CE RADIO TEST REPORT

Applicant	**:**	NiceRF Wireless Technology LTD.
Address of Applicant	**:**	309-314, Bldg A,Hongdu business building, Xin'an street, Zone 43, Baoan Dist, Shenzhen 518101, China
Manufacturer	**:**	NiceRF Wireless Technology LTD.
Address of Manufacturer	**:**	309-314, Bldg A,Hongdu business building, Xin'an street, Zone 43, Baoan Dist, Shenzhen 518101, China
Equipment under Test	**:**	Wireless voice intercom module
Model No.	**:**	SA618F22-C1
Test Standard(s)	**:**	ETSI EN 300 422-1 V2.2.1 (2021-11)
Report No.	**:**	DDT-RE24101414-1E01
Issue Date	**:**	2024/12/12
Issue By	**:**	Guangdong Dongdian Testing Service Co., Ltd.
Address of Laboratory	**:**	Unit 2, Building 1, No. 17, Zongbu 2nd Road, Songshan Lake Park, Dongguan, Guangdong, China, 523808

REPORT

Table of Contents

	Test report declares	4
1.	Summary of Test Results	6
1.1.	Standard description	6
1.2.	Test result	6
2.	General Test Information	7
2.1.	Description of AUDIO GUIDE SYSTEM	7
2.2.	Accessories of AUDIO GUIDE SYSTEM	8
2.3.	Assistant equipment used for test	8
2.4.	Block diagram of AUDIO GUIDE SYSTEM configuration for test	8
2.5.	Test environment conditions	9
2.6.	Deviations of test standard	9
2.7.	Test laboratory	9
2.8.	Measurement uncertainty	10
3.	Equipment Used During Conductive Test	11
4.	Transmitter RF Output Power	12
4.1.	Block diagram of test setup	12
4.2.	Limits	12
4.3.	Test procedure	12
4.4.	Test result	12
5.	Transmitter Frequency Stability	13
5.1.	Block diagram of test setup	13
5.2.	Limit	13
5.3.	Test procedure	13
5.4.	Test result	14
6.	Declared Channel Bandwidth and Occupied Channel Bandwidth	15
6.1.	Block diagram of test setup	15
6.2.	Limit	15
6.3.	Test procedure	15
6.4.	Test result	15
7.	Transmitter unwanted emissions in the spurious domain	16
7.1.	Test equipment	16
7.2.	Block diagram of test setup	17
7.3.	Limits	18
7.4.	Test procedure	18
7.5.	Test result	18
8.	Transmitter unwanted emissions in the out of band domain	27
8.1.	Block diagram of test setup	27

8.2. Limit 27
8.3. Test procedure 27
8.4. Test Result 28
8.5. Original test data 28
9. Transmitter intermodulation attenuation 30
9.1. Limits 30
9.2. Block diagram of test setup 30
9.3. Test procedure 30
9.4. Test result 31
10. Minimum performance criterion 32
10.1. Limits 32
10.2. Block diagram of test setup 32
10.3. Test procedure 32
10.4. Test result 32
11. Receiver Sensitivity 33
11.1. Limits 33
11.2. Block diagram of test setup 33
11.3. Test procedure 33
11.4. Test result 33
12. Receiver adjacent channel selectivity 34
12.1. Limits 34
12.2. Block diagram of test setup 34
12.3. Test procedure 34
12.4. Test result 34
13. Receiver blocking 35
13.1. Limits 35
13.2. Block diagram of test setup 35
13.3. Test procedure 35
13.4. Test result 35
14. Receiver unwanted emissions in the spurious domain 36
14.1. Test equipment 36
14.2. Block diagram of test setup 36
14.3. Limits 37
14.4. Test procedure 38
14.5. Test result 38
15. Test Setup Photograph 47
16. Photos of the AUDIO GUIDE SYSTEM 49
17. Appendix II 49

Test Report Declare

Applicant	:	NiceRF Wireless Technology LTD.
Address of Applicant	:	309-314, Bldg A,Hongdu business building, Xin'an street, Zone 43, Baoan Dist, Shenzhen 518101, China
Equipment under Test	:	Wireless voice intercom module
Model No.	:	SA618F22-C1
Manufacturer	:	NiceRF Wireless Technology LTD.
Address of Manufacturer	:	309-314, Bldg A,Hongdu business building, Xin'an street, Zone 43, Baoan Dist, Shenzhen 518101, China

Test Standard Used: ETSI EN 300 422-1 V2.2.1 (2021-11)

We Declare:

The equipment is tested by Guangdong Dongdian Testing Service Co., Ltd. and in the configuration tested the equipment complied with the standards specified above. The test results are contained in this test report and Guangdong Dongdian Testing Service Co., Ltd. is assumed of full responsibility for the accuracy and completeness of these tests.

After test and evaluation, our opinion is that the equipment in accordance with above standards about the electromagnetic compatibility requirements of Article 3.2 of the RE Directive.

Report No.:	DDT-RE24101414-1E01		
Date of Receipt:	2024/10/15	**Date of Test:**	2024/10/15 ~ 2024/12/12

Prepared By:

Johnson Huang

_____

Johnson Huang/Engineer

Approved By:

GUANGDONG DONGDIAN TESTING SERVICE CO.,LTD. 广东东电检测技术有限公司 Certificate and Report Seal 检验检测专用章

_____

Damon Hu/EMC Manager

Note: This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Guangdong Dongdian Testing Service Co., Ltd.

Revision History

Rev.	Revisions	Issue Date	Revised By
---	Initial issue	2024/12/12	

1. Summary of Test Results

1.1. Standard description

ETSI EN 300 422-1 V2.2.1 (2021-11): Wireless Microphones; Audio PMSE up to 3 GHz; Part 1: Audio PMSE Equipment up to 3 GHz; Harmonised Standard for access to radio spectrum.

1.2. Test result

Harmonized Standard ETSI EN 300 422-1					
Requirement		**Requirement Conditionality**			
No	Description	Reference: Clause No	U/C	Condition	Results
1	Transmitter RF Output Power	4.2.1	U	Apply all equipment	PASS
2	Transmitter Frequency Stability	4.2.2	U	Apply all equipment	PASS
3	Declared Channel Bandwidth and Occupied Channel Bandwidth	4.2.3	U	Apply all equipment	PASS
4	Transmitter unwanted emissions in the spurious domain	4.2.4.1	U	Apply all equipment	PASS
5	Transmitter unwanted emissions in the out of band domain	4.2.4.2	U	Apply all equipment	PASS
6	Transmitter intermodulation attenuation	4.2.5	U	Apply all equipment	PASS
7	Minimum performance criterion	4.3.1	U	Apply all equipment	PASS
8	Receiver sensitivity	4.3.2	U	Apply all equipment	PASS
9	Receiver adjacent channel selectivity	4.3.3	U	Apply all equipment	PASS
10	Receiver Blocking	4.3.4	U	Apply all equipment	PASS
11	Receiver unwanted emissions in the spurious domain	4.3.5	U	Apply all equipment	PASS
Note: U means unconditionally applicable. C is conditional upon the manufacturer's claimed functionality of the equipment.					

2. General Test Information

2.1. Description of AUDIO GUIDE SYSTEM

EUT Name	:	Wireless voice intercom module
Model Number	:	SA618F22-C1
AUDIO GUIDE SYSTEM Function Description	:	Please reference user manual of this device
Power Supply	:	DC 3.3V
Operation Frequency	:	826.3MHz-831.8MHz
Number of Channel	:	12 Channel
Modulation	:	FSK
Antenna Type	:	Rod Antenna, maximum PK gain: -3.46 dBi
Hardware Version	:	V1.0
Software Version	:	V1.0

Note : EUT is the abbreviation of equipment under test.

Crystal information:

Transmitter	crystal type	SMD X`TAL 5.0*3.2(4PAD)
	crystal frequency and carrier generation formula	Please refer to appendix II
Receiver	crystal frequency and local oscillator generation formula	Please refer to appendix II

Channel information:

Channel	Frequency (MHz)
1	826.3
2	826.8
3	827.3
4	827.8
5	828.3
6	828.8
7	829.3
8	829.8
9	830.3
10	830.8
11	831.3
12	831.8

2.2. Accessories of AUDIO GUIDE SYSTEM

Description of Accessories	Manufacturer	Model Number	Serial No.	Other
N/A	N/A	N/A	N/A	N/A

2.3. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number	EMC Compliance	SN
N/A	N/A	N/A	N/A	N/A

2.4. Block diagram of AUDIO GUIDE SYSTEM configuration for test



Switch channels by button control, test channels as below table.

Tested mode, channel information			
Mode	Setting Tx Power	Channel	Frequency (MHz)
TX mode	3	1	826.3
	3	2	828.8
	3	3	831.8
RX mode	/	1	826.3
	/	2	828.8
	/	3	831.8

2.5. Test environment conditions

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

Item	Normal Conditions	Extreme Conditions
Temperature range	21-25℃	LT: -30℃ to HT: +70℃
Humidity range	20-75%	N/A
Power supply	NV: DC 3.3V	Min: 2.3V - Max: 3.6V
Note 1: The Extreme temperature range and extreme voltages are declared by the manufacturer. Note 2: NTNV: Normal Temperature Normal Voltage, LTNV: Low Temperature Normal Voltage, HTNV: High Temperature Normal Voltage.		

2.6. Deviations of test standard

No deviation.

2.7. Test laboratory

Guangdong Dongdian Testing Service Co., Ltd.

Add.: Unit 2, Building 1, No.17, Zongbu 2nd Road, Songshan Lake Park, Dongguan, Guangdong, China 523808

Tel.: +86-0769-38826678, http://www.dgddt.com, Email: ddt@dgddt.com.

CNAS Accreditation No. L6451; A2LA Accreditation Number: 3870.01

FCC Designation Number: CN1182, Test Firm Registration Number: 540522

Innovation, Science and Economic Development Canada Site Registration Number: 10288A

Conformity Assessment Body identifier: CN0048

VCCI facility registration number: C-20087, T-20088, R-20123, R-20155, G-20118

2.8. Measurement uncertainty

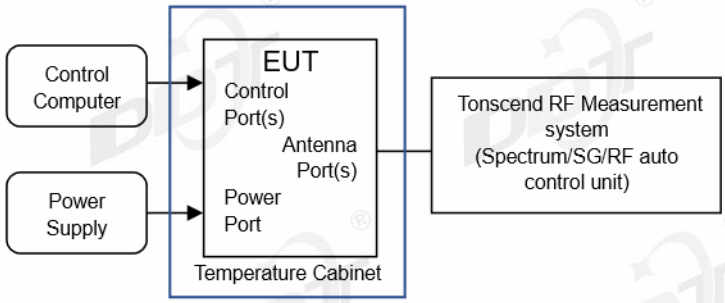
Test Item	Uncertainty
Occupied Channel Bandwidth	1.1%
RF Output Power, Conducted	0.74 dB
Power Spectral Density, Conducted	0.74 dB
Unwanted Emissions, Conducted	0.86 dB (10 MHz ≤ f < 3.6 GHz);
	1.40 dB (3.6 GHz≤ f < 8 GHz)
	1.66 dB (8 GHz≤ f < 22 GHz)
Temperature	0.4 ℃
Humidity	2%
DC and Low Frequency Voltage	1.0%
Time	0.6%
Duty Cycle	0.6%
Radiated Spurious Emissions (Substitution Method)	3.57 dB
Radiated Spurious Emissions (Pre-correction Method)	4.14 dB (30 MHz-1 GHz)
	5.32 dB (1 GHz-18 GHz)
	3.54 dB (18 GHz-26 GHz)
	4.30 dB (26 GHz-40 GHz)
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

3. Equipment Used During Conductive Test

Equipment	Manufacturer	Model No.	Serial Number	Last date/ Due date
☒RF Connected Test (RF Measurement System 3#)				
SIGNAL ANALYZER	R&S	FSV40	101407	2024/07/11 2025/07/08
Wideband Radio Communication Tester	R&S	CMW500	117491	2024/04/26 2025/03/31
EXG Analog Signal Generator	KEYSIGHT	N5173B	MY62153058	2024/07/11 2025/07/08
MXG Vector Signal Generator	Agilent	N5182A	MY48180912	2024/04/22 2025/03/31
RF Control Unit	Tonscend	JS0806-2	20C8060230	2024/04/26 2025/03/31
TEMP&HUMI Programmable Chamber	ZHIXIANG	ZXGDJS-150L	ZX170110-A	2024/05/14 2025/04/22
Test Software	Tonscend	JS1120-3	Ver.3.2.22	N/A

4. Transmitter RF Output Power

4.1. Block diagram of test setup



4.2. Limits

20 mW E.I.R.P.

4.3. Test procedure

Conducted measurement

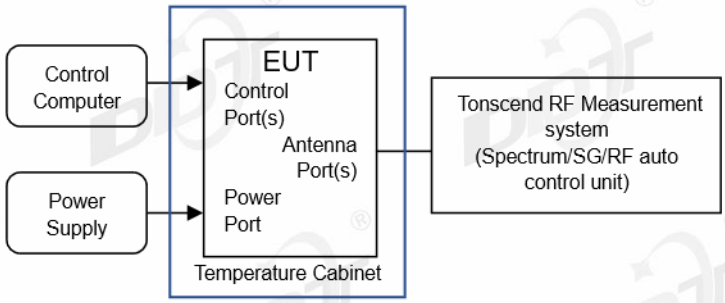
Refer to ETSI EN 300 422-1 clause 5.4.1.2.1 of to measure the transmitter RF Output Power.

4.4. Test result

Mode	Test conditions	Frequency (MHz)	Conducted Power Result (dBm)	Ant. Gain (dBi)	E.I.R.P (dBm)	Result (mW)	Limit (mW)	Verdict
Tx mode	NVLT	826.3	10.51	-3.46	7.05	5.07	20	PASS
		828.8	10.45	-3.46	6.99	5.00	20	PASS
		831.8	10.40	-3.46	6.94	4.94	20	PASS
	NVNT	826.3	10.41	-3.46	6.95	4.95	20	PASS
		828.8	10.40	-3.46	6.94	4.94	20	PASS
		831.8	10.39	-3.46	6.93	4.93	20	PASS
	NVHT	826.3	10.78	-3.46	7.32	5.40	20	PASS
		828.8	10.65	-3.46	7.19	5.24	20	PASS
		831.8	10.41	-3.46	6.95	4.95	20	PASS

5. Transmitter Frequency Stability

5.1. Block diagram of test setup



5.2. Limit

+/- 20 x 10^{-6} or less (20ppm) (for frequencies below 1 GHz)

+/- 15 x 10^{-6} or less (15ppm) (for frequencies between 1 GHz and 2 GHz)

+/- 10 x 10^{-6} or less (10ppm) (for frequencies above 2 GHz)

5.3. Test procedure

(1) Connected the AUDIO GUIDE SYSTEM's antenna port to the Spectrum Analyzer by suitable attenuator, set the Spectrum Analyzer as below:

Centre Frequency: The centre frequency of the channel under test.

Resolution BW: 10 kHz.

Video BW: 10 kHz.

Span: 1 MHz.

Detector: Peak.

Trace Mode: Max Hold.

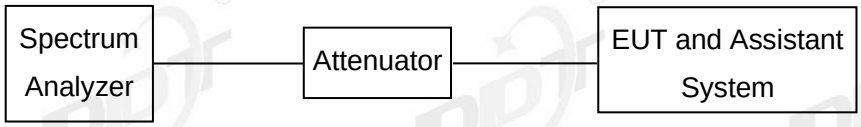
(2) When the trace is complete, find the peak value of the power envelope and record the frequency.

5.4. Test result

Mode	Test conditions	Frequency (MHz)	Measured (MHz)	Tolerance (kHz)	Tolerance (ppm)	Limit (ppm)	Verdict
Carrier Tx mode	NVLT	826.3	826.2935	-6.50	-7.87	20+/-	PASS
		828.8	828.7935	-6.50	-7.84	20+/-	PASS
		831.8	831.7935	-6.50	-7.81	20+/-	PASS
	NVNT	826.3	826.2935	-6.50	-7.87	20+/-	PASS
		828.8	828.7935	-6.50	-7.84	20+/-	PASS
		831.8	831.7943	-5.70	-6.85	20+/-	PASS
	NVHT	826.3	826.2935	-6.50	-7.87	20+/-	PASS
		828.8	828.7935	-6.50	-7.84	20+/-	PASS
		831.8	831.7943	-5.70	-6.85	20+/-	PASS

6. Declared Channel Bandwidth and Occupied Channel Bandwidth

6.1. Block diagram of test setup



6.2. Limit

For equipment employing analogue modulation techniques (e.g. FM), the Occupied Channel Bandwidth shall be up to 100 % of the Declared Channel Bandwidth.

6.3. Test procedure

(1) Connected the AUDIO GUIDE SYSTEM's antenna port to the Spectrum Analyzer by suitable attenuator, set the Spectrum Analyzer as below:

Centre Frequency: = fcm (actual centre frequency).

Resolution BW: 1 kHz.

Video BW: 1 kHz.

Span: 5 x B.

Detector: Peak.

Trace Mode: Clear Write.

Sweep Points ≥ Span / RBW

Measurement Time ≥ 20 s

Sweep Time = Measurement Time

(2) Use the 99 % bandwidth function of the spectrum analyser to measure the Occupied Channel Bandwidth of the DUT.

6.4. Test result

Pass.

The operating channel bandwidth of the AUDIO GUIDE SYSTEM is 150 kHz declared by the manufacturer.

Frequency (MHz)	OBW Result (kHz)	Declared Channel Bandwidth (kHz)	Verdict
826.3	423.07	600	PASS
828.8	423.07	600	PASS
831.8	423.07	600	PASS

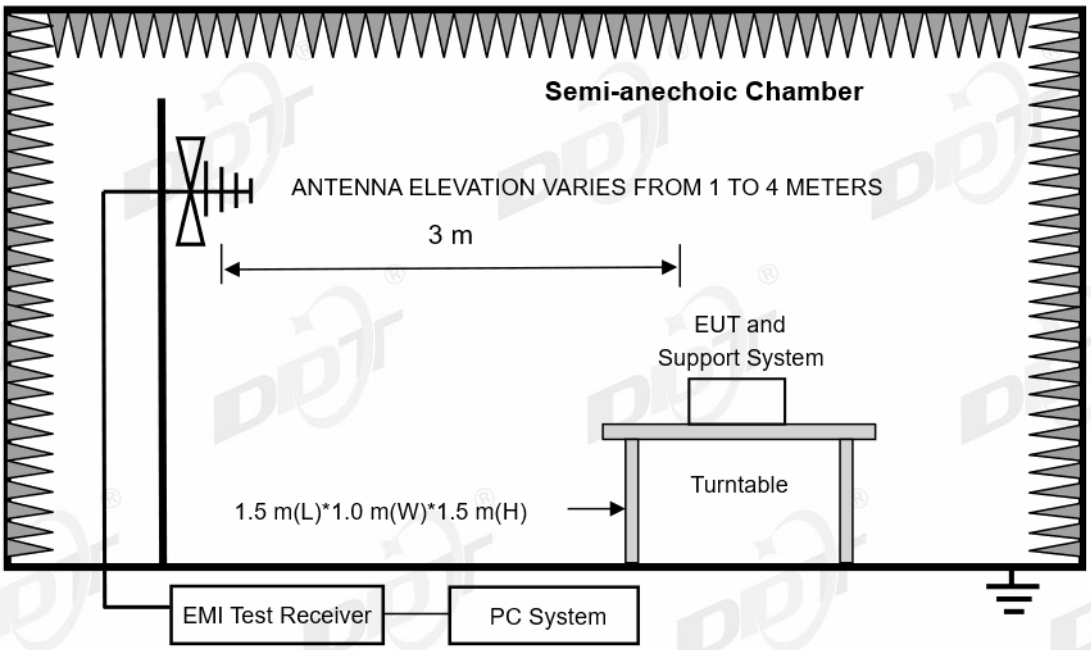
7. Transmitter unwanted emissions in the spurious domain

7.1. Test equipment

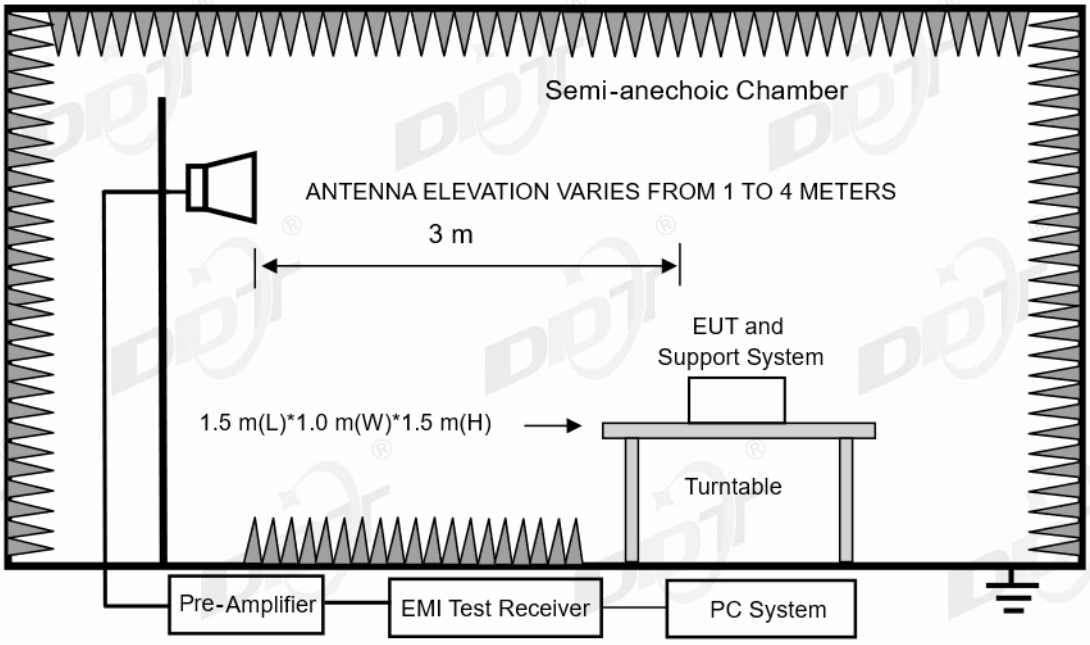
Equipment	Manufacturer	Model No.	Serial No.	Cal Due To
Micro-Tronics filters	REBES	BRM50702	DDT-ZC03242	/
RF Cable	N/A	W13.02 AP1-X2	DDT-ZC04023	2024/04/21 2025/03/31
Pre-amplifier	COM-POWER	PAM-118A	DDT-ZC01293	2024/07/14 2025/07/08
Active Loop Antenna	Schwarzbeck	FMZB1519	DDT-ZC00524	2024/09/10 2025/09/10
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	DDT-ZC00506	2024/04/26 2025/04/26
Pre-amplifier	COM-POWER	PAM-840A	DDT-ZC01693	2024/04/27 2025/03/31
Micro-Tronics filters	REBES	BRM50716	DDT-ZC03240	/
Hochgewinn-Hornantenne	SCHWARZBECK	BBHA 9120 D	DDT-ZC02129	2024/09/17 2025/09/18
High pass filter	Micro-Tronics	HPM50102	DDT-ZC00561	2024/05/14 2025/04/22
RF cable	Yuhu Technology	JCTB810-NJ-NJ-9M	DDT-ZC02538	2024/04/23 2025/03/31
High Pass filter	Xi'an Xingbo	XBLBQ-GTA67	DDT-ZC02179	2024/05/14 2025/04/22
ELECTRIC AND MAGNETIC FIELD ANALYZER	Narda	EHP-200A	DDT-ZC01401	2024/09/20 2025/08/28
RF cable	Yuhu Technology	ZT26S-SMAJ-SMAJ-1M	DDT-ZC02037	2024/04/23 2025/03/31
RF Cable	N/A	W24.02 HL-562	DDT-ZC04022	2024/04/21 2025/03/31
PSA Series Spectrum Analyzer	Agilent	E4447A	DDT-ZC00517	2024/04/23 2025/03/31
EMI TEST RECEIVER	R&S	ESU26	DDT-ZC01909	2024/04/23 2025/03/31
RF cable	Zhongke Junchuang	JCT26S-NJ-NJ-1.5M	DDT-ZC02762	2024/04/20 2025/03/31
High pass filter	Micro-Tronics	HPM50108	DDT-ZC00560	2024/05/14 2025/04/22
Trilog Broadband Antenna	Schwarzbeck	VULB 9163	DDT-ZC02050	2024/07/11 2025/07/11

7.2. Block diagram of test setup

In 3 m Anechoic Chamber, test setup diagram for 30 MHz - 1 GHz:



In 3 m Anechoic Chamber, test setup diagram for frequency above 1 GHz:



Note: Install an appropriate filter at the input of the measurement system power amplifier. This filter can attenuate the fundamental emission of the AUDIO GUIDE SYSTEM and allow an accurate measurement of the associated harmonics and spurious emissions. The filter had been characterized, and the attenuation loss factors had been accounted for in the measurement results.

7.3. Limits

Frequency Range	Maximum power e.r.p (≤1GHz) e.i.r.p（>1GHz）	Bandwidth
30 MHz to 47 MHz	-36 dBm	100 kHz
47 MHz to 74 MHz	-54 dBm	100 kHz
74 MHz to 87.5 MHz	-36 dBm	100 kHz
87.5 MHz to 118 MHz	-54 dBm	100 kHz
118 MHz to 174 MHz	-36 dBm	100 kHz
174 MHz to 230 MHz	-54 dBm	100 kHz
230 MHz to 470 MHz	-36 dBm	100 kHz
470 MHz to 862 MHz	-54 dBm	100 kHz
862 MHz to 1 GHz	-36 dBm	100 kHz
1 GHz to 10 GHz	-30 dBm	1 MHz

Note: The upper frequency is tested to the 5th harmonic of the operating frequency (10 GHz).

7.4. Test procedure

(1) Scan from 30MHz to 10GHz, find the maximum radiation frequency to measure.

(2) The technique used to find the Spurious Emissions of the transmitter was the antenna substitution method. Substitution method was performed to determine the actual ERP/EIRP emission levels of the AUDIO GUIDE SYSTEM.

(3) Refer to EN 300 422-1 V2.2.1 Clause 5.4.4.2.3 and Annex D.

7.5. Test result

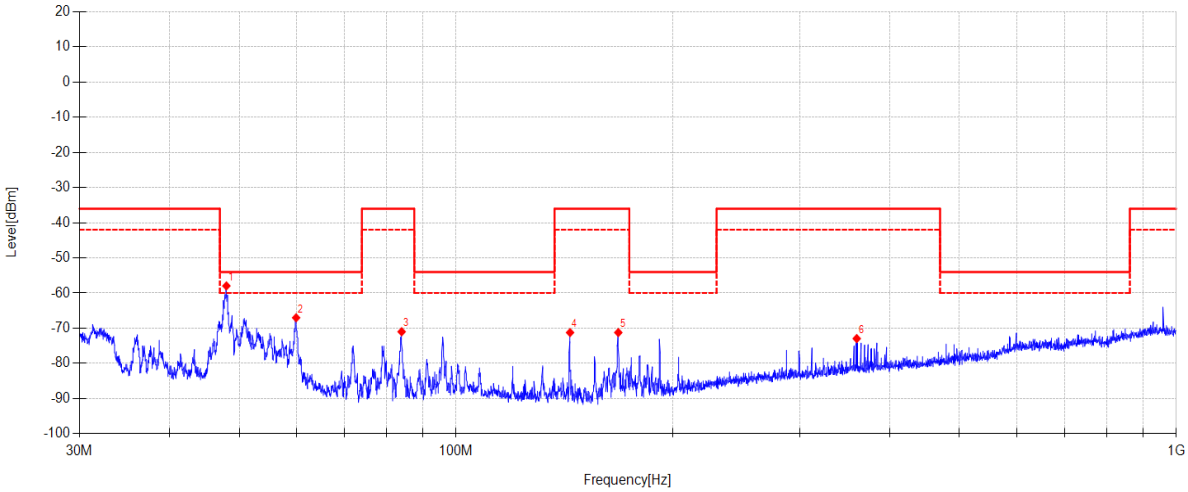
Pass. (See below detailed test result)
Note: All the emissions are measured with PK detector.

Radiated Emission test (below 1 GHz)

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-10-27	**Tested By**:	Zhong Nan
EUT:	Wireless voice intercom module	**Model Number**:	SA618F22-C1
Test Mode:	831.8 MHz TX Mode	**Power Supply**:	DC 3.3V
Condition:	Temp:21.9°C;Humi:51.0%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24101414-1E\CE BELOW1G\5		
Memo:	Sample NumberS24101414-1E Power Setting:7		

Test Graph



Data List									
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Factor [dB]**	**Level [dBm]**	**Limit [dBm]**	**Margin [dB]**	**Detector**	**Polarity**	**Type**
1	47.989	49.19	-107.15	-57.96	-54.00	3.96	PK	Horizontal	ERP
2	59.977	42.32	-109.33	-67.01	-54.00	13.01	PK	Horizontal	ERP
3	84.034	43.01	-113.99	-70.98	-36.00	34.98	PK	Horizontal	ERP
4	143.986	43.11	-114.34	-71.23	-36.00	35.23	PK	Horizontal	ERP
5	168.002	42.24	-113.46	-71.22	-36.00	35.22	PK	Horizontal	ERP
6	360.016	32.02	-104.96	-72.94	-36.00	36.94	PK	Horizontal	ERP

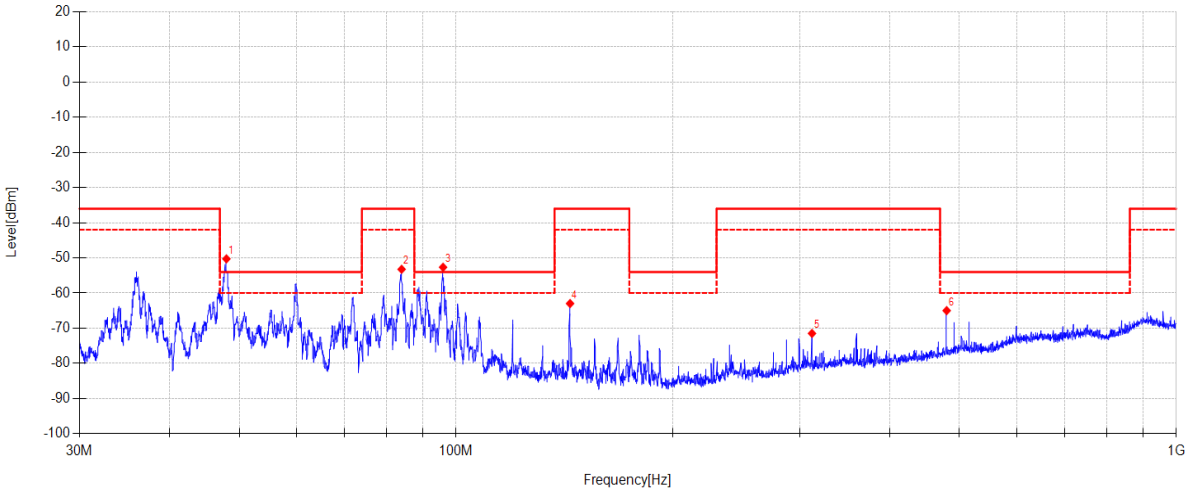
Data List									
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Factor [dB]**	**Level [dBm]**	**Limit [dBm]**	**Margin [dB]**	**Detector**	**Polarity**	**Type**
1	47.989	47.33	-107.15	-59.82	-54.00	5.82	RMS	Horizontal	ERP

Note:
1. Level = Reading + Factor.
2. Factor = Antenna Factor + Cable Loss - Preamp Gain + Site Loss Factor - 107.
3. Test setup: RBW: 100 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-10-27	**Tested By**:	Zhong Nan
EUT:	Wireless voice intercom module	**Model Number**:	SA618F22-C1
Test Mode:	831.8 MHz TX Mode	**Power Supply**:	DC 3.3V
Condition:	Temp:21.9°C;Humi:51.0%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24101414-1E\CE BELOW1G\6		
Memo:	Sample NumberS24101414-1E Power Setting:7		

Test Graph



Data List									
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Factor [dB]**	**Level [dBm]**	**Limit [dBm]**	**Margin [dB]**	**Detector**	**Polarity**	**Type**
1	47.989	61.61	-111.88	-50.27	-54.00	-3.73	PK	Vertical	ERP
2	84.034	58.24	-111.48	-53.24	-36.00	17.24	PK	Vertical	ERP
3	95.942	54.89	-107.55	-52.66	-54.00	-1.34	PK	Vertical	ERP
4	143.986	46.72	-109.69	-62.97	-36.00	26.97	PK	Vertical	ERP
5	312.033	32.86	-104.33	-71.47	-36.00	35.47	PK	Vertical	ERP
6	479.925	36.30	-101.29	-64.99	-54.00	10.99	PK	Vertical	ERP

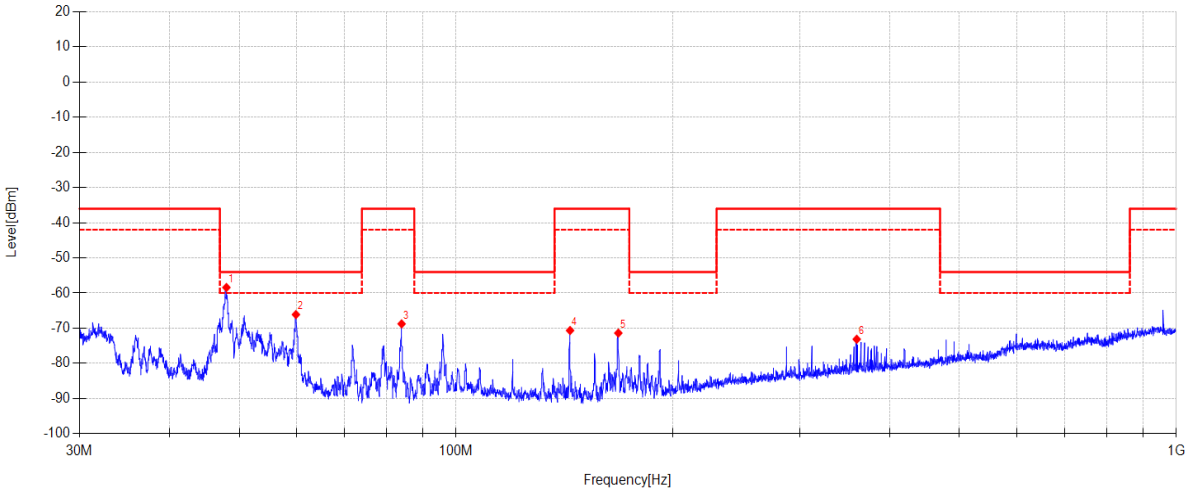
Data List									
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Factor [dB]**	**Level [dBm]**	**Limit [dBm]**	**Margin [dB]**	**Detector**	**Polarity**	**Type**
1	47.926	49.59	-111.88	-62.29	-54.00	8.29	RMS	Vertical	ERP
2	47.951	50.29	-111.88	-61.59	-54.00	7.59	RMS	Vertical	ERP

Note:
1. Level = Reading + Factor.
2. Factor = Antenna Factor + Cable Loss - Preamp Gain + Site Loss Factor - 107.
3. Test setup: RBW: 100 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-10-27	**Tested By**:	Zhong Nan
EUT:	Wireless voice intercom module	**Model Number**:	SA618F22-C1
Test Mode:	826.3 MHz TX Mode	**Power Supply**:	DC 3.3V
Condition:	Temp:21.9°C;Humi:51.0%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24101414-1E\CE BELOW1G\7		
Memo:	Sample NumberS24101414-1E Power Setting:7		

Test Graph



Data List									
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Factor [dB]**	**Level [dBm]**	**Limit [dBm]**	**Margin [dB]**	**Detector**	**Polarity**	**Type**
1	47.989	48.74	-107.15	-58.41	-54.00	4.41	PK	Horizontal	ERP
2	59.935	43.21	-109.32	-66.11	-54.00	12.11	PK	Horizontal	ERP
3	84.034	45.24	-113.99	-68.75	-36.00	32.75	PK	Horizontal	ERP
4	143.986	43.70	-114.34	-70.64	-36.00	34.64	PK	Horizontal	ERP
5	168.002	42.09	-113.46	-71.37	-36.00	35.37	PK	Horizontal	ERP
6	360.016	31.84	-104.96	-73.12	-36.00	37.12	PK	Horizontal	ERP

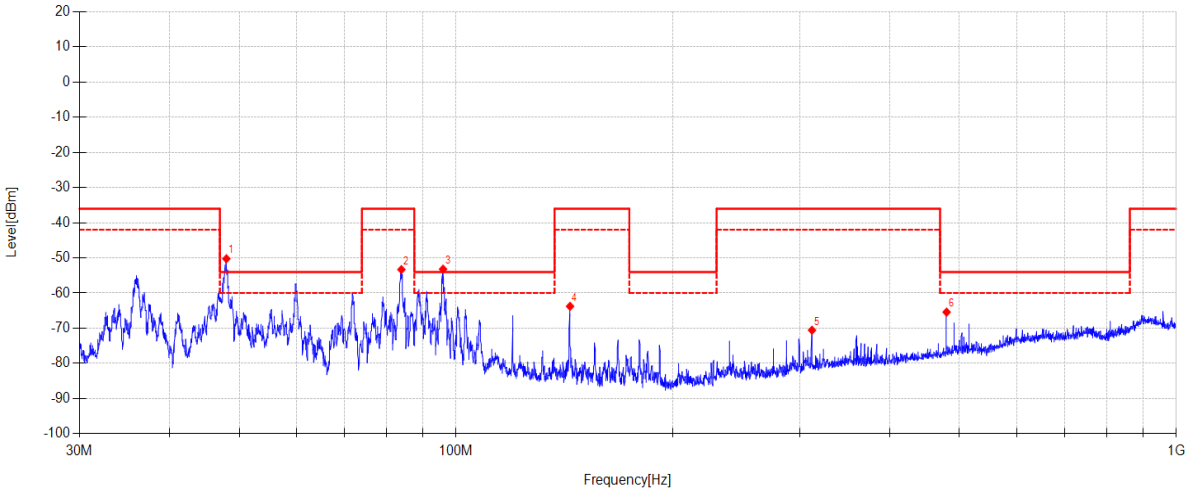
Data List									
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Factor [dB]**	**Level [dBm]**	**Limit [dBm]**	**Margin [dB]**	**Detector**	**Polarity**	**Type**
1	47.989	48.27	-107.15	-58.88	-54.00	4.88	RMS	Horizontal	ERP

Note:
1. Level = Reading + Factor.
2. Factor = Antenna Factor + Cable Loss - Preamp Gain + Site Loss Factor - 107.
3. Test setup: RBW: 100 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-10-27	**Tested By**:	Zhong Nan
EUT:	Wireless voice intercom module	**Model Number**:	SA618F22-C1
Test Mode:	826.3 MHz TX Mode	**Power Supply**:	DC 3.3V
Condition:	Temp:21.9°C;Humi:51.0%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24101414-1E\CE BELOW1G\8		
Memo:	Sample NumberS24101414-1E Power Setting:7		

Test Graph



Data List									
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Factor [dB]**	**Level [dBm]**	**Limit [dBm]**	**Margin [dB]**	**Detector**	**Polarity**	**Type**
1	47.989	61.65	-111.88	-50.23	-54.00	-3.77	PK	Vertical	ERP
2	83.975	58.19	-111.51	-53.32	-36.00	17.32	PK	Vertical	ERP
3	95.942	54.36	-107.55	-53.19	-54.00	-0.81	PK	Vertical	ERP
4	143.986	45.93	-109.69	-63.76	-36.00	27.76	PK	Vertical	ERP
5	312.033	33.78	-104.33	-70.55	-36.00	34.55	PK	Vertical	ERP
6	479.925	35.88	-101.29	-65.41	-54.00	11.41	PK	Vertical	ERP

Data List									
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Factor [dB]**	**Level [dBm]**	**Limit [dBm]**	**Margin [dB]**	**Detector**	**Polarity**	**Type**
1	47.989	51.11	-111.88	-60.77	-54.00	6.77	RMS	Vertical	ERP
2	95.942	47.71	-107.55	-59.84	-54.00	5.84	RMS	Vertical	ERP

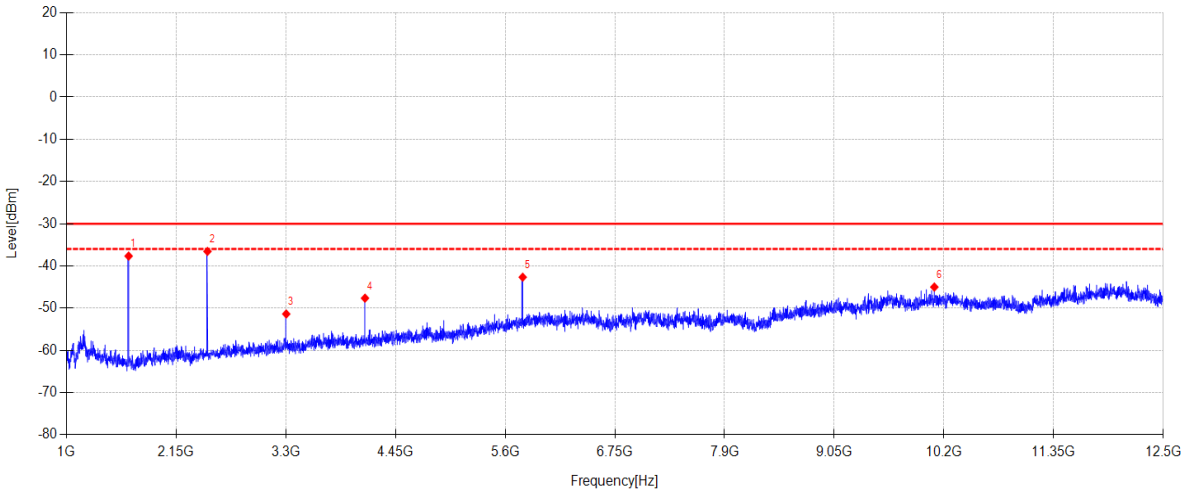
Note:
1. Level = Reading + Factor.
2. Factor = Antenna Factor + Cable Loss - Preamp Gain + Site Loss Factor - 107.
3. Test setup: RBW: 100 kHz, VBW: 300 kHz, Sweep time: auto.

Radiated Emission test (above 1 GHz)

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-10-27	**Tested By**:	Zhong Nan
EUT:	Wireless voice intercom module	**Model Number**:	SA618F22-C1
Test Mode:	826.3 MHz TX Mode	**Power Supply**:	DC 3.3V
Condition:	Temp:21.9°C;Humi:51.0%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24101414-1E\CE ABOVE1G\1		
Memo:	Sample NumberS24101414-1E Power Setting:7		

Test Graph



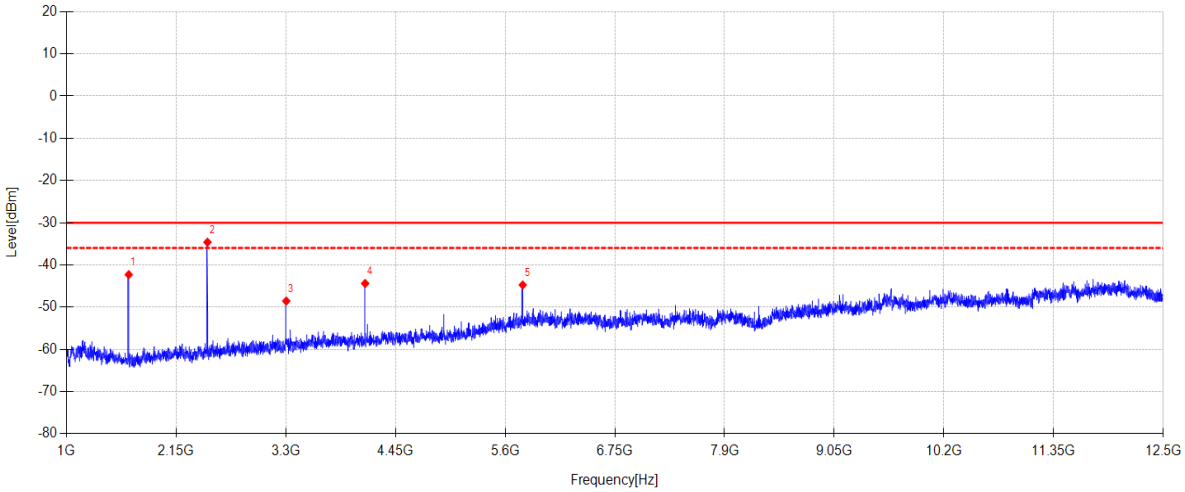
Data List									
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Factor [dB]**	**Level [dBm]**	**Limit [dBm]**	**Margin [dB]**	**Detector**	**Polarity**	**Type**
1	1652.050	68.37	-106.03	-37.66	-30.00	7.66	PK	Horizontal	EIRP
2	2478.900	68.62	-105.18	-36.56	-30.00	6.56	PK	Horizontal	EIRP
3	3304.600	52.31	-103.69	-51.38	-30.00	21.38	PK	Horizontal	EIRP
4	4130.300	54.31	-101.94	-47.63	-30.00	17.63	PK	Horizontal	EIRP
5	5784.000	53.15	-95.81	-42.66	-30.00	12.66	PK	Horizontal	EIRP
6	10099.950	43.39	-88.39	-45.00	-30.00	15.00	PK	Horizontal	EIRP

Note:
1. Level = Reading + Factor.
2. Factor = Antenna Factor + Cable Loss + Filter Factor - Preamp Gain + Site Loss Factor - 107.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-10-27	**Tested By**:	Zhong Nan
EUT:	Wireless voice intercom module	**Model Number**:	SA618F22-C1
Test Mode:	826.3 MHz TX Mode	**Power Supply**:	DC 3.3V
Condition:	Temp:21.9°C;Humi:51.0%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24101414-1E\CE ABOVE1G\2		
Memo:	Sample NumberS24101414-1E Power Setting:7		

Test Graph



Data List									
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Factor [dB]**	**Level [dBm]**	**Limit [dBm]**	**Margin [dB]**	**Detector**	**Polarity**	**Type**
1	1653.200	63.44	-105.73	-42.29	-30.00	12.29	PK	Vertical	EIRP
2	2478.900	70.40	-105.02	-34.62	-30.00	4.62	PK	Vertical	EIRP
3	3304.600	55.11	-103.66	-48.55	-30.00	18.55	PK	Vertical	EIRP
4	4131.450	57.64	-102.03	-44.39	-30.00	14.39	PK	Vertical	EIRP
5	5784.000	51.15	-95.90	-44.75	-30.00	14.75	PK	Vertical	EIRP

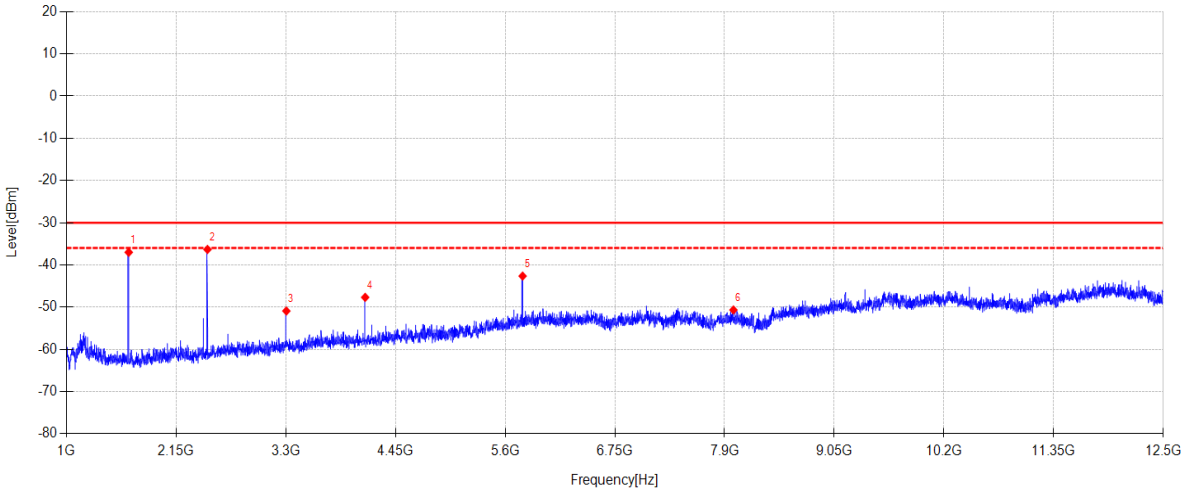
Data List									
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Factor [dB]**	**RMS Value [dBm]**	**RMS Limit [dBm]**	**RMS Margin [dB]**	**Detector**	**Polarity**	**Type**
1	2478.228	66.33	-105.02	-38.69	-30.00	8.69	RMS	Vertical	EIRP

Note:
1. Level = Reading + Factor.
2. Factor = Antenna Factor + Cable Loss + Filter Factor - Preamp Gain + Site Loss Factor - 107.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-10-27	**Tested By**:	Zhong Nan
EUT:	Wireless voice intercom module	**Model Number**:	SA618F22-C1
Test Mode:	831.8 MHz TX Mode	**Power Supply**:	DC 3.3V
Condition:	Temp:21.9°C;Humi:51.0%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24101414-1E\CE ABOVE1G\3		
Memo:	Sample NumberS24101414-1E Power Setting:7		

Test Graph



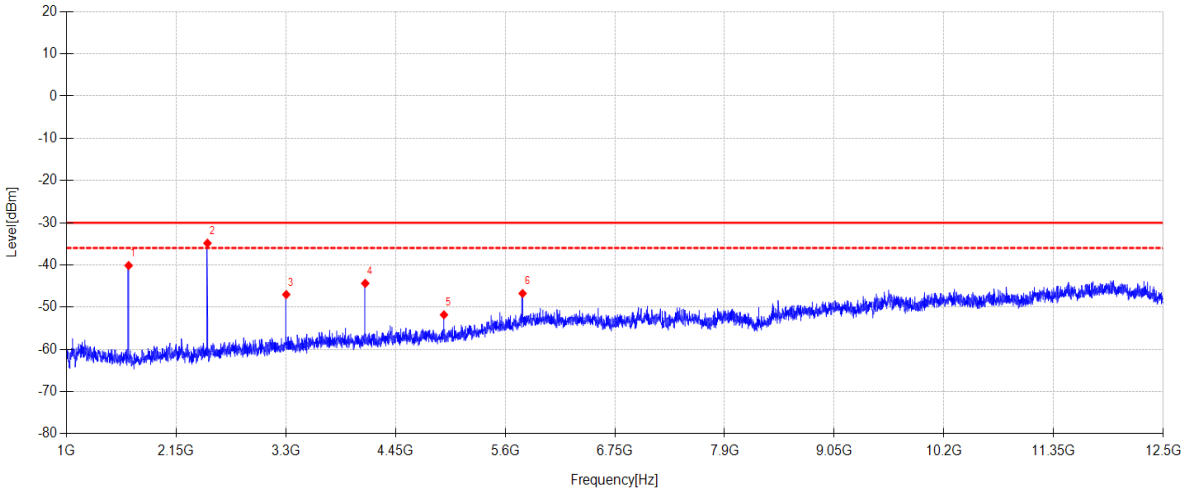
Data List									
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Factor [dB]**	**Level [dBm]**	**Limit [dBm]**	**Margin [dB]**	**Detector**	**Polarity**	**Type**
1	1653.200	69.03	-106.03	-37.00	-30.00	7.00	PK	Horizontal	EIRP
2	2478.900	68.85	-105.18	-36.33	-30.00	6.33	PK	Horizontal	EIRP
3	3305.750	52.78	-103.69	-50.91	-30.00	20.91	PK	Horizontal	EIRP
4	4132.600	54.25	-101.93	-47.68	-30.00	17.68	PK	Horizontal	EIRP
5	5782.850	53.17	-95.81	-42.64	-30.00	12.64	PK	Horizontal	EIRP
6	7993.150	43.26	-93.92	-50.66	-30.00	20.66	PK	Horizontal	EIRP

Note:
1. Level = Reading + Factor.
2. Factor = Antenna Factor + Cable Loss + Filter Factor - Preamp Gain + Site Loss Factor - 107.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-10-27	**Tested By**:	Zhong Nan
EUT:	Wireless voice intercom module	**Model Number**:	SA618F22-C1
Test Mode:	831.8 MHz TX Mode	**Power Supply**:	DC 3.3V
Condition:	Temp:21.9°C;Humi:51.0%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24101414-1E\CE ABOVE1G\4		
Memo:	Sample NumberS24101414-1E Power Setting:7		

Test Graph



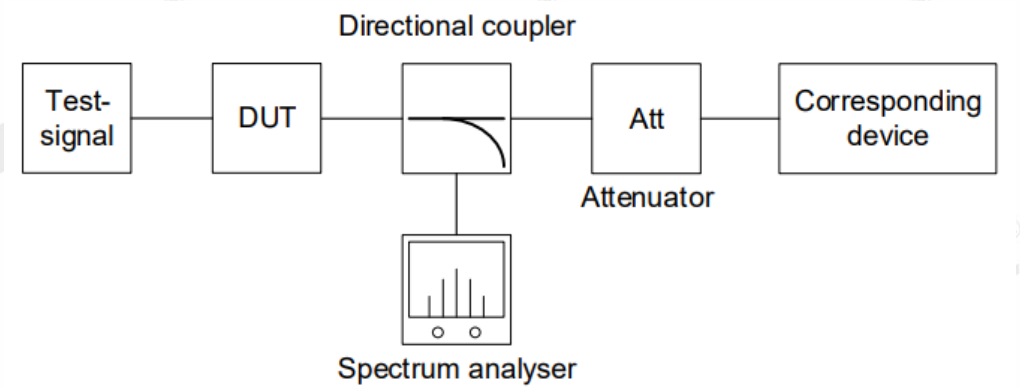
Data List									
NO.	**Freq. [MHz]**	**Reading [dBμV/m]**	**Factor [dB]**	**Level [dBm]**	**Limit [dBm]**	**Margin [dB]**	**Detector**	**Polarity**	**Type**
1	1652.050	65.59	-105.73	-40.14	-30.00	10.14	PK	Vertical	EIRP
2	2478.900	70.17	-105.02	-34.85	-30.00	4.85	PK	Vertical	EIRP
3	3304.600	56.65	-103.66	-47.01	-30.00	17.01	PK	Vertical	EIRP
4	4132.600	57.66	-102.02	-44.36	-30.00	14.36	PK	Vertical	EIRP
5	4958.300	48.17	-99.98	-51.81	-30.00	21.81	PK	Vertical	EIRP
6	5782.850	49.15	-95.90	-46.75	-30.00	16.75	PK	Vertical	EIRP

Data List									
NO.	**Freq. [MHz]**	**Reading [dBμV/m]**	**Factor [dB]**	**RMS Value [dBm]**	**RMS Limit [dBm]**	**RMS Margin [dB]**	**Detector**	**Polarity**	**Type**
1	2478.900	68.12	-105.02	-36.90	-30.00	6.90	RMS	Vertical	EIRP

Note:
1. Level = Reading + Factor.
2. Factor = Antenna Factor + Cable Loss + Filter Factor - Preamp Gain + Site Loss Factor - 107.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

8. Transmitter unwanted emissions in the out of band domain

8.1. Block diagram of test setup



8.2. Limit

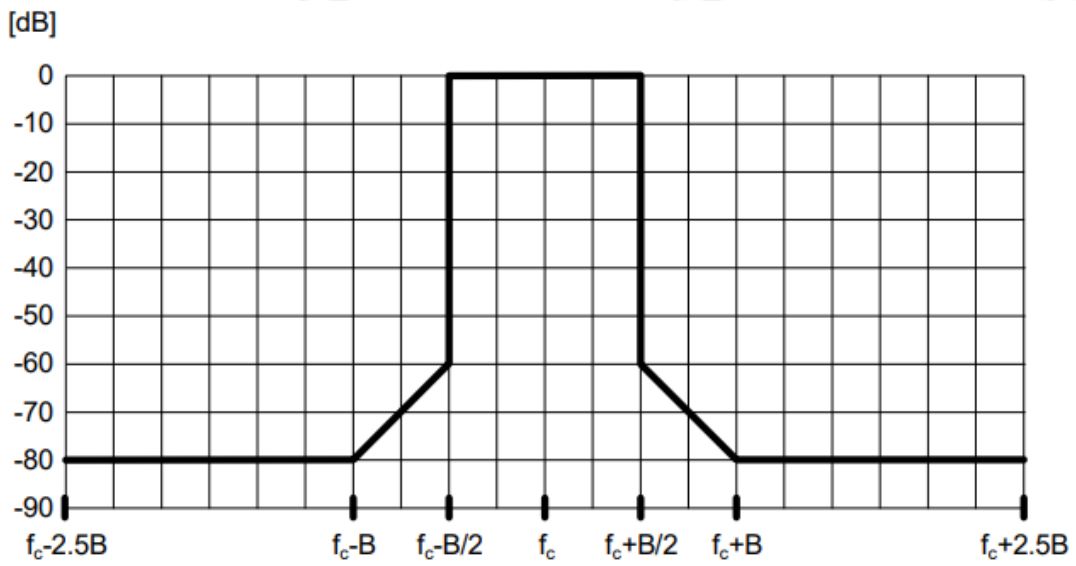


Figure 1: Transmit spectral power mask for equipment employing analogue modulation, RBW = 1 kHz

8.3. Test procedure

(1) Connected the AUDIO GUIDE SYSTEM's antenna port to the Spectrum Analyzer by suitable attenuator, set the Spectrum Analyzer as below:

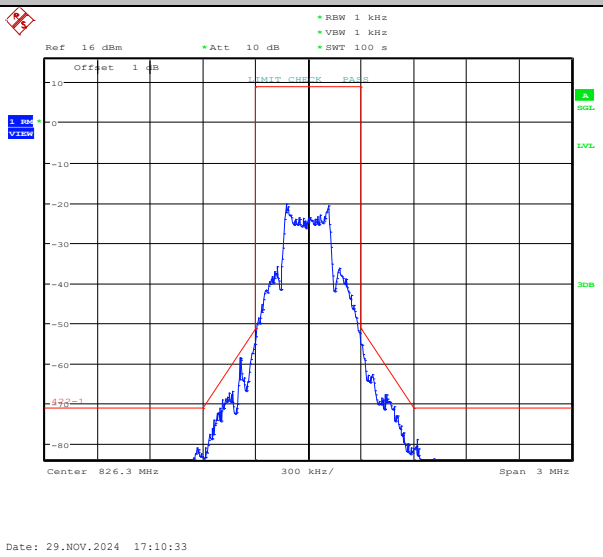
- centre frequency: fc: Transmitter (Tx) nominal frequency;
- dispersion (Span): fc – 2.5B MHz to fc + 2.5B MHz;
- Resolution BandWidth (RBW): 1 kHz;
- Video BandWidth (VBW): 1 kHz;
- detector: RMS.

8.4. Test Result

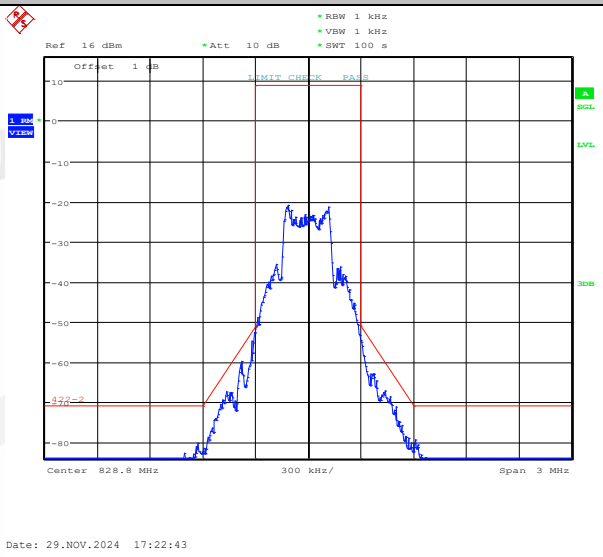
Frequency (MHz)	Result
826.3	PASS
828.8	PASS
831.8	PASS

8.5. Original test data

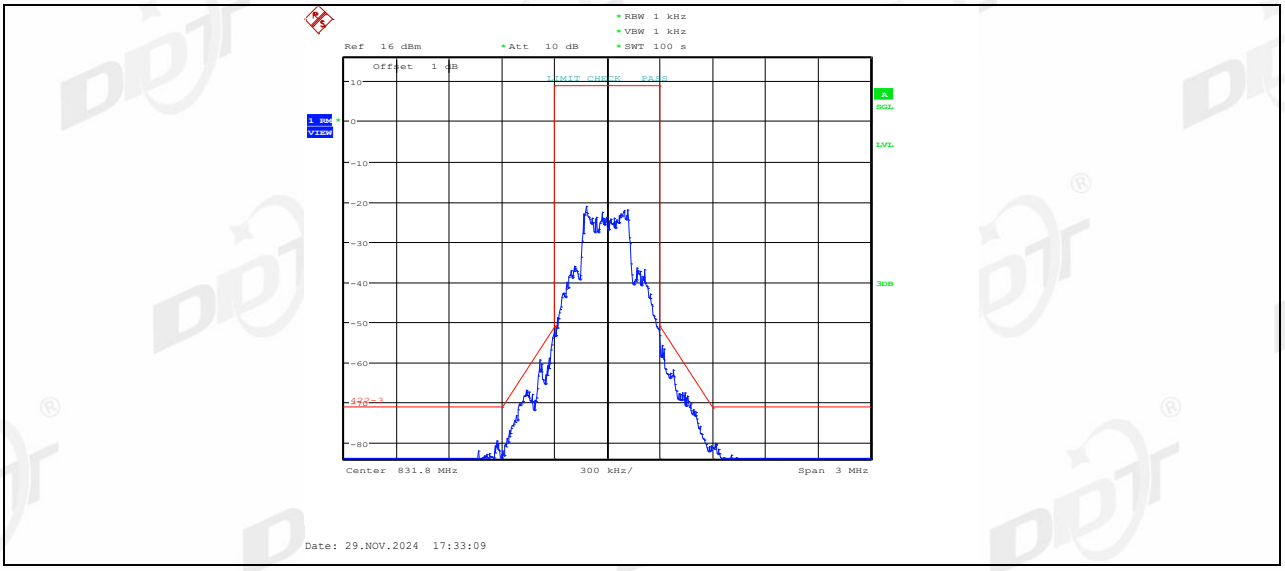
826.3MHz



828.8MHz



831.8MHz

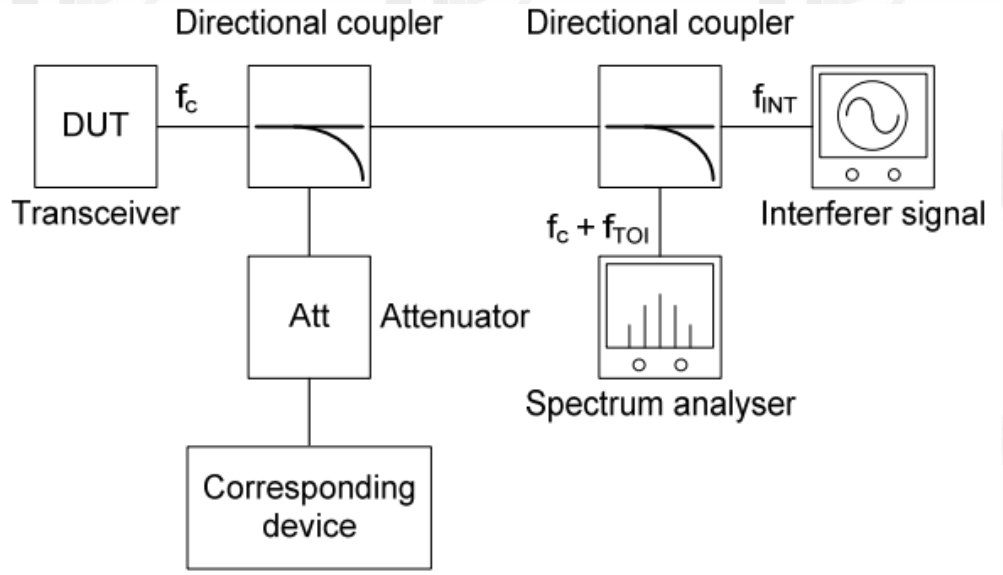

RBW 1 kHz
VBW 1 kHz
SWT 100 s
Ref 16 dBm
Att 10 dB
Offset 1 dB
LIMIT CHECK PASS
10
0
-10
-20
-30
-40
-50
-60
-70
-80
SGL
1VL
3DB
Center 831.8 MHz
300 kHz/
Span 3 MHz
Date: 29.NOV.2024 17:33:09

9. Transmitter intermodulation attenuation

9.1. Limits

The maximum resulting IMD product shall be at least 40 dB below the output power of the DUT.

9.2. Block diagram of test setup



9.3. Test procedure

Refer to the test method described in EN 300 422-1 clause 5.4.5.2 of to measure the transmitter intermodulation attenuation.

9.4. Test result

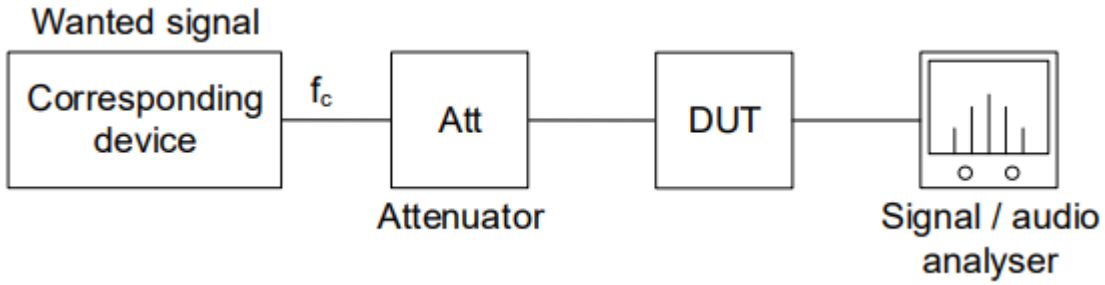
Frequency (MHz)	Output power of the DUT (dBm)	Ftoi (MHz)	Iterferer signal (dBm))	The maximum resulting IMD product below the output power of the DUT (dB)	Limit	Verdict
826.3	10.41	-19.59	816.3	70.52	≥ 40 dB	PASS
		-19.59	836.3	73.64	≥ 40 dB	PASS
		-19.59	846.3	71.51	≥ 40 dB	PASS
		-19.59	806.3	71.41	≥ 40 dB	PASS
828.8	10.40	-19.60	818.8	69.43	≥ 40 dB	PASS
		-19.60	838.8	69.52	≥ 40 dB	PASS
		-19.60	848.8	68.34	≥ 40 dB	PASS
		-19.60	808.8	69.21	≥ 40 dB	PASS
831.8	10.39	-19.61	821.8	68.13	≥ 40 dB	PASS
		-19.61	841.8	69.24	≥ 40 dB	PASS
		-19.61	851.8	68.51	≥ 40 dB	PASS
		-19.61	811.8	68.14	≥ 40 dB	PASS

10. Minimum performance criterion

10.1. Limits

The minimum performance criterion for the following receiver tests shall be 30 dB SINAD at the audio output of the DUT port for a measurement time ≥ 10 s without any dropouts or time outs in the measurement routine.

10.2. Block diagram of test setup



10.3. Test procedure

Refer to the test method described in EN 300 422-1 clause 5.5.1.2.1 of to measure the minimum performance criterion.

10.4. Test result

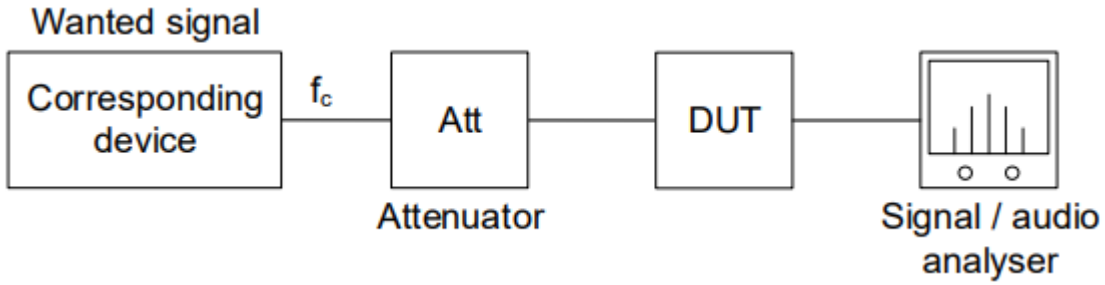
Operation Frequency (MHz)	SINAD (dB)	Measurement Time (s)	Phenomenon	
			Any Dropouts	Time outs
828.8	30	10	No	No
Result: **PASS**				

11. Receiver Sensitivity

11.1. Limits

Rx sensitivity ≤ -90 dBm

11.2. Block diagram of test setup



11.3. Test procedure

Refer to the test method described in EN 300 422-1 clause 5.5.1.2.1 of to measure the Receiver sensitivity.

11.4. Test result

Operation Frequency (MHz)	Sensitivity level (dBm)	Limit	Verdict
828.8	-105	Receiver Sensitivity≤-90dBm	PASS

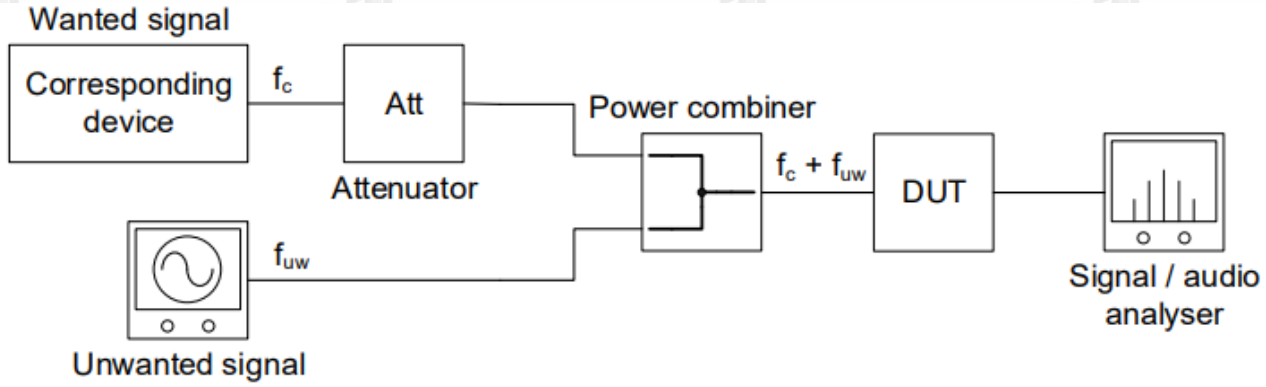
12. Receiver adjacent channel selectivity

12.1. Limits

Table 8: Limits for receiver adjacent channel selectivity

Receiver category	Limits
A	30 dB
B	25 dB
C	15 dB

12.2. Block diagram of test setup



12.3. Test procedure

Refer to the test method described in EN 300 422-1 clause 5.5.2.2.1 of to measure Receiver adjacent channel selectivity.

12.4. Test result

Operation Frequency (MHz)	The ratio of that power level of the unwanted signal to the power level of the wanted signal at the first adjacent channel centre frequency below the wanted channel	The ratio of that power level of the unwanted signal to the power level of the wanted signal at the first adjacent channel centre frequency above the wanted channel	Limit	Verdict
828.8	62	63	≥30 dB	PASS

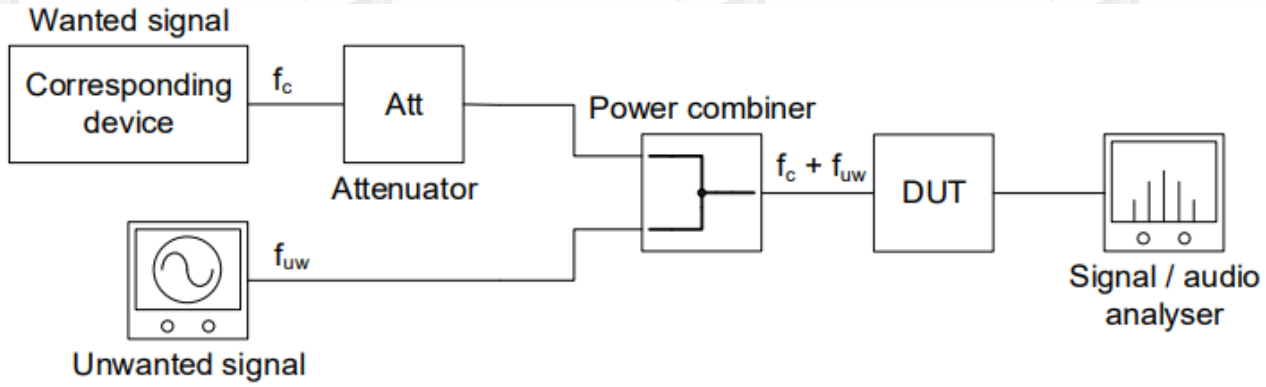
13. Receiver blocking

13.1. Limits

Table 9: Limits for receiver blocking

Receiver category	Limits
A	40 dB
B	30 dB
C	20 dB

13.2. Block diagram of test setup



13.3. Test procedure

Refer to the test method described in EN 300 422-1 clause 5.5.3.2.1 of to measure the Receiver blocking.

13.4. Test result

Operation Frequency (MHz)	Signal B Blocking Frequency	The ratio of that power level of the blocker signal to the power level of the wanted signal gives receiver blocking in [dB]	Limit[dB]	Verdict
826.3	fw-10*B	71	≥40	PASS
	fw-3*B	65	≥40	PASS
	fw+3*B	67	≥40	PASS
	fw+10*B	73	≥40	PASS
831.8	fw-10*B	72	≥40	PASS
	fw-3*B	63	≥40	PASS
	fw+3*B	66	≥40	PASS
	fw+10*B	75	≥40	PASS

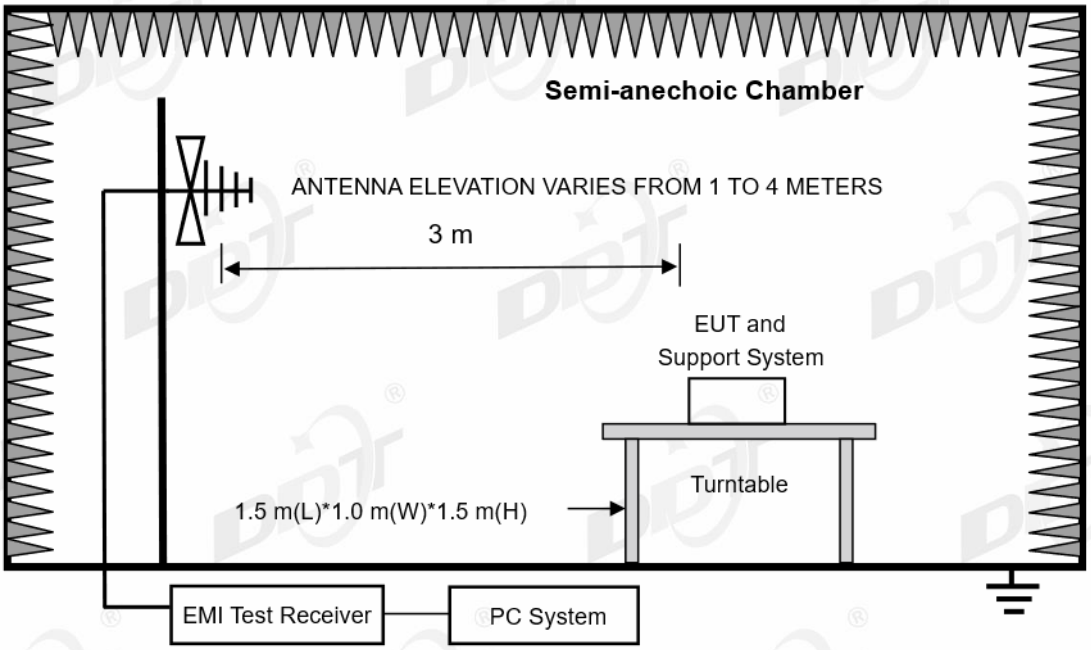
14. Receiver unwanted emissions in the spurious domain

14.1. Test equipment

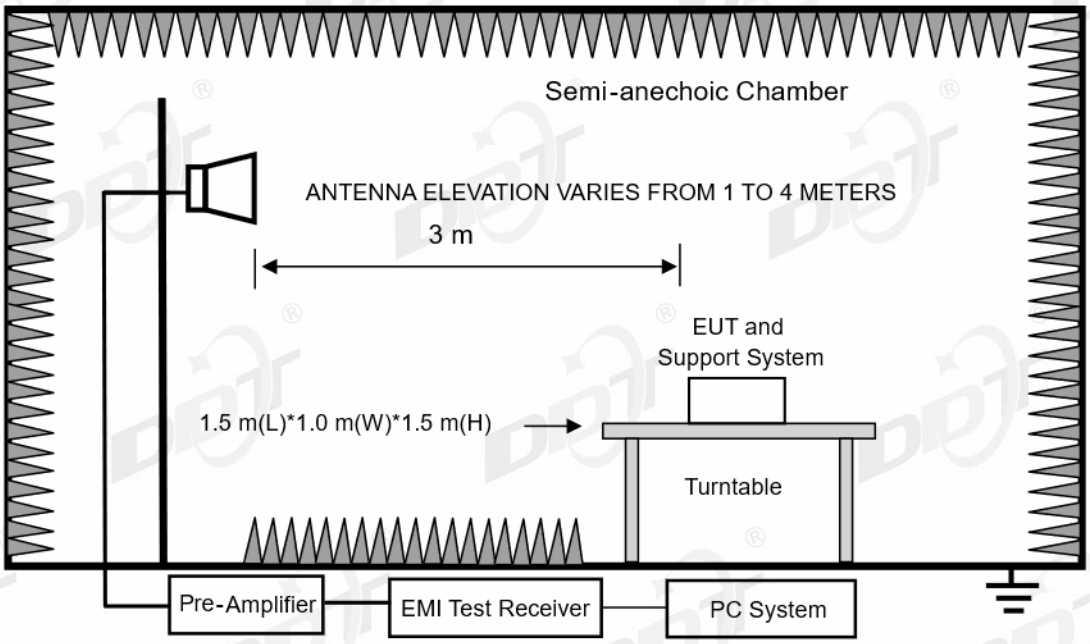
Equipment	Manufacturer	Model No.	Serial No.	Cal Due To
Micro-Tronics filters	REBES	BRM50702	DDT-ZC03242	/
RF Cable	N/A	W13.02 AP1-X2	DDT-ZC04023	2024/04/21 2025/03/31
Pre-amplifier	COM-POWER	PAM-118A	DDT-ZC01293	2024/07/14 2025/07/08
Active Loop Antenna	Schwarzbeck	FMZB1519	DDT-ZC00524	2024/09/10 2025/09/10
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	DDT-ZC00506	2024/04/26 2025/04/26
Pre-amplifier	COM-POWER	PAM-840A	DDT-ZC01693	2024/04/27 2025/03/31
Micro-Tronics filters	REBES	BRM50716	DDT-ZC03240	/
Hochgewinn-Hornantenne	SCHWARZBECK	BBHA 9120 D	DDT-ZC02129	2024/09/17 2025/09/18
High pass filter	Micro-Tronics	HPM50102	DDT-ZC00561	2024/05/14 2025/04/22
RF cable	Yuhu Technology	JCTB810-NJ-NJ-9M	DDT-ZC02538	2024/04/23 2025/03/31
High Pass filter	Xi'an Xingbo	XBLBQ-GTA67	DDT-ZC02179	2024/05/14 2025/04/22
ELECTRIC AND MAGNETIC FIELD ANALYZER	Narda	EHP-200A	DDT-ZC01401	2024/09/20 2025/08/28
RF cable	Yuhu Technology	ZT26S-SMAJ-SMAJ-1M	DDT-ZC02037	2024/04/23 2025/03/31
RF Cable	N/A	W24.02 HL-562	DDT-ZC04022	2024/04/21 2025/03/31
PSA Series Spectrum Analyzer	Agilent	E4447A	DDT-ZC00517	2024/04/23 2025/03/31
EMI TEST RECEIVER	R&S	ESU26	DDT-ZC01909	2024/04/23 2025/03/31
RF cable	Zhongke Junchuang	JCT26S-NJ-NJ-1.5M	DDT-ZC02762	2024/04/20 2025/03/31
High pass filter	Micro-Tronics	HPM50108	DDT-ZC00560	2024/05/14 2025/04/22
Trilog Broadband Antenna	Schwarzbeck	VULB 9163	DDT-ZC02050	2024/07/11 2025/07/11

14.2. Block diagram of test setup

In 3 m Anechoic Chamber, test setup diagram for 30 MHz - 1 GHz:



In 3 m Anechoic Chamber, test setup diagram for frequency above 1 GHz:



14.3. Limits

The power of the receiver spurious emissions shall not exceed the limits in below table.

Frequency range	Maximum power	Bandwidth
9 kHz to 150 kHz	-57 dBm	1 kHz
150 kHz to 30MHz	-57 dBm	10 kHz
30 MHz to 1 GHz	-57 dBm	100 kHz
1 GHz to 10 GHz	-47 dBm	1 MHz

14.4. Test procedure

Refer to EN 300 422-1 clause 5.5.4.2.3 and Annex D.

14.5. Test result

Pass. (See below detailed test result)

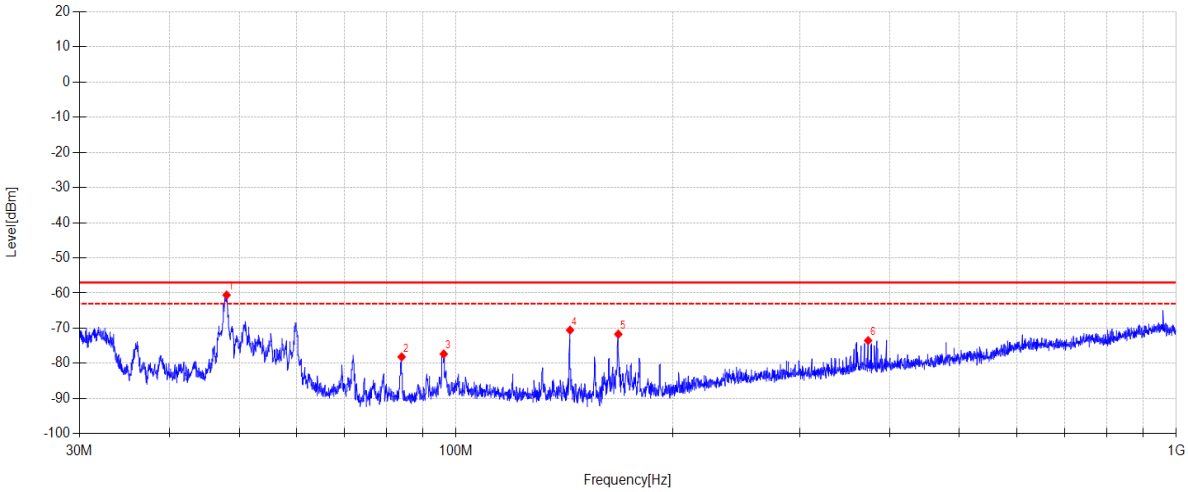
Note: According exploratory test, the worst case is between 30 MHz to 10 GHz, so the final test was performed with frequency range from 30 MHz to 10 GHz and recorded in below.

Radiated Emission test (below 1 GHz)

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-10-27	**Tested By**:	Zhong Nan
EUT:	Wireless voice intercom module	**Model Number**:	SA618F22-C1
Test Mode:	826.3 MHz RX Mode	**Power Supply**:	DC 3.3V
Condition:	Temp:21.9°C;Humi:51.0%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24101414-1E\CE BELOW1G\1		
Memo:	Sample NumberS24101414-1E Power Setting:7		

Test Graph



Data List									
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Factor [dB]**	**Level [dBm]**	**Limit [dBm]**	**Margin [dB]**	**Detector**	**Polarity**	**Type**
1	48.023	46.58	-107.14	-60.56	-57.00	3.56	PK	Horizontal	ERP
2	84.034	35.84	-113.99	-78.15	-57.00	21.15	PK	Horizontal	ERP
3	96.144	35.10	-112.42	-77.32	-57.00	20.32	PK	Horizontal	ERP
4	143.986	43.82	-114.34	-70.52	-57.00	13.52	PK	Horizontal	ERP
5	168.002	41.77	-113.46	-71.69	-57.00	14.69	PK	Horizontal	ERP
6	373.385	31.29	-104.80	-73.51	-57.00	16.51	PK	Horizontal	ERP

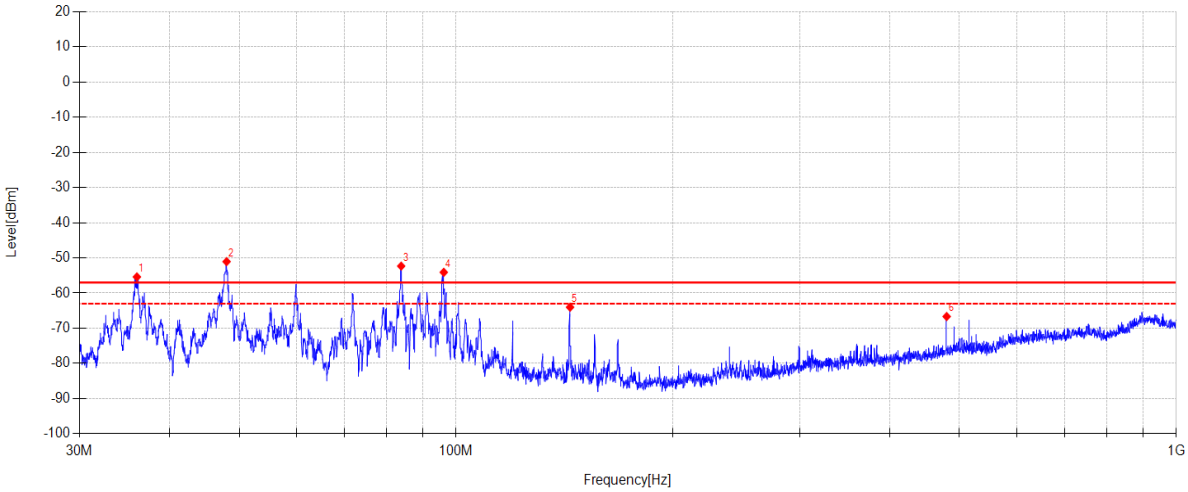
Data List									
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Factor [dB]**	**Level [dBm]**	**Limit [dBm]**	**Margin [dB]**	**Detector**	**Polarity**	**Type**
1	47.946	37.01	-107.14	-70.13	-57.00	13.13	RMS	Horizontal	ERP

Note:
1. Level = Reading + Factor.
2. Factor = Antenna Factor + Cable Loss - Preamp Gain + Site Loss Factor - 107.
3. Test setup: RBW: 100 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-10-27	**Tested By**:	Zhong Nan
EUT:	Wireless voice intercom module	**Model Number**:	SA618F22-C1
Test Mode:	826.3 MHz RX Mode	**Power Supply**:	DC 3.3V
Condition:	Temp:21.9°C;Humi:51.0%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24101414-1E\CE BELOW1G\2		
Memo:	Sample NumberS24101414-1E Power Setting:7		

Test Graph



Data List									
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Factor [dB]**	**Level [dBm]**	**Limit [dBm]**	**Margin [dB]**	**Detector**	**Polarity**	**Type**
1	36.050	57.66	-113.07	-55.41	-57.00	-1.59	PK	Vertical	ERP
2	48.023	60.81	-111.86	-51.05	-57.00	-5.95	PK	Vertical	ERP
3	83.916	59.20	-111.53	-52.33	-57.00	-4.67	PK	Vertical	ERP
4	96.144	53.42	-107.51	-54.09	-57.00	-2.91	PK	Vertical	ERP
5	143.986	45.68	-109.69	-64.01	-57.00	7.01	PK	Vertical	ERP
6	479.925	34.63	-101.29	-66.66	-57.00	9.66	PK	Vertical	ERP

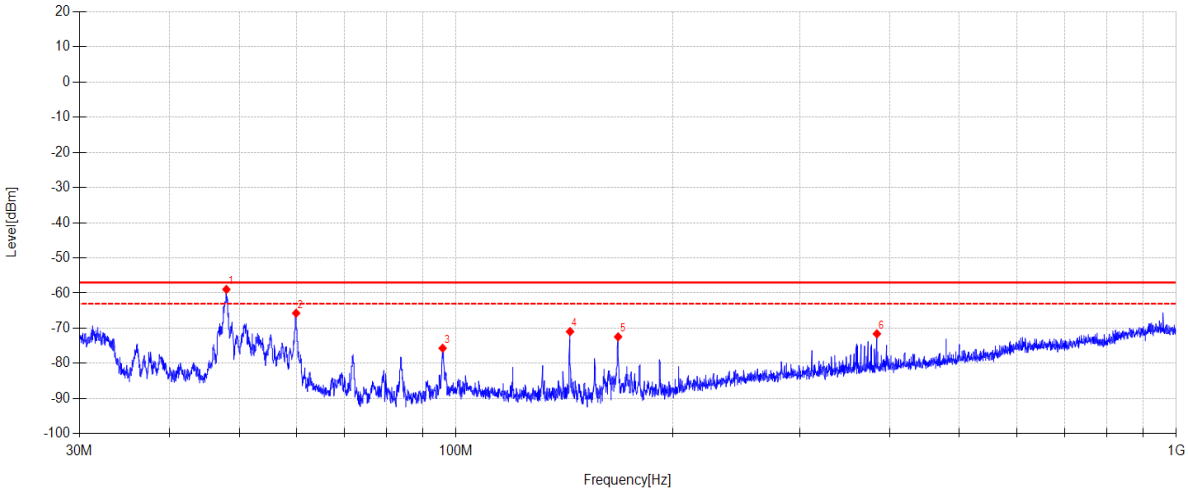
Data List									
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Factor [dB]**	**Level [dBm]**	**Limit [dBm]**	**Margin [dB]**	**Detector**	**Polarity**	**Type**
1	35.920	48.21	-113.07	-64.86	-57.00	7.86	RMS	Vertical	ERP
2	47.884	49.03	-111.86	-62.83	-57.00	5.83	RMS	Vertical	ERP
3	83.945	48.31	-111.53	-63.22	-57.00	6.22	RMS	Vertical	ERP
4	96.144	45.33	-107.51	-62.18	-57.00	5.18	RMS	Vertical	ERP

Note:
1. Level = Reading + Factor.
2. Factor = Antenna Factor + Cable Loss - Preamp Gain + Site Loss Factor - 107.
3. Test setup: RBW: 100 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-10-27	**Tested By**:	Zhong Nan
EUT:	Wireless voice intercom module	**Model Number**:	SA618F22-C1
Test Mode:	831.8 MHz RX Mode	**Power Supply**:	DC 3.3V
Condition:	Temp:21.9°C;Humi:51.0%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24101414-1E\CE BELOW1G\3		
Memo:	Sample NumberS24101414-1E Power Setting:7		

Test Graph



Data List									
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Factor [dB]**	**Level [dBm]**	**Limit [dBm]**	**Margin [dB]**	**Detector**	**Polarity**	**Type**
1	47.989	48.19	-107.15	-58.96	-57.00	1.96	PK	Horizontal	ERP
2	59.977	43.62	-109.33	-65.71	-57.00	8.71	PK	Horizontal	ERP
3	95.807	36.80	-112.47	-75.67	-57.00	18.67	PK	Horizontal	ERP
4	143.986	43.38	-114.34	-70.96	-57.00	13.96	PK	Horizontal	ERP
5	167.884	41.03	-113.47	-72.44	-57.00	15.44	PK	Horizontal	ERP
6	384.005	33.09	-104.67	-71.58	-57.00	14.58	PK	Horizontal	ERP

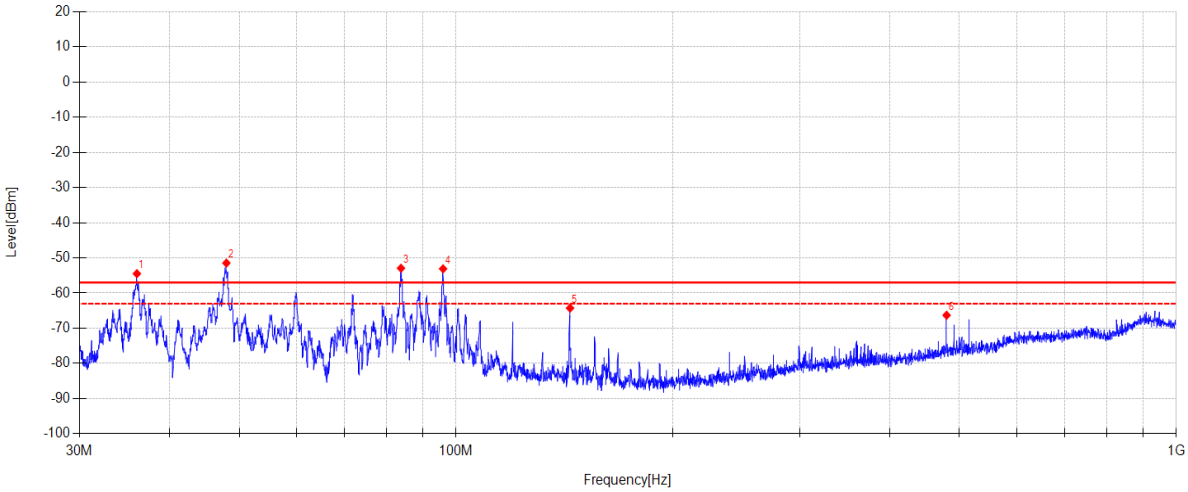
Data List									
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Factor [dB]**	**Level [dBm]**	**Limit [dBm]**	**Margin [dB]**	**Detector**	**Polarity**	**Type**
1	47.926	37.15	-107.15	-70.00	-57.00	13.00	RMS	Horizontal	ERP

Note:
1. Level = Reading + Factor.
2. Factor = Antenna Factor + Cable Loss - Preamp Gain + Site Loss Factor - 107.
3. Test setup: RBW: 100 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-10-27	**Tested By**:	Zhong Nan
EUT:	Wireless voice intercom module	**Model Number**:	SA618F22-C1
Test Mode:	831.8 MHz RX Mode	**Power Supply**:	DC 3.3V
Condition:	Temp:21.9°C;Humi:51.0%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24101414-1E\CE BELOW1G\4		
Memo:	Sample NumberS24101414-1E Power Setting:7		

Test Graph



Data List									
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Factor [dB]**	**Level [dBm]**	**Limit [dBm]**	**Margin [dB]**	**Detector**	**Polarity**	**Type**
1	36.050	58.59	-113.07	-54.48	-57.00	-2.52	PK	Vertical	ERP
2	47.989	60.41	-111.88	-51.47	-57.00	-5.53	PK	Vertical	ERP
3	83.857	58.62	-111.56	-52.94	-57.00	-4.06	PK	Vertical	ERP
4	95.942	54.45	-107.55	-53.10	-57.00	-3.90	PK	Vertical	ERP
5	143.986	45.42	-109.69	-64.27	-57.00	7.27	PK	Vertical	ERP
6	479.925	34.99	-101.29	-66.30	-57.00	9.30	PK	Vertical	ERP

Data List									
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Factor [dB]**	**Level [dBm]**	**Limit [dBm]**	**Margin [dB]**	**Detector**	**Polarity**	**Type**
1	47.861	48.86	-113.07	-64.21	-57.00	7.21	RMS	Vertical	ERP
2	48.056	49.60	-111.88	-62.28	-57.00	5.28	RMS	Vertical	ERP
3	84.020	48.82	-107.55	-58.73	-57.00	1.73	RMS	Vertical	ERP
4	95.942	47.26	-107.55	-60.29	-57.00	3.29	RMS	Vertical	ERP

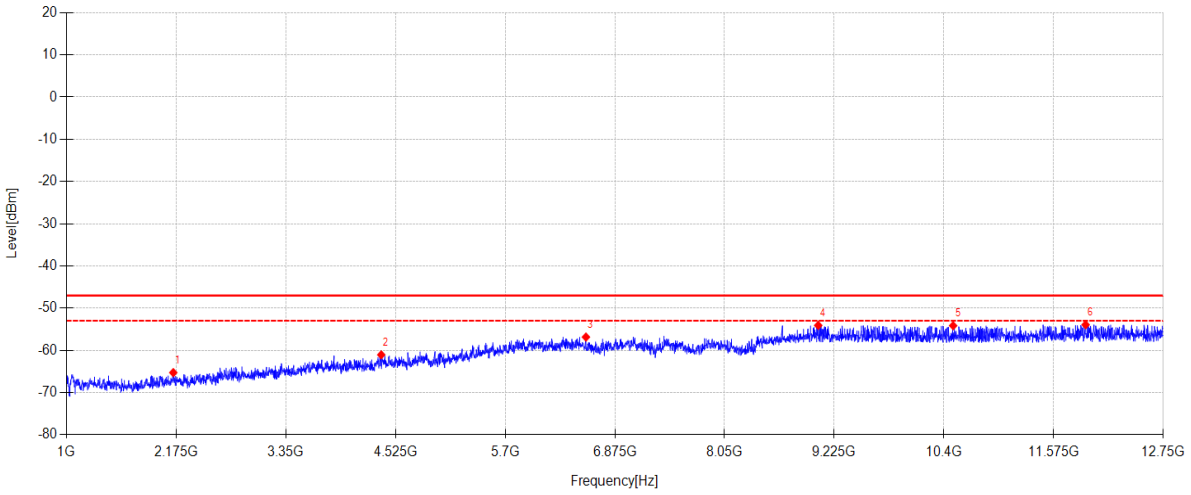
Note:
1. Level = Reading + Factor.
2. Factor = Antenna Factor + Cable Loss - Preamp Gain + Site Loss Factor - 107.
3. Test setup: RBW: 100 kHz, VBW: 300 kHz, Sweep time: auto.

Radiated Emission test (above 1 GHz)

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-10-27	**Tested By**:	Zhong Nan
EUT:	Wireless voice intercom module	**Model Number**:	SA618F22-C1
Test Mode:	831.8 MHz RX Mode	**Power Supply**:	DC 3.3V
Condition:	Temp:21.9°C;Humi:51.0%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24101414-1E\CE ABOVE1G\5		
Memo:	Sample NumberS24101414-1E Power Setting:7		

Test Graph



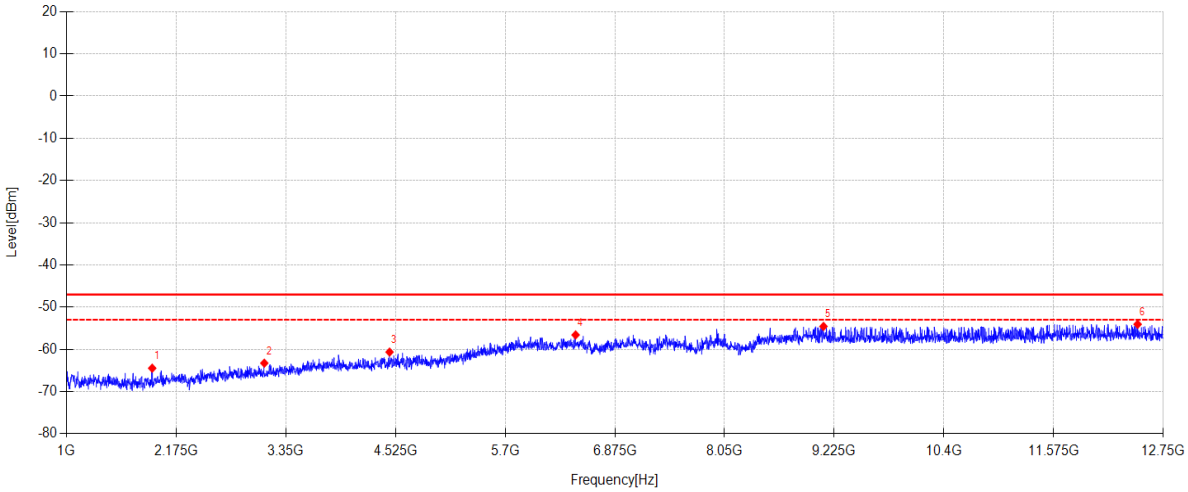
Data List									
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Factor [dB]**	**Level [dBm]**	**Limit [dBm]**	**Margin [dB]**	**Detector**	**Polarity**	**Type**
1	2144.450	40.47	-105.74	-65.27	-47.00	18.27	RMS	Horizontal	EIRP
2	4372.250	40.18	-101.23	-61.05	-47.00	14.05	RMS	Horizontal	EIRP
3	6564.800	37.97	-94.82	-56.85	-47.00	9.85	RMS	Horizontal	EIRP
4	9053.450	35.61	-89.69	-54.08	-47.00	7.08	RMS	Horizontal	EIRP
5	10498.700	34.40	-88.55	-54.15	-47.00	7.15	RMS	Horizontal	EIRP
6	11918.100	32.38	-86.31	-53.93	-47.00	6.93	RMS	Horizontal	EIRP

Note:
1. Level = Reading + Factor.
2. Factor = Antenna Factor + Cable Loss + Filter Factor - Preamp Gain + Site Loss Factor - 107.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-10-27	**Tested By**:	Zhong Nan
EUT:	Wireless voice intercom module	**Model Number**:	SA618F22-C1
Test Mode:	831.8 MHz RX Mode	**Power Supply**:	DC 3.3V
Condition:	Temp:21.9°C;Humi:51.0%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24101414-1E\CE ABOVE1G\6		
Memo:	Sample NumberS24101414-1E Power Setting:7		

Test Graph



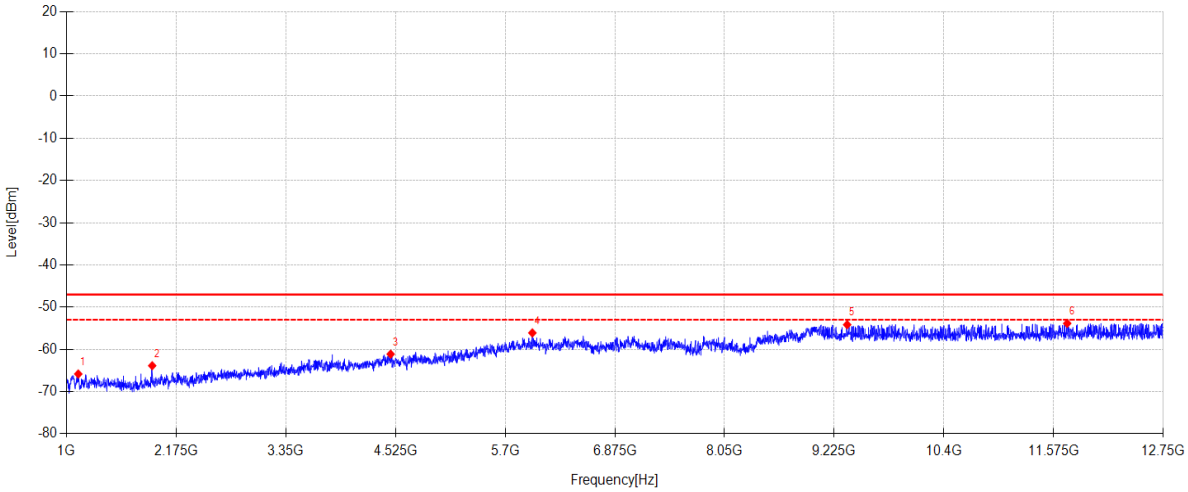
Data List									
NO.	**Freq. [MHz]**	**Reading [dBμV/m]**	**Factor [dB]**	**Level [dBm]**	**Limit [dBm]**	**Margin [dB]**	**Detector**	**Polarity**	**Type**
1	1918.850	41.26	-105.72	-64.46	-47.00	17.46	RMS	Vertical	EIRP
2	3119.700	40.76	-104.02	-63.26	-47.00	16.26	RMS	Vertical	EIRP
3	4461.550	40.57	-101.21	-60.64	-47.00	13.64	RMS	Vertical	EIRP
4	6454.350	38.29	-94.87	-56.58	-47.00	9.58	RMS	Vertical	EIRP
5	9109.850	35.41	-89.97	-54.56	-47.00	7.56	RMS	Vertical	EIRP
6	12475.050	32.41	-86.46	-54.05	-47.00	7.05	RMS	Vertical	EIRP

Note:
1. Level = Reading + Factor.
2. Factor = Antenna Factor + Cable Loss + Filter Factor - Preamp Gain + Site Loss Factor - 107.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-10-27	**Tested By**:	Zhong Nan
EUT:	Wireless voice intercom module	**Model Number**:	SA618F22-C1
Test Mode:	826.3 MHz RX Mode	**Power Supply**:	DC 3.3V
Condition:	Temp:21.9°C;Humi:51.0%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24101414-1E\CE ABOVE1G\7		
Memo:	Sample NumberS24101414-1E Power Setting:7		

Test Graph



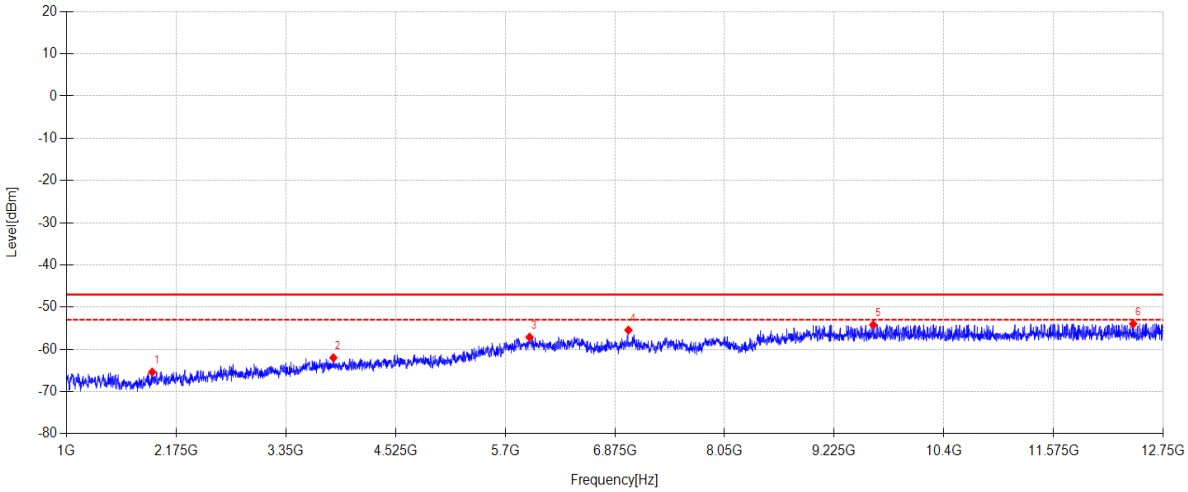
Data List									
NO.	**Freq. [MHz]**	**Reading [dBμV/m]**	**Factor [dB]**	**Level [dBm]**	**Limit [dBm]**	**Margin [dB]**	**Detector**	**Polarity**	**Type**
1	1126.900	40.27	-106.10	-65.83	-47.00	18.83	RMS	Horizontal	EIRP
2	1918.850	42.12	-105.99	-63.87	-47.00	16.87	RMS	Horizontal	EIRP
3	4473.300	39.80	-100.93	-61.13	-47.00	14.13	RMS	Horizontal	EIRP
4	5991.400	38.75	-94.85	-56.10	-47.00	9.10	RMS	Horizontal	EIRP
5	9363.650	35.10	-89.25	-54.15	-47.00	7.15	RMS	Horizontal	EIRP
6	11720.700	32.99	-86.84	-53.85	-47.00	6.85	RMS	Horizontal	EIRP

Note:
1. Level = Reading + Factor.
2. Factor = Antenna Factor + Cable Loss + Filter Factor - Preamp Gain + Site Loss Factor - 107.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:	2024-10-27	**Tested By**:	Zhong Nan
EUT:	Wireless voice intercom module	**Model Number**:	SA618F22-C1
Test Mode:	826.3 MHz RX Mode	**Power Supply**:	DC 3.3V
Condition:	Temp:21.9°C;Humi:51.0%	**Test Site**:	DDT 3# Chamber
File Path:	d:\ts\2024 report data\Q24101414-1E\CE ABOVE1G\8		
Memo:	Sample NumberS24101414-1E Power Setting:7		

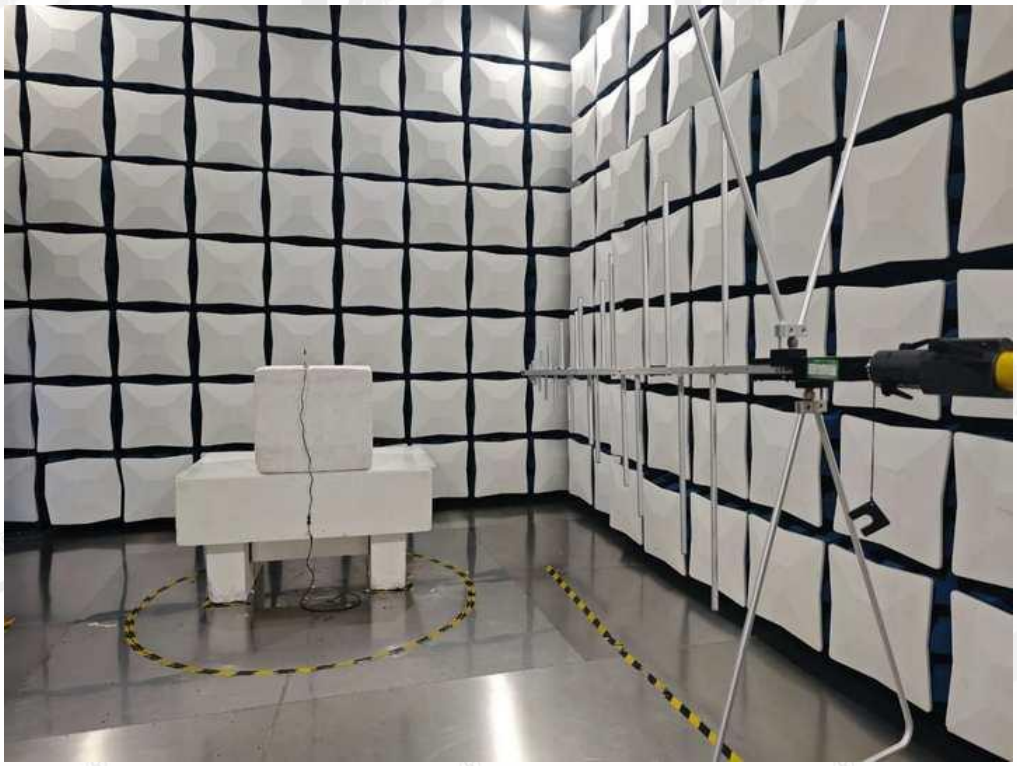
Test Graph

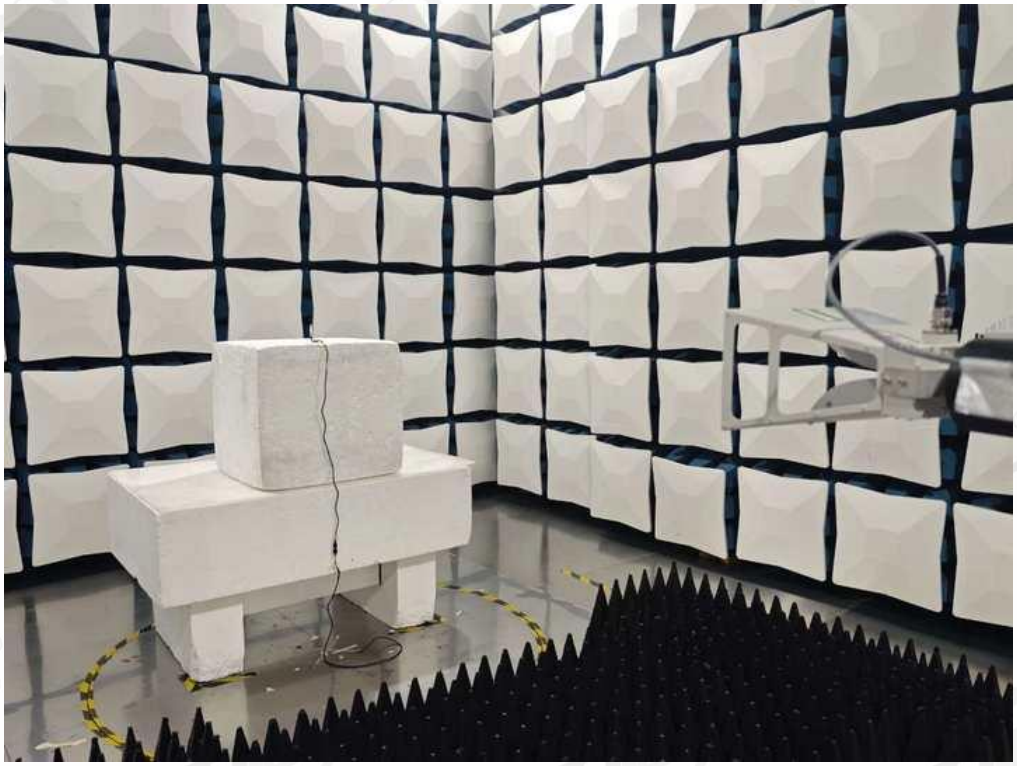


Data List									
NO.	**Freq. [MHz]**	**Reading [dBµV/m]**	**Factor [dB]**	**Level [dBm]**	**Limit [dBm]**	**Margin [dB]**	**Detector**	**Polarity**	**Type**
1	1918.850	40.34	-105.72	-65.38	-47.00	18.38	RMS	Vertical	EIRP
2	3859.950	40.62	-102.62	-62.00	-47.00	15.00	RMS	Vertical	EIRP
3	5960.850	37.88	-94.99	-57.11	-47.00	10.11	RMS	Vertical	EIRP
4	7020.700	39.48	-94.93	-55.45	-47.00	8.45	RMS	Vertical	EIRP
5	9643.300	35.11	-89.30	-54.19	-47.00	7.19	RMS	Vertical	EIRP
6	12428.050	32.42	-86.37	-53.95	-47.00	6.95	RMS	Vertical	EIRP

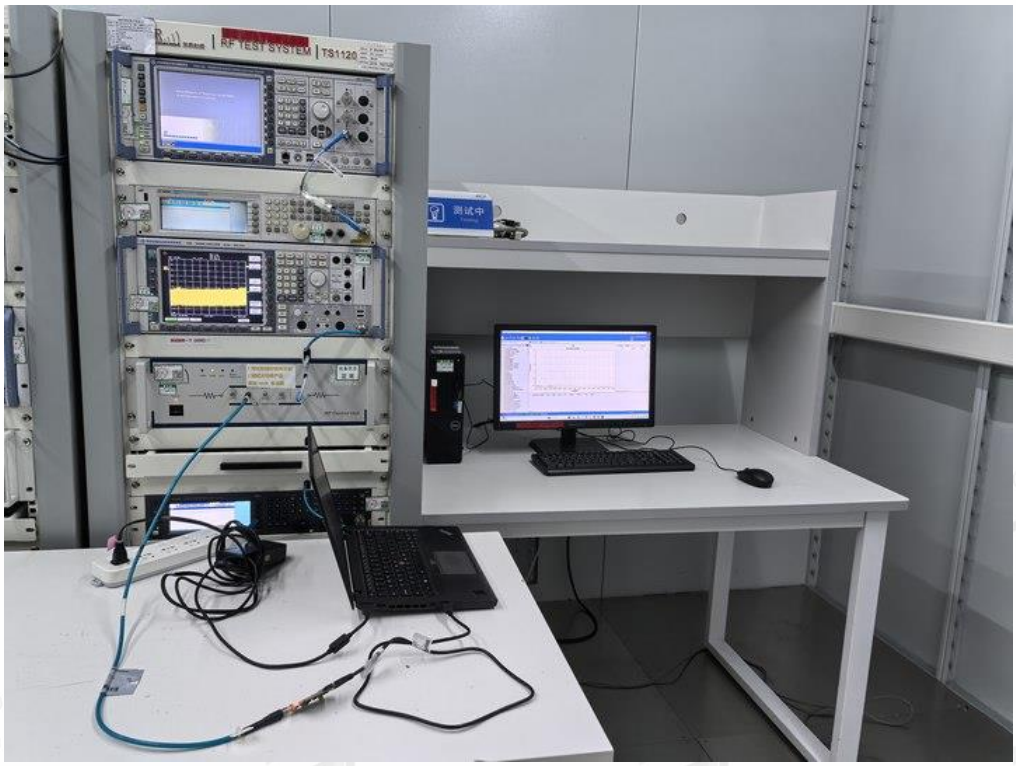
Note:
1. Level = Reading + Factor.
2. Factor = Antenna Factor + Cable Loss + Filter Factor - Preamp Gain + Site Loss Factor - 107.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

15. Test Setup Photograph








RF TEST SYSTEM
TS1120
测试中

16. Photos of the AUDIO GUIDE SYSTEM

Please refer to DDT-Q24101414-1E appendix I

17. Appendix II

END OF REPORT