



TEST REPORT

EN 300 422-1 V2.1.2: 2017

EN 300 422-2 V2.1.1: 2017

MEASUREMENT AND TEST REPORT

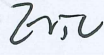


For

Guangzhou BaoLun Electronics Co., Ltd.

No.1, Building B Block, Zhongcun Street, Panyu District, Guangzhou, China

Model: T-6236A, T-6236B

September 30, 2019

This Report Concerns: <input checked="" type="checkbox"/> Original Report	Equipment Type: Lectern
Test Engineer:	Eric/ 
Report Number:	TH19IR-1816R
Test Date:	September 26-30, 2019
Reviewed By:	Prince / 
Approved By:	Prince / 
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Note: This test report is limited to the above client company and the product model only. It may not be duplicated without prior written consent of Shenzhen Tian Hai Test Technology Co.,Ltd.



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1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Applicant: **Guangzhou BaoLun Electronics Co., Ltd.**
Address: No.1, Building B Block, Zhongcun Street, Panyu District, Guangzhou, China
Manufacturer: **Guangzhou BaoLun Electronics Co., Ltd.**
Address: No.1, Building B Block, Zhongcun Street, Panyu District, Guangzhou, China
Factory: **Guangzhou BaoLun Electronics Co., Ltd.**
Address: No.1, Building B Block, Zhongcun Street, Panyu District, Guangzhou, China

General Description of E.U.T

EUT Description: **Lectern**
Model No.: T-6236A, T-6236B (Note: Both models are the same, except their model number. We take T-6236A to test.)
Rating: 100-240V~, 50/60Hz, 10W(for receiver), Class II 9Vdc, 25mA(for transmitter) Tx: DC 9V Battery, Rx: 230V/50Hz
Trade mark: ITC
Frequency Range: 174.10MHz, 174.50MHz, 175.60MHz, 193.00MHz, 200.6MHz, 205.10MHz, 215.48MHz(Note: we take channel 200.6MHz and 215.48MHz to test.)
Modulation Technique FM
Antenna Specification Tx: Printed Antenna
Rx: Printed Antenna

Note: The test data is gathered from a production sample provided by the manufacturer.



1.2 Test Standards

The following report is prepared on behalf of the EUT in accordance with ETSI EN 300 422-1 V2.1.2 (2017-01), Wireless Microphones; Audio PMSE up to 3 GHz; Part 1: Class A Receivers; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product maybe which result in lowering the emission/immunity should be checked to ensure compliance has been maintained

1.3 Test Methodology

All measurements contained in this report were conducted with ETSI EN 300 422-1 V2.1.2 (2017-01), Wireless Microphones; Audio PMSE up to 3 GHz; Part 1: Class A Receivers; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU.



1.4 EUT Setup and Test Mode

The equipment under test (EUT) was configured to measure its highest possible emission/immunity level. The test modes were adapted according to the operation manual for use, the EUT was operated in the engineering mode to fix the Tx frequency that was for the purpose of the measurements, more detailed description as follows:

Test Mode List		
Test Mode	Description	Remark
TX	Transmitting	174-216MHz
RX	Receiving	174-216MHz

Test Conditions					
	Normal	LTLV	LTHV	HTHV	HTLV
Temperature (°C)	20	-20	-20	55	55
Voltage (V)	230	207	253	207	253

1.5 Measurement Uncertainty

Measurement uncertainty		
Parameter	Conditions	Uncertainty
RF Output Power	Conducted	±0.42dB
Occupied Bandwidth	--	±1×10 ⁻⁷
Power Spectral Density	Conducted	±0.70dB
Transmitter Spurious Emissions	Radiated	±5.2dB
Receiver Spurious Emissions	Radiated	±5.2dB



1.6 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal Date	Due Date
Spectrum Analyzer	Agilent	N9020A	US47140102	2019-3-15	2020-3-14
Signal Generator	Agilent	83752A	3610A01453	2019-3-15	2020-3-14
Vector Signal Generator	Agilent	HUADOO HG03 GT182A	MY47070202	2019-3-15	2020-3-14
Power Sensor	Agilent	U2021XA	MY54250019	2019-3-15	2020-3-14
Power Sensor	Agilent	U2021XA	MY54250021	2019-3-15	2020-3-14
Power Sensor	Agilent	U2021XA	MY54210040	2019-3-15	2020-3-14
Power Sensor	Agilent	U2021XA	MY54260021	2019-3-15	2020-3-14
Simultaneous Sampling	Agilent	U2531A	TW54243509	2019-3-15	2020-3-14
Power Splitter	Mini-Circuits	Z4PD-642W-S+	N846501416	2019-3-15	2020-3-14
Spectrum Analyzer	R&S	FSP	836079/035	2019-3-15	2020-3-14
Pre-amplifier	Agilent	8447F	3113A06717	2019-3-15	2020-3-14
Pre-amplifier	Compliance Direction	PAP-0118	24002	2019-3-15	2020-3-14
Trilog Broadband Antenna	SCHWARZBECK	VULB9163	9163-333	2019-3-15	2020-3-14
Horn Antenna	ETS	3117	00086197	2019-3-15	2020-3-14
Spectrum Analyzer	Agilent	E4407B	MY41440400	2019-3-15	2020-3-14



2. SUMMARY OF TEST RESULTS

ETSI EN 300 422-1 V2.1.2 (2017-01)	Description of Test	Result
§8.1	Frequency stability	Compliant
§8.2	Rated Output Power	Compliant
§8.3	Necessary bandwidth	Compliant
§8.4	Spurious emissions	Compliant
§8.5	Transmitter intermodulation distortion	N/A, only one channel
§9.1	Receiver spurious emission	Compliant
§9.2	Receiver sensitivity	Compliant
§9.3	Receiver adjacent channel selectivity	N/A, only one channel, no adjacent channel
§9.4	Receiver blocking	Compliant



3. FREQUENCY STABILITY

3.1 Standard Applicable

According to ETSI EN 300 422-1 V2.1.2 (2017-01) section 8.1.3, the frequency error shall not exceed the following values:

The frequency error shall not exceed 20 parts per million for frequencies below 1 GHz, 15 parts per million between 1 GHz and 2 GHz and 10 ppm above 2 GHz

3.2 Test Procedure

The carrier frequency shall be measured (in the absence of modulation) with the transmitter connected to an artificial antenna (see clause 7.2). A transmitter without an RF port may be placed in a test fixture (see clause 7.3) connected to an artificial antenna. The measurement shall be made under normal test conditions (see clause 6.3), and extreme test conditions (clauses 6.4.1 and 6.4.2 applied simultaneously). The measured value shall be compared with the nominal value.

Radio microphones that also include an RF port for use with other external antennas shall be tested using this port.

3.3 Summary of Test Results

Test Conditions	Measured Value	Frequency Error		Limit
	MHz	kHz	ppm	ppm
Frequency: 216MHz				
Normal	216.0017	1.7	1.97	≤±20
LTLV	216.0033	3.3	3.82	≤±20
LTHV	216.0045	4.5	5.21	≤±20
HTHV	216.0046	4.6	5.32	≤±20
HTLV	216.0026	2.6	3.01	≤±20



4. RATED OUTPUT POWER

4.1 Standard Application

According to ETSI EN 300 422-1 V2.1.2 (2017-01) section 8.2.3

The power measured value shall be within +20 % and -50 % of the manufacturers declared rated output power. Without exceeding 50Mw. The declared and measured levels shall be recorded in the test report.

4.2 Test procedure

On a test site, the sample shall be placed on the support in the following position:

- for equipment with an internal antenna, it shall stand vertically, with that axis vertical which is closest to vertical in normal use;
- for equipment with a rigid external antenna, the antenna shall be vertical;
- for equipment with a non-rigid external antenna, the antenna shall be extended vertically upwards by a non-conducting support.

The transmitter shall be switched on, with modulation, and the test receiver shall be tuned to the frequency of the signal being measured. The test antenna shall be oriented for vertical polarization and shall be raised or lowered through the specified height range until a maximum signal level is detected on the test receiver.

The transmitter shall be rotated horizontally through 360° until the highest maximum signal is received. NOTE: This maximum may be a lower value than the value obtainable at heights outside the specified limits.

The transmitter shall be replaced by a substitution antenna and the test antenna raised or lowered as necessary to ensure that the maximum signal is still received. The input signal to the substitution antenna shall be adjusted in level until an equal or a known related level to that detected from the transmitter is obtained in the test receiver.

The carrier power is equal to the power supplied to the substitution antenna, increased by the known relationship if necessary.

The measurement shall be repeated for any alternative antenna supplied by the provider.

A check shall be made in the horizontal plane of polarization to ensure that the value obtained above is the maximum. If larger values are obtained, this fact shall be recorded in the test report.



4.3 Summary of Test Results/Plots

Test Conditions	ERP	ERP	Rated Power	Tolerance	Limit
	dBm	Mw	Mw	%	%
Low Channel (216MHz)					
Normal	9.21	8.34	10	-16.6	+20% to -50%
LTLV	9.23	8.38	10	-16.2	+20% to -50%
LTHV	9.36	8.63	10	-13.7	+20% to -50%
HTHV	9.10	8.13	10	-18.7	+20% to -50%
HTLV	9.05	8.04	10	-19.6	+20% to -50%

Note: Tolerance = (Output Power – Rated Output Power) / Rated Output Power * 100%

4.4 Power of Test Results

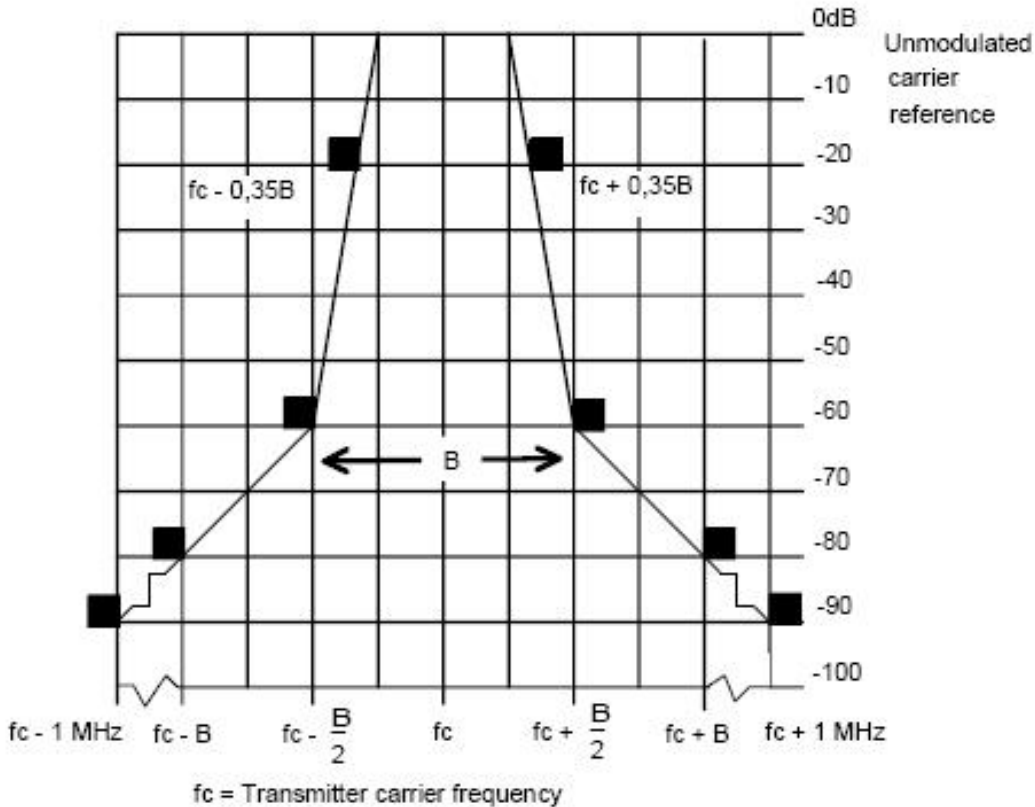
Power consumption in the OFF/Stand-by mode of the functional switch (W)							--	—
Cond.	Un (V)	Freq. (Hz)	In (A)	Pn (W)	Uout(V)	Pout (W)	Operating conditions	
1	198	50	0.011	1.80	--	--	Maximum Normal Load	
2	198	60	0.011	1.81	--	--		
3	220	50	0.013	2.11	--	--		
4	220	60	0.013	2.12	--	--		
5	240	50	0.014	2.44	--	--		
6	240	60	0.015	2.52	--	--		
7	264	50	0.023	4.31	--	--		
8	264	60	0.024	4.35	--	--		



5. NECESSARY BANDWIDTH

5.1 Standard Application

According to ETSI EN 300 422-1 V2.1.2 (2017-01) section 8.3.3, the transmitter output spectrum shall be within the mask defined in the following figure.



5.2 Test procedure

The arrangement of test equipment as shown in figure B.1 shall be used. Note that the noise meter conforms to (quasi peak) without weighting filter (flat).

With the Low Frequency (LF) audio signal generator set to 500 Hz, the audio input level to the EUT shall be adjusted to 8 Db below the limiting threshold (-8 Db (lim)) as declared by the manufacturer.

The corresponding audio output level from the demodulator shall be measured and recorded.

The input impedance of the noise meter shall be sufficiently high to avoid more than 0,1 Db change in input level when the meter is switched between input and output.

The audio input level shall be increased by 20 Db, i.e. to +12 Db (lim), and the corresponding change in output level shall be measured.

It shall be checked that the audio output level has increased by ≤ 10 Db.

If this condition is not met, the initial audio input level shall be increased from -8 Db (lim) in 1 Db steps



until the above condition is fulfilled, and the input level recorded in the test report. This level replaces the value derived from the manufacturer's declaration and is defined as -8 Db (lim).

Measure the input level at the transmitter required to give +12 Db (lim).

The LF generator shall be replaced with the weighted noise source to Recommendation ITU-R BS.559-2 [1],

band-limited to 15 kHz as described in IEC 60244-13 [2], and the level shall be adjusted such that the measured input to the transmitter corresponds to +12 Db (lim).

If the transmitter incorporates any ancillary coding or signaling channels (e.g. pilot-tones), these shall be enabled prior to any spectral measurements.

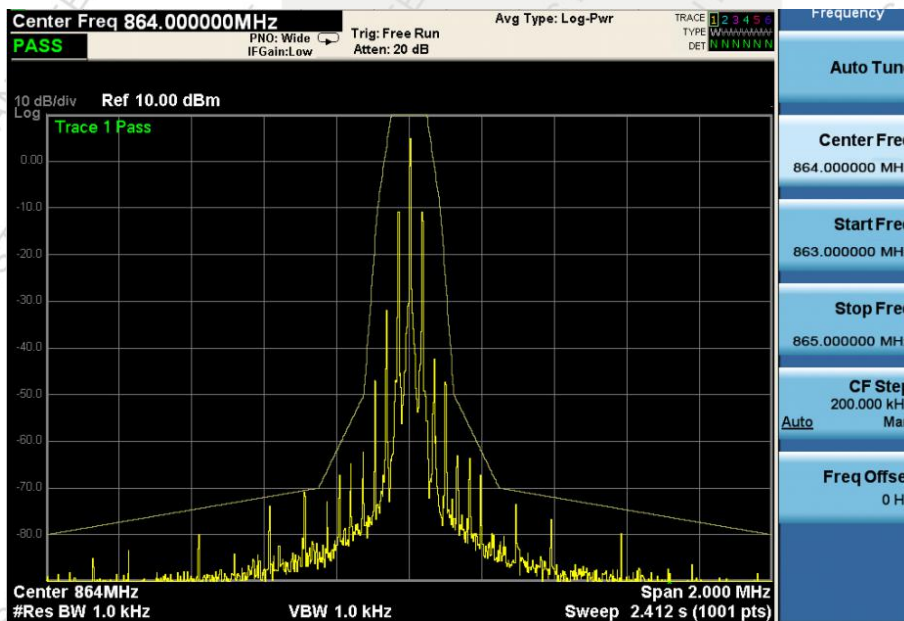
If the transmitter incorporates more than one audio input, e.g. stereo systems, the second and subsequent channels shall be simultaneously driven from the same noise source, attenuated to a level of -6 Db (lim).

The transmitter RF output spectrum shall be measured, using a spectrum analyser with the following settings:

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

5.3 Summary of Test Results/Plots

Frequency: 864MHz





6. SPUIROUS EMISSIONS

6.1 Standard Applicable

According to ETSI EN 300 422-1 V2.1.2 (2017-01) section 8.4.3. The power of the spurious emissions shall not exceed the limits of table.

State	47MHz to 74MHz 87.5 to 118MHz 174MHz to 230MHz 470MHz to 862MHz	Other frequencies ≤ 1000MHz	Frequencies > 1000MHz
Operating	4.0Nw	250Nw	1.0μW
Standby	2Nw	2Nw	20Nw

6.2 Test Procedure

Tx was placed on a nonmetal table which is 1.5 meter above the grounded reference plane and set to work in normal operation mode. Details refer to ETSI EN 300 422-1 V2.1.2 (2017-01) subclause 8.4.2.

The following table is the setting of the Spectrum Analyzer.

Spectrum Analyzer	Setting	
Frequency Start to Stop	30 MHz to 1000 MHz	1000 MHz to 4000MHz
Resolution bandwidth	100 kHz	1 MHz
Video bandwidth	300 kHz	3 MHz
Filter type	3 Db (Gaussian)	
Detector mode	Peak	
Trace Mode	Max Hold	



6.3 Summary of Test Results

Spurious Emission from 30MHz to 1GHz

Test Mode: Transmitting-High channel (Worst case)

Test Mode: T-6236A	
Test voltage: 230V~50Hz	Test Distance: 3m
Detector Function: Peak+AV	Test Results: Passed

Freq. (MHz)	Ant.Pol. H/V	Emission Level (dBuV)	Limit 3m (dBuV/m)	Margin (dB)	Note
107.72	V	35.04	40.00	-4.96	PK
160.58	V	24.07	40.00	-15.93	PK
196.33	V	20.84	40.00	-19.16	PK
322.24	V	38.91	47.00	-8.09	PK
726.41	V	25.24	47.00	-21.76	PK
954.92	V	29.45	47.00	-17.55	PK
99.95	H	27.15	40.00	-12.85	PK
183.89	H	23.87	40.00	-16.13	PK
300.48	H	42.82	47.00	-4.18	PK
401.52	H	38.34	47.00	-8.66	PK
802.58	H	33.70	47.00	-13.30	PK
903.62	H	40.12	47.00	-6.88	PK

Freq. (MHz)	Ant.Pol. H/V	Emission Level (dBuV)	Limit 3m (dBuV/m)	Margin (dB)	Note
107.59	V	34.86	40.00	-5.14	PK
160.44	V	23.96	40.00	-16.04	PK
196.21	V	20.71	40.00	-19.29	PK
322.07	V	38.77	47.00	-8.23	PK
726.23	V	25.11	47.00	-21.89	PK
954.81	V	29.30	47.00	-17.70	PK
99.82	H	27.02	40.00	-12.98	PK
183.75	H	23.74	40.00	-16.26	PK
300.35	H	42.68	47.00	-4.32	PK
401.37	H	38.22	47.00	-8.78	PK
802.45	H	33.53	47.00	-13.47	PK
903.62	H	41.12	47.00	-5.88	PK



Spurious Emission Above 1GHz

Ant.Pol.	Frequency MHz	Emission Level(dBuV)		Limit 3m(dBuV/m)		Margin(dB)	
		PK	AV	PK	AV	PK	AV
Vertical	2923.077	40.31	21.99	70.00	50.00	-29.69	-28.01
	3572.115	41.19	23.19	74.00	54.00	-32.81	-30.81
	4036.859	43.15	27.44	74.00	54.00	-30.85	-26.56
	4581.731	43.39	31.20	74.00	54.00	-30.61	-22.80
	4894.231	45.31	32.48	74.00	54.00	-28.69	-21.52
	5607.372	46.04	31.99	74.00	54.00	-27.96	-22.01
Horizontal	3443.910	41.20	28.03	74.00	54.00	-32.80	-25.97
	3620.192	43.22	29.99	74.00	54.00	-30.78	-24.01
	4261.218	42.37	33.61	74.00	54.00	-31.63	-20.39
	4589.744	44.70	33.31	74.00	54.00	-29.30	-20.69
	4934.295	45.02	33.63	74.00	54.00	-28.98	-20.37
	5118.590	45.73	33.29	74.00	54.00	-28.27	-20.71

Ant.Pol.	Frequency MHz	Emission Level(dBuV)		Limit 3m(dBuV/m)		Margin(dB)	
		PK	AV	PK	AV	PK	AV
Vertical	3163.462	40.59	25.69	74.00	54.00	-33.41	-28.31
	3796.474	43.35	24.26	74.00	54.00	-30.65	-29.74
	4181.090	42.98	25.77	74.00	54.00	-31.02	-28.23
	4557.692	45.58	26.96	74.00	54.00	-28.42	-27.04
	5126.603	46.40	29.48	74.00	54.00	-27.60	-24.52
	5358.974	46.15	28.77	74.00	54.00	-27.85	-25.23
Horizontal	2482.372	39.07	24.88	70.00	50.00	-30.93	-25.12
	2915.064	39.60	22.77	70.00	50.00	-30.40	-27.23
	3676.282	41.35	24.76	74.00	54.00	-32.65	-29.24
	4133.013	43.29	25.11	74.00	54.00	-30.71	-28.89
	4581.731	44.64	27.60	74.00	54.00	-29.36	-26.40
	5166.667	45.68	26.81	74.00	54.00	-28.32	-27.19



7. RECEIVER SPURIOUS EMISSION

7.1 Standard Application

According to ETSI EN 300 422-1 V2.1.2 (2017-01) Section 9.1.5, The power of the spurious emissions shall not exceed the limits of table 5.

Table 5: Limits for receiver spurious emissions

Frequency Range	Limit
30 MHz to 1 GHz	-57 dBm
Above 1 GHz to 12.75 GHz	- 47 dBm

7.2 Test procedure

1. Please refer to ETSI EN 300 422-1 V2.1.2 (2017-01) clause 6.1 for the test conditions.
2. Please refer to ETSI EN 300 422-1 V2.1.2 (2017-01) clause 9.1.4 for the measurement method.

The following table is the setting of the Spectrum Analyzer.

Spectrum Analyzer	Setting	
Frequency Start to Stop	30 MHz to 1000 MHz	1000 MHz to 4000MHz
Resolution bandwidth	100 kHz	1 MHz
Video bandwidth	300 kHz	3 MHz
Filter type	3 Db (Gaussian)	
Detector mode	Peak	
Trace Mode	Max Hold	

7.3 Summary of Test Results/Plots

According to the data, the EUT complied with the ETSI EN 300 422-1 V2.1.2 (2017-01) standards, and had the worst margin as follow:



Test Mode: T-6236A	
Test voltage: 0.15~30MHz	est Results: Passed

Test Line	Frequency MHz	Emission Level QP dB(μ V)	Emission Level AV dB(μ V)	Limits QP dB(μ V)	Limits AV dB(μ V)	Margin QP dB(μ V)	Margin AV dB(μ V)
Neutral	0.168	56.85	43.49	65.08	55.08	-8.23	-11.59
	0.195	56.40	43.11	63.82	53.82	-7.42	-10.71
	0.601	49.84	40.33	56.00	46.00	-6.16	-5.67
	2.630	47.30	38.34	56.00	46.00	-8.70	-7.66
	3.040	46.20	37.56	56.00	46.00	-9.80	-8.44
	3.700	47.90	36.39	56.00	46.00	-8.10	-9.61
Line	0.170	55.80	44.91	64.96	54.96	-9.16	-10.05
	0.590	50.30	40.57	56.00	46.00	-5.70	-5.43
	2.390	49.70	38.11	56.00	46.00	-6.30	-7.89
	3.130	47.30	38.20	56.00	46.00	-8.70	-7.80
	3.840	46.80	37.38	56.00	46.00	-9.20	-8.62
	6.940	47.89	42.18	60.00	50.00	-12.11	-7.82



8. RECEIVER SENSITIVITY

8.1 Standard Application

According to ETSI EN 300 422-1 V2.1.2 (2017-01) Section 9.2.5, Receiver sensitivity shall be classified according to the limits of table 6.

Table 6: Limits for receiver sensitivity

Receiver category	Limits
A	-115 < Rx _{sensitivity} ≤ -90 dBm
B	See ETSI EN 300 422-2 [i.20]
C	See ETSI EN 300 422-3 [i.21]

Receiver sensitivity is the ability to receive a wanted signal at low input power level while providing a pre-determined level of performance. Receiver sensitivity is defined as: Rx sensitivity = thermal noise floor + 10 × log(B) + NF + SNR needed

NF = noise figure of the receiver in [Db]

B = declared channel bandwidth in [Hz]

SNRneeded = minimum needed signal-to-noise ratio for a given technology / operation mode in [Db]

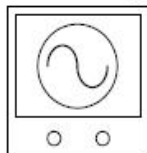
The manufacturer shall declare receiver sensitivity.

8.2 TEST PROCEDURES

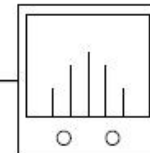
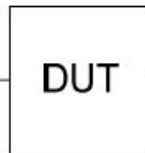
1. Please refer to ETSI EN 300 422-1 V2.1.2 (2017-01) clause 6.1 for the test conditions.
2. Please refer to ETSI EN 300 422-1 V2.1.2 (2017-01) clause 9.2.2 for the measurement method.

8.3 TEST SETUP

Wanted signal



f_w



Signal / audio analyser

8.4 TEST RESULTS

Test Channel (MHz)	Rx sensitivity (dBm)	Limit (dBm)
215.48	-105.61	- 115~ - 90
200.6	-106.78	- 115~ - 90



9. RECEIVER ADJACENT CHANNEL SELECTIVITY

9.1 Standard Application

According to ETSI EN 300 422-1 V2.1.2 (2017-01) Section 9.3.3 Receiver adjacent channel selectivity shall not go below the limits of table 7.

Table 7: Limits for receiver adjacent channel selectivity

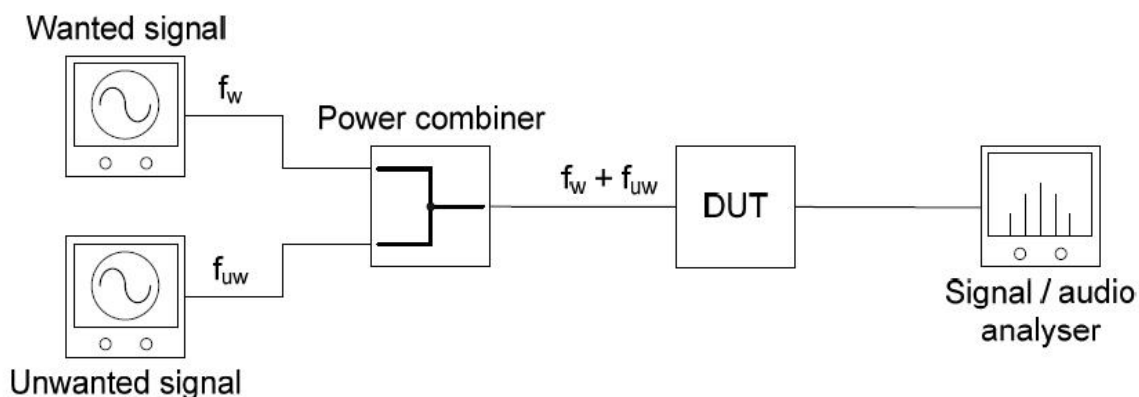
Receiver category	Limits
A	30 dB
B	See ETSI EN 300 422-2 [i.20]
C	See ETSI EN 300 422-3 [i.21]

The adjacent channel selectivity for the purposes of the present document is a measure of the capability of the receiver to operate satisfactorily in the presence of an unwanted signal on the next usable channel. It is given as ratio of unwanted signal output power to wanted signal output power in [Db]. The receiver adjacent channel selectivity is obtained by measuring the signal-to-noise and distortion ratio (SINAD) at the audio output port of the receiver.

9.2 TEST PROCEDURES

1. Please refer to ETSI EN 300 422-1 V2.1.2 (2017-01) clause 6.1 for the test conditions.
2. Please refer to ETSI EN 300 422-1 V2.1.2 (2017-01) clause 9.3.2 for the measurement method.

9.3 TEST SETUP



9.4 TEST RESULTS

N/A, Only one channel, no adjacent channel.



10. RECEIVER BLOCKING

10.1 Standard Application

According to ETSI EN 300 422-1 V2.1.2 (2017-01) Section 9.4.3

Receiver blocking, for any frequency within the specified ranges, shall not go below the limits listed in table 8.

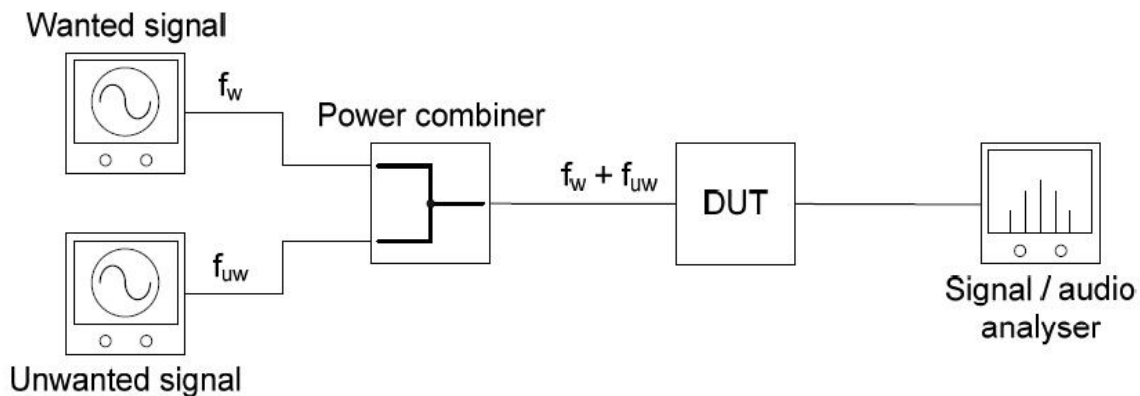
Table 8: Limits for receiver blocking

Receiver category	Limits
A	40 dB
B	See ETSI EN 300 422-2 [i.20]
C	See ETSI EN 300 422-3 [i.21]

10.2 TEST PROCEDURES

1. Please refer to ETSI EN 300 422-1 V2.1.2 (2017-01) clause 6.1 for the test conditions.
2. Please refer to ETSI EN 300 422-1 V2.1.2 (2017-01) clause 9.4.2 for the measurement method.

10.3 TEST SETUP





10.4 TEST RESULTS

Test Channel (MHz)	Declare Bandwidth (MHz)	F _{offset} (MHz)	Rxsensitivity (dBm)	Blocking signal (dBm)	Wante signal (dBm)	Receiver blocking (dBm)	Limit (dBm)
216	0.3	0.60	-84.19	-31.12	-81.19	50.07	≥40
		-0.60	-84.19	-32.08	-81.19	49.11	≥40
		1.00	-84.19	-31.60	-81.19	49.59	≥40
		-1.00	-84.19	-31.19	-81.19	50.00	≥40
		2.00	-84.19	-33.64	-81.19	47.55	≥40
		-2.00	-84.19	-32.54	-81.19	48.65	≥40
		5.00	-84.19	-32.83	-81.19	48.36	≥40
		-5.00	-84.19	-32.66	-81.19	48.53	≥40

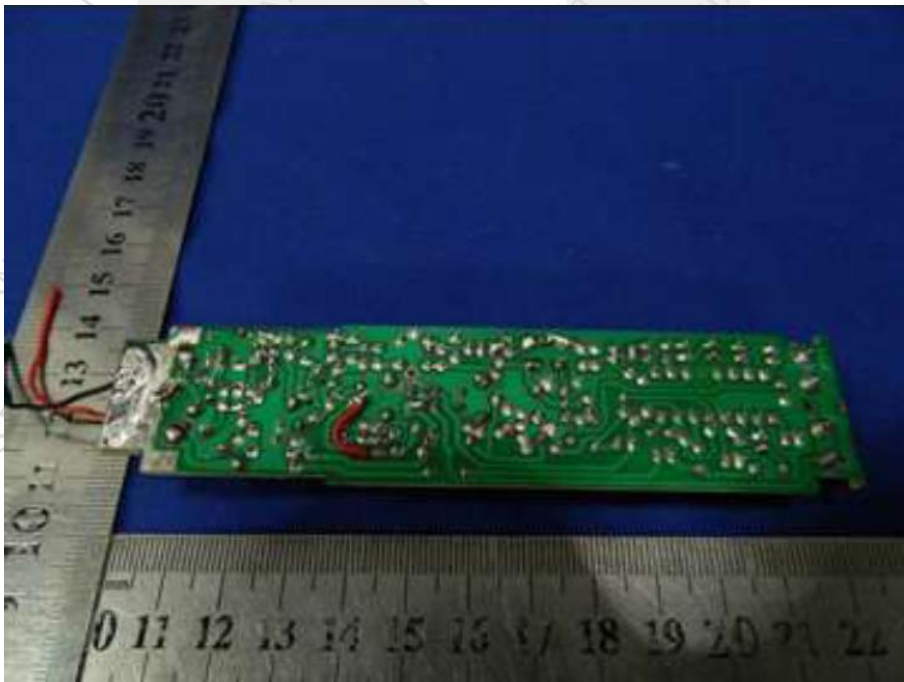
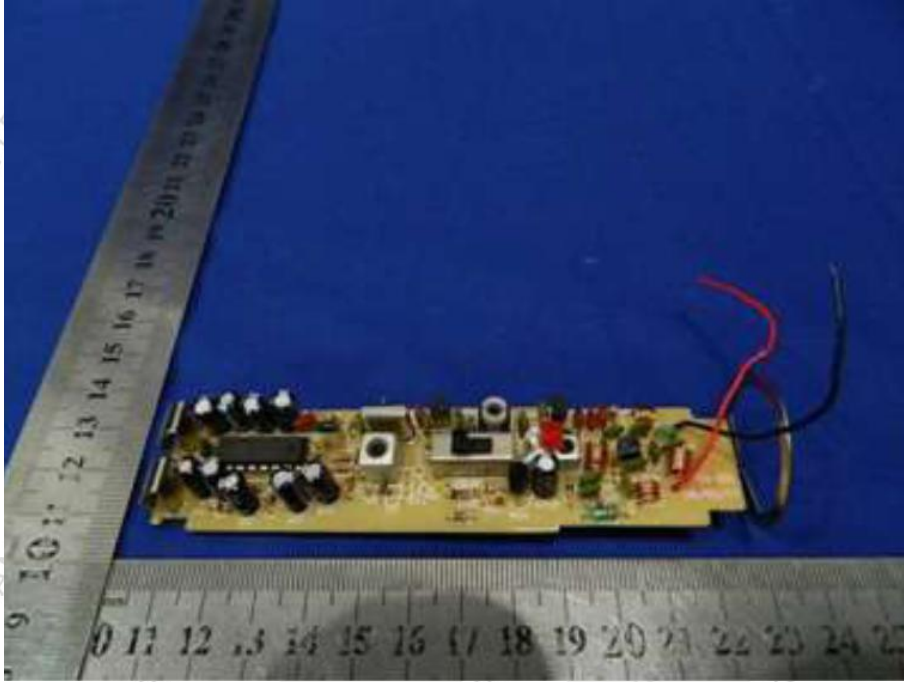


APPENDIX A - EUT PHOTOGRAPHS

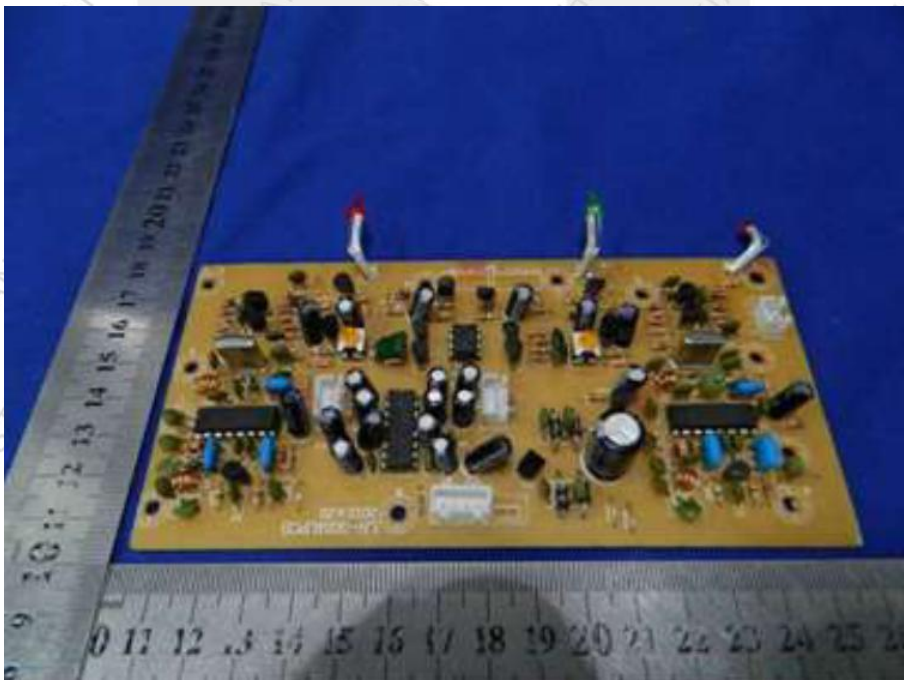


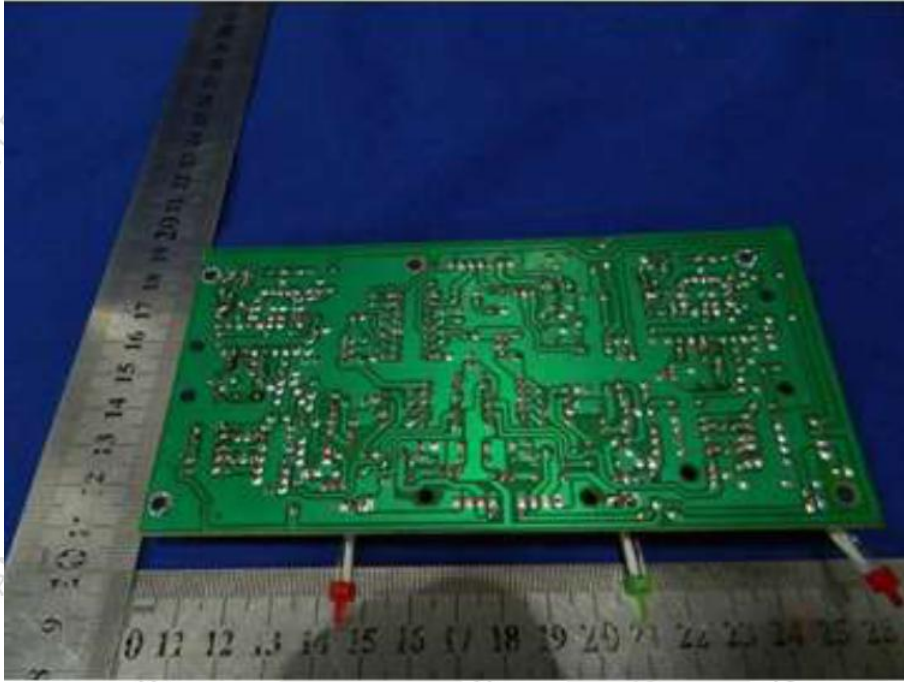










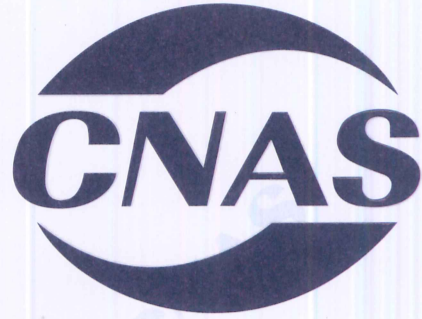




APPENDIX B - TEST SETUP PHOTOGRAPHS



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



China National Accreditation Service for Conformity Assessment
LABORATORY ACCREDITATION CERTIFICATE
(Registration No. CNAS L5885)

Shenzhen Tianhai Test Technology Co., Ltd.

(Legal Entity: Shenzhen Tianhai Test Technology Co., Ltd.)

4B/F., Building A3, The Silicon Valley Power Intelligent Terminal Industrial
Park, Guanlan Street, Longhua District, Shenzhen, Guangdong, China

***is accredited in accordance with ISO/IEC 17025: 2017 General
Requirements for the Competence of Testing and Calibration
Laboratories(CNAS-CL01 Accreditation Criteria for the Competence of
Testing and Calibration Laboratories) for the competence to undertake
the service described in the schedule attached to this certificate.***

***The scope of accreditation is detailed in the attached schedule
bearing the same registration number as above. The schedule forms an
integral part of this certificate.***

Effective Date: 2019-01-22

Expiry Date: 2025-01-21

Signed on behalf of China National Accreditation Service for Conformity Assessment

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