

TEST REPORT

EUT Description	5G DIGITAL MOBILE PHONE
Brand Name	VERTU
Model Name	VTL-202502
FCC ID	2BGHD-VTL202502
IC ID	32468-VTL202502
Date of Test Start/End	2026-03-13 / 2026-05-15

Applicant	Chengdu Xiaochen Technology Co., Ltd
Address	3rd Floor,Building B6,Ganzhizhongguo Chengdu Center,No.777 Huafu Avenue Shuangliu County,Chengdu City,Sichuan Province,China
Manufacturers	Same as Application
Address	Same as Application
Factory	Same as Application
Address	Same as Application

Reference Standards	47 CFR Part 15, Subpart C 15.225 RSS-210 Issue 11, June 25, 2024 RSS-Gen Issue 5 Amendment 2 (February 2021) (see section 1)
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Test Report identification	RL20260313003EG
	Rev. 00
Revision Control	This test report revision replaces any previous test report revision. (see Document Changes)

Test Result: **Pass***

*The EUT complied with the test item(s) of the above standard (s), refer to the test summary for details.

Authorized for issue by:

Jim Chen

Jim Chen / Project Engineer



Jason Li / Reviewer

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Document Changes

Status	Date of issue	Revision	Description of the performed changes
Active	2025-08-26	Rev. 00	None (original version).



2 Test Summary

Radio Spectrum Technical Requirement				
Item	Standard	Method	Requirement	Result
Antenna Requirement	47 CFR Part 15, Subpart C 15.225 RSS-210 Issue 11, June 25, 2024	N/A	47 CFR Part 15, Subpart C 15.203 RSS-Gen Section 6.8	Pass

Radio Spectrum Matter Part				
Item	Standard	Method	Requirement	Result
Conducted Emissions at Mains Terminals (150kHz-30MHz)	47 CFR Part 15, Subpart C 15.225 RSS-210 Issue 11, June 25, 2024	ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024 Section 6.2	47 CFR Part 15, Subpart C 15.207 RSS-Gen Section 8.8	Pass
20dB Bandwidth		ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024 Section 6.9	47 CFR Part 15, Subpart C 15.215 RSS-Gen Section 6.7	Pass
Emission Mask		ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024 Section 6.4	47 CFR Part 15, Subpart C 15.225(a)&(b)&(C) RSS-210 Section B.6 (a).	Pass
Frequency tolerance		ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024 Section 6.8	47 CFR Part 15, Subpart C 15.225(e) RSS-210 Section B.6 (b)	Pass
Radiated Emissions (9kHz-30MHz)		ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024 Section 6.4	47 CFR Part 15, Subpart C 15.225(d) & 15.209 RSS-Gen Section 8.9	Pass
Radiated Emissions (30MHz-1GHz)		ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024 Section 6.5	47 CFR Part 15, Subpart C 15.225(d) & 15.209 RSS-Gen Section 8.9	Pass



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4 General Information

4.1 Details of E.U.T.

EUT Description:	5G DIGITAL MOBILE PHONE
Model No.:	VTL-202502
Trade Mark:	VERTU
Hardware Version:	P10
Software Version:	15.0.2_6.01.01.01
Power supply:	DC 3.83V from internal rechargeable battery which can be charge by AC/DC adapter
Operation Frequency:	13.56MHz
Modulation Type:	ASK
Antenna Type:	Loop Antenna

Note: *Since the above data and/or information is provided by the client relevant results or conclusions of this report are only made for these data and/or information , Radiolink is not responsible for the authenticity, integrity and results of the data and information and/or the validity of the conclusion.

Remark:As above information is provided and confirmed by the applicant. Radiolink is not liable to the accuracy, suitability, reliability or/and integrity of the information.

4.2 Environment Parameter

Environment Parameter	1020 mbar Selected Values During Tests	
Relative Humidity	38.8-50.8 % RH Ambient	
Value	Temperature(°C)	Voltage(V)
NTNV	24.5~26.8	7.6
LTNV	-20~0	6.8
HTNV	50	8.7

Note:

NV:Normal Voltage LV:Low Extreme Test Voltage HV:High Extreme Test Voltage

NT:Normal Temperature LT:Low Extreme Test Temperature HT:High Extreme Test Temperature

Note:During the NFC frequency stability test, the NFC module was powered by an external adjustable DC regulated power supply (6.8 V to 8.7 V), while the host system was supplied at its normal operating voltage of 3.83 V.

4.3 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
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The EUT has been tested as an independent unit.

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4.4 Measurement Uncertainty

Test Item	Measurement Uncertainty
Conducted Emissions at AC Power Line (150kHz-30MHz)	$\pm 3.1\text{dB}$
Radiated Spurious Emissions Below 1GHz	$\pm 6.0\text{dB}$ for 3m
Radiated Spurious Emissions Above 1GHz	$\pm 4.6\text{dB}$ (1-18GHz); $\pm 4.8\text{dB}$ (18-40GHz)
20dB Bandwidth	$\pm 3\%$
Emission Mask	$\pm 2.84\text{dB}$
Frequency tolerance	$\pm 0.75\text{dB}$

Remark:

The U_{lab} (lab Uncertainty) is less than $U_{\text{CISPR/ETSI}}$ (CISPR/ETSI Uncertainty), so the test results
– compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
– non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.

4.5 Test Location

All tests were performed at:

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No tests were sub-contracted.

4.6 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:
. A2LA (Certificate No. 7572.01)
Radiolink Testing (Shenzhen) Co., Ltd, Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 7572.01.

4.7 Deviation from Standards

None

4.8 Abnormalities from Standard Conditions

None

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5 Equipment List

Transmitter unwanted emissions in the spurious domain/ Receiver spurious emissions					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
3m Anechoic Chamber	TDK	966	RL01-01	2024/11/22	2027/11/21
BiConiLog Antenna(30MHz-3GHz)	Schwarzbeck	VULB9163	RL03-02	2025/4/7	2028/4/6
Active Loop Antenna(9kHz-30MHz)	Schwarzbeck	FMZB 1519B	RL03-03	2025/3/28	2028/3/27
MXE EMI Receiver(3Hz-8.4GHz)	KEYSIGHT	N9038A	RL04-01	2025/3/31	2026/3/30
MXE EMI Receiver(3Hz-8.4GHz)	KEYSIGHT	N9038A	RL04-01	2026/04/03	2027/04/02
EXA Signal Analyzer(10Hz-44GHz)	KEYSIGHT	N9010B	RL04-03	2025/3/31	2026/3/30
Pre-amplifier (10kHz-3GHz)	Tonscend	TPA-00330	RL06-01	2025/03/31	2026/03/30
Pre-amplifier (10kHz-3GHz)	Tonscend	TPA-00330	RL06-01	2026/04/03	2027/04/02
Attenuation Clamp(150kHz-1000MHz)	Teseq	KEMA 801A	RL07-09	2025/4/3	2026/4/2
Attenuation Clamp(150kHz-1000MHz)	Teseq	KEMA 801A	RL07-09	2026/04/03	2027/04/02
DC Regulated Power Supply	Radiolink	N/A	RL13-01	2025/4/3	2026/04/02
DC Regulated Power Supply	Radiolink	N/A	RL13-01	2026/04/03	2027/04/02
Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	RL14-01	2025/4/3	2026/04/02
Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	RL14-01	2026/04/03	2027/04/02
AC Power Source	Preen	KDF-11002G	RL08-03	2025/3/31	2026/3/30
AC Power Source	Preen	KDF-11002G	RL08-03	2026/04/03	2027/04/02
Intelligent Line Power Conditioner	Preen	APS-11040GG	RL08-04	2025/3/31	2026/3/30
Intelligent Line Power Conditioner	Preen	APS-11040GG	RL08-04	2026/04/03	2027/04/02
Coaxial Cable(9kHz-30MHz)	Radiolink	N/A	RL20-01	N/A	N/A
Coaxial Cable(30MHz-1000MHz)	Radiolink	N/A	RL20-02	N/A	N/A
Coaxial Cable(1GHz-18GHz)	Radiolink	N/A	RL20-03	N/A	N/A
Coaxial Cable(18GHz-40GHz)	Radiolink	N/A	RL20-04	N/A	N/A

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Coaxial Cable(9kHz-30MHz)	Radiolink	N/A	RL20-05	N/A	N/A
Measurement Software	AUDIX	e3 V9	N/A	N/A	N/A



RF Conducted Test					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
EXA Signal Analyzer(10Hz-44GHz)	KEYSIGHT	N9010B	RL04-03	2025/3/31	2026/3/30
EXA Signal Analyzer(10Hz-44GHz)	KEYSIGHT	N9010B	RL04-03	2026/04/03	2027/04/02
MXG Vector Signal Generator(100kHz-6GHz)	N5182A	N5182A	RL05-05	2025/3/31	2026/3/30
MXG Vector Signal Generator(100kHz-6GHz)	N5182A	N5182A	RL05-05	2026/04/03	2027/04/02
SIGNAL GENERATOR(10MHz-20GHz)	SMP22	SMP22	RL05-06	2025/3/31	2026/3/30
SIGNAL GENERATOR(10MHz-20GHz)	SMP22	SMP22	RL05-06	2026/04/03	2027/04/02
Wideband Radio Communication Tester	CMW 500	CMW 500	RL05-07	2025/3/31	2026/3/30
Wideband Radio Communication Tester	CMW 500	CMW 500	RL05-07	2026/04/03	2027/04/02
Measurement Software	TST	TSTPASS V2.0	N/A	N/A	N/A

General used equipment					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Electronic Hygrothermograph	deli	8838	RL02-02	2025/03/29	2026/03/28
Electronic Hygrothermograph	deli	8838	RL02-02	2026/04/08	2027/04/07
Electronic Hygrothermograph	deli	8838	RL02-03	2025/03/29	2026/03/28
Electronic Hygrothermograph	deli	8838	RL02-03	2026/04/08	2027/04/07
Barometer	Shanghai Mengte Instrument	DYM3	RL02-01	2025/03/31	2026/03/30
Barometer	Shanghai Mengte Instrument	DYM3	RL02-01	2026/04/08	2027/04/07

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6 Emission Test Results

6.1 Antenna Requirement

6.1.1 Test Requirement:

47 CFR Part 15, Subpart C 15.203 & 15.247(b)(4)
RSS-Gen Section 6.8

FCC requirement:

15.203:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

IC requirement:

Measurements may be performed using only the antenna with highest gain of each combination of transmitter and antenna type, with the transmitter output power set at the maximum level. When measurements at the antenna port are used to determine the RF output power, the effective gain of the device's antenna shall be stated, based on a measurement or on data from the antenna's manufacturer.

The antenna is integrated on the main PCB and no consideration of replacement.

Note:

The antenna gain are derived from the gain information report provided by the manufacturer.

Remark:

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7 Radio Spectrum Matter Test Results

7.1 Conducted Emissions at AC Power Line (150kHz-30MHz)

Test Requirement 47 CFR Part 15, Subpart C 15.207
RSS-Gen Section 8.8

Test Method: ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024
Section 6.2

Limit:

Frequency of emission(MHz)
0.15-0.5
0.5-5
5-30
*Decreases with the logarithm of the frequency.
Detector: Peak for pre-scan (9kHz resolution bandwidth) 0.15M to 30MHz

7.1.1 E.U.T. Operation

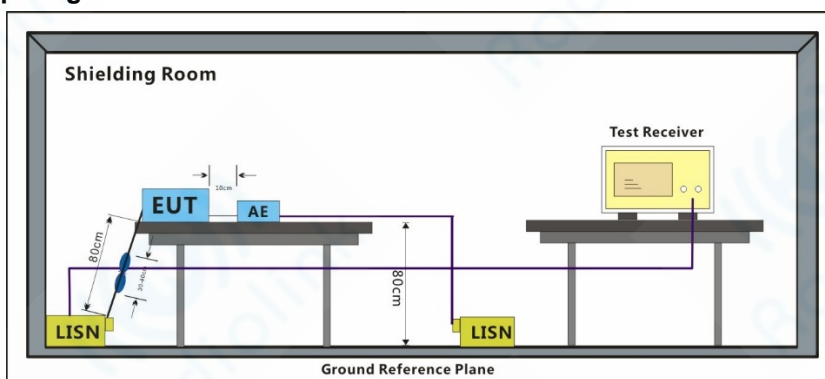
Operating Environment:

Temperature: 22.3 °C Humidity: 48 % RH Atmospheric Pressure: 1020 mbar

7.1.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	02	TX mode_Keep the EUT in continuously transmitting mode.

7.1.3 Test Setup Diagram



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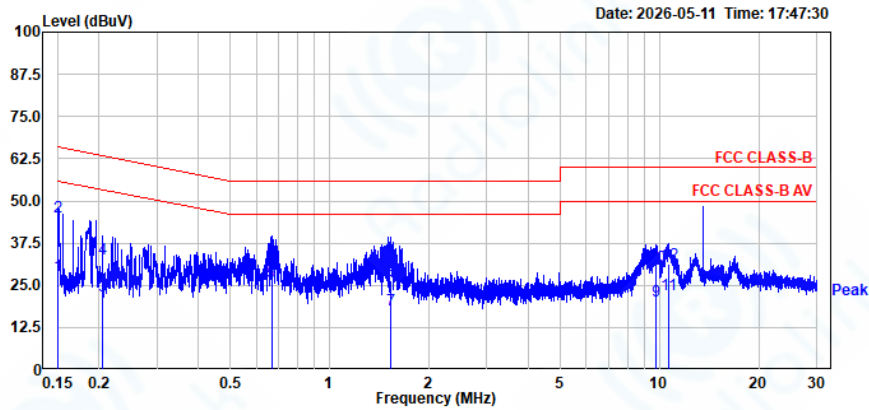
7.1.4 Measurement Procedure and Data

- 1) The mains terminal disturbance voltage test was conducted in a shielded room.
- 2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a $50\Omega/50\mu\text{H} + 50\Omega$ linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.
- 3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane.
- 4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.
- 5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.

Remark : $\text{Level} = \text{Read Level} + \text{Cable Loss} + \text{LISN Factor}$



Test Mode: 02; Line: Live line



Site : chamber
Condition: limit\FCC CLASS-B.csv Line
: DET:Peak
EUT : VTL-202502
Mode : NFC
Note : RL20260000301A

Result	Freq	Level	Limit	LISN	Cable	Remark	Read	Over	
	MHz	dBuV	Line	Factor	Loss		Level	Limit	Pol/Phase
1 Pass	0.151	27.98	55.96	0.05	9.81	Average	18.12	-27.98	Line
2 QP	0.151	45.25	65.96	0.05	9.81	QP	35.39	-20.71	Line
3 Pass	0.205	21.82	53.39	0.10	9.93	Average	11.79	-31.57	Line
4 Pass	0.205	32.67	63.39	0.10	9.93	QP	22.64	-30.72	Line
5 PP	0.667	25.94	46.00	0.10	10.49	Average	15.35	-20.06	Line
6 Pass	0.667	32.40	56.00	0.10	10.49	QP	21.81	-23.60	Line
7 Pass	1.530	17.77	46.00	0.12	10.62	Average	7.03	-28.23	Line
8 Pass	1.530	26.54	56.00	0.12	10.62	QP	15.80	-29.46	Line
9 Pass	9.737	20.22	50.00	0.37	10.46	Average	9.39	-29.78	Line
10 Pass	9.737	30.51	60.00	0.37	10.46	QP	19.68	-29.49	Line
11 Pass	10.676	22.39	50.00	0.41	10.45	Average	11.53	-27.61	Line
12 Pass	10.676	31.24	60.00	0.41	10.45	QP	20.38	-28.76	Line

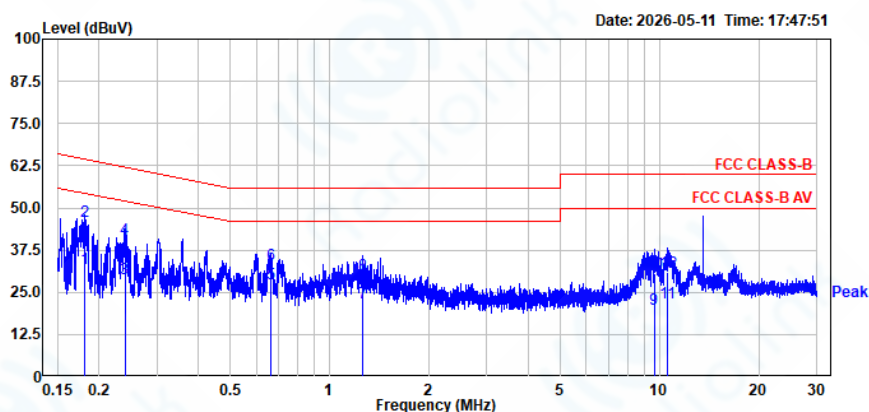


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Test Mode: 02; Line: Neutral Line



Site : chamber
Condition: limit\FCC CLASS-B.csv Neutral
: DET:Peak
EUT : VTL-202502
Mode : NFC
Note : RL20260000301A

Result	Freq	Level	Limit	LISN	Cable		Read	Over	
	MHz	dBuV	dBuV	Factor	Loss	Remark	Level	Limit	Pol/Phase
1 Pass	0.181	31.90	54.45	0.14	9.88	Average	21.88	-22.55	Neutral
2 QP	0.181	46.08	64.45	0.14	9.88	QP	36.06	-18.37	Neutral
3 Pass	0.240	29.06	52.11	0.16	10.00	Average	18.90	-23.05	Neutral
4 Pass	0.240	40.93	62.11	0.16	10.00	QP	30.77	-21.18	Neutral
5 PP	0.663	27.74	46.00	0.17	10.49	Average	17.08	-18.26	Neutral
6 Pass	0.663	33.05	56.00	0.17	10.49	QP	22.39	-22.95	Neutral
7 Pass	1.262	21.87	46.00	0.17	10.61	Average	11.09	-24.13	Neutral
8 Pass	1.262	30.02	56.00	0.17	10.61	QP	19.24	-25.98	Neutral
9 Pass	9.635	20.02	50.00	0.44	10.46	Average	9.12	-29.98	Neutral
10 Pass	9.635	30.38	60.00	0.44	10.46	QP	19.48	-29.62	Neutral
11 Pass	10.585	21.92	50.00	0.47	10.45	Average	11.00	-28.08	Neutral
12 Pass	10.585	30.85	60.00	0.47	10.45	QP	19.93	-29.15	Neutral



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7.2 20dB Bandwidth

Test Requirement	47 CFR Part 15, Subpart C 15.215 RSS-Gen Section 6.7
Test Method:	ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024 Section 6.9
Test Engineer:	Jim Chen

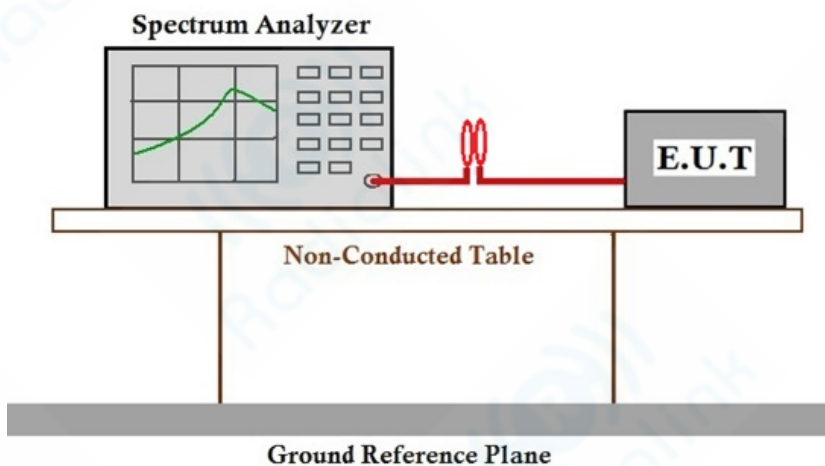
7.2.1 E.U.T. Operation

Operating Environment:			
Temperature:	25.3 °C	Humidity:	59.5 % RH
		Atmospheric Pressure:	1020 mbar

7.2.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	09	TX mode with modulation

7.2.3 Test Setup Diagram



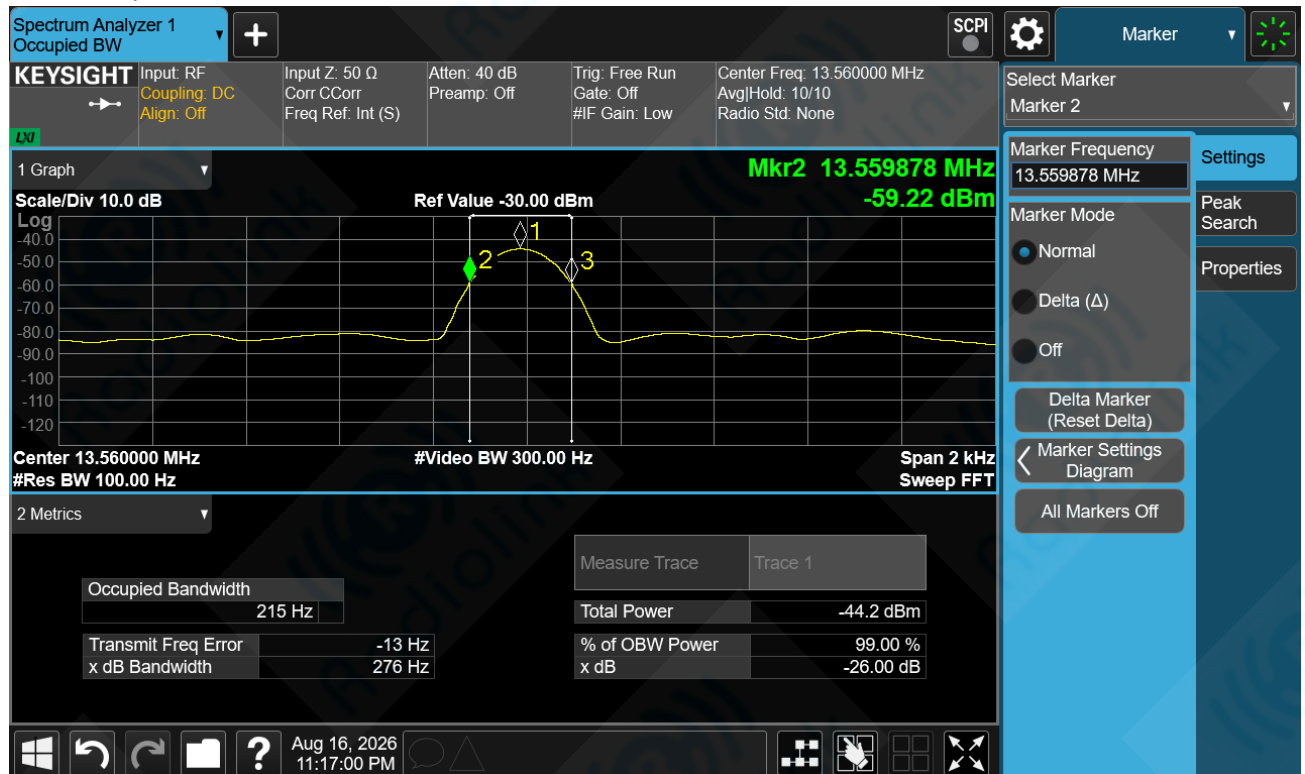
7.2.4 Measurement Procedure and Data

The useful radiated emission from the EUT was detected by the spectrum analyser with peak detector.

20dB Bandwidth:

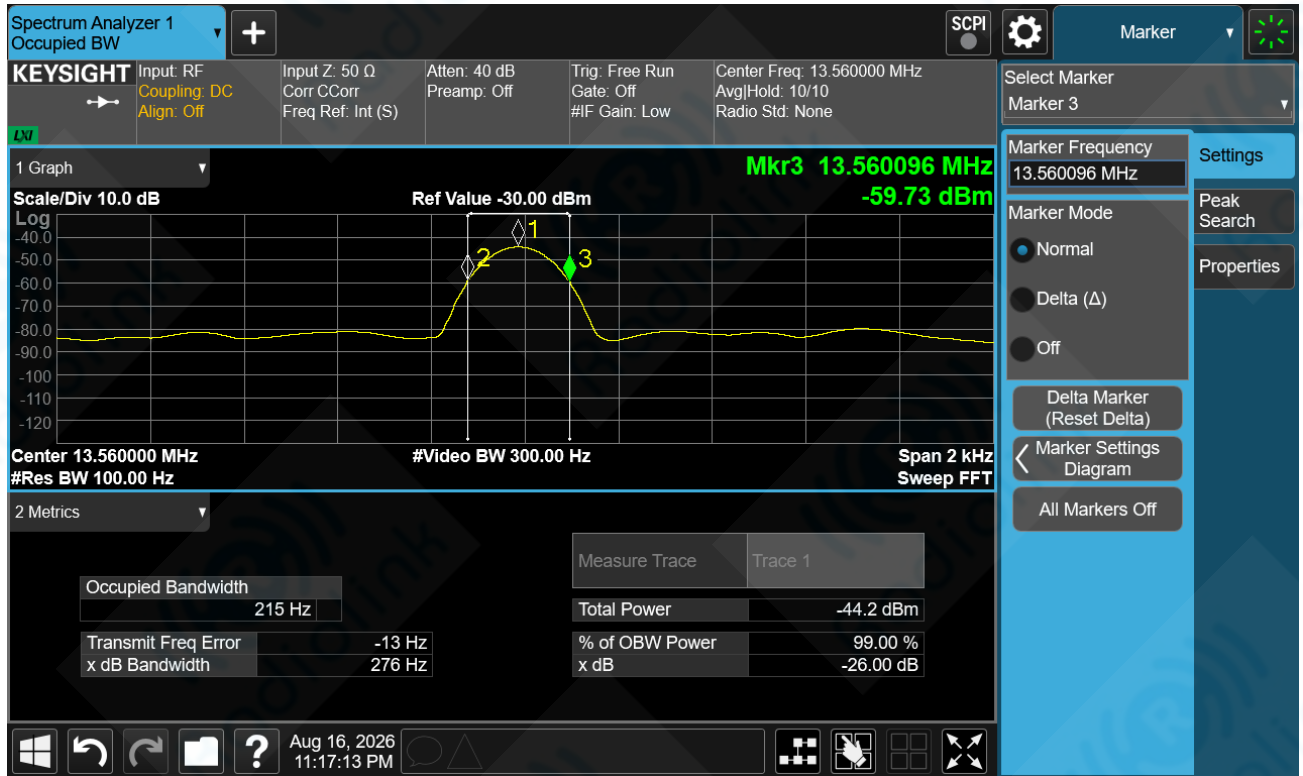


99% Occupied Bandwidth:



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7.3 Emission Mask

Test Requirement 47 CFR Part 15, Subpart C 15.225(a)&(b)&(C)
RSS-210 Section B.6 (a)
Test Method: ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024
Section 6.4
Measurement Distance: 3m
Test Engineer: Jim Chen

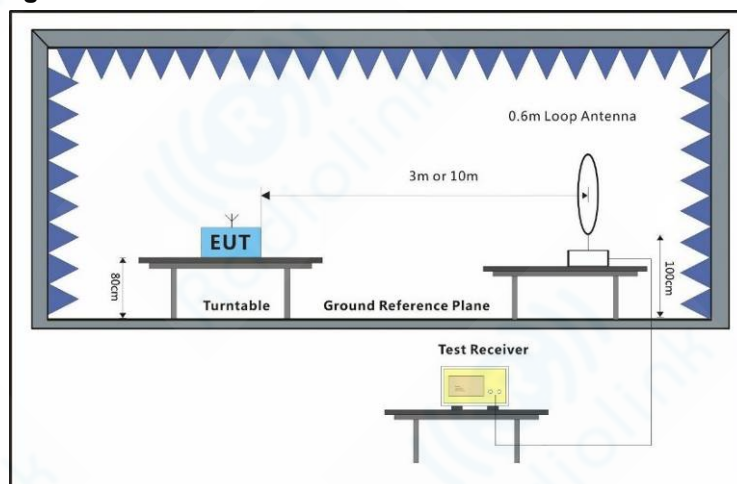
7.3.1 E.U.T. Operation

Operating Environment:
Temperature: 22.9 °C Humidity: 48.3 % RH Atmospheric Pressure: 1010 mbar

7.3.2 Test Mode Description

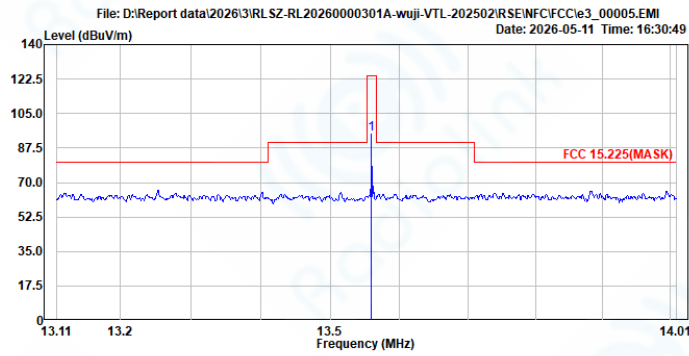
Pre-scan / Final test	Mode Code	Description
Final test	09	TX mode with modulation

7.3.3 Test Setup Diagram



7.3.4 Measurement Procedure and Data

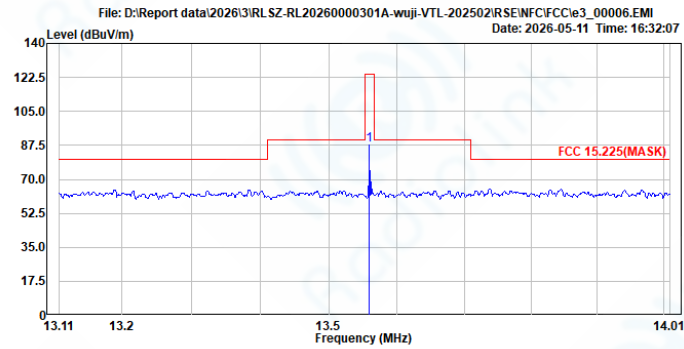
For testing performed with the loop antenna, the center of the loop was positioned 1 m above the ground and positioned with its plane vertical at the specified distance from the EUT. During testing the loop was rotated about its vertical axis for maximum response at each azimuth and also investigated with the loop positioned in the horizontal plane. Only the worst position of vertical was shown in the report.



Site : chamber
Condition: FCC 15.225(MASK) 3m FMZB 1519B-9H-30M-20250411-FCC HORIZONTAL
EUT : VTL-202502
Mode : GSM850 Idle+Adapter+USB Cable+WIFI Idle+BT Idle
: EUT Close+GPS RX+SIM1+Front Camera On
Note : IMEI:358028660010454

Freq	Pol/Phase	Read Level	Level	Limit Line	Over Limit	Remark	Preamp Factor	Cable Loss	Ant Factor
MHz		dBuV	dBuV/m	dBuV/m	dB		dB	dB	dB/m
1 13.560	HORIZONTAL	106.36	94.60	124.00	-29.40	Peak	31.92	0.36	19.80





Site : chamber
Condition: FCC 15.225(MASK) 3m FMZB 1519B-9H-30M-20250411-FCC Vertical
EUT : VTL-202502
Mode : GSM850 Idle+Adapter+USB Cable+WIFI Idle+BT Idle
: EUT Close+GPS RX+SIM1+Front Camera On
Note : IMEI:358028660010454

Freq	Pol/Phase	Read Level	Level	Limit Line	Over Limit	Remark	Preamp Factor	Cable Loss	Ant Factor
MHz		dBuV	dBuV/m	dBuV/m	dB		dB	dB	dB/m
1 13.560	Vertical	99.48	87.72	124.00	-36.28	Peak	31.92	0.36	19.80



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7.4 Frequency tolerance

Test Requirement 47 CFR Part 15, Subpart C 15.225(e)
RSS-210 Section B.6 (b)

Test Method: ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024
Section 6.8

Test Engineer: Jim Chen

Limit:
 $\pm 0.01\%$

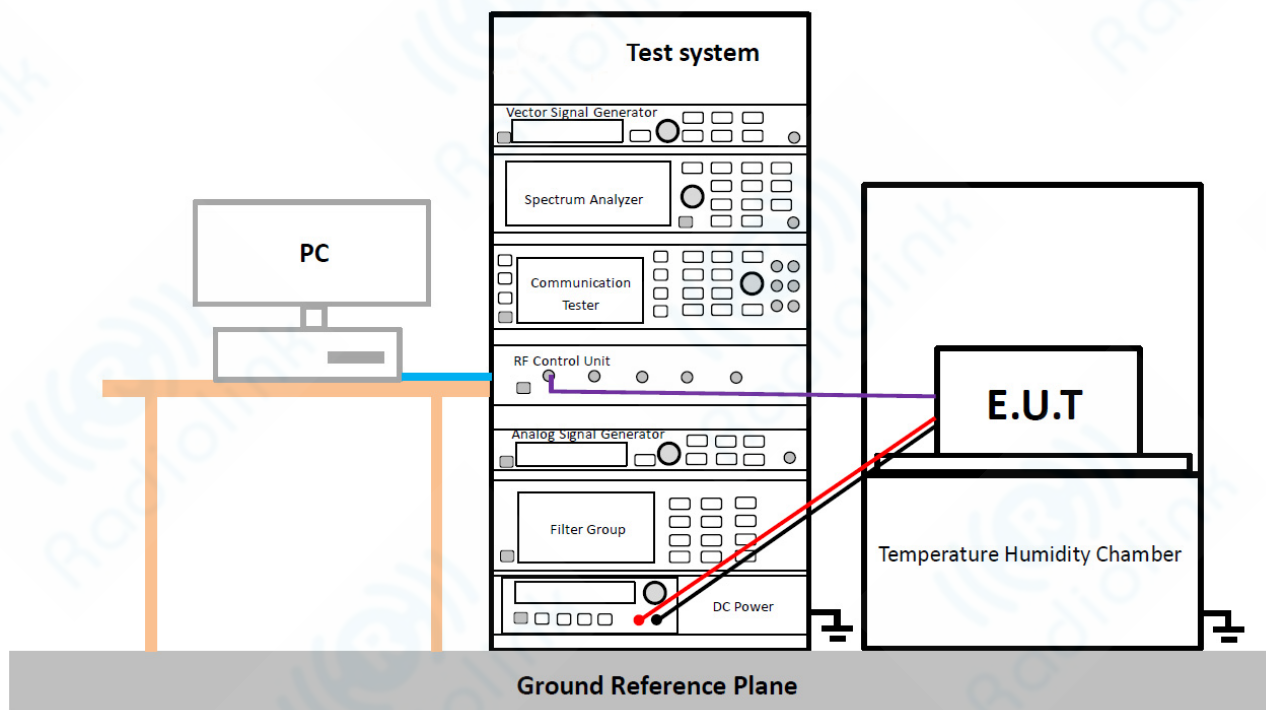
7.4.1 E.U.T. Operation

Operating Environment:
Temperature: 25.3 °C Humidity: 59.5 % RH Atmospheric Pressure: 1020 mbar

7.4.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	09	TX mode with modulation

7.4.3 Test Setup Diagram



7.4.4 Measurement Procedure and Data

The EUT was placed in an environmental test chamber and powered such that control element received normal voltage and the transmitter provided maximum RF output.

Temperature (°C)	Voltage(VDC)	Measurement Frequency(MHz)	Frequency Tolerance (%)	Limit (%)	Result
50	7.6	13.559822	-0.001313	±0.01	Pass
40		13.559862	-0.001018		Pass
30		13.559804	-0.001445		Pass
20		13.559832	-0.001239		Pass
10		13.559858	-0.001047		Pass
0		13.559865	-0.000996		Pass
-10		13.559811	-0.001394		Pass
-20		13.559812	-0.001386		Pass
20	8.7	13.559838	-0.001195		Pass
	6.8	13.559799	-0.001482		Pass



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7.5 Radiated Emissions (9kHz-30MHz)

Test Requirement: 47 CFR Part 15, Subpart C 15.225(d) & 15.209
Test Method: ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024 Section 6.4
Measurement Distance: 3m
Test Engineer: Jim Chen

Limit:

Frequency(MHz)	Field strength (microvolts/meter)	Limit (dBuV/m)	Detector	Measurement Distance (meters)
0.009-0.490	2400/F(kHz)	-	-	300
0.490-1.705	24000/F(kHz)	-	-	30
1.705-30	30	-	-	30

Note

1. The emission limits for the ranges 9-90 kHz and 110-490 kHz are based on measurements employing a linear average detector.
2. At frequencies below 1GHz, measurements may be performed at a distance different to specified in the regulations.

Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor+ Aux Factor (if applicable)

The aux factor needs to be added when measurements are performed at a distance other than the limit distance provided.

EX. Below 30MHz, Aux Factor = 40 dB/decade of distance, the aux factor is $40\log(3/300) = -80\text{dB}$ (for 3m test distance).

7.5.1 E.U.T. Operation

Operating Environment:

Temperature: 23.4 °C Humidity: 48.1 % RH Atmospheric Pressure: 1010 mbar

7.5.2 Test Mode Description

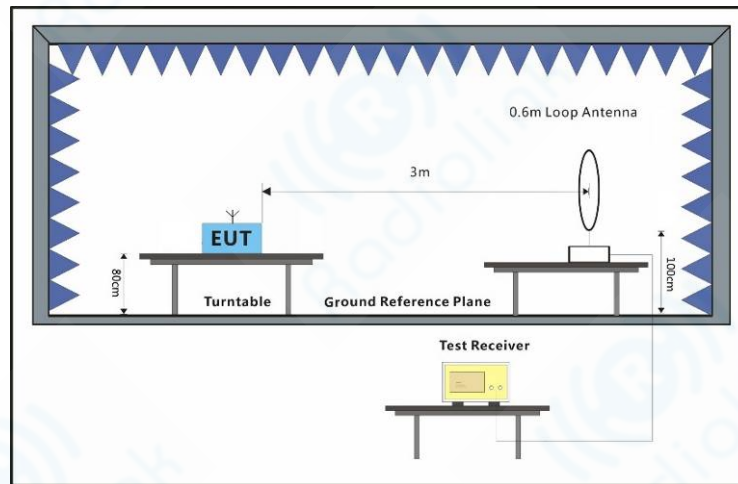
Pre-scan / Final test	Mode Code	Description
Final test	09	TX mode with modulation

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7.5.3 Test Setup Diagram



7.5.4 Measurement Procedure and Data

- For below 30MHz, the EUT was placed on the top of a rotating table 0.8m above the ground at a semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3m away from the interference-receiving antenna which was mounted on the antenna tower 1m above the ground.
- For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using quasi-peak method as specified and then reported in a data sheet.
- Test the EUT in the lowest channel, the middle channel, the Highest channel.
- The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- Repeat above procedures until all frequencies measured was complete.

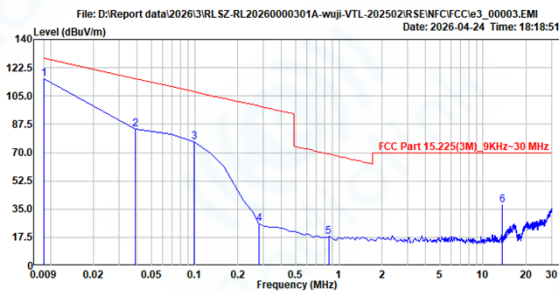
Remark:

- Scan from 9kHz to 30MHz, the disturbance below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only below points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.

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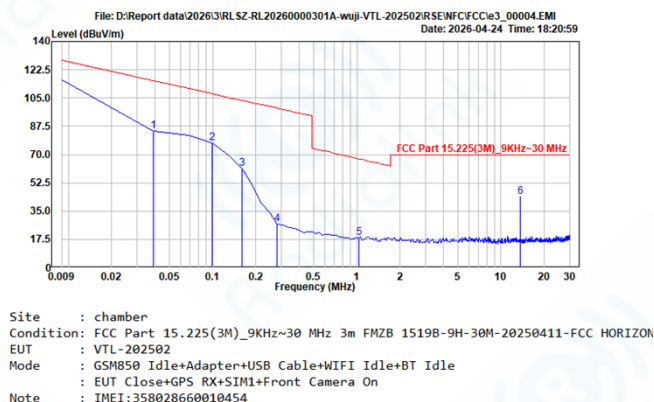
Site : chamber
Condition: FCC Part 15.225(3M) 9KHz~30 MHz 3m FMZB 1519B-9H-30M-20250411-FCC VERTICA
EUT : VTL-202502
Mode : GSM850 Idle+Adapter+USB Cable+WIFI Idle+BT Idle
: EUT Close+GPS RX+SIM1+Front Camera On
Note : IMEI:358028660010454

Freq	Pol/Phase	Read Level	Level	Limit Line	Over Limit	Remark	Preamp Factor	Cable Loss	Ant Factor
MHz		dBuV	dBuV/m	dBuV/m	dB		dB	dB	dB/m
1	0.009 VERTICAL	96.23	115.96	128.52	-12.56	Peak	0.00	0.13	19.60
2	0.039 VERTICAL	95.44	84.53	115.79	-31.26	Peak	30.86	0.13	19.82
3	0.099 VERTICAL	87.77	76.73	107.69	-30.96	Peak	31.03	0.14	19.85
4	0.279 VERTICAL	36.92	25.85	98.69	-72.84	Peak	31.12	0.15	19.90
5	0.849 VERTICAL	29.38	18.03	69.03	-51.00	Peak	31.42	0.15	19.92
6	13.565 VERTICAL	49.18	37.42	69.54	-32.12	Peak	31.92	0.36	19.80



Freq (MHz)	Antenna Factor (dB/m)	Level (dBuV/m)	Read Level (dBuV)	Limit Line (dBuV/m)	Over Limit (dB)	Remark	Pol/Phase
0.009	19.6	115.96	96.23	128.52	-12.56	Peak	VERTICAL
0.03899	19.82	84.53	95.44	115.79	-31.26	Peak	VERTICAL
0.09897	19.85	76.73	87.77	107.69	-30.96	Peak	VERTICAL
0.27892	19.9	25.85	36.92	98.69	-72.84	Peak	VERTICAL
0.84875	19.92	18.03	29.38	69.03	-51	Peak	VERTICAL
13.565	19.8	37.42	49.18	69.54	-32.12	Peak	VERTICAL

Remark: correction factor from dBuV/m to dBuA/m is -51.5dB.



	Freq	Pol/Phase	Read Level	Level	Limit Line	Over Limit	Remark	Preamp Factor	Cable Loss	Ant Factor
	MHz		dBuV	dBuV/m	dBuV/m	dB		dB	dB	dB/m
1	0.039	HORIZONTAL	95.61	84.70	115.79	-31.09	Peak	30.86	0.13	19.82
2	0.099	HORIZONTAL	87.96	76.92	107.69	-30.77	Peak	31.03	0.14	19.85
3	0.159	HORIZONTAL	72.09	61.06	103.58	-42.52	Peak	31.06	0.15	19.88
4	0.279	HORIZONTAL	38.09	27.02	98.69	-71.67	Peak	31.12	0.15	19.90
5	1.029	HORIZONTAL	29.79	18.48	67.36	-48.88	Peak	31.50	0.19	20.00
6	13.565	HORIZONTAL	55.49	43.73	69.54	-25.81	Peak	31.92	0.36	19.80



Freq (MHz)	Antenna_Factor (dB/m)	Level (dBuV/m)	Read_Level (dBuV)	Limit_Line (dBuV/m)	Over_Limit (dB)	Remark	Pol/Phase
0.03899	19.82	84.7	95.61	115.79	-31.09	Peak	HORIZONTAL
0.09897	19.85	76.92	87.96	107.69	-30.77	Peak	HORIZONTAL
0.15896	19.88	61.06	72.09	103.58	-42.52	Peak	HORIZONTAL
0.27892	19.9	27.02	38.09	98.69	-71.67	Peak	HORIZONTAL
1.029	20	18.48	29.79	67.36	-48.88	Peak	HORIZONTAL
13.565	19.8	43.73	55.49	69.54	-25.81	Peak	HORIZONTAL

Remark: correction factor from dBuV/m to dBuA/m is -51.5dB.

7.6 Radiated Emissions (30MHz-1GHz)

Test Requirement: 47 CFR Part 15, Subpart C 15.225(d) & 15.209
Test Method: ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024 Section 6.5
Measurement Distance: 3m
Test Engineer: Jim Chen

Limit:

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

Note

1. At frequencies below 1GHz, measurements may be performed at a distance different to specified in the regulations.

Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor+ Aux Factor (if applicable)

The aux factor needs to be added when measurements are performed at a distance other than the limit distance provided.

EX. Above 30MHz, Aux Factor = 20 dB/decade of distance, the aux factor is $20\log(10/3) = 10.46\text{dB}$ (for 10m test distance).

7.6.1 E.U.T. Operation

Operating Environment:

Temperature: 23.5 °C Humidity: 46.8 % RH Atmospheric Pressure: 1010 mbar

7.6.2 Test Mode Description

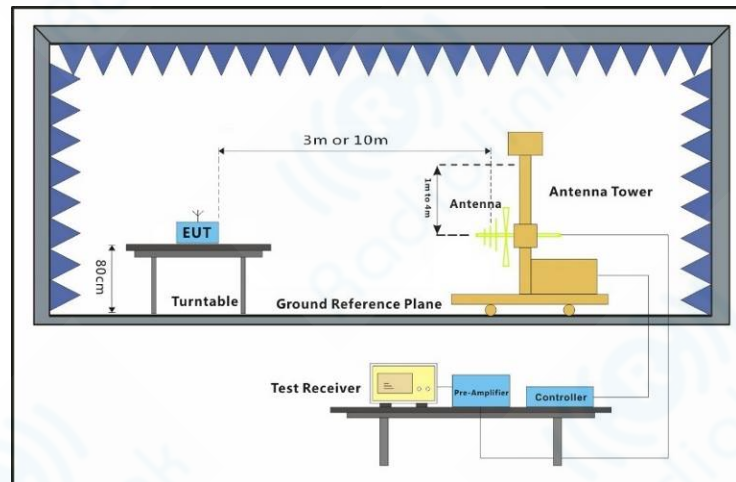
Pre-scan / Final test	Mode Code	Description
Final test	1	TX mode with modulation

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7.6.3 Test Setup Diagram



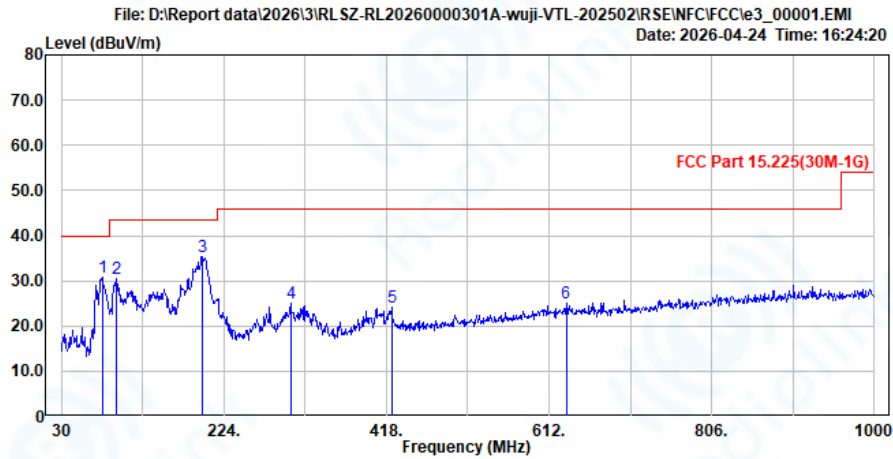
7.6.4 Measurement Procedure and Data

- For below 1GHz, the EUT was placed on the top of a rotating table 0.8m above the ground at a semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3m or 10m away from the interference-receiving antenna, which was mounted on the variable-height antenna tower.
- The antenna height is varied from 1m to 4m above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1m to 4m and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using quasi-peak method as specified and then reported in a data sheet.
- Test the EUT in the lowest channel, the middle channel, the Highest channel.
- The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- Repeat above procedures until all frequencies measured was complete.

Remark:

- The disturbance below 1GHz was very low and the harmonics were the highest point could be found when testing, so only the worst-case test curve is displayed.

Test Mode: 09; Polarity: Horizontal



Site : chamber
Condition: FCC Part 15.225(30M-1G) 3m ANT_VULB9163-30M-1GHz-20250411-FCC HORIZONTAL
EUT : VTL-202502
Mode : GSM850 Idle+Adapter+USB Cable+WIFI Idle+BT Idle
: EUT Close+GPS RX+SIM1+Front Camera On
Note : IMEI:358028660010454

	Freq	Pol/Phase	Read Level	Level	Limit Line	Over Limit	Remark	Preamp Factor	Cable Loss	Ant Factor
	MHz		dBuV	dBuV/m	dBuV/m		dB	dB	dB	dB/m
1	78.500	HORIZONTAL	50.38	30.89	40.00	-9.11	Peak	32.00	0.89	11.62
2	94.990	HORIZONTAL	45.08	30.59	43.50	-12.91	Peak	31.93	2.50	14.94
3	198.780	HORIZONTAL	46.32	35.45	43.50	-8.05	Peak	31.80	5.74	15.19
4	303.540	HORIZONTAL	38.07	25.16	46.00	-20.84	Peak	31.90	1.60	17.39
5	423.820	HORIZONTAL	34.16	24.28	46.00	-21.72	Peak	31.80	1.87	20.05
6	632.370	HORIZONTAL	31.13	24.93	46.00	-21.07	Peak	31.90	2.26	23.44

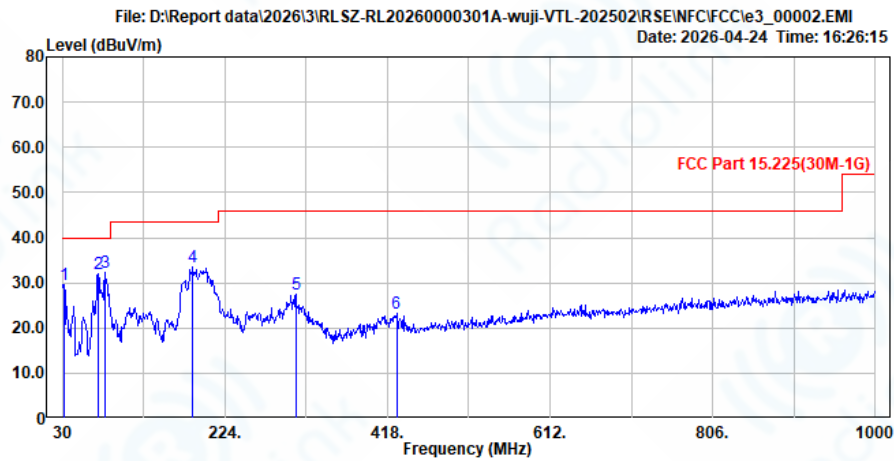


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Test Mode: 09; Polarity: Vertical



Site : chamber

Condition: FCC Part 15.225(30M-1G) 3m ANT_VULB9163-30M-1GHz-20250411-FCC VERTICAL

EUT : VTL-202502

Mode : GSM850 Idle+Adapter+USB Cable+WIFI Idle+BT Idle

: EUT Close+GPS RX+SIM1+Front Camera On

Note : IMEI:358028660010454

	Freq	Pol/Phase	Read Level	Level	Limit Line	Over Limit	Remark	Preamp Factor	Cable Loss	Ant Factor
	MHz		dBuV	dBuV/m	dBuV/m	dB		dB	dB	dB/m
1	31.940	VERTICAL	45.44	29.66	40.00	-10.34	Peak	32.00	0.83	15.39
2	72.680	VERTICAL	50.22	32.03	40.00	-7.97	Peak	32.00	0.90	12.91
3	80.440	VERTICAL	52.09	32.39	40.00	-7.61	Peak	32.00	0.89	11.41
4	185.200	VERTICAL	42.19	33.45	43.50	-10.05	Peak	31.81	9.12	13.95
5	308.390	VERTICAL	40.27	27.50	46.00	-18.50	Peak	31.89	1.61	17.51
6	428.670	VERTICAL	33.15	23.34	46.00	-22.66	Peak	31.80	1.86	20.13

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8 Test Setup Photo

Refer to Appendix A_Setup Photo_A 1.5 Radio Spectrum Matter NFC

9 EUT Constructional Details (EUT Photos)

Refer to separated files Appendix C for Photographs of The EUT

- End of the Report -

