

TEST REPORT

Product Name : 5G Mobile Hotspot
Brand Name : START
Model : SD7000
Series Model : N/A
FCC ID : 2AWF6-SD7000
Applicant : **START USA, INC.**
Address : 5600 Tennyson Parkway, Suite 390, Plano, TX 75024, USA
Manufacturer : **START USA, INC.**
Address : 5600 Tennyson Parkway, Suite 390, Plano, TX 75024, USA
FCC CFR Title 47 Part 2, Part 22H, Part 24E, Part 27, Part 90,
Part 96
Standard(s) : ANSI C63.26:2015
KDB 971168 D01
Date of Receipt : Jan. 05, 2026
Date of Test : Jan. 05, 2026~ Jan. 21, 2026
Issued Date : Jan. 21, 2026

Issued By: **Guangdong Asia Hongke Test Technology Limited**
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Reviewed by: Aalen.Ye **Approved by:** Allen Wang
Aalen.Ye Allen Wang

Note: This device has been tested and found to comply with the standard(s) listed, this test report merely corresponds to the test sample. It is not permitted to copy extracts of these test result without the written permission of the test laboratory. This report shall not be reproduced except in full, without the written approval of Guangdong Asia Hongke Test Technology Limited. If there is a need to alter or revise this document, the right belongs to Guangdong Asia Hongke Test Technology Limited, and it should give a prior written notice of the revision document. This test report must not be used by the client to claim product endorsement.

**Report Revise Record**

Report Version	Issued Date	Notes
M0	Jan. 21, 2026c	Initial Release

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Guangdong Asia Hongke Test Technology Limited

B1/F, Building 11, Junfeng Industrial Park, Chongqing Road, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China.

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1 TEST SUMMARY

1.1 Test Standards

The tests were performed according to following standards:

[FCC Part 22](#): Public Mobile Services

[FCC Part 24](#): Personal Communications Services

[Part 27](#): Miscellaneous Wireless Communications Services

[Part 96](#): Citizens Broadband Radio Service

[FCC Part 90](#): Private Land Mobile Radio Services

[FCC Part 2](#): Frequency Allocations and Radio Treaty Matters; General Rules And Regulations

[ANSI C63.26:2015](#): American National Standard of procedures for compliance testing of transmitters used in licensed radio services.

[KDB971168 D01:v03r01](#) MEASUREMENT GUIDANCE FOR CERTIFICATION OF LICENSED DIGITAL TRANSMITTERS

1.2 Test Summary

Test detailed items/section required by FCC rules and results are as below:

No.	FCC Rule	Description	Limit	Result
1	2.1046	Conducted Output Power	Reporting Only	PASS
2	22.913 (d) 24.232 (d) 27.50 (d)(5) 27.50 (k)(4) 27.50 (j)(4) 96.41(g)	Peak to Average Ratio	< 13dB	PASS
3	22.913 (a)(5)	Effective Radiated Power (Band n5/n26_Part 22)	ERP < 7W	PASS
	90.635 (b)	Effective Radiated Power (Band n26_Part 90)	ERP < 100W	PASS
	24.232 (c)	Equivalent Isotropic Radiated Power (Band n2/n25)	EIRP < 2W	PASS
	27.50 (a)	Equivalent Isotropic Radiated Power (Band n30)	EIRP < 250mW/5MHz	PASS
	27.50 (d)(4)	Equivalent Isotropic Radiated Power (Band n66)	EIRP < 1W	PASS
	27.50 (c)(10)	Effective Radiated Power (Band n71)	ERP < 3W	PASS
	27.50 (h)(2)	Equivalent Isotropic Radiated Power (Band n41)	EIRP < 2W	PASS
	96.41(b)	Equivalent Isotropic Radiated Power (Band n48)	< 23dBm/10MHz	PASS
	27.50 (k)(3)	Equivalent Isotropic Radiated Power (Band n77)	EIRP < 1W	PASS
	27.50 (j)(3)			

4	2.1049	Occupied Bandwidth	Reporting Only	PASS
5	2.1051 22.917 (a) 90.691 (a) 24.238 (a) 27.53 (a) 27.53 (h) 27.53 (m)(4) 27.53 (g) 27.53 (n)(2) 27.53 (l)(2) 96.41(e)	Conducted Spurious Emission and Conducted Band Edge Measurement (Band n2/n5/n25/n26/n66/n71)	$< 43+10\log_{10}(P[\text{watt}])$	PASS
		Conducted Spurious Emission and Conducted Band Edge Measurement (n30)	Refer to 27.53 (a)	PASS
		Conducted Spurious Emission and Conducted Band Edge Measurement (Band n41)	Refer to 27.53(m)(4)	PASS
		Conducted Spurious Emission and Conducted Band Edge (Band 48)	Refer to 96.41(e)	PASS
		Conducted Spurious Emission and Conducted Band Edge Measurement (Band n77)	$< -13 \text{ dBm/MHz}$	PASS
6	2.1053 22.917 (a) 90.691 (a) 24.238 (a) 27.53 (a) 27.53 (h) 27.53 (m)(4) 27.53 (g) 27.53 (n)(2) 27.53 (l)(2) 96.41(e)	Radiated Spurious Emission (Band n2/n5/n25/n26/n30/n66/n71)	$< 43+10\log_{10}(P[\text{watt}])$	PASS
		Radiated Spurious Emission (Band n41)	$< 55+10\log_{10}(P[\text{watt}])$	PASS
		Radiated Spurious Emission (Band n48)	$\leq -40 \text{ dBm /MHz}$	PASS
		Radiated Spurious Emission (Band n77)	$< -13 \text{ dBm/MHz}$	PASS
7	2.1055 22.335 24.235 27.54 90.213 (a)	Frequency Stability (Band n5/n26)	$< 2.5\text{ppm}$	PASS
		Frequency Stability (Band n2/25/n30/n41/n48/n66/n71/n77)	Within the Authorized Band	PASS

Remark:

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

1.3 Test Facility

Test Laboratory:

Guangdong Asia Hongke Test Technology Limited

B1/F, Building 11, Junfeng Industrial Park, Chongqing Road, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

The test facility is recognized, certified or accredited by the following organizations:

FCC-Registration No.: 251906 Designation Number: CN1376

Guangdong Asia Hongke Test Technology Limited has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.

IC —Registration No.: 31737 CAB identifier: CN0165

The 3m Semi-anechoic chamber of Guangdong Asia Hongke Test Technology Limited has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 31737

A2LA-Lab Cert. No.: 7133.01

Guangdong Asia Hongke Test Technology Limited has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

1.4 Measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report according to CISPR 16 - 4 "Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements" and is documented in the Guangdong Asia Hongke Test Technology Limited's quality system according to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for Asia Hongke laboratory is reported:

Test	Measurement Uncertainty	Notes
Power Line Conducted Emission	9KHz~30MHz ± 1.20 dB	(1)
Radiated Emission	9KHz~30MHz ± 3.10 dB	(1)
Radiated Emission	30MHz ~1GHz ± 3.75 dB	(1)
Radiated Emission	1GHz~18GHz ± 3.88 dB	(1)
Radiated Emission	18GHz~40GHz ± 3.88 dB	(1)
RF power, conducted	30MHz~6GHz ± 0.16 dB	(1)
RF power density, conducted	± 0.24 dB	(1)
Spurious emissions, conducted	± 0.21 dB	(1)
Temperature	$\pm 1^{\circ}\text{C}$	(1)
Humidity	$\pm 3\%$	(1)
DC and low frequency voltages	$\pm 1.5\%$	(1)
Time	$\pm 2\%$	(1)
Duty cycle	$\pm 2\%$	(1)

The report uncertainty of measurement $y \pm U$, where expended uncertainty U is based on a standard uncertainty Multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95%

2 GENERAL INFORMATION

2.1 Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Normal Temperature:	25°C
Relative Humidity:	55 %
Air Pressure:	101 kPa

2.2 General Description of EUT

Product Name:	5G Mobile Hotspot	
Model/Type reference:	SD7000	
Serial Model:	N/A	
Power Supply:	Rechargeable Li-ion Polymer Battery DC3.8V/5000mAh	
Hardware Version:	SD7000_V3.0	
Software Version:	SD7000_V1.1.05_GLO	
Sample(s) Status:	AiTSZ-260109006-1(Normal sample) AiTSZ-260109006-2(Engineer sample)	
NR:		
EUT supports Radios application	SA: NR Band n2/n5/n25/n26/n30/n41/n48/n66/n71/n77	
SCS support	NR Band n2/n5/n25/n26/n30/n66/n71: 15kHz NR Band n41/n48/n77: 30kHz	
Frequency Range(Tx)	NR Band n2: 1850MHz~1910MHz NR Band n5: 824MHz~849MHz NR Band n25: 1850MHz~1915MHz NR Band n26(Part 90): 814MHz~824MHz NR Band n26(Part 22): 824MHz~849MHz NR Band n30: 2305MHz~2315MHz NR Band n41: 2496MHz~2690MHz NR Band n48: 3550MHz~3700MHz NR Band n66: 1710MHz~1780MHz NR Band n71: 663MHz~698MHz NR Band n77: 3450MHz~3550MHz NR Band n77: 3700MHz~3980MHz	
Operation Band:	NR Band n2/n25:	5MHz/10MHz/15MHz/20MHz/ 25MHz/30MHz/35MHz/40MHz
	NR Band n66:	5MHz/10MHz/15MHz/20MHz/ 25MHz/30MHz/40MHz
	NR Band n5/n71:	5MHz/10MHz/15MHz/20MHz
	NR Band n26(Part 22):	5MHz/10MHz/15MHz/20MHz
	NR Band n26(Part 90):	5MHz/10MHz
	NR Band n30:	5MHz/10MHz
	NR Band n48:	10MHz/15MHz/20MHz/30MHz/40MHz

	NR Band n41:	10MHz/15MHz/20MHz/30MHz/40MHz/50MHz/60MHz/70MHz/80MHz/90MHz/100MHz
	NR Band n77:	10MHz/15MHz/20MHz/25MHz/30MHz/40MHz/50MHz/60MHz/70MHz/80MHz/90MHz/100MHz
Modulation Type:	☒ DFT-s-OFDM: Pi/2-BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM ☒ CP-OFDM: QPSK, 16-QAM, 64-QAM, 256-QAM	
SCS Support:	☒ 15 kHz ☒ 30 kHz ☐ 60 kHz ☐ 120 kHz	
Power Class:	Class 2& 3	
Antenna type:	Internal Antenna	
Antenna gain:	NR Band n2/25: -0.14dBi NR Band n66: 1.48dBi NR Band n5/26: 3.64dBi NR Band n30: 0.28dBi	NR Band n41: 0.88dBi NR Band n48: -4.32dBi NR Band n71: -5.59dBi NR Band n77: -4.81dBi
Remark: The above DUT's information was declared by manufacturer. For more detailed features description, please refer to the manufacturer's specifications or the User's Manual.		

2.3 Description of Test Modes and Test Frequency

According to ANSI C63.26-2015 chapter 5.1.2.1 Table 2 requirement, select lowest channel, middle channel, and highest channel in the frequency range in which device operates for testing. The detailed frequency points are as follows.

Test Frequency:

Band n2

Test Frequency ID	Bandwidth [MHz]	NUL	Frequency of Uplink [MHz]	NDL	Frequency of Downlink [MHz]
Low Range	1.4	18607	1850.7	607	1930.7
	3	18615	1851.5	615	1931.5
	5	18625	1852.5	625	1932.5
	10	18650	1855	650	1935
	15	18675	1857.5	675	1937.5
	20	18700	1860	700	1940
Mid Range	1.4/3/5/10/15/20	18900	1880	900	1960
High Range	1.4	19193	1909.3	1193	1989.3
	3	19185	1908.5	1185	1988.5
	5	19175	1907.5	1175	1987.5
	10	19150	1905	1150	1985
	15	19125	1902.5	1125	1982.5
	20	19100	1900	1100	1980

Band n5

Test Frequency ID	Bandwidth [MHz]	NUL	Frequency of Uplink [MHz]	NDL	Frequency of Downlink [MHz]
Low Range	1.4	20407	824.7	2407	869.7
	3	20415	825.5	2415	870.5
	5	20425	826.5	2425	871.5
	10	20450	829	2450	874
Mid Range	1.4/3/5/10	20525	836.5	2525	881.5
High Range	1.4	20643	848.3	2643	893.3
	3	20635	847.5	2635	892.5
	5	20625	846.5	2625	891.5
	10	20700	835	2700	880

Band n25

Test Frequency ID	Bandwidth [MHz]	NUL	Frequency of Uplink [MHz]	NDL	Frequency of Downlink [MHz]
Low Range	1.4	26047	1850.7	8047	1930.7
	3	26055	1851.5	8055	1931.5
	5	26065	1852.5	8065	1932.5
	10	26090	1855	8090	1935
	15	26115	1857.5	8115	1937.5
	20	26140	1860	8140	1940
Mid Range	1.4/3/5/10/15/20	26365	1882.5	8365	1962.5
High Range	1.4	26683	1914.3	8683	1994.3
	3	26675	1913.5	8675	1993.5
	5	26665	1912.5	8665	1992.5
	10	26640	1910	8640	1990
	15	26615	1907.5	8615	1987.5
	20	26590	1905	8590	1985

Band n26a

Test Frequency ID	Bandwidth [MHz]	NUL	Frequency of Uplink [MHz]	NDL	Frequency of Downlink [MHz]
Low Range	1.4	26697	814.7	8697	859.70
	3	26705	815.5	8705	860.50
	5	26715	816.5	8715	861.50
	10	26740	819	8740	864.00
Mid Range	1.4/3/5/10	26740	819	8740	864.00
High Range	1.4	26783	823.3	8783	868.30
	3	26775	822.5	8775	867.50
	5	26765	821.5	8765	866.50
	10	26740	819	8740	864.00

Band n26b

Test Frequency ID	Bandwidth [MHz]	NUL	Frequency of Uplink [MHz]	NDL	Frequency of Downlink [MHz]
Low Range	1.4	26797	824.7	8797	869.70
	3	26805	825.5	8805	870.50
	5	26815	826.5	8815	871.50
	10	26840	829	8840	874.00
	15	26865	831.5	8865	876.50
Mid Range	1.4/3/5/10/15	26915	836.5	8915	881.50
High Range	1.4	27033	848.3	9033	893.30
	3	27025	847.5	9025	892.50
	5	27015	846.5	9015	891.50
	10	26990	844	8990	889.00
	15	26965	841.5	8965	886.50

Band n30

Test Frequency ID	Bandwidth [MHz]	NUL	Frequency of Uplink [MHz]	NDL	Frequency of Downlink [MHz]
Low-Range	5	43075	2307.5	43525	2352.5
	10	43100	2310	43550	2355
Mid-Range	5/10/15	43125	2312.5	43575	2357.5
High-Range	5	43150	2315	43600	2360

Band n48

Test Frequency ID	Bandwidth [MHz]	NUL	Frequency of Uplink [MHz]	NDL	Frequency of Downlink [MHz]
Low Range	10	133850	3560	68950	3560
	15	133900	3565	69000	3565
	20	133950	3570	69050	3570
	30	134000	3575	69100	3575
	40	134050	3580	69150	3580
Mid Range	10/15/20/30/40	134100	3625	69200	3625
High Range	10	134200	3690	69300	3690
	15	134250	3695	69350	3695
	20	134300	3700	69400	3700
	30	134350	3705	69450	3705
	40	134400	3710	69500	3710

Band n66

Test Frequency ID	Bandwidth [MHz]	NUL	Frequency of Uplink [MHz]	NDL	Frequency of Downlink [MHz]
Low Range	1.4	131979	1710.7	66443	2110.7
	3	131987	1711.5	66451	2111.5
	5	131997	1712.5	66461	2112.5
	10	132022	1715	66486	2115
	15	132047	1717.5	66511	2117.5
	20	132072	1720	66536	2120
Mid Range	1.4/3/5/10/15/20	132322	1745	66786	2145
High Range	1.4	132665	1779.3	67129	2179.3
	3	132657	1778.5	67121	2178.5
	5	132647	1777.5	67111	2177.5
	10	132622	1775	67086	2175
	15	132597	1772.5	67061	2172.5
	20	132572	1770	67036	2170

Band n71

Test Frequency ID	Bandwidth [MHz]	NUL	Frequency of Uplink [MHz]	NDL	Frequency of Downlink [MHz]
Low Range	5	133147	665.5	68611	619.5
	10	133172	668	68636	622
	15	133197	670.5	68661	624.5
	20	133222	673	68686	627
Mid Range	5/10/15	133297	680.5	68761	634.5
	20	133322	683	68786	637
High Range	5	133447	695.5	68911	649.5
	10	133422	693	68886	647
	15	133397	690.5	68861	644.5
	20	133372	688	68836	642

Band n77(3450-3550)

Test Frequency ID	Bandwidth [MHz]	NUL	Frequency (UL and DL) [MHz]
Low Range	10	630334	3455.010
	15	630500	3457.500
	20	630668	3460.020
	30	631000	3465.000
	40	631334	3470.010
	50	631668	3475.020
Mid Range	10/15/20/30/40/50	633334	3500.010
High Range	10	636332	3544.980
	15	636166	3542.490
	20	636000	3540.000
	30	635666	3534.990
	40	635332	3529.980
	50	635000	3525.000

Band n77 (3700-3980), SCS: 30 kHz

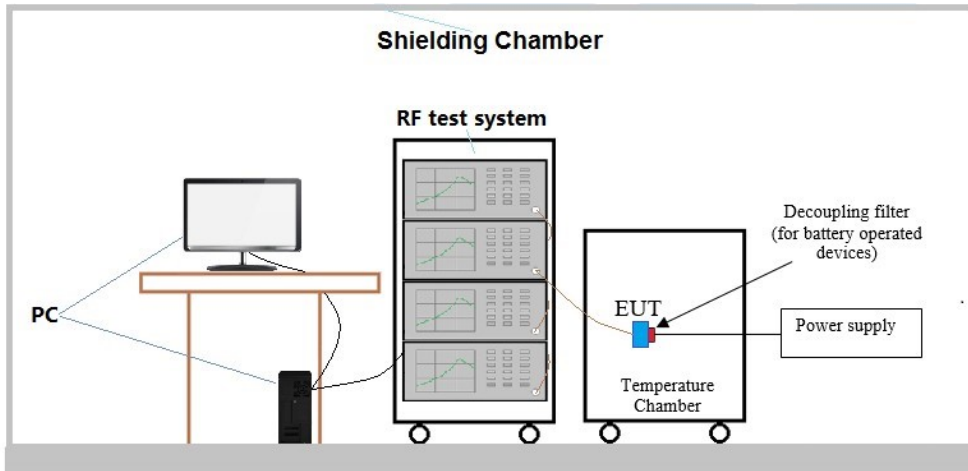
Test Frequency ID	Bandwidth [MHz]	NUL	Frequency (UL and DL) [MHz]
Low Range	10	630334	3455.010
	15	630500	3457.500
	20	630668	3460.020
	30	631000	3465.000
	40	631334	3470.010
	50	631668	3475.020
Mid Range	10/15/20/30/40/50	656000	3840.000
High Range	10	636332	3544.980
	15	636166	3542.490
	20	636000	3540.000
	30	635666	3534.990
	40	635332	3529.980
	50	635000	3525.000

Band n41

Test Frequency ID	Bandwidth [MHz]	NUL	Frequency (UL and DL) [MHz]
Low Range	5	40265	2557.5
	10	40290	2560
	15	40315	2562.5
	20	40340	2565
Mid Range	5/10/15/20	40740	2605
High Range	5	41215	2652.5
	10	41190	2650
	15	41165	2647.5
	20	41140	2645

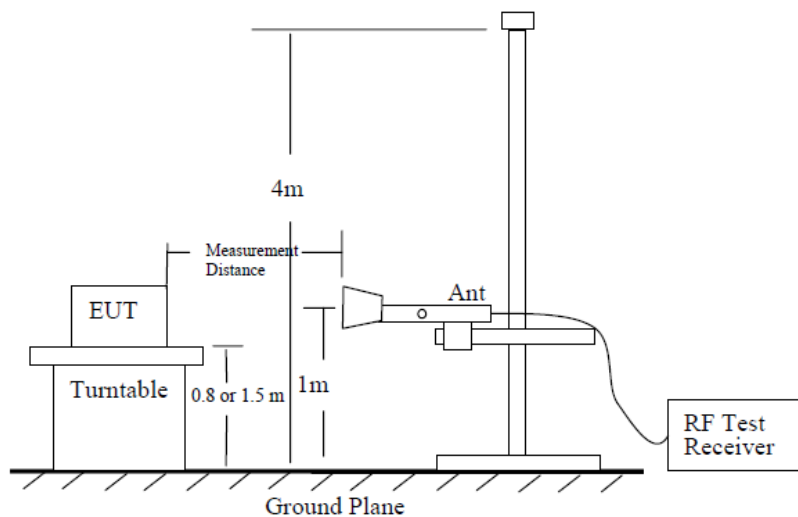
2.4 Test Setup and Conditions

2.4.1 Conducted Measurement Test Setup

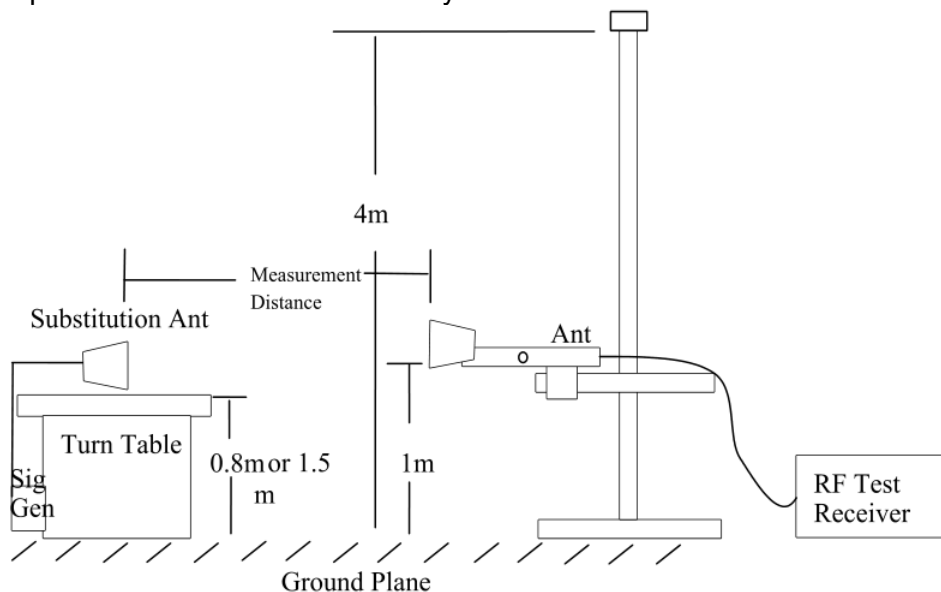


2.4.2 Radiated Measurement Test Setup

Step 1: Pre-test



Step 2: Substitution method to verify the maximum ERP/EIRP



2.5 Equipment List for the Test

RF Conducted measurement						
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due
☒ 1	Spectrum Analyzer	Agilent	N9020A	MY53421570	2025.09.23	2026.09.22
☐ 2	Power Sensor	Agilent	8481A	MY41097697	2025.09.23	2026.09.22
☐ 3	Vector Signal Generator	Agilent	N5182A	MY50143009	2025.09.23	2026.09.22
☐ 4	Analog signal generator	Agilent	E8257	MY51554256	2025.09.23	2026.09.22
☒ 5	Const Temp. & Humidity Chamber	Eastlab	YH-HW-408L	23051109	2025.09.23	2026.09.22
☒ 6	Wideband Radio Communication Tester	KEYSIGHT	E7515B	240724011	2025.09.23	2026.09.22
☒ 7	DC power supply	ZHAOXIN	RXN-305D-2	28070002559	2025.09.23	2026.09.22
☒ 8	RF Test box	TST	TSTPASS	21033016	2025.09.23	2026.09.22
☒ 9	RF Software	TST	TSTPASS	Version 2.0	N/A	N/A

Radiation Emission measurement						
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due
☒ 1	EMI Measuring Receiver	R&S	ESR	101160	2025.09.23	2026.09.22
☒ 2	Low Noise Pre Amplifier	SCHWARZBECK	BBV 9745	00282	2025.09.23	2026.09.22
☒ 3	Low Noise Pre Amplifier	CESHENG	CSKJLNA231 016A	CSKJLNA23 1016A	2025.09.23	2026.09.22
☒ 4	Spectrum Analyzer	R&S	FSV40	101470	2025.09.23	2026.09.22
☒ 5	TRILOG Super Broadband test Antenna	SCHWARZBECK	VULB9168	01434	2024.08.29	2027.08.28
☒ 6	TRILOG Super Broadband test Antenna	SCHWARZBECK	VULB9168	01435	2024.08.29	2027.08.28
☒ 7	Broadband Horn Antenna	Schwarzbeck	BBHA 9120D	452	2024.08.29	2027.08.28
☒ 8	Broadband Horn Antenna	Schwarzbeck	BBHA 9120D	453	2024.08.29	2027.08.28
☒ 9	Horn Antenna 15-40GHz	SCHWARZBECK	BBHA9170	BBHA91703 67	2024.08.28	2027.08.27
☒ 10	Horn Antenna 15-40GHz	SCHWARZBECK	BBHA9170	BBHA91703 68	2024.08.28	2027.08.27
☒ 11	Wideband Radio Communication Tester	KEYSIGHT	E7515B	240724011	2025.09.23	2026.09.22
☒ 12	6dB Attenuator	JFW	50FPE-006	4360846-949-1	2025.09.23	2026.09.22
☒ 13	RE Software	EZ	EZ-EMC_RE	Ver.AIT-03A	N/A	N/A

Note: ☐ is not applicable in this Test Report. ☒ is applicable in this Test Report.

3 TEST CONDITIONS AND RESULTS

3.1 Test Configuration of Equipment Under Test

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.

Radiated measurements are performed by rotating the EUT in three(X: flat, Y: portrait, Z: landscape) different orthogonal test planes to find the maximum emission.

Test Items	Band	Bandwidth(MHz)	Modulation	RB Configuration	Test Channel
Conducted Output Power and ERP/EIRP	n2/n25	5, 10, 15, 20, 25, 30, 35,40	All DFT-s--OFDM All CP-OFDM	Inner_1RB Inner_Full Outer_Full	L, M, H
	n5/n71	5, 10, 15, 20			
	n26_part 22	5, 10, 15, 20			
	n26_part 90	5, 10			
	n30	5, 10			
	n48	10, 15, 20, 30, 40			
	n66	5, 10, 15, 20, 25, 30, 40			
	n41	10, 15, 20, 30, 40, 50, 60,70, 80, 90, 100			
Peak-to-Average Ratio	n77	10, 15, 20, 25, 30, 40, 50, 60,70, 80, 90, 100	DFT-s-256QAM CP-256QAM	Outer_Full	M
	n2/n25	5, 10, 15, 20, 25, 30, 35,40			
	n5/n71	5, 10, 15, 20			
	n26_part 22	5, 10, 15, 20			
	n26_part 90	5, 10			
	n30	5, 10			
	n48	10, 15, 20, 30, 40			
	n66	5, 10, 15, 20, 25, 30, 40			
99% OBW and 26dB EBW	n41	10, 15, 20, 30, 40, 50, 60,70, 80, 90, 100	DFT-s-PI/2-BPSK DFT-s-QPSK DFT-s-16QAM	Outer_Full	M
	n77	10, 15, 20, 25, 30, 40, 50, 60,70, 80, 90, 100			
	n2/n25	5, 10, 15, 20, 25, 30, 35,40			
	n5/n71	5, 10, 15, 20			
	n26_part 22	5, 10, 15, 20			
	n26_part 90	5, 10			
	n30	5, 10			
	n48	10, 15, 20, 30, 40			
Conducted Band Edge	n66	5, 10, 15, 20, 25, 30, 40	DFT-s-PI/2-BPSK	Edge_1RB Outer_Full	L, H
	n41	10, 15, 20, 30, 40, 50, 60,70, 80, 90, 100			
	n77	10, 15, 20, 25, 30, 40, 50, 60,70, 80, 90, 100			
	n2/n25	5, 10, 15, 20, 25, 30, 35,40			
	n5/n71	5, 10, 15, 20			
	n26_part 22	5, 10, 15, 20			
	n26_part 90	5, 10			
	n30	5, 10			
Conducted Spurious Emission	n48	10, 15, 20, 30, 40	DFT-s-PI/2-BPSK	Inner_1RB	L, M, H
	n66	40			
	n41	10, 15, 20, 30, 40, 50, 60,70,			
	n2/n25	40			
	n5/n71	20			
	n26_part 22	20			
	n26_part 90	10			
	n30	10			

		80, 90, 100			
	n77	10, 15, 20, 25, 30, 40, 50, 60,70, 80, 90, 100			
Frequency Stability	n2/n25	40	DFT-s-PI/2-BPSK	Outer_Full	M
	n5/n71	20			
	n26_part 22	20			
	n26_part 90	10			
	n30	10			
	n48	40			
	n66	40			
	n41/n77	100			
Radiated Spurious Emission	n2/n25	40	DFT-s-PI/2-BPSK	Inner_1RB	M
	n5/n71	20			
	n26_part 22	20			
	n26_part 90	10			
	n30	10			
	n48	40			
	n66	40			
	n41/n77	100			
Note 1: All bandwidths, all transmission schemes(DFT-s--OFDM, CP-OFDM), all RB configurations, all channels have been evaluated, only the worst test results are reflected in the report.					

3.2 Output Power

MEASUREMENT SETUP

Test set up as section 2.4.1& 2.4.2.

TEST PROCEDURE

The EUT was setup according to ANSI C63.26:2015

Conducted Power Measurement:

- Place the EUT on a bench and set it in transmitting mode.
- Connect a low loss RF cable from the antenna port to a spectrum analyzer and tester by a Directional Couple.
- EUT Communicate with tester then selects a channel for testing.
- Add a correction factor to the display of spectrum, and then test.

Radiated Power Measurement:

Determining ERP and/or EIRP from conducted RF output power measurements according to ANSI C63.26 2015 Section 5.2.5.5.

In many cases, RF output power limits are specified in terms of the ERP or the EIRP. Typically, ERP is specified when the operating frequency is less than or equal to 1 GHz and EIRP is specified when the operating frequency is greater than 1 GHz. Both are defined as the product of the power supplied to the antenna and its gain (relative to a dipole antenna in the case of ERP, and relative to an isotropic antenna in the case of EIRP); however, when working in decibels (i.e., logarithmic scale), the ERP and EIRP represent the sum of the transmit antenna gain (in dBd or dBi, respectively) and the conducted RF output power (expressed in dB relative to watts or milliwatts).

The relevant equation for determining the maximum ERP or EIRP from the measured RF output power is given in Equation (1) as follows:

$$\text{ERP or EIRP} = P_{\text{Meas}} + G_T$$

$$\text{ERP} = \text{EIRP} - 2.15$$

where

ERP or EIRP effective radiated power or equivalent isotropically radiated power, respectively (expressed in the same units as P_{Meas} , e.g., dBm or dBW)

P_{Meas} measured transmitter output power or PSD, in dBm or dBW

G_T gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP)

For devices utilizing multiple antennas, see 6.4 for guidance with respect to determining the effective array transmit antenna gain term to be used in the above equation.

The following equations demonstrate the mathematical relationship between ERP and EIRP:

- $\text{ERP} = \text{EIRP} - 2.15$, where ERP and EIRP are expressed in consistent units.
- $\text{EIRP} = \text{ERP} + 2.15$, where ERP and EIRP are expressed in consistent units.

TEST RESULTS

Passed

☒ **Pass** ☐ **Not Applicable**

Note:

For test data, please refer to Appendix RF test data for 5G NR.

3.3 PEAK-TO-AVERAGE RATIO

LIMIT

Limit apply as section 3.1.

MEASUREMENT SETUP

Test set up as section 2.4.1.

TEST PROCEDURE

CCDF Procedure for PAPR :

1. Set resolution/measurement bandwidth $\geq$ signal's occupied bandwidth;
2. Set the number of counts to a value that stabilizes the measured CCDF curve;
3. Set the measurement interval as follows:
 - for continuous transmissions, set to 1 ms,
 - or burst transmissions, employ an external trigger that is synchronized with the EUT burst timing sequence, or use the internal burst trigger with a trigger level that allows the burst to stabilize and set the measurement interval to a time that is less than or equal to the burst duration.
4. Record the maximum PAPR level associated with a probability of 0.1%.

TEST RESULTS

Passed

☒ **Pass** ☐ **Not Applicable**

Note:

For test data, please refer to Appendix RF test data for 5G NR.

3.4 Occupied Bandwidth

LIMIT

Limit apply as section 3.1.

MEASUREMENT SETUP

Test set up as section 2.4.1.

TEST PROCEDURE

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

TEST RESULTS

Passed

☒ **Pass** ☐ **Not Applicable**

Note:

For test data, please refer to Appendix RF test data for 5G NR.

3.5 Band Edge compliance

LIMIT

Limit apply as section 3.1.

MEASUREMENT SETUP

Test set up as section 2.4.1.

TEST PROCEDURE

1. Set the spectrum analyzer center frequency to the block, band, or channel edge frequency.
2. Span was set large enough so as to capture all out of band emissions near the band edge
3. RBW > 1% of the emission bandwidth
4. VBW $\geq 3 \times$ RBW
5. Detector = RMS
6. Number of sweep points $\geq 2 \times$ Span/RBW
7. Trace mode = Average
8. Sweep time = > (number of points in sweep) $\times$ (symbol period)
9. Sweep =Single

Or

1. Set the spectrum analyzer center frequency to the block, band, or channel edge frequency.
2. Span was set large enough so as to capture all out of band emissions near the band edge
3. RBW > 1% of the emission bandwidth
4. VBW $\geq 3 \times$ RBW
5. Detector = Peak
6. Number of sweep points $\geq 2 \times$ Span/RBW
7. Trace mode = Maxhold
8. Sweep time = Auto
9. Sweep =Single

TEST RESULTS

Passed

☒ **Pass** ☐ **Not Applicable**

Note:

For test data, please refer to Appendix RF test data for 5G NR.

3.6 Spurious Emission

LIMIT

Limit apply as section 3.1.

MEASUREMENT SETUP

Test set up as section 2.4.1& 2.4.2.

TEST PROCEDURE

The EUT was setup according to ANSI C63.26:2015

Conducted Spurious Measurement:

Test Settings

1. RBW = 1KHz (for 9K-150KHz), 10KHz (for 150KHz-10MHz), 100KHz (for 10MHz-30MHz), 1MHz(for above 1GHz)
2. VBW $\geq 3 * RBW$
3. Detector = RMS
4. Trace Mode = Trace average
5. Sweep time $> (\text{number of points in sweep}) \times (\text{symbol period})$
6. Number of points in sweep $\geq 2 \times \text{Span} / RBW$
7. Sweep =Single

Or

1. RBW = 1KHz(for 9K-150KHz), 10KHz(for 150KHz-10MHz), 100KHz(for 10MHz-30MHz), 1MHz(for above 1GHz)
2. VBW $\geq 3 * RBW$
3. Detector = Peak
4. Trace Mode = Maxhold
5. Sweep time = Auto
6. Number of points in sweep $\geq 2 \times \text{Span} / RBW$
7. Sweep =Single

Radiated Spurious Measurement:

1. The EUT shall be placed at the specified height on a support, and in the position closest to normal use as declared by provider.
2. The test antenna shall be oriented initially for vertical polarization and shall be chosen to correspond to the frequency of the transmitter
3. The output of the test antenna shall be connected to the measuring receiver.
4. The transmitter shall be switched on and the measuring receiver shall be tuned to the frequency of the transmitter under test.
5. The test antenna shall be raised and lowered through the specified range of height until a

maximum signal level is detected by the measuring receiver.

6. The transmitter shall then be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver.

7. The test antenna shall be raised and lowered again through the specified range of height until a maximum signal level is detected by the measuring receiver.

8. The maximum signal level detected by the measuring receiver shall be noted.

9. The transmitter shall be replaced by a substitution antenna.

10. The substitution antenna shall be orientated for vertical polarization and the length of the substitution antenna shall be adjusted to correspond to the frequency of the transmitter.

11. The substitution antenna shall be connected to a calibrated signal generator.

12. If necessary, the input attenuator setting of the measuring receiver shall be adjusted in order to increase the sensitivity of the measuring receiver.

13. The test antenna shall be raised and lowered through the specified range of height to ensure that the maximum signal is received.

14. The input signal to the substitution antenna shall be adjusted to the level that produces a level detected by the measuring receiver, that is equal to the level noted while the transmitter radiated power was measured, corrected for the change of input attenuator setting of the measuring receiver.

15. The measurement shall be repeated with the test antenna and the substitution antenna orientated for horizontal polarization.

16. The measure of the effective radiated power is the larger of the two levels recorded at the input to the substitution antenna, corrected for gain of the substitution antenna if necessary.

17. The frequency range need checked up to 10th harmonic.

Final measurement calculation as below:

The relevant equation for determining the ERP/EIRP from the radiated RF output power is:

$$\text{ERP/EIRP (dBm)} = \text{SA Read Value (dBm)} + \text{Correction Factor (dB)}$$

where:

ERP/EIRP = effective or equivalent radiated power, in dBm;

SA Read Value = measured transmitter power received by EMI receiver or spectrum analyzer, in dBm;

Correction Factor = total correction factor including cable loss, in dB;

TEST RESULTS

Conducted Measurement result:

Passed

☒ **Pass** ☐ **Not Applicable**

Note:

For test data, please refer to Appendix RF test data for 5G NR.

Radiated Measurement:

Note: The field strength of spurious radiation is tested all configuration and record the worst test result as be3450low for each band.

Band n2(1850 MHz – 1910 MHz) The Worst Test Results							
NR Band n2 - SCS 15kHz - 5MHz Bandwidth - DFT-s-OFDM							
Lowest channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3702.05	-42.11	11.63	5.22	-35.70	-13.00	-22.70	H
5553.00	-47.46	12.19	6.34	-41.61	-13.00	-28.61	H
7403.40	-46.70	11.12	7.58	-43.16	-13.00	-30.16	H
3702.05	-42.09	11.63	5.22	-35.68	-13.00	-22.68	V
5553.00	-47.06	12.19	6.34	-41.21	-13.00	-28.21	V
7403.40	-45.74	11.12	7.58	-42.20	-13.00	-29.20	V
Middle channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3760.05	-45.12	11.55	5.29	-38.86	-13.00	-25.86	H
5640.15	-46.97	12.1	6.34	-41.21	-13.00	-28.21	H
7520.45	-47.90	11.35	7.64	-44.19	-13.00	-31.19	H
3760.05	-44.36	11.55	5.29	-38.10	-13.00	-25.10	V
5640.15	-46.87	12.1	6.34	-41.11	-13.00	-28.11	V
7520.45	-47.09	11.35	7.64	-43.38	-13.00	-30.38	V
Highest channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3819.00	-45.93	11.48	5.33	-39.78	-13.00	-26.78	H
5727.25	-46.58	11.94	6.36	-41.00	-13.00	-28.00	H
7637.85	-47.27	11.43	7.69	-43.53	-13.00	-30.53	H
3819.00	-45.57	11.48	5.33	-39.42	-13.00	-26.42	V
5727.25	-46.35	11.94	6.36	-40.77	-13.00	-27.77	V
7637.85	-46.79	11.43	7.69	-43.05	-13.00	-30.05	V

Band n5(824 MHz – 849 MHz) The Worst Test Results NR Band n5 - SCS 15kHz - 5MHz Bandwidth - DFT-s-OFDM							
Lowest channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1650.50	-44.01	9.32	3.02	-37.71	-13.00	-24.71	H
2475.20	-46.38	10.4	3.97	-39.95	-13.00	-26.95	H
3298.55	-51.33	11.08	4.74	-44.99	-13.00	-31.99	H
1650.50	-43.63	9.32	3.02	-37.33	-13.00	-24.33	V
2475.20	-45.68	10.4	3.97	-39.25	-13.00	-26.25	V
3298.55	-50.97	11.08	4.74	-44.63	-13.00	-31.63	V
Middle channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1673.75	-45.71	9.49	3.07	-39.29	-13.00	-26.29	H
2510.00	-48.00	10.41	4	-41.59	-13.00	-28.59	H
3346.00	-54.29	11.24	4.81	-47.86	-13.00	-34.86	H
1673.75	-45.32	9.49	3.07	-38.90	-13.00	-25.90	V
2510.00	-47.43	10.41	4	-41.02	-13.00	-28.02	V
3346.00	-54.20	11.24	4.81	-47.77	-13.00	-34.77	V
Highest channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1697.60	-45.24	9.66	3.11	-38.69	-13.00	-25.69	H
2545.30	-49.37	10.41	4.04	-43.00	-13.00	-30.00	H
3394.10	-50.47	11.4	4.88	-43.95	-13.00	-30.95	H
1697.60	-44.83	9.66	3.11	-38.28	-13.00	-25.28	V
2545.30	-48.82	10.41	4.04	-42.45	-13.00	-29.45	V
3394.10	-50.25	11.4	4.88	-43.73	-13.00	-30.73	V

Band n25(1850 MHz – 1915 MHz) The Worst Test Results							
NR Band n25 - SCS 15kHz - 5MHz Bandwidth - DFT-s-OFDM							
Lowest channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3701.50	-45.28	11.63	5.22	-38.87	-13.00	-25.87	H
5553.10	-44.02	12.19	6.34	-38.17	-13.00	-25.17	H
7403.40	-48.11	11.12	7.58	-44.57	-13.00	-31.57	H
3701.50	-44.08	11.63	5.22	-37.67	-13.00	-24.67	V
5553.10	-44.00	12.19	6.34	-38.15	-13.00	-25.15	V
7403.40	-46.93	11.12	7.58	-43.39	-13.00	-30.39	V
Middle channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3765.05	-43.20	11.54	5.29	-36.95	-13.00	-23.95	H
5648.15	-45.53	12.09	6.34	-39.78	-13.00	-26.78	H
7529.25	-48.03	11.36	7.64	-44.31	-13.00	-31.31	H
3765.05	-42.21	11.54	5.29	-35.96	-13.00	-22.96	V
5648.15	-44.33	12.09	6.34	-38.58	-13.00	-25.58	V
7529.25	-47.10	11.36	7.64	-43.38	-13.00	-30.38	V
Highest channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3829.40	-42.35	11.48	5.32	-36.19	-13.00	-23.19	H
5743.00	-45.94	11.9	6.36	-40.40	-13.00	-27.40	H
7658.30	-50.64	11.42	7.7	-46.92	-13.00	-33.92	H
3829.40	-42.00	11.48	5.32	-35.84	-13.00	-22.84	V
5743.00	-45.79	11.9	6.36	-40.25	-13.00	-27.25	V
7658.30	-50.43	11.42	7.7	-46.71	-13.00	-33.71	V

Band n26a(814 MHz – 824 MHz) The Worst Test Results							
NR Band n26a_Part 90 - SCS 15kHz - 5MHz Bandwidth - DFT-s-OFDM							
Lowest channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1630.60	-42.36	9.18	2.98	-36.16	-13.00	-23.16	H
2445.00	-47.97	10.39	3.93	-41.51	-13.00	-28.51	H
3258.65	-52.54	10.91	4.68	-46.31	-13.00	-33.31	H
1630.60	-41.37	9.18	2.98	-35.17	-13.00	-22.17	V
2445.00	-47.61	10.39	3.93	-41.15	-13.00	-28.15	V
3258.65	-52.21	10.91	4.68	-45.98	-13.00	-32.98	V
Middle channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1638.00	-45.67	9.23	3	-39.44	-13.00	-26.44	H
2456.30	-48.51	10.4	3.94	-42.05	-13.00	-29.05	H
3276.00	-51.56	10.98	4.71	-45.29	-13.00	-32.29	H
1638.00	-44.50	9.23	3	-38.27	-13.00	-25.27	V
2456.30	-47.79	10.4	3.94	-41.33	-13.00	-28.33	V
3276.00	-51.08	10.98	4.71	-44.81	-13.00	-31.81	V
Highest channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1646.40	-44.40	9.29	3.01	-38.12	-13.00	-25.12	H
2470.60	-48.80	10.4	3.96	-42.36	-13.00	-29.36	H
3294.60	-52.09	11.06	4.74	-45.77	-13.00	-32.77	H
1646.40	-43.59	9.29	3.01	-37.31	-13.00	-24.31	V
2470.60	-48.04	10.4	3.96	-41.60	-13.00	-28.60	V
3294.60	-51.94	11.06	4.74	-45.62	-13.00	-32.62	V

Band n26b(824 MHz – 849 MHz) The Worst Test Results NR Band n26b_Part 22 - SCS 15kHz - 5MHz Bandwidth - DFT-s-OFDM							
Lowest channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1649.75	-41.88	9.31	3.02	-35.59	-13.00	-22.59	H
2475.00	-45.34	10.4	3.96	-38.90	-13.00	-25.90	H
3298.85	-53.22	11.08	4.74	-46.88	-13.00	-33.88	H
1649.75	-41.74	9.31	3.02	-35.45	-13.00	-22.45	V
2475.00	-44.84	10.4	3.96	-38.40	-13.00	-25.40	V
3298.85	-52.36	11.08	4.74	-46.02	-13.00	-33.02	V
Middle channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1672.55	-42.18	9.48	3.06	-35.76	-13.00	-22.76	H
2510.00	-48.74	10.41	4	-42.33	-13.00	-29.33	H
3346.10	-52.18	11.24	4.81	-45.75	-13.00	-32.75	H
1672.55	-41.59	9.48	3.06	-35.17	-13.00	-22.17	V
2510.00	-48.12	10.41	4	-41.71	-13.00	-28.71	V
3346.10	-51.48	11.24	4.81	-45.05	-13.00	-32.05	V
Highest channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1697.60	-44.15	9.66	3.11	-37.60	-13.00	-24.60	H
2545.50	-45.84	10.41	4.04	-39.47	-13.00	-26.47	H
3393.40	-54.44	11.4	4.88	-47.92	-13.00	-34.92	H
1697.60	-43.94	9.66	3.11	-37.39	-13.00	-24.39	V
2545.50	-45.70	10.41	4.04	-39.33	-13.00	-26.33	V
3393.40	-53.39	11.4	4.88	-46.87	-13.00	-33.87	V

Band n30(2305 MHz – 2315 MHz) The Worst Test Results							
NR Band n30 - SCS 15kHz - 5MHz Bandwidth - DFT-s-OFDM							
Lowest channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
4615.20	-41.96	11.76	5.71	-35.91	-13.00	-22.91	H
6922.90	-44.62	11.08	6.93	-40.47	-13.00	-27.47	H
9229.35	-48.40	11.16	8.27	-45.51	-13.00	-32.51	H
4615.20	-41.93	11.76	5.71	-35.88	-13.00	-22.88	V
6922.90	-43.46	11.08	6.93	-39.31	-13.00	-26.31	V
9229.35	-47.33	11.16	8.27	-44.44	-13.00	-31.44	V
Middle channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
4620.00	-45.92	11.76	5.7	-39.86	-13.00	-26.86	H
6929.70	-44.01	11.07	6.93	-39.87	-13.00	-26.87	H
9240.00	-50.13	11.16	8.27	-47.24	-13.00	-34.24	H
4620.00	-45.33	11.76	5.7	-39.27	-13.00	-26.27	V
6929.70	-43.73	11.07	6.93	-39.59	-13.00	-26.59	V
9240.00	-48.93	11.16	8.27	-46.04	-13.00	-33.04	V
Highest channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
4625.00	-43.34	11.75	5.69	-37.28	-13.00	-24.28	H
6938.70	-45.56	11.07	6.94	-41.43	-13.00	-28.43	H
9249.55	-50.30	11.16	8.27	-47.41	-13.00	-34.41	H
4625.00	-43.29	11.75	5.69	-37.23	-13.00	-24.23	V
6938.70	-45.55	11.07	6.94	-41.42	-13.00	-28.42	V
9249.55	-49.90	11.16	8.27	-47.01	-13.00	-34.01	V

Band n41(2496 MHz – 2690 MHz) The Worst Test Results							
NR Band n41 - SCS 30kHz - 10MHz Bandwidth - CP-OFDM							
Lowest channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5002.75	-45.21	11.33	5.76	-39.64	-13.00	-26.64	H
7504.50	-46.44	11.33	7.63	-42.74	-13.00	-29.74	H
10004.30	-50.04	11.73	9.09	-47.40	-13.00	-34.40	H
5002.75	-45.08	11.33	5.76	-39.51	-13.00	-26.51	V
7504.50	-45.40	11.33	7.63	-41.70	-13.00	-28.70	V
10004.30	-49.68	11.73	9.09	-47.04	-13.00	-34.04	V
Middle channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5186.00	-40.86	11.52	5.85	-35.19	-13.00	-22.19	H
7778.55	-42.07	11.31	7.71	-38.47	-13.00	-25.47	H
10372.00	-48.07	11.69	9.22	-45.60	-13.00	-32.60	H
5186.00	-40.56	11.52	5.85	-34.89	-13.00	-21.89	V
7778.55	-41.29	11.31	7.71	-37.69	-13.00	-24.69	V
10372.00	-47.59	11.69	9.22	-45.12	-13.00	-32.12	V
Highest channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
5370.05	-44.76	12.00	6.13	-38.89	-13.00	-25.89	H
8054.75	-44.20	11.32	7.82	-40.70	-13.00	-27.70	H
10740.55	-48.37	11.66	9.67	-46.38	-13.00	-33.38	H
5370.05	-44.25	12.00	6.13	-38.38	-13.00	-25.38	V
8054.75	-43.94	11.32	7.82	-40.44	-13.00	-27.44	V
10740.55	-47.34	11.66	9.67	-45.35	-13.00	-32.35	V

Band n48(3550 MHz – 3700 MHz) The Worst Test Results							
NR Band n48 _SCS 30kHz 10MHz Bandwidth DFT-s-OFDM							
Lowest channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
7100.65	-40.72	10.86	7.13	-36.99	-13.00	-23.99	H
10649.35	-42.90	11.66	9.49	-40.73	-13.00	-27.73	H
14200.50	-50.34	13.05	10.50	-47.79	-13.00	-34.79	H
7100.65	-40.41	10.86	7.13	-36.68	-13.00	-23.68	V
10649.35	-41.93	11.66	9.49	-39.76	-13.00	-26.76	V
14200.50	-49.41	13.05	10.50	-46.86	-13.00	-33.86	V
Middle channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
7249.50	-38.69	10.79	7.26	-35.16	-13.00	-22.16	H
10875.05	-39.97	11.79	10.07	-38.25	-13.00	-25.25	H
14500.00	-48.24	13.43	10.53	-45.34	-13.00	-32.34	H
7249.50	-38.01	10.79	7.26	-34.48	-13.00	-21.48	V
10875.05	-39.61	11.79	10.07	-37.89	-13.00	-24.89	V
14500.00	-47.88	13.43	10.53	-44.98	-13.00	-31.98	V
Highest channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
7400.50	-43.15	11.12	7.58	-39.61	-13.00	-26.61	H
11100.50	-44.03	12.09	10.55	-42.49	-13.00	-29.49	H
14800.40	-47.99	13.98	10.66	-44.67	-13.00	-31.67	H
7400.50	-42.75	11.12	7.58	-39.21	-13.00	-26.21	V
11100.50	-42.90	12.09	10.55	-41.36	-13.00	-28.36	V
14800.40	-47.19	13.98	10.66	-43.87	-13.00	-30.87	V

Band n66(1710 MHz – 1780 MHz) The Worst Test Results							
NR Band n66 - SCS 15kHz - 5MHz Bandwidth - DFT-s-OFDM							
Lowest channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3422.60	-45.58	11.48	4.9	-39.00	-13.00	-26.00	H
5133.25	-48.70	11.41	5.71	-43.00	-13.00	-30.00	H
6842.65	-48.06	11.06	6.88	-43.88	-13.00	-30.88	H
3422.60	-45.00	11.48	4.9	-38.42	-13.00	-25.42	V
5133.25	-47.54	11.41	5.71	-41.84	-13.00	-28.84	V
6842.65	-47.47	11.06	6.88	-43.29	-13.00	-30.29	V
Middle channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3490.75	-42.38	11.63	4.95	-35.70	-13.00	-22.70	H
5235.05	-47.42	11.65	5.91	-41.68	-13.00	-28.68	H
6980.00	-48.49	11.05	6.95	-44.39	-13.00	-31.39	H
3490.75	-41.77	11.63	4.95	-35.09	-13.00	-22.09	V
5235.05	-46.52	11.65	5.91	-40.78	-13.00	-27.78	V
6980.00	-48.02	11.05	6.95	-43.92	-13.00	-30.92	V
Highest channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3558.75	-43.21	11.71	4.99	-36.49	-13.00	-23.49	H
5337.85	-47.30	11.92	6.05	-41.43	-13.00	-28.43	H
7118.75	-49.50	10.85	7.15	-45.80	-13.00	-32.80	H
3558.75	-42.92	11.71	4.99	-36.20	-13.00	-23.20	V
5337.85	-46.93	11.92	6.05	-41.06	-13.00	-28.06	V
7118.75	-49.16	10.85	7.15	-45.46	-13.00	-32.46	V

Band n71(663 MHz – 698 MHz) The Worst Test Results							
NR Band n71 _SCS 15kHz 5MHz Bandwidth DFT-s-OFDM							
Lowest channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1331.50	-44.01	7.09	2.74	-39.66	-13.00	-26.66	H
1997.00	-48.59	9.62	3.46	-42.43	-13.00	-29.43	H
2661.45	-52.88	10.51	4.13	-46.50	-13.00	-33.50	H
1331.50	-43.80	7.09	2.74	-39.45	-13.00	-26.45	V
1997.00	-47.57	9.62	3.46	-41.41	-13.00	-28.41	V
2661.45	-51.99	10.51	4.13	-45.61	-13.00	-32.61	V
Middle channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1360.35	-42.48	7.27	2.71	-37.92	-13.00	-24.92	H
2042.35	-47.29	9.56	3.51	-41.24	-13.00	-28.24	H
2721.35	-53.25	10.59	4.19	-46.85	-13.00	-33.85	H
1360.35	-41.29	7.27	2.71	-36.73	-13.00	-23.73	V
2042.35	-46.31	9.56	3.51	-40.26	-13.00	-27.26	V
2721.35	-52.73	10.59	4.19	-46.33	-13.00	-33.33	V
Highest channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1390.80	-42.14	7.47	2.68	-37.35	-13.00	-24.35	H
2086.50	-45.57	9.52	3.54	-39.59	-13.00	-26.59	H
2781.60	-51.66	10.66	4.32	-45.32	-13.00	-32.32	H
1390.80	-41.50	7.47	2.68	-36.71	-13.00	-23.71	V
2086.50	-44.96	9.52	3.54	-38.98	-13.00	-25.98	V
2781.60	-50.62	10.66	4.32	-44.28	-13.00	-31.28	V

Band n77(3450 MHz – 3550 MHz) The Worst Test Results							
NR Band n77 _SCS 15kHz 10MHz Bandwidth DFT-s-OFDM							
Lowest channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
6910.90	-40.06	11.08	6.93	-35.91	-13.00	-22.91	H
10366.25	-42.53	11.69	9.22	-40.06	-13.00	-27.06	H
13820.85	-49.57	13.07	10.42	-46.92	-13.00	-33.92	H
6910.90	-39.96	11.08	6.93	-35.81	-13.00	-22.81	V
10366.25	-41.46	11.69	9.22	-38.99	-13.00	-25.99	V
13820.85	-49.31	13.07	10.42	-46.66	-13.00	-33.66	V
Middle channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
7000.85	-41.13	11.04	6.96	-37.05	-13.00	-24.05	H
10500.40	-43.22	11.75	9.31	-40.78	-13.00	-27.78	H
14001.45	-46.31	13	10.36	-43.67	-13.00	-30.67	H
7000.85	-40.63	11.04	6.96	-36.55	-13.00	-23.55	V
10500.40	-42.17	11.75	9.31	-39.73	-13.00	-26.73	V
14001.45	-45.37	13	10.36	-42.73	-13.00	-29.73	V
Highest channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
7090.70	-43.24	10.88	7.11	-39.47	-13.00	-26.47	H
10635.55	-43.74	11.66	9.47	-41.55	-13.00	-28.55	H
14180.60	-48.69	13.03	10.5	-46.16	-13.00	-33.16	H
7090.70	-42.81	10.88	7.11	-39.04	-13.00	-26.04	V
10635.55	-43.56	11.66	9.47	-41.37	-13.00	-28.37	V
14180.60	-47.70	13.03	10.5	-45.17	-13.00	-32.17	V

Band n77(3700 MHz – 3980 MHz) The Worst Test Results NR Band n77 _SCS 30kHz 10MHz Bandwidth DFT-s-OFDM							
Lowest channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
7410.40	-42.03	11.14	7.58	-38.47	-13.00	-25.47	H
11114.70	-41.30	12.09	10.56	-39.77	-13.00	-26.77	H
14820.30	-48.09	14.03	10.68	-44.74	-13.00	-31.74	H
7410.40	-41.51	11.14	7.58	-37.95	-13.00	-24.95	V
11114.70	-41.16	12.09	10.56	-39.63	-13.00	-26.63	V
14820.30	-47.37	14.03	10.68	-44.02	-13.00	-31.02	V
Middle channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
7680.10	-41.31	11.41	7.7	-37.60	-13.00	-24.60	H
11520.00	-40.13	12.46	10.53	-38.20	-13.00	-25.20	H
15360.00	-48.93	15.19	10.8	-44.54	-13.00	-31.54	H
7680.10	-40.16	11.41	7.7	-36.45	-13.00	-23.45	V
11520.00	-39.76	12.46	10.53	-37.83	-13.00	-24.83	V
15360.00	-48.17	15.19	10.8	-43.78	-13.00	-30.78	V
Highest channel							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
7950.40	-39.25	11.26	7.78	-35.77	-13.00	-22.77	H
11925.15	-42.91	12.89	10.95	-40.97	-13.00	-27.97	H
15899.40	-48.33	16.21	11.46	-43.58	-13.00	-30.58	H
7950.40	-38.60	11.26	7.78	-35.12	-13.00	-22.12	V
11925.15	-42.74	12.89	10.95	-40.80	-13.00	-27.80	V
15899.40	-47.87	16.21	11.46	-43.12	-13.00	-30.12	V

Remark:

1. $PMea = S\ G.Lev + Ant - Loss$
2. $Margin = PMea - Limit$
3. *Other emission levels are attenuated 20dB below the limit and not recorded in report.*

3.7 Frequency Stability under Temperature & Voltage Variations

LIMIT

Limit apply as section 3.1.

TEST CONFIGURATION

Test set up as section 2.4.1.

TEST PROCEDURE

The EUT was setup according to ANSI C63.26:2015

Frequency Stability under Temperature Variations:

The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to -30°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached.

Frequency Stability under Voltage Variations:

Set chamber temperature to 20°C. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.

Reduce the input voltage to specify extreme voltage variation ($\pm 15\%$) and endpoint, record the maximum frequency change.

TEST RESULTS

Passed

☒ **Pass** ☐ **Not Applicable**

Note:

For test data, please refer to Appendix RF test data for 5G NR.

4 Test Setup Photographs of EUT

Please refer to Test Setup photo-PCE

5 Photos of EUT

Please refer to test Report No.: AiTSZ-260109006FW1.

***** **End of Report** *****