TEST REPORT

Applicant Name:	FCC: Shenzhen Gotron Electronic CO.,LTD. IC: Shenzhen Gotron Electronic CO.,LTD
Address:	FCC: 7B01, Building A, Block 1, Anhongji Tianyao Plaza, Longhua District, Shenzhen City, Guangdong Province China IC: 7B01, Building A, Block 1, Anhongji Tianyao Plaza, Longhua District,Shenzhen Guangdong China
Report Number:	2501S51531E-RFF
FCC ID:	2AOWK-5020
IC:	12564A-5020

Test Standard (s)

FCC PART 27; RSS-GEN ISSUE 5, FEBRUARY 2021 AMENDMENT 2;
RSS-130 ISSUE 2, FEBRUARY 2019; RSS-139 ISSUE 4, OCTOBER 2022, AMENDMENT

Sample Description

Product Type:	Smart Phone
Model No.:	FCC/IC: Armor X16 Pro
Multiple Model(s) No.: (for FCC only)	FCC: GQ5020, Armor X16 Ultra, Armor X16E, Armor X16S, Armor X16 Lite, Armor X16s, Armor X16s Pro
Trade Mark:	ulefone
Date Received:	2025-04-03
Issue Date:	2025-05-30
Test Result:	Pass▲

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

Prepared and Checked By:

Jim Cheng

RF Engineer

Approved By:

Nancy Wang

RF Supervisor

Note: The information marked # is provided by the applicant, the laboratory is not responsible for its authenticity and this information can affect the validity of the result in the test report. Customer model name, addresses, names, trademarks etc. are included.

This report may contain data that are not covered by the NVLAP accreditation and are marked with an asterisk "▼".

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DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
0	2501S51531E-RFF	Original Report	2025-05-30

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

HVIN	GQ5020			
FVIN	N/A			
Product	Smart Phone			
Tested Model	FCC/IC: Armor X16 Pro			
Multiple Model(s) (for FCC only)	FCC: GQ5020, Armor X16 Ultra, Armor X16E, Armor X16S, Armor X16 Lite, Armor X16s, Armor X16s Pro			
Frequency Range	5G NR Band 66: 1710-1780MHz(TX); 2110-2200MHz(RX) 5G NR Band 71: 663-698MHz(TX); 617-652MHz(RX)			
EN-DC possible combinations	None EN-DC combinations			
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#	Antenna	Operation Bands	Antenna Gain (G_T) (dBi)	L_C (dB)
	ANT2	NR n66	-2.28	0
	ANT 5	NR n71	-6.70	0.5
	Note: Lc= Signal Attenuation in the connecting cable between the transmitter and antenna, in dB.			
Voltage Range	DC 3.87V from battery or DC 5V/9V from adapter			
Sample serial number	30VS-2 for Radiated Emissions Test 30VS-1 for RF Conducted Test (Assigned by BACL, Shenzhen)			
Sample/EUT Status	Good condition			
Normal/Extreme Condition#	VL: Low Voltage 3.25V_{DC} VN: Normal Voltage 3.87V_{DC} VH: High Voltage 4.45V_{DC} (provided by the applicant)			
Adapter Information	Model: UF82PD3303 Input: AC 100-240V, 50/60Hz, 0.8A PD Output: DC 5.0V, 3.0A 15.0W or 9.0V, 3.0A 27.0W or 12.0V, 2.5A 30.0W or 15.0V, 2.0A 30.0W or 20.0V, 1.5A 30.0W PPS: DC 5.0-11.0V, 3.0A or 5.0-16.0V, 2.0A 33.0W Max			
Note: The Multiple models are electrically identical with the test model except for model name and sales channel. Please refer to the declaration letter# for more detail, which was provided by manufacturer.				

Objective

This test report is in accordance with Part 2-Subpart J, Part 27of the Federal Communication Commission's rules, RSS-GEN, RSS-130 and RSS-139 of the Innovation, science and Economic Development Canada.

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 27 - Miscellaneous Wireless Communications Services

RSS-130 - Equipment Operating in the Frequency Bands 617-652 MHz, 663-698 MHz, 698-756 MHz and 777-787 MHz

RSS-139 - Advanced Wireless Services Equipment Operating in the Bands 1710-1780 MHz and 2110-2200 MHz

RSS-Gen - General Requirements for Compliance of Radio Apparatus

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

All emissions measurement was performed at Bay Area Compliance Laboratories Corp. (Shenzhen). 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		109.2kHz(k=2, 95% level of confidence)
RF Frequency		56.6Hz(k=2, 95% level of confidence)
RF output power, conducted		0.86dB(k=2, 95% level of confidence)
Unwanted Emission, conducted		1.60dB(k=2, 95% level of confidence)
Emissions, Radiated	30MHz~200MHz (Horizontal)	5.32dB(k=2, 95% level of confidence)
	30MHz~200MHz (Vertical)	5.43dB(k=2, 95% level of confidence)
	200MHz~1000MHz (Horizontal)	5.77dB(k=2, 95% level of confidence)
	200MHz~1000MHz (Vertical)	5.73dB(k=2, 95% level of confidence)
	1GHz - 6GHz	5.34dB(k=2, 95% level of confidence)
	6GHz - 18GHz	5.40dB(k=2, 95% level of confidence)
	18GHz - 40GHz	5.64dB(k=2, 95% level of confidence)
Temperature		±1℃
Humidity		±1%
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 Bay Area Compliance Laboratories Corp. (Shenzhen) to collect test data is located on the 5F(B-West) , 6F, 7F, the 3rd Phase of Wan Li Industrial Building D, Shihua Rd, FuTian Free Trade Zone, Shenzhen, China.

The lab has been recognized as the FCC accredited lab under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. : 715558, the FCC Designation No. : CN5045.

The lab has been recognized by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements, the CAB identifier: CN0023.

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:

Bands	Frequency Range (MHz)	Bandwidth (MHz)	SCS (kHz)	Test Frequency (MHz)		
				Low	Middle	High
N66	1710-1780	5	15	1712.5	1745	1777.5
		10	15, 30	1715	1745	1775
		15	15, 30	1717.5	1745	1772.5
		20	15, 30	1720	1745	1770
		25	15, 30	1722.5	1745	1767.5
		30	15, 30	1725	1745	1765
		40	15, 30	1730	1745	1760
N71	663-698	5	15	665.5	680.5	695.5
		10	15, 30	668	680.5	693
		15	15, 30	670.5	680.5	690.5
		20	15, 30	673	680.5	688

Note:
1. SCS 15kHz, 30kHz was supports by the device, they have same output power, so only SCS 15kHz was tested.
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.

Equipment Modifications

No modification was made to the EUT.

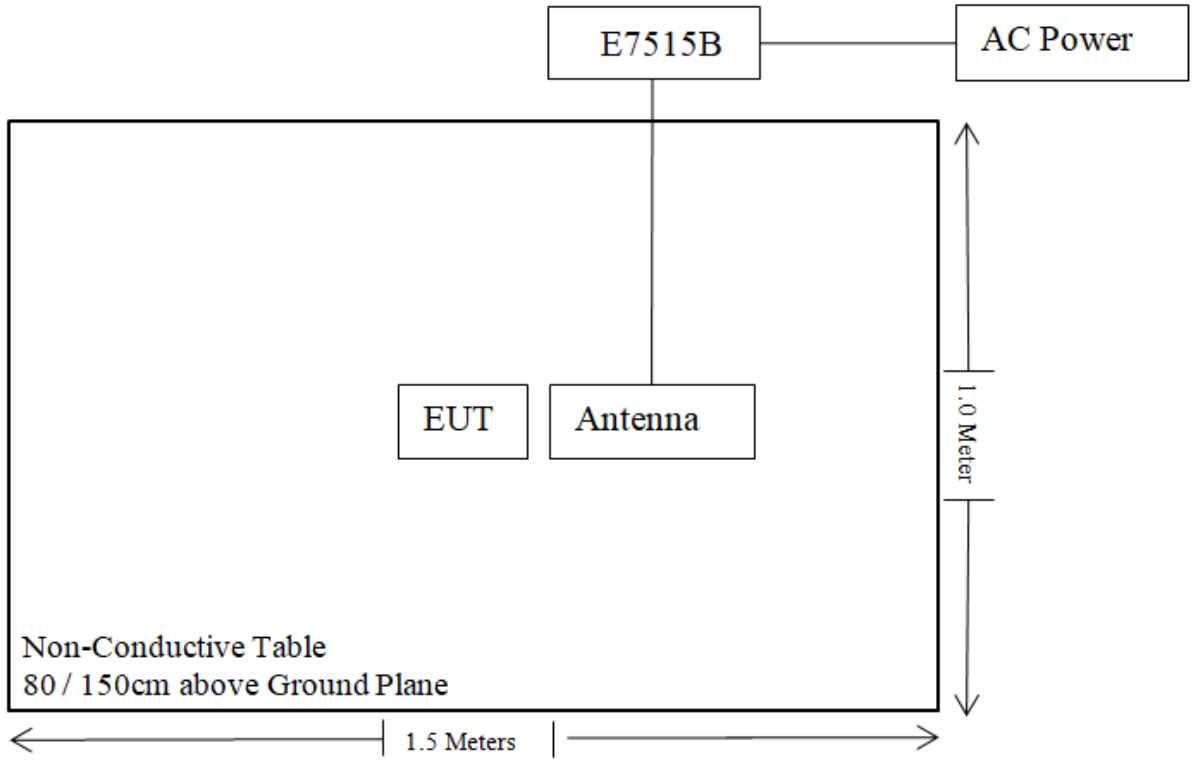
Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
Keysight	UXM 5G Wireless Test Platform	E7515B	MY58120284

Support Cable Description

Cable Description	Length (m)	From / Port	To
Un-Shielded Detachable AC Cable	1.5	AC Power	E7515B

Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC Rules	RSS Rules	Description of Test	Result
FCC §1.1310, §2.1093	RSS-102	RF Exposure (SAR)	Compliant
/	RSS-130 §4.3 RSS-139 §5.2	Channeling Arrangements Frequency Plan	Compliant
/	RSS-130 §4.2 RSS-139 §5.3	Types of Modulation	Compliant
FCC §2.1046; §27.50(c)	RSS-130 §4.6 RSS-139 §5.5 RSS-Gen §6.12	RF Output Power	Compliant
FCC §2.1049; §27.53	RSS-Gen §6.7	Occupied Bandwidth	Compliant
FCC §2.1051;§27.53	RSS-130 §4.7 RSS-139 §5.6 RSS-Gen §6.13	Spurious Emissions at Antenna Terminal	Compliant
FCC §2.1053; §27.53	RSS-130 §4.7 RSS-139 §5.6 RSS-Gen §6.13	Field Strength of Spurious Radiation	Compliant
FCC §27.53 (g)	RSS-130 §4.7 RSS-139 §5.6	Band Edge	Compliant
FCC §2.1055; §27.54	RSS-130 §4.5 RSS-139 §5.4 RSS-Gen §6.11	Frequency stability	Compliant

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Radiated Emission Test					
Rohde & Schwarz	EMI Test Receiver	ESR3	102455	2024/12/04	2025/12/03
Sonoma instrument	Pre-amplifier	310N	186238	2024/05/21	2025/05/20
Sunol Sciences	Broadband Antenna	JB1	A040904-1	2023/07/20	2026/07/19
COM-POWER	Dipole Antenna	3121C	9209-860	NCR	NCR
Unknown	Cable	Chamber Cable 1	F-03-EM236	2024/06/18	2025/06/17
Unknown	Cable	XH500C	J-10M-A	2024/06/18	2025/06/17
Rohde&Schwarz	Spectrum Analyzer	FSV40	101605	2025/03/26	2026/03/25
A.H.System	Preamplifier	PAM-0118P	489	2024/11/15	2025/11/14
Schwarzbeck	Horn Antenna	BBHA9120D(1201)	1143	2023/07/26	2026/07/25
The Electro-Mechanics Co.	Horn Antenna	3115	9107-3694	2024/06/06	2027/06/05
Unknown	RF Cable	KMSE	0735	2024/12/06	2025/12/05
Unknown	RF Cable	UFA147	219661	2024/12/06	2025/12/05
Unknown	RF Cable	XH750A-N	J-10M	2024/12/06	2025/12/05
JD	Filter Switch Unit	DT7220FSU	DS79906	2024/09/09	2025/09/08
JD	Multiplex Switch Test Control Set	DT7220SCU	DS79903	2024/09/09	2025/09/08
A.H.System	Pre-amplifier	PAM-1840VH	190	2024/06/18	2025/06/17
Electro-Mechanics Co	Horn Antenna	3116	9510-2270	2023/09/18	2026/09/17
Electro-Mechanics Co	Horn Antenna	3116	2026	2023/09/18	2026/09/17
UTIFLEX	RF Cable	NO. 13	232308-001	2024/12/18	2025/12/17
Agilent	Signal Generator	N5183A	MY50140588	2024/09/13	2025/09/12
Keysight	UXM 5G Wireless Test Platform	E7515B	MY58120284	2024/05/17	2025/05/16

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
RF Conducted Test					
R&S	Spectrum Analyzer	FSV40	101942	2024/09/20	2025/09/19
BACL	Temperature & Humidity Chamber	BTH-150-40	30145	2024/12/06	2025/12/05
instek	DC Power Supply	GPS-3030DD	EM832096	NCR	NCR
Fluke	Digital Multimeter	287	19000011	2024/05/21	2025/05/20
WEINSCHEL	3dB Attenuator	Unknown	F-03-EM220	2024/06/27	2025/06/26
WEINSCHEL	Power Splitter	1515	RH476	2024/06/27	2025/06/26
Unknown	RF Cable	65475	01670515	2024/06/27	2025/06/26
Keysight	UXM 5G Wireless Test Platform	E7515B	MY58120284	2024/05/17	2025/05/16

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) 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, §2.1093 - RF EXPOSURE INFORMATION

Applicable Standard

FCC§1.1310 and §2.1093.

Test Result

Compliant, please refer to the SAR report: 2501S51531E-SAA

RSS-102 – RF EXPOSURE

Applicable Standard

According to RSS-102 Issue 6, 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.

Result: Compliant.

Please refer to SAR Report Number: 2501S51531E-SAB

RSS-130 §4.2 & RSS-139 §5.3 - Types of Modulation

Applicable Standard

According to RSS-130 §4.2, Equipment certified under this standard shall employ digital modulation.

According to RSS-139 §5.3, Devices may use any type of modulation technique. The type of modulation shall be documented in the test report.

Test Result

The EUT uses PI/2 BPSK & QPSK & 16QAM & 64QAM & 256QAM modulation.

RSS-130 §4.3 & RSS-139 §5.2 - CHANNELLING ARRANGEMENTS & FREQUENCY PLAN

Applicable Standard

According to RSS-130 §4.3, the frequency bands 617-652 MHz, 663-698 MHz, 698-756 MHz and 777-787 MHz are divided into small frequency blocks as per SRSP-518. Equipment shall operate according to the frequency plan given in the SRSP.

According to RSS-139 §5.2, The bands 1710-1780 MHz and 2110-2180 MHz are divided into 11 paired blocks as shown in table 1. Standard Radio System Plan SRSP-513, Technical Requirements for Advanced Wireless Services in the Bands 1710-1780 MHz and 2110-2180 MHz, contains the detailed band plan.

Test Result

Channeling arrangement meets all relevant conditions specified in SRSP-513 and SRSP-518.

FCC § 2.1046, §27.50 (c) & RSS-130 §4.6 & RSS-139 §5.5 & RSS-GEN §6.12 - RF OUTPUT POWER

Applicable Standard

According to FCC §2.1046 and §27.50(c), Control and mobile stations in the 698-746 MHz band are limited to 30 watts ERP. And 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 RSS-130 §4.6, the transmitter output power shall be measured in terms of average power. In addition, the peak-to-average power ratio (PAPR) of the transmitter shall not exceed 13 dB for more than 0.1% of the time and shall use a signal corresponding to the highest PAPR during periods of continuous transmission.

4.6.3 Frequency bands 698-756 MHz and 777-787 MHz

The e.r.p. shall not exceed 30 watts for mobile equipment and outdoor fixed subscriber equipment. The e.r.p. shall not exceed 3 watts for portable equipment and indoor fixed subscriber equipment.

According to RSS-139 §5.5, the maximum output power of the equipment shall comply with the limits specified below. In the tables, maximum power refers to the equivalent isotropically radiated power (e.i.r.p.) or total radiated power (TRP), measured in terms of average values.

Table 3: Maximum power of equipment in the band 1710-1780 MHz

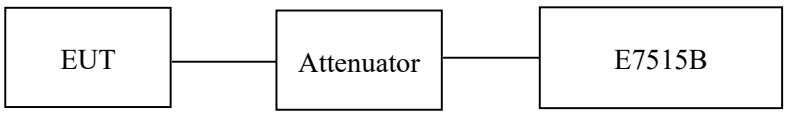
Equipment type	Maximum power
Fixed station and base station	30 dBm e.i.r.p./channel bandwidth
Subscriber equipment	30 dBm e.i.r.p./channel bandwidth

In addition, the peak to average power ratio (PAPR) of the equipment shall not exceed 13 dB for more than 0.1% of the time, using a signal that corresponds to the highest PAPR during periods of continuous transmission.

Test Procedure

Conducted method: ANSI C63.26-2015 Section 5.2

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



Test Data

Environmental Conditions

Temperature:	23.3-25.5℃
Relative Humidity:	44-53 %
ATM Pressure:	100.5-101.2 kPa

The testing was performed by Usain Ou from 2025-04-13 to 2025-05-02.

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

Please refer to the Appendix S3 for Conducted Power

Please refer to the Appendix Q3 for Peak-to-average ratio (PAR)

FCC §2.1049, §27.53& RSS-GEN §6.7 - OCCUPIED BANDWIDTH

Applicable Standard

FCC §2.1049, §27.53, RSS-GEN §6.7

The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission shall be measured under the

The occupied bandwidth or the "99% emission bandwidth" is defined as the frequency range between two points, one above and the other below the carrier frequency, within which 99% of the total transmitted power of the fundamental transmitted emission is contained. The occupied bandwidth shall be reported for all equipment in addition to the specified bandwidth required in the applicable RSSs.

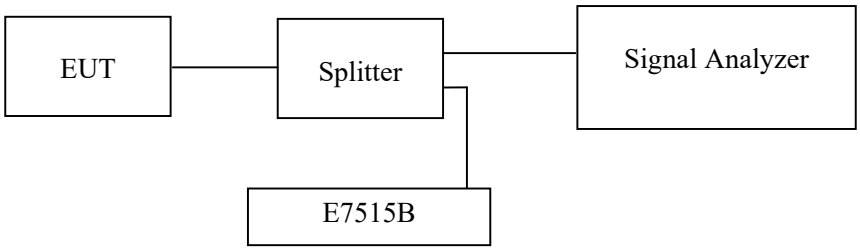
In some cases, the "26 dB bandwidth" is required, which is defined as the frequency range between two points, one at the lowest frequency below and one at the highest frequency above the carrier frequency, at which the maximum power level of the transmitted emission is attenuated 26 dB below the maximum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

Test Procedure

ANSI C63.26-2015 Section 5.4.4

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:	23.3-25.5℃
Relative Humidity:	44-53 %
ATM Pressure:	100.5-101.2 kPa

The testing was performed by Usain Ou from 2025-04-10 to 2025-05-02.

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

Test Result: Pass

Please refer to the Appendix P3 for occupied bandwidth

FCC §2.1051& §27.53 & RSS-130 §4.7 & RSS-139 §5.6 - SPURIOUS EMISSIONS AT ANTENNA TERMINALS

Applicable Standard

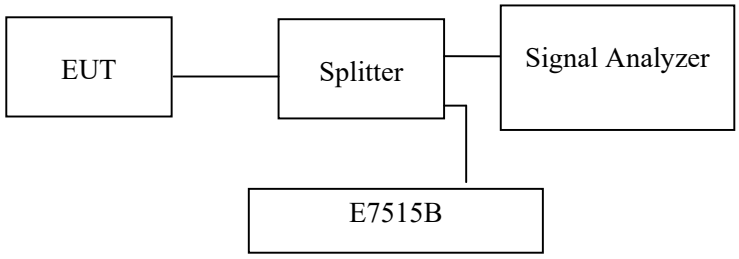
FCC §2.1051, §27.53, RSS-130 §4.7, RSS-139 §5.6

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

Test Procedure

According to ANSI C63.26-2015 Section 5.7.4

The applicable rule part specifies the reference bandwidth for measuring unwanted emission levels (typically, 100 kHz if the authorized frequency band/block is at or below 1 GHz and 1 MHz if the authorized frequency band/block is above 1 GHz),8 effectively depicting the unwanted emission limit in terms of a power spectral density. In those cases where no reference bandwidth is explicitly specified, the values in the preceding sentence should be used.



Note: the worst case path loss (cable loss and splitter inset loss) among the test frequency range has included in plots.

Test Data

Environmental Conditions

Temperature:	23.3-25.5℃
Relative Humidity:	44-53 %
ATM Pressure:	100.5-101.2 kPa

The testing was performed by Usain Ou from 2025-04-13 to 2025-05-02.

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

Test result: Pass

Please refer to the Appendix U3 for spurious emissions at antenna terminals.

FCC § 2.1053 & §27.53 & RSS-130 §4.7 & RSS-139 §5.6 - SPURIOUS RADIATED EMISSIONS

Applicable Standard

FCC § 2.1053, §27.53, RSS-130 §4.7, RSS-139 §5.6

Test Procedure

According to ANSI C63.26-2015 Section 5.5.3:

Test setup:

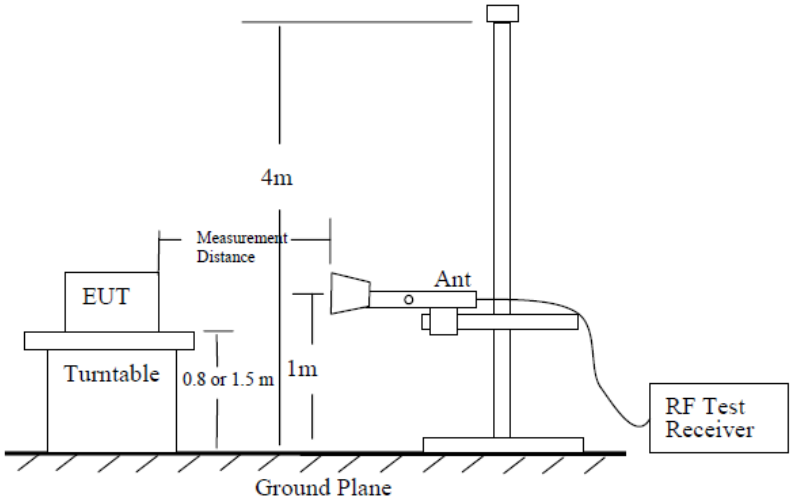


Figure 6—Test site-up for radiated ERP and/or EIRP measurements

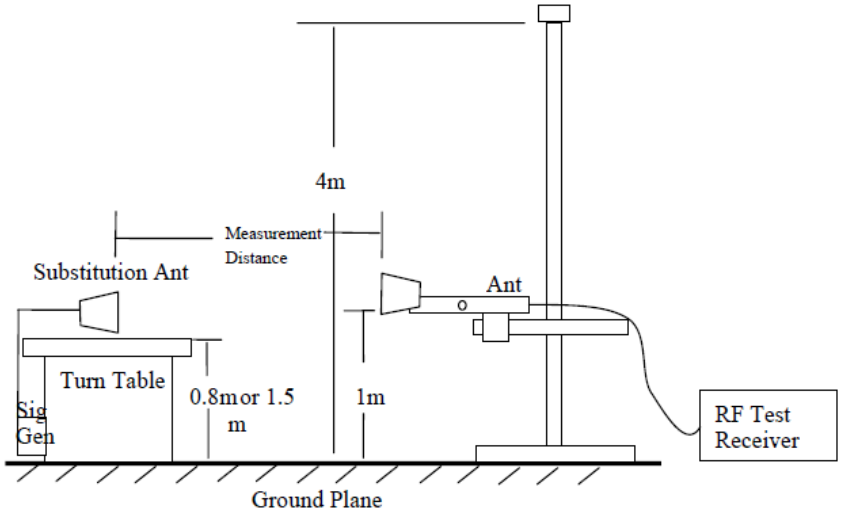


Figure 7—Substitution method set-up for radiated emission

Test Procedure:

a) Place the EUT in the center of the turntable. The EUT shall be configured to transmit into the standard non-radiating load (for measuring radiated spurious emissions), connected with cables of minimal length unless specified otherwise. If the EUT uses an adjustable antenna, the antenna shall be positioned to the length that produces the worst case emission at the fundamental operating frequency.

b) Each emission under consideration shall be evaluated:

1) Raise and lower the measurement antenna in accordance 5.5.2, as necessary to enable detection of the maximum emission amplitude relative to measurement antenna height.

2) Rotate the EUT through 360° to determine the maximum emission level relative to the axial position.

3) Return the turntable to the azimuth where the highest emission amplitude level was observed.

4) Vary the measurement antenna height again through 1 m to 4 m again to find the height associated with the maximum emission amplitude.

5) Record the measured emission amplitude level and frequency using the appropriate RBW.

c) Repeat step b) for each emission frequency with the measurement antenna oriented in both the horizontal and vertical polarizations to determine the orientation that gives the maximum emissions amplitude.

d) Set-up the substitution measurement with the reference point of the substitution antenna located as near as possible to where the center of the EUT radiating element was located during the initial EUT measurement.

e) Maintain the previous measurement instrument settings and test set-up, with the exception that the EUT is removed and replaced by the substitution antenna.

f) Connect a signal generator to the substitution antenna; locate the signal generator so as to minimize any potential influences on the measurement results. Set the signal generator to the frequency where emissions are detected, and set an output power level such that the radiated signal can be detected by the measurement instrument, with sufficient dynamic range relative to the noise floor.

g) For each emission that was detected and measured in the initial test [i.e., in step b) and step c)]:

1) Vary the measurement antenna height between 1 m to 4 m to maximize the received (measured) signal amplitude.

2) Adjust the signal generator output power level until the amplitude detected by the measurement instrument equals the amplitude level of the emission previously measured directly in step b) and step c).

3) Record the output power level of the signal generator when equivalence is achieved in step 2).

h) Repeat step e) through step g) with the measurement antenna oriented in the opposite polarization.

i) Calculate the emission power in dBm referenced to a half-wave dipole using the following equation:

$$Pe = Ps(dBm) - \text{cable loss (dB)} + \text{antenna gain (dBd)}$$

where

Pe = equivalent emission power in dBm
Ps = source (signal generator) power in dBm

NOTE—dBd refers to the measured antenna gain in decibels relative to a half-wave dipole.

j) Correct the antenna gain of the substitution antenna if necessary to reference the emission power to a half-wave dipole. When using measurement antennas with the gain specified in dBi, the equivalent dipole-referenced gain can be determined from: gain (dBd) = gain (dBi) − 2.15 dB. If necessary, the antenna gain can be calculated from calibrated antenna factor information

k) Provide the complete measurement results as a part of the test report.

Test Data

Environmental Conditions

Temperature:	24.2-24.8℃
Relative Humidity:	42-52 %
ATM Pressure:	100.5-101.2 kPa

The testing was performed by Alex Yan on 2025-04-30 and Wing K Ji on 2025-05-06 for radiated emissions

EUT operation mode: Transmitting (Scan with X-axis, Y-axis, Z-axis, the worst case Y-axis was recorded)

The worst case is as below:

Test Mode Description

Mode	NR Band	Channel	SCS(kHz)	Condition
SA	n66	Low/Middle/High	15	5MHz_DFT-s-OFDM (QPSK)
	n71	Low/Middle/High	15	5MHz_DFT-s-OFDM (QPSK)

Frequency (MHz)	Receiver Reading (dBμV)	Polar (H / V)	Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBi/dBd)			
N66								
Low Channel								
182.6	46.33	H	-64.2	0.88	0.0	-65.08	-13	52.08
79.9	47.06	V	-61.3	0.75	0.0	-62.05	-13	49.05
3425.00	50.52	H	-63.2	1.70	9.6	-55.30	-13	42.30
3425.00	50.15	V	-63.3	1.70	9.6	-55.40	-13	42.40
Middle Channel								
182.6	46.33	H	-64.2	0.88	0.0	-65.08	-13	52.08
79.9	47.06	V	-61.3	0.75	0.0	-62.05	-13	49.05
3490.00	49.91	H	-63.6	1.80	9.7	-55.70	-13	42.70
3490.00	50.06	V	-63.1	1.80	9.7	-55.20	-13	42.20
High Channel								
182.6	46.69	H	-63.8	0.88	0.0	-64.68	-13	51.68
79.9	47.26	V	-61.1	0.75	0.0	-61.85	-13	48.85
3555.00	50.03	H	-62.7	1.90	9.6	-55.00	-13	42.00
3555.00	50.18	V	-62.3	1.90	9.6	-54.60	-13	41.60
N71								
Low Channel								
182.6	46.45	H	-64.1	0.88	0.0	-64.98	-13	51.98
79.9	47.15	V	-61.3	0.75	0.0	-62.05	-13	49.05
1331.00	50.11	H	-64.2	1.00	7.3	-57.90	-13	44.90
1331.00	50.30	V	-65.0	1.00	7.3	-58.70	-13	45.70
Middle Channel								
182.6	46.96	H	-63.6	0.88	0.0	-64.48	-13	51.48
79.9	47.49	V	-60.9	0.75	0.0	-61.65	-13	48.65
1361.00	49.96	H	-64.4	0.90	7.8	-57.50	-13	44.50
1361.00	50.12	V	-64.9	0.90	7.8	-58.00	-13	45.00
High Channel								
182.6	47.06	H	-63.5	0.88	0.0	-64.38	-13	51.38
79.9	47.62	V	-60.8	0.75	0.0	-61.55	-13	48.55
1391.00	50.05	H	-64.3	0.90	7.8	-57.40	-13	44.40
1391.00	50.28	V	-64.7	0.90	7.8	-57.80	-13	44.80

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

FCC§27.53 (g) & RSS-130 §4.7& RSS-139 §5.6 - BAND EDGES

Applicable Standard

According to FCC §27.53 (g),

For operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

According to RSS-130 §4.7

The power of any unwanted emissions in any 100 kHz bandwidth on any frequency outside the frequency range(s) within which the equipment is designed to operate shall be attenuated below the transmitter power, P (dBW), by at least 43 + 10 log10 p (watts), dB. However, in the 100 kHz band immediately outside the equipment's operating frequency range, a resolution bandwidth of 30 kHz may be employed.

In addition to the limit outlined in Section 4.6.1 above, equipment operating in the frequency bands 746-756 MHz and 777-787 MHz shall also comply with the following restrictions:

(a) The power of any unwanted emissions in any 6.25 kHz bandwidth for all frequencies between 763-775 MHz and 793-806 MHz shall be attenuated below the transmitter power, P (dBW), by at least:

(a) 76 + 10 log10 p(watts), dB, for base and fixed equipment, and

(b) 65 + 10 log10 p(watts), dB, for mobile and portable equipment.

(b) The e.i.r.p. in the band 1559-1610 MHz shall not exceed -70 dBW/MHz for wideband signal and -80 dBW for discrete emission with bandwidth less than 700 Hz.

According to RSS-139 §5.6

For all equipment, the TRP or total conducted power (sum of conducted power across all antenna connectors) of the unwanted emissions outside the frequency block or frequency block group shall not exceed the limits shown in table 6.

Table 6: Unwanted emission limits

Offset from the edge of the frequency block or frequency block group	Unwanted emission limits
1 MHz	-13 dBm/(1% of OB*)
>1 MHz	-13 dBm/MHz

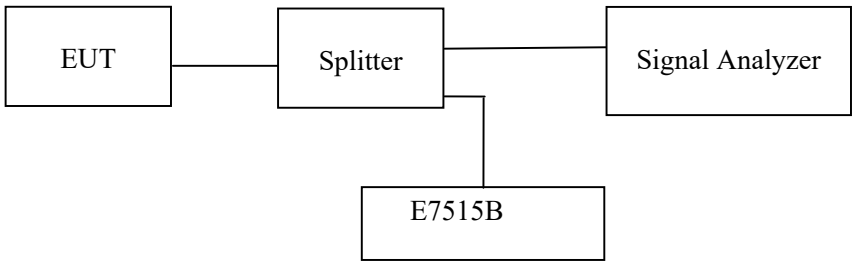
*OB is the occupied bandwidth.

Test Procedure

ANSI C63.26-2015 Section 5.7

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:	23.3-25.5℃
Relative Humidity:	44-53 %
ATM Pressure:	100.5-101.2 kPa

The testing was performed by Usain Ou from 2025-04-13 to 2025-05-02.

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

Test Result: Pass

Please refer to the Appendix R3 for band edges.

FCC § 2.1055 & §27.54 & RSS-130 §4.5 & RSS-139 §5.4 - FREQUENCY STABILITY

Applicable Standard

FCC § 2.1055, §27.54, RSS-130 §4.5, RSS-199 §5.4

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

According to RSS-130 §4.5

The frequency stability shall be sufficient to ensure that the occupied bandwidth remains within each frequency block range when tested at the temperature and supply voltage variations specified in RSS-Gen.

According to RSS-199 §5.4

The frequency stability shall be sufficient to ensure that the occupied bandwidth stays within the operating frequency block or frequency block group when tested to the temperature and supply voltage variations specified in RSS-Gen.

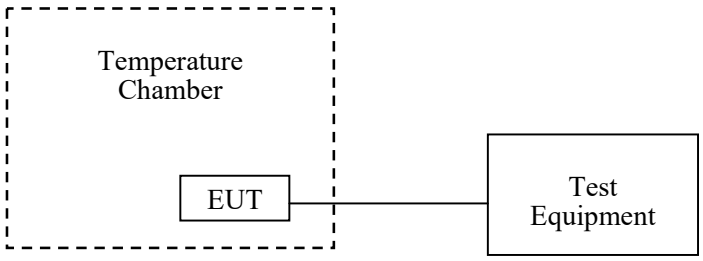
Test Procedure

ANSI C63.26-2015 Section 5.6

Frequency Stability vs. Temperature: The equipment under test was connected to an external DC 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 DC 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:	23.3-25.3℃
Relative Humidity:	44-51 %
ATM Pressure:	100.5-100.8 kPa

The testing was performed by Usain Ou from 2025-04-10 to 2025-04-13.

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

Test Result: Pass

Please refer to the Appendix T3 for frequency stability.

EUT PHOTOGRAPHS

Please refer to the attachment 2501S51531E-RF External photo and 2501S51531E-RF Internal photo.

TEST SETUP PHOTOGRAPHS

Please refer to the attachment 2501S51531E-RFC Test Setup photo.

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