TEST REPORT

Applicant Name :	Sun Cupid Technology (HK) Ltd.
Address :	16/F,CEO Tower,77 Wing Hong Street,Cheung Sha Wan,Kowloon,Hong Kong
Report Number :	SZNS220627-28792E-RF-00F
FCC ID:	2ADINN6501L

Test Standard (s)

FCC PART 27; FCC PART 22H; FCC PART 24E

Sample Description

Product Type:	5G Smart Phone
Model No.:	N6501L
Multiple Model(s) No.:	B20(Please refer to DOS for Model difference)
Trade Mark:	NUU
Date Received:	2022/06/27
Report Date:	2022/09/13

Test Result:	Pass*

* In the configuration tested, the EUT complied with the standards above.

Prepared and Checked By:

Andy Yu
EMC Engineer

Approved By:

Candy Li
EMC Engineer

Note: This report may contain data that are not covered by the A2LA accreditation and are marked with an asterisk "★ ".
Shenzhen Accurate Technology Co., Ltd. is not responsible for the authenticity of any test data provided by the applicant. Data included from the applicant that may affect testresults are marked with an asterisk '*'. Customer model name, addresses, names, trademarks etc. are not considered data.
This report cannot be reproduced except in full, without prior written approval of the Company. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This report is valid only with a valid digital signature. The digital signature may be available only under the Adobe software above version 7.0.

TABLE OF CONTENTS

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Frequency Range	5G NR Band 2: 1850-1910MHz(TX); 1930-1990MHz(RX) 5G NR Band 5: 824-849 MHz(TX); 869-894MHz(RX) 5G NR Band 25: 1850-1915MHz(TX);1930-1995MHz(RX) 5G NR Band 41: 2496-2690MHz(TX/RX) 5G NR Band 66: 1710-1780MHz(TX); 2110-2180MHz(RX) 5G NR Band 71: 663-698MHz(TX); 617-652MHz(RX)
EN-DC possible combinations	DC_2A_n41A, DC_2A_n71A, DC_12A_n66A, DC_12A_n2A, DC_66A_n41A, DC_66A_n71A
Carrier aggregation	None Carrier aggregation
Modulation Technique	DFT-s-OFDM: PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM CP-OFDM: QPSK, 16QAM, 64QAM, 256QAM
Antenna Specification*	Band 2/Band 25/ DC_12A_n2A: 0.8dBi; Band 5/Band 66/ DC_12A_n66A:0.6dBi; Band 41/DC_2A_n41A/ DC_66A_n41A:1.2dBi; Band 71/ DC_2A_n71A/ DC_66A_n71A: 0.1dBi; (provided by the applicant)
Voltage Range	DC 3.85V from battery or DC 3.6-12V from adapter
Sample serial number	SZNS220627-28792E-RF-S1 for Radiated Emissions SZNS220627-28792E-RF-S2 for RF Conducted Test (Assigned by ATC)
Sample/EUT Status	Good condition
Normal/Extreme Condition*	VN.: Normal Voltage: 3.85V_{DC} VL.: Low Temperature 3.5V_{DC} VH.: High Temperature 4.4V_{DC} TN: Normal Temperature: 20℃ T1~T9: -30℃, -20℃, -10℃, 0℃, 10℃, 20℃, 30℃, 40℃, 50℃ (They are provided by the manufacturer)
Adapter information	Model: TPA-10S120150UU01 Input: AC 100-240V,50/60Hz,0.6A Output: DC 3.6-6V 3A;6-9V 2A;9-12V 1.5A

Remark:

1. 5G NR bands supports SA Band2/5/25/41/66/71 and NSA DC_2A_n41A/ DC_2A_n71A/ DC_12A_n66A/ DC_12A_n2A/ DC_66A_n41A/ DC_66A_n71A mode. For SA and NSA mode of all 5G NR, we only show the combination of the maximum power among all SA and NSA combinations in the report.
2. For modulation of CP-OFDM and DFT-s-OFDM, the maximum power of CP-OFDM is lower than DFT-s-OFDM modulation, therefore, we chose higher power (DFT-s-OFDM modulation) to perform all tests and show in the report.

Objective

This test report is in accordance with Part 2-Subpart J, Part 22-Subpart H, Part24-Subpart E and Part 27 of the Federal Communication Commission's rules.

The objective is to determine the compliance of the EUT with FCC rules for output power, modulation characteristic, occupied bandwidth, and spurious emission at antenna terminal, spurious radiated emission, frequency stability and band edge.

Test Methodology

All tests and measurements indicated in this document were performed in accordance with the Code of Federal Regulations Title 47 Part 2-Subpart J as well as the following parts:

Part 22 Subpart H - Public Mobile Services
Part 24 Subpart E - Personal Communication Services
Part 27 - Miscellaneous Wireless Communications Services

ANSI C63.26-2015: American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services

All emissions measurement was performed at Shenzhen Accurate Technology Co., Ltd. The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Each test item follows test standards and with no deviation.

Measurement Uncertainty

Parameter		Uncertainty
Occupied Channel Bandwidth		5%
RF output power, conducted		0.73dB
Unwanted Emission, conducted		1.6dB
RF Frequency		$0.082*10^{-7}$
Emissions, Radiated	30MHz - 1GHz	4.28dB
	1GHz- 18GHz	4.98dB
	18GHz- 26.5GHz	5.06dB
Temperature		1°C
Humidity		6%
Supply voltages		0.4%

Note: The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval.Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.

Test Facility

The Test site used by Shenzhen Accurate Technology Co., Ltd. to collect test data is located on the 1/F., Building A, Changyuan New Material Port, Science & Industry Park, Nanshan District, Shenzhen, Guangdong, P.R. China.

The test site has been approved by the FCC under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No.: 708358,the FCC Designation No.: CN1189. Accredited by American Association for Laboratory Accreditation (A2LA) The Certificate Number is 429 7.01.

The lab has been recognized by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements, the CAB identifier: CN0016.The Registration Number is 5077A.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

The final qualification test was performed with the EUT operating at normal mode.

The test items were performed with the EUT operating at testing mode. Test was performed with channels as below table:

Band	Channel Bandwidth	Frequency
NR Band 2	5.0 MHz	1852.5MHz, 1880MHz, 1907.5MHz
	10.0 MHz	1855MHz, 1880MHz, 1905MHz
	15.0 MHz	1857.5MHz, 1880MHz, 1902.5MHz
	20.0 MHz	1860MHz, 1880MHz, 1900MHz
NR Band 5	5.0 MHz	826.5MHz, 836.5MHz, 846.5MHz
	10.0 MHz	829MHz, 836.5MHz, 844MHz
	15.0 MHz	831.5MHz, 836.5MHz, 841.5MHz
	20.0 MHz	834MHz, 836.5MHz, 839MHz
NR Band 25	5.0 MHz	1852.5MHz, 1882.5MHz, 1912.5MHz
	10.0 MHz	1855MHz, 1882.5MHz, 1910MHz
	15.0 MHz	1857.5MHz, 1882.5MHz, 1907.5MHz
	20.0 MHz	1860MHz, 1882.5MHz, 1905MHz
NR Band 41	10.0 MHz	2501.01MHz, 2592.99MHz, 2685MHz
	15.0 MHz	2503.5MHz, 2592.99MHz, 2682.48MHz
	20.0 MHz	2506.02MHz, 2592.99MHz, 2679.99MHz
	40.0 MHz	2516.01MHz, 2592.99MHz, 2670MHz
	50.0 MHz	2521.02MHz, 2592.99MHz, 2664.99MHz
	60.0 MHz	2526MHz, 2592.99MHz, 2659.98MHz
	80.0 MHz	2536.02MHz, 2592.99MHz, 2649.99MHz
	90.0 MHz	2541MHz, 2592.99MHz, 2644.98MHz
	100.0 MHz	2546.01MHz, 2592.99MHz, 2640MHz
NR Band 66	5.0 MHz	1712.5MHz, 1745MHz, 1777.5MHz
	10.0 MHz	1715MHz, 1745MHz, 1775MHz
	15.0 MHz	1717.5MHz, 1745MHz, 1772.5MHz
	20.0 MHz	1720MHz, 1745MHz, 1770MHz
	25.0 MHz	1722.5MHz, 1745MHz, 1767.5MHz
	30.0 MHz	1725MHz, 1745MHz, 1765MHz
	40.0 MHz	1730MHz, 1745MHz, 1760MHz
NR Band 71	5.0 MHz	665.5MHz, 680.5MHz, 695.5MHz
	10.0 MHz	668MHz, 680.5MHz, 693MHz
	15.0 MHz	670.5MHz, 680.5MHz, 690.5MHz
	20.0 MHz	673MHz, 680.5MHz, 688MHz

Equipment Modifications

No modification was made to the EUT.

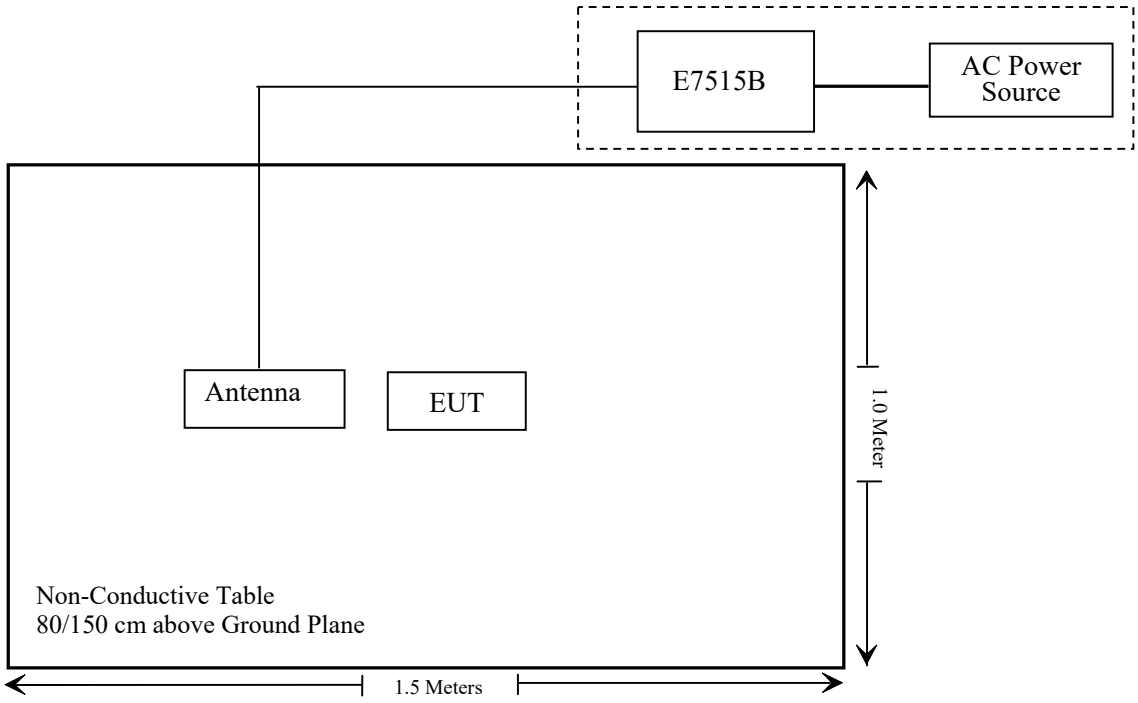
Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
Rohde&Schwarz	Wideband Radio Communication Tester	E7515B	154606

Support Cable Description

Cable Description	Length (m)	From / Port	To
Unshielded Un-detachable AC cable	1.2	AC Power	E7515B

Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

Rules	Description of Test	Result
FCC§1.1310, FCC§2.1093	RF Exposure (SAR)	Compliant*
§2.1046; § 22.913 (a); § 24.232 (c); §27.50 (c) (d) (h)	RF Output Power	Compliant
§ 2.1047	Modulation Characteristics	Not Applicable
§ 2.1049; § 22.905; § 22.917; § 24.238; §27.53	Occupied Bandwidth	Compliant
§ 2.1051; §22.917 (a); § 24.238 (a); §27.53;	Spurious Emissions at Antenna Terminal	Compliant
§ 2.1053; § 22.917 (a); § 24.238 (a); §27.53	Field Strength of Spurious Radiation	Compliant
§ 22.917 (a); § 24.238 (a); §27.53(c)(g) (h) (m)	Band Edge	Compliant
§ 2.1055; § 22.355; § 24.235; §27.54;	Frequency stability	Compliant

Note:Compliant*:Please refer to SAR report number: SZNS220627-28792E-SA

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Radiated Emission Test					
Rohde & Schwarz	Spectrum Analyzer	FSV-40	101949	2021/12/13	2022/12/12
Keysight	UXM 5G Wireless Test Platform	E7515B	MY58120284	2021-07-21	2022-07-20
Agilent	Signal Generator	N5183A	MY51040755	2021/12/13	2022/12/12
A.H. Systems, inc.	Preamplifier	PAM-0118P	135	2021/11/09	2022/11/08
Rohde& Schwarz	Test Receiver	ESR	102725	2021/12/13	2022/12/12
SONOMA INSTRUMENT	Amplifier	310 N	186131	2021/11/09	2022/11/08
Schwarzbeck	Bilog Antenna	VULB9163	9163-194	2020/01/05	2023/01/04
Schwarzbeck	Bilog Antenna	VULB9163	9163-323	2021/07/06	2024/07/05
Schwarzbeck	Horn Antenna	BBHA9120D	9120D-655	2020/01/05	2023/01/04
Schwarzbeck	Horn Antenna	BBHA9120D	9120D-1067	2020/01/05	2023/01/04
Unknown	RF Coaxial Cable	No.10	N050	2021/12/14	2022/12/13
Unknown	RF Coaxial Cable	No.11	N1000	2021/12/14	2022/12/13
Unknown	RF Coaxial Cable	No.12	N040	2021/12/14	2022/12/13
Unknown	RF Coaxial Cable	No.13	N300	2021/12/14	2022/12/13
Unknown	RF Coaxial Cable	No.14	N800	2021/12/14	2022/12/13
Radiated Emission Test Software: e3 19821b(V9)					

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
RF Conducted Test					
Rohde&Schwarz	Spectrum Analyzer	FSV-40	101948	2021/12/13	2022/12/12
Keysight	UXM 5G Wireless Test Platform	E7515B	MY58120284	2022-07-15	2023-07-14
Mini-Circuits	Power Splitter	DC-18000MHz	SF10944151S	2021/12/14	2022/12/13
Gongwen	Temp. & Humid. Chamber	HSD-500	109	2021/10/14	2022/10/13
Fluke	Multi Meter	45	7664009	2021/12/14	2022/12/13
Manson	DC Power Source	KPS-6604	ATCS-205	NCR	NCR
Unknown	RF Coaxial Cable	No.33	RF-03	Each time	

* Statement of Traceability: Shenzhen Accurate Technology Co., Ltd. attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

FCC §1.1310&FCC §2.1093 - RF EXPOSURE

Applicable Standard

FCC§1.1310,FCC§2.1093.

According to FCC§1.1310,FCC§2.1093, systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission’s guideline

Test Result

Compliant, please refer to the SAR report: SZNS220627-28792E-SA

FCC§2.1047 - MODULATION CHARACTERISTIC

Accordingto FCC § 2.1047(d), Part 22Hthere is no specific requirement for digital modulation, therefore modulation characteristic is not presented.

FCC § 2.1046,§ 22.913 (a)&§ 24.232(c); §27.50 (c)(d)(h) - RF OUTPUT POWER

Applicable Standard

According to FCC §2.1046 and §22.913 (a), the ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 watts.

According to FCC §2.1046 and §24.232 (c),mobile and portable stations are limited to 2 watts EIRP and the equipment must employ a means for limiting power to the minimum necessary for successful communications.

The peak-to-average power ratio (PAPR) of the transmitter output power must not exceed 13 dB.

According to §27.50(c), Portable stations (hand-held devices) in the 600 MHz uplink band and the 698-746 MHz band, and fixed and mobile stations in the 600 MHz uplink band are limited to 3 watts ERP.

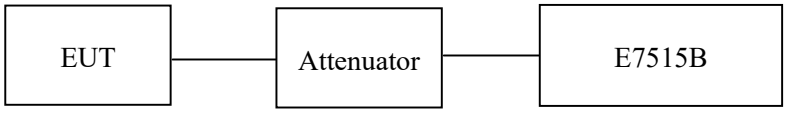
According to §27.50(d), Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP.

According to §27.50(h), the maximum EIRP must not exceed 2Watts (33dBm) for 2496-2690 MHz.

Test Procedure

Conducted method:

The RF output of the transmitter was connected to the E7515B through sufficient attenuation.



Test Data

Environmental Conditions

Temperature:	25 ℃
Relative Humidity:	62 %
ATM Pressure:	101.0 kPa

The testing was performed by Andy Yu from 2022-07-31 to 2022-08-06.

EUT operation mode: Transmitting (Worst case record in the reports)

Conducted Power

Test data refer to the Appendix D1&D2&D3&D4&D5

Peak-to-average ratio (PAR)

Test data refer to the Appendix E1&E2&E3&E4&E5

FCC §2.1049, §22.917, §22.905 & §24.238&§27.53 - OCCUPIED BANDWIDTH

Applicable Standard

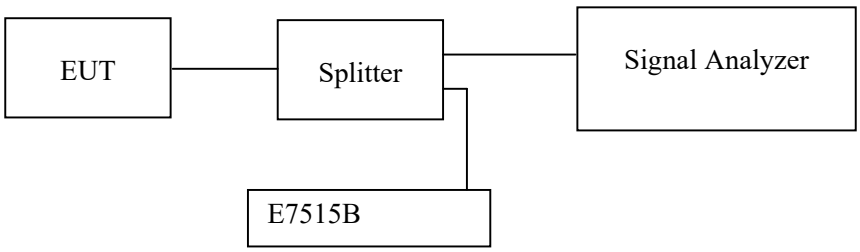
FCC 47 §2.1049, §22.917, §22.905, §24.238, §27.53

In some cases, the "26 dB bandwidth" is required, which is defined as the frequency range between two points, one at the lowest frequency below and one at the highest frequency above the carrier frequency, at which the maximum power level of the transmitted emission is attenuated 26 dB below the maximum in-band power level of the modulated signal, where the two points are on the outskirts of the in-band emission.

Test Procedure

The RF output of the transmitter was connected to the simulator and the spectrum analyzer through sufficient attenuation.

The resolution bandwidth of the spectrum analyzer was set at 1% to 5% of the anticipated emission bandwidth and the 26 dB & 99% bandwidth was recorded.



Test Data

Environmental Conditions

Temperature:	25 ℃
Relative Humidity:	62 %
ATM Pressure:	101.0 kPa

The testing was performed by Andy Yu from 2022-07-31 to 2022-08-08.

EUT operation mode: Transmitting (Worst case record in the reports)

Test Result: Pass

Test plots refer to the Appendix F1&F2&F3&F4&F5

FCC §2.1051, §22.917(a) & §24.238(a)& §27.53 - SPURIOUS EMISSIONS AT ANTENNA TERMINALS

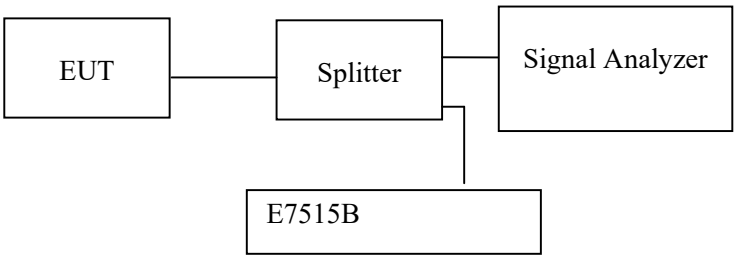
Applicable Standard

FCC §2.1051, §22.917(a) & §24.238(a), §27.53

The spectrum was to be investigated to the tenth harmonics of the highest fundamental frequency as specified in § 2.1051.

Test Procedure

The RF output of the transceiver was connected to a spectrum analyzer and simulator through appropriate attenuation. The resolution bandwidth of the spectrum analyzer was set at 1MHz. Sufficient scans were taken to show any out of band emissions up to 10th harmonic.



Test Data

Environmental Conditions

Temperature:	25 ℃
Relative Humidity:	62%
ATM Pressure:	101.0 kPa

The testing was performed by Andy Yu from 2022-08-02 to 2022-09-10.

EUT operation mode: Transmitting (Worst case record in the reports)

Test result: Pass

Test plots refer to the Appendix G1&G2&G3&G4&G5&G6

FCC § 2.1053; § 22.917 (a); § 24.238 (a); §27.53- SPURIOUS RADIATED EMISSIONS

Applicable Standard

FCC § 2.1053, §22.917(a)& § 24.238(a) &§ 27.53

The spectrum was to be investigated to the tenth harmonics of the highest fundamental frequency as specified in § 2.1051.

Test Procedure

The transmitter was placed on a wooden turntable, and it was transmitting into a non-radiating load which was also placed on the turntable.

The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the receiving antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis.

The frequency range up to tenth harmonic of the fundamental frequency was investigated.

Test Data

Environmental Conditions

Temperature:	25℃
Relative Humidity:	62 %
ATM Pressure:	101.3kPa

The testing was performed by Level on 2022-07-05.

EUT operation mode: Transmitting (Worst case record in the reports)

The worst case is as below:

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
	Reading (dBm)	PK/Ave		Height (m)	Polar (H/V)				
5G N2, Low Channel, 5MHz									
239.7	-52.69	PK	90	1.2	H	7.44	-45.25	-13	-32.25
634.5	-48.06	PK	211	1.5	V	6.69	-41.37	-13	-28.37
3705	-54.16	PK	90	1.2	H	8.18	-45.98	-13	-32.98
3705	-54.65	PK	211	1.5	V	7.64	-47.01	-13	-34.01
5G N2, Middle Channel, 5MHz									
239.7	-51.91	PK	211	2.1	H	7.44	-44.47	-13	-31.47
634.5	-47.34	PK	177	1.9	V	6.69	-40.65	-13	-27.65
3760	-54.58	PK	189	1.9	H	8.84	-45.74	-13	-32.74
3760	-54.58	PK	134	2.2	V	7.96	-46.62	-13	-33.62
5G N2, High Channel, 5MHz									
239.7	-52.56	PK	45	1.5	H	7.44	-45.12	-13	-32.12
634.5	-48.36	PK	214	2.2	V	6.69	-41.67	-13	-28.67
3815	-51.24	PK	225	2.1	H	8.66	-42.58	-13	-29.58
3815	-51.45	PK	81	2.1	V	7.93	-43.52	-13	-30.52
5G N5, Low Channel, 5MHz									
239.7	-51.10	PK	134	2.2	H	7.44	-43.66	-13	-30.66
634.5	-46.06	PK	57	1.8	V	6.69	-39.37	-13	-26.37
1653	-51.11	PK	134	2.2	H	3.54	-47.57	-13	-34.57
1653	-58.61	PK	57	1.8	V	3.1	-55.51	-13	-42.51
5G N5, Middle Channel, 5MHz									
239.7	-51.98	PK	81	2.1	H	7.44	-44.54	-13	-31.54
634.5	-46.51	PK	327	2.1	V	6.69	-39.82	-13	-26.82
1673	-50.63	PK	320	2.2	H	3.78	-46.85	-13	-33.85
1673	-57.98	PK	275	1.3	V	3.1	-54.88	-13	-41.88
5G N5, High Channel, 5MHz									
239.7	-52.45	PK	66	1.7	H	7.44	-45.01	-13	-32.01
634.5	-48.14	PK	322	1.5	V	6.69	-41.45	-13	-28.45
1693	-48.27	PK	216	1.5	H	4.02	-44.25	-13	-31.25
1693	-56.22	PK	203	1.4	V	3.1	-53.12	-13	-40.12
5G N25, Low Channel, 5MHz									
239.7	-52.10	PK	179	2.1	H	7.44	-44.66	-13	-31.66
634.5	-46.63	PK	334	1.5	V	6.69	-39.94	-13	-26.94
3705	-53.80	PK	179	2.1	H	8.18	-45.62	-13	-32.62
3705	-61.89	PK	334	1.5	V	7.64	-54.25	-13	-41.25
5G N25, Middle Channel, 5MHz									
239.7	-53.07	PK	275	1.3	H	7.44	-45.63	-13	-32.63
634.5	-48.72	PK	164	1.8	V	6.69	-42.03	-13	-29.03
3765	-53.67	PK	203	2.1	H	8.81	-44.86	-13	-31.86
3765	-61.96	PK	209	2.2	V	7.94	-54.02	-13	-41.02
5G N25, High Channel, 5MHz									
239.7	-51.32	PK	203	1.4	H	7.44	-43.88	-13	-30.88
634.5	-46.78	PK	42	2.0	V	6.69	-40.09	-13	-27.09
3825	-51.98	PK	212	1.3	H	8.7	-43.28	-13	-30.28
3825	-61.20	PK	179	2.0	V	8	-53.20	-13	-40.20

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
	Reading (dBm)	PK/Ave		Height (m)	Polar (H/V)				
5G N41, Low Channel, 10MHz									
239.7	-52.03	PK	110	2.1	H	7.44	-44.59	-25	-19.59
634.5	-48.06	PK	162	1.7	V	6.69	-41.37	-25	-16.37
5002	-62.23	PK	110	2.1	H	10.81	-51.42	-25	-26.42
5002	-62.20	PK	162	1.7	V	10.12	-52.08	-25	-27.08
5G N41, Middle Channel, 10MHz									
239.7	-53.70	PK	209	2.2	H	7.44	-46.26	-25	-21.26
634.5	-48.50	PK	66	2.1	V	6.69	-41.81	-25	-16.81
5186	-61.04	PK	98	1.7	H	10.61	-50.43	-25	-25.43
5186	-61.93	PK	268	1.5	V	10.05	-51.88	-25	-26.88
5G N41, High Channel, 10MHz									
239.7	-51.63	PK	179	2.0	H	7.44	-44.19	-25	-19.19
634.5	-46.34	PK	209	1.7	V	6.69	-39.65	-25	-14.65
5370	-61.35	PK	92	1.1	H	9.46	-51.89	-25	-26.89
5370	-61.81	PK	177	1.4	V	8.82	-52.99	-25	-27.99
5G N66, Low Channel, 5MHz									
239.7	-52.92	PK	271	1.1	H	7.44	-45.48	-13	-32.48
634.5	-47.48	PK	185	1.1	V	6.69	-40.79	-13	-27.79
3425	-62.18	PK	271	1.1	H	6.4	-55.78	-13	-42.78
3425	-61.80	PK	185	1.1	V	5.75	-56.05	-13	-43.05
5G N66, Middle Channel, 5MHz									
239.7	-50.96	PK	268	1.5	H	7.44	-43.52	-13	-30.52
634.5	-45.76	PK	260	1.2	V	6.69	-39.07	-13	-26.07
3490	-62.19	PK	331	1.5	H	7.57	-54.62	-13	-41.62
3490	-62.72	PK	340	1.7	V	6.42	-56.30	-13	-43.30
5G N66, High Channel, 5MHz									
239.7	-52.50	PK	177	1.4	H	7.44	-45.06	-13	-32.06
634.5	-47.97	PK	91	1.9	V	6.69	-41.28	-13	-28.28
3555	-61.28	PK	148	1.0	H	7.75	-53.53	-13	-40.53
3555	-62.89	PK	256	2.1	V	6.94	-55.95	-13	-42.95

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
	Reading (dBm)	PK/Ave		Height (m)	Polar (H/V)				
5G N71 Low Channel, 5MHz									
239.7	-53.58	PK	255	1.9	H	7.44	-46.14	-13	-33.14
634.5	-47.12	PK	283	1.7	V	6.69	-40.43	-13	-27.43
1331	-59.65	PK	255	1.9	H	6.4	-53.25	-13	-40.25
1331	-61.99	PK	283	1.7	V	5.41	-56.58	-13	-43.58
5G N71 Middle Channel, 5MHz									
239.7	-53.11	PK	340	1.7	H	7.44	-45.67	-13	-32.67
634.5	-47.20	PK	268	1.0	V	6.69	-40.51	-13	-27.51
1361	-60.50	PK	103	1.8	H	6.29	-54.21	-13	-41.21
1361	-62.73	PK	199	1.3	V	5.67	-57.06	-13	-44.06
5G N71 High Channel, 5MHz									
239.7	-52.29	PK	256	2.1	H	7.44	-44.85	-13	-31.85
634.5	-46.65	PK	219	1.1	V	6.69	-39.96	-13	-26.96
1391	-58.24	PK	74	1.1	H	5.99	-52.25	-13	-39.25
1391	-61.10	PK	351	1.1	V	5.85	-55.25	-13	-42.25
DC_2A_n41A Low Channel, 10MHz									
239.7	-55.01	PK	179	2.0	H	7.44	-47.57	-25	-22.57
634.5	-45.27	PK	209	1.7	V	6.69	-38.58	-25	-13.58
5002	-61.06	PK	92	1.1	H	10.81	-50.25	-25	-25.25
5002	-61.66	PK	177	1.4	V	10.12	-51.54	-25	-26.54
DC_2A_n41A Middle Channel, 10MHz									
239.7	-53.79	PK	271	1.1	H	7.44	-46.35	-25	-21.35
634.5	-44.30	PK	185	1.1	V	6.69	-37.61	-25	-12.61
5186	-62.46	PK	210	1.2	H	10.61	-51.85	-25	-26.85
5186	-62.99	PK	255	1.9	V	10.05	-52.94	-25	-27.94
DC_2A_n41A High Channel, 10MHz									
239.7	-52.69	PK	268	1.5	H	7.44	-45.25	-25	-20.25
634.5	-48.02	PK	260	1.2	V	6.69	-41.33	-25	-16.33
5370	-62.00	PK	331	1.5	H	9.46	-52.54	-25	-27.54
5370	-61.81	PK	340	1.7	V	8.82	-52.99	-25	-27.99

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
	Reading (dBm)	PK/Ave		Height (m)	Polar (H/V)				
DC_2A_n71A Low Channel, 5MHz									
239.7	-55.45	PK	152	1.6	H	7.44	-48.01	-13	-35.01
634.5	-48.18	PK	174	1.2	V	6.69	-41.49	-13	-28.49
1331	-59.52	PK	152	1.6	H	6.4	-53.12	-13	-40.12
1331	-61.80	PK	174	1.2	V	5.41	-56.39	-13	-43.39
DC_2A_n71A Middle Channel, 5MHz									
239.7	-53.61	PK	117	1.4	H	7.44	-46.17	-13	-33.17
634.5	-46.62	PK	49	1.8	V	6.69	-39.93	-13	-26.93
1361	-60.56	PK	209	2.0	H	6.29	-54.27	-13	-41.27
1361	-61.25	PK	237	2.1	V	5.67	-55.58	-13	-42.58
DC_2A_n71A High Channel, 5MHz									
239.7	-54.79	PK	87	1.7	H	7.44	-47.35	-13	-34.35
634.5	-47.45	PK	242	1.7	V	6.69	-40.76	-13	-27.76
1391	-59.01	PK	107	1.7	H	5.99	-53.02	-13	-40.02
1391	-60.40	PK	94	2.0	V	5.85	-54.55	-13	-41.55
DC_12A_n2A Low Channel, 5MHz									
239.7	-53.82	PK	87	1.7	H	7.44	-46.38	-13	-33.38
634.5	-46.30	PK	242	1.7	V	6.69	-39.61	-13	-26.61
3705	-51.43	PK	87	1.7	H	8.18	-43.25	-13	-30.25
3705	-54.16	PK	242	1.7	V	7.64	-46.52	-13	-33.52
DC_12A_n2A Middle Channel, 5MHz									
239.7	-51.89	PK	303	1.1	H	7.44	-44.45	-13	-31.45
634.5	-44.70	PK	238	1.4	V	6.69	-38.01	-13	-25.01
3760	-53.11	PK	114	1.6	H	8.84	-44.27	-13	-31.27
3760	-55.54	PK	56	2.1	V	7.96	-47.58	-13	-34.58
DC_12A_n2A High Channel, 5MHz									
239.7	-53.69	PK	237	2.1	H	7.44	-46.25	-13	-33.25
634.5	-48.96	PK	252	1.3	V	6.69	-42.27	-13	-29.27
3815	-54.34	PK	336	1.5	H	8.66	-45.68	-13	-32.68
3815	-54.48	PK	132	1.1	V	7.93	-46.55	-13	-33.55

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
	Reading (dBm)	PK/Ave		Height (m)	Polar (H/V)				
DC_12A_n66A Low Channel, 5MHz									
239.7	-54.88	PK	208	1.8	H	7.44	-47.44	-13	-34.44
634.5	-47.39	PK	264	1.3	V	6.69	-40.70	-13	-27.70
3425	-59.51	PK	148	1.5	H	6.4	-53.11	-13	-40.11
3425	-62.32	PK	87	1.7	V	5.75	-56.57	-13	-43.57
DC_12A_n66A Middle Channel, 5MHz									
239.7	-53.57	PK	152	1.6	H	7.44	-46.13	-13	-33.13
634.5	-45.84	PK	174	1.2	V	6.69	-39.15	-13	-26.15
3490	-61.92	PK	257	1.2	H	7.57	-54.35	-13	-41.35
3490	-61.70	PK	303	1.1	V	6.42	-55.28	-13	-42.28
DC_12A_n66A High Channel, 5MHz									
239.7	-52.69	PK	117	1.4	H	7.44	-45.25	-13	-32.25
634.5	-48.53	PK	49	1.8	V	6.69	-41.84	-13	-28.84
3555	-61.13	PK	209	2.0	H	7.75	-53.38	-13	-40.38
3555	-62.69	PK	237	2.1	V	6.94	-55.75	-13	-42.75
DC_66A_n41A Low Channel, 10MHz									
239.7	-53.76	PK	87	1.7	H	7.44	-46.32	-25	-21.32
634.5	-48.77	PK	242	1.7	V	6.69	-42.08	-25	-17.08
5002	-62.06	PK	107	1.7	H	10.81	-51.25	-25	-26.25
5002	-62.43	PK	94	2.0	V	10.12	-52.31	-25	-27.31
DC_66A_n41A Middle Channel, 10MHz									
239.7	-54.95	PK	303	1.1	H	7.44	-47.51	-25	-22.51
634.5	-48.80	PK	238	1.4	V	6.69	-42.11	-25	-17.11
5186	-62.08	PK	114	1.6	H	10.61	-51.47	-25	-26.47
5186	-63.17	PK	56	2.1	V	10.05	-53.12	-25	-28.12
DC_66A_n41A High Channel, 10MHz									
239.7	-51.59	PK	237	2.1	H	7.44	-44.15	-25	-19.15
634.5	-44.93	PK	252	1.3	V	6.69	-38.24	-25	-13.24
5370	-61.43	PK	336	1.5	H	9.46	-51.97	-25	-26.97
5370	-63.06	PK	132	1.1	V	8.82	-54.24	-25	-29.24

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
	Reading (dBm)	PK/Ave		Height (m)	Polar (H/V)				
DC_66A_n71A Low Channel, 5MHz									
239.7	-53.74	PK	36	1.1	H	7.44	-46.30	-13	-33.30
634.5	-48.51	PK	179	1.2	V	6.69	-41.82	-13	-28.82
1331	-58.92	PK	36	1.1	H	6.4	-52.52	-13	-39.52
1331	-59.76	PK	179	1.2	V	5.41	-54.35	-13	-41.35
DC_66A_n71A Middle Channel, 5MHz									
239.7	-54.46	PK	251	1.3	H	7.44	-47.02	-13	-34.02
634.5	-47.42	PK	205	1.8	V	6.69	-40.73	-13	-27.73
1361	-59.54	PK	163	1.2	H	6.29	-53.25	-13	-40.25
1361	-61.24	PK	100	1.3	V	5.67	-55.57	-13	-42.57
DC_66A_n71A High Channel, 5MHz									
239.7	-52.70	PK	74	2.1	H	7.44	-45.26	-13	-32.26
634.5	-46.90	PK	230	1.3	V	6.69	-40.21	-13	-27.21
1391	-59.11	PK	151	1.9	H	5.99	-53.12	-13	-40.12
1391	-62.43	PK	44	2.0	V	5.85	-56.58	-13	-43.58

Note:
Absolute Level = Reading Level + Substituted Factor
Substituted Factor contains: SG Level - Cable loss+ Antenna Gain
Margin = Limit - Absolute Level

FCC§ 22.917 (a);§ 24.238 (a); §27.53(g) (h)(m) - BAND EDGES

Applicable Standard

According to § 22.917(a), the power of any emissions outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

According to §24.238(a), the power of any emissions outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

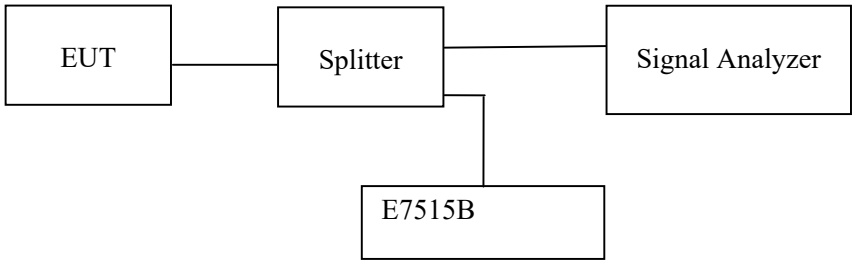
According to FCC §27.53 (g)(h), the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

According to FCC §27.53 (m), the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz.

Test Procedure

The RF output of the transmitter was connected to the input of the spectrum analyzer through sufficient attenuation.

The center of the spectrum analyzer was set to block edge frequency



Test Data

Environmental Conditions

Temperature:	25 ℃
Relative Humidity:	62 %
ATM Pressure:	101.0 kPa

The testing was performed by Andy Yu from 2022-08-06 to 2022-08-08.

EUT operation mode: Transmitting (Worst case record in the reports)

Test Result: Pass

Test plots refer to the Appendix H1&H2&H3&H4

FCC § 2.1055; § 22.355; § 24.235; §27.54 - FREQUENCY STABILITY

Applicable Standard

FCC § 2.1055, §22.355, §24.235&§27.54&§90.213.

According to FCC §2.1055, the frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

According to §22.355, the carrier frequency of each transmitter in the Public Mobile Services must be maintained within the tolerances given in Table below:

Frequency Tolerance for Transmitters in the Public Mobile Services

Frequency Range (MHz)	Base, fixed (ppm)	Mobile ≤ 3 watts (ppm)	Mobile > 3 watts (ppm)
25 to 50	20.0	20.0	50.0
50 to 450	5.0	5.0	50.0
450 to 512	2.5	5.0	5.0
821 to 896	1.5	2.5	2.5
928 to 929.	5.0	N/A	N/A
929 to 960.	1.5	N/A	N/A
2110 to 2220	10.0	N/A	N/A

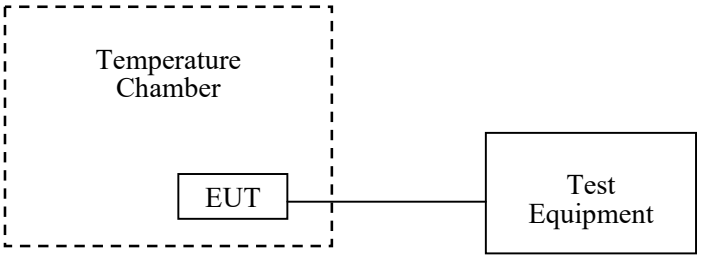
According to §24.235&§27.54, the frequency stability shall be sufficient to ensure that the fundamental emissions stays within the authorized frequency block.

Test Procedure

Frequency Stability vs. Temperature: The equipment under test was connected to an external AC power supply and the RF output was connected to communication test set via feed-through attenuators. The EUT was placed inside the temperature chamber. The AC leads and RF output cable exited the chamber through an opening made for the purpose.

After the temperature stabilized for approximately 20 minutes, the frequency output was recorded from the communication test set.

Frequency Stability vs. Voltage: For hand carried, battery powered equipment; reduce primary supply voltage to the battery operating end point which shall be specified by the manufacturer.



Test Data

Environmental Conditions

Temperature:	25 ℃
Relative Humidity:	62 %
ATM Pressure:	101.0 kPa

The testing was performed by Andy Yu from 2022-07-25 to 2022-08-22.

EUT operation mode: Transmitting (Worst case record in the reports)

Test Result: Pass

For n2/n5/n25/ DC_12A_n2A:

Test data please refer to the Appendix I1&I2&I3.

For n41/66/71 and DC_2A_n41A/ DC_2A_n71A/ DC_12A_n66A/ DC_66A_n41A/ DC_66A_n71A:

Test data please refer to the Appendix J1&J2

******* END OF REPORT *******