



FCC SDOC TEST REPORT

Report No.: VTC-2019040165F1
Product: Car recorder
Model No.: V18,BT100,B5,X43,X402,V9,H12,H11,H16,B5-T,H6,A1,A2,A3,A4,A5,A6,A7,A8,A9,V1,V2,V3,V4,V5,V6,V7,V8,V9
Applicant: Shenzhen hongruntianyu technology.co.ltd
Address: Zhoushi Road No 590, minrui Second Industrial park, Hezhou Village XiXiang town, Baoan District, Shenzhen City,Guangdong Province,China
Issued by: Shenzhen VTC Testing Technology Co., Ltd.
Lab Location: A area, 6th Floor, Huaxia Building, Jingxiu Road,Shajing District, Bao'An, Shenzhen, Guangdong, China

Date of Receipt:

Apr. 15, 2019

Date of Test:

Apr. 15,- Apr.25, 2019

Date of Issue:

Apr. 25, 2019

Test Result: Pass

Testing Engineer :

Jake Wang

(Jake Wang)

Technical Manager :

Ada Li

(Ada Li)

Authorize Signatory :

Can Liu

(Can Liu)



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INFORMATION

Applicant : Shenzhen hongruntianyu technology.co.ltd

Address : Zhoushi Road No 590, minrui Second Industrial park, Hezhou Village
XiXiang town, Baoan District, Shenzhen City,Guangdong
Province,China

Manufacturer : Shenzhen hongruntianyu technology.co.ltd

Address : Zhoushi Road No 590, minrui Second Industrial park, Hezhou Village
XiXiang town, Baoan District, Shenzhen City,Guangdong
Province,China

EUT : Car recorder

Model Number : V18,BT100,B5,X43,X402,V9,H12,H11,H16,B5-T,H6,A1,A2,A3,A4,A5
,A6,A7,A8 A9,V1,V2,V3,V4,V5,V6,V7,V8,V9

Trademark: : N/A

Test Result: : The equipment under test was found to be compliance with the
requirements of the standards applied.

Test Procedure Used:

FCC Part 15 B:2016

ANSI C63.4:2014

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

EUT : Car recorder
Trademark : N/A
Model Number : V18,BT100,B5,X43,X402,V9,H12,H11,H16,B5-T,H6,A1,A2,A3,A4,A5,A6,A7,A8 A9,V1,V2,V3,V4,V5,V6,V7,V8,V9
Model Difference : The product is different for model number and outlook color.
Power Supply : DC 5V

Note: V18 was selected as the test model and the datas have been recorded in this report.

1.2. Tested System Details

Personal Computer : ASUS
M/N : A1580TW

1.3. Test Uncertainty

Conducted Emission : $\pm 2.66\text{dB}$
Uncertainty

Radiated Emission Uncertainty : $\pm 4.26\text{dB}$

2. TEST INSTRUMENT USED

For Conducted Emission at the mains terminals Test

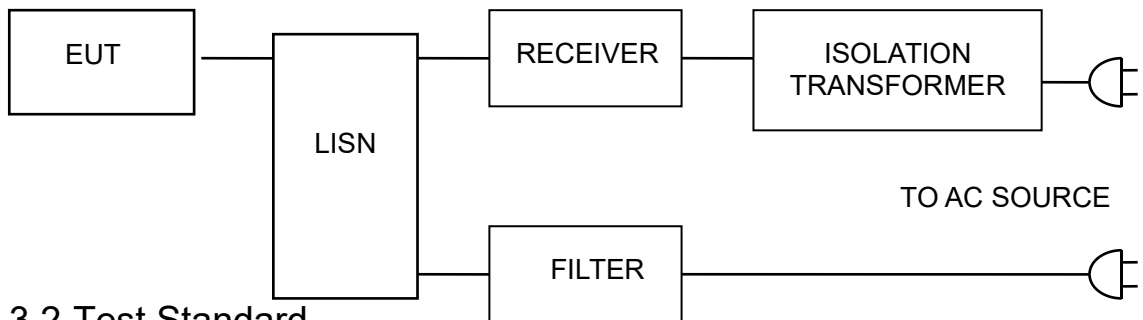
Conducted Emission Test (A --- site)					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
843 Shielded Room	ChengYu	843 Room	843	Aug. 25, 2018	Aug. 24, 2019
EMI Receiver	R&S	ESCI	101421	Aug. 25, 2018	Aug. 24, 2019
LISN	Schwarzbeck	NSLK8127	8127739	Aug. 25, 2018	Aug. 24, 2019
Attenuator	R&S	ESH3-Z2	BCTC021E	Aug. 25, 2018	Aug. 24, 2019
843 Cable 1#	FUJIKURA	843C1#	001	Aug. 25, 2018	Aug. 24, 2019

For Radiated Emission Test

Radiation Emission Test (966 chamber)					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
966 chamber	ChengYu	966 Room	966	Aug. 25, 2018	Aug. 24, 2019
Spectrum Analyzer	Agilent	E4407B	MY45109572	Aug. 25, 2018	Aug. 24, 2019
Amplifier	Schwarzbeck	BBV9743	9743-119	Aug. 25, 2018	Aug. 24, 2019
Amplifier	Schwarzbeck	BBV9718	9718-270	Aug. 25, 2018	Aug. 24, 2019
Log-periodic Antenna	Schwarzbeck	VULB9160	VULB9160-3369	Aug. 25, 2018	Aug. 24, 2019
EMI Receiver	R&S	ESCI	101421	Aug. 25, 2018	Aug. 24, 2019
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-1275	Aug. 25, 2018	Aug. 24, 2019
966 Cable 1#	CHENGYU	966	004	Aug. 25, 2018	Aug. 24, 2019
966 Cable 2#	CHENGYU	966	003	Aug. 25, 2018	Aug. 24, 2019

3. CONDUCTED EMISSION AT THE MAINS TERMINALS TEST

3.1. Block Diagram Of Test Setup



3.2. Test Standard

FCC PART 15 B

3.3. Power Line Conducted Emission Limit

Frequency MHz	Limits dB(μV)	
	Quasi-peak Level	Average Level
0.15 ~ 0.50	66 ~ 56*	56 ~ 46*
0.50 ~ 5.00	56	46
5.00 ~ 30.00	60	50

Notes: 1. *Decreasing linearly with logarithm of frequency.

2. The lower limit shall apply at the transition frequencies.

3.4. EUT Configuration on Test

The following equipments are installed on conducted emission test to meet FCC PART 15 B requirement and operating in a manner which tends to maximize its emission characteristics in a normal application.

3.5. Operating Condition of EUT

3.5.1 Setup the EUT and simulators as shown in Section 3.1.

3.5.2 Turn on the power of all equipments.

3.5.3 Let the EUT work in test modes and test it.

3.6. Test Procedure

The EUT is put on the ground and connected to the AC mains through a Artificial Mains Network (AMN). This provided a 50ohm coupling impedance for the tested equipments. Both sides of AC line are checked to find out the maximum conducted emission levels according to the **FCC PART 15 B** regulations during conducted emission test.

The bandwidth of the test receiver (R&S Test Receiver ESCI) is set at 10KHz.

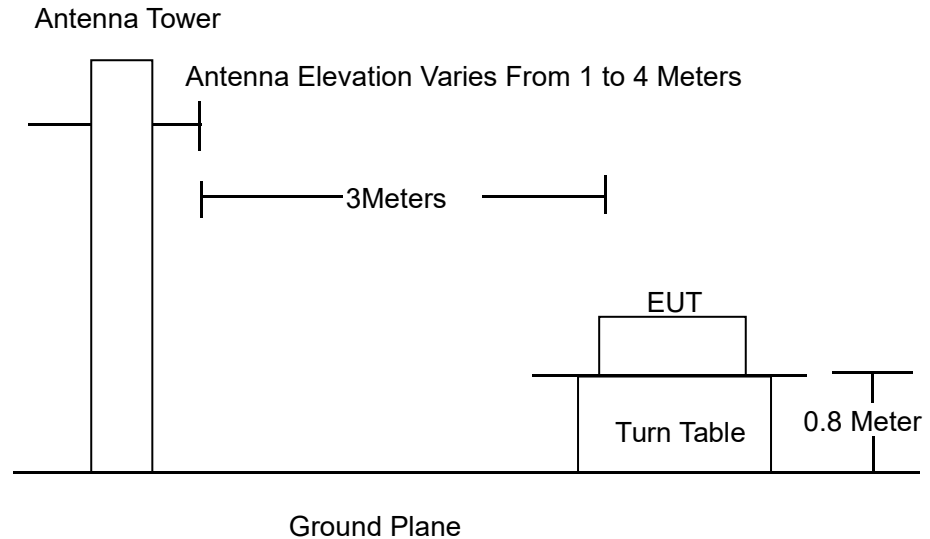
The frequency range from 150 KHz to 30 MHz is investigated.

3.7. Test Result

The EUT is powered by the DC only, the test item is not applicable.

4. RADIATION EMISSION TEST

4.1. Block Diagram of Test Setup



4.2. Test Standard

FCC PART 15 B

4.3. Radiation Limit

FREQUENCY (MHz)	DISTANCE (Meters)	FIELD STRENGTHS LIMITS (dB μ V/m)
30 ~ 88	3	40.0
88 ~ 216	3	43.5
216 ~ 960	3	46.0
960 ~ 1000	3	54.0

4.4. EUT Configuration on Test

The FCC PART 15 B regulations test method must be used to find the maximum emission during radiated emission test.

The configuration of EUT is the same as used in conducted emission test. Please refer to Section 2.2.

4.5. Operating Condition of EUT

Same as conducted emission test, which is listed in Section 2.2 except the test set up replaced as Section 4.1.

4.6. Test Procedure

The EUT and its simulators are placed on a turned table that is 0.8 meter above the ground. The turned table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna that is mounted on the antenna tower. The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated biconical and log periodical antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna is set on test. In order to find the maximum emission levels, the interface cable must be manipulated according to FCC PART 15 B on radiated emission test.

The bandwidth setting on the field strength meter (R&S Test Receiver ESCI) is set at 120KHz below 1GHz, set at 1MHz above 1GHz

The frequency range from 30MHz to 1000MHz is checked.

The highest frequency of the internal sources of the EUT was 1.3GHz, so the measurement was only made up to 6GHz.

4.7. Test Result

PASS

Please refer to the following page.

Radiation Emission Test Data

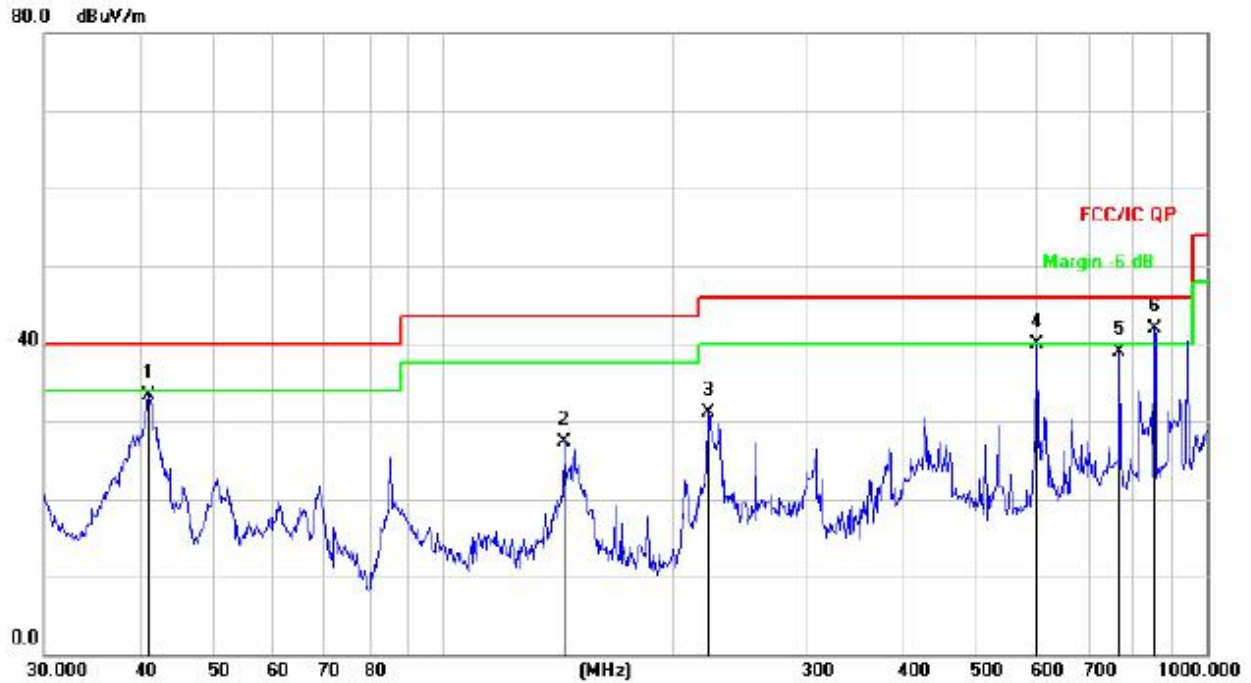
Temperature:	24.5 °C	Relative Humidity:	54%
Pressure:	1009hPa	Phase :	Horizontal
Test Voltage :	DC 5V	Test Mode:	ON Mode



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	cm	degree	Comment
1		148.4410	45.73	-19.72	26.01	43.50	-17.49	QP		
2		256.5211	50.03	-13.52	36.51	46.00	-9.49	QP		
3	!	599.3212	45.08	-4.50	40.58	46.00	-5.42	QP		
4	!	768.7481	43.84	-1.52	42.32	46.00	-3.68	QP		
5	*	854.0247	42.60	-0.20	42.40	46.00	-3.60	QP		
6	!	942.1305	40.68	1.15	41.83	46.00	-4.17	QP		

Radiation Emission Test Data

Temperature:	24.5 °C	Relative Humidity:	54%
Pressure:	1009hPa	Phase :	Vertical
Test Voltage :	DC 5V	Test Mode:	ON Mode



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	cm	degree	Comment
1		41.1320	48.61	-15.40	33.21	40.00	-6.79	QP		
2		143.8295	47.18	-19.89	27.29	43.50	-16.21	QP		
3		222.1698	46.27	-15.20	31.07	46.00	-14.93	QP		
4		599.3212	44.43	-4.50	39.93	46.00	-6.07	QP		
5		768.7481	40.36	-1.52	38.84	46.00	-7.16	QP		
6	*	854.0247	42.17	-0.20	41.97	46.00	-4.03	QP		

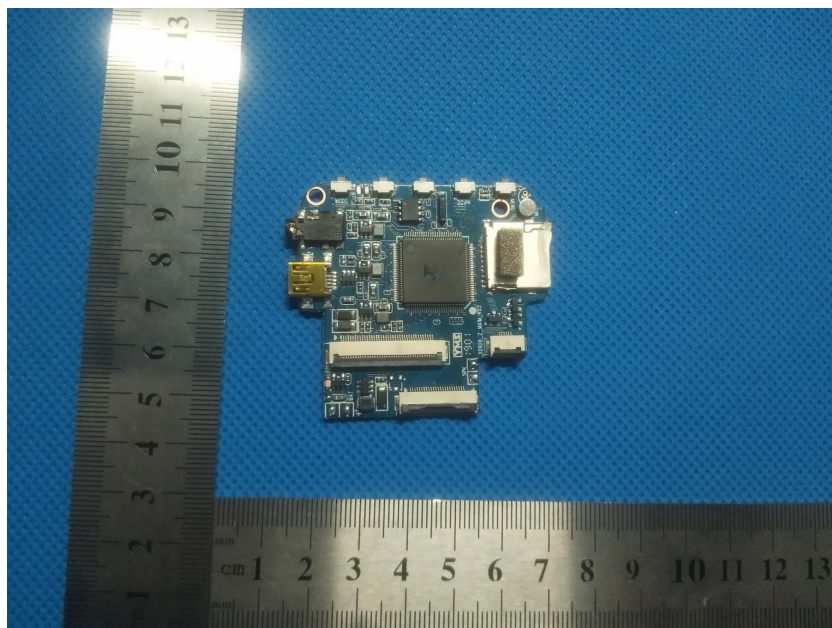
5. EUT PHOTOGRAPHS

EUT Photo 1

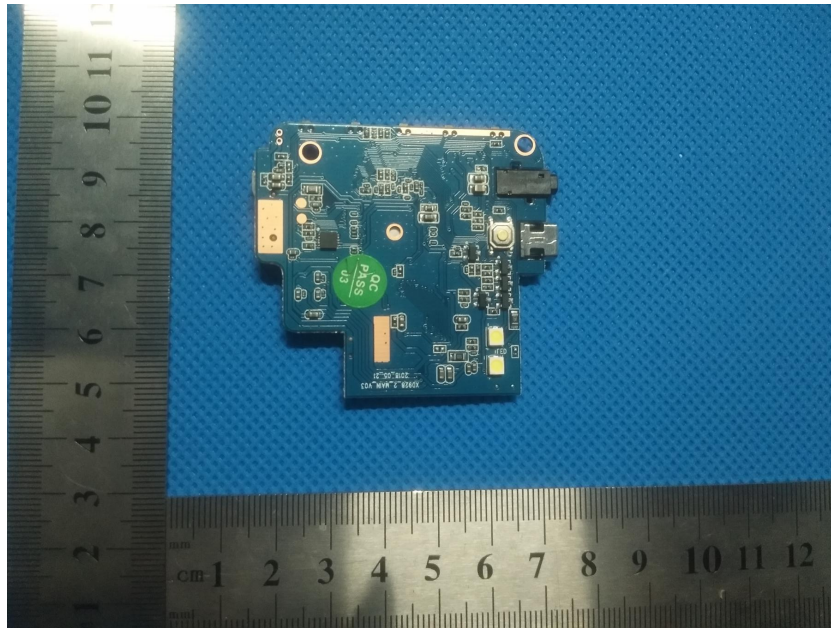


EUT Photo 2

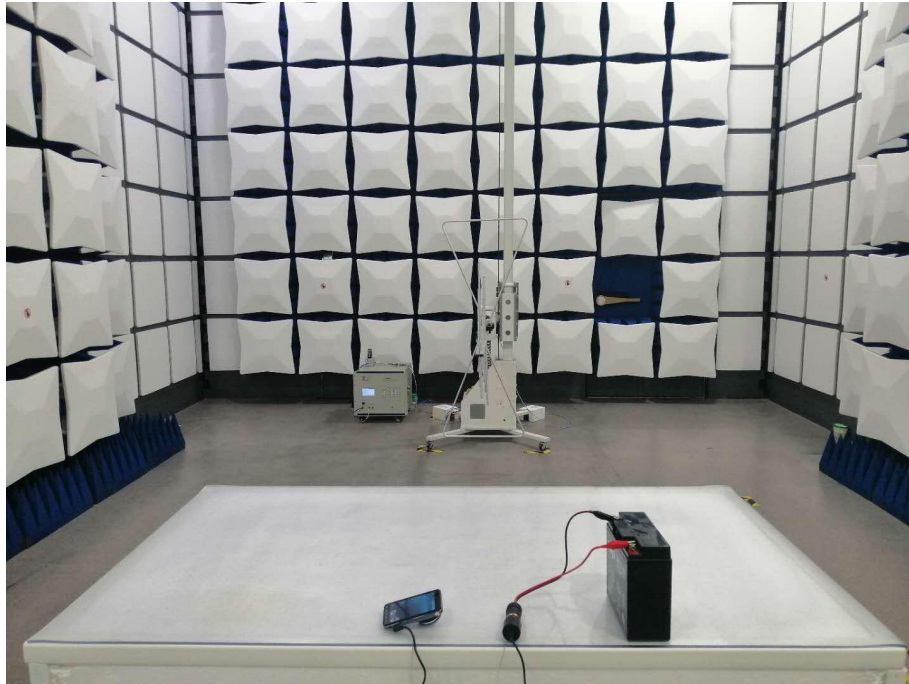


EUT Photo 3**EUT Photo 4**

EUT Photo 5



6. EUT TEST PHOTOGRAPHS



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