

## **TEST REPORT**

Product Name : Dash Cam

Brand Mark : DDPAI

Model No. : N1 Dual

Report Number : BLA-EMC-202306-A2002

FCC ID : 2AJFX-A2SPRO

Date of Sample Receipt : 2023/6/5

**Date of Test** : 2023/6/5 to 2023/6/27

**Date of Issue** : 2023/6/27

Test Standard : 47 CFR Part 15, Subpart C 15.247

Test Result : Pass

#### Prepared for:

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Prepared by:

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Approved by:

Jozu 13 lue Theng

Date:





Page 2 of 85

#### **REPORT REVISE RECORD**

Version No.	Date	Description
00	2023/6/27	Original





#### **TABLE OF CONTENTS**

1	TI	TEST SUMMARY5		
2	G	GENERAL INFORMATION		
3	G	GENERAL DESCRIPTION OF E.U.T.		
4	ті	EST ENVIRONMENT	8	
5		EST MODE		
		IEASUREMENT UNCERTAINTY		
6		ESCRIPTION OF SUPPORT UNIT		
7				
8		ABORATORY LOCATION		
9	TI	EST INSTRUMENTS LIST	10	
1(	) A	NTENNA REQUIREMENT	12	
	10.1	Conclusion	12	
11		ADIATED SPURIOUS EMISSIONS		
•				
	11.1			
	<ul><li>11.2</li><li>11.3</li></ul>			
	11.4			
13	) P	ADIATED EMISSIONS WHICH FALL IN THE RESTRICTED BANDS		
14				
	12.1			
	12.2			
	12.3	PROCEDURE TEST DATA		
13	3 C	ONDUCTED SPURIOUS EMISSIONS	41	
	13.1	LIMITS	41	
	13.2 BLOCK DIAGRAM OF TEST SETUP		41	
	13.3	TEST Data	41	
14	4 C	ONDUCTED BAND EDGES MEASUREMENT	42	
	14.1	LIMITS	42	
	14.2	BLOCK DIAGRAM OF TEST SETUP	42	
	14.3	TEST DATA	42	



Page 4 of 85

15 MII	NIMUM 6DB BANDWIDTH	43
15.1	LIMITS	43
15.2	BLOCK DIAGRAM OF TEST SETUP	43
15.3	TEST DATA	43
16 PC	OWER SPECTRUM DENSITY	44
16.1	LIMITS	44
16.2	BLOCK DIAGRAM OF TEST SETUP	44
16.3	TEST DATA	44
17 CC	ONDUCTED PEAK OUTPUT POWER	4
17.1	LIMITS	45
17.2	BLOCK DIAGRAM OF TEST SETUP	45
17.3	TEST DATA	46
18 AP	PPENDIX	47
APPENI	DIX A: PHOTOGRAPHS OF TEST SETUP	84
ΔΡΡΕΝΙ	DIX B. PHOTOGRAPHS OF FUT	84



Page 5 of 85

## 1 TEST SUMMARY

Test item	Test Requirement	Test Method	Class/Severity	Result
Antenna Requirement	47 CFR Part 15, Subpart C 15.247	N/A	47 CFR Part 15, Subpart C 15.203 & 15.247(c)	Pass
Radiated Spurious Emissions	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 6.4,6.5,6.6	47 CFR Part 15, Subpart C 15.209 & 15.247(d)	Pass
Radiated Emissions which fall in the restricted bands	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 6.10.5	47 CFR Part 15, Subpart C 15.209 & 15.247(d)	Pass
Conducted Spurious Emissions	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 7.8.6 & Section 11.11	47 CFR Part 15, Subpart C 15.247(d)	Pass
Conducted Band Edges Measurement	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 7.8.8 & Section 11.13.3.2	47 CFR Part 15, Subpart C 15.247(d)	Pass
Minimum 6dB Bandwidth	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 11.8.1	47 CFR Part 15, Subpart C 15.247a(2)	Pass
Power Spectrum Density	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 11.10.2	47 CFR Part 15, Subpart C 15.247(e)	Pass
Conducted Peak Output Power	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 7.8.5 & Section 11.9.1	47 CFR Part 15, Subpart C 15.247(b)(1) & 15.247(b)(3)	Pass
Conducted Emissions at DC Power Line (150kHz-30MHz)	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 6.2	47 CFR Part 15, Subpart C 15.207	N/A

Remark:

N/A: Not Applicable



Page 6 of 85

#### 2 GENERAL INFORMATION

Applicant	DDPAI Technology Co., Ltd			
Address	28F, Building 8A, International Innovation Valley, Nanshan District, Shenzhen, Guangdong Province			
Manufacturer	DDPAI Technology Co., Ltd			
Address	28F, Building 8A, International Innovation Valley, Nanshan District, Shenzhen, Guangdong Province			
Factory	DDPai vision equipment Co.,Ltd			
Address	Building A, Futai Industrial Park, Qingfeng south Road, Keyuancheng, Tangxia Town, Dongguan city, Guangdong province, China			
Product Name	Dash Cam			
Test Model No.	N1 Dual			

## 3 GENERAL DESCRIPTION OF E.U.T.

Hardware Version	N/A	
Software Version	N/A	
Operation Frequency:	802.11b/g/n(HT20): 2412MHz to 2462MHz	
Modulation Type:	802.11b: DSSS (CCK, DQPSK, DBPSK) 802.11g/n: OFDM (64QAM, 16QAM, QPSK, BPSK)	
Channel Spacing:	5MHz	
Number of Channels:	802.11b/g/n(HT20):11	
Antenna Type:	Internal Antenna	
Antenna Gain:	4.15dBi (Provided by the applicant)	



Page 7 of 85

Operation Frequency each of channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2412MHz	4	2427MHz	7	2442MHz	10	2457MHz
2	2417MHz	5	2432MHz	8	2447MHz	11	2462MHz
3	2422MHz	6	2437MHz	9	2452MHz		

#### Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Test channel	Frequency (MHz)
rest channel	802.11b/802.11g/802.11n(HT20)
Lowest channel	2412MHz
Middle channel	2437MHz
Highest channel	2462MHz



Page 8 of 85

#### **4 TEST ENVIRONMENT**

Environment	Temperature	Voltage
Normal	25°C	5.5Vdc

#### 5 TEST MODE

TEST MODE	TEST MODE DESCRIPTION	
Transmitting	Keep the EUT in continuously transmitting mode with modulation. (The duty cycle is	
mode	greater than 98%)	
Remark: Full battery is used during all test except ac conducted emission, 802,11b/g/n(HT20) all have		

Remark: Full battery is used during all test except ac conducted emission, 802.11b/g/n(HT20) all have been tested, During the radiated spurious emission test, 802.11b/11g/11nH20 modulations all have been tested, only worse case 802.11b is reported.

#### **6 MEASUREMENT UNCERTAINTY**

Parameter	Expanded Uncertainty (Confidence of 95%)
Radiated Emission(9kHz-30MHz)	±4.34dB
Radiated Emission(30Mz-1000MHz)	±4.24dB
Radiated Emission(1GHz-18GHz)	±4.68dB
AC Power Line Conducted Emission(150kHz-30MHz)	±3.45dB

Parameter	Expanded Uncertainty (Confidence of 95%)
Occupied Channel Bandwidth	±5 %
RF output power, conducted	±1.5 dB
Power Spectral Density, conducted	±3.0 dB
Unwanted Emissions, conducted	±3.0 dB
Temperature	±3 °C
Supply voltages	±3 %
Time	±5 %
Unwanted Radiated Emission (30MHz ~ 1000MHz)	±4.35 dB
Unwanted Radiated Emission (1GHz ~ 18GHz)	±4.44 dB



Page 9 of 85

## 7 DESCRIPTION OF SUPPORT UNIT

Device Type	Manufacturer	Model Name	Serial No.	Remark	
N/A	N/A	N/A	N/A	N/A	

#### **8 LABORATORY LOCATION**

All tests were performed at:

BlueAsia of Technical Services(Shenzhen) Co.,Ltd.

Building C, No. 107, Shihuan Road, Shiyan Sub-District, Baoan District, Shenzhen, Guangdong Province, China

Telephone: TEL: +86-755-28682673 FAX: +86-755-28682673



Page 10 of 85

## 9 TEST INSTRUMENTS LIST

Test Equipment	Of RF Conducte	ed Test				
Equipment	Equipment Manufacturer		S/N	Cal.Date	Cal.Due	
Spectrum	R&S	FSP40	100817	2022/09/15	2023/09/14	
Spectrum	Agilent	N9020A	MY49100060	2022/09/07	2023/09/06	
Spectrum	KEYSIGHT	N9030A	MY52350152	2022/07/01	2023/06/30	
Spectrum	KEYSIGHT	N9010A	MY54330814	2022/07/01	2023/06/30	
Signal Generator	Agilent	N5182A	MY47420955	2022/09/07	2023/09/06	
Signal Generator	Agilent	E8257D	MY44320250	2022/07/01	2023/06/30	
Signal Generator	Agilent	N5181A	MY46240904	2022/08/02	2023/08/01	
Signal Generator	R&S	CMW500	132429	2022/09/07	2023/09/06	
BluetoothTester	Anritsu	MT8852B	06262047872	2022/09/07	2023/09/06	
Power probe	DARE	RPR3006W	14I00889SN042	2022/09/07	2023/09/06	
DCPowersupply	zhaoxin	KXN-305D	20K305D1221363	2022/09/14	2023/09/13	
DCPowersupply	zhaoxin	RXN-1505D	19R1505D050168	2022/09/14	2023/09/13	

Test Equipn	nent Of Radiated S	purious Emissions			
Equipment	Manufacturer	Model	S/N	Cal.Date	Cal.Due
Chamber 1	SKET	966	N/A	2020/11/10	2023/11/9
Chamber 2	SKET	966	N/A	2021/07/20	2024/07/19
Spectrum	R&S	FSP40	100817	2022/09/15	2023/09/14
Receiver	R&S	ESR7	101199	2022/09/15	2023/09/14
Receiver	R&S	ESPI7	101477	2022/07/16	2023/07/15
broadband Antenna	Schwarzbeck	VULB9168	00836 P:00227 2022/09/15		2023/09/14
Horn Antenna	Schwarzbeck	BBHA9120D	01892 P:00331	2022/09/13	2025/09/12
Amplifier	SKET	LNPA_30M01G-30	SK2021060801	2022/07/16	2023/07/15
Amplifier	SKET	PA-000318G-45	N/A	2022/09/13	2023/09/12
Amplifier	SKET	LNPA_18G40G-50	SK2022071301	2022/07/14	2023/07/13
Filter group	SKET	2.4G/5G Filter group r	N/A	2022/07/16	2023/07/15
EMI software	EZ	EZ-EMC	EEMC-3A1	N/A	N/A
Loop antenna	SCHNARZBECK	FMZB1519B	00102	2022/9/14	2025/9/13



Page 11 of 85

Controller	SKET	N/A	N/A	N/A	N/A
Coaxial Cable	BlueAsia	BLA-XC-02	N/A	N/A	N/A
Coaxial Cable	BlueAsia	BLA-XC-03	N/A	N/A	N/A
Coaxial Cable	BlueAsia	BLA-XC-01	N/A	N/A	N/A





Page 12 of 85

#### **10 ANTENNA REQUIREMENT**

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	N/A

#### 10.1 CONCLUSION

#### Standard Requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit permanently attached antenna or of an so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

#### **EUT Antenna:**

The best case gain of the antenna is 4.15dBi.



Page 13 of 85

#### 11 RADIATED SPURIOUS EMISSIONS

Test Standard	47 CFR Part 15, Subpart C 15.247					
Test Method	ANSI C63.10 (2013) Section 6.4,6.5,6.6					
Test Mode (Pre-Scan)	TX					
Test Mode (Final Test)	TX					
Tester	Jozu					
Temperature	25℃					
Humidity	60%					

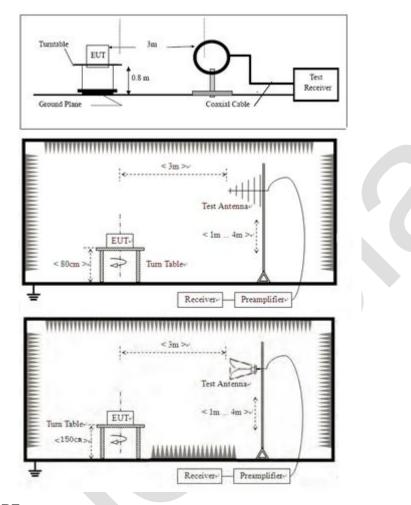
#### **11.1 LIMITS**

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
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

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.



#### 11.2 BLOCK DIAGRAM OF TEST SETUP



#### 11.3 PROCEDURE

- a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- d. 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.
- e. 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 (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- g. 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.



Page 15 of 85

- h. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- j. Repeat above procedures until all frequencies measured was complete.

#### Remark:

- 1) For emission below 1GHz, through pre-scan found the worst case is the lowest channel. Only the worst case is recorded in the report.
- 2) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor

- 3) Scan from 9kHz to 25GHz, the disturbance above 12.75GHz and below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported. fundamental frequency is blocked by filter, and only spurious emission is shown.
- 4) For frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.

Temperature:

Humidity:

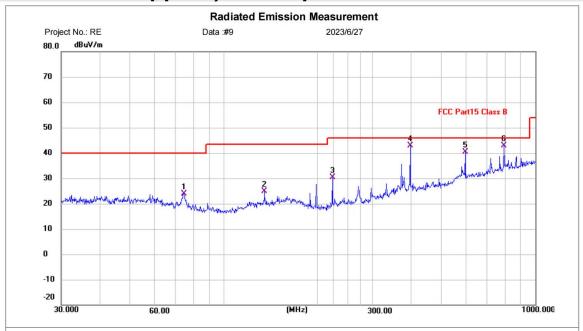
(C)

%RH



#### 11.4 TEST DATA

## [TestMode: TX below 1G]; [Polarity: Horizontal]



Polarization: Horizontal

Limit: FCC Part15 Class B

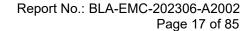
EUT: Dash Cam M/N: N1 Dual Mode: 2.4G TX mode

Note:

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	74.3955	3.53	20.33	23.86	40.00	-16.14	QP	Р	
2	135.0318	2.28	22.70	24.98	43.50	-18.52	QP	Р	
3	222.9502	10.74	19.71	30.45	46.00	-15.55	QP	Р	
4 *	396.2415	16.98	25.99	42.97	46.00	-3.03	QP	Р	
5	595.1327	10.44	29.99	40.43	46.00	-5.57	QP	Р	
6	793.3958	9.52	33.40	42.92	46.00	-3.08	QP	Р	

Power:

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



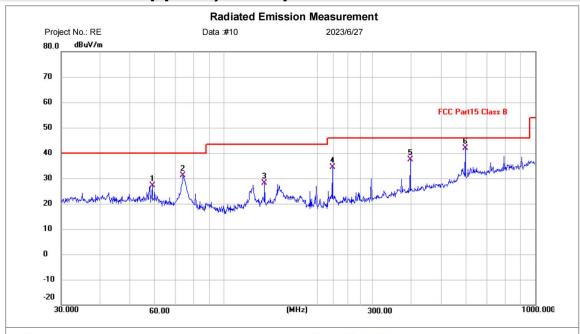
Temperature:

Humidity:

(C)



## [TestMode: TX below 1G]; [Polarity: Vertical]



Polarization: Vertical

Site Limit: FCC Part15 Class B

EUT: Dash Cam M/N: N1 Dual Mode: 2.4G TX mode

Note:

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	58.8185	4.40	22.77	27.17	40.00	-12.83	QP	Р	
2	73.8756	10.58	20.45	31.03	40.00	-8.97	QP	Р	
3	135.0319	5.52	22.70	28.22	43.50	-15.28	QP	Р	
4	222.9502	14.70	19.71	34.41	46.00	-11.59	QP	Р	
5	396.2415	11.45	25.99	37.44	46.00	-8.56	QP	Р	
6 *	595.1329	11.81	29.99	41.80	46.00	-4.20	QP	Р	

Power:

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



Page 18 of 85

Remark: During the test, pre-scan the 802.11b/g/n mode, and found the 802.11n(HT20) mode which it is worse case.

#### [TestMode: TX low channel]; [Polarity: Horizontal]

#### **Radiated Emission Measurement** Project No.: RE Data :#23 2023/6/12 dBuV/m 80.0 FCC Part15 (PK) 70 60 50 40 30 20 10 0 -10 1000.000 2175.00 3350.00 4525.00 5700.00 9225.00 12750.00

Polarization:

Power:

Horizontal

Temperature:

Humidity:

(C)

%RH

Site Limit: FCC Part15 (PK)

EUT: Dash Cam M/N: N1 Dual Mode: 11N20 TX-L

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4	4824.000	38.15	4.36	42.51	74.00	-31.49	peak	
2		7236.000	38.89	8.13	47.02	74.00	-26.98	peak	
3	(	9648.000	37.52	11.01	48.53	74.00	-25.47	peak	
4	* *	11410.50	38.72	13.14	51.86	74.00	-22.14	peak	
5	8	8132.250	40.19	8.90	49.09	74.00	-24.91	peak	
6		5876.250	39.10	6.89	45.99	74.00	-28.01	peak	

\*:Maximum data x:Over limit !:over margin (Reference Only Receiver: ESR\_1 FSP40 Spectrum Analyzer:

%RH



Project No.: RE

80.0

dBuV/m

## [TestMode: TX low channel]; [Polarity: Vertical]

## **Radiated Emission Measurement** Data :#24 2023/6/12 FCC Part15 (PK)



Power:

Limit: FCC Part15 (PK)

EUT: Dash Cam M/N: N1 Dual Mode: 11N20 TX-L

Note:

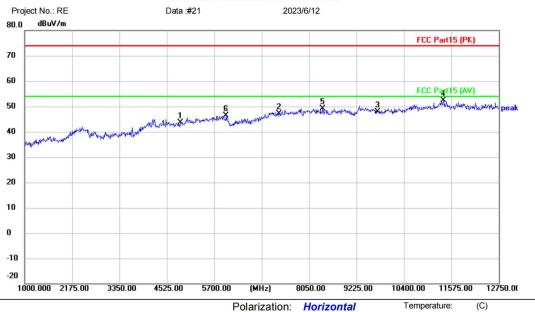
No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over			
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment	
1		4824.000	38.55	4.36	42.91	74.00	-31.09	peak		
2		6017.250	42.09	3.94	46.03	74.00	-27.97	peak		
3		7236.000	38.54	8.13	46.67	74.00	-27.33	peak		
4		8167.500	41.16	8.84	50.00	74.00	-24.00	peak		
5		9648.000	36.88	11.01	47.89	74.00	-26.11	peak		
6	*	11328.25	38.48	13.09	51.57	74.00	-22.43	peak		

\*:Maximum data x:Over limit (Reference Only !:over margin Receiver: ESR\_1 FSP40 Spectrum Analyzer:

%RH



# [TestMode: TX mid channel]; [Polarity: Horizontal] Radiated Emission Measurement



Site Limit: FCC Part15 (PK)

EUT: Dash Cam M/N: N1 Dual Mode: 11N20 TX-M

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4	4874.000	39.13	4.42	43.55	74.00	-30.45	peak	
2	7	7311.000	38.89	8.36	47.25	74.00	-26.75	peak	
3	(	9748.000	36.75	11.06	47.81	74.00	-26.19	peak	
4	*	11375.25	39.26	13.12	52.38	74.00	-21.62	peak	
5	8	3390.750	40.36	8.88	49.24	74.00	-24.76	peak	
6		5993.750	39.40	7.05	46.45	74.00	-27.55	peak	

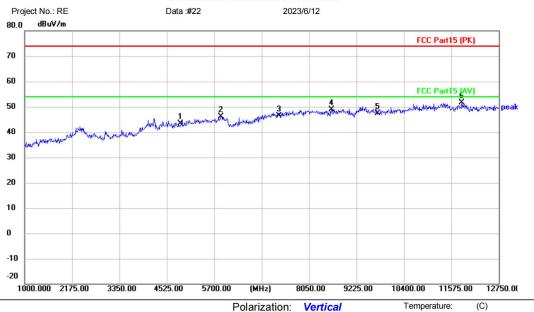
Power:

\*:Maximum data x:Over limit !:over margin (Reference Only

Receiver: FSP40 ESR 1 Spectrum Analyzer:



# [TestMode: TX mid channel]; [Polarity: Vertical] Radiated Emission Measurement



Limit: FCC Part15 (PK)

EUT: Dash Cam M/N: N1 Dual Mode: 11N20 TX-M

Note:

Site

No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4874.000	38.98	4.42	43.40	74.00	-30.60	peak	
2		5864.500	39.31	6.83	46.14	74.00	-27.86	peak	
3		7311.000	37.99	8.36	46.35	74.00	-27.65	peak	
4		8602.250	39.32	9.47	48.79	74.00	-25.21	peak	
5		9748.000	36.29	11.06	47.35	74.00	-26.65	peak	
6	*	11833.50	38.69	12.82	51.51	74.00	-22.49	peak	

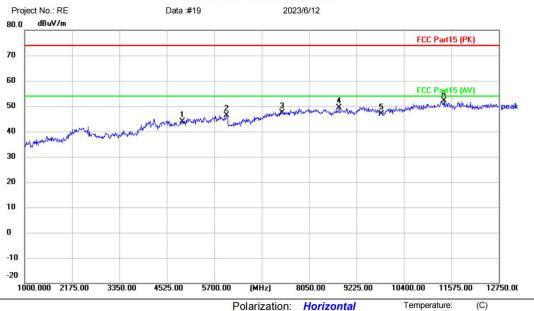
Power:

\*:Maximum data x:Over limit (Reference Only !:over margin

Receiver: FSP40 ESR\_1 Spectrum Analyzer:



# [TestMode: TX high channel]; [Polarity: Horizontal] Radiated Emission Measurement



Polarization:

Power:

Horizontal

Humidity:

%RH

Limit: FCC Part15 (PK)

EUT: Dash Cam M/N: N1 Dual Mode: 11N20 TX-H

Note:

Site

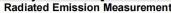
No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4924.000	39.06	4.79	43.85	74.00	-30.15	peak	
2		6005.500	42.55	3.91	46.46	74.00	-27.54	peak	
3	ļ	7386.000	39.16	8.32	47.48	74.00	-26.52	peak	
4		8790.250	39.55	9.76	49.31	74.00	-24.69	peak	
5		9848.000	35.61	11.32	46.93	74.00	-27.07	peak	
6	*	11398.75	38.88	13.13	52.01	74.00	-21.99	peak	

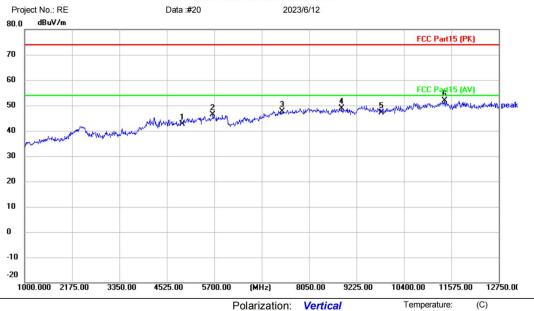
\*:Maximum data x:Over limit (Reference Only !:over margin FSP40 Receiver: Spectrum Analyzer: ESR\_1

%RH



[TestMode: TX high channel]; [Polarity: Vertical]
Radiated Emission Measurement





Polarization:

Power:

Limit: FCC Part15 (PK)

EUT: Dash Cam M/N: N1 Dual Mode: 11N20 TX-H

Note:

Site

No.	Mk	c. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4924.000	37.72	4.79	42.51	74.00	-31.49	peak	
2		5664.750	40.17	6.26	46.43	74.00	-27.57	peak	
3		7386.000	39.26	8.32	47.58	74.00	-26.42	peak	
4		8849.000	39.09	9.78	48.87	74.00	-25.13	peak	
5		9848.000	35.70	11.32	47.02	74.00	-26.98	peak	
6	*	11410.50	38.66	13.14	51.80	74.00	-22.20	peak	

\*:Maximum data x:Over limit !:over margin (Reference Only

Receiver: FSP40 ESR 1 Spectrum Analyzer:



Page 24 of 85

#### Remark:

- 1. Final Level =Receiver Read level + Correct factor
- 2. Correct factor = Antenna Factor + Cable Loss Preamplifier Factor
- 3. The emission levels of other frequencies are very lower than the limit and not show in test report.





Page 25 of 85

#### 12 RADIATED EMISSIONS WHICH FALL IN THE RESTRICTED BANDS

Test Standard	47 CFR Part 15, Subpart C 15.247					
Test Method	ANSI C63.10 (2013) Section 6.10.5					
Test Mode (Pre-Scan)	TX					
Test Mode (Final Test)	TX					
Tester	Jozu					
Temperature	25℃					
Humidity	60%					

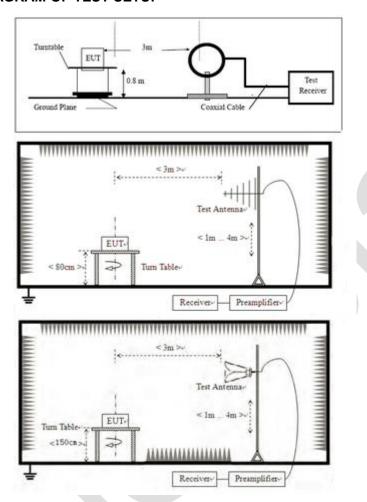
#### **12.1 LIMITS**

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
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

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.



12.2 BLOCK DIAGRAM OF TEST SETUP



#### 12.3 PROCEDURE

- a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- d. 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.
- e. 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 (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- g. 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.



Page 27 of 85

h. Test the EUT in the lowest channel, the middle channel, the Highest channel.

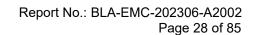
i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.

j. Repeat above procedures until all frequencies measured was complete.

Remark 1: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

Remark 2: For frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.





2420.00

(C)

%RH

Temperature:

Humidity:



#### 12.4 TEST DATA

## [TestMode: TX b low channel]; [Polarity: Horizontal]

2332.00

2343.00

2354.00

# Radiated Emission Measurement Project No.: RE Data :#7 2023/6/12 107.0 dBuV/m 97 87 77 70

(MHz)

Polarization:

Power:

2376.00

Horizontal

2387.00

Site

Limit: FCC Part15 (PK)

2310.000 2321.00

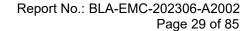
EUT: Dash Cam M/N: N1 Dual Mode: 11B TX-L

Note:

No.	М	lk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
16 <del></del>			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		23	310.000	47.42	-4.27	43.15	74.00	-30.85	peak	
2	*	23	390.000	54.19	-3.82	50.37	74.00	-23.63	peak	

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

Receiver: ESR\_1 Spectrum Analyzer: FSP40

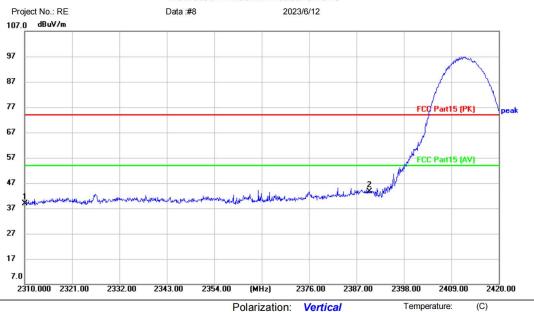


%RH



[TestMode: TX b low channel]; [Polarity: Vertical]
Radiated Emission Measurement





Limit: FCC Part15 (PK)

EUT: Dash Cam M/N: N1 Dual Mode: 11B TX-L

Note:

Site

No.	Mk	k. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2310.000	43.11	-4.27	38.84	74.00	-35.16	peak	
2	*	2390.000	47.42	-3.82	43.60	74.00	-30.40	peak	

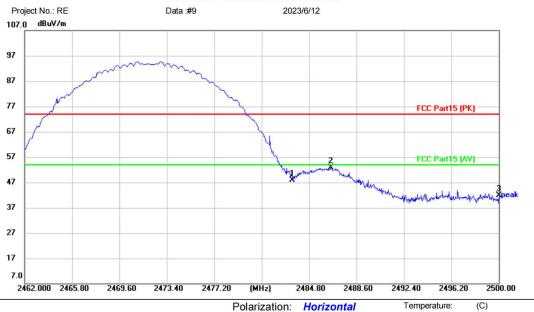
Power:

\*:Maximum data x:Over limit (Reference Only !:over margin Receiver: Spectrum Analyzer: FSP40 ESR\_1

%RH



# [TestMode: TX b high channel]; [Polarity: Vertical] Radiated Emission Measurement



Site Limit: FCC Part15 (PK)

EUT: Dash Cam M/N: N1 Dual Mode: 11B TX-H

Note:

No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2483.500	51.90	-3.96	47.94	74.00	-26.06	peak	
2	*	2486.548	56.83	-3.97	52.86	74.00	-21.14	peak	
3		2500.000	45.90	-4.00	41.90	74.00	-32.10	peak	

Power:

\*:Maximum data x:Over limit !:over margin (Reference Only Receiver: ESR 1 FSP40 Spectrum Analyzer: