

FCC Test Report

Test Report

On Behalf of

Shenzhen Ruidian Technology Co.,Ltd.

For

AI Recording Stylus Pen

**Model No.: QZ402, QZ401, QZ403, QZ405, QZ406, QZ408, QZ409, QZ410,
QZ411, QZ412**

FCC ID: 2A44B-QZ402

Prepared For:

Shenzhen Ruidian Technology Co.,Ltd.

**301, 3rd Floor, Building 11, Longbi Industrial, Zone, No. 27 Dafa Road, Dafa Pu
Community, Bantian Street, Longgang District, Shenzhen City, China**

Prepared By:

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Date of Test:

September 16, 2026 ~ September 29, 2026

Date of Report:

September 29, 2026

Report Number:

HK26091700986-1E

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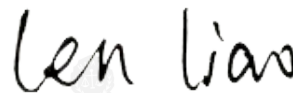
Test Result Certification

Applicant's Name.....: Shenzhen Ruidian Technology Co.,Ltd.
301, 3rd Floor, Building 11, Longbi Industrial, Zone, No. 27 Dafa
Address.....: Road, Dafa Pu Community, Bantian Street, Longgang District,
Shenzhen City, China
Manufacturer's Name.....: Shenzhen Ruidian Technology Co.,Ltd.
301, 3rd Floor, Building 11, Longbi Industrial, Zone, No. 27 Dafa
Address.....: Road, Dafa Pu Community, Bantian Street, Longgang District,
Shenzhen City, China
Product Description
Trade Mark.....: N/A
Product Name.....: AI Recording Stylus Pen
Model(s) Name.....: QZ402, QZ401, QZ403, QZ405, QZ406, QZ408, QZ409, QZ410,
QZ411, QZ412
Standards.....: 47 CFR FCC Part 15 Subpart C 15.247
KDB 558074 D01 15.247 Meas Guidance v05r02
ANSI C63.10: 2020

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Date of Test.....:
Date (s) of Performance of Tests.....: September 16, 2026 ~ September 29, 2026
Date of Issue.....: September 29, 2026
Test Result.....: Pass

Testing Engineer



Len Liao

Technical Manager



Sliver Wan

Authorized Signatory



Jason Zhou



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**** Issued History ****

Revision	Description	Issued Date	Remark
Revision 1.0	Initial Test Report Release	September 29, 2026	Jason Zhou

1 Summary

1.1 Test Procedures and Results

Test Item	Standard Section	Result
Antenna Requirement	§15.203/§15.247(b)(4)	PASS
AC Conducted Emission	FCC Part 15.207	PASS
Radiated Emissions	FCC Part 15.205/15.209	PASS
Maximum Peak Output Power	FCC Part 15.247(b)	PASS
Power Spectral Density	FCC Part 15.247(e)	PASS
6dB Bandwidth	FCC Part 15.247(a)(2)/ FCC Part 15.215	PASS
Spurious RF Conducted Emission	FCC Part 15.247(d)	PASS
Band Edge	FCC Part 15.247(d)	PASS

Note:

1. PASS: Test item meets the requirement.
2. Fail: Test item does not meet the requirement.
3. N/A: Test case does not apply to the test object.
4. The test result judgment is decided by the limit of test standard.

1.2 Measurement Uncertainty

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

No.	Item	MU
1	Conducted Emission 0.15~30MHz	$\pm 2.22\text{dB}$
2	All Emissions, Radiated(<1G)	$\pm 3.60\text{dB}$
3	All Emissions, Radiated(1-18G)	$\pm 3.86\text{dB}$
4	All Emissions, Radiated(18-40G)	$\pm 4.76\text{dB}$
5	Transmitter Power Conducted	$\pm 0.37\text{dB}$
6	Conducted Spurious Emission	$\pm 2.20\text{dB}$
7	Occupied Bandwidth	$\pm 3.68\%$
8	Temperature	$\pm 0.1^{\circ}\text{C}$
9	Humidity	$\pm 1.0\%$

1.3 Information of the Test Laboratory

Shenzhen HUAKE Testing Technology Co., Ltd.

Add.: 1-2/F., Building B2, Junfeng Zhongcheng Zhizao Innovation Park, Heping, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

2. General Information

2.1 General Description of EUT

Product Name:	AI Recording Stylus Pen
Model Name:	QZ402
Series Model(s):	QZ401, QZ403, QZ405, QZ406, QZ408, QZ409, QZ410, QZ411, QZ412
Model Difference:	All model's the function, software and electric circuit are the same, only product model named different. Test sample model: QZ402.
Operation Frequency:	2402 MHz to 2480 MHz
Channel Separation:	2MHz
Number of Channel:	40
Modulation Technology:	GFSK
Hardware Version:	V3.0
Firmware Version:	V3.0
Antenna Type:	PCB Antenna
Antenna Gain:	0dBi
Power Supply:	DC5V from Type-C or DC3.85V from Battery
Note: 1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual. 2. Antenna gain Refer to the antenna specifications. 3. The cable loss data is obtained from the supplier. 4. The test results in the report only apply to the tested sample.	

Description of Channel					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	2402	14	2430	28	2458
1	2404	15	2432	29	2460
2	2406	16	2434	30	2462
3	2408	17	2436	31	2464
4	2410	18	2438	32	2466
5	2412	19	2440	33	2468
6	2414	20	2442	34	2470
7	2416	21	2444	35	2472
8	2418	22	2446	36	2474
9	2420	23	2448	37	2476
10	2422	24	2450	38	2478
11	2424	25	2452	39	2480
12	2426	26	2454		
13	2428	27	2456		

The EUT has been operated in modulations: GFSK independently.

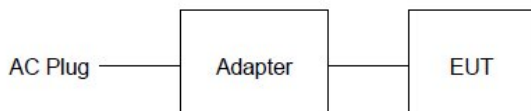
No.	Test Mode Description
1	Low channel TX
2	Middle channel TX
3	High channel TX
Note: 1. All the test modes can be supply by Serial port, only the result of the worst case was recorded in the report if no any records. 2. For Radiated Emission, 3axis were chosen for testing for each applicable mode.	

2.2 Description of Test Conditions

- (1) E.U.T. test conditions:
For intentional radiators, measurements of the variation of the input power or the radiated signal level of the fundamental frequency component of the emission, as appropriate, shall be performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage. For battery operated equipment, the equipment tests shall be performed using a new battery.
- (2) Frequency range of radiated measurements:
The test range will be up to the tenth harmonic of the highest fundamental frequency.
- (3) Pre-test the EUT in all transmitting mode at the lowest (2402 MHz), middle (2440 MHz) and highest (2480 MHz) channel with different data packet and conducted to determine the worst-case mode, only the worst-case results are recorded in this report.
- (4) Mode Test Duty Cycle:
☒ PASS ☐ Fail ☐ Not Applicable
Data Reference Appendix Test Data

2.3 Description of Test Setup

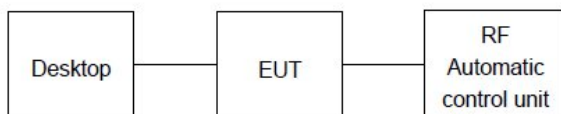
Operation of EUT during AC Conducted and Radiation below 1GHz testing:



Operation of EUT during Radiation above 1GHz testing:



Operation of EUT during RF Conducted testing:



The sample was placed (0.8m below 1GHz, 1.5m above 1GHz) above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The report only reflects the worst emission test results. The worst case is X position.

2.4 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Product Name	Trade Mark	Model Name	Specification	Remark
1	AI Recording Stylus Pen	N/A	QZ402	N/A	EUT
2	Adapter	N/A	N/A	Input: AC100-240V, 50/60Hz, 0.75A Output: DC5V/2A, 9V/2A, 10V/2.25A MAX	
3	Adapter	N/A	N/A	Input: AC100-240V, 50/60Hz, 0.7A Output: DC5V/3A, 9V/3A, 12V/2.25A, 20V/1.35A	

Note:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.
3. For conducted measurements (Output Power, 6dB Emission Bandwidth, Power Spectral Density, Spurious Emissions), the antenna of EUT is connected to the test equipment via temporary antenna connector, the antenna connector is soldered on the antenna port of EUT, and the temporary antenna connector is listed in the Test Instruments.

2.5 The Worse Case Power Setting Parameter

During testing, channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the end product.

Test Software Version	FCC_assist1.0.4
Transmit Antenna Number	1
Test Software setting value	5

3. Equipments List for All Test Items

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	L.I.S.N.	R&S	ENV216	HKE-002	2026/02/11	1 Year
2	L.I.S.N.	R&S	ENV216	HKE-059	2026/02/04	1 Year
3	EMI Test Receiver	R&S	ESR-7	HKE-005	2026/02/06	1 Year
4	Spectrum analyzer	Agilent	N9020A	HKE-025	2026/02/06	1 Year
5	Spectrum analyzer	KEYSIGHT	N9020A	HKE-117	2026/02/06	1 Year
6	Spectrum analyzer	R&S	FSV3044	HKE-126	2026/02/06	1 Year
7	Preamplifier	Schwarzbeck	EMC051845SE	HKE-006	2026/02/04	1 Year
8	Preamplifier	Agilent	83051A	HKE-016	2026/02/04	1 Year
9	Preamplifier	QJD	QJD18-40-50	HKE-030	2026/02/05	1 Year
10	6dB Attenuator	Pasternack	6dB	HKE-152	2026/02/06	1 Year
11	EMI Test Receiver	R&S	ESR-7	HKE-010	2026/02/06	1 Year
12	Broadband Antenna	Schwarzbeck	VULB9168	HKE-167	2026/02/06	2 Year
13	Loop Antenna	COM-POWER	AL-130R	HKE-014	2026/02/06	2 Year
14	Horn Antenna	Schwarzbeck	9120D	HKE-013	2026/02/06	2 Year
15	Broadband Horn Antenna	A-INFO	LB-180400-KF	HKE-031	2026/02/06	2 Year
16	EMI Test Software	Tonscend	JS32-CE 2.5.0.6	HKE-081	/	/
17	EMI Test Software	Tonscend	JS32-RE 5.0.0	HKE-082	/	/
18	RF Automatic control unit	Tonscend	JS0806-2	HKE-060	2026/02/06	1 Year
19	High pass filter unit	Tonscend	JS0806-F	HKE-055	2026/02/06	1 Year
20	Wireless Communication Test Set	R&S	CMW500	HKE-027	2026/02/06	1 Year
21	High-low temperature chamber	Guangke	HT-80L	HKE-118	2026/02/06	1 Year
22	Temperature and humidity meter	Boyang	HTC-1	HKE-075	2026/03/06	1 Year
23	RF Test Software	Tonscend	JS1120-3 Version 3.6.21	HKE-083	/	/
24	10dB Attenuator	Schwarzbeck	VTSD9561F	HKE-153	2026/02/04	1 Year
25	RSE Test Software	Tonscend	JS36-RSE 5.0.0	HKE-184	/	/

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4. Test Result

4.1 Antenna Requirement

Standard Applicable

For intentional device, according to FCC 47 CFR Section 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. And according to FCC 47 CFR Section 15.247, if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

Refer to statement below for compliance.

The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited. Further, this requirement does not apply to intentional radiators that must be professionally installed.

Antenna Connected Construction

The antenna used in this product is a PCB Antenna, is a permanently attached antenna on the PCB. It conforms to the standard requirements. The gain of antenna used for transmitting is 0dBi.

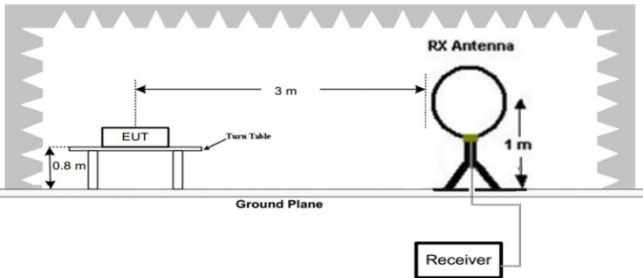
EUT Antenna

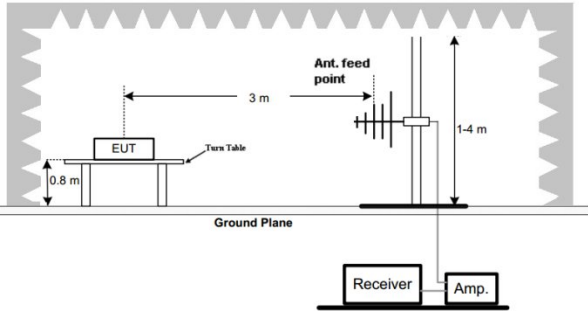
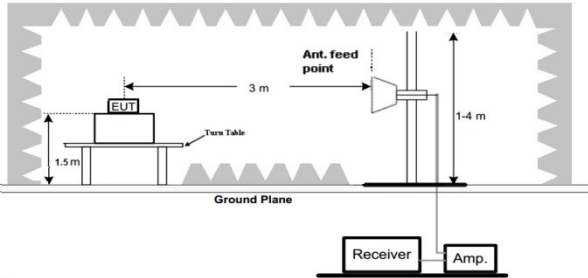
For antenna location, please refer to ANNEX B of internal photos.

4.2 AC Conduction Emissions Measurement

Test Requirement:	FCC Part15 C Section 15.207														
Test Method:	ANSI C63.10: 2020														
Frequency Range:	150 kHz to 30 MHz														
Receiver Setup:	RBW=9 kHz, VBW=30 kHz, Sweep time=auto														
Limits:	<table><tr><th rowspan="2">Frequency range (MHz)</th><th colspan="2">Limit (dBuV)</th></tr><tr><th>Quasi-peak</th><th>Average</th></tr><tr><td>0.15-0.5</td><td>66 to 56*</td><td>56 to 46*</td></tr><tr><td>0.5-5</td><td>56</td><td>46</td></tr><tr><td>5-30</td><td>60</td><td>50</td></tr></table>	Frequency range (MHz)	Limit (dBuV)		Quasi-peak	Average	0.15-0.5	66 to 56*	56 to 46*	0.5-5	56	46	5-30	60	50
Frequency range (MHz)	Limit (dBuV)														
	Quasi-peak	Average													
0.15-0.5	66 to 56*	56 to 46*													
0.5-5	56	46													
5-30	60	50													
Test Setup:	Reference Plane 40cm E.U.T AC power 80cm LISN Filter AC power EMI Receiver Test table/Insulation plane Remark E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.8m														
Test Mode:	Transmitting with modulation														
Test Procedure:	1. The E.U.T is connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment. 2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs). 3. Both sides of A.C. line are checked for maximum conducted interference. 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.														
Test Result:	PASS														
Test Data:	Reference Appendix Test Data														

4.3 Radiated Spurious Emission Measurement

Test Requirement:	FCC Part15 C Section 15.209			
Test Method:	ANSI C63.10: 2020			
Frequency Range:	9 kHz to 26 GHz			
Measurement Distance:	3 m			
Antenna Polarization:	Horizontal & Vertical			
Operation Mode:	Transmitting mode with modulation			
Receiver Setup:	Frequency	Detector	RBW	VBW
	9kHz- 150kHz	Quasi-peak	200Hz	1kHz
	150kHz- 30MHz	Quasi-peak	9kHz	30kHz
	30MHz-1GHz	Quasi-peak	120KHz	300KHz
	Above 1GHz	Peak	1MHz	3MHz
Limit:	Remark			
	Quasi-peak Value			
	Quasi-peak Value			
	Quasi-peak Value			
	Peak Value			
	Average Value			
	Frequency	Field Strength (microvolts/meter)	Measurement Distance (meters)	
	0.009-0.490	2400/F(KHz)	300	
	0.490-1.705	24000/F(KHz)	30	
	1.705-30	30	30	
Test Setup:	Frequency	Field Strength (microvolts/meter)	Measurement Distance (meters)	Detector
	Above 1GHz	500	3	Average
		5000	3	Peak
	For Radiated Emissions below 30MHz			
				

	30MHz to 1GHz  Above 1GHz 
Test Procedure:	- For the radiated emission test below 1GHz: The EUT was placed on a turntable with 0.8 meter above ground. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high PASS filter are used for the test in order to get better signal level. - For the radiated emission test above 1GHz: Place the measurement antenna on a turntable with 1.5 meter above ground, which is away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal.

	The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane. 3. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level 4. For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported. 5. Use the following spectrum analyzer settings: (1) Span shall wide enough to fully capture the emission being measured; (2) Set RBW=120 kHz for $f < 1$ GHz; VBW $\geq$ RBW; Sweep = auto; Detector function = peak; Trace = max hold; (3) Set RBW = 1 MHz, VBW= 3MHz for $f \geq 1$ GHz for peak measurement. 6. For average measurement: VBW = 10 Hz, when duty cycle is no less than 98 percent. VBW $\geq 1/T$, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
Test Results:	PASS
Test Data:	Reference Appendix Test Data

4.4 Maximum Peak Output Power Measurement

Test Requirement:	FCC Part15 C Section 15.247 (b)(3)
Test Method:	KDB 558074 D01 15.247 Meas Guidance v05r02
Limit:	30dBm
Test Setup:	 RF automatic control unit EUT
Test Mode:	Transmitting with modulation
Test Procedure:	The maximum peak conducted output power may be measured using a broadband peak RF automatic control unit. The RF automatic control unit shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall utilize a fast-responding diode detector. The maximum Average conducted output power may be measured using a wideband RF automatic control unit with a thermocouple detector or equivalent. The RF automatic control unit shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall utilize a fast-responding diode detector.
Test Result:	PASS
Test Data:	Reference Appendix Test Data

4.5 Power Spectral Density

Test Requirement:	FCC Part15 C Section 15.247 (e)
Test Method:	KDB 558074 D01 15.247 Meas Guidance v05r02
Limit:	For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3 kHz band during any time interval of continuous transmission.
Test Setup:	 Spectrum Analyzer EUT
Test Mode:	Transmitting with modulation
Test Procedure:	Use this procedure when the maximum peak conducted output power in the fundamental emission is used to demonstrate compliance. Set the RBW =3 kHz. Set the VBW =10 KHz. Set the span to 1.5 times the DTS channel bandwidth. Detector = peak. Sweep time = auto couple. Trace mode = max hold. Allow trace to fully stabilize. Use the peak marker function to determine the maximum power level. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat. The resulting peak PSD level must be 8 dBm.
Test Result:	PASS
Test Data:	Reference Appendix Test Data

4.6 6dB Bandwidth

Test Requirement:	FCC Part15 C Section 15.247 (a)(2)
Test Method:	KDB 558074 D01 15.247 Meas Guidance v05r02
Limit:	≥500kHz
Test Setup:	 Spectrum Analyzer EUT
Test Mode:	Transmitting with modulation
Test Procedure:	The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with RBW=100 KHz and VBW=300 KHz. The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB. 1. Set RBW = 100 kHz. 2. Set the video bandwidth (VBW) ≥ 3 RBW. 3. Detector = Peak. 4. Trace mode = max hold. 5. Sweep = auto couple. 6. Allow the trace to stabilize. 7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.
Test Result:	PASS
Test Data:	Reference Appendix Test Data

4.7 Band Edge

Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	KDB 558074 D01 15.247 Meas Guidance v05r02
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.
Test Setup:	 Spectrum Analyzer EUT
Test Mode:	Transmitting with modulation
Test Procedure:	1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below. 2. Span = wide enough to capture the peak level of the emission operating on the channel closest to the band edge, as well as any modulation products which fall outside of the authorized band of operation, RBW $\geq$ 1% of the span, RBW = 100kHz, VBW = 300kHz, Sweep = auto, Detector function = peak, Trace = max hold.
Test Result:	PASS
Test Data:	Reference Appendix Test Data

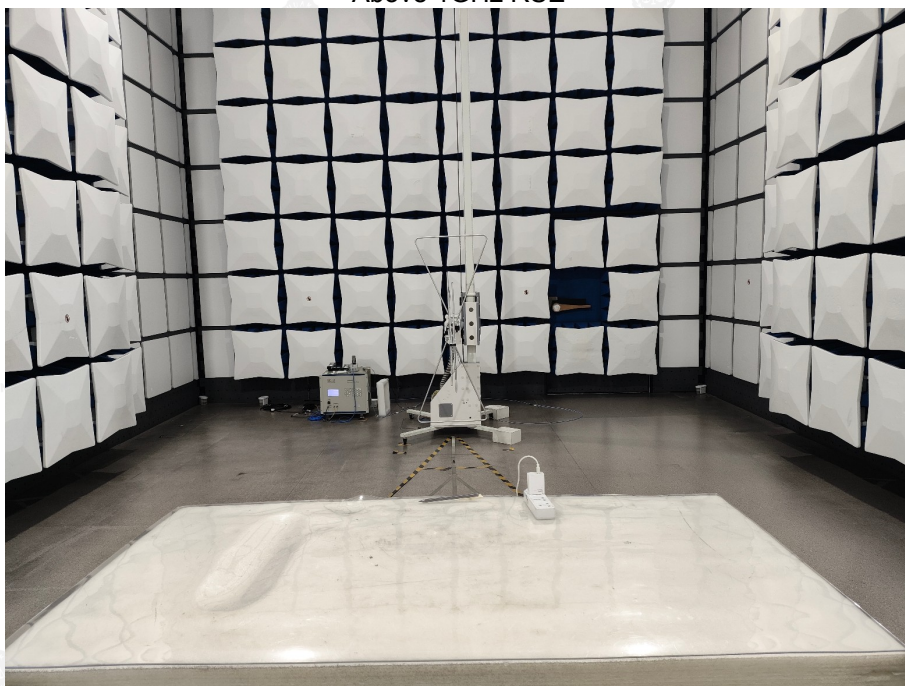
4.8 Conducted Spurious Emissions

Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	KDB 558074 D01 15.247 Meas Guidance v05r02
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. For below 30MHz, For 9KHz-150kHz, 150K-10MHz, We use the RBW 1KHz, 10KHz, So the limit need to calculated by "$10\lg(BW1/BW2)$". For example For 9KHz-150kHz, RBW 1KHz, The Limit = the highest emission level-20-10log(100/1) = the highest emission level-40.
Test Setup:	 Spectrum Analyzer EUT
Test Mode:	Transmitting with modulation
Test Procedure:	1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below. 2. Span = wide enough to capture the peak level of the emission operating on the channel closest to the band edge, as well as any modulation products which fall outside of the authorized band of operation, RBW $\geq$ 1% of the span, VBW $\geq$ RBW, Sweep = auto, Detector function = peak, Trace = max hold.
Test Result:	PASS
Test Data:	Reference Appendix Test Data

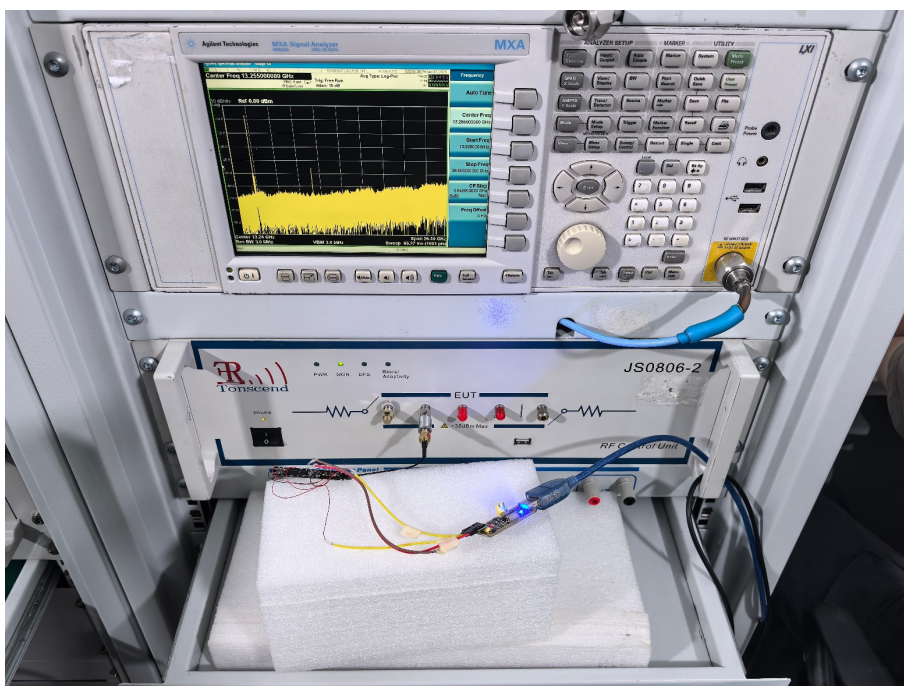
5. Test Setup Photos of the EUT



Above 1GHz RSE



Radiated Emission



BLE RF Conducted Emission



Conducted Emission (AC port)

6. Photos of the EUT

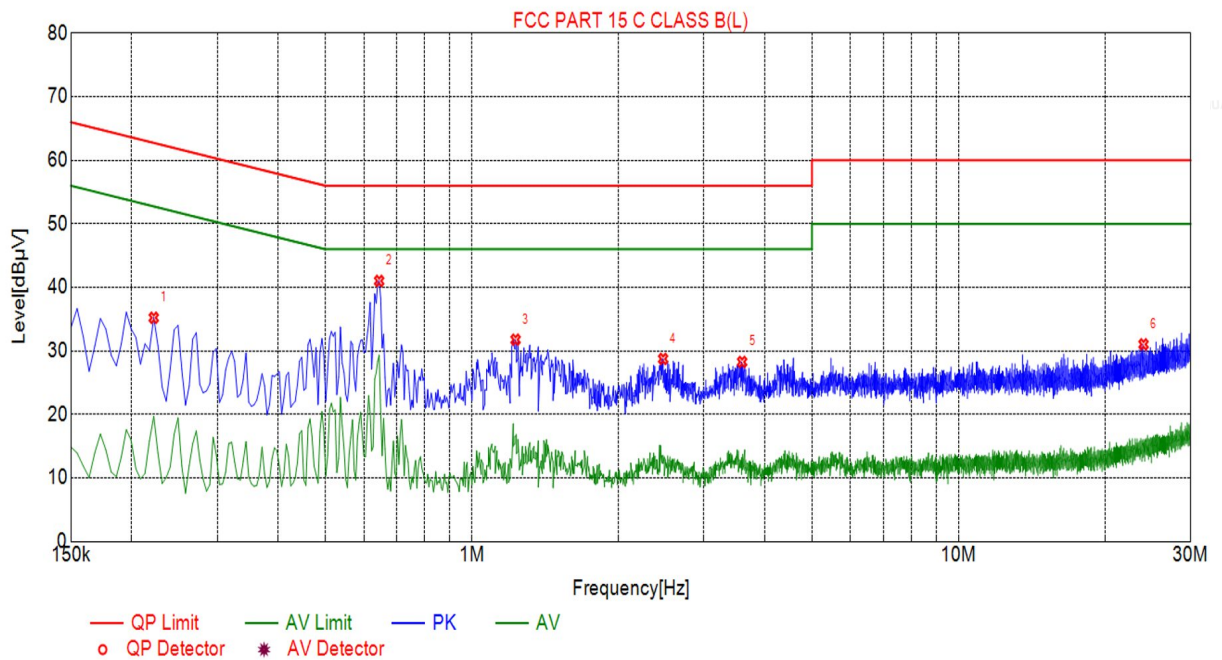
Reference to the report: ANNEX A of external photos and ANNEX B of internal photos.

7. Appendix Test Data

7.1 AC Conduction Emissions Measurement

All the test modes completed for test. Only the worst result was reported as below:

Test Graph



Suspected List

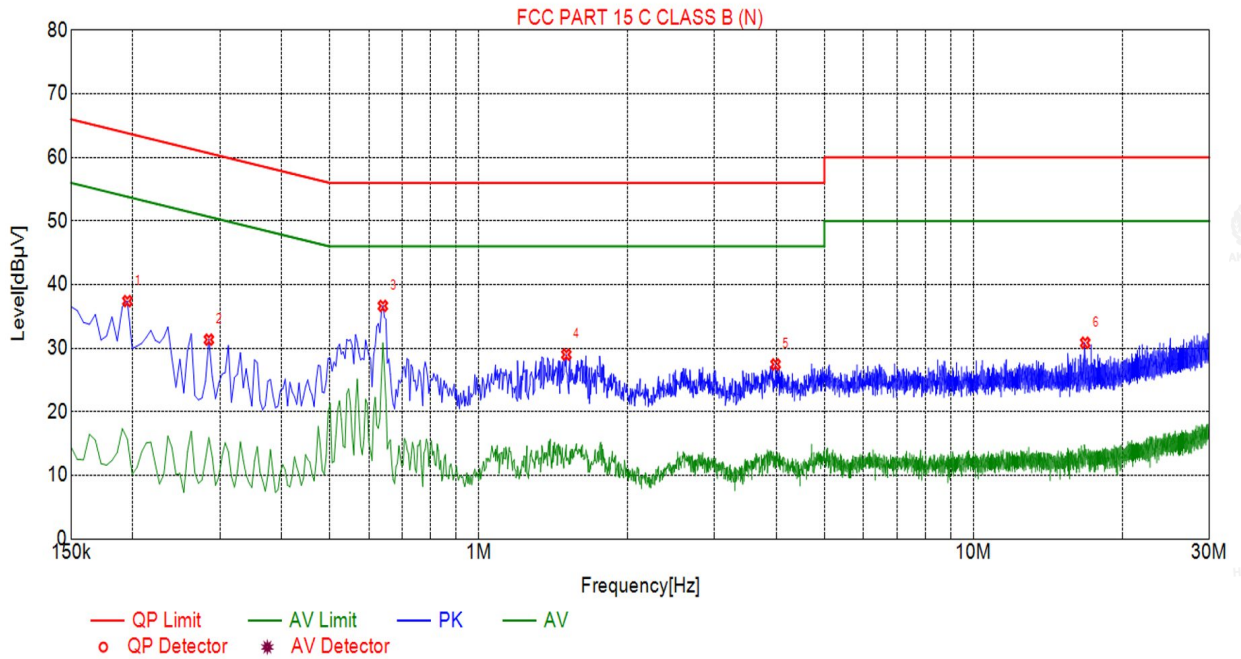
NO.	Freq. [MHz]	Level [dBμV]	Factor [dB]	Limit [dBμV]	Margin [dB]	Reading [dBμV]	Detector	Type
1	0.2220	35.22	19.76	62.74	27.52	15.46	PK	L
2	0.6450	41.01	19.92	56.00	14.99	21.09	PK	L
3	1.2300	31.77	19.92	56.00	24.23	11.85	PK	L
4	2.4720	28.74	20.10	56.00	27.26	8.64	PK	L
5	3.5925	28.26	20.17	56.00	27.74	8.09	PK	L
6	24.0000	31.03	24.03	60.00	28.97	7.00	PK	L

Remark: Margin = Limit – Level

Correction factor = Cable lose + LISN insertion loss

Level=Test receiver reading + correction factor

Test Graph



Suspected List

NO.	Freq. [MHz]	Level [dBμV]	Factor [dB]	Limit [dBμV]	Margin [dB]	Reading [dBμV]	Detector	Type
1	0.1950	37.41	19.77	63.82	26.41	17.64	PK	N
2	0.2850	31.34	19.81	60.67	29.33	11.53	PK	N
3	0.6405	36.65	19.95	56.00	19.35	16.70	PK	N
4	1.5045	28.99	20.07	56.00	27.01	8.92	PK	N
5	3.9840	27.45	20.19	56.00	28.55	7.26	PK	N
6	16.8360	30.85	22.36	60.00	29.15	8.49	PK	N

Remark: Margin = Limit – Level

Correction factor = Cable lose + LISN insertion loss

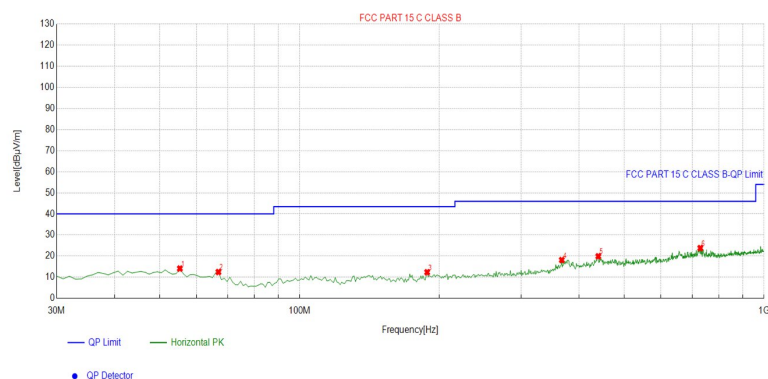
Level=Test receiver reading + correction factor

7.2 Radiated Spurious Emission

Below 1GHz Test Results

All modes have been tested, only the worst mode of GFSK Low channel TX is reflected.

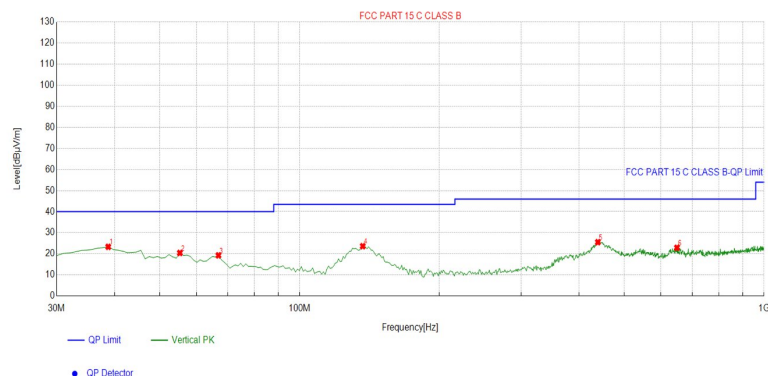
Test Graph



Suspected List									
NO.	Freq. [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	55.245	-12.25	26.40	14.15	40.00	25.85	100	42	Horizontal
2	66.897	-14.88	27.37	12.49	40.00	27.51	100	20	Horizontal
3	188.268	-15.72	28.11	12.39	43.50	31.11	100	74	Horizontal
4	366.927	-10.56	28.73	18.17	46.00	27.83	100	267	Horizontal
5	439.750	-9.08	29.02	19.94	46.00	26.06	100	35	Horizontal
6	729.099	-4.21	28.05	23.84	46.00	22.16	100	331	Horizontal

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor;
Margin = Limit – Level;

Test Graph



Suspected List									
NO.	Freq. [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	38.739	-12.60	35.95	23.35	40.00	16.65	100	307	Vertical
2	55.245	-12.25	32.68	20.43	40.00	19.57	100	189	Vertical
3	66.897	-14.88	34.17	19.29	40.00	20.71	100	235	Vertical
4	136.807	-18.24	41.88	23.64	43.50	19.86	100	225	Vertical
5	438.779	-9.09	34.63	25.54	46.00	20.46	100	254	Vertical
6	649.479	-5.24	28.13	22.89	46.00	23.11	100	55	Vertical

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preampifier; Level = Reading + Factor;
Margin = Limit – Level;

Harmonics and Spurious Emissions Frequency Range (9kHz-30MHz)

Frequency (MHz)	Level@3m (dBμV/m)	Limit@3m (dBμV/m)
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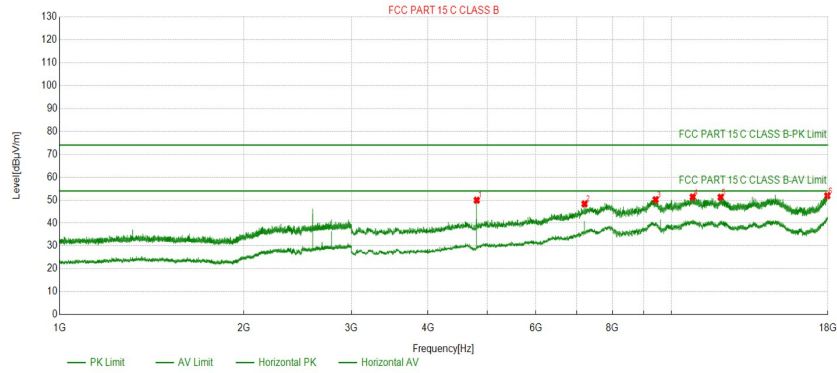
Note: 1. Emission Level=Reading+ Cable loss+ Antenna factor-Amp factor.
2. The emission levels are 20 dB below the limit value, which are not reported. It is deemed to comply with the requirement.

Above 1GHz Test Results

All modes have been tested, only the worst mode of GFSK Low channel TX is reflected.

For 1GHz to 18GHz

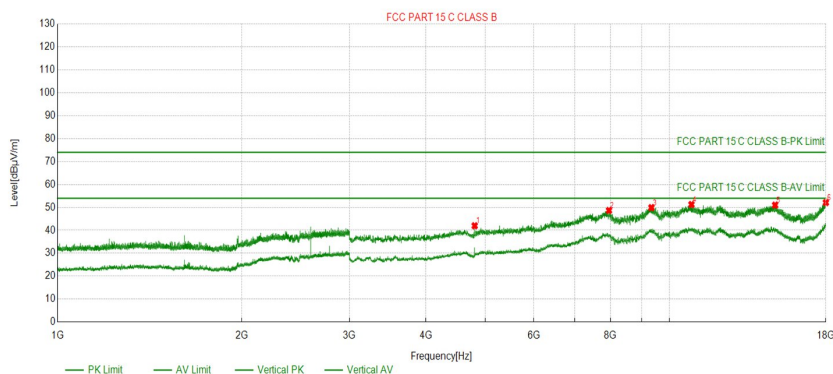
Test Graph



Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	PK Level [dBμV/m]	Factor [dB]	PK Limit [dBμV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	4804.680	60.71	49.96	-10.75	74.00	24.04	150	299	Horizontal
2	7206.421	52.34	48.32	-4.02	74.00	25.68	150	357	Horizontal
3	9414.641	50.87	50.16	-0.71	74.00	23.84	150	45	Horizontal
4	10826.283	50.41	51.35	0.94	74.00	22.65	150	288	Horizontal
5	12024.902	48.22	51.26	3.04	74.00	22.74	150	21	Horizontal
6	17959.496	45.01	51.90	6.89	74.00	22.10	150	177	Horizontal

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor;
Margin = Limit – Level;

Test Graph

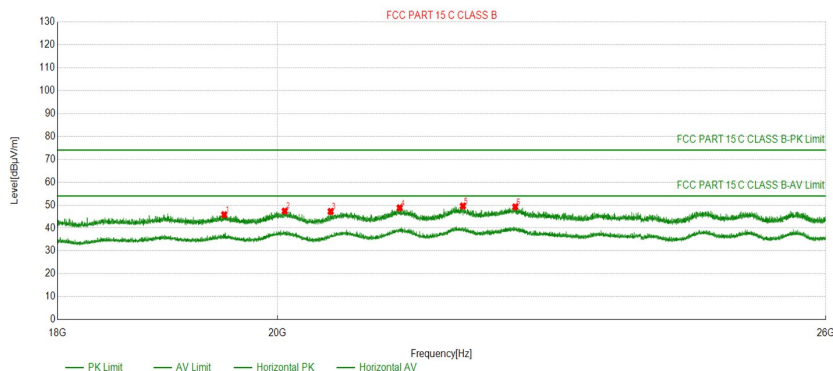


Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	PK Level [dBμV/m]	Factor [dB]	PK Limit [dBμV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	4803.180	52.75	41.99	-10.76	74.00	32.01	150	63	Vertical
2	7960.996	51.01	48.68	-2.33	74.00	25.32	150	68	Vertical
3	9336.634	50.75	49.89	-0.86	74.00	24.11	150	74	Vertical
4	10856.286	50.29	51.26	0.97	74.00	22.74	150	248	Vertical
5	14869.187	47.50	50.98	3.48	74.00	23.02	150	260	Vertical
6	18000.000	44.70	52.10	7.40	74.00	21.90	150	178	Vertical

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level;

For 18GHz to 26GHz

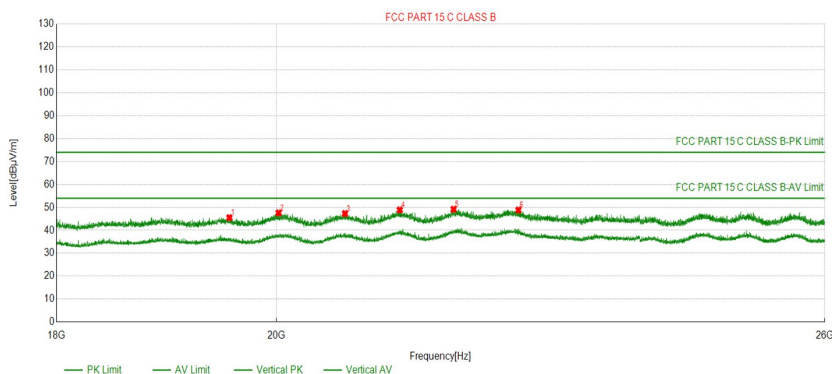
Test Graph



Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	PK Level [dBμV/m]	Factor [dB]	PK Limit [dBμV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	19495.350	40.03	45.82	5.79	74.00	28.18	150	340	Horizontal
2	20068.207	40.96	47.39	6.43	74.00	26.61	150	140	Horizontal
3	20513.851	41.15	47.22	6.07	74.00	26.78	150	190	Horizontal
4	21202.720	43.03	48.80	5.77	74.00	25.20	150	20	Horizontal
5	21853.985	43.91	49.60	5.69	74.00	24.40	150	230	Horizontal
6	22408.441	43.74	49.22	5.48	74.00	24.78	150	10	Horizontal

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor;
Margin = Limit – Level;

Test Graph



Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	PK Level [dBμV/m]	Factor [dB]	PK Limit [dBμV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	19552.955	39.66	45.52	5.86	74.00	28.48	150	260	Vertical
2	20018.602	41.09	47.58	6.49	74.00	26.42	150	170	Vertical
3	20665.067	41.34	47.31	5.97	74.00	26.69	150	20	Vertical
4	21213.921	43.12	48.89	5.77	74.00	25.11	150	80	Vertical
5	21767.577	43.46	49.17	5.71	74.00	24.83	150	310	Vertical
6	22453.245	43.39	48.85	5.46	74.00	25.15	150	200	Vertical

Remark: Factor = Cable loss + Antenna factor + Attenuator – Pre-amplifier; Level = Reading + Factor; Margin = Limit – Level;