FCC Test Report

Report No.: AGC00607140601FE01

FCC ID		Q5EDSJ-A9
PRODUCT DESIGNATION	:	Law Enforcement Video/Audio Recorder
BRAND NAME	:	Kirisun
MODEL NAME	:	DSJ-A9
CLIENT	:	Kirisun Communications Co., Ltd.
DATE OF ISSUE	:	Sep.2,2014
STANDARD(S)	:	FCC Part 15 Rules
REPORT VERSION	:	V1.0

Attestation of ***G***lobal ***C***ompliance (Shenzhen) Co., Ltd

Report Revise Record

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Sep.2,2014	Valid	Original Report

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1. VERIFICATION OF CONFORMITY

Applicant	Kirisun Communications Co., Ltd.
Address	3-6Flrs, ROBETA Building, No.1, QiMin Road, Song Ping Shan Area, Science & Industry Park, Nanshan District
Manufacturer	Kirisun Communications Co., Ltd.
Address	3-6Flrs, ROBETA Building, No.1, QiMin Road, Song Ping Shan Area, Science & Industry Park, Nanshan District
Product Designation	Law Enforcement Video/Audio Recorder
Brand Name	Kirisun
Test Model	DSJ-A9
Date of test	Aug.29~Seg.01, 2014
Deviation	None
Condition of Test Sample	Normal
Report Template	AGCRT-US-IT/AC(2013-03-01)

The above equipment was tested by Attestation of Global Compliance (Shenzhen) Co., Ltd. for compliance with the requirements set forth in the FCC Rules and Regulations Part 15, the measurement procedure according to ANSI C63.4:2003. This said equipment in the configuration described in this report shows the maximum emission levels emanating from equipment are within the compliance requirements.

The test results of this report relate only to the tested sample identified in this report.

Prepared By	Max Zhang	
	Max Zhang	Sep.2,2014
Checked By	Kidd Yang	
	Kidd Yang	Sep.2,2014
Authorized By	Solger Zhang	
	Solger Zhang	Sep.2,2014

2. SYSTEM DESCRIPTION

TEST MODE DESCRIPTION		
NO.	**TEST MODE DESCRIPTION**	**WORST**
1	Data Exchanging	V
2	Charging and recording	--

Note:
1. V means EMI worst mode.
2. Only the data of the worst mode would be recorded in this report.

3. MEASUREMENT UNCERTAINTY

Conducted measurement: +/- 2.75dB

Radiated measurement: +/- 3.2dB

4. PRODUCT INFORMATION

Housing Type	Plastic and metal
Adapter Input Rating	110-240V 50/60HZ 0.2A
EUT Input Rating	DC Mini-USB In 5V/1A
Highest used or generated frequency of the EUT	Less than 108MHz

I/O Port Information (☒Applicable ☐Not Applicable)

I/O Port of EUT			
I/O Port Type	**Number**	**Cable Description**	**Tested With**
Mini USB	1	0.8m Unshielded	1
Earphone Port	1	0.8m Unshielded	1

Note:
1. All the cables are the original accessories.

5. SUPPORT EQUIPMENT

Device Type	Manufacturer	Model Name	Serial No.	Data Cable	Power Cable
PC	Dell Inc	N5110	N/A	N/A	1.0.m unshielded

6. TEST FACILITY

Site	Attestation of Global Compliance (Shenzhen) Co., Ltd
Location 1	2/F., Building 2, No.1-No.4, Chaxi Sanwei Technical Industrial Park, Gushu, Xixiang, Bao'an District, Shenzhen, Guangdong, China
Location 2	B112-B113，Building 12, Baoan Building Materials Center, No.1 of Xixiang Inner Ring Road, Baoan District, Shenzhen, Guangdong, P.R.China
Note: The test items RS&CS were tested in the Laboratory of Location 2. Others were tested in the Laboratory of Location 1.	

TEST EQUIPMENT OF LINE CONDUCTED EMISSION TEST

Description	Manufacturer	Model	S/N	Cal. Date	Cal. Due
TEST RECEIVER	R&S	ESCI	100694	04/01/2014	03/31/2015
LISN	R&S	ESH3-Z5	8389791009	07/16/2014	07/15/2015

TEST EQUIPMENT OF RADIATED EMISSION

Description	Manufacturer	Model	S/N	Cal. Date	Cal. Due
SPECTRUM ANALYZER	AGILENT	E4440A	US41421290	07/16/2014	07/15/2015
ANTENNA	A.H.	SAS-521-4	128	06/06/2014	06/05/2015
HORN ANTENNA	EM	EM-AH-10180	N/A	04/20/2014	04/19/2015
AMPLIFIER	EM	EM30180	0607030	02/27/2014	02/26/2015
POSITIONING CONTROLLER	MF	MF-7802	MF780208147	--	--
RF Cable	SUIRONG	30MHz-18GHz	N/A	07/18/2014	07/18/2015

Note:" -- "means it's not applicable.

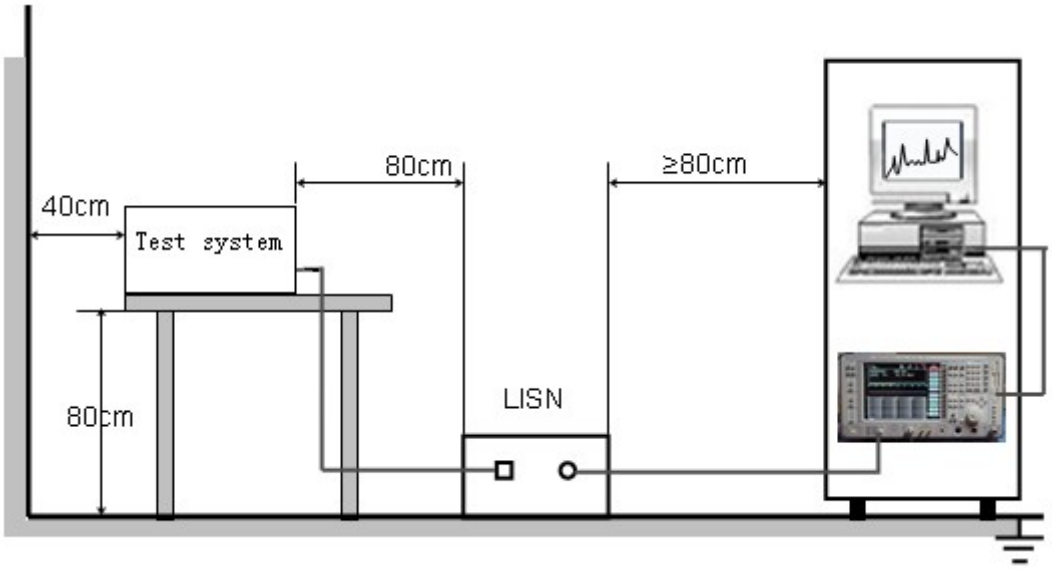
7. FCC LINE CONDUCTED EMISSION TEST

7.1. LIMITS OF LINE CONDUCTED EMISSION TEST

Frequency	Maximum RF Line Voltage	
	Q.P.(dBuV)	Average(dBuV)
150kHz-500kHz	66-56	56-46
500kHz-5MHz	56	46
5MHz-30MHz	60	50

Note:
1. The lower limit shall apply at the transition frequency.
2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50MHz.

7.2. BLOCK DIAGRAM OF TEST SETUP



7.3. PROCEDURE OF LINE CONDUCTED EMISSION TEST

(1) The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.4 (see Test Facility for the dimensions of the ground plane used). When the EUT is a floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.

(2) Support equipment, if needed, was placed as per ANSI C63.4.

(3) All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4.

(4) The EUT received DC 5V from PC which received AC120V/60Hz power from a LISN.

(5) The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.

(6) Analyzer / Receiver scanned from 150 kHz to 30MHz for emissions in each of the test modes.

(7) During the above scans, the emissions were maximized by cable manipulation.

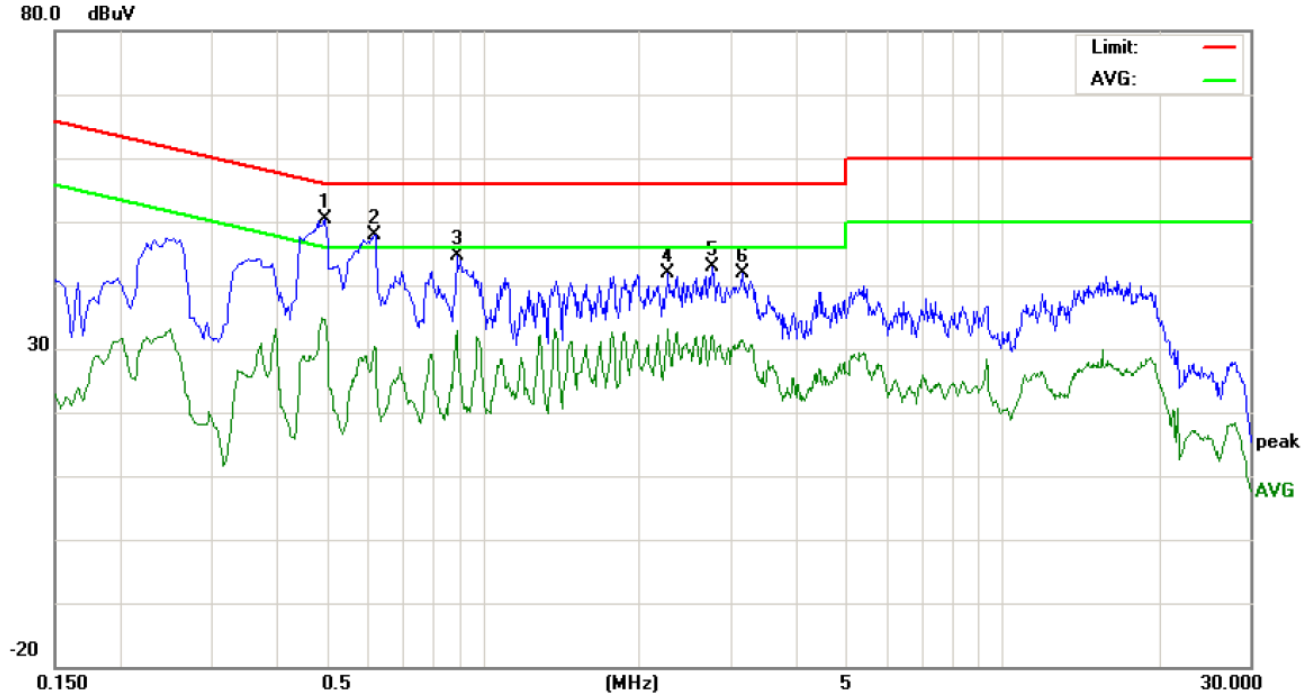
(8) A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions.

(9) Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. If EUT emission level was less –2dB to the A.V. limit in Peak mode, then the emission signal was re-checked using Q.P and Average detector.

The test data of the worst case condition (mode 1) was reported on the Summary Data page.

7.4. TEST RESULT OF LINE CONDUCTED EMISSION TEST

LINE CONDUCTED EMISSION TEST-L



Site: Conduction
Limit: FCC Class B Conduction(QP)
EUT: Law Enforcement Video/Audio Recorder
M/N: DSJ-A9
Mode: Mode 1
Note:

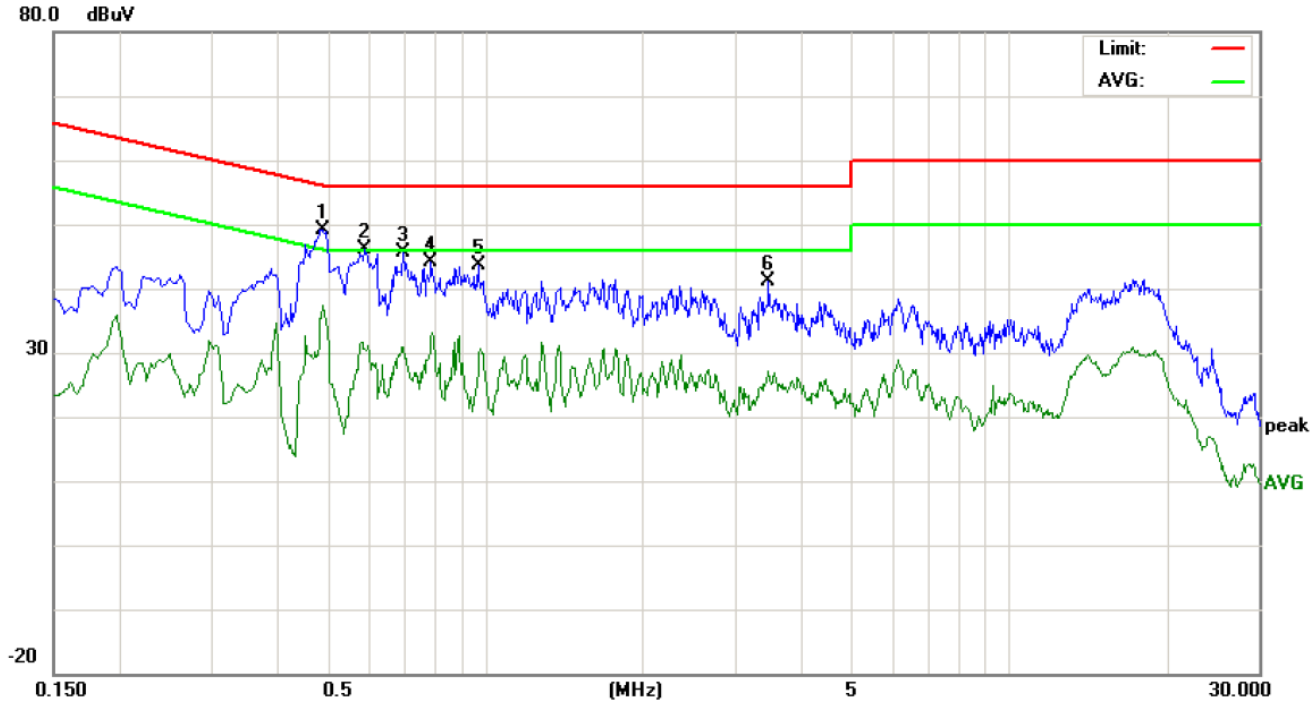
Phase: *L1*
Power: AC 120V/60Hz

Temperature: 26
Humidity: 60 %

No.	Freq. (MHz)	Reading_Level (dBuV)			Correct Factor	Measurement (dBuV)			Limit (dBuV)		Margin (dB)		P/F	Comment
		Peak	QP	AVG	dB	Peak	QP	AVG	QP	AVG	QP	AVG		
1	0.4980	40.04		24.13	10.40	50.44		34.53	56.03	46.03	-5.59	-11.50	P	
2	0.6180	37.60		20.16	10.32	47.92		30.48	56.00	46.00	-8.08	-15.52	P	
3	0.8900	34.24		22.40	10.40	44.64		32.80	56.00	46.00	-11.36	-13.20	P	
4	2.2740	31.64		22.71	10.33	41.97		33.04	56.00	46.00	-14.03	-12.96	P	
5	2.7740	32.47		21.61	10.50	42.97		32.11	56.00	46.00	-13.03	-13.89	P	
6	3.1619	31.30		20.77	10.54	41.84		31.31	56.00	46.00	-14.16	-14.69	P	

RESULT: PASS

LINE CONDUCTED EMISSION TEST-N



Site: Conduction
Phase: *N*
Temperature: 26
Limit: FCC Class B Conduction(QP)
Power: AC 120V/60Hz
Humidity: 60 %
EUT: Law Enforcement Video/Audio Recorder
M/N: DSJ-A9
Mode: Mode 1
Note:

No.	Freq. (MHz)	Reading_Level (dBuV)			Correct Factor	Measurement (dBuV)			Limit (dBuV)		Margin (dB)		P/F	Comment
		Peak	QP	AVG	dB	Peak	QP	AVG	QP	AVG	QP	AVG		
1	0.4900	38.81		26.92	10.39	49.20		37.31	56.17	46.17	-6.97	-8.86	P	
2	0.5899	35.76		20.25	10.32	46.08		30.57	56.00	46.00	-9.92	-15.43	P	
3	0.6980	35.34		20.52	10.35	45.69		30.87	56.00	46.00	-10.31	-15.13	P	
4	0.7900	33.75		21.89	10.29	44.04		32.18	56.00	46.00	-11.96	-13.82	P	
5	0.9700	33.15		16.81	10.38	43.53		27.19	56.00	46.00	-12.47	-18.81	P	
6	3.4820	30.52		16.50	10.51	41.03		27.01	56.00	46.00	-14.97	-18.99	P	

RESULT: PASS

8. FCC RADIATED EMISSION TEST

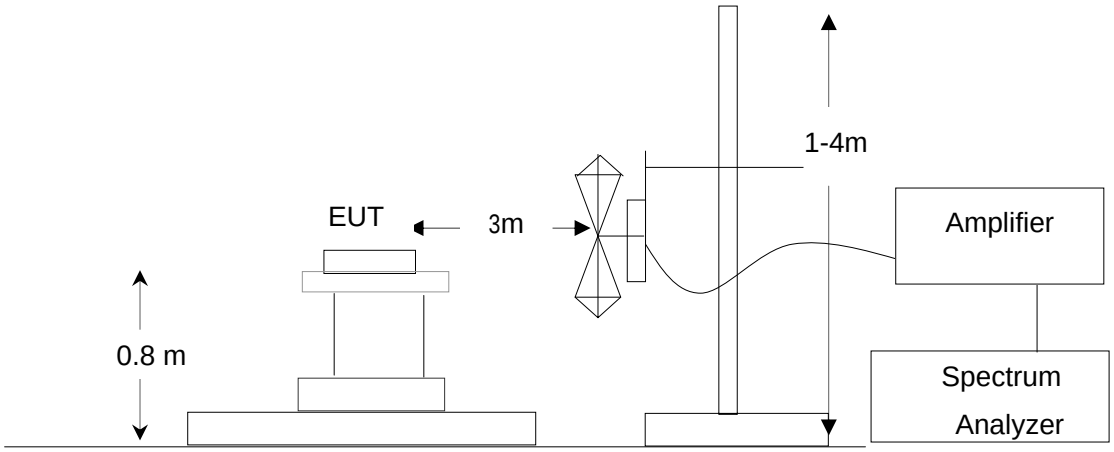
8.1. LIMITS OF RADIATED EMISSION TEST

Frequency (MHz)	Distance (m)	Maximum Field Strength Limit (dBuV/m/ Q.P.)
30~88	3	40.0
88~216	3	43.5
216~960	3	46.0
Above 960	3	54.0

Note: The lower limit shall apply at the transition frequency.

8.2. BLOCK DIAGRAM OF TEST SETUP

System Diagram of Connections between EUT and Simulators



8.3. PROCEDURE OF RADIATED EMISSION TEST

(1) The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden turntable with a height of 0.8 meters is used which is placed on the ground plane as per ANSI C63.4 (see Test Facility for the dimensions of the ground plane used). When the EUT is floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.

(2) Support equipment, if needed, was placed as per ANSI C63.4.

(3) All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4.

(4) The measurement shall only be made up to 1 GHz because of the highest frequency of the internal sources of the EUT is less than 108MHz.

(5) The EUT received DC 5V from PC which received AC120V/60Hz power from a LISN.

(6) The antenna was placed at 3 meter away from the EUT as stated in FCC Part 15. The antenna connected to the Analyzer via a cable and at times a pre-amplifier would be used.

(7) The Analyzer / Receiver quickly scanned from 30MHz to 1000MHz. The EUT test program was started. Emissions were scanned and measured rotating the EUT to 360 degrees and positioning the antenna 1 to 4 meters above the ground plane, in both the vertical and the horizontal polarization, to maximize the emission reading level.

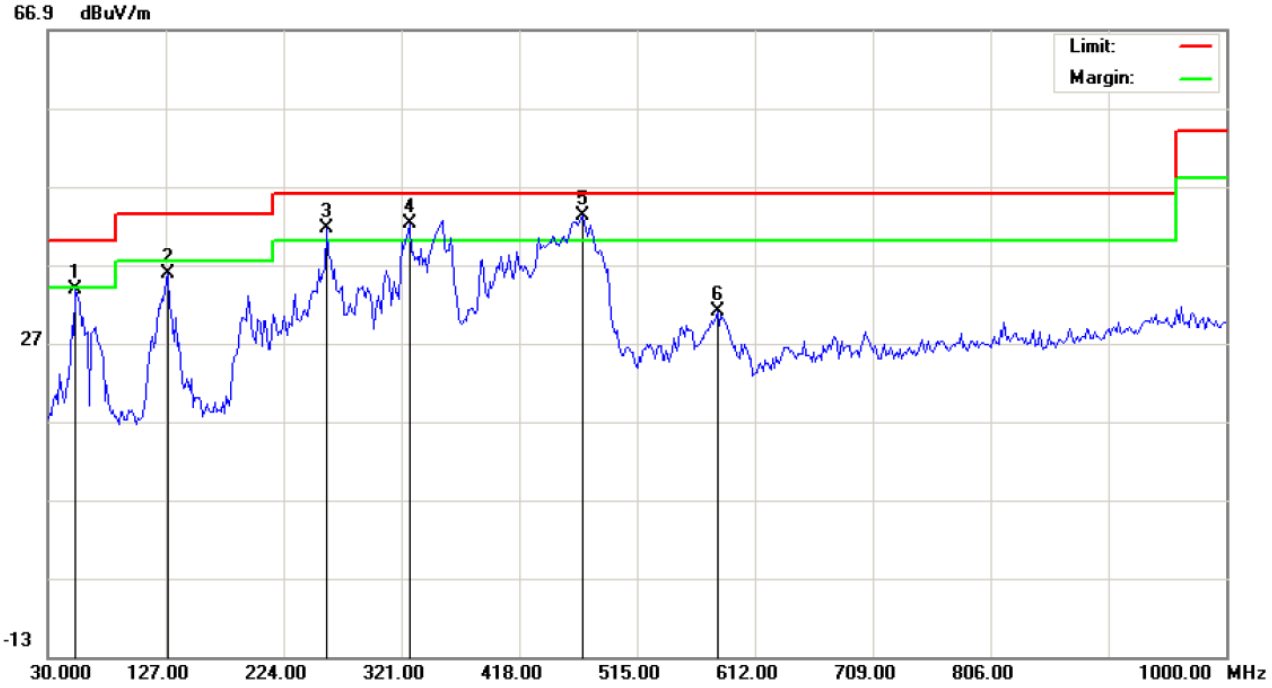
(8) The test mode(s) were scanned during the test:

(9) Recorded at least the six highest emissions. Emission frequency, amplitude, antenna position,polarization and turntable position were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit and Q.P./Peak reading is presented.

The test data of the worst case condition (mode 1) was reported on the Summary Data page.

8.4. TEST RESULT OF RADIATED EMISSION TEST

Radiated Emission Test at 3m Distance-Horizontal



Site: site #1
Limit: FCC Class B 3M Radiation
EUT: Law Enforcement Video/Audio Recorder
M/N: DSJ-A9
Mode: Mode 1
Note:

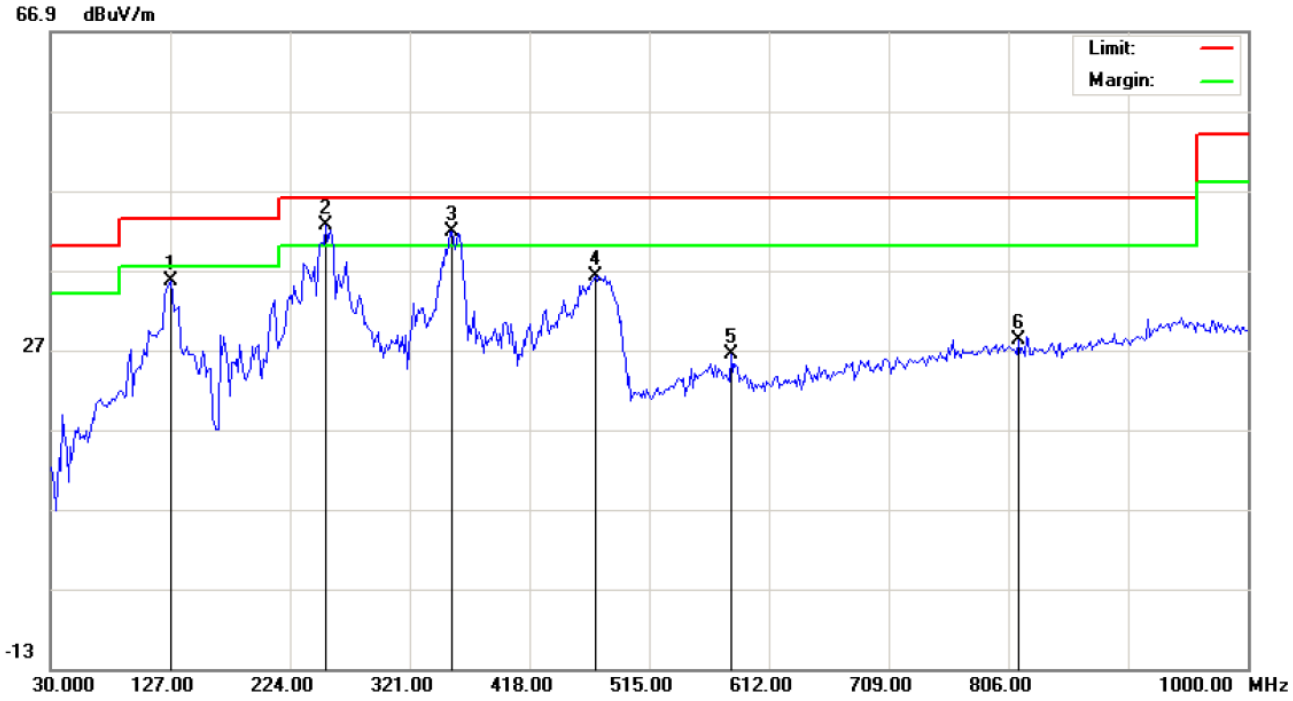
Polarization: *Horizontal*
Power: AC 120V/60Hz
Distance:3m

Temperature: 26
Humidity: 60 %

No.	Mk.	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	degree	
1		52.6333	22.56	11.22	33.78	40.00	-6.22	peak			
2		128.6167	22.42	13.30	35.72	43.50	-7.78	peak			
3	!	259.5667	27.44	14.19	41.63	46.00	-4.37	peak			
4	!	327.4667	24.97	17.24	42.21	46.00	-3.79	peak			
5	*	469.7333	22.43	20.80	43.23	46.00	-2.77	peak			
6		581.2833	7.69	23.26	30.95	46.00	-15.05	peak			

RESULT: PASS

Radiated Emission Test at 3m Distance-Vertical



Site: site #1
Limit: FCC Class B 3M Radiation
EUT: Law Enforcement Video/Audio Recorder
M/N: DSJ-A9
Mode: Mode 1
Note:

Polarization: ***Vertical***
Power: AC 120V/60Hz
Distance:3m

Temperature: 26
Humidity: 60 %

No.	Mk.	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	degree	
1		127.0000	25.85	9.78	35.63	43.50	-7.87	peak			
2	*	253.1000	28.62	13.99	42.61	46.00	-3.39	peak			
3	!	354.9500	23.05	18.77	41.82	46.00	-4.18	peak			
4		471.3500	15.46	20.82	36.28	46.00	-9.72	peak			
5		581.2833	3.68	22.64	26.32	46.00	-19.68	peak			
6		814.0833	0.90	27.32	28.22	46.00	-17.78	peak			

RESULT: PASS

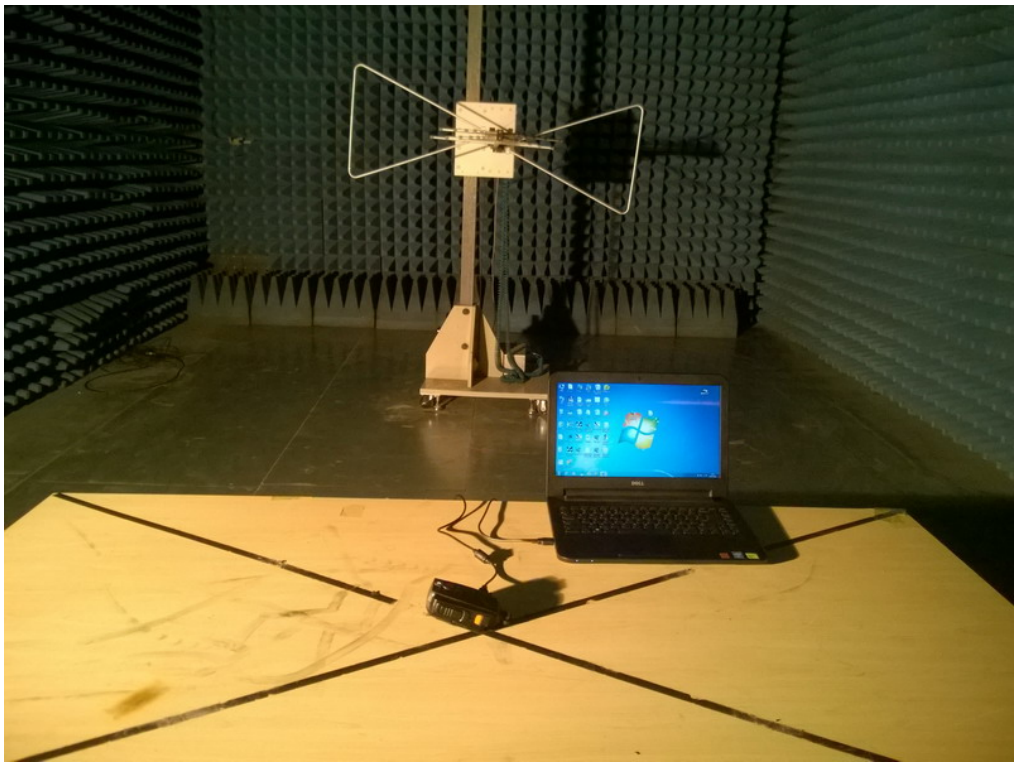
Note: All Other modes above 1GHz have more than 20db margin, no recording in the report

Measurement = Reading + Factor, Over = Measurement – Limit.

APPENDIX A: PHOTOGRAPHS OF TEST SETUP

FCC LINE CONDUCTED EMISSION TEST SETUP

FCC RADIATED EMISSION TEST SETUP

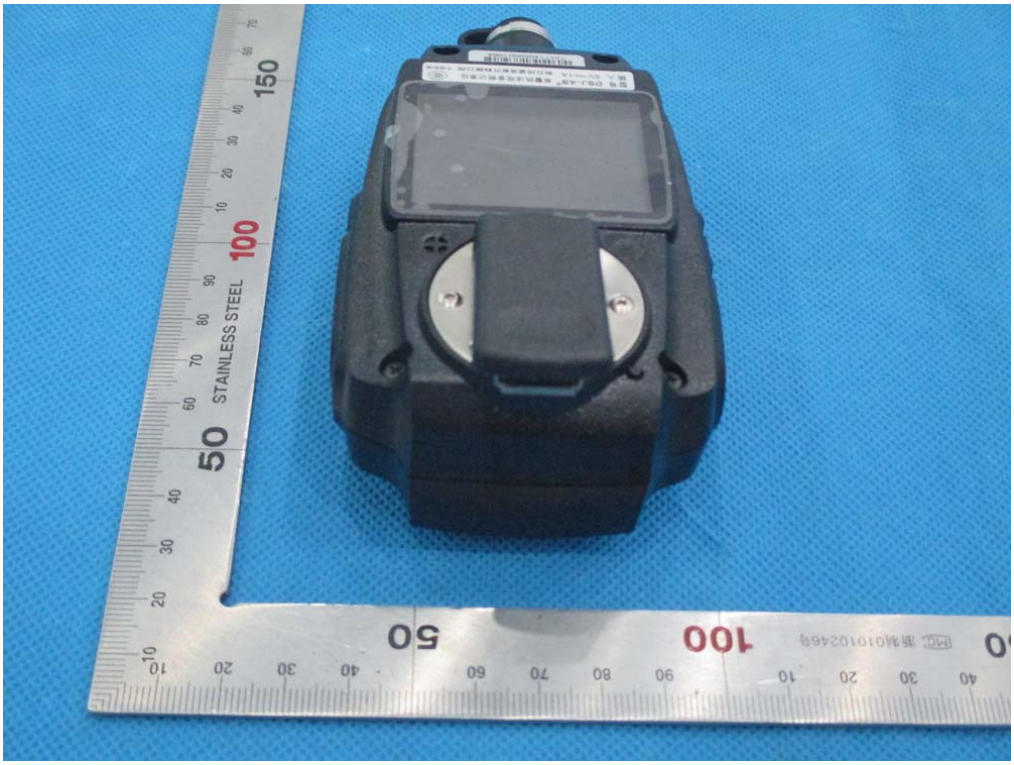


APPENDIX B: PHOTOGRAPHS OF EUT

All VIEW OF EUT

TOP VIEW OF EUT

BOTTOM VIEW OF EUT



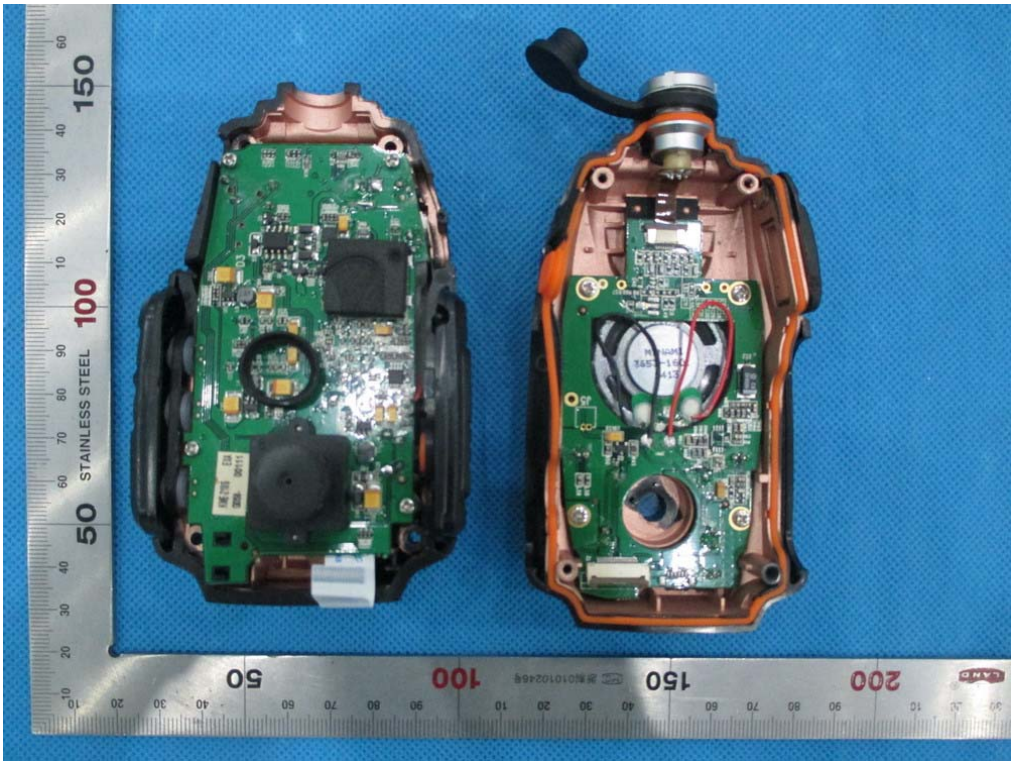
FRONT VIEW OF EUT

BACK VIEW OF EUT

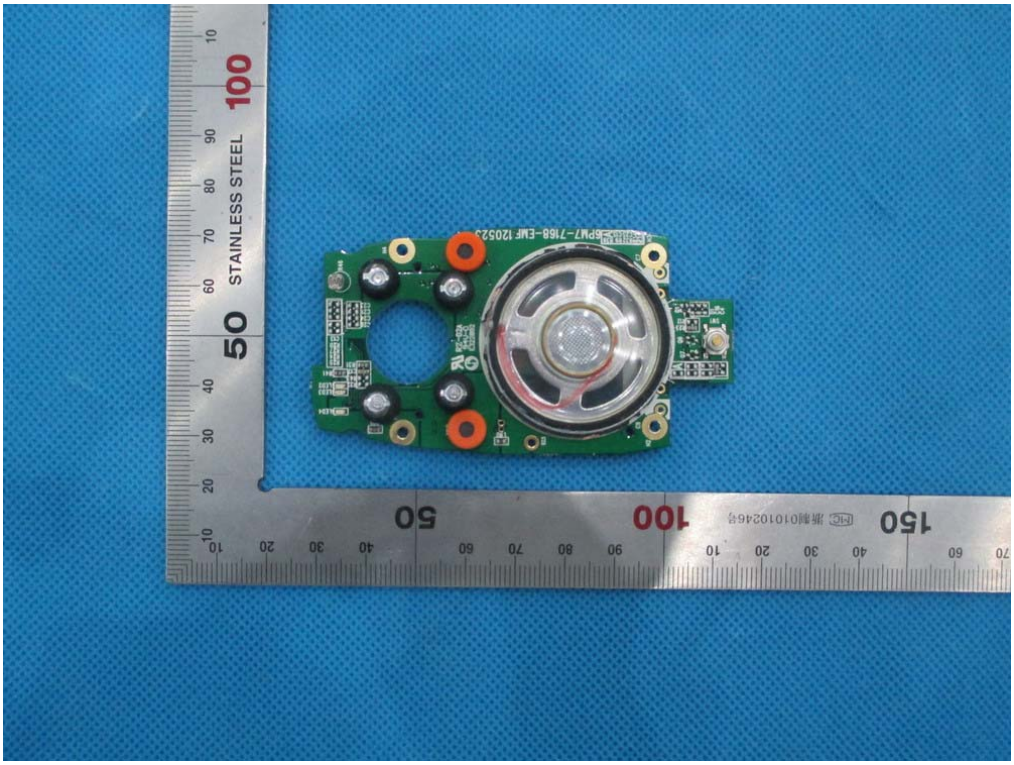
LEFT VIEW OF EUT

RIGHT VIEW OF EUT

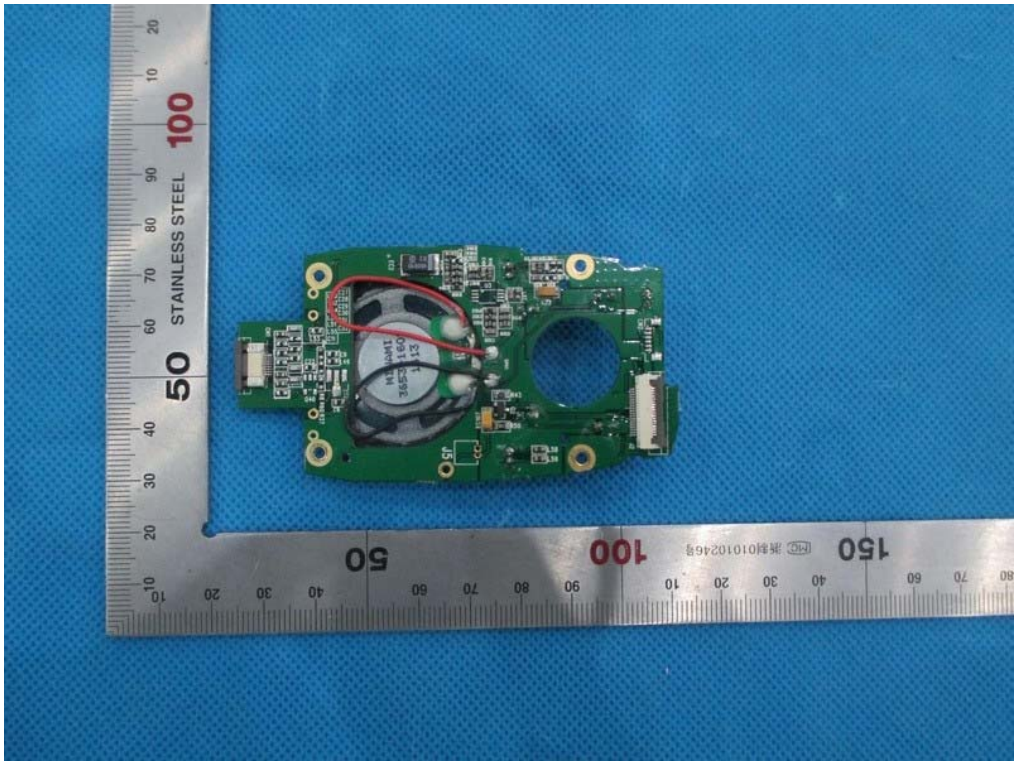
OPEN VIEW OF EUT



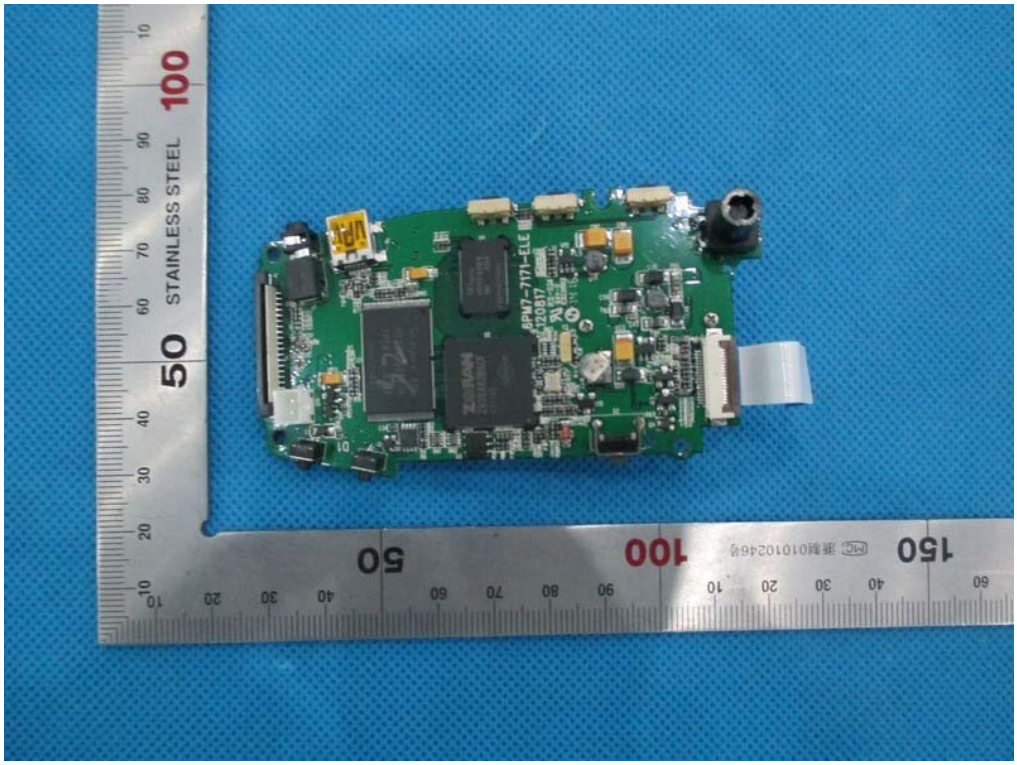
INTERNAL VIEW OF EUT-1



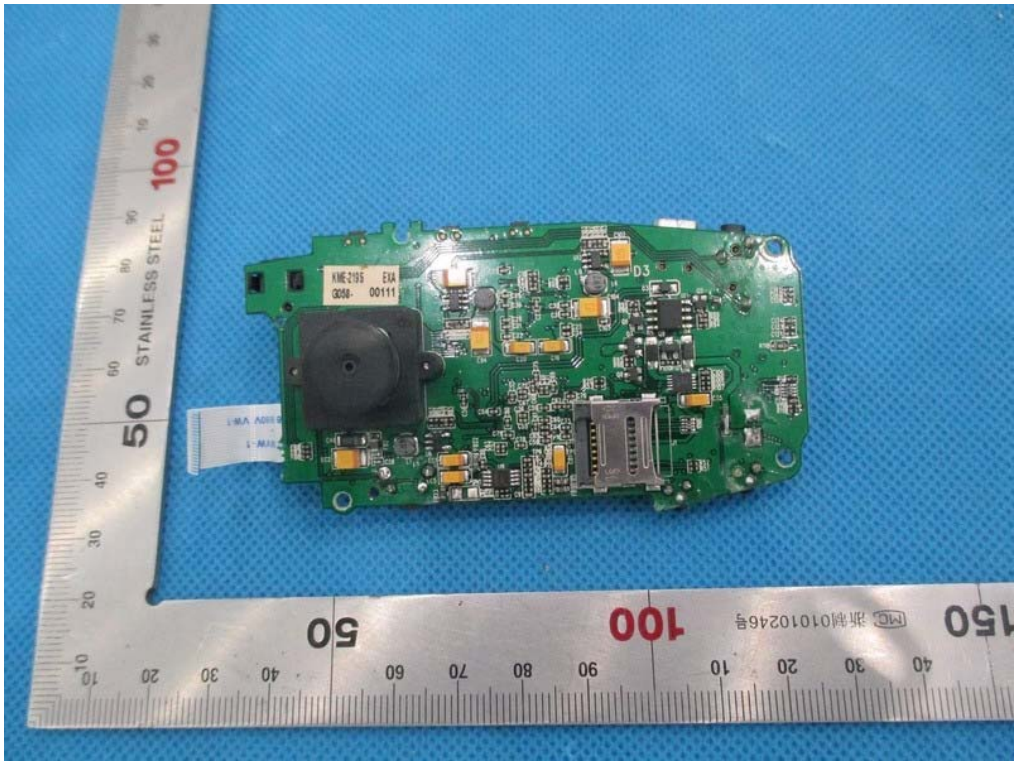
INTERNAL VIEW OF EUT-2



INTERNAL VIEW OF EUT-3



INTERNAL VIEW OF EUT-4



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