

# Test Report

Applicant: RM Acquisition LLC

Product Name: Dash Cam

FCC ID: A4C-DASHCAM300

Brand Name: Rand McNally

Model No.: Dash Cam 300,Dash Cam 100,Dash Cam 200

Remark: Only the model name is different

Date of Receipt : Apr.08,2022

Date of Test: Apr.09-18,2022

Date of Report: Apr.19,2022

Prepared by: Shenzhen Most Technology Service Co., Ltd.

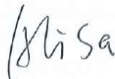


**The testing has been performed on the submitted samples and found in compliance with the council FCC Rules and Regulations Part 15 Subpart B.**

Shenzhen Most Technology Service Co., Ltd.  
East A, 1/F., New Aolin Factory Buiding,  
Langshan Erlu, North Area, Hi-Tech Industrial Park,  
Nanshan District, Shenzhen, Guangdong, China

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# TEST REPORT VERIFICATION

Report Number	MTWG22040256	
Applicant	RM Acquisition LLC	
	8770 W. Bryn Mawr Avenue Chicago Illinois United States. 60631	
Manufacturer	Shenzhen Samoon Technology Co.,Ltd	
	Floor 9, Building 7,ZhongYunTai Industry Park, Yingrenshi Road Crossing, Shiyan Town, Bao'an District ,Shenzhen ,China	
Product	Product Name	Dash Cam
	Model No.	Dash Cam 300
	Power Supply	DC 5V by Carcharger DC 3.7V by Battery
Test Result	The EUT was found compliant with the requirement(s) of the standards.	
Standard	FCC Rules and Regulations Part 15 Subpart B Class B.	
<p><b>*Note</b>            The above device has been tested by Shenzhen Most Technology Service Co., Ltd. To determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The test record, data evaluation &amp; Equipment Under Test (EUT) configurations represented are contained in this test report and Shenzhen Most Technology Service Co., Ltd. Is assumed full responsibility for the accuracy and completeness of test. Also, this report shows that the EUT is technically compliant with the requirement of the above standards.</p> <p>This report applies to above tested sample only. This report shall not be reproduced except in full, without written approval of Shenzhen Most Technology Service Co., Ltd., this document may be altered or revised by Shenzhen Most Technology Service Co., Ltd., personal only, and shall be noted in the revision of the document.</p>		
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Reviewed by		
	Sunny Deng(Engineer)	
Approved by		
	Yvette Zhou(Manager)	

# 1. GENERAL INFORMATION

## 1.1. Description of Device (EUT)

Description	:	Dash Cam
Model Number	:	Dash Cam 300, Dash Cam 100, Dash Cam 200
Remark	:	Use Dash Cam 300 does all tests

## 1.2. Operational Mode(s) of EUT

Order Number	:	Test Mode(s)
1	:	Camera mode
2	:	Data transmission mode
3	:	Charging mode

## 1.3. Test Voltage(s) of EUT

Order Number	:	Test Voltage(s)
1	:	DC 5V by Carcharger
2	:	DC 3.7V by Battery

## 2. LABORATORY INFORMATION

### 2.1. Laboratory Name

Shenzhen Most Technology Service Co., Ltd.

### 2.2. Location

East A, 1/F., New Aolin Factory Building, Langshan Erlu, North Area, Hi-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong, China

### 2.3. Test facility

- |                     |   |  |
|---------------------|---|--|
| 3m Anechoic Chamber | : | Nov. 28, 2012 File on Federal Communication Commission<br>Registration Number:490827 |
| Shielding Room      | : | Nov. 28, 2012 File on Federal Communication Commission<br>Registration Number:490827 |
| EMC Lab.            | : | Accredited by TUV Rheinland Shenzhen<br>Audit Report: UA 50149851<br>Mar. 12, 2009   |
|                     |   | Accredited by Industry Canada<br>Registration Number: 7103A-1<br>Oct. 22, 2012       |
|                     |   | Accredited by TIMCO<br>Registration Number: Q1460<br>March 28, 2010                  |

### 2.4. Measurement Uncertainty

No.	Item	Uncertainty
1.	Uncertainty for Conducted Disturbance Test	1.25dB
2.	Uncertainty for Radiated Disturbance Test	3.15dB

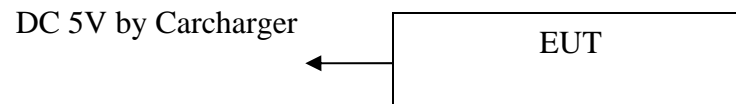
### 3. SUMMARY OF TEST RESULTS

<b>EMISSION</b>			
<b>Test Item</b>	<b>Standard</b>	<b>Limits</b>	<b>Results</b>
Conducted disturbance at mains terminals	FCC Part 15	Class B	N/A
Radiated disturbance	FCC Part 15	Class B	PASS
N/A is an abbreviation for Not Applicable.			

## 4. BLOCK DIAGRAM OF TEST SETUP

The equipments are installed test to meet ANSI C63.4:2014 requirement and operating in a manner which tends to maximize its emission characteristics in a normal application. EUT was tested in normal configuration (Please See following Block diagrams)

### 4.1. Block Diagram of connection between EUT and simulation-EMI



(EUT: Dash Cam )

## 5. TEST INSTRUMENT USED

### 5.1. For Conducted Disturbance at Mains Terminals Emission Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESCI	100492	Mar. 04, 22	1 Year
2.	L.I.S.N.	Rohde & Schwarz	ENV216	100093	Mar. 04, 22	1 Year
3.	Coaxial Switch	Anritsu Corp	MP59B	6200283933	Mar. 04, 22	1 Year
4.	Terminator	Hubersuhner	50Ω	No.1	Mar. 04, 22	1 Year
5.	RF Cable	SchwarzBeck	N/A..	No.1	Mar. 04, 22	1 Year

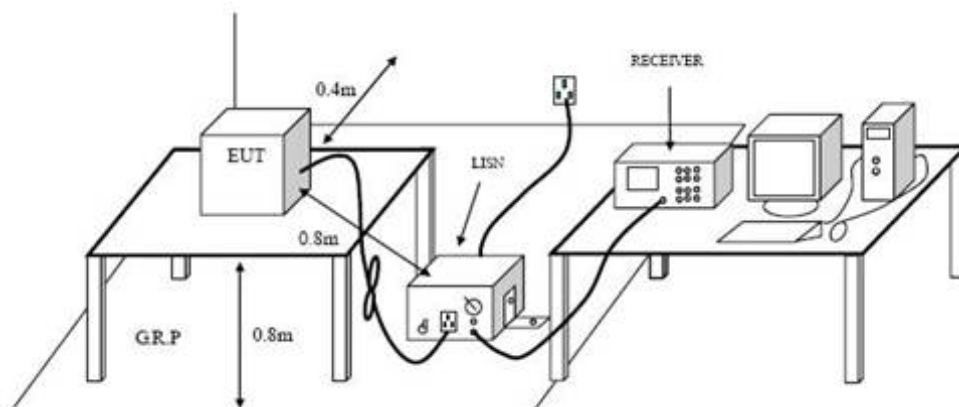
### 5.2. For Radiation Test (In Anechoic Chamber)

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESPI	101202	Mar. 04, 22	1 Year
2.	Bilog Antenna	Sunol	JB3	A121206	Mar. 04, 22	1 Year
3.	Cable	Resenberger	N/A.	NO.1	Mar. 04, 22	1 Year
4.	Cable	SchwarzBeck	N/A..	NO.2	Mar. 04, 22	1 Year
5.	Cable	SchwarzBeck	N/A.	NO.3	Mar. 04, 22	1 Year
6.	DC Power Filter	DuoJi	DL2×30B	N/A.	N/A..	N/A..
7.	Single Phase Power Line Filter	DuoJi	FNF 202B30	N/A.	N/A.	N/A.
8.	3 Phase Power Line Filter	DuoJi	FNF 402B30	N/A.	N/A.	N/A.



## 6. CONDUCTED DISTURBANCE AT MAINS TERMINALS TEST

### 6.1. Configuration of Test System



### 6.2. Test Standard

FCC Subpart 15 B Section 15.107

### 6.3. Power Line Conducted Disturbance at Mains Terminals Limit

Frequency (MHz)	Maximum RF Line Voltage	
	Quasi-Peak Level dB( $\mu$ V)	Average Level dB( $\mu$ V)
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.

### 6.4. Test Procedure

The EUT was placed on a non-metallic table, 80cm above the ground plane. The EUT Power connected to the power mains through a line impedance stabilization network (L.I.S.N. 1#). This provided a 50-ohm coupling impedance for the EUT (Please refer to the block diagram of the test setup and photographs). The other peripheral devices power cord connected to the power mains through a line impedance stabilization network (L.I.S.N.#2). Both sides of power line were checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.4:2014 on conducted Disturbance test.

The bandwidth of test receiver is set at 9 kHz.

The frequency range from 150kHz to 30MHz is checked. The test result are reported on Section 6.5.

## 6.5. Conducted Disturbance at Mains Terminals Test Results

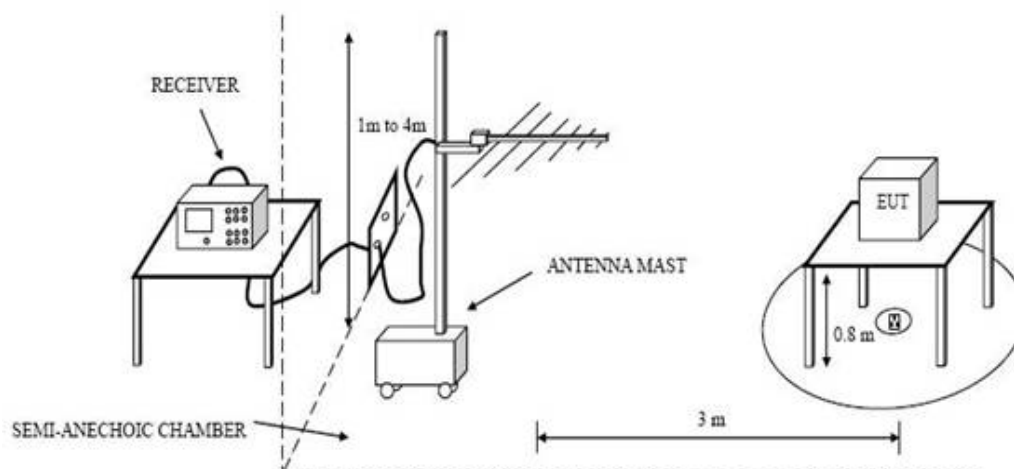
Test Results: N/A

If the average limit is met when using a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

Emission Level= Correct Factor + Reading Level.

## 7. RADIATED DISTURBANCE TEST

### 7.1. Configuration of Test System



### 7.2. Test Standard

FCC Subpart 15 B Section 15.109

### 7.3. Radiated Disturbance Limit

Frequency (MHz)	Distance (Meters)	Field Strengths Limits (dB $\mu$ V/m)	
30 ~ 88	3	40.0	
88~216	3	43.5	
216~960	3	46.0	
960 ~ 1000	3	54.0	
1000-18000	3	74(Peak)	54(AV)

Note: 1. Emission level (dB) $\mu$ V = 20 log Emission level  $\mu$ V/m

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

3. Distance refers to the distance in meters between the test antenna and the closed point of any part of the EUT.

### 7.4. Test Procedure

The EUT was placed on a non-metallic table, 80 cm above the ground plane inside a semi-anechoic chamber. An antenna was located 3m from the EUT on an adjustable mast. A pre-scan was first performed in order to find prominent radiated emissions. For final emissions measurements at each frequency of interest, the EUT were rotated and the antenna height was varied between 1m and 4m in order to maximize the emission. Measurements in both horizontal and vertical polarities were made and the data was recorded. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.4:2014 on Radiated Disturbance test.

The bandwidth setting on the test receiver is 120 kHz.

The frequency range from 30MHz to 1000MHz is checked. The test result are reported on Section 7.5

## 7.5. Radiated Disturbance Test Results

Test Results: PASS(Report only reflects worst mode data)

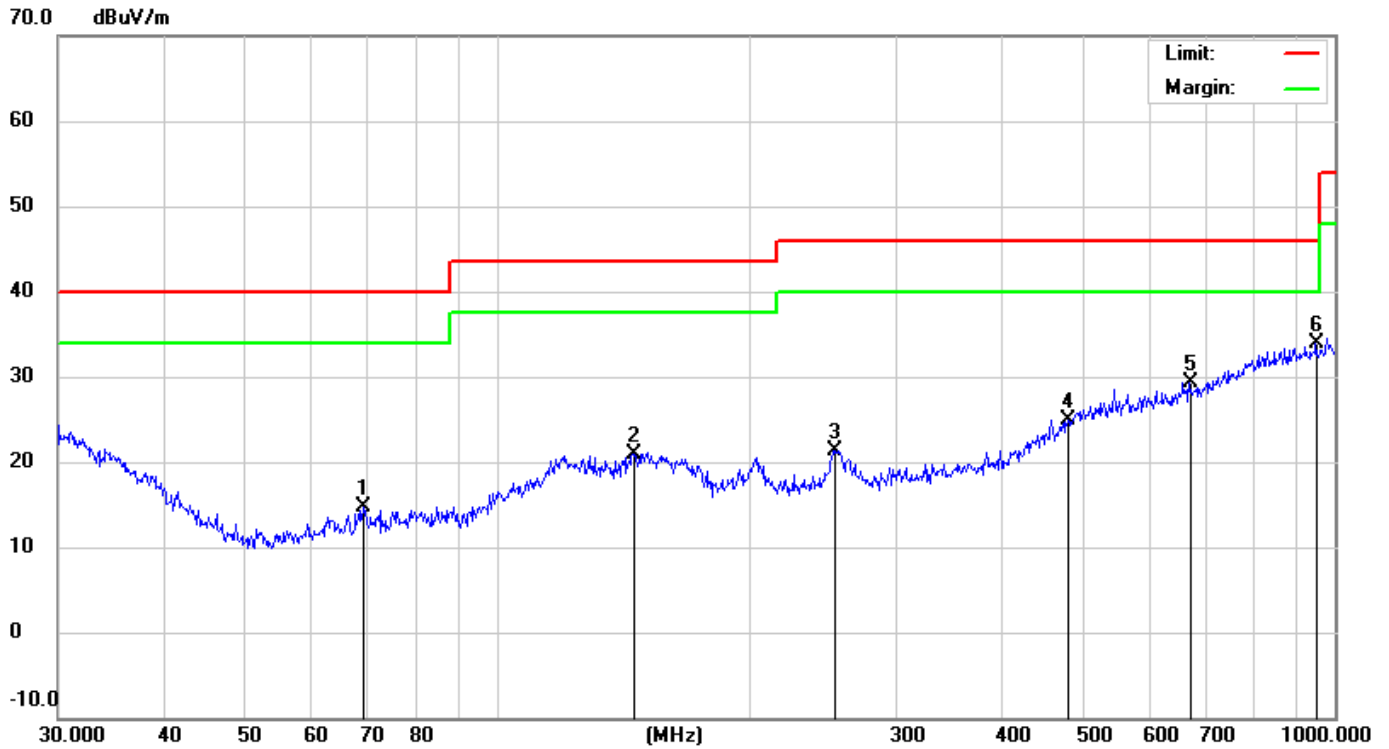
Emission Level= Correct Factor + Reading Level.

All reading are Quasi-Peak values.

The test data and the scanning waveform are attached within Appendix II.

# **APPENDIX I**

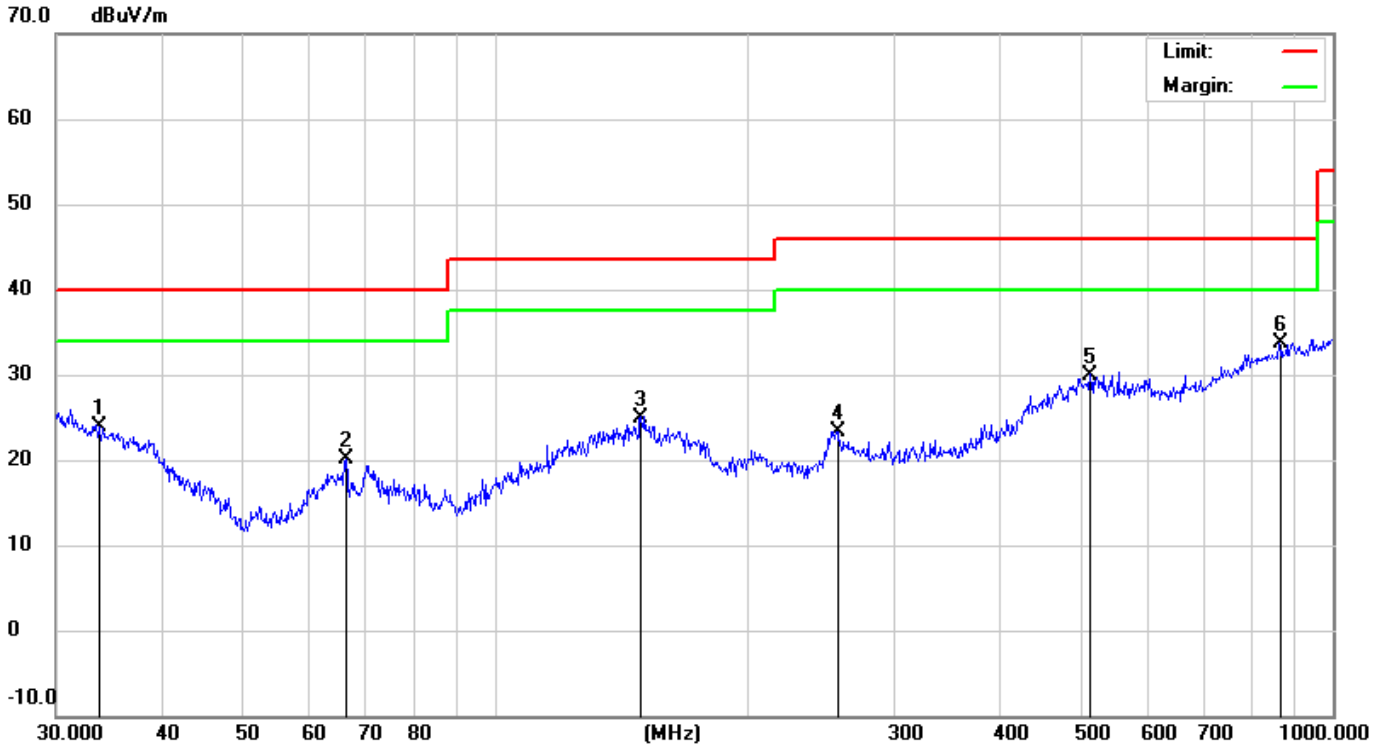
EUT:	Dash Cam	M/N:	Dash Cam 300
Mode:	Camera mode	Polarization:	Horizontal
Test by:	Leo	Power:	DC 5V by car charger
Temperature: / Humidity	27.0°C / 55.0%	Test date:	2022-04-15



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		69.3568	5.41	9.25	14.66	40.00	-25.34	200	31	
2		145.8611	3.74	17.16	20.90	43.50	-22.60	200	97	
3		252.9482	7.46	13.90	21.36	46.00	-24.64	200	143	
4		480.5276	3.17	21.67	24.84	46.00	-21.16	200	195	
5		670.4893	4.63	24.72	29.35	46.00	-16.65	200	206	
6	*	948.7610	4.39	29.49	33.88	46.00	-12.12	200	311	

\*:Maximum data    x:Over limit    !:over margin

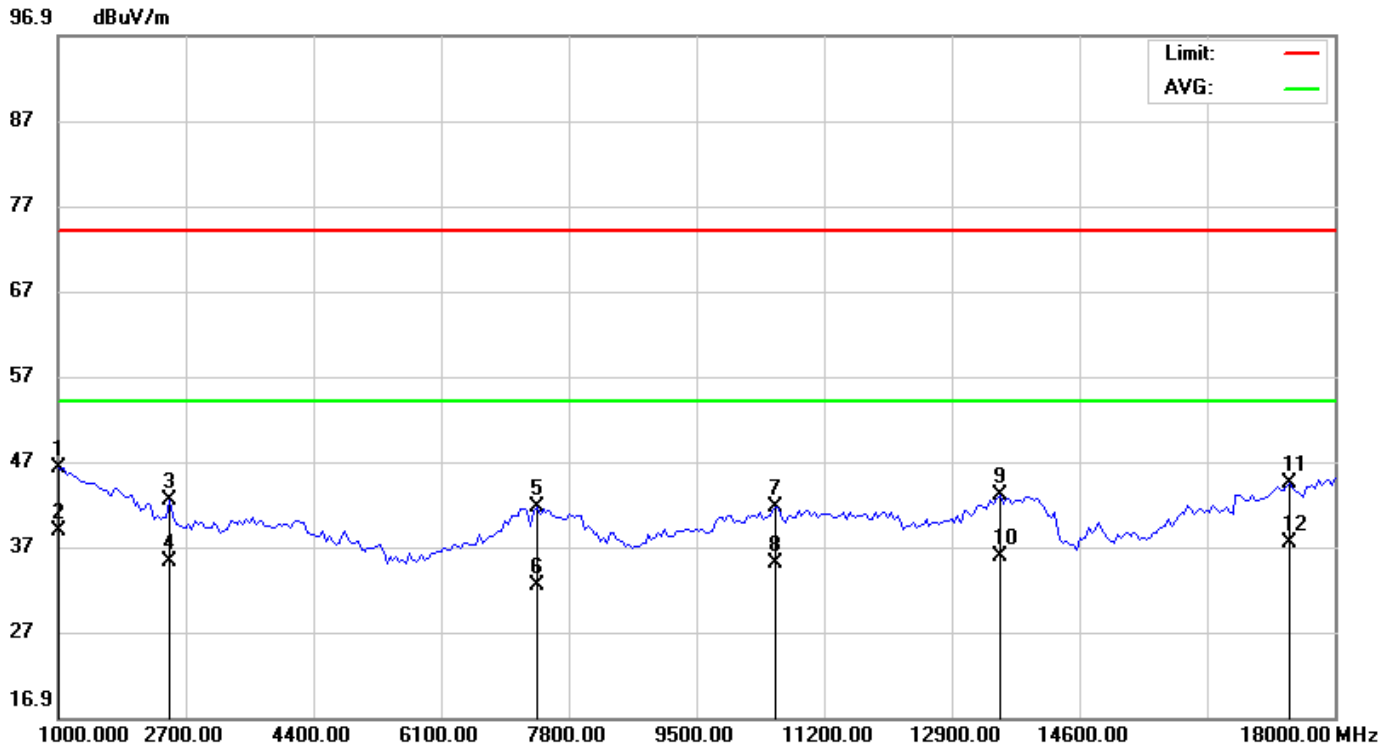
EUT:	Dash Cam	M/N:	Dash Cam 300
Mode:	Camera mode	Polarization:	Vertical
Test by:	Leo	Power:	DC 5V by car charger
Temperature: / Humidity	27.0°C / 55.0%	Test date:	2022-04-15



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		33.7986	5.61	18.32	23.93	40.00	-16.07	100	315	
2		66.4989	10.98	9.05	20.03	40.00	-19.97	100	248	
3		148.9625	7.27	17.56	24.83	43.50	-18.67	100	201	
4		256.5211	9.38	14.02	23.40	46.00	-22.60	100	167	
5		513.6331	7.15	22.85	30.00	46.00	-16.00	100	39	
6	*	863.0562	5.11	28.59	33.70	46.00	-12.30	100	12	

\*:Maximum data    x:Over limit    !:over margin

EUT:	Dash Cam	M/N:	Dash Cam 300
Mode:	Camera mode	Polarization:	Horizontal
Test by:	Leo	Power:	DC 5V by car charger
Temperature: / Humidity	27.0°C / 55.0%	Test date:	2022-04-15

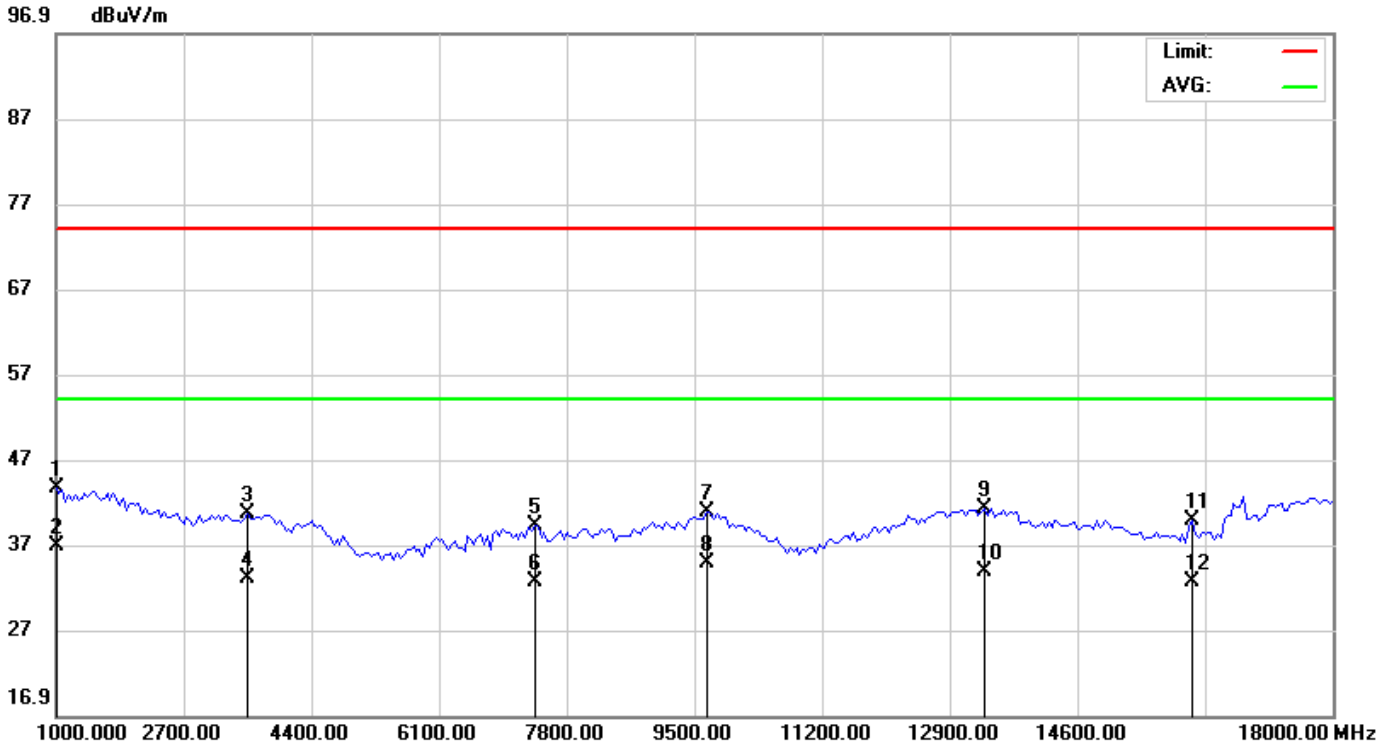


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Antenna Height cm	Table Degree degree	Comment
1		1000.000	55.88	-9.58	46.30	74.00	-27.70	peak			
2	*	1000.000	48.36	-9.58	38.78	54.00	-15.22	AVG			
3		2487.500	50.72	-8.29	42.43	74.00	-31.57	peak			
4		2487.500	43.54	-8.29	35.25	54.00	-18.75	AVG			
5		7375.000	44.48	-2.82	41.66	74.00	-32.34	peak			
6		7375.000	35.24	-2.82	32.42	54.00	-21.58	AVG			
7		10562.50	43.03	-1.45	41.58	74.00	-32.42	peak			
8		10562.50	36.45	-1.45	35.00	54.00	-19.00	AVG			
9		13537.50	39.49	3.43	42.92	74.00	-31.08	peak			
10		13537.50	32.29	3.43	35.72	74.00	-38.28	peak			
11		17405.00	39.67	4.72	44.39	74.00	-29.61	peak			
12		17405.00	32.65	4.72	37.37	54.00	-16.63	AVG			

\*:Maximum data    x:Over limit    !:over margin



EUT:	Dash Cam	M/N:	Dash Cam 300
Mode:	Camera mode	Polarization:	Vertical
Test by:	Leo	Power:	DC 5V by car charger
Temperature: / Humidity	27.0°C / 55.0%	Test date:	2022-04-15

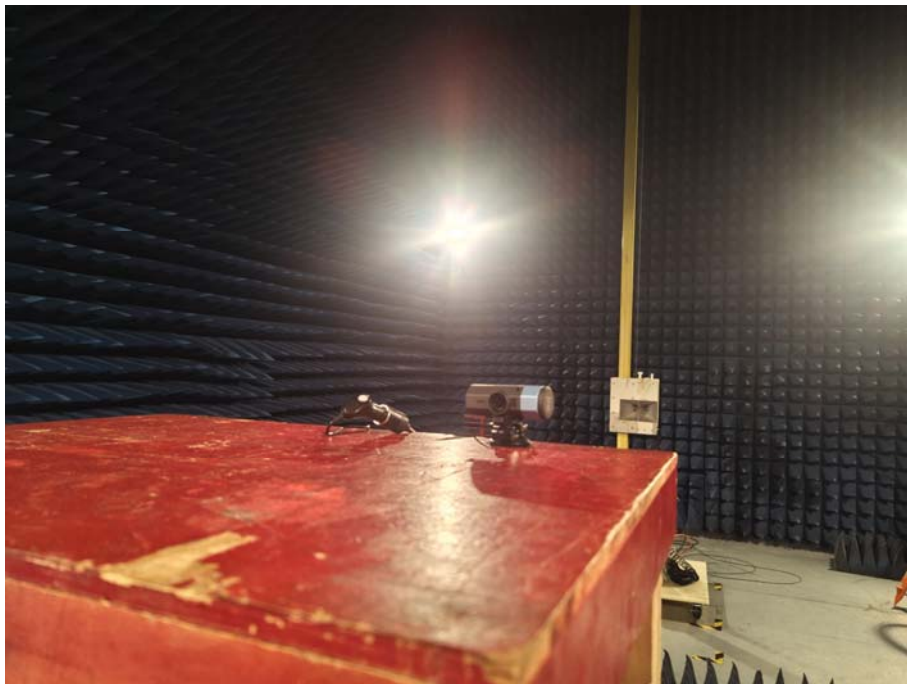
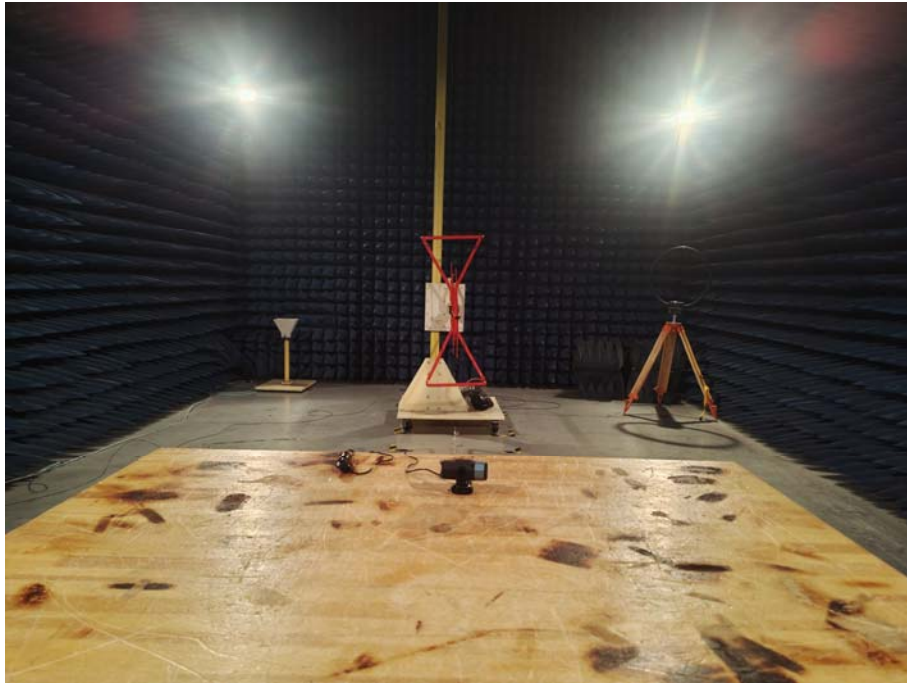


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Antenna Height cm	Table Degree	Comment
1		1000.000	53.21	-9.58	43.63	74.00	-30.37	peak			
2	*	1000.000	46.32	-9.58	36.74	54.00	-17.26	AVG			
3		3550.000	49.18	-8.50	40.68	74.00	-33.32	peak			
4		3550.000	41.58	-8.50	33.08	54.00	-20.92	AVG			
5		7375.000	42.05	-2.82	39.23	74.00	-34.77	peak			
6		7375.000	35.48	-2.82	32.66	54.00	-21.34	AVG			
7		9670.000	42.75	-2.00	40.75	74.00	-33.25	peak			
8		9670.000	36.85	-2.00	34.85	54.00	-19.15	AVG			
9		13367.500	37.90	3.22	41.12	74.00	-32.88	peak			
10		13367.500	30.54	3.22	33.76	54.00	-20.24	AVG			
11		16130.000	36.58	3.22	39.80	74.00	-34.20	peak			
12		16130.000	29.45	3.22	32.67	54.00	-21.33	AVG			

\*:Maximum data    x:Over limit    !:over margin

## **APPENDIX II**

## Radiated Test Setup Photograph



End of report