Jun. 06, 2023~ Jun. 26, 2023	N/A	Radiation (03CH12-HY)
Turn Table	EMEC	TT2000	N/A	0~360 Degree	N/A	Jun. 06, 2023~ Jun. 26, 2023	N/A	Radiation (03CH12-HY)
Software	Audix	E3 6.2009-8-24	RK-000989	N/A	N/A	Jun. 06, 2023~ Jun. 26, 2023	N/A	Radiation (03CH12-HY)
Hygrometer	Testo	608-H1	34893241	N/A	Mar. 28, 2023	Jul. 03, 2023~ Jul. 04, 2023	Mar. 27, 2024	Conducted (TH03-HY)
Radio Communication Test Station	Anritsu	MT8000A	6272337370	N/A	Oct. 28, 2022	Jul. 03, 2023~ Jul. 04, 2023	Oct. 27, 2023	Conducted (TH03-HY)
Base Station (Measure)	Anritsu	MT8821C	6262116725	LTE FDD/TDD LTE-3CC DLCA/2CC ULCA	Oct. 13, 2022	Jul. 03, 2023~ Jul. 04, 2023	Oct. 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

NR n7 Maximum Average Power [dBm] (GT - LC = 4.3 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)
5	1	1	PI/2 BPSK	23.18	23.15	23.44	27.91	0.6180
5	1	23		23.22	23.22	23.61		
5	12	6		23.18	23.15	23.47		
5	1	0		22.75	22.75	23.10		
5	1	24		22.78	22.78	23.19		
5	25	0		22.77	22.77	23.14		
5	1	1	QPSK	23.17	23.19	23.38	27.91	0.6180
5	1	23		23.18	23.24	23.56		
5	12	6		23.14	23.20	23.51		
5	1	0		22.26	22.26	22.62		
5	1	24		22.28	22.28	22.73		
5	25	0		22.31	22.30	22.60		
5	1	1	16-QAM	22.21	22.17	22.42	26.72	0.4699
5	1	1	64-QAM	21.02	21.06	21.30		
5	1	1	256-QAM	18.33	18.12	18.41		
Limit	EIRP < 2W			Result			Pass	

NR n7 Maximum Average Power [dBm] (GT - LC = 4.3 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)
10	1	1	PI/2 BPSK	23.10	23.20	23.46	27.91	0.6180
10	1	50		23.18	23.30	23.61		
10	25	12		23.19	23.24	23.53		
10	1	0		22.77	22.85	23.04		
10	1	51		22.73	22.82	23.14		
10	50	0		22.71	22.87	23.09		
10	1	1	QPSK	23.06	23.20	23.32	27.91	0.6180
10	1	50		23.20	23.24	23.48		
10	25	12		23.19	23.28	23.48		
10	1	0		22.29	22.34	22.54		
10	1	51		22.34	22.35	22.65		
10	50	0		22.33	22.33	22.53		
10	1	1	16-QAM	22.08	22.25	22.26	26.56	0.4529
10	1	1	64-QAM	20.93	20.92	21.10		
10	1	1	256-QAM	18.19	18.36	18.57		
Limit	EIRP < 2W			Result			Pass	



NR n7 Maximum Average Power [dBm] (GT - LC = 4.3 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)
15	1	1	PI/2 BPSK	23.32	23.33	23.61	27.98	0.6281
15	1	77		23.35	23.44	23.65		
15	36	18		23.36	23.33	23.62		
15	1	0		22.93	22.97	23.25		
15	1	78		22.90	23.08	23.24		
15	75	0		22.92	22.96	23.32		
15	1	1	QPSK	23.34	23.40	23.54		
15	1	77		23.48	23.51	23.66		
15	36	18		23.37	23.36	23.68		
15	1	0		22.46	22.48	22.79		
15	1	78		22.65	22.59	22.73		
15	75	0		22.44	22.47	22.89		
15	1	1	16-QAM	22.32	22.39	22.80	27.10	0.5129
15	1	1	64-QAM	21.06	21.12	21.20		
15	1	1	256-QAM	18.42	18.59	18.72		
Limit	EIRP < 2W			Result			Pass	

NR n7 Maximum Average Power [dBm] (GT - LC = 4.3 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)
20	1	1	PI/2 BPSK	23.41	23.29	23.49	27.99	0.6295
20	1	104		23.48	23.39	23.69		
20	50	25		23.33	23.34	23.60		
20	1	0		22.94	22.88	23.23		
20	1	105		23.06	23.01	23.30		
20	100	0		22.93	22.90	23.19		
20	1	1	QPSK	23.39	23.30	23.58		
20	1	104		23.49	23.35	23.65		
20	50	25		23.36	23.39	23.59		
20	1	0		22.45	22.40	22.78		
20	1	105		22.60	22.41	22.87		
20	100	0		22.51	22.47	22.71		
20	1	1	16-QAM	22.40	22.34	22.45	26.75	0.4732
20	1	1	64-QAM	21.17	21.15	21.37		
20	1	1	256-QAM	18.34	18.35	18.64		
Limit	EIRP < 2W			Result			Pass	



NR n7 Maximum Average Power [dBm] (GT - LC = 4.3 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)
25	1	1	PI/2 BPSK	23.37	23.22	23.46	27.98	0.6281
25	1	131		23.42	23.42	23.67		
25	64	32		23.34	23.46	23.55		
25	1	0		23.10	22.93	23.27		
25	1	132		23.04	23.02	23.31		
25	128	0		22.98	22.97	23.11		
25	1	1	QPSK	23.43	23.31	23.52		
25	1	131		23.51	23.44	23.68		
25	64	32		23.34	23.42	23.60		
25	1	0		22.60	22.57	22.77		
25	1	132		22.55	22.50	22.88		
25	128	0		22.48	22.52	22.65		
25	1	1	16-QAM	22.24	22.51	22.39	26.81	0.4797
25	1	1	64-QAM	21.16	20.88	21.30		
25	1	1	256-QAM	18.49	18.45	18.60		
Limit	EIRP < 2W			Result			Pass	

NR n7 Maximum Average Power [dBm] (GT - LC = 4.3 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)
30	1	1	PI/2 BPSK	23.00	23.00	23.16	27.91	0.6180
30	1	158		23.13	23.35	23.61		
30	80	40		23.00	23.21	23.34		
30	1	0		22.87	22.72	23.12		
30	1	159		22.84	22.91	23.13		
30	160	0		22.83	22.89	23.02		
30	1	1	QPSK	23.01	23.10	23.20		
30	1	158		23.13	23.38	23.44		
30	80	40		23.06	23.21	23.34		
30	1	0		22.36	22.35	22.56		
30	1	159		22.25	22.52	22.64		
30	160	0		22.25	22.48	22.58		
30	1	1	16-QAM	22.45	22.45	22.61	26.91	0.4909
30	1	1	64-QAM	20.85	21.00	20.81		
30	1	1	256-QAM	18.90	18.85	18.55		
Limit	EIRP < 2W			Result			Pass	



NR n7 Maximum Average Power [dBm] (GT - LC = 4.3 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)
40	1	1	PI/2 BPSK	23.12	22.96	23.26	27.95	0.6237
40	1	214		23.40	23.41	23.49		
40	108	54		23.17	23.20	23.45		
40	1	0		22.76	22.82	22.95		
40	1	215		22.84	23.00	23.09		
40	216	0		22.80	22.85	22.95		
40	1	1	QPSK	23.18	22.98	23.30	27.95	0.6237
40	1	214		23.31	23.35	23.65		
40	108	54		23.16	23.19	23.44		
40	1	0		22.35	22.40	22.51		
40	1	215		22.40	22.43	22.72		
40	216	0		22.38	22.42	22.50		
40	1	1	16-QAM	22.35	22.45	22.35	26.75	0.4732
40	1	1	64-QAM	20.70	20.85	20.85		
40	1	1	256-QAM	18.75	18.84	18.89		
Limit	EIRP < 2W			Result			Pass	



NR n25 Maximum Average Power [dBm] (GT - LC = 5.9 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)
5	1	1	PI/2 BPSK	23.24	23.56	23.02	29.57	0.9057
5	1	23		23.23	23.60	22.93		
5	12	6		23.19	23.53	23.10		
5	1	0		22.82	23.14	22.58		
5	1	24		22.80	23.15	22.56		
5	25	0		22.90	23.27	22.69		
5	1	1	QPSK	23.37	23.67	23.00		
5	1	23		23.17	23.55	22.91		
5	12	6		23.29	23.58	23.02		
5	1	0		22.39	22.68	22.04		
5	1	24		22.33	22.69	22.09		
5	25	0		22.35	22.72	22.13		
5	1	1	16-QAM	22.43	22.74	22.14	28.64	0.7311
5	1	1	64-QAM	20.96	21.22	20.86		
5	1	1	256-QAM	18.15	19.19	18.42		
Limit	EIRP < 2W			Result			Pass	

NR n25 Maximum Average Power [dBm] (GT - LC = 5.9 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)
10	1	1	PI/2 BPSK	23.29	23.46	23.06	29.56	0.9036
10	1	50		23.33	23.55	22.91		
10	25	12		23.37	23.66	23.15		
10	1	0		22.86	23.24	22.61		
10	1	51		23.00	23.05	22.50		
10	50	0		23.08	23.21	22.72		
10	1	1	QPSK	23.22	23.51	23.00		
10	1	50		23.34	23.54	22.88		
10	25	12		23.39	23.58	23.15		
10	1	0		22.33	22.70	22.16		
10	1	51		22.40	22.63	22.03		
10	50	0		22.56	22.74	22.22		
10	1	1	16-QAM	22.29	22.56	22.16	28.46	0.7015
10	1	1	64-QAM	20.97	21.36	20.64		
10	1	1	256-QAM	18.54	18.65	18.24		
Limit	EIRP < 2W			Result			Pass	



NR n25 Maximum Average Power [dBm] (GT - LC = 5.9 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)
15	1	1	PI/2 BPSK	23.58	23.68	23.32	29.65	0.9226
15	1	77		23.71	23.59	23.15		
15	36	18		23.55	23.72	23.39		
15	1	0		23.13	23.34	23.03		
15	1	78		23.31	23.19	22.78		
15	75	0		23.07	23.28	23.00		
15	1	1	QPSK	23.61	23.69	23.45		
15	1	77		23.75	23.51	23.32		
15	36	18		23.54	23.70	23.35		
15	1	0		22.73	22.77	22.57		
15	1	78		22.82	22.64	22.35		
15	75	0		22.72	22.83	22.50		
15	1	1	16-QAM	22.59	22.88	22.42	28.78	0.7551
15	1	1	64-QAM	21.42	21.27	21.20		
15	1	1	256-QAM	19.81	18.79	18.66		
Limit	EIRP < 2W			Result			Pass	

NR n25 Maximum Average Power [dBm] (GT - LC = 5.9 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)
20	1	1	PI/2 BPSK	23.38	23.66	23.43	29.64	0.9204
20	1	104		23.65	23.50	23.07		
20	50	25		23.63	23.74	23.39		
20	1	0		23.09	23.36	23.02		
20	1	105		23.19	23.12	22.72		
20	100	0		23.21	23.32	23.07		
20	1	1	QPSK	23.33	23.74	23.32		
20	1	104		23.53	23.60	23.08		
20	50	25		23.62	23.70	23.38		
20	1	0		22.60	22.85	22.51		
20	1	105		22.63	22.69	22.22		
20	100	0		22.74	22.79	22.56		
20	1	1	16-QAM	22.60	22.71	22.62	28.61	0.7261
20	1	1	64-QAM	20.94	21.56	21.06		
20	1	1	256-QAM	18.63	18.99	18.69		
Limit	EIRP < 2W			Result			Pass	



NR n25 Maximum Average Power [dBm] (GT - LC = 5.9 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)
25	1	1	PI/2 BPSK	23.50	23.62	23.48	29.72	0.9376
25	1	131		23.73	23.37	23.18		
25	64	32		23.66	23.68	23.34		
25	1	0		23.18	23.20	23.07		
25	1	132		23.40	23.03	22.79		
25	128	0		23.22	23.24	22.93		
25	1	1	QPSK	23.44	23.59	23.65		
25	1	131		23.82	23.40	23.22		
25	64	32		23.61	23.72	23.34		
25	1	0		22.65	22.68	22.64		
25	1	132		22.86	22.49	22.32		
25	128	0		22.72	22.76	22.44		
25	1	1	16-QAM	22.52	22.91	22.58	28.81	0.7603
25	1	1	64-QAM	21.31	21.31	21.40		
25	1	1	256-QAM	18.75	18.89	18.94		
Limit	EIRP < 2W			Result			Pass	

NR n25 Maximum Average Power [dBm] (GT - LC = 5.9 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)
30	1	1	PI/2 BPSK	23.58	23.42	23.60	29.68	0.9290
30	1	158		23.71	23.45	23.04		
30	80	40		23.78	23.74	23.48		
30	1	0		23.20	23.39	23.12		
30	1	159		23.40	23.08	22.72		
30	160	0		23.35	23.28	23.02		
30	1	1	QPSK	23.41	23.59	23.55		
30	1	158		23.70	23.50	23.07		
30	80	40		23.75	23.72	23.41		
30	1	0		22.70	23.00	22.61		
30	1	159		22.79	22.63	22.16		
30	160	0		22.88	22.85	22.59		
30	1	1	16-QAM	22.69	22.53	22.76	28.66	0.7345
30	1	1	64-QAM	21.05	21.37	21.17		
30	1	1	256-QAM	18.69	18.93	18.81		
Limit	EIRP < 2W			Result			Pass	



NR n25 Maximum Average Power [dBm] (GT - LC = 5.9 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP(W)
40	1	1	PI/2 BPSK	23.50	23.46	23.84	29.83	0.9616
40	1	214		23.67	23.22	23.17		
40	108	54		23.74	23.76	23.65		
40	1	0		23.26	23.24	23.45		
40	1	215		23.25	22.85	22.85		
40	216	0		23.25	23.25	23.26		
40	1	1	QPSK	23.50	23.42	23.93		
40	1	214		23.68	23.24	23.24		
40	108	54		23.77	23.75	23.64		
40	1	0		22.70	22.75	22.94		
40	1	215		22.75	22.31	22.38		
40	216	0		22.84	22.78	22.80		
40	1	1	16-QAM	22.58	22.66	22.97	28.87	0.7709
40	1	1	64-QAM	21.32	21.10	21.74		
40	1	1	256-QAM	18.79	18.77	19.23		
Limit	EIRP < 2W			Result			Pass	



Appendix B. Test Results of Radiated Test

<Ant. 0 + Ant. 2>

EN-DC 4A-n7A

EN-DC 4A-n7A / 10+20MHz / PI/2 BPSK									
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	5002	-50.60	-25	-25.60	-71.02	-60.56	1.04	11.00	H
	7503	-47.38	-25	-22.38	-72	-57.32	1.37	11.31	H
	10004	-41.66	-25	-16.66	-71.14	-51.83	1.53	11.70	H
									H
									H
									H
	5002	-50.14	-25	-25.14	-71.31	-60.10	1.04	11.00	V
	7503	-45.79	-25	-20.79	-71.47	-55.73	1.37	11.31	V
	10004	-42.98	-25	-17.98	-71.47	-53.15	1.53	11.70	V
									V
									V
									V
Middle	5053	-51.02	-25	-26.02	-71.47	-61.08	1.05	11.11	H
	7579	-46.97	-25	-21.97	-72.01	-57.07	1.36	11.46	H
	10105	-41.59	-25	-16.59	-71.25	-51.78	1.53	11.72	H
									H
									H
									H
	5053	-49.94	-25	-24.94	-71.27	-60.00	1.05	11.11	V
	7579	-46.42	-25	-21.42	-72.11	-56.52	1.36	11.46	V
	10105	-43.11	-25	-18.11	-71.71	-53.30	1.53	11.72	V
									V
									V
									V



Highest	5103	-50.41	-25	-25.41	-70.89	-60.56	1.06	11.21	H
	7654	-46.59	-25	-21.59	-71.85	-56.66	1.35	11.42	H
	10205	-42.12	-25	-17.12	-71.97	-52.33	1.53	11.74	H
									H
									H
									H
	5103	-49.93	-25	-24.93	-71.42	-60.08	1.06	11.21	V
	7654	-46.13	-25	-21.13	-71.95	-56.20	1.35	11.42	V
	10205	-42.97	-25	-17.97	-71.68	-53.18	1.53	11.74	V
									V
									V
									V

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



EN-DC 26A-n25A

EN-DC 26A-n25A / 10+40MHz / 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	3704	-52.06	-13	-39.06	-69.44	-62.61	0.90	11.44	H
	5556	-49.09	-13	-36.09	-70.18	-60.09	1.11	12.11	H
	7409	-46.77	-13	-33.77	-71.51	-56.36	1.34	10.94	H
									H
									H
									H
									H
	3704	-48.46	-13	-35.46	-66.07	-59.01	0.90	11.44	V
	5556	-47.77	-13	-34.77	-69.68	-58.77	1.11	12.11	V
	7409	-45.35	-13	-32.35	-70.96	-54.94	1.34	10.94	V
									V
									V
									V
									V
Middle	3729	-53.61	-13	-40.61	-71.03	-64.12	0.90	11.41	H
	5594	-47.97	-13	-34.97	-68.94	-59.06	1.10	12.19	H
	7459	-46.89	-13	-33.89	-71.55	-56.67	1.36	11.14	H
									H
									H
									H
									H
	3729	-51.81	-13	-38.81	-69.53	-62.32	0.90	11.41	V
	5594	-48.46	-13	-35.46	-70.12	-59.55	1.10	12.19	V
	7459	-45.44	-13	-32.44	-71.09	-55.22	1.36	11.14	V
									V
									V
									V
									V



Highest	3754	-52.81	-13	-39.81	-70.28	-63.28	0.90	11.37	H
	5631	-50.74	-13	-37.74	-71.76	-61.71	1.10	12.08	H
	7509	-47.45	-13	-34.45	-72.08	-57.40	1.37	11.32	H
									H
									H
									H
									H
	3754	-48.04	-13	-35.04	-65.87	-58.51	0.90	11.37	V
	5631	-49.10	-13	-36.10	-70.84	-60.07	1.10	12.08	V
	7509	-45.60	-13	-32.60	-71.28	-55.55	1.37	11.32	V
									V
									V
									V
									V

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