



**中认信通**  
CHINA CERTIFICATION ICT CO., LTD (DONGGUAN)



## TEST REPORT

**Applicant: Cobra Electronics Corporation**

Address: 1701 Golf Road, Suite 3-900 Rolling Meadows, IL 60008 United States

**FCC ID: BBO25LT01**

**Product Name: CB Radio**

**Standard(s): 47 CFR Part 95 Subpart D  
ANSI C63.26-2015  
ANSI/TIA 603-E-2016**

The above equipment has been tested and found compliant with the requirement of the relative standards by China Certification ICT Co., Ltd (Dongguan)

**Report Number: CR230526597-00**

**Date Of Issue: 2023/10/24**

**Reviewed By: Julie Tan**  
Title: RF Engineer

*Julie Tan*

**Approved By: Sun Zhong**  
Title: Manager

*Sun Zhong*

**Test Laboratory: China Certification ICT Co., Ltd (Dongguan)**  
No. 113, Pingkang Road, Dalang Town, Dongguan,  
Guangdong, China  
Tel: +86-769-82016888

## Test Facility

The Test site used by China Certification ICT Co., Ltd (Dongguan) to collect test data is located on the No. 113, Pingkang Road, Dalang Town, Dongguan, Guangdong, China.

The lab has been recognized as the FCC accredited lab under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. : 442868, the FCC Designation No. : CN1314.

The lab has been recognized by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements, the CAB identifier: CN0123.

## Declarations

China Certification ICT Co., Ltd (Dongguan) is not responsible for the authenticity of any test data provided by the applicant. Data included from the applicant that may affect test results are marked with a triangle symbol “▲”. Customer model name, addresses, names, trademarks etc. are not considered data.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

This report cannot be reproduced except in full, without prior written approval of the Company.

This report is valid only with a valid digital signature. The digital signature may be available only under the Adobe software above version 7.0.

This report may contain data that are not covered by the accreditation scope and shall be marked with an asterisk “★”.

## CONTENTS

<b>TEST FACILITY .....</b>	<b>2</b>
<b>DECLARATIONS.....</b>	<b>2</b>
<b>DOCUMENT REVISION HISTORY .....</b>	<b>5</b>
<b>1. GENERAL INFORMATION.....</b>	<b>6</b>
<b>1.1 PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT) .....</b>	<b>6</b>
<b>1.2 DESCRIPTION OF TEST CONFIGURATION.....</b>	<b>7</b>
1.2.1 EUT Operation Condition:.....	7
1.2.2 Support Equipment List and Details .....	7
1.2.3 Support Cable List and Details .....	7
1.2.4 Block Diagram of Test Setup.....	7
<b>1.3 MEASUREMENT UNCERTAINTY .....</b>	<b>8</b>
<b>2. SUMMARY OF TEST RESULTS.....</b>	<b>9</b>
<b>3. REQUIREMENTS AND TEST PROCEDURES .....</b>	<b>10</b>
<b>3.1 RF OUTPUT POWER.....</b>	<b>10</b>
3.1.1 Applicable Standard.....	10
3.1.2 EUT Setup Block Diagram .....	10
3.1.3 Test Procedure .....	10
<b>3.2 MODULATION CHARACTERISTIC .....</b>	<b>10</b>
3.2.1 Applicable Standard.....	10
3.2.2 EUT Setup Block Diagram .....	11
3.2.3 Test Procedure .....	11
<b>3.3 OCCUPIED BANDWIDTH AND EMISSION MASK .....</b>	<b>11</b>
3.3.1 Applicable Standard.....	11
3.3.2 Judgment.....	12
3.3.3 EUT Setup Block Diagram .....	12
3.3.4 Test Procedure .....	12
<b>3.4 SPURIOUS RADIATION EMISSION.....</b>	<b>12</b>
3.4.1 Applicable Standard.....	12
3.4.2 EUT Setup Block Diagram .....	13
3.4.3 EMI Test Receiver & Spectrum Analyzer Setup .....	14
3.4.4 Test Procedure .....	14
3.4.5 Corrected Amplitude & Margin Calculation.....	14
<b>3.5 CONDUCTED SPURIOUS AT ANTENNA TERMINALS .....</b>	<b>14</b>
3.5.1 Applicable Standard.....	14
3.5.2 EUT Setup Block Diagram .....	15
3.5.3 Test Procedure .....	15
<b>3.6 FREQUENCY STABILITY .....</b>	<b>15</b>
3.6.1 Applicable Standard.....	15
3.6.2 Test setup: .....	16
3.6.3 Test Procedure: .....	16
<b>4. TEST DATA AND RESULTS .....</b>	<b>17</b>

**4.1 RF OUTPUT POWER.....17**

**4.2 MODULATION CHARACTERISTIC .....21**

**4.3 OCCUPIED BANDWIDTH AND EMISSION MASK .....24**

**4.4 RADIATED SPURIOUS EMISSION .....27**

**4.5 CONDUCTED SPURIOUS AT ANTENNA TERMINALS .....29**

**4.6 FREQUENCY STABILITY .....31**

**5. MAXIMUM PERMISSIBLE EXPOSURE(MPE) ..... 33**

    5.1.2 Calculation formula: .....33

    5.1.3 Calculated Data:.....33

**6. EUT PHOTOGRAPHS ..... 34**

**7. TEST SETUP PHOTOGRAPHS ..... 35**

---

## DOCUMENT REVISION HISTORY

---

Revision Number	Report Number	Description of Revision	Date of Revision
1.0	CR230526597-00	Original Report	2023/10/24

## 1. GENERAL INFORMATION

### 1.1 Product Description for Equipment under Test (EUT)

<b>EUT Name:</b>	CB Radio
<b>EUT Model:</b>	CCBP25LT01
<b>Trade Name:</b>	Cobra
<b>Modulation Type:</b>	AM/FM
<b>Emission Designator:</b>	A3E/F3E
<b>Frequency Range:</b>	26.965-27.405MHz
<b>Maximum Conducted Output Power:</b>	35.92dBm(AM) 35.78dBm(FM)
<b>Rated Input Voltage:</b>	13.8V <sub>DC</sub>
<b>Serial Number:</b>	25SW-1
<b>EUT Received Date:</b>	2023.05.10
<b>EUT Received Status:</b>	Good

### Operation Frequency Detail:

Channel Number	Frequency (MHz)	Channel Number	Frequency (MHz)	Channel Number	Frequency (MHz)	Channel Number	Frequency (MHz)
1	<b>26.965</b>	11	27.085	21	27.215	31	27.315
2	26.975	12	27.105	22	27.225	32	27.325
3	26.985	13	27.115	23	27.255	33	27.335
4	27.005	14	27.125	24	27.235	34	27.345
5	27.015	15	27.135	25	27.245	35	27.355
6	27.025	16	27.155	26	27.265	36	27.365
7	27.035	17	27.165	27	27.275	37	27.375
8	27.055	18	27.175	28	27.285	38	27.385
9	27.065	19	<b>27.185</b>	29	27.295	39	27.395
10	27.075	20	27.205	30	27.305	40	<b>27.405</b>

Per C63.26-2015, section 5.1, the frequency in bold was performed the test.

### Antenna Information Detail▲:

Antenna Type	input impedance (Ohm)	Antenna Gain /Frequency Range
Monopole	50	0dBi (26-28MHz)

### Accessory Information:

Accessory Description	Manufacturer	Model	Parameters
/	/	/	/

## 1.2 Description of Test Configuration

### 1.2.1 EUT Operation Condition:

<b>EUT Operation Mode:</b>	The system was configured for testing in Engineering Mode, which was provided by the manufacturer.
<b>Equipment Modifications:</b>	No
<b>EUT Exercise Software:</b>	No

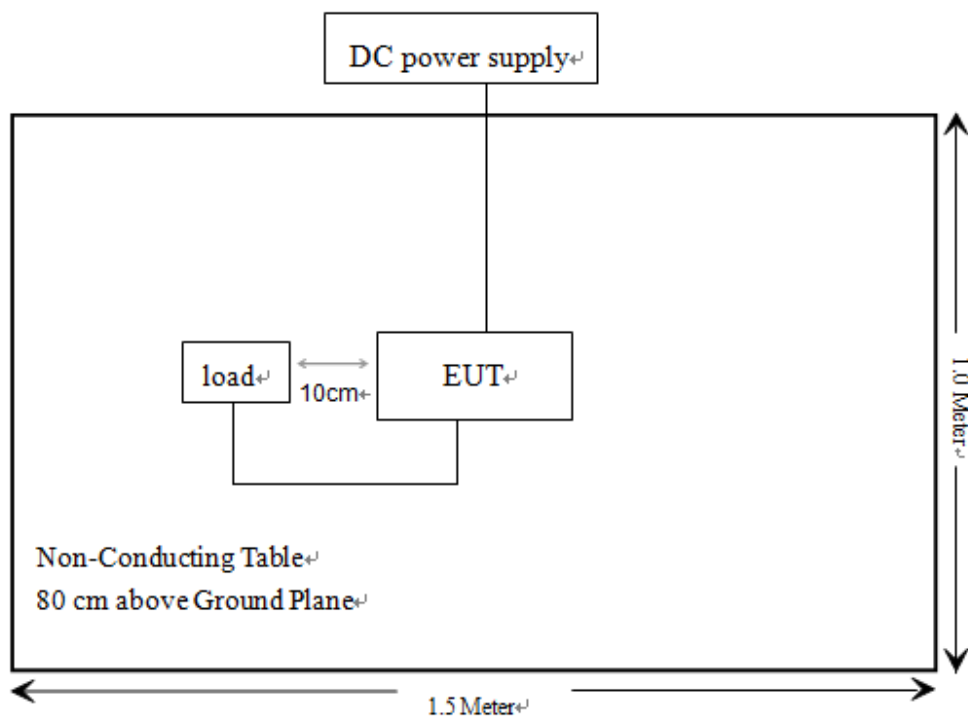
### 1.2.2 Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
unknow	load	unknow	unknow
ZHAOXIN	DC Power Supply	RXN-6010D	21R6010D0912386

### 1.2.3 Support Cable List and Details

Cable Description	Shielding Type	Ferrite Core	Length (m)	From Port	To
RF Cable	NO	NO	0.4	load	EUT
DC cable	NO	NO	1.2	DC Power Supply	EUT

### 1.2.4 Block Diagram of Test Setup



### 1.3 Measurement Uncertainty

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

Parameter	Measurement Uncertainty
Occupied Channel Bandwidth	±5 %
RF output power, conducted	±0.61dB
Power Spectral Density, conducted	±0.61 dB
Unwanted Emissions, radiated	30M~200MHz: 4.15 dB, 200M~1GHz: 5.61 dB, 1G~6GHz: 5.14 dB, 6G~18GHz: 5.93 dB, 18G~26.5G: 5.47 dB, 26.5G~40G: 5.63 dB
Unwanted Emissions, conducted	±1.26 dB
Temperature	±1 °C
Humidity	±5%
DC and low frequency voltages	±0.4%
Duty Cycle	1%
RF Frequency	±0.082×10 <sup>-6</sup>
Audio Frequency/Low Pass Filter Response	4.02%
Modulation Limiting	1.19%



## 2. SUMMARY OF TEST RESULTS

Description of Test	Standard/Rule(s)	Results
RF Output Power	§2.1046, §95.967	Compliant
Modulation Characteristic	§2.1047, §95.975	Compliant
Occupied Bandwidth & Emission Mask	§2.1049, §95.973, §95.979	Compliant
Spurious Radiation Emission	§2.1053, §95.979	Compliant
Conducted Spurious at Antenna Terminals	§2.1051, §95.979	Compliant
Frequency Stability	§2.1055, §95.965	Compliant
Maximum Permissible Exposure(MPE)	§1.1310, §2.1091	Compliant

### 3. REQUIREMENTS AND TEST PROCEDURES

#### 3.1 RF OUTPUT POWER

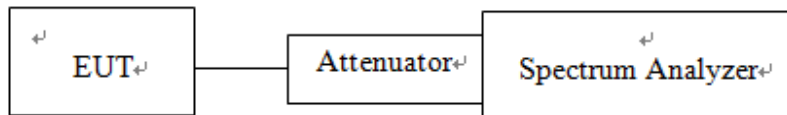
##### 3.1.1 Applicable Standard

FCC §95.967:

Each CBRS transmitter type must be designed such that the transmitter power can not exceed the following limits:

(a) When transmitting amplitude modulated (AM) voice signals or frequency modulated (FM) voice signals, the mean carrier power must not exceed 4 Watts.

##### 3.1.2 EUT Setup Block Diagram



Note: the path loss(cable loss and attenuator) has included into the plot.

##### 3.1.3 Test Procedure

Conducted RF Output Power:

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

Spectrum Analyzer Setting:

<u>R B/W</u>	<u>Video B/W</u>
10 kHz	30 kHz

#### 3.2 MODULATION CHARACTERISTIC

##### 3.2.1 Applicable Standard

FCC §95.975

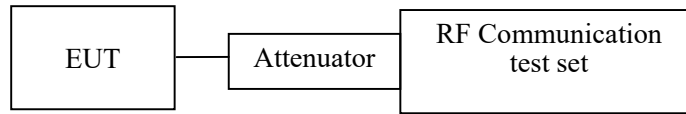
Each CBRS transmitter type must be designed such that the modulation characteristics are in compliance with the rules in this section.

(a) When emission type A3E is transmitted with voice modulation, the modulation percentage must be at least 85%, but not more than 100%.

(b) When emission type A3E is transmitted by a CBRS transmitter having a transmitter output power of more than 2.5 W, the transmitter must contain a circuit that automatically prevents the modulation percentage from exceeding 100%.

(c) When emission type F3E is transmitted the peak frequency deviation shall not exceed  $\pm 2$  kHz.

### 3.2.2 EUT Setup Block Diagram



### 3.2.3 Test Procedure

EIA/TIA-382-A Section 24.2 and section 25.2.  
ANSI/TIA-603-E-2016 Section 2.2.3

## 3.3 OCCUPIED BANDWIDTH AND EMISSION MASK

### 3.3.1 Applicable Standard

FCC §95.973

Each CBRS transmitter type must be designed such that the occupied bandwidth does not exceed the authorized bandwidth for the emission type under test.

- (a) AM and FM. The authorized bandwidth for emission types A3E and F3E is 8 kHz.
- (b) SSB. The authorized bandwidth for emission types J3E, R3E, and H3E is 4 kHz.

According to §95.979: Each CBRS transmitter type must be designed to comply with the applicable unwanted emissions limits in this section.

(a) Attenuation requirements. The power of unwanted emissions must be attenuated below the transmitter output power in Watts (P) as specified in the applicable paragraphs listed in the following table:

Emission type	Paragraph
A3E, F3E	(1), (3), (5), (6)
H3E, J3E, R3E	(2), (4), (5), (6)

- (1) 25 dB (decibels) in the frequency band 4 kHz to 8 kHz removed from the channel center frequency;
- (2) 25 dB in the frequency band 2 kHz to 6 kHz removed from the channel center frequency;
- (3) 35 dB in the frequency band 8 kHz to 20 kHz removed from the channel center frequency;
- (4) 35 dB in the frequency band 6 kHz to 10 kHz removed from the channel center frequency;
- (5)  $53 + 10 \log(P)$  dB in any frequency band removed from the channel center frequency by more than 250% of the authorized bandwidth.
- (6) 60 dB in any frequency band centered on a harmonic (*i.e.*, an integer multiple of two or more times) of the carrier frequency.

(b) *Measurement bandwidths.* The power of unwanted emissions in the frequency bands specified in paragraphs (a)(1) through (4) of this section is measured with a reference bandwidth of 300 Hz. The power of unwanted emissions in the frequency ranges specified in paragraphs (a)(5) and (6) of this section is measured with a reference bandwidth of at least 30 kHz.

(c) *Measurement conditions and procedures.* Subject to additional measurement standards and procedures established pursuant to part 2, subpart J, the following conditions and procedures must be used.

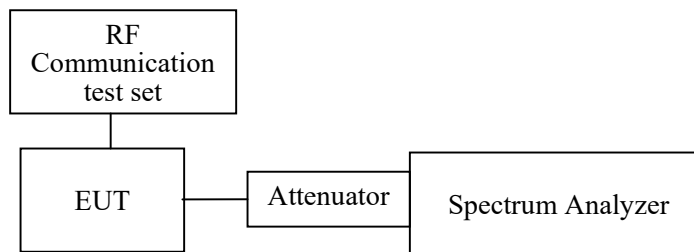
(1) The unwanted emissions limits requirements in this section must be met both with and without the connection of permitted attachments, such as external speakers, microphones, power cords and/or antennas.

(2) Either mean power output or peak envelope power output may be used for measurements, as appropriate for the emission type under test, provided that the same type of power measurement is used for both the transmitter output power and the power of the unwanted emissions.

### 3.3.2 Judgment

Emission type is A3E and F3E.

### 3.3.3 EUT Setup Block Diagram



Note: the path loss(cable loss and attenuator) has included into the plot.

### 3.3.4 Test Procedure

EIA/TIA-382-A Section 23.2.

ANSI/TIA-603-E-2016 Section 2.2.11

## 3.4 SPURIOUS RADIATION EMISSION

### 3.4.1 Applicable Standard

FCC §2.1053 and §95.979

Each CBRS transmitter type must be designed to comply with the applicable unwanted emissions limits in this section.

(a) *Attenuation requirements.* The power of unwanted emissions must be attenuated below the transmitter output power in Watts (P) as specified in the applicable paragraphs listed in the following table:

Emission type	Paragraph
A3E, F3E	(1), (3), (5), (6)
H3E, J3E, R3E	(2), (4), (5), (6)

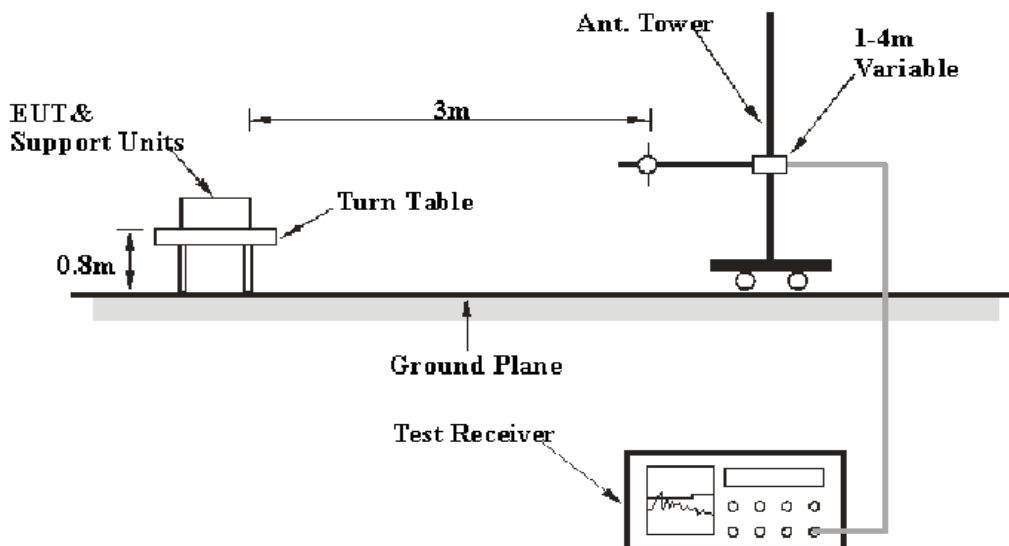
- (1) 25 dB (decibels) in the frequency band 4 kHz to 8 kHz removed from the channel center frequency;
- (2) 25 dB in the frequency band 2 kHz to 6 kHz removed from the channel center frequency;
- (3) 35 dB in the frequency band 8 kHz to 20 kHz removed from the channel center frequency;
- (4) 35 dB in the frequency band 6 kHz to 10 kHz removed from the channel center frequency;
- (5)  $53 + 10 \log (P)$  dB in any frequency band removed from the channel center frequency by more than 250% of the authorized bandwidth.
- (6) 60 dB in any frequency band centered on a harmonic (*i.e.*, an integer multiple of two or more times) of the carrier frequency.

(b) *Measurement bandwidths.* The power of unwanted emissions in the frequency bands specified in paragraphs (a)(1) through (4) of this section is measured with a reference bandwidth of 300 Hz. The power of unwanted emissions in the frequency ranges specified in paragraphs (a)(5) and (6) of this section is measured with a reference bandwidth of at least 30 kHz.

(c) *Measurement conditions and procedures.* Subject to additional measurement standards and procedures established pursuant to part 2, subpart J, the following conditions and procedures must be used.

- (1) The unwanted emissions limits requirements in this section must be met both with and without the connection of permitted attachments, such as external speakers, microphones, power cords and/or antennas.
- (2) Either mean power output or peak envelope power output may be used for measurements, as appropriate for the emission type under test, provided that the same type of power measurement is used for both the transmitter output power and the power of the unwanted emissions.

### 3.4.2 EUT Setup Block Diagram



The radiated emissions were performed in the 3 meters distance, using the setup accordance with the ANSI C63.26-2015.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

### 3.4.3 EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 9kHz to 1GHz.

During the radiated emission test, the EMI test receiver was set with the following configurations:

Frequency Range	RBW	Video B/W	IF B/W	Detector
9 kHz – 150 kHz	300 Hz	1 kHz	/	Peak
150 kHz – 30 MHz	10 kHz	30 kHz	/	Peak
30 MHz – 1000 MHz	100 kHz	300 kHz	120kHz	Peak

### 3.4.4 Test Procedure

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

### 3.4.5 Corrected Amplitude & Margin Calculation

The “**Margin**” column of the following data tables indicates the degree of compliance within the applicable limit. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Limit} - \text{Result}$$

## 3.5 CONDUCTED SPURIOUS AT ANTENNA TERMINALS

### 3.5.1 Applicable Standard

FCC §95.979

Each CBRS transmitter type must be designed to comply with the applicable unwanted emissions limits in this section.

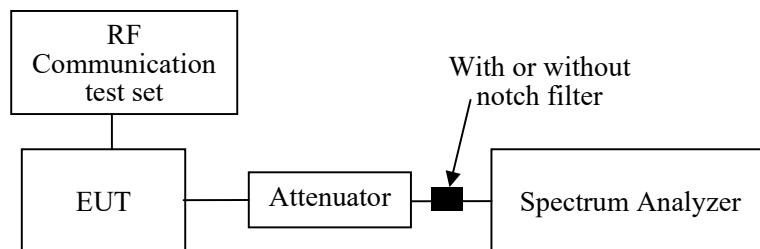
(a) *Attenuation requirements.* The power of unwanted emissions must be attenuated below the transmitter output power in Watts (P) as specified in the applicable paragraphs listed in the following table:

Emission type	Paragraph
A3E, F3E	(1), (3), (5), (6)
H3E, J3E, R3E	(2), (4), (5), (6)

- (1) 25 dB (decibels) in the frequency band 4 kHz to 8 kHz removed from the channel center frequency;
- (2) 25 dB in the frequency band 2 kHz to 6 kHz removed from the channel center frequency;
- (3) 35 dB in the frequency band 8 kHz to 20 kHz removed from the channel center frequency;

- (4) 35 dB in the frequency band 6 kHz to 10 kHz removed from the channel center frequency;
- (5)  $53 + 10 \log (P)$  dB in any frequency band removed from the channel center frequency by more than 250% of the authorized bandwidth.
- (6) 60 dB in any frequency band centered on a harmonic (*i.e.*, an integer multiple of two or more times) of the carrier frequency.
- (b) *Measurement bandwidths.* The power of unwanted emissions in the frequency bands specified in paragraphs (a)(1) through (4) of this section is measured with a reference bandwidth of 300 Hz. The power of unwanted emissions in the frequency ranges specified in paragraphs (a)(5) and (6) of this section is measured with a reference bandwidth of at least 30 kHz.
- (c) *Measurement conditions and procedures.* Subject to additional measurement standards and procedures established pursuant to part 2, subpart J, the following conditions and procedures must be used.
- (1) The unwanted emissions limits requirements in this section must be met both with and without the connection of permitted attachments, such as external speakers, microphones, power cords and/or antennas.
- (2) Either mean power output or peak envelope power output may be used for measurements, as appropriate for the emission type under test, provided that the same type of power measurement is used for both the transmitter output power and the power of the unwanted emissions.

### 3.5.2 EUT Setup Block Diagram



Note: the path loss(cable loss and attenuator) has included into the plot.

### 3.5.3 Test Procedure

EIA/TIA-382-A Section 21.2.  
ANSI/TIA-603-E-2016 Section 2.2.13

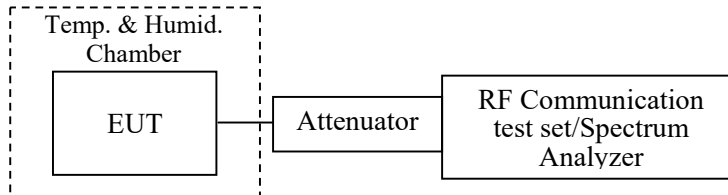
## 3.6 FREQUENCY STABILITY

### 3.6.1 Applicable Standard

FCC §95.965

Each CBRS transmitter type must be designed such that the transmit carrier frequency (or in the case of SSB transmissions, the reference frequency) remains within 50 parts-per-million of the channel center frequencies specified in §95.963 under all normal operating conditions.

### 3.6.2 Test setup:



### 3.6.3 Test Procedure:

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

After the temperature stabilized for approximately 20 minutes, the frequency output was recorded from the counter.



## 4. TEST DATA AND RESULTS

### 4.1 RF OUTPUT POWER

Serial Number:	25SW-1	Test Date:	2023/10/20
Test Site:	RF	Test Mode:	Transmitting
Tester:	Ken Tang	Test Result:	Pass

#### Environmental Conditions:

Temperature: (°C)	26.6	Relative Humidity: (%)	51	ATM Pressure: (kPa)	101
----------------------	------	------------------------------	----	------------------------	-----

#### Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU26	200256	2023/3/31	2024/3/30
YINSAIGE	Coaxial Cable	SS402	SJ0100001	Each time	N/A
Mini-Circuits	DC Block	BLK-18-S+	1554403	Each time	N/A
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060301	Each time	N/A
Weinschel	Coaxial Attenuator	53-20-34	LN751	Each time	N/A
ZHAOXIN	DC Power Supply	RXN-6010D	21R6010D0912386	N/A	N/A

\* Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

**Test Data:**

Modulation	Fc (MHz)	Conducted Output Power (dBm)	Conducted Output Power (Watt)	Limit (Watt)
AM	26.965	35.92	3.91	4.0
AM	27.185	35.72	3.73	4.0
AM	27.405	35.65	3.67	4.0
FM	26.965	35.78	3.78	4.0
FM	27.185	35.73	3.74	4.0
FM	27.405	35.64	3.66	4.0

The 31 dB is the Insertion loss of the RF cable, Coaxial Attenuators, which was offset into the Spectrum Analyzer.

Modulation Technique: AM	
Low Channel	<p>ProjectNo.:CR230526597 Tester:Ken Tang Date: 20.OCT.2023 21:07:25</p>
Middle Channel	<p>ProjectNo.:CR230526597 Tester:Ken Tang Date: 20.OCT.2023 21:09:59</p>
High Channel	<p>ProjectNo.:CR230526597 Tester:Ken Tang Date: 20.OCT.2023 21:11:55</p>

Modulation Technique: FM

<p>Low Channel</p>	<p>ProjectNo.:CR230526597 Tester:Ken Tang Date: 20.OCT.2023 21:16:14</p>
<p>Middle Channel</p>	<p>ProjectNo.:CR230526597 Tester:Ken Tang Date: 20.OCT.2023 21:15:26</p>
<p>High Channel</p>	<p>ProjectNo.:CR230526597 Tester:Ken Tang Date: 20.OCT.2023 21:14:20</p>

**4.2 MODULATION CHARACTERISTIC**

Serial Number:	25SW-1	Test Date:	2023/10/20
Test Site:	RF	Test Mode:	Transmitting
Tester:	Ken Tang	Test Result:	Pass

**Environmental Conditions:**

Temperature: (°C)	26.6	Relative Humidity: (%)	51	ATM Pressure: (kPa)	101
----------------------	------	------------------------------	----	------------------------	-----

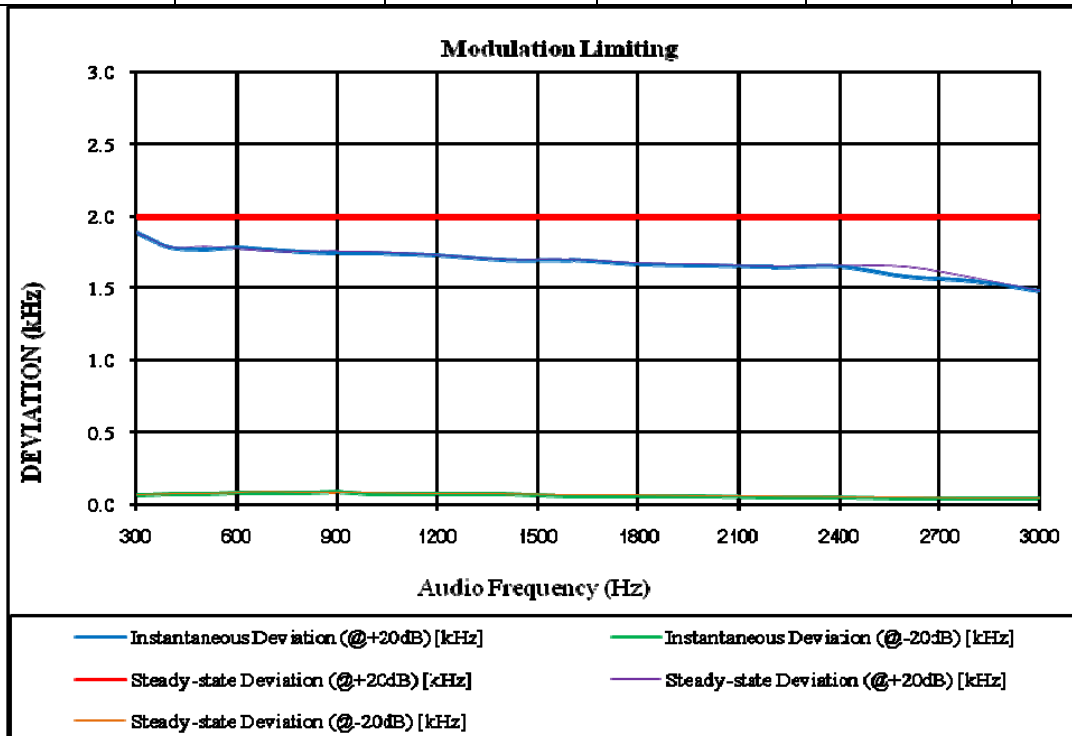
**Test Equipment List and Details:**

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
ZHAOXIN	DC Power Supply	RXN-6010D	21R6010D0912386	N/A	N/A
HP	RF Communications Test Set	8920A	3438A05209	2023/3/31	2024/3/30
YINSAIGE	Coaxial Cable	SS402	SJ0100001	Each time	N/A
Mini-Circuits	DC Block	BLK-18-S+	1554403	Each time	N/A
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060301	Each time	N/A
Weinschel	Coaxial Attenuator	53-20-34	LN751	Each time	N/A

\* Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

**MODULATION LIMITING (FM)**

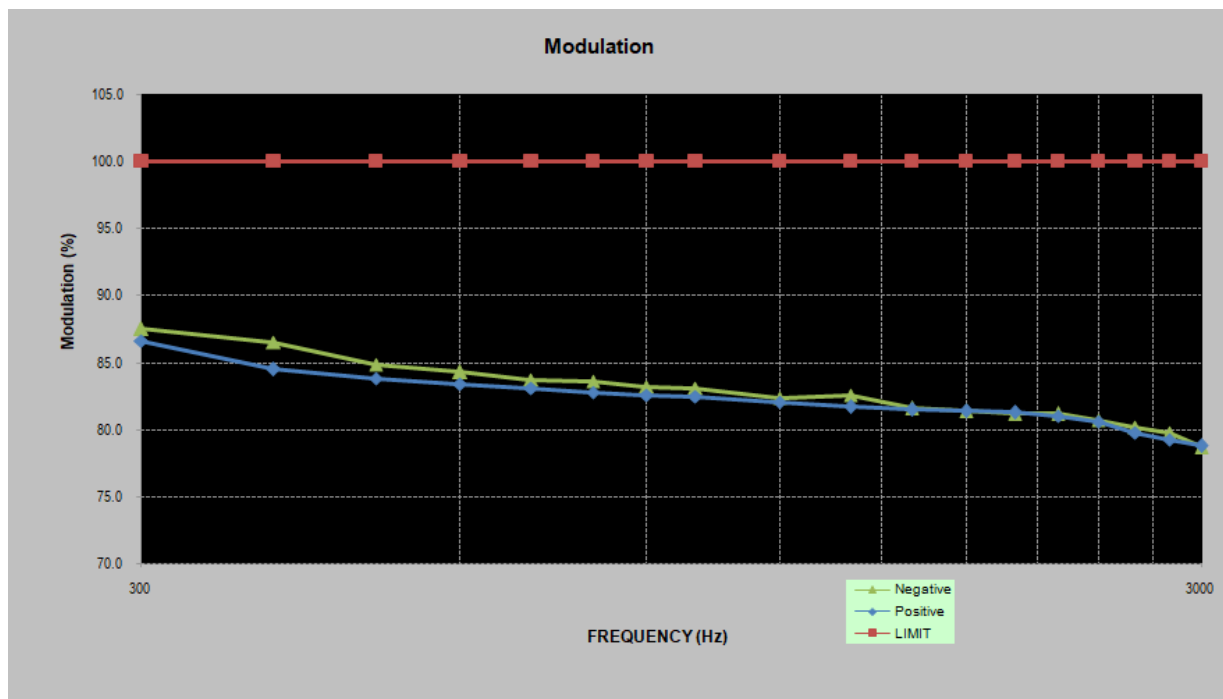
Carrier Frequency: 27.185 MHz					
Audio Frequency (Hz)	Instantaneous		Steady-state		Limit [kHz]
	Deviation (@+20dB) [kHz]	Deviation (@-20dB) [kHz]	Deviation (@+20dB) [kHz]	Deviation (@-20dB) [kHz]	
300	1.883	0.065	1.886	0.067	2.0
400	1.787	0.077	1.786	0.075	2.0
500	1.770	0.079	1.789	0.076	2.0
600	1.783	0.084	1.779	0.084	2.0
700	1.765	0.087	1.764	0.088	2.0
800	1.752	0.083	1.754	0.081	2.0
900	1.742	0.088	1.756	0.086	2.0
1000	1.745	0.079	1.749	0.082	2.0
1200	1.727	0.076	1.732	0.075	2.0
1400	1.697	0.079	1.694	0.078	2.0
1600	1.695	0.064	1.698	0.068	2.0
1800	1.668	0.062	1.672	0.067	2.0
2000	1.657	0.057	1.663	0.064	2.0
2200	1.647	0.053	1.654	0.057	2.0
2400	1.652	0.051	1.658	0.056	2.0
2600	1.578	0.047	1.652	0.052	2.0
2800	1.548	0.044	1.573	0.047	2.0
3000	1.476	0.045	1.476	0.044	2.0



**MODULATION LIMITING (AM)**

Audio Frequency (Hz)	Modulation Level[%]		Limit [%]
	Positive	Negative	
300	86.600	87.500	100.000
400	84.500	86.500	100.000
500	83.800	84.900	100.000
600	83.400	84.300	100.000
700	83.100	83.700	100.000
800	82.800	83.600	100.000
900	82.600	83.200	100.000
1000	82.500	83.100	100.000
1200	82.100	82.400	100.000
1400	81.700	82.600	100.000
1600	81.500	81.600	100.000
1800	81.400	81.400	100.000
2000	81.300	81.200	100.000
2200	81.000	81.200	100.000
2400	80.600	80.700	100.000
2600	79.800	80.200	100.000
2800	79.300	79.800	100.000
3000	78.800	78.700	100.000

Note: the audio input level (the 40dB above 0dB reference): 110.3dBuV.



**4.3 OCCUPIED BANDWIDTH AND EMISSION MASK**

Serial Number:	25SW-1	Test Date:	2023/10/20-2023/10/23
Test Site:	RF	Test Mode:	Transmitting
Tester:	Ken Tang & Rod Luo	Test Result:	Pass

Environmental Conditions:					
Temperature: (°C)	26.6-27.4	Relative Humidity: (%)	49-51	ATM Pressure: (kPa)	101

**Test Equipment List and Details:**

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU26	200256	2023/3/31	2024/3/30
YINSAIGE	Coaxial Cable	SS402	SJ0100001	Each time	N/A
Mini-Circuits	DC Block	BLK-18-S+	1554403	Each time	N/A
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060301	Each time	N/A
Weinschel	Coaxial Attenuator	53-20-34	LN751	Each time	N/A
ZHAOXIN	DC Power Supply	RXN-6010D	21R6010D0912386	N/A	N/A
HP	RF Communications Test Set	8920A	3438A05209	2023/3/31	2024/3/30

\* Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

**Test Data:**

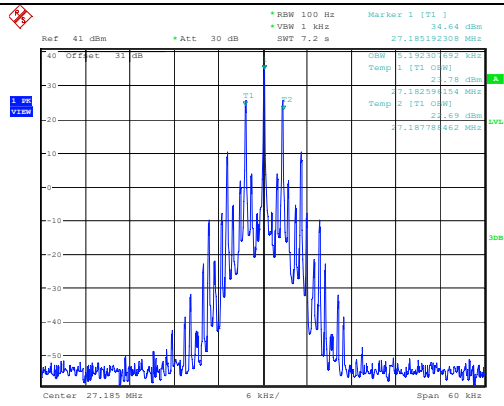
Modulation	Test Frequency (MHz)	99% Occupied Bandwidth (kHz)	Limit (kHz)
AM	27.185	5.192	≤8
FM	27.185	5.192	≤8

The 31 dB is the Insertion loss of the RF cable, Coaxial Attenuators, which was offset into the Spectrum Analyzer.



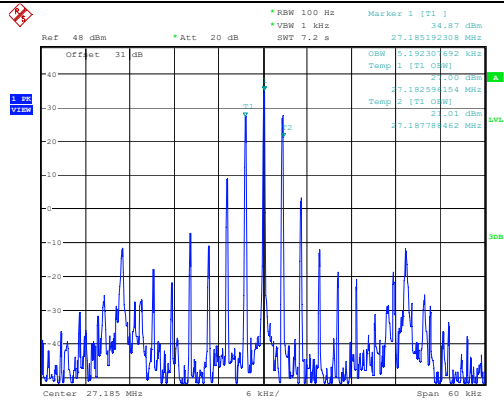
99% Occupied Bandwidth

FM



ProjectNo.:CR230526597 Tester:Ken Tang  
Date: 20.OCT.2023 21:46:48

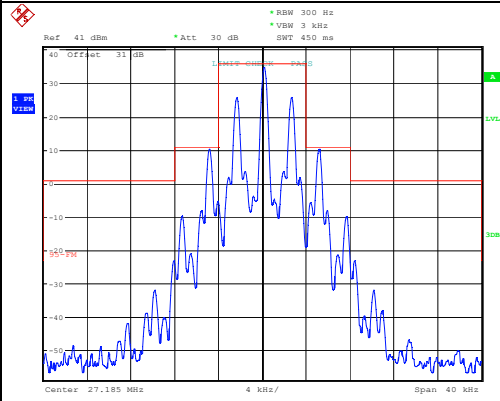
AM



ProjectNo.:CR230526597 Tester:Rod Luo  
Date: 23.OCT.2023 16:00:46

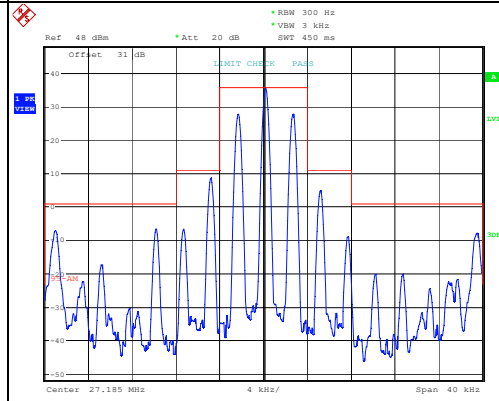
**EMISSION MASK**

**FM**



ProjectNo.:CR230526597 Tester:Ken Tang  
Date: 20.OCT.2023 22:29:33

**AM**



ProjectNo.:CR230526597 Tester:Rod Luo  
Date: 23.OCT.2023 16:20:23

#### 4.4 Radiated Spurious Emission

Serial Number:	25SW-1	Test Date:	2023.7.25
Test Site:	966-2	Test Mode:	Transmitting
Tester:	Vic Du	Test Result:	Pass

#### Environmental Conditions:

Temperature: (°C)	26	Relative Humidity: (%)	63	ATM Pressure: (kPa)	101
----------------------	----	---------------------------	----	---------------------------	-----

#### Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Sunol Sciences	Antenna	JB6	A082520-5	2020/10/19	2023/10/18
R&S	EMI Test Receiver	ESR3	102724	2023/3/31	2024/3/30
TIMES MICROWAVE	Coaxial Cable	LMR-600-UltraFlex	C-0470-02	2023/7/16	2024/7/15
TIMES MICROWAVE	Coaxial Cable	LMR-600-UltraFlex	C-0780-01	2023/7/16	2024/7/15
EMCO	Adjustable Dipole Antenna	3121C	9109-756	N/A	N/A
MICRO-COAX	Coaxial Cable	UFA210B-0-0720- 300300	99G1448	2022/7/16	2024/7/15
Agilent	Signal Generator	E8247C	MY43321352	2022/11/18	2023/11/17

\* **Statement of Traceability:** China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

**Test Data:****9kHz-1GHz**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dB $\mu$ V)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
FM , Frequency: 27.185 MHz								
54.370	H	50.92	-21.99	-12.89	0.13	-35.01	-24.00	11.01
54.370	V	45.32	-26.50	-12.89	0.13	-39.52	-24.00	15.52
217.480	H	39.06	-42.09	0.00	0.27	-42.36	-24.00	18.36
217.480	V	28.45	-50.23	0.00	0.27	-50.50	-24.00	26.50
271.850	H	43.79	-36.39	0.00	0.31	-36.70	-24.00	12.70
271.850	V	35.31	-43.57	0.00	0.31	-43.88	-24.00	19.88
434.960	H	46.13	-31.03	0.00	0.41	-31.44	-24.00	7.44
434.960	V	38.22	-35.94	0.00	0.41	-36.35	-24.00	12.35
462.145	H	47.88	-28.72	0.00	0.41	-29.13	-24.00	5.13
462.145	V	40.76	-32.32	0.00	0.41	-32.73	-24.00	8.73
570.885	H	39.23	-35.20	0.00	0.46	-35.66	-24.00	11.66
570.885	V	38.83	-32.86	0.00	0.46	-33.32	-24.00	9.32
AM, Frequency: 27.185 MHz								
54.370	H	49.86	-23.05	-12.89	0.13	-36.07	-24.00	12.07
54.370	V	43.40	-28.42	-12.89	0.13	-41.44	-24.00	17.44
108.740	H	35.27	-45.66	0.00	0.19	-45.85	-24.00	21.85
108.740	V	31.31	-43.78	0.00	0.19	-43.97	-24.00	19.97
217.480	H	47.07	-34.08	0.00	0.27	-34.35	-24.00	10.35
217.480	V	39.78	-38.90	0.00	0.27	-39.17	-24.00	15.17
271.850	H	43.63	-36.54	0.00	0.31	-36.85	-24.00	12.85
271.850	V	39.61	-39.27	0.00	0.31	-39.58	-24.00	15.58
434.960	H	48.11	-29.05	0.00	0.41	-29.46	-24.00	5.46
434.960	V	41.13	-33.03	0.00	0.41	-33.44	-24.00	9.44
462.145	H	47.71	-28.89	0.00	0.41	-29.30	-24.00	5.30
462.145	V	43.02	-30.06	0.00	0.41	-30.47	-24.00	6.47

Note 1: The unit of antenna gain is dBd for frequency below 1GHz.

Note 2:

Absolute Level = Substituted Level - Cable loss + Antenna Gain

Margin = Limit - Absolute Level

Other emission which is 20dB below the limit or the noise floor which was not recorded.

Limit for harmonic: 60dB below the rated power = 36dBm-60dB=-24dBm

Limit for frequencies other than harmonic(exclude  $f_c \pm 250\%$  authorized bandwidth):  $53 + 10 \log (P)$  dB below the rated power=-23dBm

For 9kHz-1GHz, the tighter limit -24dBm was used.

**4.5 CONDUCTED SPURIOUS AT ANTENNA TERMINALS**

Serial Number:	25SW-1	Test Date:	2023/10/24
Test Site:	RF	Test Mode:	Transmitting
Tester:	Rod Luo	Test Result:	Pass

**Environmental Conditions:**

Temperature: (°C)	27.1	Relative Humidity: (%)	45	ATM Pressure: (kPa)	101
----------------------	------	---------------------------	----	---------------------------	-----

**Test Equipment List and Details:**

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU26	200256	2023/3/31	2024/3/30
YINSAIGE	Coaxial Cable	SS402	SJ0100001	Each time	N/A
Mini-Circuits	DC Block	BLK-18-S+	1554403	Each time	N/A
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060301	Each time	N/A
Weinschel	Coaxial Attenuator	53-20-34	LN751	Each time	N/A
ZHAOXIN	DC Power Supply	RXN-6010D	21R6010D0912386	N/A	N/A

\* **Statement of Traceability:** China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

**Test Data:**

Please refer to the below table and plots.

**Note:**

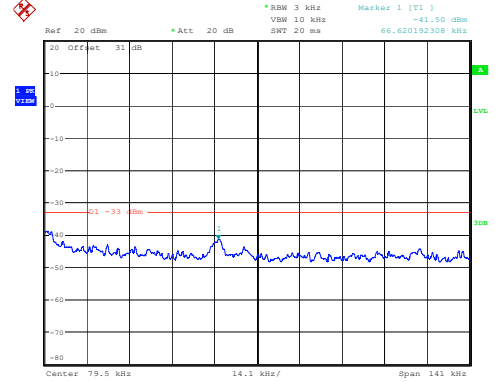
Limit for harmonic: 60dB below the rated power = 36dBm-60dB=-24dBm

Limit for frequencies other than harmonic(exclude  $f_c \pm 250\%$  authorized bandwidth):  $53 + 10 \log(P)$  dB below the rated power=-23dBm; For the test frequency below 150kHz, the RBW factor  $10\lg(30/3)$ dB=10dB was reduced to the limit when test in RBW=3kHz, so the limit is -33dBm.

The 31 dB is the Insertion loss of the RF cable, Coaxial Attenuators, which was offset into the Spectrum Analyzer.

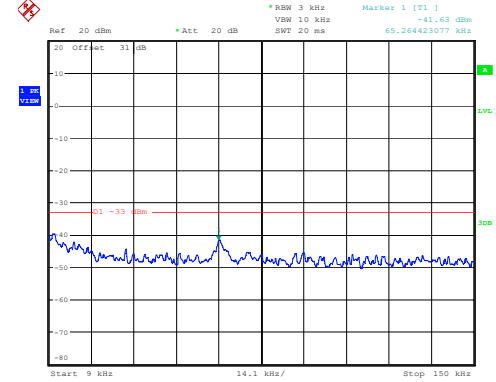
### Spurious Emissions at Antenna Terminal

#### Modulation Technique: FM

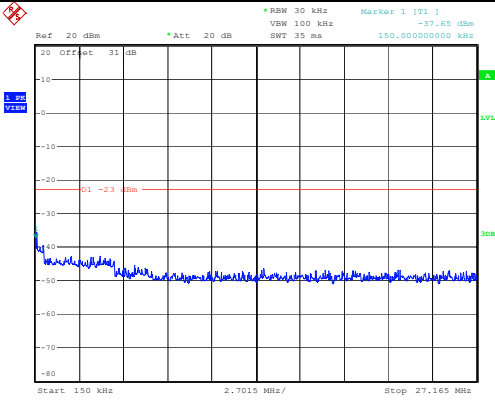


ProjectNo.:CR230526597 Tester:Rod Luo  
Date: 24.OCT.2023 14:54:12

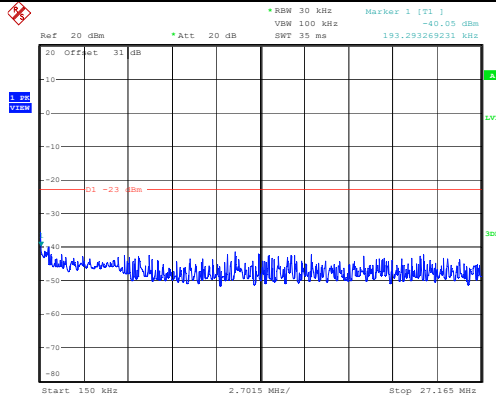
#### Modulation Technique: AM



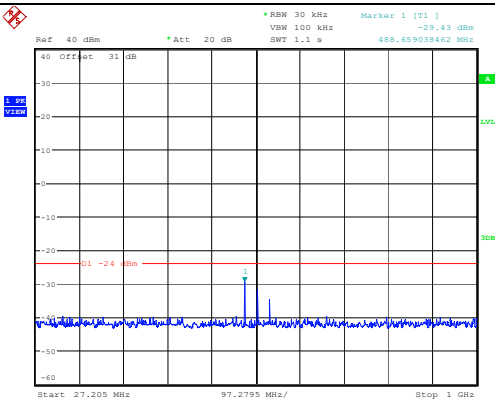
ProjectNo.:CR230526597 Tester:Rod Luo  
Date: 24.OCT.2023 15:08:01



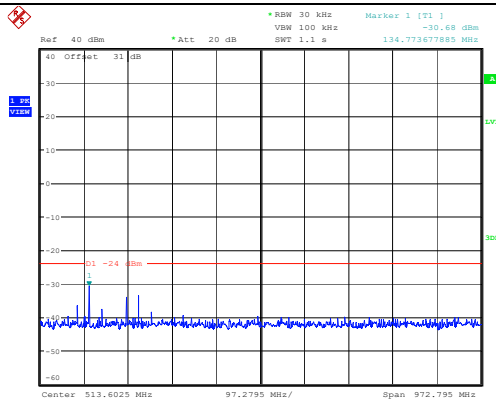
ProjectNo.:CR230526597 Tester:Rod Luo  
Date: 24.OCT.2023 14:55:34



ProjectNo.:CR230526597 Tester:Rod Luo  
Date: 24.OCT.2023 15:07:11



ProjectNo.:CR230526597 Tester:Rod Luo  
Date: 24.OCT.2023 15:04:48



ProjectNo.:CR230526597 Tester:Rod Luo  
Date: 24.OCT.2023 15:05:22

**4.6 FREQUENCY STABILITY**

Serial Number:	25SW-1	Test Date:	2023/10/20
Test Site:	RF	Test Mode:	Transmitting
Tester:	Ken Tang	Test Result:	Pass

**Environmental Conditions:**

Temperature: (°C)	26.6	Relative Humidity: (%)	51	ATM Pressure: (kPa)	101
----------------------	------	---------------------------	----	---------------------------	-----

**Test Equipment List and Details:**

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
YINSAIGE	Coaxial Cable	SS402	SJ0100001	Each time	N/A
Mini-Circuits	DC Block	BLK-18-S+	1554403	Each time	N/A
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060301	Each time	N/A
Weinschel	Coaxial Attenuator	53-20-34	LN751	Each time	N/A
ZHAOXIN	DC Power Supply	RXN-6010D	21R6010D0912386	N/A	N/A
HP	RF Communications Test Set	8920A	3438A05209	2023/3/31	2024/3/30
BACL	TEMP&HUMI Test Chamber	BTH-150-40	30174	2023/3/31	2024/3/30

\* **Statement of Traceability:** China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

**Test Data:**

**Test Data:****AM Modulation**

Test Frequency (MHz)	Temperature (°C)	Voltage (V <sub>DC</sub> )	Measured Frequency (MHz)	Frequency Error (ppm)	limit (ppm)
27.185	-30	13.8	27.185024	0.8828	±50
	-20	13.8	27.185034	1.2507	±50
	-10	13.8	27.185035	1.2875	±50
	0	13.8	27.185042	1.5450	±50
	10	13.8	27.185032	1.1771	±50
	20	13.8	27.185034	1.2507	±50
	30	13.8	27.185021	0.7725	±50
	40	13.8	27.185052	1.9128	±50
	50	13.8	27.185034	1.2507	±50
	20	10.8	27.185027	0.9932	±50
	20	15.6	27.185047	1.7289	±50

**FM Modulation**

Test Frequency (MHz)	Temperature (°C)	Voltage (V <sub>DC</sub> )	Measured Frequency (MHz)	Frequency Error (ppm)	limit (ppm)
27.185	-30	13.8	27.185026	0.9564	±50
	-20	13.8	27.185063	2.3175	±50
	-10	13.8	27.185028	1.0300	±50
	0	13.8	27.185063	2.3175	±50
	10	13.8	27.185029	1.0668	±50
	20	13.8	27.185067	2.4646	±50
	30	13.8	27.185064	2.3542	±50
	40	13.8	27.185034	1.2507	±50
	50	13.8	27.185052	1.9128	±50
	20	10.8	27.185067	2.4646	±50
	20	15.6	27.185063	2.3175	±50

Note: the extreme voltage is declared by the applicant.



## 5. MAXIMUM PERMISSIBLE EXPOSURE(MPE)

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

Limits for Maximum Permissible Exposure (MPE) (§1.1310, §2.1091)

(B) Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Averaging Time (minutes)
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*(180/f <sup>2</sup> )	30
30–300	27.5	0.073	0.2	30
300–1500	/	/	f/1500	30
1500–100,000	/	/	1.0	30

f = frequency in MHz; \* = Plane-wave equivalent power density;

According to §1.1310 and §2.1091 RF exposure is calculated.

### 5.1.2 Calculation formula:

Prediction of power density at the distance of the applicable MPE limit

$S = PG/4\pi R^2$  = power density (in appropriate units, e.g. mW/cm<sup>2</sup>);

P = power input to the antenna (in appropriate units, e.g., mW);

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain;

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

### 5.1.3 Calculated Data:

Frequency (MHz)	Antenna Gain ▲		Conducted output power ▲ including Tune-up Tolerance (mW)	MPE Limit (mW/cm <sup>2</sup> )	Minimum Safe Distance (cm)
	(dBi)	(numeric)			
26.965-27.405	0	1	4000	0.24	36.43

Note: The Conducted output power including Tune-up Tolerance and antenna gain was declared by manufacturer.

**Result:** To maintain compliance with the FCC's RF exposure guidelines, please put the CB radio antenna least 36.43cm from nearby persons.

## **6. EUT PHOTOGRAPHS**

---

Please refer to the attachment CR230526597-EXP EUT EXTERNAL PHOTOGRAPHS and CR230526597-INP EUT INTERNAL PHOTOGRAPHS

## **7. TEST SETUP PHOTOGRAPHS**

---

Please refer to the attachment CR230526597-00-TSP TEST SETUP PHOTOGRAPHS.

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