

Page 1 of 30 FCC ID: 2BEC9-T-59YC

FCC TEST REPORT

For

Guangdong Baolun Electronics Co., Ltd.

Digital Audio Wireless System

Test Model: T-59YC

Prepared for	:	Guangdong Baolun Electronics Co., Ltd.
Address	:	No.56 Nanlidong Road Shiqi Panyu Guangzhou
Prepared by	:	Shenzhen LCS Compliance Testing Laboratory Ltd.
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Date of receipt of test sample	:	December 03, 2024
Number of tested samples	:	2
Sample No	:	A241008116-1, A241008116-2
Serial number	:	Prototype
Date of Test	:	December 03, 2024 ~ February 12, 2025
Date of Report	:	February 12, 2025



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	FCC CFR 47 PART 74
Report Reference No	:: LCSA11264125EA
Date of Issue	: February 12, 2025
Testing Laboratory Name	: Shenzhen LCS Compliance Testing Laboratory Ltd.
Address	: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei
	Shajing Street, Baoan District, Shenzhen, 518000, China
Testing Location/ Procedure	: Full application of Harmonised standards
	Partial application of Harmonised standards \Box
+讯检测版 ···	Other standard testing method \Box
Applicant's Name	: Guangdong Baolun Electronics Co., Ltd.
Address	: No.56 Nanlidong Road Shiqi Panyu Guangzhou
Test Specification	
Standard	:FCC CFR 47 PART 74
Test Report Form No	: TRF-4-E-165 A/0
TRF Originator	: Shenzhen LCS Compliance Testing Laboratory Ltd.
Master TRF	: Dated 2011-03
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placement and context.	
EUT Description	: Digital Audio Wireless System
Trade Mark	
Test Model	: T-59YC
Ratings	: DC 3.7V by Rechargeable Battery×2, 900mAh
Result	: Positive

Compiled by:

Li Huan/ Administrator

Supervised by:

liu

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Test Report No. : LCSA11264125EA	<u>February 12, 2025</u> Date of issue
Test Model : T-59YC	
EUT : Digital Audio Wireless S	System
Applicant : Guangdong Baolun E	lectronics Co., Ltd.
Address: No.56 Nanlidong RoadTelephone: /Fax: /	Shiqi Panyu Guangzhou
Manufacturer : Guangdong Baolun E	lectronics Co., Ltd.
Address : No.56 Nanlidong Road Telephone : /	Shiqi Panyu Guangzhou
Fax : /	五立讯检测展份 Testing Lab
Factory : Guangdong Baolun E	lectronics Co., Ltd.
Address: No.56 Nanlidong RoadTelephone: /Fax: /	Shiqi Panyu Guangzhou

Test Result	Positive
The test report merely corresponds to the test sam	nple.

It is not permitted to copy extracts of these test result without the written permission of the test laboratory.



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Revision History

Revision	Issue Date	Revision Content	Revised By
000	February 12, 2025	Initial Issue	















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1. GENERAL INFORMATION

1.1. Description of Device (EUT)

EUT	: Digital Audio Wireless System	
Test Model	: T-59YC	
Power Supply	: DC 3.7V by Rechargeable Battery×2, 900mAh	
Hardware Version	: /	
Software Version	: /	
UHF		
Operation frequency	: 500.2MHz~607.8MHz	
Modulation Type	: pi/4-DQPSK	
Antenna Type	: Spring Antenna	
Antenna Gain	: 0.72dBi	
Extreme temp. Tolerance	: -30°C to +50°C	

1.2. Support Equipment List

Manufacturer	Description	Model	Serial Number	Certificate

1.3. External I/O Cable

- 立讯检	I/O Port Description	Quantity			Cable		
LCS TO	Type-C USB Port	^{Tesr.} 1	182	LCSTESU	N/A	1 Ed T	

1.4. Description of Test Facility

NVLAP Accreditation Code is 600167-0. FCC Designation Number is CN5024. Test Firm Registration Number: 254912 CAB identifier is CN0071. CNAS Registration Number is L4595. Test Firm Registration Number: 254912.

The 3m-Semi anechoic test site fulfils CISPR 16-1-4 according to ANSI C63.4:2014 and CISPR 16-1-4:2010 SVSWR requirement for radiated emission above 1GHz.





1.5. Statement of the Measurement Uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. To CISPR 16 - 4 "Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements" and is documented in the LCS quality system acc. To DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

1.6. Measurement Uncertainty

Test Item		Frequency Range	Uncertainty	Note
ST I Whitesting Lat		9KHz~30MHz	±3.10dB	(1)
		30MHz~200MHz	±2.96dB	(1)
Radiation Uncertainty	:	200MHz~1000MHz	±3.10dB	(1)
		1GHz~26.5GHz	±3.80dB	(1)
		26.5GHz~40GHz	±3.90dB	(1)
Conduction Uncertainty	:	150kHz~30MHz	±1.63dB	(1)
Power disturbance	:	30MHz~300MHz	±1.60dB	(1)

(1). This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

1.7. Description of Test Modes

The EUT has been tested under operating condition.

This test was performed with EUT in X, Y, Z position and the worst case was found when EUT in X position.

Worst-case mode and channel used for 150 kHz-30 MHz power line conducted emissions was the mode and channel with the highest output power, which was determined to be (Low Channel).

Worst-case mode and channel used for 9kHz-1000 MHz radiated emissions was the mode and channel with the highest output power, that was determined to be (Low Channel).

Worst-Case data rates were utilized from preliminary testing of the Chipset, worst-case data rates used during the testing are as follows:

TI WW	Modulation Type	Test Frequency	Te
LO		(MHz)	
		500.2	
	pi/4-DQPSK	565	
		607.8	



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1.8. Frequency of Channels

Channel No. & Frequency:

Frequency(MHz)	Frequency(MHz)
500.2	565.2
	565.3
564.9	565.4
565	
565.1	607.8
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2. TEST METHODOLOGY

All measurements contained in this report were conducted with ANSI C63.26-2015: American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services

The radiated testing was performed at an antenna-to-EUT distance of 3 meters. All radiated and conducted emissions measurement was performed at Shenzhen LCS Compliance Testing Laboratory Ltd.

2.1. EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

2.2. EUT Exercise

The EUT was operated in the engineering mode to fix the TX frequency that was for the purpose of the measurements.

According to its specifications, the EUT must comply with the requirements of the Section FCC Rules Part 74.

2.3. General Test Procedures

2.3.1 Power Line Conducted Emissions(N/A)

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 6.2.1 of ANSI C63.4-2014 Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using Quasi-peak and average detector modes.

2.3.2 Radiated Emissions

please refer to radated spurioes emission



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3. SYSTEM TEST CONFIGURATION

3.1. Justification

The system was configured for testing in a continuous transmits condition.

3.2. EUT Exercise Software

The system was configured for testing in a continuous transmits condition; and transmission frequency by switch button control.

3.3. Special Accessories

N/A

3.4. Block Diagram/Schematics

Please refer to the related document

3.5. Equipment Modifications

Shenzhen LCS Compliance Testing Laboratory Ltd. has not done any modification on the EUT.

3.6. Test Setup

Please refer to the test setup photo.











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4. SUMMARY OF TEST RESULTS

	Applied Standard: FCC Part 74	
FCC Rules	Description of Test	Result
FCC Part 74.861(e)(1)(ii) FCC Part 2.1046	Maximum Conducted Output Power	Compliant
FCC Part 74.861 (e)(5) FCC Part 2.1049	Occupied Bandwidth	Compliant
FCC Part 74.861 (e)(4) FCC Part 2.1055	Frequency error	Compliant
FCC Part 74.861(e)(6) 2.1053	Transmitter unwanted emissions(radiated or conducted)	Compliant
FCC Part 2.1049 FCC Part 2.1047	Modulation characteristic	N/A
FCC Part 74.861 (e)(7) FCC Part 2.1049	Necessary bandwidth (BN) for analogue systems	Compliant

Note:Not Applicable because digital modulation.



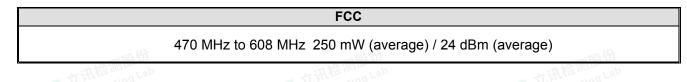


- 5.1. Transmitter output power
- 5.1.1. Measurement description:
- The power may not exceed the following values.
- (i) 54-72, 76-88, and 174-216 MHz bands: 50 mW EIRP
- (ii) 470-608 and 614-698: 250 mW conducted power
- (iii) 600 MHz duplex gap: 20 mW EIRP

5.1.2. Measurement:

asurement:		
Measure	ement parameter	ting
Detector:	Peak (worst case) / Average (RMS)	
Sweep time:	Auto / 20s	
Resolution bandwidth:	> emission bandwidth	
Video bandwidth:	> resolution bandwidth	
Span:	> 2 times emissions bandwidth	
Trace mode:	Max. hold	
	Peak:	
	Unmodulated carrier	
	RMS:	
TP TP	Modulate the transmitter with a 2.5 kHz	而後到服空口
Las Twing Las	tone at a level 16 dB higher than that	S Tring La
EUT configuration:	required to produce a frequency	EA LLO
	deviation of ± 75 kHz, or to produce	
	50% of the manufacturer's rated	
	deviation, whichever is less.	

5.1.3. Limits:



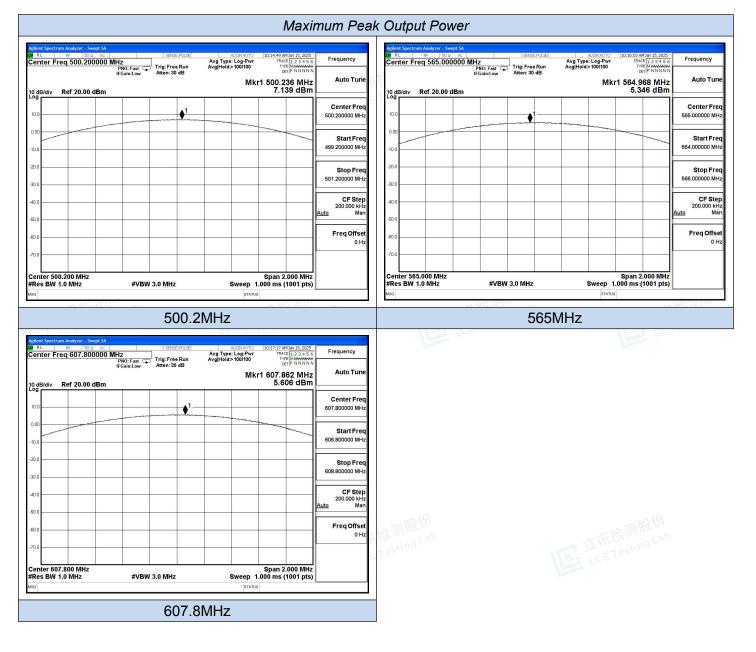
5.1.4. Test result:

The EUT was programmed to be in continuously transmitting mode.





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5	.1.5. Test result						
	Test Mode	Frequency (MHz)	Measured Maximum Peak Power(dBm)	Measured Maximum Average Power(dBm)	Limits Average (dBm)	Verdict	
	pi/4-DQPSK	500.2	7.139	1	24	PASS	
	pi/4-DQPSK	565	5.346	1	24	PASS	
	pi/4-DQPSK	607.8	5.606		24	PASS	





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5.2. Occupied bandwidth and Emission Mask

5.2.1. Measurement description:

The operating bandwidth shall not exceed 200 kHz.

The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance with the following schedule:

(i) On any frequency removed from the operating frequency by more than 50 percent up to and including 100 percent of the authorized bandwidth: at least 25 dB;

(ii) On any frequency removed from the operating frequency by more than 100 percent up to and including 250 percent of the authorized bandwidth: at least 35 dB;

(iii) On any frequency removed from the operating frequency by more than 250 percent of the authorized bandwidth: at least 43 + 10log10 (mean output power in watts) dB.

5.2.2. Measurement:

Measuren	nent parameter	
Detector:	Peak	
Sweep time:	Auto	
Resolution bandwidth:	1 % to 5 % of the occupied bandwidth	
Video bandwidth:	3 x resolution bandwidth	an lit
Span:	2 x emission bandwidth	古语检测 BE Lab
Trace mode:	Max. hold	LCS Testing
Analyzer function:	99% power occupied bandwidth	
	function	
EUT:	Modulated signal with max. frequency	
	deviation	

5.2.3. Result:

	Test Mode	Frequency (MHz)	99% Bandwidth (KHz)	Limits (KHz)	Verdict
	pi/4-DQPSK	500.2	124.46	200	PASS
	pi/4-DQPSK	565	122.56	200	PASS
-	pi/4-DQPSK	607.8	122.49	200	PASS



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	99% Ban	ndwidth		99% Bandwidth
	Center Freq: 500.2000 Trig: Free Run #Atten: 30 dB	ALIGNAUTO 06:22:27 FMFeb 12, 20 000 MHz Radio Std: None Avg Hold>10/10 Radio Device: BTS	²⁵ Trace/Detector	Agitent Spectrum Analyzer - Occupied BW R R R So AC Set
10 dB/div Ref 10.00 dBm 0.00 10.0 -20.0	wanter and the second	horming	Clear Write	10 dB/div Ref 10.00 dBm Log 0.00 100 100 200
30.0 -40.0 -50.0 -60.0			∽ Average	300 400 500 Marine Mari
-70.0 -80.0 Center 500.2 MHz		Span 300 kł	Max Hold	.700
#Res BW 3 kHz	#VBW 10 kH	· · · · · · · · · · · · · · · · · · ·	ns Min Hold	Center 303 im/rz Spari 300 m/rz CF Step 30.000 kHz CF Step 30.000 kHz CF Step 30.000 kHz Occupied Bandwidth Total Power 9.09 dBm Auto Man
Occupied Bandwidth 124. Transmit Freq Error x dB Bandwidth	46 kHz 3.681 kHz OBW Po 139.9 kHz x dB		Detector Average ► <u>Auto</u> Man	Occupied Bandwidth Total Power 9.09 dBm 122.56 kHz Freq Offset Transmit Freq Error 4.623 kHz OBW Power 99.00 % x dB Bandwidth 139.9 kHz x dB -26.00 dB
MSG	500.21	STATUS		use status 565MHz
10 dB/div Ref 10.00 dBm	Center Free, 607,8000 Trig: Free Run #Atten: 30 dB	ALIGN AUTO 06:25:40 PM Feb 12:20	25 Frequency	
Log 100 100 300 400 400 400 400 400 400 4			Center Freq 607.800000 MHz	
Center 607.8 MHz #Res BW 3 kHz	#VBW 10 kH	Span 300 kł z Sweep 40.87 n		
Occupied Bandwidth 122. Transmit Freq Error x dB Bandwidth	Total Pc 49 kHz 4.557 kHz OBW Pc 139.7 kHz x dB		Auto Man Freq Offset 0 Hz	立讯检测股份 LCS Testing Lab LCS Testing L
	607.8			



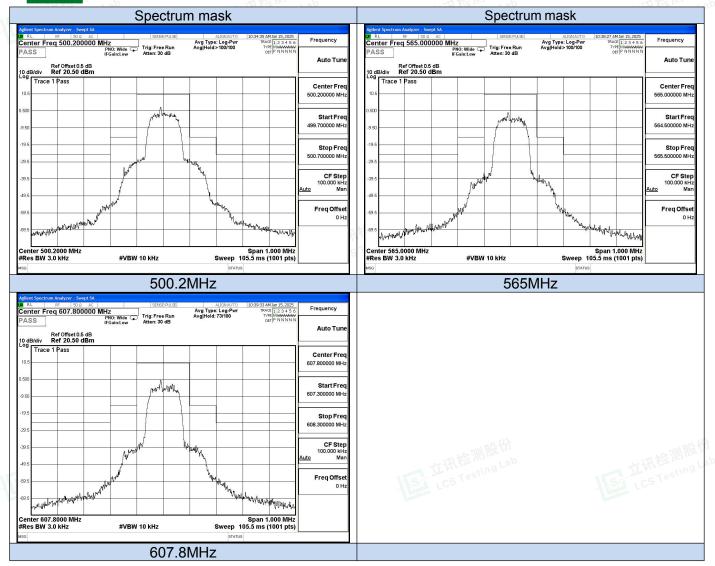
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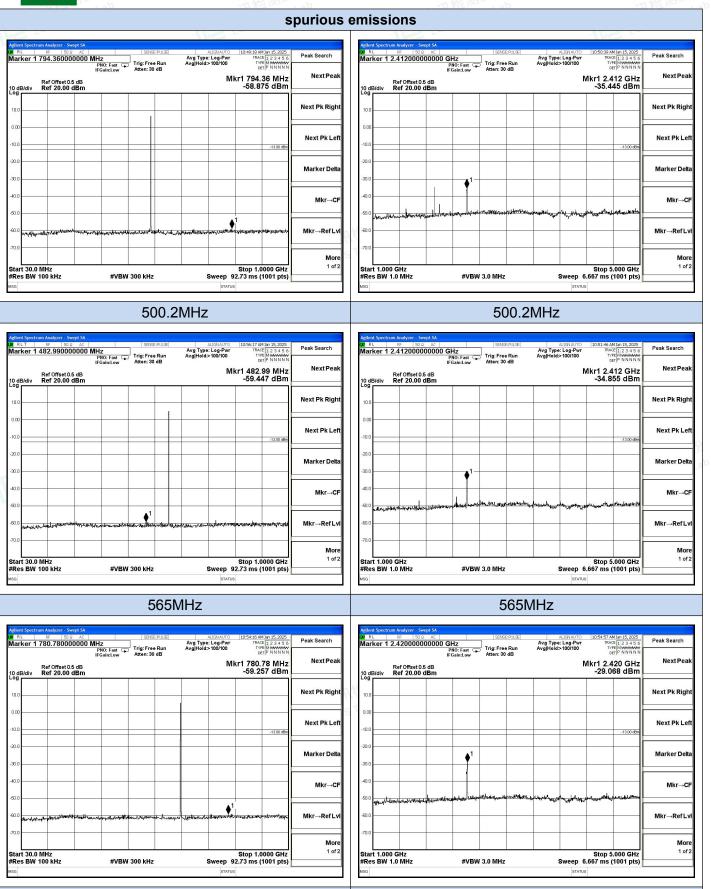
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607.8MHz

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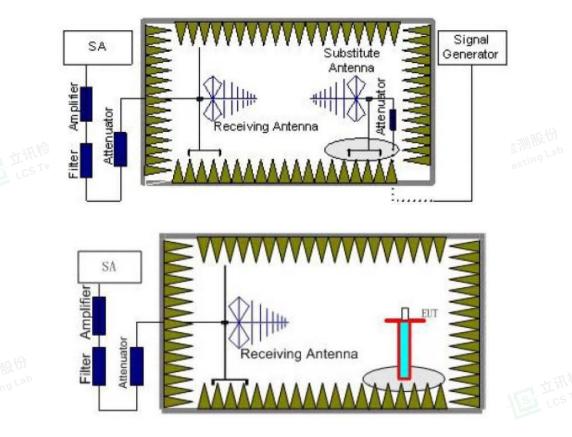
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- 5.3. Transmitter unwanted emissions(radiated or conducted)
- 5.3.1. Measurement description:
- TEST CONFIGURATION



TEST PROCEDURE

- EUT was placed on a 1.50 meter high non-conductive stand at a 3 meter test distance from the receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the EUT for emission measurements. The height of receiving antenna is 1.50 m. Detected emissions were maximized at each frequency by rotating the EUT through 360° and adjusting the receiving antenna polarization. The radiated emission measurements of all transmit frequencies in three channels (High, Middle, Low) were measured with peak detector.
- 2. A log-periodic antenna or double-ridged waveguide horn antenna shall be substituted in place of the EUT. The log-periodic antenna will be driven by a signal generator and the level will be adjusted till the same power value on the spectrum analyzer or receiver. The level of the spurious emissions can be calculated through the level of the signal generator, cable loss, the gain of the substitution antenna and the reading of the spectrum analyzer or receiver.
- 3. The EUT is then put into continuously transmitting mode at its maximum power level during the test.Set Test Receiver or Spectrum RBW=1MHz,VBW=3MHz, And the maximum value of the receiver should be recorded as (P_r).
- 4. The EUT shall be replaced by a substitution antenna. In the chamber, an substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been





constructed to not interfere with the radiation pattern of the antenna. A power (P_{Mea}) is applied to the input of the substitution antenna, and adjust the level of the signal generator output until the value of the receiver reach the previously recorded (P_r). The power of signal source (P_{Mea}) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.

- 5. A amplifier should be connected to the Signal Source output port. And the cable should be connect between the Amplifier and the Substitution Antenna. The cable loss (P_{cl}), the Substitution Antenna Gain (G_a) and the Amplifier Gain (P_{Ag}) should be recorded after test. The measurement results are obtained as described below: Power(EIRP)=P_{Mea}- P_{Ag} - P_{cl} + G_a
- 6. This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dBi) and known input power.
- 7. ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP = EIRP -2.15dBi.
- 8. In order to make sure test results more clearly, we set frequency range and sweep time for difference frequency range as follows table:

		FCC & IC (according to ETSI	EN 300 422-1 V2.1.2 (2017-	01))
5	State	47 MHz to 74 MHz 87,5 MHz to 137 MHz 174 MHz to 230 MHz 470 MHz to 862 MHz 470 MHz to 862 MHz	Max. spurious level Other frequencies ≤ 1000 MHz	All frequencies > 1000 MHz
	Operating	4.0 nW	250 nW	1.00 µW
	Standby	2.0 nW	2.0 nW	20.0 nW

TEST LIMITS

FCC & IC	
The mean power of emissions shall be attenuated below	the mean output power of the transmitter in
accordance with the follow	ing schedule:
On any frequency removed from the operating frequency by more than 50 percent up to and including 100 percent of the	25 dB
On any frequency removed from the operating frequency by more than 100 percent up to and including 250 percent of	35 dB
On any frequency removed from the operating frequency by more than 250 percent of the authorized bandwidth: at least	43 + 10log10 (mean output power in watts) dB



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5.3.2. Results for Radiated Emissions

Frequency (MHz)	Polarization (H/V)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector
·		500.2MHz			
150.27	Н	-43.11	-36.00	-7.11	PK
65.78	V	-63.20	-54.00	-9.20	PK
323.37	Н	-40.79	-36.00	-4.79	PK
704.15	V	-59.25	-54.00	-5.25	PK
4928.28	Н	-39.95	-30.00	-9.95	PK
4927.60	V	-33.01	-30.00	-3.01	PK
7389.92	A H	-36.52	-30.00	-6.52	PK
7385.96	v V	-36.74	-30.00	-6.74	PK
Tresting		I I Testing La		15	This Testing

Frequency (MHz)	Polarization (H/V)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector
		565MHz			
151.48	Н	-43.95	-36.00	-7.95	PK
68.67	V	-58.00	-54.00	-4.00	PK
326.76	Н	-43.64	-36.00	-7.64	PK
704.65	V	-62.77	-54.00	-8.77	PK
4923.85	Н	-43.20	-30.00	-13.20	PK
4926.60	V	-36.41	-30.00	-6.41	PK
7390.69	Н	-34.37	-30.00	-4.37	PK
7387.85	V	-36.21	-30.00	-6.21	PK

	1001100	•	00.21	00.00	0.21		
おい	Frequency (MHz)	Polarization (H/V)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	用检测 BZ In Lab
		- Contraction	607.8MHz	100	·		
Ī	147.93	Н	-44.85	-36.00	-8.85	PK	1
	67.33	V	-57.06	-54.00	-3.06	PK	
	322.25	Н	-44.21	-36.00	-8.21	PK	
	706.89	V	-58.78	-54.00	-4.78	PK	
	4925.26	Н	-40.52	-30.00	-10.52	PK]
	4928.13	V	-37.57	-30.00	-7.57	PK]
[7390.85	Н	-36.33	-30.00	-6.33	PK]
	7383.81	V	-39.87	-30.00	-9.87	PK	

Note: 1, All detected emissions are more than 20 dB below the limit, In addition to main frequency.



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5.4. Conducted spurious emission

5.4.1. Description:

Measurement of the conducted spurious emissions in transmit mode below 30 MHz. The EUT is set to channel 6. This measurement is repeated for DSSS and OFDM modulation. If peaks are found channel 1 and channel 11 will be measured too. The measurement is performed with the data rate producing the highest output power. Both power lines, phase and neutral line, are measured. Found peaks are re-measured with average and quasi peak detection to show compliance to the limits.

5.4.2. Measurement:

Measurement parameter				
Detector:	立讯	Peak - Quasi Pe	ak / Average	
Sweep time:	ST LCS	Auto	LCS	
Resolution bandwidth:		F < 150 kHz:	200 Hz	
		F > 150 kHz:	9 kHz	
Video bandwidth:		F < 150 kHz:	1 kHz	
video bandwidth.		F > 150 kHz:	100 kHz	
Span:		9 kHz to 30 MHz		
Trace mode:		Max Hold		

5.4.3. Limits:

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	FCC		g ^{Lab}
Frequency (MHz)	Quasi-Peak (dBµV/m)	Average (dBµV/m)	
0.15 – 0.5	66 to 56*	56 to 46*	
0.5 – 5	56	46	
5 – 30.0	60	50	

5.4.4. Results:

Not Applicable.



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5.5. Frequency Stability

Test Requirement: FCC CFR 47 Part 74.e) 4)

Test Method: FCC CFR 47 Part 2.1055

Requirements:+/-50 ppm

(e) For low power auxiliary stations operating in the bands allocated for TV broadcasting, the following technical requirements apply:

(4) The frequency tolerance of the transmitter shall be 0.005 percent.

Test Procedure:

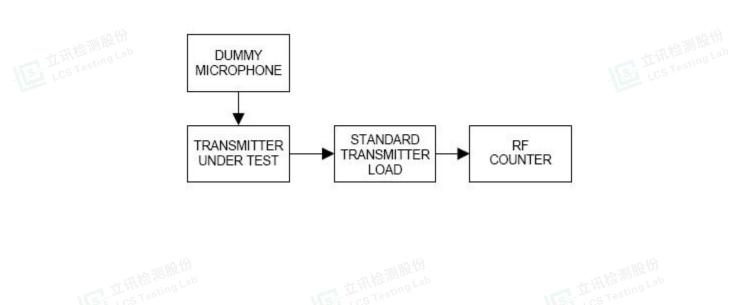
Frequency stability versus Environmental Temperature

The equipment under test was connected to an external DC power supply and the RF output was connected to a frequency counter via feed through attenuators.

The EUT was placed inside the temperature chamber. After the temperature stabilized for approximately 20 minutes, the frequency of the output signal was recorded from the counter.

Frequency Stability versus Input Voltage

At room temperature ($25 \pm 5^{\circ}$ C), an external variable DC power supply was connected to the EUT. The frequency of the transmitter was measured for 115%, 100% and 85% of the nominal operating input voltage. For hand carried, battery powered equipment, reduce primary supply voltage to the battery operating end point which shall be specified by the manufacturer.







Test Result:

	Assigned Frequer	ncy: 500.2MHz]
Environment Temperature (°C)	Power Supplied (Vdc)	Frequency Measure with Time Elapsed Total emission within +/- 28.025 kHz	
50	3.7	+2.79	
40	3.7	+2.44	
30	3.7	+2.36	
20	3.7	+1.75	113
10	3.7	-1.13	Lap
LCS TES 0	3.7	-1.56	
-10	3.7	-1.89	
-20	3.7	-2.37	-
-30	3.7	-2.36	-
Environment Temperature (°C)	Power Supplied (Vdc)	Frequency Measure with Time Elapsed Total emission within Max +/- 28.025 kHz	-
25	3.15	+2.34	
25	3.7 (normal voltage	-1.88	
25	4.26	-2.16	可给测股份
Testing Law	What ing Law	I Https://www.	上研 ^{和加利的} Lcs Testing La
1.52 1	Assigned Freque		rce
Environment Temperature	Power Supplied	Frequency Measure with Time	

Tosting	Linna Lan	I Httpsting Las	Ī
	Assigned Frequence		L
Environment Temperature (°C)	Power Supplied (Vdc)	Frequency Measure with Time Elapsed Total emission within +/-	
50	3.7	+2.67	
40	3.7	+2.36]
30	3.7	+2.26]
20	3.7	+1.78	1
10	3.7	-1.34	1
0	3.7	-1.49	u.
-10	3.7	-1.85	
-20	3.7 05 105	-2.32	Ī
-30	3.7	-2.50	1
Environment Temperature (°C)	Power Supplied (Vdc)	Frequency Measure with Time Elapsed Total emission within Max +/-	
25	3.15	+2.16	
25	3.7 (normal voltage)	-1.86	
25	4.26	-2.14]
•		•	_



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	Assigned Frequency:	
Environment Temperature (°C)	Power Supplied (Vdc)	Frequency Measure with Time Elapsed Total emission within +/-
50	3.7	+2.56
40	3.7	+2.38
30	3.7	+2.21
20	3.7	+1.71
10	3.7	-1.23
Till 0 g Lab	3.7	-1.57
-10	3.7 LCS	-1.88
-20	3.7	-2.26
-30	3.7	-2.23
Environment Temperature (°C)	Power Supplied (Vdc)	Frequency Measure with Time Elapsed Total emission within Max +/-
25	3.15	+2.17
25	3.7 (normal voltage)	-1.66
	4.26	-2.25

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5.6.Modulation Characteristics

Test Requirement: FCC CFR 47 Part 74.e) 3)

Test Method:FCC CFR 47 Part 2.1047 & TIA/EIA 603 E 2016:Land Mobile FM or PM Communications Equipment Measurement and Performance Standards

Requirements:

(e) For low power auxiliary stations operating in the bands allocated for TV broadcasting, the following technical requirements apply:

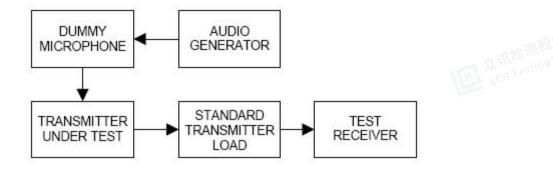
(3) Any form of modulation may be used. A maximum deviation of ± 75 kHz is permitted when frequency modulation is employed.

Test Procedure:

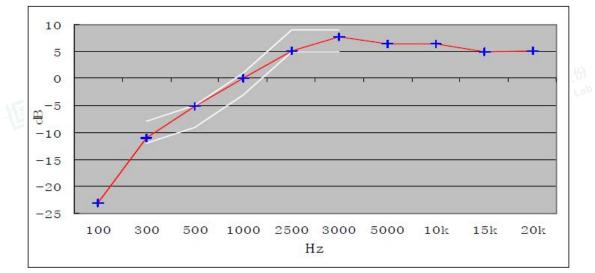
Audio Frequency Response

The RF output of the transceiver was connected to the input of FSP 30 with FM deviation module through sufficient attenuation so as not to overload the meter or distort the reading. An audio signal generator was connected to the audio input of microphone.

The audio signal input level was adjusted to obtain 20% of the maximum rated system deviation at 1 kHz, and recorded as DEV REF. With the audio signal generator level unchanged, set the generator frequency between 100 to 5000 Hz. The transmitter deviations (DEV FREQ) were measured and the audio frequency response was calculated as 20log10 [DEV FREQ / DEV REF]



The plot(s) of Audio Frequency Response is presented hereinafter as reference.

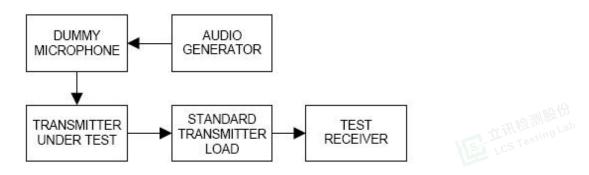


0dB=10mV at 1kHz (20% of the maximum rated system deviation).



Modulation Limiting

- a) Adjust the transmitter per the manufacturer's procedure for full rated system deviation.
- b) Set the test receiver to measure peak positive deviation. Set the audio bandwidth for ≤ 0.25 Hz to $\geq 15,000$ Hz. Turn the de-emphasis function off.
- c) Apply a **1000 Hz** modulating signal to the transmitter from the audio frequency generator, and adjust the level to obtain 60% of full rated system deviation.
- d) Increase the level from the audio frequency generator by 20 dB in one step (rise time between the 10% and 90% points shall be 0.1 second maximum).
- e) Measure both the instantaneous and steady-state deviation at and after the time with of increasing the audio input level.
 - With the level from the audio frequency generator held constant at the level obtained in step e), slowly vary the audio frequency from 100 to 15k Hz and observe the steady-state deviation. Record the maximum deviation.



Test at five different modulating frequencies (100Hz ,300Hz, 500Hz, 1KHz, 2.5kHz, 5kHz, 10kHz, 15kHz), the output level of the audio generator was varied up to 1V and the FM deviation level was recorded.

Positive peak deviation Not Applicable.





5.7. Necessary bandwidth (BN) for Digital Systems

5.7.1.Measurement:

-60 -70

-100 -

FC-58

Measurem	nent paramete	r	
Detector:	Peak	- Quasi Peak / Averag	ge
Sweep time:		Auto	
Resolution bandwidth:		1 kHz	
Video bandwidth:		1 kHz	
Span:	Fc-1MHz to fc+1MHz(2MHz)		z)
Trace mode:	和规服份	Max Hold	THE
STesting Law	CS Testing Lan	E	LCS Testing



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FC-B/2 FC FC+B/2



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FC+68

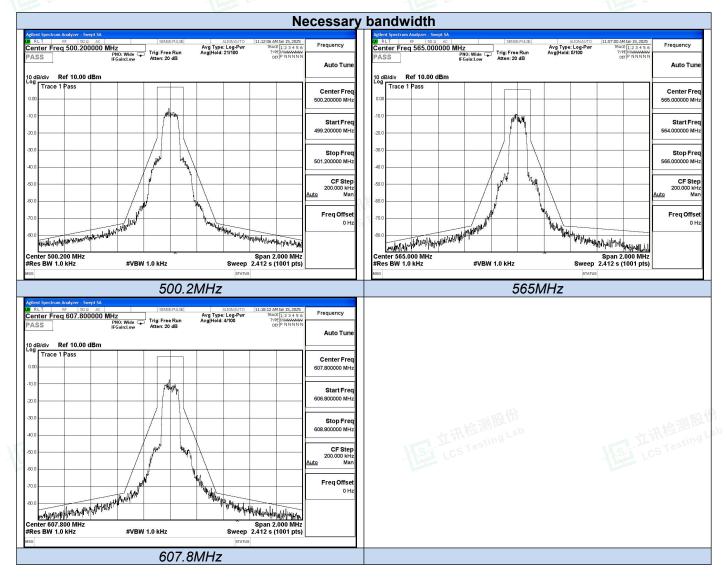


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6. LIST OF MEASURING EQUIPMENTS

Item	Equipment	Manufacturer	Model No.	Serial No.	Cal Date	Due Date
1	MXA Signal Analyzer	Agilent	N9020A	MY49100060	2024-10-08	2025-10-07
2	DC Power Supply	Agilent	E3642A	N/A	2024-10-08	2025-10-07
3	Temperature & Humidity Chamber	Baro	1	1	2024-06-12	2025-06-11
4	EMI Test Software	AUDIX	E3	1	N/A	N/A
5	3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	2024-06-06	2025-06-05
6	Positioning Controller	Max-Full	MF7802BS	MF780208586	N/A	N/A
7	Active Loop Antenna	SCHWARZBECK	FMZB 1519B	00005	2024-07-13	2027-07-12
8	By-log Antenna	SCHWARZBECK	VULB9163	9163-470	2024-08-03	2027-08-02
9	Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-1925	2024-07-13	2027-07-12
10	EMI Test Receiver	R&S	ESR 7	101181	2024-06-06	2025-06-05
11	RS SPECTRUM ANALYZER	R&S	FSP40	100503	2024-06-06	2025-06-05
12	Low-frequency amplifier	SchwarzZBECK	BBV9745	00253	2024-10-08	2025-10-07
13	High-frequency amplifier	JS Denki Pte	PA0118-43	JSPA21009	2024-10-08	2025-10-07
14	EMI Test Receiver	R&S	ESPI	101940	2024-06-06	2025-06-05
15	Artificial Mains	R&S	ENV216	101288	2024-06-06	2025-06-05
16	10dB Attenuator	SCHWARZBECK	MTS-IMP-136	261115-001-0032	2024-06-06	2025-06-05
17	EMI Test Software	Farad	EZ 🕑	LCS I	N/A	N/A
18	Antenna Mast	Max-Full	MFA-515BSN	1308572	N/A	N/A
19	Pulse Limiter	R&S	ESH3-Z2	102750-NB	2024-06-06	2025-06-05
20	Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	791	2024-07-13	2027-07-12
21	Broadband Preamplifier	SCHWARZBECK	BBV9719	9719-025	2024-07-30	2025-07-29







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7. TEST SETUP PHOTOGRAPHS OF EUT

Please refer to separated files for Test Setup Photos of the EUT.

8. EXTERIOR PHOTOGRAPHS OF THE EUT

Please refer to separated files for External Photos of the EUT.

9. INTERIOR PHOTOGRAPHS OF THE EUT

Please refer to separated files for Internal Photos of the EUT.



-----THE END OF REPORT------











