

# FCC 47 CFR PART 15 SUBPART B TEST REPORT

For

**Applicant: RM Acquisition LLC** 

Address: 9855 Woods Dr., Skokie, IL. 60077

**Product Name: Dash Cam** 

Model Number: Dash Cam 100

**Brand Name: Rand McNally** 

FCC ID: A4C-CAM100

Report No.: MTE/HNZ/A15121685

Date of Issue: Dec. 30, 2015

Issued by: Most Technology Service Co., Ltd.

Address: No.5, Langshan 2nd Rd., North Hi-Tech Industrial park, Nanshan,

Shenzhen, Guangdong, China

Tel: 86-755-86026850

Fax: 86-755-26013350

The report consists 22 pages in total. It may be duplicated completely for legal use with the approval of the applicant. It should not be reproduced except in full, without the written approval of our laboratory. The client should not use it to claim product endorsement by MOST. The test results in the report only apply to the tested sample. The test report shall be invalid without all the signatures of testing engineers, reviewer and approver.

FCC ID: A4C-CAM100

## Report No.: MTE/HNZ/A15121685 **TABLE OF CONTENTS**

1. VERIFICATION OF CONFORMITY	3
2. GENERAL INFORMATION	4
2.1 PRODUCT INFORMATION	4
2.2 OBJECTIVE	5
2.3 TEST STANDARDS AND RESULTS	5
2.4 ENVIRONMENTAL CONDITIONS	5
2.5 MEASUREMENT UNCERTAINTY	5
3. TEST METHODOLOGY	6
3. 1TEST FACILITY	6
3.2 GENERAL TEST PROCEDURES	6
3.3 FCC PART 15.205 RESTRICTED BANDS OF OPERATIONS	7
4 SETUP OF EQUIPMENT UNDER TEST	8
4.1 SETUP CONFIGURATION OF EUT	8
4.2 EUT configuration	8
4.3 Block Diagram of connection between EUT and simulation	8
4. 3 TEST EQUIPMENT LIST	9
5. 47 CFR PART 15B REQUIREMENTS	10
5.1 GENERAL INFORMATION	10
6. LINE CONDUCTED EMISSION TEST	11
6.1. LIMITS OF LINE CONDUCTED EMISSION TEST	11
6.2. BLOCK DIAGRAM OF TEST SETUP	11
6.3. Test procedure	12
6.4. Test Result	12
PASS	12
7. RADIATED EMISSION TEST	15
7.1. LIMITS OF RADIATED DISTURBANCES AT 3M DISTANCES FOR CLASS B	15
7.2 TEST DESCRIPTION	16
End of the report	22

#### 1. VERIFICATION OF CONFORMITY

**Equipment Under Test:** Dash Cam

Brand Name: Rand McNally

Model Number: Dash Cam 100

Series Number: N/A

FCC ID: A4C-CAM100

Applicant: RM Acquisition LLC

9855 Woods Dr., Skokie, IL. 60077

Manufacturer: Shenzhen Samoon Technology Co., Ltd

Floor 9, Building 7, Zhong Yun Tai Industry Park, Yingrenshi Road Crossing,

Shiyan Town, Bao'an District, Shenzhen, China

**Technical Standards:** FCC Part 15 B

File Number: MTE/HNZ/A15121685

**Date of test:** Dec. 03-29, 2015

**Deviation:** None **Condition of Test Sample:** Normal

The above equipment was tested by MOST for compliance with the requirements set forth in FCC Part 15 and the Technical Standards mentioned above. This said equipment in the configuration described in this report shows the maximum emission levels emanating from equipment and the level of the immunity endurance of the equipment are within the compliance requirements.

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

Tested by (+ signature):

Helen zhu

Dec. 03-29, 2015

Review by (+ signature):

Henry Chen

2015

Approved by (+ signature):

Yvette Zhou(Manager)

Dec. 30, 2015

#### 2. GENERAL INFORMATION

#### 2.1 PRODUCT INFORMATION

Description:	Dash Cam					
Model Name:	Dash Cam 100					
Series Number:	N/A					
Model Difference description:	N/A					
Power Supply:	1、DC 5V by car charging 2、DC 3.7V by battery					
Temperature Range:	-20°C ~ +50°C					

#### NOTE:

1. For a more detailed features description about the EUT, please refer to User's Manual.

#### 2.2 OBJECTIVE

Perform FCC Part 15 Subpart B tests for FCC Marking.

#### 2.3 TEST STANDARDS AND RESULTS

Test items and the results are as bellow:

EMISSION								
Standard Item Result Remarks								
FCC15.207	Conducted	PASS	Meet Class B limit					
FCC15.209	Radiated	PASS	Meet Class B limit					

Note: 1. The test result judgment is decided by the limit of measurement standard

2. The information of measurement uncertainty is available upon the customer's request.

#### 2.4 ENVIRONMENTAL CONDITIONS

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

- Temperature: 15-35°C - Humidity: 30-60 %

- Atmospheric pressure: 86-106 kPa

#### 2.5 MEASUREMENT UNCERTAINTY

The uncertainty is calculated using the methods suggested in the "Guide to the Expression of Uncertainty in Measurement" (GUM) published by ISO.

The report uncertainty of measurement y±U, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2,Providing a level of confidence of approximately 95%

- Uncertainty of Conducted Emission, Uc = ±1.8dB
- Uncertainty of Radiated Emission, Uc = ±3.2dB

#### 3. TEST METHODOLOGY

#### 3. 1TEST FACILITY

Test Site: Most Technology Service Co., Ltd.

Location: No.5, Langshan 2nd Rd, North Hi-Tech Industrial park, Nanshan, Shenzhen,

Guangdong, China

Description: There is one 3m semi-anechoic an area test sites and two line conducted labs for final

test. The Open Area Test Sites and the Line Conducted labs are constructed and calibrated to meet the FCC requirements in documents ANSI C63.4:2009 and CISPR

16 requirements. The FCC Registration Number is 490827.

The CNAS Registration Number is CNAS L3573.

Site Filing: The site description is on file with the Federal Communications

Commission, 7435 Oakland Mills Road, Columbia, MD 21046.

Instrument Tolerance: All measuring equipment is in accord with ANSI C63.4:2009 and CISPR 16

requirements that meet industry regulatory agency and accreditation agency

requirement.

Ground Plane: Two conductive reference ground planes were used during the Line Conducted

Emission, one in vertical and the other in horizontal. The dimensions of these ground planes are as below. The vertical ground plane was placed distancing 40 cm to the rear of the wooden test table on where the EUT and the support equipment were placed during test. The horizontal ground plane projected 50 cm beyond the footprint of the EUT system and distanced 80 cm to the wooden test table. For Radiated Emission Test, one horizontal conductive ground plane extended at least 1m beyond the periphery of the EUT and the largest measuring antenna, and covered the entire area between the EUT and the antenna. It has no holes or gaps having longitudinal

dimensions larger than one-tenth of a wavelength at the highest frequency of

measurement up to 1GHz.

#### 3.2 GENERAL TEST PROCEDURES

#### **Conducted Emissions**

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 13.1.4.1 of ANSI C63.4:2009, Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-peak and average detector modes.

#### **Radiated Emissions**

The EUT is placed on a turn table, which is 0.8 m above ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna, which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the maximum emissions, exploratory radiated emission measurements were made according to the requirements in Section 13.1.4.1 of ANSI C63.4:2009.

#### 3.3 FCC PART 15.205 RESTRICTED BANDS OF OPERATIONS

(a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

0.090 - 0.110       16.42 - 16.423       399.9 - 410       4.5 - 5.15         10.495 - 0.505       16.69475 - 16.69525       608 - 614       5.35 - 5.46         2.1735 - 2.1905       16.80425 - 16.80475       960 - 1240       7.25 - 7.75         4.125 - 4.128       25.5 - 25.67       1300 - 1427       8.025 - 8.5         4.17725 - 4.17775       37.5 - 38.25       1435 - 1626.5       9.0 - 9.2         4.20725 - 4.20775       73 - 74.6       1645.5 - 1646.5       9.3 - 9.5         6.215 - 6.218       74.8 - 75.2       1660 - 1710       10.6 - 12.7         6.26775 - 6.26825       108 - 121.94       1718.8 - 1722.2       13.25 - 13.4         6.31175 - 6.31225       123 - 138       2200 - 2300       14.47 - 14.5         8.291 - 8.294       149.9 - 150.05       2310 - 2390       15.35 - 16.2	MHz	MHz	MHz	GHz
8.362 - 8.366       156.52475 - 156.52525       2483.5 - 2500       17.7 - 21.4         8.37625 - 8.38675       156.7 - 156.9       2655 - 2900       22.01 - 23.12         8.41425 - 8.41475       162.0125 - 167.17       3260 - 3267       23.6 - 24.0         12.29 - 12.293       167.72 - 173.2       3332 - 3339       31.2 - 31.8         12.51975 - 12.52025       240 - 285       3345.8 - 3358       36.43 - 36.5         12.57675 - 12.57725       322 - 335.4       3600 - 4400       (2)	0.090 - 0.110  10.495 - 0.505 2.1735 - 2.1905 4.125 - 4.128 4.17725 - 4.17775 4.20725 - 4.20775 6.215 - 6.218 6.26775 - 6.26825 6.31175 - 6.31225 8.291 - 8.294 8.362 - 8.366 8.37625 - 8.38675 8.41425 - 8.41475 12.29 - 12.293 12.51975 - 12.52025	16.42 - 16.423 16.69475 - 16.69525 16.80425 - 16.80475 25.5 - 25.67 37.5 - 38.25 73 - 74.6 74.8 - 75.2 108 - 121.94 123 - 138 149.9 - 150.05 156.52475 - 156.52525 156.7 - 156.9 162.0125 - 167.17 167.72 - 173.2 240 - 285	399.9 - 410 608 - 614 960 - 1240 1300 - 1427 1435 - 1626.5 1645.5 - 1646.5 1660 - 1710 1718.8 - 1722.2 2200 - 2300 2310 - 2390 2483.5 - 2500 2655 - 2900 3260 - 3267 3332 - 3339 3345.8 - 3358	4.5 - 5.15 5.35 - 5.46 7.25 - 7.75 8.025 - 8.5 9.0 - 9.2 9.3 - 9.5 10.6 - 12.7 13.25 - 13.4 14.47 - 14.5 15.35 - 16.2 17.7 - 21.4 22.01 - 23.12 23.6 - 24.0 31.2 - 31.8

<sup>&</sup>lt;sup>1</sup> Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

(b) Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

<sup>&</sup>lt;sup>2</sup> Above 38.6

#### **4 SETUP OF EQUIPMENT UNDER TEST**

#### **4.1 SETUP CONFIGURATION OF EUT**

See test photographs attached in Appendix 1 for the actual connections between EUT and support equipment.

### 4.2 EUT configuration

#### Interface cables:

Interface cable	Length	Туре	Line		Line termination
	[m]	7.	shielded	unshielded	
Power cord	1.5	three wires		$\boxtimes$	DC source
Power cord	1.5	three wires		$\boxtimes$	PC
Power cord	1.5	three wires			Printer
VGA Cord	1.8	Video type			PC

#### Peripheral devices:

List out all peripheral not inclued with EuT used during the test

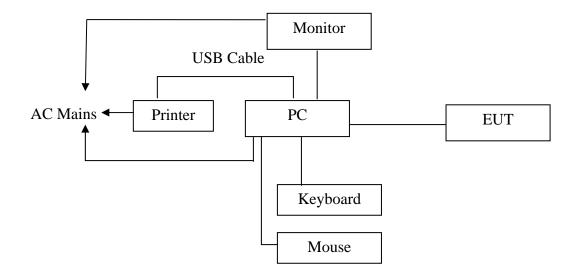
Kind of equipment	Manufacturer	Model no.
DC source	QJE	QJ6003S
Mouse	Lenovo	M-UAE96
Keyboard	HP	SK-2880
PC	Lenovo	SS05750640
Printer	Canon	L11121E
Monitor	PHILIPS	HEW8220Q

#### Remark:

All the equipment/cables were placed in the worst-case [-configuration to maximize the emission during the test.

Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use

#### 4.3 Block Diagram of connection between EUT and simulation



Page 8 of 22

#### 4. 3 TEST EQUIPMENT LIST

**Instrumentation:** The following list contains equipment used at MOST for testing. The equipment conforms to the CISPR 16-1 / ANSI C63.2 Specifications for Electromagnetic Interference and Field Strength Instrumentation from 10 kHz to 1.0 GHz or above.

No.	Equipment	Manufacturer	Model No.	S/N	Calibration due date
1	Test Receiver	Rohde & Schwarz	ESCI	100492	2015/03/31
2	L.I.S.N.	Rohde & Schwarz	ENV216	100093	2015/03/31
3	Coaxial Switch	Anritsu Corp	MP59B	6200283933	2015/03/31
4	Terminator	Hubersuhner	50Ω	No.1	2015/03/31
5	RF Cable	SchwarzBeck	N/A	No.1	2015/03/31
6	Test Receiver	Rohde & Schwarz	ESPI	101202	2015/03/31
7	Bilog Antenna	Sunol	JB3	A121206	2015/03/31
8	Test Antenna - Horn	SCHWARZBECK	BBHA9120D	756	2015/03/31
9	Test Antenna - Bi-Log	Schwarzbeck	VULB 9163		2015/03/31
10	Cable	Resenberger	N/A	NO.1	2015/03/31
11	Cable	SchwarzBeck	N/A	NO.2	2015/03/31
12	Cable	SchwarzBeck	N/A	NO.3	2015/03/31
13	DC Power Filter	DuoJi	DL2×30B	N/A	2015/03/31
14	Single Phase Power Line Filter	DuoJi	FNF 202B30	N/A	2015/03/31
15	3 Phase Power Line Filter	DuoJi	FNF 402B30	N/A	2015/03/31
16	Test Receiver	Test Receiver Rohde & Schwarz ESCI		100492	2015/03/31
17	Absorbing Clamp	Luthi	MDS21	3635	2015/03/31
18	Coaxial Switch	Anritsu Corp	MP59B	6200283933	2015/03/31
19	AC Power Source	Kikusui	AC40MA	LM003232	2015/03/31
	DC Power Source	QJE	QJ6003S		2015/03/31
20	Test Analyzer	Kikusui	KHA1000	LM003720	2015/03/31
21	Line Impendence Network	Kikusui	LIN40MA- PCR-L	LM002352	2015/03/31
22	ESD Tester	Kikusui	KES4021	LM003537	2015/03/31
23	EMCPRO System	EM Test	UCS-500-M4	V0648102026	2015/03/31
24	Amplifier	A&R	150W1000	301584	2015/03/31
25	CDN	FCC	FCC-801-M2-25	47	2015/03/31
26	CDN	FCC	FCC-801-M3-25	107	2015/03/31
27	EM Injection Clamp	FCC	F-203I-23mm	403	2015/03/31
28	RF Cable	MIYAZAKI	N/A	No.1/No.2	2015/03/31
29	Universal Radio Communication Tester	ROHDE&SCHWARZ	CMU200	0304789	2015/03/31
30	Telecommunication Antenna	European Antennas	PSA 75301R/170	0304213	2015/03/31

NOTE: Equipments listed above have been calibrated and are in the period of validation.

#### 5. 47 CFR PART 15B REQUIREMENTS

#### **5.1 GENERAL INFORMATION**

The field strength of radiation emission was measured in the following position: EUT stand-up position (Y axis), lie-down position (X, Z axis).

The following data show only with the worst case setup.

The worst case of X axis was reported.

Based on client request, all normal using modes of the normal function were tested but only the worst test data of the worst mode is reported by this report.

#### **EUT Test Procedure:**

- 1. Put EUT on the test table.
- 2. Power on the EUT.
- 3. Make sure the EUT operates normally during the test.

#### Mode 1: Running

During the measurement, A Communication link was established by EUT between two ports. The EUT was playing the data exchange function.

The EUT configuration of the emission test was PC+ Mouse + Keyboard + Printer + Monitor + EUT.

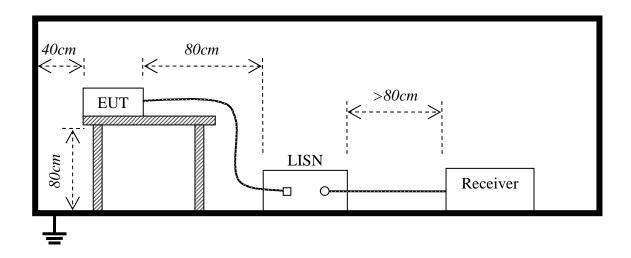
#### 6. LINE CONDUCTED EMISSION TEST

#### 6.1. LIMITS OF LINE CONDUCTED EMISSION TEST

Fraguanay	Maximum RF Line Voltage					
Frequency	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.

#### 6.2. BLOCK DIAGRAM OF TEST SETUP



<sup>2.</sup> The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz

#### 6.3. Test procedure

1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment.

- 2. Exploratory measurements were made to identify the frequency of the emission that has the highest amplitude relative to the limit;
- 3. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs).
- 4. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10: 2013 on conducted measurement.
- 5. The bandwidth of test receiver (ESCI) set at 9 KHz.
- 6. All data was recorded in the Quasi-peak and average detection mode.

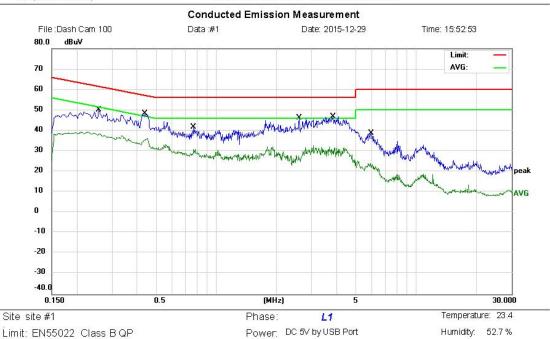
#### 6.4. Test Result

**PASS** 



Address:No.5,Langshan 2nd Rd., North Hi-Tech Industrial park (Alamsgrationigh Ottithen

Tel: 0755-86026850 Fax: 0755-26013350



Limit: EN55022 Class BQP

EUT: Dash Cam M/N: Dash Cam 100 Mode: Date transmitting

Note:

No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
	MHz	dBuV	dB	dBuV	dBu√	dB	Detector	Comment
1	0.2580	38.42	11.61	50.03	61.49	-11.46	QР	
2	0.2580	26.86	11.61	38.47	51.49	-13.02	AVG	
3 *	0.4420	37.96	10.39	48.35	57.02	-8.67	QP	
4	0.4420	25.13	10.39	35.52	47.02	-11.50	AVG	
5	0.7740	31.73	10.00	41.73	56.00	-14.27	QP	
6	0.7740	20.91	10.00	30.91	46.00	-15.09	AVG	
7	2.6060	36.54	9.61	46.15	56.00	-9.85	QP	
8	2.6060	16.73	9.61	26.34	46.00	-19.66	AVG	
9	3.8620	36.00	10.86	46.86	56.00	-9.14	QР	
10	3.8620	18.13	10.86	28.99	46.00	-17.01	AVG	
11	5.9780	27.29	11.41	38.70	60.00	-21.30	QР	
12	5.9780	10.62	11.41	22.03	50.00	-27.97	AVG	

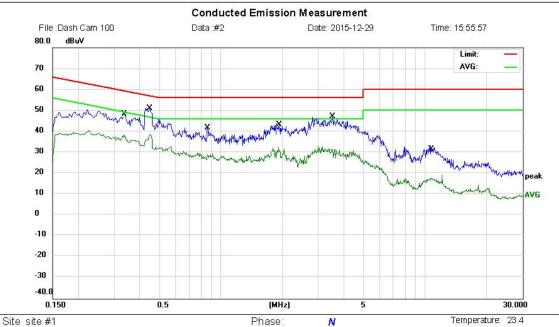
<sup>\*:</sup>Maximum data x:Over limit !:over margin

Engineer Signature: huzongyu



Address:No.5,Langshan 2nd Rd., North Hi-Tech Industrial park (ស្រារវាងសាច្ចិក់ខ្លាំងវាង១

Tel: 0755-86026850 Fax: 0755-26013350



Power: DC 5V by USB Port

.

Limit: EN55022 Class BQP

EUT: Dash Cam M/N: Dash Cam 100 Mode: Date transmitting

Note:

No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
	MHz	dBu√	dB	dBu√	dBu√	dB	Detector	Comment
1	0.3392	37.27	11.07	48.34	59.22	-10.88	QP	
2	0.3392	27.04	11.07	38.11	49.22	-11.11	AVG	
3 *	0.4500	40.59	10.33	50.92	56.87	-5.95	QР	
4	0.4500	28.04	10.33	38.37	46.87	-8.50	AVG	
5	0.8660	31.72	10.00	41.72	56.00	-14.28	QР	
6	0.8660	19.05	10.00	29.05	46.00	-16.95	AVG	
7	1.9220	23.25	9.08	32.33	46.00	-13.67	AVG	
8	1.9380	34.28	9.06	43.34	56.00	-12.66	QP	
9	3.5100	36.64	10.51	47.15	56.00	-8.85	QР	
10	3.5100	20.77	10.51	31.28	46.00	-14.72	AVG	
11	10.7660	22.45	9.00	31.45	60.00	-28.55	QP	
12	10.7660	8.68	9.00	17.68	50.00	-32.32	AVG	

<sup>\*:</sup>Maximum data x:Over limit !:over margin

Engineer Signature: huzongyu

Humidity: 52.7 %

#### 7. RADIATED EMISSION TEST

#### 7.1. LIMITS OF RADIATED DISTURBANCES AT 3M DISTANCES FOR CLASS B

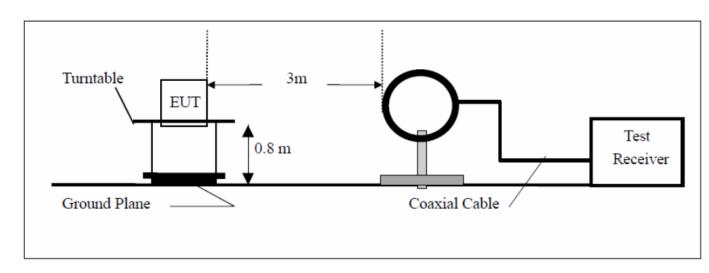
According to FCC section 15.209 (a), except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (µV/m)	Measurement Distance (m)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

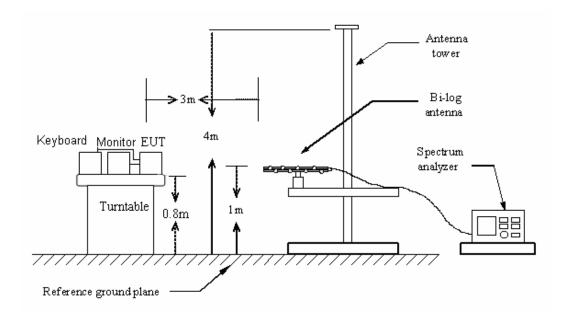
As shown in FCC section 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector. When average radiated emission measurements are specified in this part, including emission measurements below 1000MHz, there also is a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20dB above the maximum permitted average limit for the frequency being investigated unless a different peak emission limit is otherwise specified in the rules.

#### 7.2 TEST DESCRIPTION

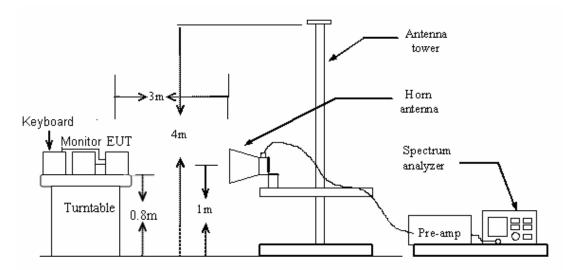
1) For radiated emissions from 9kHz to 30MHz



2) For radiated emissions from 30MHz to1GHz



#### 3) For radiated emissions above 1GHz



#### 7.3 Test Procedure:

1. For frequencies above 1GHz, the frequencies of maximum emission was recorded by manually positioning

the antenna close to the EUT and by moving the antenna over all sides of the EUT while observing a spectral display.

- 2. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- 3. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- 4. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- 5. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rote table was turned from 0 degrees to 360 degrees to find the maximum reading.

6. For frequencies above 1GHz, horn antenna mouth should face to the EUT all the time when rise or fall.

7. Set the spectrum analyzer in the following setting as:

Below 1GHz: PEAK: RBW=100 kHz / VBW=300 kHz / Sweep=AUTO QP: RBW=120 kHz /

Sweep=AUTO

Above 1GHz: (a)PEAK: RBW=VBW=1MHz / Sweep=AUTO

(b)AVERAGE: RBW=1MHz / VBW=10Hz / Sweep=AUTO

The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

8. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

#### 7.4 TEST RESULT

Preliminary Radiated Emission Test								
Frequency Range Investigated 30 MHz TO 1000 MHz								
Mode of operation	Date	Report No.	Data#	Worst Mode				
Date transmitting	2015-12-28	MTE/HNZ/A15121685	Dash Cam 100_1_(H, V)	$\boxtimes$				

#### Note:

The test modes were carried out for all operation modes, The worst data was shown as the follow.

#### **Below 1GHz**



Address:No.5,Langshan 2nd Rd., North Hi-Tech Industrial park (Alaansyrahonigh Ohathaen

Tel: 0755-86026850 Fax: 0755-26013350

#### Radiated Emission Measurement File:Dash Cam 100 Date: 2015-12-28 Time: 10:04:44 dBuV/m 70.0 Limit: 60 50 40 30 20 10 0 -10.0 30.000 50 60 70 80 (MHz) 400 500 600 700 1000.000 Site site #1 Polarization: Vertical Temperature: 24 Humidity: 50.5 % Power: DC 5V by Car charger

Limit: FCC Part15 B 3M Radiation

EUT: Dash Cam

M/N: Dash Cam 100 Mode: Date transmitting

Note:

No.	Mk		Reading Level	Correct Factor	Measure- ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBu∨/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	63.9827	24.39	11.16	35.55	40.00	-4.45	QP			
2		98.1418	20.06	12.86	32.92	43.50	-10.58	QP			
3		140.8350	18.19	17.14	35.33	43.50	-8.17	QP			
4	ļ	177.5091	21.32	16.82	38.14	43.50	-5.36	QP			
5		495.9344	17.70	21.52	39.22	46.00	-6.78	QP			
6		570.6100	16.21	22.90	39.11	46.00	-6.89	QP			

Engineer Signature:

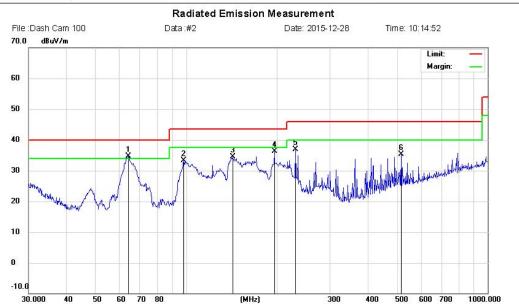
Distance: 3m

<sup>\*:</sup>Maximum data x:Over limit | !:over margin



Address:No.5,Langshan 2nd Rd., North Hi-Tech Industrial park (Alamsgrabongh Ottichen

Tel: 0755-86026850 Fax: 0755-26013350



Site site #1

Limit: FCC Part15 B 3M Radiation

EUT: Dash Cam M/N: Dash Cam 100 Mode: Date transmitting

Note:

Power: DC 5V by Car charger

Polarization: Horizontal Temperature: 24 Humidity: 50.5 %

Distance: 3m

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBu∀/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	64.4330	23.42	11.20	34.62	40.00	-5.38	QP			
2		98.1418	20.35	12.86	33.21	43.50	-10.29	QP			
3	,	142.3243	17.42	17.04	34.46	43.50	-9.04	QP			
4	,	196.5098	19.22	17.13	36.35	43.50	-7.15	QP			
5	2	230.9067	20.33	16.56	36.89	46.00	-9.11	QP			
6	5	515.4373	13.61	21.66	35.27	46.00	-10.73	QP			

Engineer Signature: hzy

<sup>\*:</sup>Maximum data x:Over limit !:over margin

#### **Above 1GHz:**



Address:No.5,Langshan 2nd Rd., North Hi-Tech Industrial park (Alaansdrabon@h@haihan

Tel: 0755-86026850 Fax: 0755-26013350

#### Radiated Emission Measurement File:Dash Cam 100 Data:#15 Date: 2015-12-26 Time: 10:34:21 dBuV/m Limit AVG: 87 77 67 57 47 37 27 16.9 1000.000 2700.00 14600.00 4400.00 6100.00 7800.00 11200.00 12900.00 9500.00 18000.00 MHz Temperature: 24.0

Polarization:

Power: DC 5V by Car charger

Horizontal

Distance: 3m

Humidity:

51.1 %

Site site #1

Limit: FCC 1000M-18000M PEAK

EUT: Dash Cam M/N: Dash Cam 100 Mode: Date transmitting

Note

12

Reading Correct Measure-Antenna Table Limit Over No. Mk. Frea Level Factor ment Height Degree dBu∀/m MHz dBu√ dB dBuV/m dΒ Detector cm degree Comment 1807.500 47.46 -7.53 39.93 74.00 -34.07 1 peak 2 1807.500 40.01 -7.53 32.48 54.00 -21.52 AVG 74.00 3 4740.000 44.78 -6.49 38.29 -35.71 peak 4 4740.000 35.13 -6.49 28.64 54.00 -25.36 AVG 5 8310.000 40.19 -0.60 39.59 74.00 -34.41 peak 8310.000 32.43 -0.60 31.83 54.00 -22.17 AVG 6 74.00 7 10307.50 42.31 -1.81 40.50 -33.50 peak 8 10307.50 35.74 -1.81 33.93 54.00 -20.07 AVG 9 12985.00 39.38 2.60 41.98 74.00 -32.02 peak 12985.00 10 30.64 2.60 33.24 54.00 -20.76 AVG 11 15705.00 37.90 2.23 40.13 74.00 -33.87 peak 15705.00 2.23 54.00 AVG

-22.31

31.69

29.46

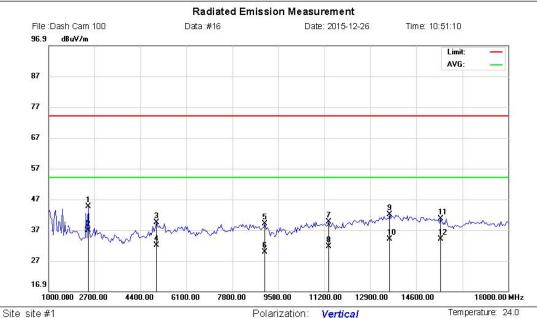
Engineer Signature: sunny

<sup>!:</sup>over margin \*:Maximum data x:Over limit



Address:No.5,Langshan 2nd Rd., North Hi-Tech Industrial park முன்னிர்கள்கள்

Tel: 0755-86026850 Fax: 0755-26013350



Limit: FCC 1000M-18000M PEAK

EUT: Dash Cam M/N: Dash Cam 100

Mode: Date transmitting

Note:

Polarization: Vertical

Power: DC 5V by Car charger Humidity. 51.1 %

Distance: 3m

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBu∀/m	dBuV/m	dB	Detector	cm	degree	Comment
1		2487.500	52.85	-8.29	44.56	74.00	-29.44	peak			
2	*	2487.500	45.03	-8.29	36.74	54.00	-17.26	AVG			
3		4995.000	43.23	-3.85	39.38	74.00	-34.62	peak			
4		4995.000	35.84	-3.85	31.99	54.00	-22.01	AVG			
5		8990.000	39.60	-0.67	38.93	74.00	-35.07	peak			
6	-	8990.000	30.43	-0.67	29.76	54.00	-24.24	AVG			
7		11370.00	40.52	-0.94	39.58	74.00	-34.42	peak			
8		11370.00	32.61	-0.94	31.67	54.00	-22.33	AVG			
9		13622.50	38.54	3.44	41.98	74.00	-32.02	peak			
10		13622.50	30.54	3.44	33.98	54.00	-20.02	AVG			
11		15492.50	38.63	2.06	40.69	74.00	-33.31	peak			
12		15492.50	31.91	2.06	33.97	54.00	-20.03	AVG			

<sup>\*:</sup>Maximum data x:Over limit !:over margin

Engineer Signature: sunny