ACCREDITED
CERT #5473.03

Test Report No.:
TELECSZ2025-0016-RF3

RF Test Report

NAME OF SAMPLE	:	**Car Adapter**
APPLICANT	:	**ShenZhen Bijiasuo Electronic Co., Ltd**
CLASSIFICATION OF TEST	:	**N/A**

CVC Testing Technology (Shenzhen) Co., Ltd.

複製禁止

Applicant	**Name :ShenZhen Bijiasuo Electronic Co., Ltd** **Address :105,Building 13th,Software Town Of Shenzhen Universiade,8288 Longgang Avenue,Heao Community,Yuanshan Street,Longgang District,Shenzhen**
Manufacturer	**Name : ShenZhen Bijiasuo Electronic Co., Ltd** **Address :105,Building 13th,Software Town Of Shenzhen Universiade,8288 Longgang Avenue,Heao Community,Yuanshan Street,Longgang District,Shenzhen**
Equipment Under Test	**Name :Car Adapter** **Model/Type: CA450** **Additional model:See section 2.1** **Trade mark :N/A** **Serial NO.:N/A** **Sampe NO.:N/A**

Date of Receipt.	**Jul.1,2025**	Date of Testing	**Jul.1,2025～Jul.24,2025**

Test Specification	**Test Result**
Article 2 Paragraph 1 Item 78	PASS

Evaluation of Test Result	The equipment under test was found to comply with the requirements of the standards applied. Seal of CVC **Issue Date:Jul.24,2025**

Compiled by:	Reviewed by:	Approved by:
Liang Jiatong	Mo Xianbiao	Dong Sanbi
Name Signature	Name Signature	Name Signature

Other Aspects: NONE.

Abbreviations:OK, Pass= passed Fail = failed N/A= not applicable EUT= equipment, sample(s) under tested

This test report relates only to the EUT, and shall not be reproduced except in full, without written approval of CVC.

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
TELECSZ2025-0016-RF3	Original release	Jul.24,2025

1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

Report Reference	Parameter	Result
GENERAL PROVISIONS		
3.1	Frequency Tolerance	PASS
3.2	Occupied bandwidth	PASS
3.3	Spurious emissions	PASS
TRANSMITTING EQUIPMENT		
3.5	Tolerance of antenna power	PASS
--	SAR	N/A
TRANSMITTING ANTENNA		
2.6	Type, configuration, etc. of transmitting antenna	PASS
2.6	Direction pattern of transmitting antenna	PASS
RECEIVING EQUIPMENT		
3.6	Spurious emissions of receiver	PASS
2.6	Refer to all articles for transmitting antenna	PASS
OPERATING FREQUENCY		
2.5	Radio frequency / modulation section can not be opened easily	PASS
2.1	Communication method	PASS
2.1	Modulation method	PASS
2.1	Signal transmission rate	PASS
3.7	Burst length	PASS
3.5	Antenna power	PASS
3.5	Isotropically radiated power	PASS
3.3	Out-band leakage power	PASS
3.4	Adjacent channel leakage power	PASS
3.9	Interference Prevention Function	PASS
3.8	Carrier sense capability	PASS

Note:
N/A: In this whole report not applicable.

1.1 LIST OF TEST AND MEASUREMENT INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial Number	Cal. interval	Cal. Due
Antenna Port Conducted Test					
Signal&Spectrum Analyzer	Rohde&Schwarz	FSV 30	104408	1 year	2026/4/22
Signal&Spectrum Analyzer	Keysight	N9020B	MY6227-132	1 year	2026/4/22
#3Shielding room	MORI	443	N/A	3 year	2026/5/16
Wideband radio communication tester	Rohde&Schwarz	CMW 500	168587	1 year	2026/5/22
Analog signal Generator (100kHz ~ 40GHz)	Rohde&Schwarz	SMB 100A	181934	1 year	2026/4/22
Vector signal Generator (9kHz ~ 6GHz)	Rohde&Schwarz	SGT 100A	111724	1 year	2026/4/22
RF control unit(BT/WiFi)	Tonscend	JS0806-2-8CH	CS0300023	1 year	2026/4/22
10db attenuator	JUNKE	SMA-10-18-N	250312743	1 year	2026/6/6
Power splitter	Anritsu	K240CPOWERDIVIDER	012334	1 year	2026/6/6
Temperature and humidity meter	/	C193561457	C193561457	1 year	2026/4/28

1.2 TEST LOCATION

The tests and measurements refer to this report were performed by EMC testing Lab of CVC Testing Technology (Shenzhen) Co., Ltd.

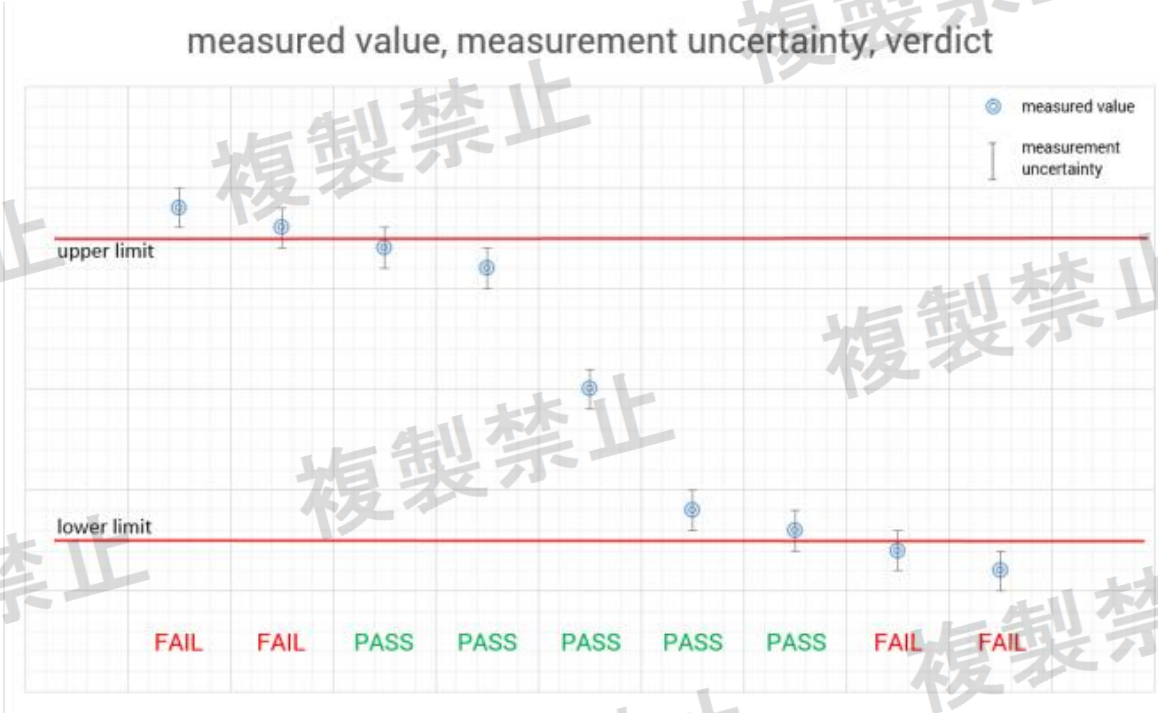
Lab Address: No. 1301-14&16, Guanguang Road, Xinlan Community, Guanlan Subdistrict, Longhua District, Shenzhen, Guangdong, China
Post Code：518110 Tel：0755-23763060-8805
Fax：0755-23763060 E-mail：sz-kf@cvc.org.cn
FCC(Test firm designation number：CN1363)
IC(Test firm CAB identifier number：CN0137)
CNAS(Test firm designation number：L16091

1.3 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Support Equipment		
1	Radio frequency	± 6.4 x 10^{-8}
2	Occupied Channel Bandwidth	± 1.86 %
3	RF output power, conducted	± 0.9 dB
4	Power Spectral Density	± 0.8 dB
5	Spurious emissions ,conducted	± 2.7 dB
6	Supply voltages	± 0.68 %
7	Time	± 0.19 %
8	Adjacent Channel Power	± 1.3 dB
Remark: 95% Confidence Levels, k=2.		

Only the measured values related to their corresponding limits will be used to decide whether the equipment under test meets the requirements of the test standards listed.
The measurement uncertainty is mentioned in this test report, but is not taken into account - neither to the limits nor to the measurement results. Measurement results with a smaller margin to the corresponding limits than the measurement uncertainty have a potential risk of more than 5% that the decision might be wrong.



2 GENERAL INFORMATION

2.1 GENERAL PRODUCT INFORMATION

PRODUCT	Car Adapter
BRAND	N/A
MODEL	CA450
ADDITIONAL MODEL	CA43,MM1, MM2, CARPLE-DEX, AN-S155
POWER SUPPLY	DC 5V From USB
MODULATION TYPE	64QAM, 16QAM, QPSK, BPSK for OFDM
MODULATION TECHNOLOGY	OFDM
OPERATING FREQUENCY RANGS	5180 ~ 5240MHz
NUMBER OF CHANNEL	See section 2.3
TPC	Not support
RATED POWER	Please see NOTE 5
CONDUCTED POWER DENSITY	Please see NOTE 5
EIRP POWER DENSITY	Please see NOTE 5
ANTENNA TYPE	PCB antenna with 2.35dBi gain
HW-RELEASE NO	V1.1
SW-RELEASE NO	V110102
I/O PORTS	Refer to user’s manual
CABLE SUPPLIED	N/A

NOTE:

1. For more detailed features description, please refer to the manufacturer’s specifications or the User's Manual.
2. Please refer to the EUT photo document (Reference No.: TELECSZ2025-0016-EUT) for detailed product photo.
3. Since the above data and/or information is provided by the client, CVC is not responsible for the authenticity, integrity and results of the data and information and/or the validity of the conclusion.
4. The RF output power as below table:

Frequency Band	Mode	Rated power (mW/MHz)	Conducted power density(mW/MHz)	EIRP power density(mW/MHz)
W52	802.11a	1	0.6152	1.0568
	802.11n(HT20)	1	0.5821	1.0000
	802.11n(HT40)	1	0.2410	0.4140

2.2 DESCRIPTION OF ACCESSORIES

N/A

2.3 DESCRIPTION OF TEST CHANNELS

Operated in 5180 ~ 5240MHz band (W52)				
Modes	Test RF Channel Lists			
	CHANNEL	FREQ. (MHz)	CHANNEL	FREQ. (MHz)
802.11a/n(HT20)	36	5180	44	5220
	40	5200	48	5240
802.11n(HT40)	38	5190	46	5230

Note:

1. By means of test software which provided by manufacture, the power levels during the tests were set according to the following codes:

Operated in 5180 ~ 5240MHz band (W52)							
802.11a		802.11n(HT20)		802.11n(HT40)		802.11ac (VHT80)	
CHANNEL	POWER SETTING	CHANNEL	POWER SETTING	CHANNEL	POWER SETTING	CHANNEL	POWER SETTING
36	default	36	default	38	default	-	-
40	default	40	default	46	default	-	-
48	default	48	default	-	-	-	-

2.4 ENVIRONMENTAL CONDITIONS

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

Battery Voltage	Normal Voltage / NV	-
	Low Voltage /LV	-
	High Voltage /HV	-
RF Chip Voltage	Normal Voltage / NV	3.3V
	Low Voltage /LV	3.3V
	High Voltage /HV	3.3V
Adapter Voltage	Normal Voltage / NV	DC 5.0V
	Low Voltage /LV	DC 4.5V
	High Voltage /HV	DC 5.5V
Other	Normal Temperature/Tnor:	25°C
	lative Humidity	55 %
	Air Pressure	989 hPa

Note: After checking the fluctuation of input voltage to the circuit of the radio part (excluding the power supply) of the equipment to be tested, the fluctuation less than +/- 1 % when input voltage from an external supply into the equipment fluctuates +/- 10%, therefore, the test is carried out only at the normal voltage.

2.5 ASSEMBLY

The RF circuits are located inside of the EUT. The RF circuit was covered by metal shielding case, Also it won't be easy to be opened. Frequency Band, channels and modulation parameters are fixed inside the module. They cannot be edited or modified by end-user.

2.6 ANTENNA SPECIFICATIONS

2.6.1 ANTENNA GAIN

Operated band	ANT.TAG	Ant. Type	Connector Type	Highest Peak Gain with Cable Loss (dBi)
W52	1	PCB	N/A	2.35

2.6.2 ANTENNA PATTERN

Please refer to the attached file (Antenna report).

2.7 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF product, according to the specifications of the manufacturers. It must comply with the requirements of the following standards:

ARTICLE 2 PARAGRAPH 1 ITEM 78

MLC NOTICE NO.88 APPENDIX NO.45

All test items have been performed and recorded as per the above standards

2.8 DESCRIPTION OF SUPPORT UNITS

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

Support Equipment					
NO	**Description**	**Brand**	**Model No.**	**Serial Number**	**Supplied by**
1	Serial port board	N/A	CH340	N/A	Lab

Support Cable							
NO	**Description**	**Quantity (Number)**	**Length (m)**	**Detachable (Yes/ No)**	**Shielded (Yes/ No)**	**Cores (Number)**	**Supplied by**
1	N/A	N/A	N/A	N/A	N/A	N/A	N/A

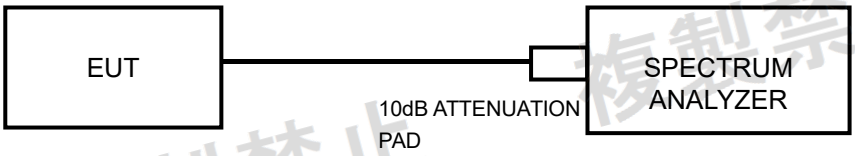
3 TEST TYPES AND RESULTS

3.1 FREQUENCY TOLERANCE MEASUREMENT

3.1.1 Limit

Tolerance of frequency shall be +/- 20ppm

3.1.2 Test setup



3.1.3 Test Procedure:

Frequency: Test Frequency
RBW: 10 kHz(Modulation ON),
VBW: 10kHz(Modulation ON),
Sweep: Time Auto
Detector mode: peak
Trace mode Maxhold

3.1.4 Test results

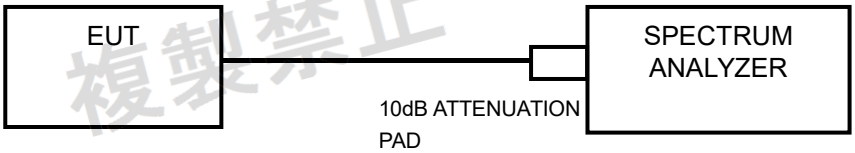
Please refer Appendix

3.2 OCCUPIED BANDWIDTH MEASUREMENT (99% POWER BANDWIDTH)

3.2.1 Limit

ITEM	LIMIT	REMARK
Occupied bandwidth	<20MHz	802.11a/n(HT20)
Occupied bandwidth	<40MHz	802.11n(HT40)

3.2.2 Test setup



3.2.3 Test Procedure:

Frequency:Test Frequency
Span:From the allowable value prescribed in the facility regulations to about
RBW:3%or less of the allowable value prescribed in the equipment regulations
VBW:Same as RBW
Sweep point:>400 points
Sweep:Continuous sweep,Time Auto Processing count:>10 count
Detector mode: peak

3.2.4 Test results

Please refer Appendix

3.3 SPURIOUS EMISSIONS FOR TRANSMITTER & OUT-BAND LEAKAGE POWER

3.3.1 Limits

W52 band	
20MHz system	**40MHz system**
5142 MHz or less: ≦0.5μW/MHz	5141.6MHz or less: ≦0.5μW/MHz
5142-5150 MHz: ≦3 μW/MHz	5141.6-5150 MHz: ≦3 μW/MHz
5250-5250.2 MHz: ≦$0.2*10^{1-(8/3)(f-9.75)}$mW/MHz	/
5250.2-5251 MHz: ≦$0.2*10^{1-(f-9)}$mW/MHz	5250-5251 MHz: ≦$0.2*10^{-(f-20)+\log(1/2)}$mW/MHz
5251-5260 MHz: ≦$0.2*10^{-1-(8/90)(f-11)}$mW/MHz	5251-5270 MHz: ≦$0.2*10^{-(8/190)(f-21)-1+\log(1/2)}$mW/MHz
5260-5266.7 MHz: ≦$0.2*10^{-1.8-(6/50)(f-20)}$mW/MHz	5270-5278.4 MHz: ≦$0.2*10^{-(3/50)(f-40)-1.8+\log(1/2)}$mW/MHz
5266.7 MHz or more: ≦0.5 μW/MHz	5278.4 MHz or more: ≦0.5μW/MHz
f=MHz,Difference from 5240 (MHz)	f=MHz,Difference from 5230 (MHz)
80MHz system	
5123.2 MHz or less: ≦0.5 μW/MHz	
5123.2-5150 MHz: ≦3 μW/MHz	
5250-5251 MHz: ≦$0.2*10^{-(f-40)+\log(1/4)}$mW/MHz	
5251-5290 MHz: ≦$0.2*10^{-(8/390)(f-41)-1+\log(1/4)}$mW/MHz	
5290-5296.7 MHz: ≦$0.2*10^{-(3/100)(f-80)-1.8+\log(1/4)}$mW/MHz	
5296.7 MHz or more: ≦0.5 μW/MHz	
f=MHz,Difference from 5210 (MHz)	

3.3.2 Test setup

3.3.3 Test Procedure:

OUT-BAND LEAKAGE POWER

Step 1:All spurious are measured from 5140MHz to 5340MHz by peak mode Step 2:Frequency:Spurious Frequency

RBW:1 MHz

VBW:3 MHz

Sweep:Single sweep,Time Auto

Detector mode:Sample

SPURIOUS EMISSIONS FOR TRANSMITTER

Spectrum Analyzer conditions:

Test setup for Step 1:All spurious are measured from 30 MHz to 26 GHz by Peak mode.
RBW 100 kHz (30 – 1GHz) , 1 MHz (over 1GHz)
VBW 300 kHz (30 – 1GHz) , 3 MHz (over 1GHz)
Sweep Time Auto
Trace mode Max hold

Test setup for Step 2:
Frequency: Spurious Frequency
Span 0 Hz
RBW 100 kHz (30 – 1GHz) , 1 MHz (over 1GHz)
VBW 100 kHz (30 – 1GHz) , 1 MHz (over 1GHz)
Sweep Time Auto
Detector mode Sample
Trace mode Max hold

3.3.4 Test result

Please refer Appendix

3.4 ADJACENT CHANNEL LEAKAGE POWER

3.4.1 Limits

Frequencies (MHz)	Limit
OBW ≤ 18MHz	
Mean Power 20MHz Distance of Carrier	≧ 25dBc/18MHz
Mean Power 40MHz Distance of Carrier	≧ 40dBc/18MHz
OBW 18 ~ 20MHz	
Mean Power 20MHz Distance of Carrier	≧ 25dBc/20MHz
Mean Power 40MHz Distance of Carrier	≧ 40dBc/20MHz
OBW 20 ~ 40MHz	
Mean Power 40MHz Distance of Carrier	≧ 25dBc/40MHz
Mean Power 80MHz Distance of Carrier	≧ 40dBc/40MHz
OBW 40 ~ 80MHz	
Mean Power 80MHz Distance of Carrier	≧ 25dBc/80MHz

3.4.2 Test setup

3.4.3 Test Procedure:

Frequency:Test Frequency
RBW:300KHz,
VBW:300KHz
Sweep point:>400 points
Sweep:Single sweep,Time Auto
Detector mode:Samples(positive peaks for burst waves)

3.4.4 Test result

Please refer Appendix

3.5 ANTENNA POWER MEASUREMENT

3.5.1 Limits

W52 band			
Mode	802.11a / 802.11n(HT20)	802.11n(HT40)	802.11ac(VHT80)
Output power	2mW/MHz	1mW/MHz	0.5mW/MHz
E.I.R.P	2mW/MHz	1mW/MHz	0.5mW/MHz

Note: Tolerance of antenna power shall be +20% (upper value) and –80% (lower value).

3.5.2 Test setup

3.5.3 Test Procedure:

Spectrum Analyzer conditions:
Step 1:Frequency:Test Frequency
Span:About twice the occupied frequency bandwidth
RBW:1 MHz;VBW:1 MHz
Sweep point:>400 points
Sweep:Continuous sweep,Time Auto
Detector mode:Positive peak
Trace mode Max hold

Step 2:Frequency:The frequency that gives the maximum power (searched frequency)
Span:0
VBW:1 MHz
Sweep:Continuous sweep,Time Auto

3.5.4 Test result

Please refer Appendix

3.6 SPURIOUS EMISSIONS FOR RECEIVER

3.6.1 Limits

Frequencies (MHz)	Limit	
(MHz)	nW	dBm
Below 1GHz	≤4	≤-54
Above 1GHz	≤20	≤-47

3.6.2 Test setup

3.6.3 Test Procedure:

Spectrum Analyzer conditions:
Step 1:All spurious are measured from 30 MHz to 26 GHz by Peak mode.

Step 2
IF the value measured by Step1 is 3 dB or less, measure in average mode.

Test setup for Step 1:
Frequency: 30 MHz to 26 GHz
RBW 100 kHz (30 – 1GHz) , 1 MHz (over 1GHz)
VBW 300 kHz (30 – 1GHz) , 3 MHz (over 1GHz)
Sweep Time Auto
Trace mode Max hold

Test setup for Step 2:
Frequency: Spurious Frequency
Span 0 Hz
RBW 100 kHz (30 – 1GHz) , 1 MHz (over 1GHz)
VBW 100 kHz (30 – 1GHz) , 1 MHz (over 1GHz)
Sweep Time Auto
Detector mode Sample
Trace mode Max hold

3.6.4 Test result

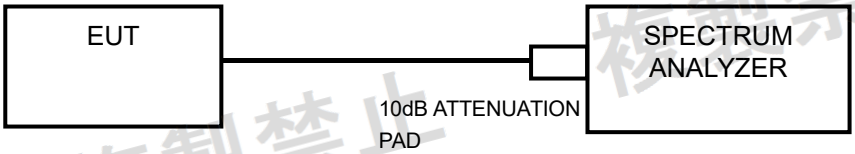
Please refer Appendix

3.7 BURST LENGTH

3.7.1 Limits

Frequencies (MHz)	Limit
Transmitter Operating	≦ 8ms

3.7.2 Test setup



3.7.3 Test Procedure:

SpectrumAnalyzer conditions:
Frequency:Test Frequency Span 0 MHz
RBW:more than 1 MHz, VBW:1 MHz
Detector mode Positive peak
Trace mode clear write

3.7.4 Test result

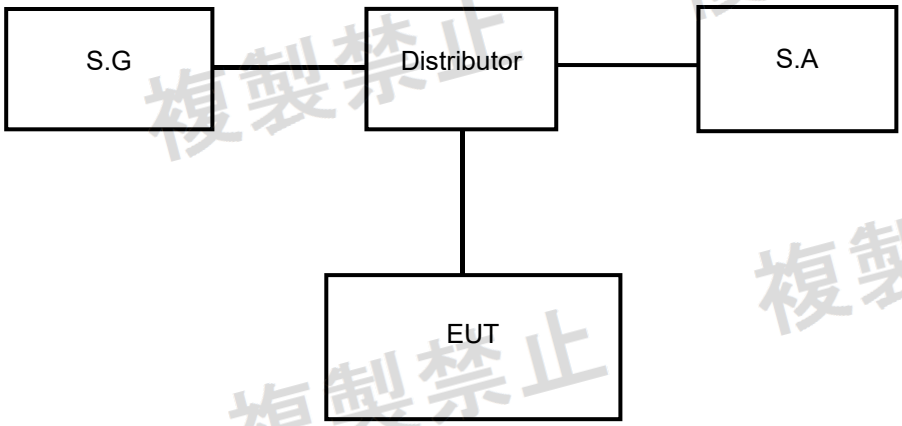
Please refer Appendix

3.8 CARRIER SENSE CAPABILITY

3.8.1 Limits

The radio equipment connected to telecommunication circuit equipment shall be equipped with a device which detects emissions radiated from another radio station and prevents interference, or a device which prevents interference by operation on a receive signal and a signal for diffusion for signal level detection.

3.8.2 Test setup



(EUT operate in multiple outputs: The measurement was performed by combiner.)

1. Turn the standard signal generator output OFF. Leave the equipment under test to be ready for transmission and verify the transmission with the spectrum analyzer.
2. Set the equipment under test to the receiving state.
3. Turn the standard signal generator ON and leave the equipment under test to be ready for transmission and verify with the spectrum analyzer that no transmission is being made.

3.8.3 Test result

Please refer Appendix

3.9 INTERFERENCE PREVENTION FUNCTION

3.9.1 Limits

Radio equipment used mainly on the same premises and automatically transmits or receives identification code.

3.9.2 Test setup

3.9.3 Test Procedure:

Standard Requirement:
1) Measurement system diagram as shown above and test equipment keep transmitting identification code.
2) Condition of measuring instrument
(1) Demodulator must be able to demodulate the transmitting signal emitted by test equipment and to indicate the identification code.
3) Condition of test equipment The mode of normal use.
4) Measuring operation procedure
(1) When test equipment has the function to transmit identification code automatically:
A) Transmit the predetermined identification code from test equipment.
B) Confirm the transmitted identification code by demodulator.

3.9.4 Test result

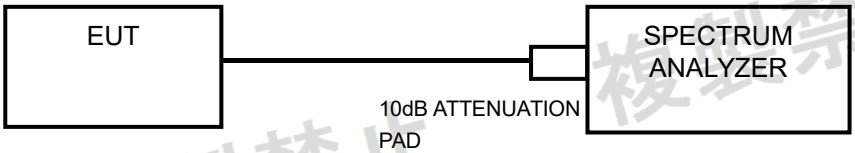
Please refer Appendix

3.10 NUMBER OF CARRIERS WITHIN 1 MHZ BANDWIDTH IN OFDM

3.10.1 Limits

Radio equipment used mainly on the same premises and automatically transmits or receives identification code.

3.10.2 Test setup



3.10.3 Test result

About OFDM Technical, one OFDM Channel will have 52 sub-carriers. At present, we observe this product via the spectrum, and we know that there are 3 carriers in 1 MHz bandwidth in OFDM.

4 PHOTOGRAPHS OF TEST SETUP

Please refer to the attached file (Test Setup Photo).

5 PHOTOGRAPHS OF THE EUT

Please refer to the attached file (External Photos report and Internal Photos).

------ End of the Report ------

複製禁止

Important

(1) The test report is invalid without the official stamp of CVC;

(2) Any part photocopies of the test report are forbidden without the written permission from CVC;

(3) The test report is invalid without the signatures of Approval and Reviewer;

(4) The test report is invalid if altered;

(5) Objections to the test report must be submitted to CVC within 15 days.

(6) Generally, commission test is responsible for the tested samples only.

(7) As for the test result "-" or "N" means "not applicable", "/" means "not test", "P" means "pass" and "F" means "fail"

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