

Report No.: TW2310292E

Applicant: SPRITE TECHNOLOGY LIMITED

Product: Dash Cam

Model No.: G36

Trademark: N/A

Test Standards: FCC Part 15.247

Test result:

It is herewith confirmed and found to comply with the

requirements set up by ANSI C63.10, FCC Part 15.247 for

the evaluation of electromagnetic compatibility

Approved By

Terry Tang

Manager

Dated: December 13, 2023

Results appearing herein relate only to the sample tested The technical reports is issued errors and omissions exempt and is subject to withdrawal at

SHENZHEN TIMEWAY TESTING LABORATORIES

Zone C, 1st Floor, Block B, Jun Xiang Da Building, Zhongshan Park Road West, Tong Le Village, Nanshan District, Shenzhen, China

Tel (755) 83448688, Fax (755) 83442996, E-Mail:info@timeway-lab.com



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Special Statement:

FCC-Registration No.: 744189

The EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications commission. The acceptance letter from the FCC is maintained in our files. Registration No.: 744189.

Industry Canada (IC) — Registration No.:5205A

The EMC Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 5205A.

A2LA (Certification Number:5013.01)

The EMC Laboratory has been accredited by the American Association for Laboratory Accreditation (A2LA). Certification Number:5013.01

CAB identifier: CN0033

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Test Report Conclusion

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1.0 General Details

1.1 Test Lab Details

Name: SHENZHEN TIMEWAY TESTING LABORATORIES.

Address: Zone C, 1st Floor, Block B, Jun Xiang Da Building, Zhongshan Park Road West, Tong Le

Village, Nanshan District, Shenzhen, China

Telephone: (755) 83448688 Fax: (755) 83442996

Site Listed with Federal Communications commission (FCC)

Registration Number:744189 For 3m Anechoic Chamber

Site Listed with Industry Canada of Ottawa, Canada

Registration Number: IC: 5205A

For 3m Anechoic Chamber

1.2 Applicant Details

Applicant: SPRITE TECHNOLOGY LIMITED

Address: 4th Floor, A3 Building, Shenliang Industry Zone, NO.299 Guanping Road, Longhua District,

Shenzhen, China 518110

Telephone: -Fax: --

1.3 Description of EUT

Product: Dash Cam

Manufacturer: SPRITE TECHNOLOGY LIMITED

Address: 4th Floor, A3 Building, Shenliang Industry Zone, NO.299 Guanping Road,

Longhua District, Shenzhen, China 518110

Trademark: N/A
Model Number: G36
Additional Model Number: N/A

Hardware Version: ZH-56MK32-V1 Software Version: ZH-M32-20231009

Serial No.: 23SP00001 ~ 23SP03636 Rating: DC5V, 2A Maximum

Type of Modulation IEEE 802.11b: DSSS (CCK, QPSK, DBPSK)

IEEE 802.11g/n (HT20, HT40): OFDM (64QAM, 16QAM, QPSK, BPSK)

Frequency range IEEE 802.11b/g/n (HT20): 2412-2462MHz;

IEEE 802.11n HT40: 2422-2452MHz

Channel Spacing 5MHz for IEEE 802.11b/g/n (HT20, HT40)

Air Data Rate IEEE 802.11b: 11, 5.5, 2, 1 Mbps

The report refers only to the sample tested and does not apply to the bulk.

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IEEE 802.11g: 54, 48,36, 24, 18, 12, 9, 6 Mbps

IEEE 802.11n HT20/HT40: mcs0-mcs7

Frequency Selection By software

Channel Number IEEE 802.11b/g/n (HT20): 11 Channels;

IEEE 802.11n (HT40): 7 Channels;

Antenna: FPC antenna with gain 1.63dBi Max (Get from the antenna specification)

1.4 Submitted Sample: 2 Samples

1.5 Test Duration

2023-10-24 to 2023-12-13

1.6 Test Uncertainty

Conducted Emissions Uncertainty =3.6dB

Radiated Emissions below 1GHz Uncertainty =4.7dB

Radiated Emissions above 1GHz Uncertainty =6.0dB

Conducted Power Uncertainty =6.0dB

Occupied Channel Bandwidth Uncertainty = 5%

Note: The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%.

1.7 Test Engineer

The sample tested by

Print Name: Andy Xing

Andy -xing

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2.0 Test Equipment						
Instrument Type	Manufacturer	Model	Serial No.	Date of Cal.	Due Date	
ESPI Test Receiver	R&S	ESPI 3	100379	2023-07-14	2024-07-13	
LISN	R&S	EZH3-Z5	100294	2023-07-14	2024-07-13	
LISN	R&S	EZH3-Z5	100253	2023-07-14	2024-07-13	
Impuls-Begrenzer	R&S	ESH3-Z2	100281	2023-07-14	2024-07-13	
Loop Antenna	EMCO	6507	00078608	2022-07-18	2025-07-17	
Spectrum	R&S	FSIQ26	100292	2023-07-14	2024-07-13	
Horn Antenna	A-INFO	LB-180400-KF	J211060660	2022-07-18	2025-07-17	
Horn Antenna	R&S	BBHA 9120D	9120D-631	2022-07-18	2024-07-17	
Power meter	Anritsu	ML2487A	6K00003613	2023-07-14	2024-07-13	
Power sensor	Anritsu	MA2491A	32263	2023-07-14	2024-07-13	
Bilog Antenna	Schwarebeck	VULB9163	9163/340	2022-07-18	2025-07-17	
9*6*6 Anechoic			N/A	2022-07-26	2025-07-25	
EMI Test Receiver	RS	ESVB	826156/011	2023-07-14	2024-07-13	
EMI Test Receiver	RS	ESCS 30	834115/006	2023-07-14	2024-07-13	
Spectrum	HP/Agilent	E4407B	MY50441392	2023-07-14	2024-07-13	
Spectrum	RS	FSP	1164.4391.38	2023-07-14	2024-07-13	
RF Cable	7h an adi	ZT26-NJ-NJ-8		2023-07-14	2024-07-13	
Kr Cable	Zhengdi	M/FA	1			
RF Cable	Zhengdi	7m		2023-07-14	2024-07-13	
Pre-Amplifier	Schwarebeck	BBV9743	#218	2023-07-14	2024-07-13	
Pre-Amplifier	HP/Agilent	8449B	3008A00160	2023-07-14	2024-07-13	
LISN	SCHAFFNER	NNB42	00012	2023-07-14	2024-07-13	

2.2 Automation Test Software

For Conducted Emission Test

Name	Version	
EZ-EMC	Ver.EMC-CON 3A1.1	

For Radiated Emissions

Name	Version
EMI Test Software BL410-EV18.91	V18.905
EMI Test Software BL410-EV18.806 High Frequency	V18.06

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3. DESCRIPTION OF TEST MODES

IEEE 802.11b, 802.11g, 802.11n (HT20) mode

The EUT had been tested under operating condition. There are three channels have been tested as following:

Channel	Frequency (MHz)
Low	2412
Middle	2437
High	2462

IEEE 802.11b mode: 1Mbps data rate (worst case) was chosen for full testing. IEEE 802.11g mode: 6Mbps data rate (worst case) was chosen for full testing. IEEE 802.11n (HT20) mode: mcs0 (worst case) were chosen for full testing;

IEEE 802.11n (HT40) mode

The EUT had been tested under operating condition. There are three channels have been tested as following:

Channel	Frequency (MHz)
Low	2422
Middle	2437
High	2452

IEEE 802.11n (HT40) mode: mcs0 data rate (worst case) were chosen for full testing

Note: During the test, the duty cycle was set up to >98%

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3.0 **Technical Details**

3.1 **Summary of test results**

Standard	Test Type	Result	Notes
FCC Part 15, Paragraph15.203	Antenna Requirement	Pass	Complies
FCC Part 15, Paragraph15.207	Conducted Emission Test	N/A	N/A
	Spectrum bandwidth of a	Pass	Complies
ECC Dout 15 Submont C	Orthogonal Frequency		
FCC Part 15 Subpart C	Division Multiplex System		
Paragraph 15.247(a)(2) Limit	Limit: 6dB		
	bandwidth>500kHz		
ECC Pout 15 Dougguers	Maximum peak output	Pass	
FCC Part 15, Paragraph 15.247(b)	power		Complies
15.247(0)	Limit: max. 30dBm		
FCC Part 15, Paragraph	Transmitter Radiated	Pass	Complies
15.109,15.205 & 15.209	Emission		
	Limit: Table 15.209		
FCC Part 15, Paragraph	Power Spectral Density	Pass	Complies
15.247(e)	Limit: max. 8dBm/3kHz		
FCC Part 15, Paragraph	Out of Band Emission and	Pass	Complies
15.247(d)	Restricted Band		
	Radiation		
	Limit: 20dB less than		
	peak value of fundamental		
	frequency		
	Restricted band limit:		
	Table 15.209		

3.2 **Test Standards**

FCC Part 15 Subpart & Subpart C, Paragraph 15.247

4.0 **EUT Modification**

No modification by SHENZHEN TIMEWAY TESTING LABORATORIES.

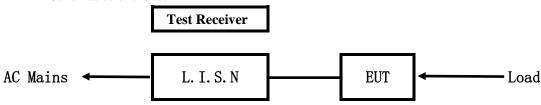
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5.0 Power Line Conducted Emission Test

5.1 Schematics of the test



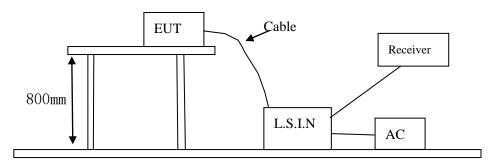
EUT: Equipment Under Test

5.2 Test Method and test Procedure

The EUT was tested according to ANSI C63.10-2013. The Frequency spectrum From 0.15MHz to 30MHz was investigated. The LISN used was 50ohm/50uH as specified by section 5.1 of ANSI C63.10-2013.

Test Voltage: N/A

Block diagram of Test setup



5.3 Configuration of the EUT

The EUT was configured according to ANSI C63.10-2013. All interface ports were connected to the appropriate peripherals. All peripherals and cables are listed below.

A. EUT

Device	Manufacturer	Model	FCC ID
		G36, B08Pro, B09S,	
Dash Cam	SPRITE TECHNOLOGY LIMITED	B09Pro, V50 X	2A75N-G36
		Cube	

B. Internal Device

Device	Manufacturer	Model	FCC ID/DOC
N/A			

C. Peripherals

Device	Manufacturer	Model	Rating
N/A			

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5.4 EUT Operating Condition

Operating condition is according to ANSI C63.10-2013.

- A Setup the EUT and simulators as shown on follow
- B Enable AF signal and confirm EUT active to normal condition

5.5 Power line conducted Emission Limit according to Paragraph 15.207

Frequency	Limits (dB µ V)		
(MHz)	Quasi-peak Level	Average Level	
$0.15 \sim 0.50$	66.0~56.0*	56.0~46.0*	
$0.50 \sim 5.00$	56.0	46.0	
5.00 ~ 30.00	60.0	50.0	

Notes:

- 1. *Decreasing linearly with logarithm of frequency.
- 2. The tighter limit shall apply at the transition frequencies

5.6 Test Results N/A

The frequency spectrum from 0.15MHz to 30MHz was investigated. All reading are quasi-peak values with a resolution bandwidth of 9kHz.

Note: EUT used in a vehicle, this test item not applicable

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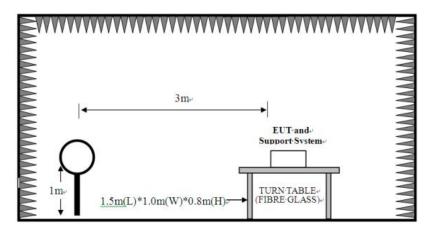


6 Radiated Emission Test

- 6.1 Test Method and test Procedure:
- (1) The EUT was tested according to ANSI C63.10-2013. The radiated test was performed at Timeway EMC Laboratory. This site is on file with the FCC laboratory division, Registration No. 744189
- (2) The EUT, peripherals were put on the turntable which table size is 1m x 1.5 m, table high 0.8 m. All set up is according to ANSI C63.10-2013.
- (3) The frequency spectrum from 9kHz to 25 GHz was investigated. All readings from 30 MHz to 1 GHz are Quasi-peak values with a resolution bandwidth of 120 kHz. For measurement above 1GHz, peak values with RBW=1MHz VBW=3MHz and PK detector. AV value with RBW=1MHz, VBW=3MHz and RMS detector. Measurements were made at 3 meters.
- (4) The antenna high is varied from 1 m to 4 m high to find the maximum emission for each frequency.
- (5) Maximizing procedure was performed on the six (6) highest emissions to ensure EUT compliance is with all installation combinations. All data was recorded in the peak detection mode. Quasi-peak readings was performed only when an emission was found to be marginal (within -4 dB of specification limit), and are distinguished with a "QP" in the data table.
- (6) The antenna polarization: Vertical polarization and Horizontal polarization.

Block diagram of Test setup

For radiated emissions from 9kHz to 30MHz



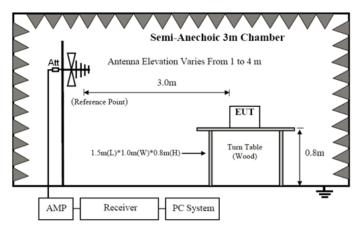
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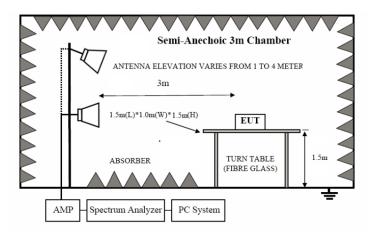
Date: 2023-12-13



For radiated emissions from 30MHz to1GHz



For radiated emissions above 1GHz



6.2 Configuration of The EUT Same as section 5.3 of this report

6.3 EUT Operating Condition Same as section 5.4 of this report.

6.4 Radiated Emission Limit

All emission from a digital device, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strength specified below:

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Frequencies in restricted band are complied to limit on Paragraph 15.209

		8 1
Frequency Range (MHz)	Distance (m)	Field strength (dB µ V/m)
0.009-0.049	3	20log(2400/F(kHz)) +40log (300/3)
0.490-1.705	3	20log(24000/F(kHz)) +40log (30/3)
1.705-30	3	69.5
30-88	3	40.0
88-216	3	43.5
216-960	3	46.0
Above 960	3	54.0

Note:

- 1. RF Voltage $(dBuV) = 20 \log RF \text{ Voltage } (uV)$
- 2. In the Above Table, the tighter limit applies at the band edges.
- 3. Distance refers to the distance in meters between the measuring instrument antenna and the EUT
- 4. All scanning using PK detector. And the final emission level was get using QP detector for frequency range from 30-1000MHz.As to 1G-25G, the final emission level got using PK. For fundamental measurement, PK detector used.
- 5. For radiated emissions from 9kHz to 30MHz, the emission level is much less than the limit for more than 20dB. No necessary to take down the record.
- 6. Worse case were recorded in the test report. 802.11g was the worst case.

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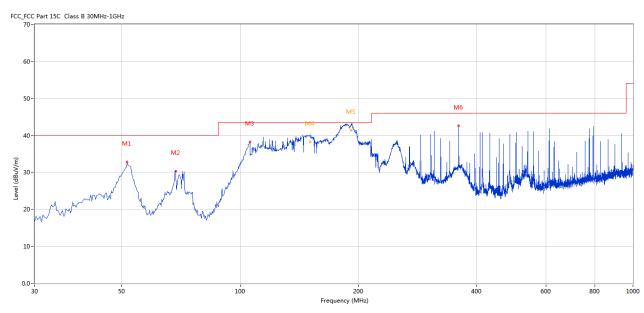


Test result General Radiated Emission Data and Harmonics Radiated Emission Data

Radiated Emission In Horizontal (30MHz----1000MHz)

Keep Transmitting EUT set Condition:

Results: Pass



No.	Frequency	Results	Factor	Limit	Margin	Detector	Table	Height	Antenna	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(Degree)	(cm)		
1	51.577	33.78	-11.41	40.0	6.22	Peak	79.00	100	Horizontal	Pass
2	68.548	30.26	-14.96	40.0	9.74	Peak	50.00	100	Horizontal	Pass
3	105.884	38.25	-13.29	43.5	5.25	Peak	19.00	100	Horizontal	Pass
4*	150.735	38.22	-16.99	43.5	5.28	QP	106.00	100	Horizontal	Pass
5*	191.950	41.40	-14.07	43.5	2.10	QP	110.00	100	Horizontal	Pass
6	359.960	42.59	-9.46	46.0	3.41	Peak	98.00	100	Horizontal	Pass

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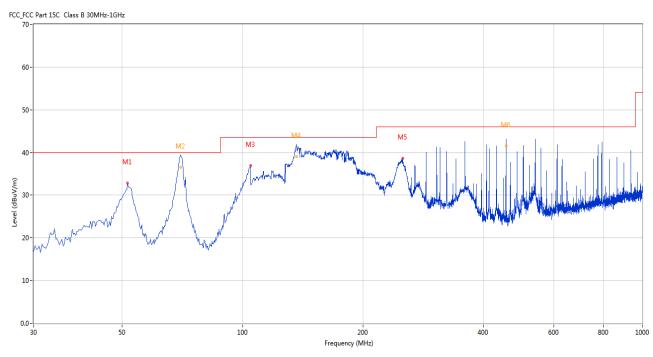


Test result General Radiated Emission Data and Harmonics Radiated Emission Data

Radiated Emission In Vertical (30MHz----1000MHz)

EUT set Condition: Keep Transmitting

Results: Pass



No.	Frequency	Results	Factor	Limit	Margin	Detector	Table	Height	Antenna	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(Degree)	(cm)		
1	51.577	32.78	-11.41	40.0	7.22	Peak	79.00	100	Vertical	Pass
2*	70.002	36.47	-15.67	40.0	3.53	QP	37.00	100	Vertical	Pass
3	104.671	36.90	-13.25	43.5	6.60	Peak	6.00	100	Vertical	Pass
4*	136.431	39.08	-17.16	43.5	4.42	QP	64.00	100	Vertical	Pass
5	251.832	38.62	-12.05	46.0	7.38	Peak	289.00	100	Vertical	Pass
6*	455.966	41.59	-7.95	46.0	4.41	QP	135.00	100	Vertical	Pass

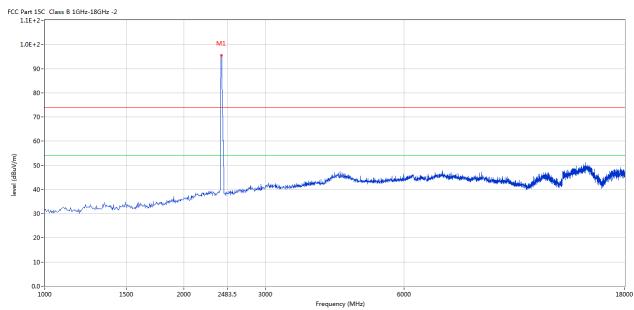
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Please refer to the following test plots for details:

CH01 for 11g at 6Mbps: Horizontal



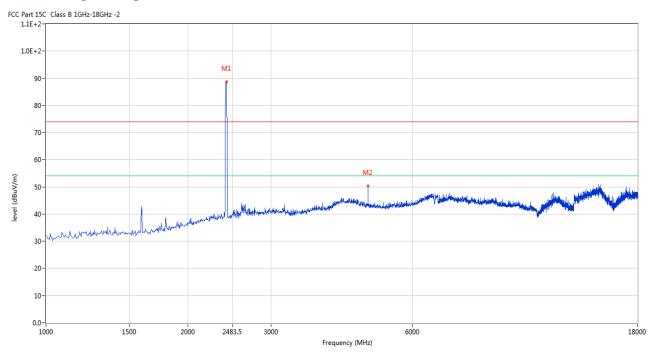
No.	Frequency	Results	Factor	Limit	Over	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	Limit (dB)		(o)	(cm)		
1	2410.647	95.53	-3.57	74.0	21.53	Peak	150.00	100	Horizontal	N/A

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CH01 for 11g at 6Mbps: Vertical



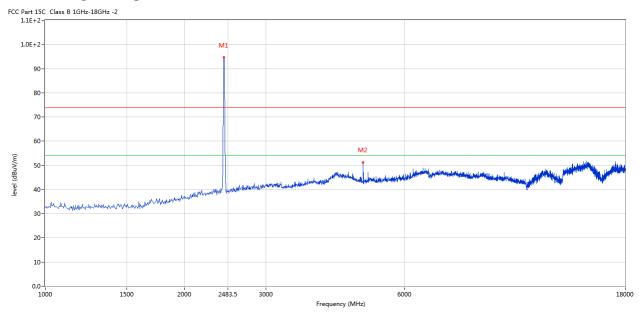
No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2414.896	88.72	-3.57	74.0	14.72	Peak	157.00	100	Vertical	N/A
2	4824.044	50.12	3.14	74.0	-23.88	Peak	173.00	100	Vertical	Pass

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CH06 for 11g at 6Mbps: Horizontal



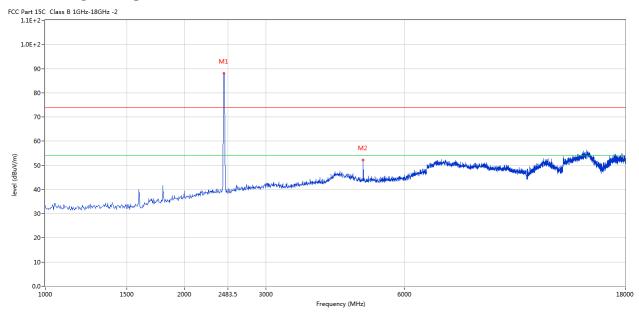
No.	Frequency	Results	Factor	Limit	Over	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	Limit (dB)		(o)	(cm)		
1	2436.141	94.70	-3.57	74.0	20.70	Peak	266.00	100	Horizontal	N/A
2	4875.031	51.14	3.19	74.0	-22.86	Peak	158.00	100	Horizontal	Pass

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CH06 for 11g at 6Mbps: Vertical



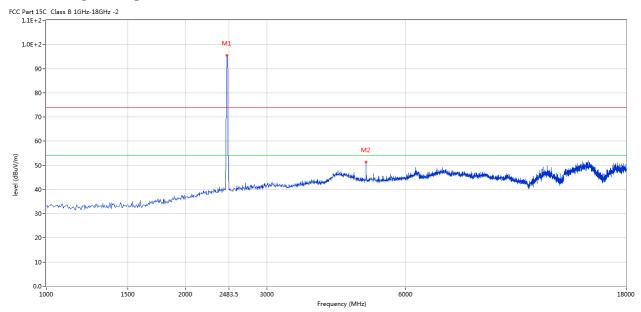
No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2436.141	88.01	-3.57	74.0	14.01	Peak	205.00	100	Vertical	N/A
2	4875.031	52.14	3.19	74.0	-21.86	Peak	157.00	100	Vertical	Pass

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CH11 for 11g at 6Mbps: Horizontal



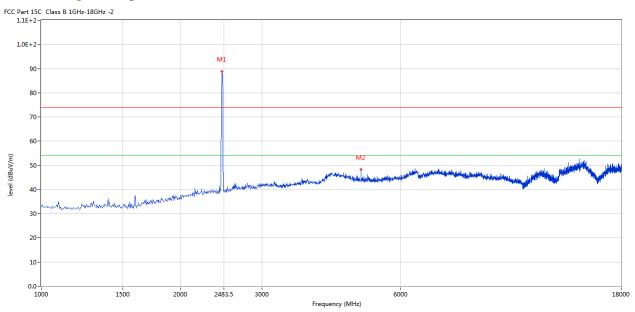
No.	Frequency	Results	Factor	Limit	Over	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	Limit (dB)		(o)	(cm)		
1	2461.635	95.51	-3.57	74.0	21.51	Peak	146.00	100	Horizontal	N/A
2	4921.770	51.44	3.27	74.0	-22.56	Peak	277.00	100	Horizontal	Pass

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CH11 for 11g at 6Mbps: Vertical



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2461.635	88.85	-3.57	74.0	14.85	Peak	160.00	100	Vertical	N/A
2	4921.770	48.25	3.27	74.0	-25.75	Peak	181.00	100	Vertical	Pass

Note: 1. Result Level = Reading + Factor

2. Factor= AF + Cable Loss- Preamp

3. Margin = Result– Limit

4. For radiated Emissions from 18-25GHz and below 30MHz, it is only the floor noise and less than the limit for more than 20dB. No necessary to take down.

5. Note: the final peak measurement results less than the AV limit. No necessary to take down the final AV measurement result

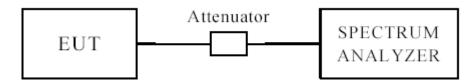
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7.0 6dB Bandwidth Measurement

7.1 Test Setup



7.2 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is >500 kHz

7.3 Test Procedure

- 1. Set resolution bandwidth (RBW) = 100 kHz
- 2. Set the video bandwidth $(VBW) \ge 3 \times RBW$.
- 3. Detector = Peak.
- 4. Trace mode = max hold.
- 5. Sweep = auto couple.
- 6. Allow the trace to stabilize.
- 7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

7.4 Test Result

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6dB Occupied Bandwidth

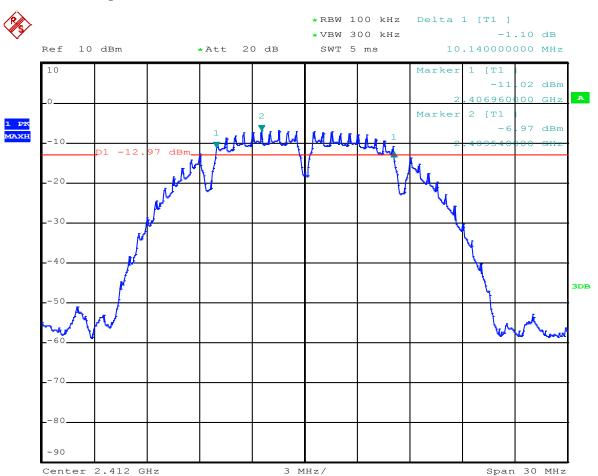
EUT			Dash Ca	m	Model		G36
Mode			802.111)	Test Voltage	Ι	DC5.0V
Temperat	ure		24 deg. 0	C,	Humidity	56% RH	
Channel	Channel Frequency (MHz)		Data Transfer Rate (Mbps)	6 dB Bandwidth (MHz)	Minimum (MHz		Pass/ Fail
1		2412	1	10.14	0.5	0.5	
6		2437	1	10.14	0.5		Pass
11		2462	1	10.14	0.5		Pass
1		2412	11	11.46	0.5		Pass
6		2437	11	11.46	0.5	0.5	
11	2462		11	11.46	0.5		Pass

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1. 802.11b at 1Mbps of CH01



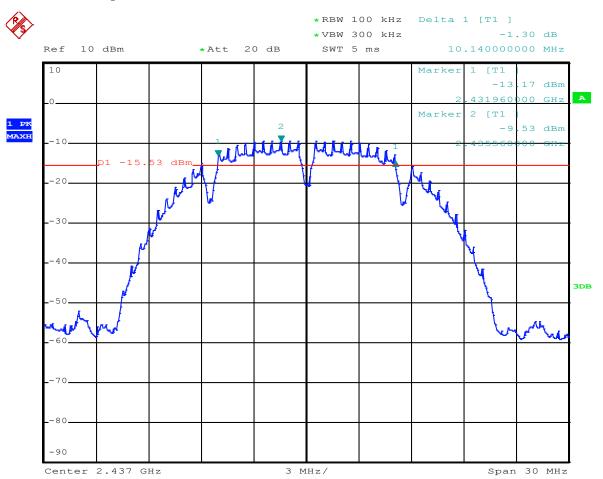
Date: 8.DEC.2023 09:27:07

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2. 802.11b at 1Mbps of CH06



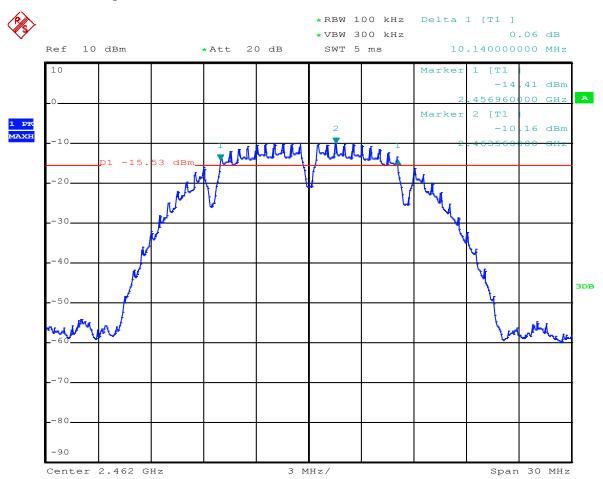
Date: 8.DEC.2023 09:33:14

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3. 802.11b at 1Mbps of CH11



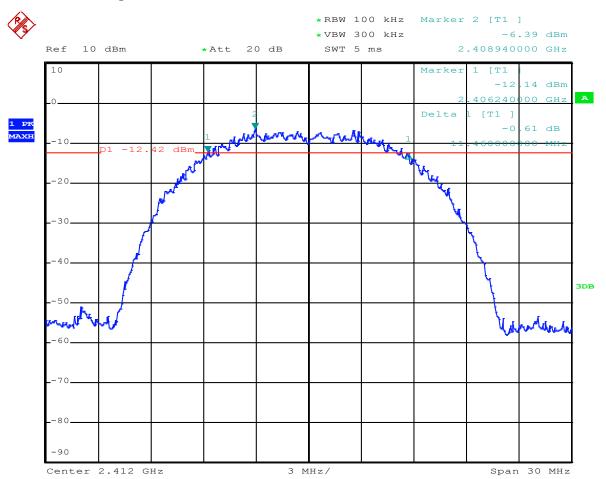
Date: 8.DEC.2023 09:35:57

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4. 802.11b at 11Mbps of CH01



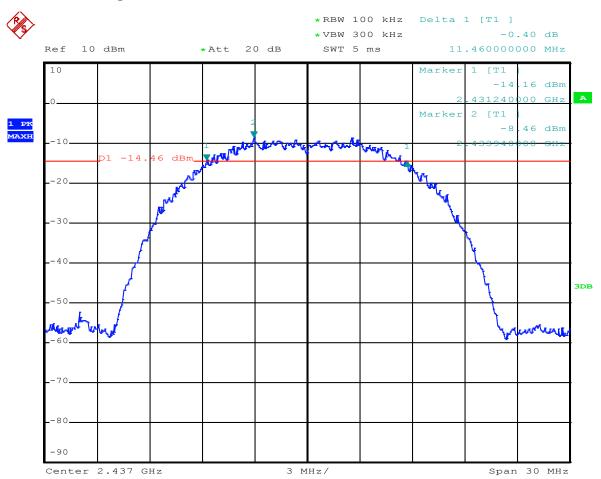
Date: 8.DEC.2023 09:51:52

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5. 802.11b at 11Mbps of CH06



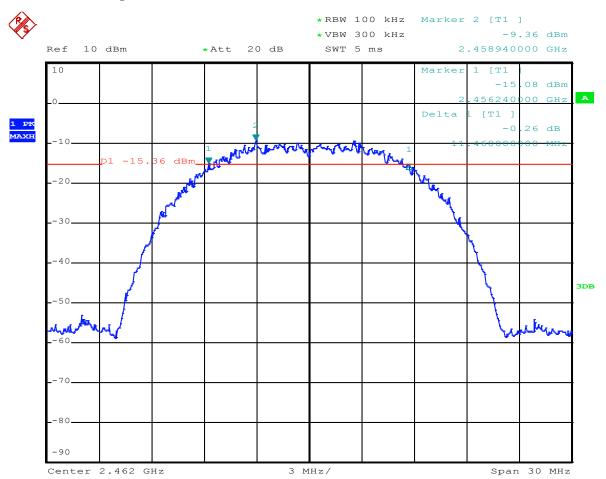
Date: 8.DEC.2023 09:45:43

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6. 802.11b at 11Mbps of CH11



Date: 8.DEC.2023 09:49:20

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6dB Occupied Bandwidth

EUT			Dash Ca	nm	Model	G36
Mode			802.11	g	Test Voltage	DC5.0V
Temperature			24 deg.	C,	Humidity	56% RH
Channel	Channel Frequency (MHz)		Data Transfer Rate (Mbps)	6 dB Bandwidth (MHz)	Minimum Lim (MHz)	it Pass/ Fail
1		2412		16.26	0.5	Pass
6	2437		6	16.26	0.5	Pass
11	2462		6	16.26	0.5	Pass

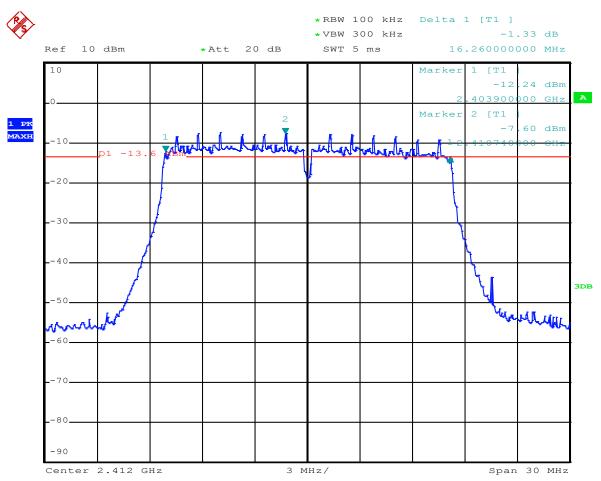
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Test Plots:

1. 802.11g at 6Mbps of CH01



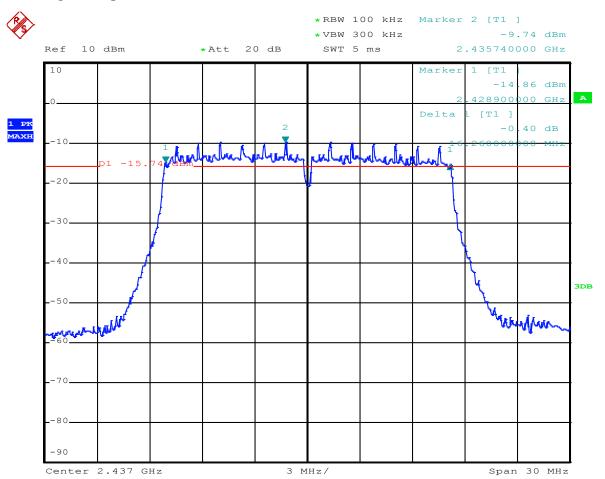
Date: 8.DEC.2023 09:56:27

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2. 802.11g at 6Mbps of CH06



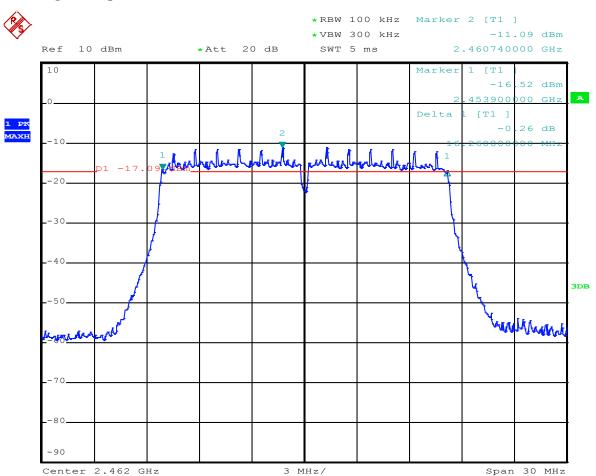
Date: 8.DEC.2023 09:59:16

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3. 802.11g at 6Mbps of CH11



Date: 8.DEC.2023 10:01:34

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6dB Occupied Bandwidth

EUT			Dash Ca	m	Model		G36
Mode			802.11n H	T20	Test Voltage	DC5.0V	
Temperature			C,	Humidity	56% RH		
Channel		el Frequency (MHz)	Data Transfer Rate (Mbps)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	
1		2412	mcs0	17.04	0.5	0.5	
6		2437	mcs0	17.04	0.5	0.5	
11		2462	mcs0	17.04	0.5	0.5	

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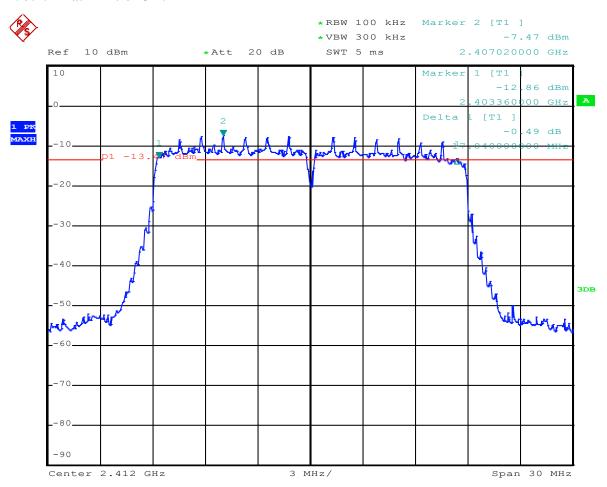
Date: 2023-12-13



Test Plots:

1. 802.11n at HT20 of CH01

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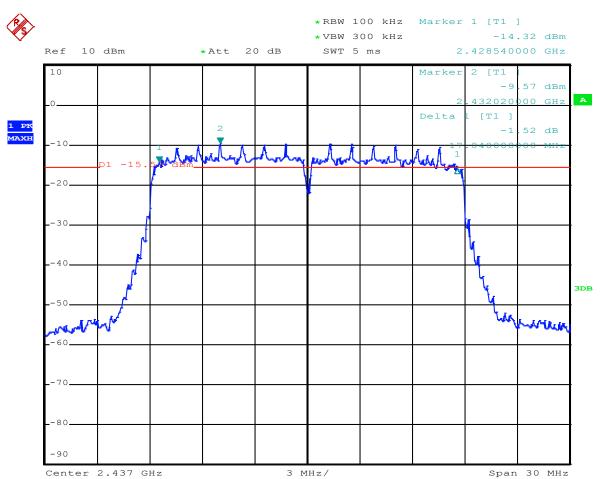
Date: 8.DEC.2023 10:11:55

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2. 802.11n at HT20 of CH06



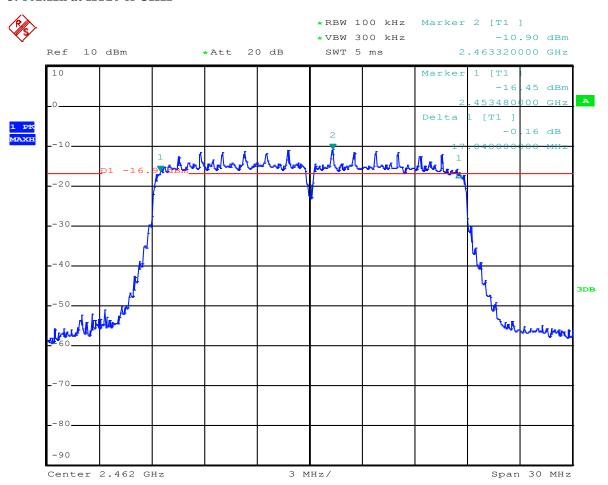
Date: 8.DEC.2023 10:09:28

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3. 802.11n at HT20 of CH11



Date: 8.DEC.2023 10:04:30

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6dB Occupied Bandwidth

EUT		Ι		Model		G36		
Mode		802	802.11n HT40			tage	DC5.0V	
Temperat	ure	2	4 deg. C,		Humidit	ty	5	6% RH
Channel		el Frequency Transfer 6 dB Bandwidth Min (MHz) Rate (MHz) (Mbps)		Minimum Limit (MHz)		Pass/ Fail		
3		2422	mcs0	35.90		0.5		Pass
6	2437		mcs0	35.90		0.5		Pass
9	2452		mcs0	35.9	0	0.5		Pass

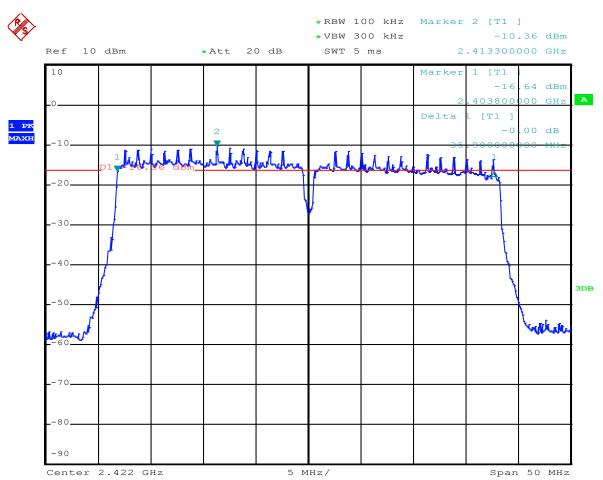
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Date: 2023-12-13



Test Plots:

1. 802.11n at HT40 of CH03



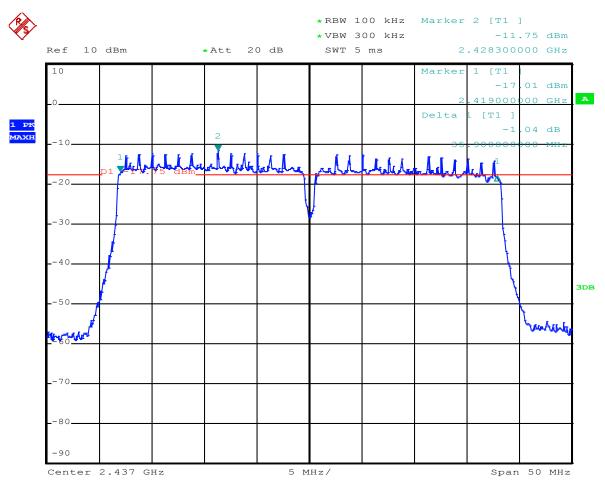
Date: 8.DEC.2023 10:15:41

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Date: 2023-12-13



2. 802.11n at HT40 of CH06



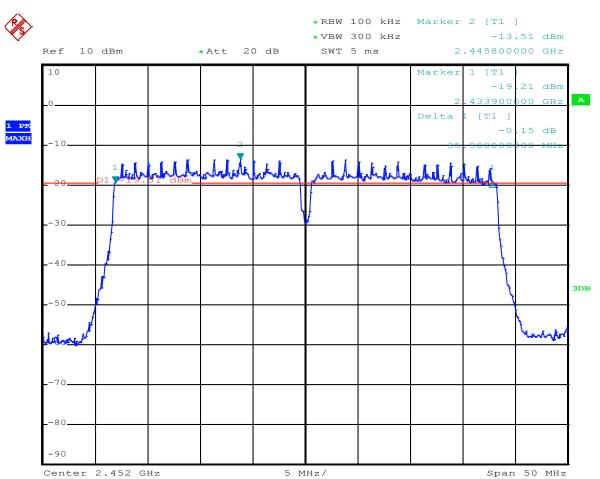
Date: 8.DEC.2023 10:19:57

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3. 802.11n at HT40 of CH09



Date: 8.DEC.2023 10:24:12

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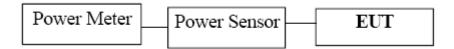
Date: 2023-12-13



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8. Maximum Output Power

8.1 Test Setup



8.2 Limits of Maximum Output Power

The Maximum Output Power Measurement is 30dBm.

8.3 Test Procedure

The RF power output was measured with a Power meter connected to the RF Antenna connector (conducted measurement) while EUT was operating in transmit mode at the appropriate centre frequency.

Note: The PK power was measured

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8.4Test Results

EUT		Dash Cam		Model		G36
Mode	e		802.11b	Test Voltage		DC5.0V
Temperat	ure		24 deg. C,	Humidity	Humidity 5	
Channel	Frequ (MH:	uency z)	PK Power (dBm)	Power Lin (dBm)	nit	Pass/ Fail
1	2412		10.62	30		Pass
6	2437		11.50	30		Pass
11	11 2462		10.26	10.26 30		Pass

Note: 1. At finial test to get the worst-case emission at 1Mbps for CH01, CH06 and CH11

2. The result basic equation calculation as follow: Power Output = Power Reading + Cable loss + Attenuator

3. The worse case was recorded

EUT			Dash Cam	Model	G36
Mode	Mode		802.11g	Test Voltage	DC5.0V
Temperat	ure		24 deg. C,	Humidity	56% RH
Channel	Frequ (MH	uency z)	PK Power (dBm)	Power Limit (dBm)	Pass/ Fail
1	1 2412		14.62	30	Pass
6	6 2437		12.37	30	Pass
11	11 2462		13.11	30	Pass

Note: 1. At finial test to get the worst-case emission at 6Mbps for CH01, CH06 and CH11

- 2. The result basic equation calculation as follow: Power Output = Power Reading + Cable loss + Attenuator
- 3. The worse case was recorded

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EUT		Dash Cam		Model			G36	
Mode			802.11n (HT20)	Test Volt			DC5.0V	
Temperat	ure		24 deg. C,	Hur	nidity	56% RH		
Channel	Frequ (MH	uency z)	PK Power (dBm)		Power Lir (dBm)	nit	Pass/ Fail	
1	1 2412		12.87		30		Pass	
6	6 2437		10.88	10.88		30		
11	11 2462		10.16	10.16		30		

Note: 1. At finial test to get the worst-case emission at mcs0 of 11n HT20 for CH01, CH06 and CH11

2. The result basic equation calculation as follow: Power Output = Power Reading + Cable loss + Attenuator

3. The worse case was recorded

EUT		Dash Cam		Mo	Model		G36	
Mode			802.11n (HT40)		Test Voltage		DC5.0V	
Temperat	ure		24 deg. C,	Hum	idity	ity 56% RH		
Channel	Frequ (MH	uency z)	PK Power (dBm)		Power I		Pass/ Fail	
3	2422		13.43		30		Pass	
6	2437		11.98		30		Pass	
9	2452		11.08		30		Pass	

Note: 1. At finial test to get the worst-case emission at msc0 of 11n HT40 for CH03, CH06 and CH09

2. The result basic equation calculation as follow:

Power Output = Power Reading + Cable loss + Attenuator

3. The worse case was recorded

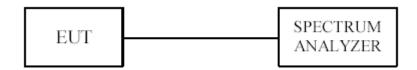
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9. Power Spectral Density Measurement

9.1 Test Setup



9.2 Limits of Power Spectral Density Measurement

The Maximum Power Spectral Density Measurement is 8dBm/3kHz.

9.3 Test Procedure

- 1. Use this procedure when the maximum peak conducted output power in the fundamental emission is used to demonstrate compliance.
- 2. Set the RBW = 10 kHz.
- 3. Set the VBW \geq 30 kHz.
- 4. Set the span to 1.5 times the DTS channel bandwidth.
- 5. Detector = peak.
- 6. Sweep time = auto couple.
- 7. Trace mode = max hold.
- 8. Allow trace to fully stabilize.
- 9. Use the peak marker function to determine the maximum amplitude level.
- 10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.
- 11. The resulting peak PSD level must be ≤ 8 dBm/3kHz.

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9.4Test Result

EUT			Dash Cam	Model	G	36	
Mode			802.11b 11Mbps	Test Voltage	DC:	5.0V	
Temperat	ure	24 deg. C,		Humidity	56%	56% RH	
Channel	Freq	uency	Power Spectral Density (dBm/10kHz)		Limit	Pass/ Fail	
	(M	(Hz)			(dBm/3kHz)		
1	24	412	-13.06		8	Pass	
6	24	37 -15.03			8	Pass	
11	24	162	-15.73	-15.73		Pass	

EUT			Dash Cam	Model	G3	36	
Mode		802.11b 1Mbps		Test Voltage	DC5	DC5.0V	
Temperat	mperature		24 deg. C,	Humidity	56%	56% RH	
Channel	Freq	uency Power Spectral Density (dBm/10kHz)		m/10kHz)	Limit	Pass/ Fail	
	(M	(Hz)			(dBm/3kHz)		
1	24	412	-13.97		8	Pass	
6	24	-15.38			8	Pass	
11	24	462	-16.82		8	Pass	

EUT			Dash Cam	Model	G3	86
Mode		802.11g 6Mbps		Test Voltage	DC5	.0V
Temperat	ure		24 deg. C,	Humidity	Humidity 56% RH	
Channel	Freq	uency	uency Power Spectral Density (dBm/10kHz)		Limit	Pass/ Fail
	(M	(Hz)			(dBm/3kHz)	
1	24	412	-13.77		8	Pass
6	24	-15.82			8	Pass
11	24	462	-17.29	-17.29		Pass

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EUT		Dash Cam		Model	G3	86	
Mode	;	802.11n HT20 mcs0		Test Voltage	DC5	DC5.0V	
Temperat	ture		24 deg. C,	Humidity	56%	RH	
Channel	Freq	uency	Power Spectral Density (dBm	Power Spectral Density (dBm/10kHz)		Pass/ Fail	
	(M	(Hz)			(dBm/3kHz)		
1	24	412	-14.34		8	Pass	
6	24	437	-16.77		8	Pass	
11	24	462	-17.84		8	Pass	

EUT			Dash Cam	Model	G3	36
Mode			802.11n HT40 mcs0	Test Voltage	DC5	.0V
Temperat	ure		24 deg. C,	Humidity	56%	RH
Channel	Freq	uency	Power Spectral Density (dBm	Power Spectral Density (dBm/10kHz)		Pass/ Fail
	(M	(Hz)			(dBm/3kHz)	
3	24	-18.40			8	Pass
6	24	137	-19.29	-19.29		Pass
9	24	152	-20.66		8	Pass

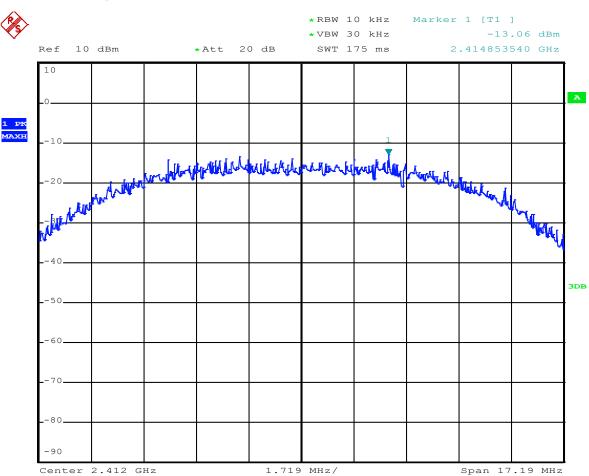
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9.5 Photo of Power Spectral Density Measurement

1.802.11b at 11Mbps of CH01



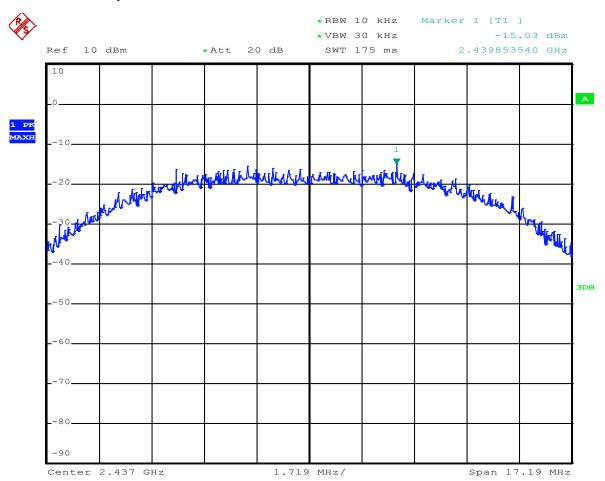
Date: 8.DEC.2023 11:34:48

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2. 802.11b at 11Mbps at CH06



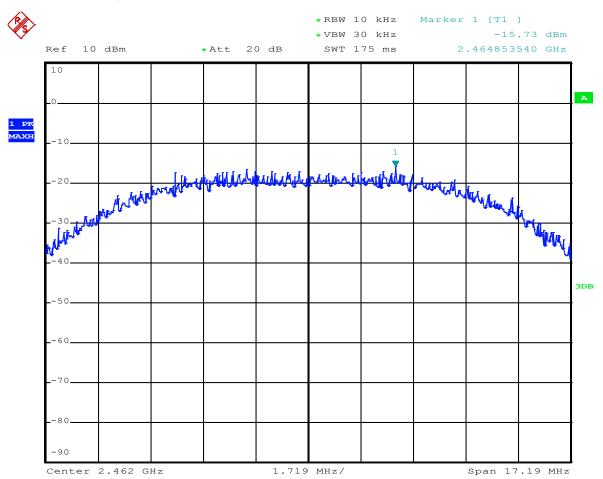
Date: 8.DEC.2023 11:36:08

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3. 802.11b at 11Mbps of CH11



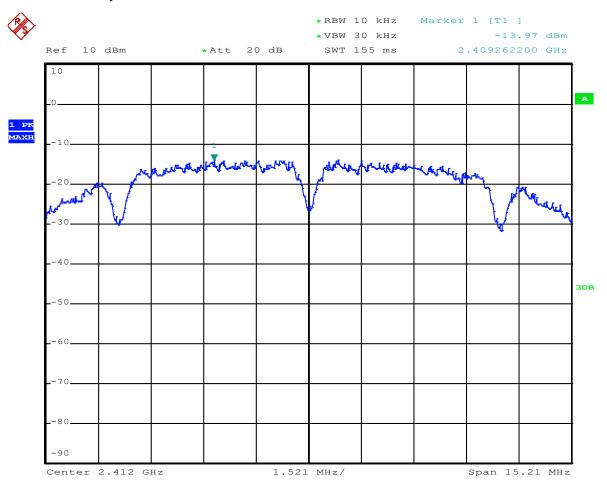
Date: 8.DEC.2023 11:38:22

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4. 802.11b at 1Mbps of CH1



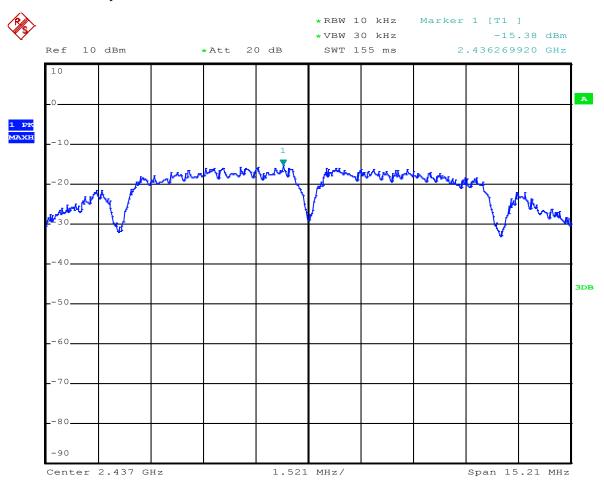
Date: 8.DEC.2023 11:32:45

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5. 802.11b at 1Mbps of CH6



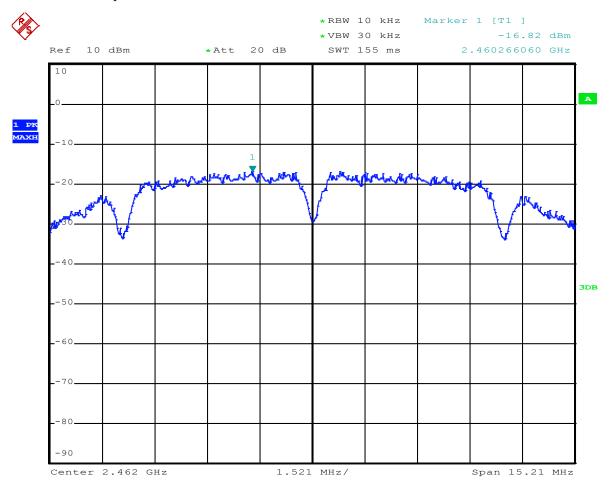
Date: 8.DEC.2023 11:31:38

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6. 802.11b at 1Mbps of CH11



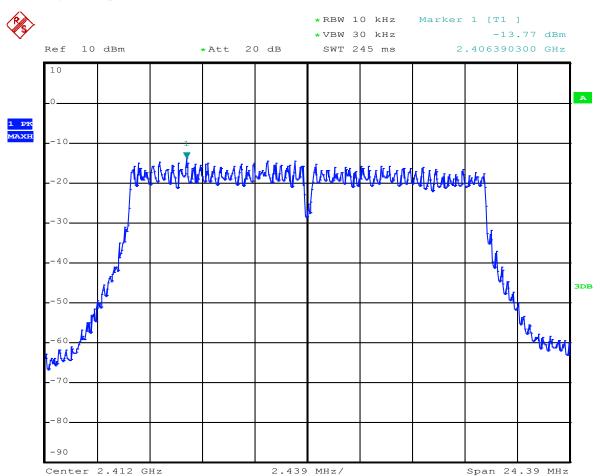
Date: 8.DEC.2023 11:30:12

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7. 802.11g at 6Mbps of CH1



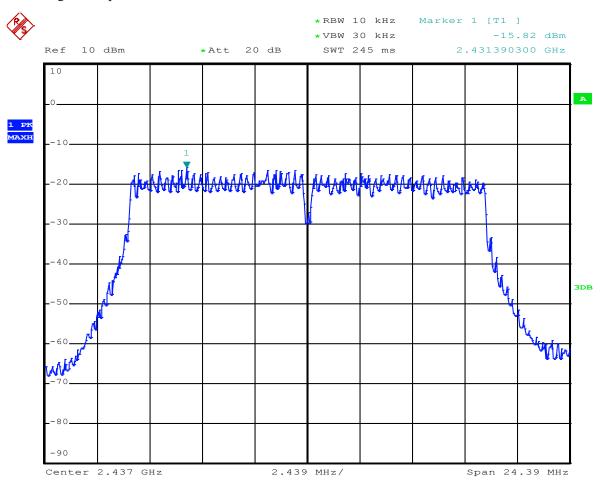
Date: 8.DEC.2023 11:24:24

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8. 802.11g at 6Mbps of CH6



Date: 8.DEC.2023 11:26:03

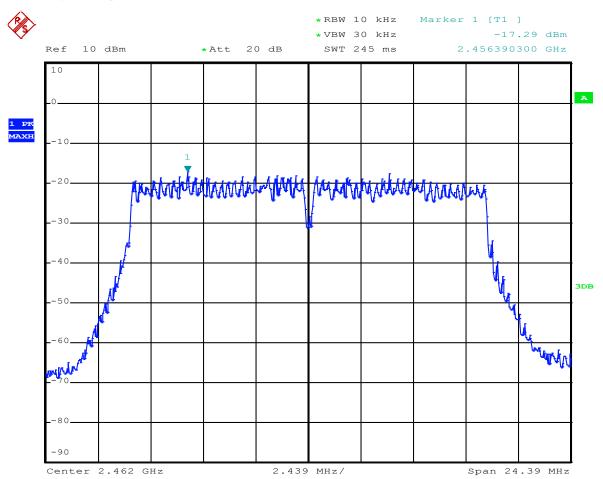
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9. 802.11g at 6Mbps of CH11



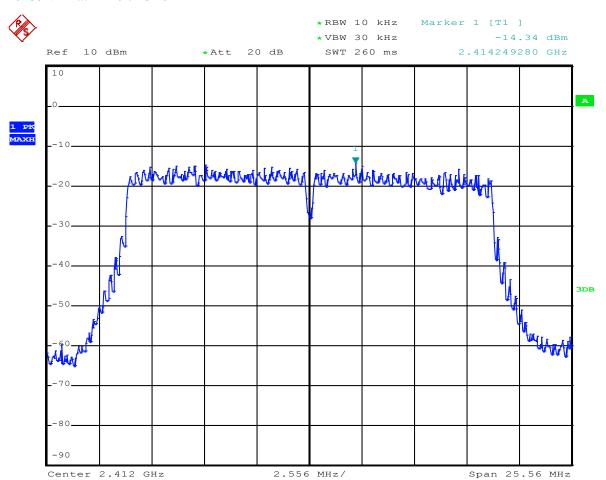
Date: 8.DEC.2023 11:27:00

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10. 802.11n at HT20 of CH01



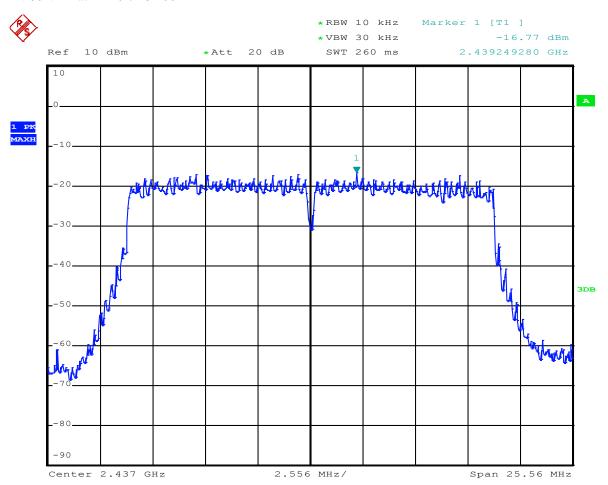
Date: 8.DEC.2023 11:42:53

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11. 802.11n at HT20 of CH06



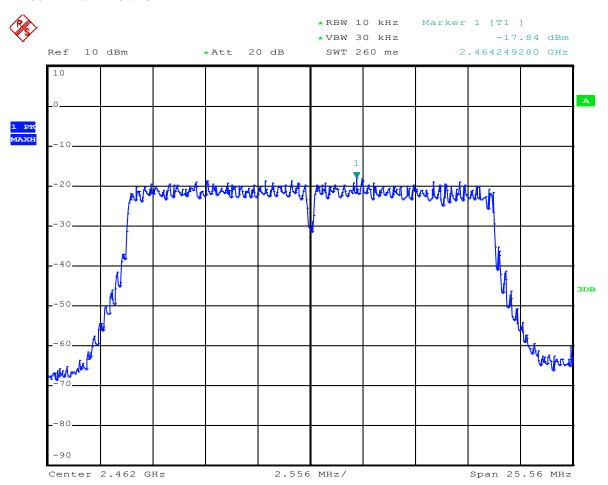
Date: 8.DEC.2023 11:41:56

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12. 802.11n at HT20 of CH11



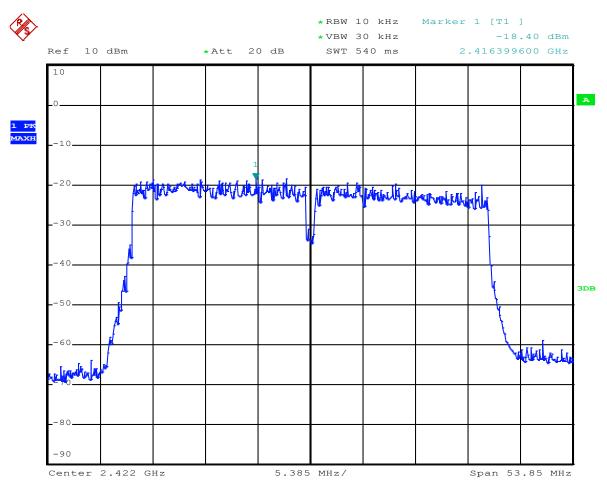
Date: 8.DEC.2023 11:41:04

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13. 802.11n at HT40 of CH03



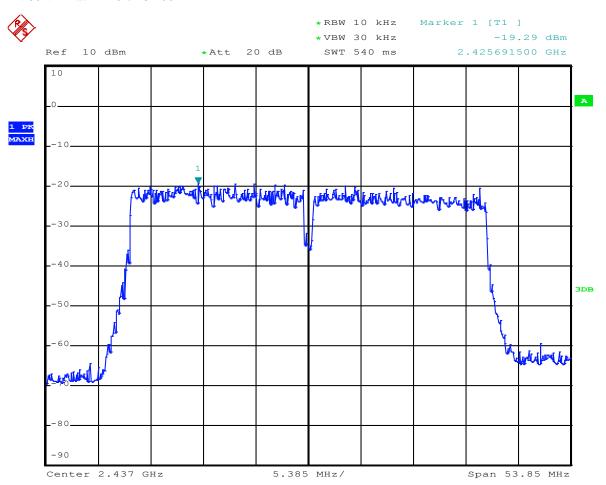
Date: 8.DEC.2023 11:44:28

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14. 802.11n at HT40 of CH06



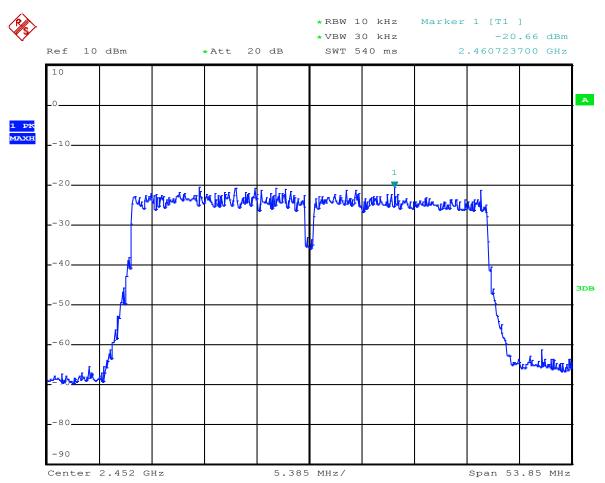
Date: 8.DEC.2023 11:46:14

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15. 802.11n at HT40 of CH09



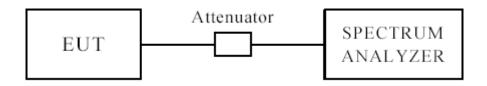
Date: 8.DEC.2023 11:47:41

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10 Out of Band Measurement 10.1 Test Setup for band edge



The restricted band requirement based on radiated emission test; please see the clause 6 for the test setup

10.2 Limits of Out of Band Emissions Measurement

- 1. Below –30dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).
- 2. Fall in the restricted bands listed in section 15.205. The maximum permitted average field strength is listed in section 15.209.

10.3 Test Procedure

For signals in the restricted bands above and below the 2.4-2.483GHz allocated band a measurement was made of radiated emission test. (Peak values with RBW=VBW=1MHz and PK detector. AV value with RBW=1MHz, VBW=10Hz and PK detector)

For bandage test, the spectrum set as follows: RBW=100, VBW=300 kHz. A conducted measurement used

10.4 Test Result

Please see next pages

Note: 1. For band-edge measurement, the frequency from 30MHz-25GHz was tested. And It met the FCC rule.

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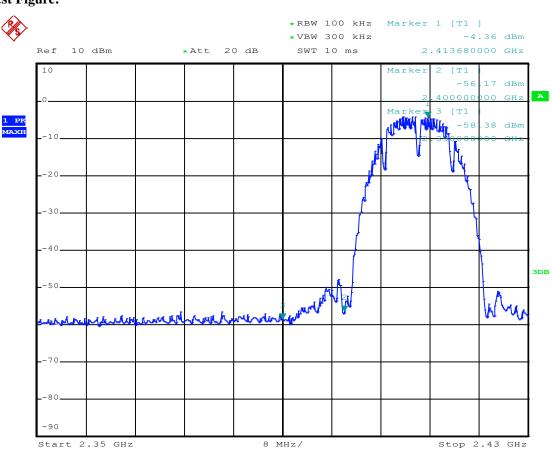
For 802.11b mode

CH01 at 1Mbps

10.4 Band-edge Measurement

EUT	Dash Cam	Model	G36
Mode	Keeping Transmitting	Test Voltage	DC5.0V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK

Test Figure:



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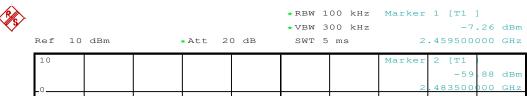
CH11 at 1Mbps

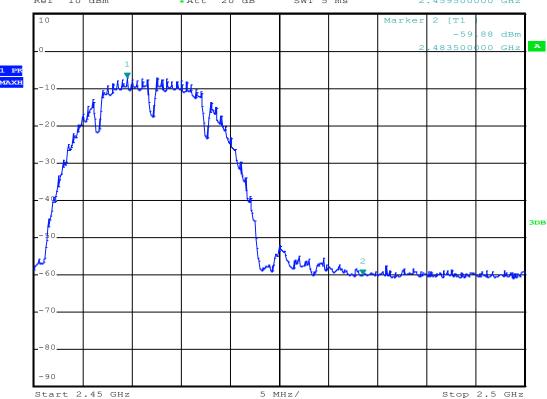
10.4 Band-edge Measurement

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EUT	Dash Cam	Model	G36
Mode	Keeping Transmitting	Test Voltage	DC5.0V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK

Test Figure:





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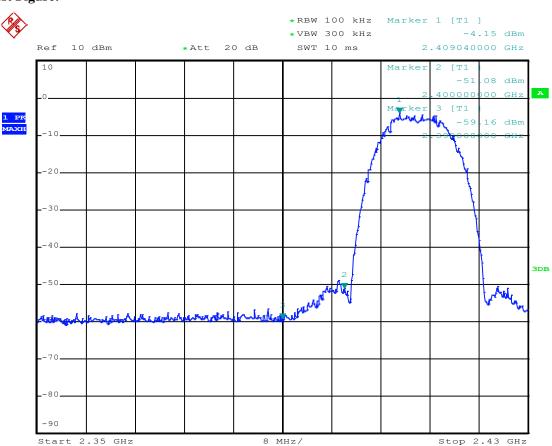
For 802.11b mode

CH01 at 11Mbps

10.4 Band-edge Measurement

EUT	Dash Cam	Model	G36
Mode	Keeping Transmitting	Test Voltage	DC5.0V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK

Test Figure:



Date: 8.DEC.2023 13:36:49

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CH11 at 11Mbps

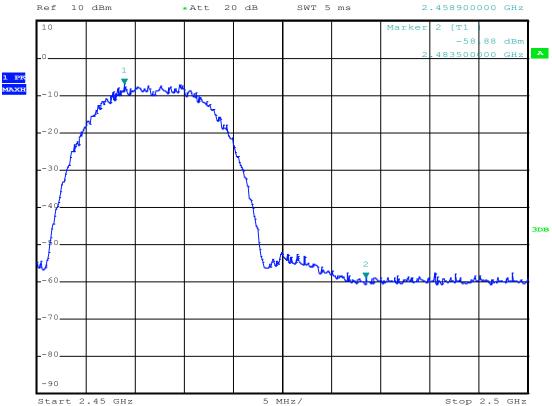
10.4 Band-edge Measurement

EUT	Dash Cam	Model	G36
Mode	Keeping Transmitting	Test Voltage	DC5.0V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK

Test Figure:







Date: 8.DEC.2023 13:46:59

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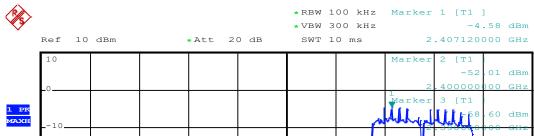
For 802.11g mode

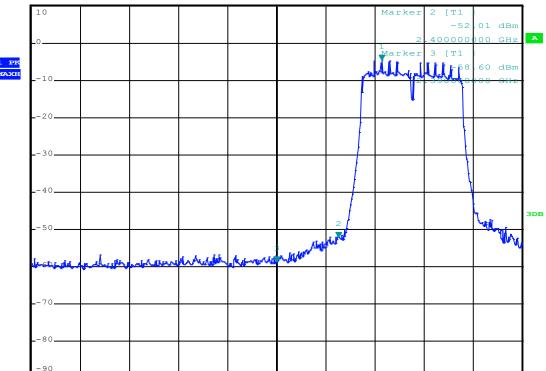
CH01 at 6Mbps

10.4 Band-edge Measurement

EUT	Dash Cam	Model	G36
Mode	Keeping Transmitting	Test Voltage	DC5.0V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK

Test Figure:





8 MHz/

Stop 2.43 GHz

Date: 8.DEC.2023 13:38:32

Start 2.35 GHz

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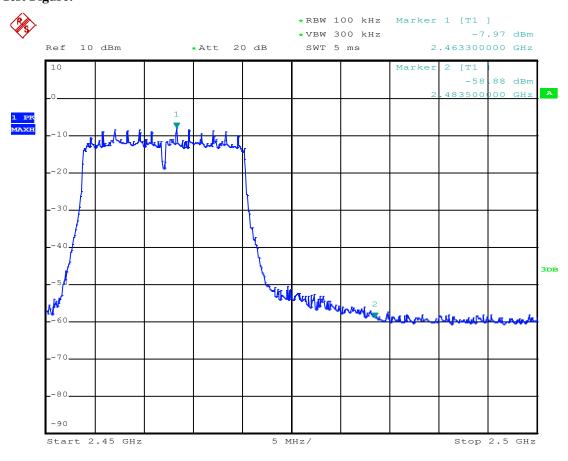


CH11 at 6Mbps

10.4 Band-edge Measurement

EUT	Dash Cam	Model	G36
Mode	Keeping Transmitting	Test Voltage	DC5.0V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK

Test Figure:



Date: 8.DEC.2023 13:44:03

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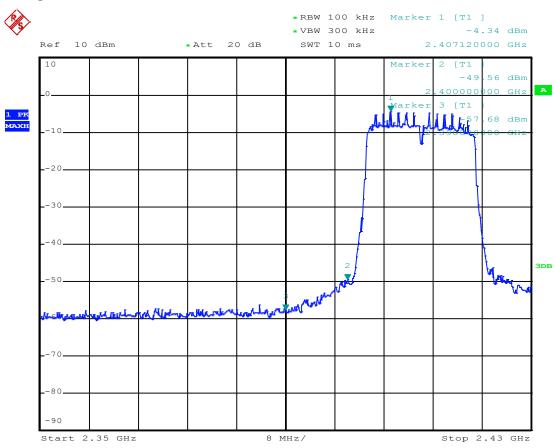
For 802.11n (HT20) mode

CH01 at mcs0

10.4 Band-edge Measurement

EUT	Dash Cam	Model	G36
Mode	Keeping Transmitting	Test Voltage	DC5.0V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK

Test Figure:



Date: 8.DEC.2023 13:40:07

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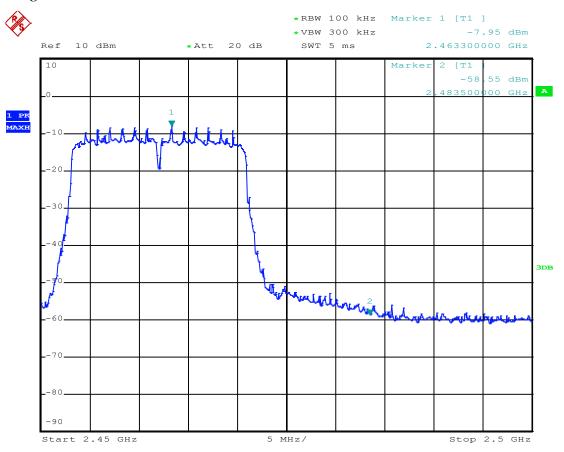


CH11 at mcs0

10.4 Band-edge Measurement

EUT	Dash Cam	Model	G36
Mode	Keeping Transmitting	Test Voltage	DC5.0V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK

Test Figure:



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Date: 8.DEC.2023 13:42:20
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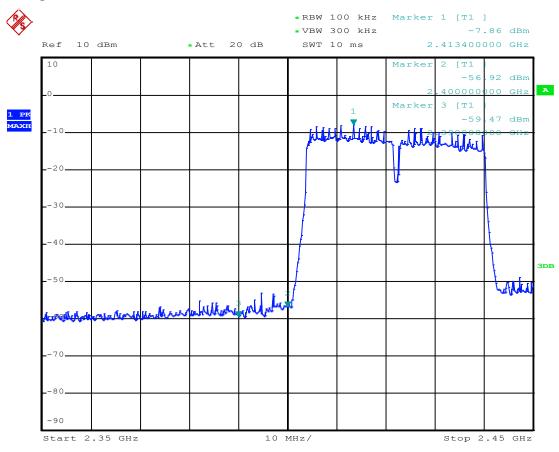
For 802.11n (HT40) mode

CH03 at msc0

10.4 Band-edge and Restricted band Measurement

EUT	Dash Cam	Model	G36
Mode	Keeping Transmitting	Test Voltage	DC5.0V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK

Test Figure:



Date: 8.DEC.2023 11:54:14

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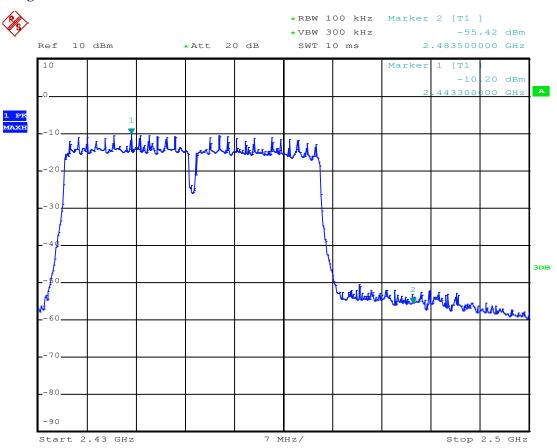


CH09 at msc0

10.4 Band-edge and Restricted band Measurement

EUT	Dash Cam	Model	G36
Mode	Keeping Transmitting	Test Voltage	DC5.0V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK

Test Figure:



```
Date: 8.DEC.2023 11:52:23
```

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10.5 Restricted band Measurement

EUT		Dash Cam		Mo	odel	G36		
Mode	Kee	Keeping Transmitting				DC5.0V		
Temperature		24 deg. C,	Humidity		56% RH			
Test Result:		Pass	Det	ector	PK			
	802.11b mode, Low Channel, Horizontal							
2390 MHz	PK (dBµV/m)	37.16	τ.	٠,		$74(dB\mu V/m)$		
	AV (dBμV/m)		Liı	mit	54(dBμV/m)			
		802.11b mode, Low	Channel,	Vertical				
2390 MHz	PK (dBμV/m)	36.93	Liı	nit	$74(dB\mu V/m)$			
	AV (dBμV/m)		LII	IIIt		54(dBµV/m)		

EUT		Dash Cam		M	odel	G36				
Mode	Ke	eping Transmitting	Test Voltage		DC5.0V					
Temperature		24 deg. C,	Humidity		56% RH					
Test Result:		Pass	Det	ector	PK					
	802.11b mode, High Channel, Horizontal									
2483.5 MHz	PK (dBμV/m)	40.92			74(dBμV/m)					
	AV (dBμV/m)		Limi	IT	54(dBμV/m)					
		802.11b mode, High	Channel, V	/ertical						
2483.5 MHz	PK (dBμV/m)	38.77	T inc	:4	74(dBμV/m)					
	AV (dBμV/m)		Limi	Limit		$54(dB\mu V/m)$				

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10.5 Restricted band Measurement

EUT		Dash Cam		Model		G36	
Mode	Kee	eping Transmitting	Test V	/oltage	DC5.0V		
Temperature		24 deg. C,	Humidity		56% RH		
Test Result:		Pass		Det	ector	PK	
		802.11g mode, Low C	Iorizonta	1			
2390 MHz	PK (dBµV/m)	36.88	т:.	:4		$74(dB\mu V/m)$	
	AV (dBμV/m)		Lii	nit		54(dBµV/m)	
		802.11g mode, Low	Channel,	Vertical			
2390 MHz	PK (dBμV/m)	37.05	т:,	nit	$74(dB\mu V/m)$		
	AV (dBμV/m)		Lll	IIIt		54(dBµV/m)	

EUT		Dash Cam		M	odel	G36				
Mode	Ke	eping Transmitting		Test Voltage		DC5.0V				
Temperature		24 deg. C,	Humidity		56% RH					
Test Result:		Pass	Det	ector	PK					
	802.11g mode, High Channel, Horizontal									
2483.5 MHz	PK (dBμV/m)	42.39	T :		74(dBμV/m)					
	AV (dBμV/m)		Limi	I	$54(dB\mu V/m)$					
		802.11g mode, High	Channel, V	ertical						
2483.5 MHz	PK (dBμV/m)	39.85	Limi	:4	74(dBμV/m)					
	AV (dBμV/m)		Limi	ll		$54(dB\mu V/m)$				

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10.5 Restricted band Measurement

EUT		Dash Cam		Mo	odel	G36	
Mode	Kee	Keeping Transmitting				DC5.0V	
Temperature		24 deg. C,				56% RH	
Test Result:		Pass		Det	ector	PK	
	80	2.11n HT20 mode, Lov	w Channe	l, Horizo	ntal		
2390 MHz	PK (dBµV/m)	37.10	т:.	:4	$74(dB\mu V/m)$		
	AV (dBμV/m)		Lii	nit	54(dBμV/m)		
	8	302.11n HT20 mode, Lo	ow Chanr	nel, Vertic	cal		
2390 MHz	PK (dBμV/m)	37.28	τ:.	nit	74(dBμV/m)		
	AV (dBμV/m)		Lll	IIIt	54(dBμV/m)		

EUT		Dash Cam		M	odel	G36			
Mode	Ke	eping Transmitting	Test Voltage		DC5.0V				
Temperature		24 deg. C,	Humidity		56% RH				
Test Result:		Pass	Det	ector	PK				
802.11n HT20 mode, High Channel, Horizontal									
2483.5 MHz	PK (dBμV/m)	43.79			74(dBμV/m)				
	AV (dBμV/m)		Limi	IT		$54(dB\mu V/m)$			
	8	02.11n HT20 mode, H	igh Channe	l, Vertic	cal				
2483.5 MHz	PK (dBμV/m)	40.03	Limi	:4	74(dBμV/m)				
	AV (dBμV/m)		Limi	ll		$54(dB\mu V/m)$			

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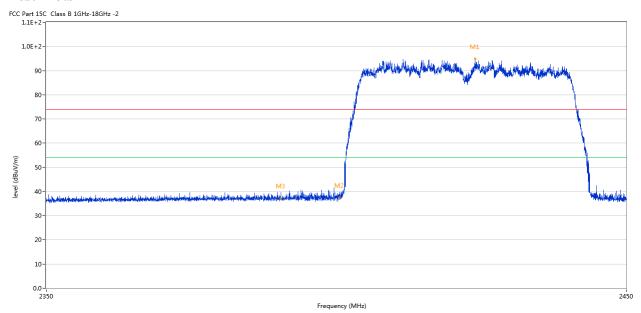
Date: 2023-12-13



10.5 Restricted band Measurement

EUT		Dash Cam		M	odel	G36	
Mode	Kee	Keeping Transmitting				DC5.0V	
Temperature		24 deg. C,				56% RH	
Test Result:		Pass		De	tector	PK	
	80	02.11n HT40 mode, Lov	w Channe	l, Horizo	ntal		
2390 MHz	PK (dBμV/m)	37.23	т:.	:4	74(dBμV/m)		
	AV (dBμV/m)		LII	mit		$54(dB\mu V/m)$	
		802.11n HT40 mode, L	ow Chan	nel Vertic	al		
2390 MHz	PK (dBμV/m)	37.13	τ:,	nit	$74(dB\mu V/m)$		
	AV (dBμV/m)		LII	IIIt		$54(dB\mu V/m)$	

Test Plots



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2423.557	94.93	-3.57	74.0	20.93	Peak	153.00	100	Horizontal	N/A
2	2400.000	37.53	-3.57	74.0	-36.47	Peak	150.00	100	Horizontal	Pass
3	2390.000	37.23	-3.53	74.0	-36.77	Peak	58.80	100	Horizontal	Pass

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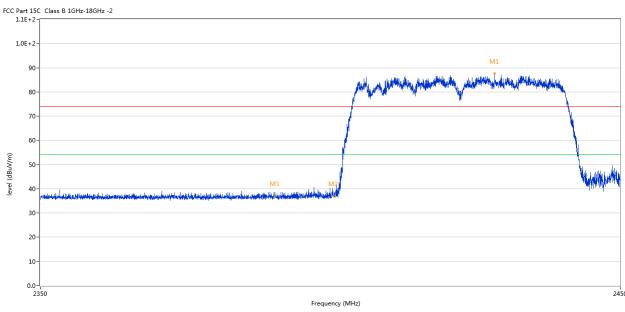
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No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2427.981	87.53	-3.57	74.0	13.53	Peak	344.00	100	Vertical	N/A
2	2400.000	37.13	-3.57	74.0	-36.87	Peak	320.50	100	Vertical	Pass
3	2390.000	37.13	-3.53	74.0	-36.87	Peak	306.60	100	Vertical	Pass

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EUT		Dash Cam		N	Iodel	G36		
Mode	Ke	eping Transmitting		Test Voltage		DC5.0V		
Temperature		24 deg. C,	Humidity		56% RH			
Test Result:		Pass	De	etector	PK			
802.11n HT40 mode, High Channel, Horizontal								
2483.5 MHz	PK (dBµV/m)	45.49	т.	٠,		$74(dB\mu V/m)$		
	AV (dBμV/m)		Lim	IT		54(dBμV/m)		
	8	02.11n HT40 mode, Hi	gh Channel	l, Vertic	al			
2483.5 MHz	PK (dBμV/m)	40.32	т.	٠,	74(dBμV/m)			
	AV (dBμV/m)		Lim	Limit		$54(dB\mu V/m)$		

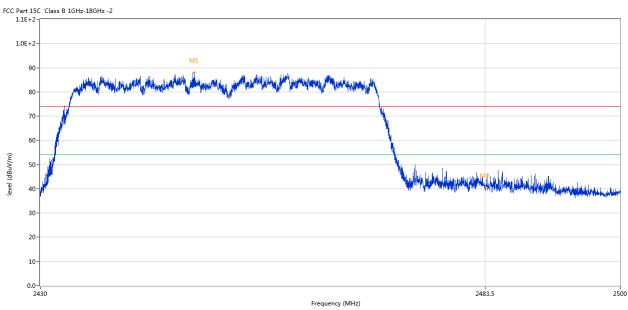


No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2450.085	94.73	-3.57	74.0	20.73	Peak	260.00	100	Horizontal	N/A
2	2483.500	45.49	-3.57	74.0	-28.51	Peak	201.00	100	Horizontal	Pass

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No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2448.423	87.98	-3.57	74.0	13.98	Peak	163.00	100	Vertical	N/A
2	2483.500	40.32	-3.57	74.0	-33.68	Peak	167.00	100	Vertical	Pass

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11.0 Antenna Requirement

11.1 Standard Applicable

For intentional device, according to FCC 47 CFR Section 15.203, 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.

And according to FCC 47 CFR Section 15.247 (b), if transmitter antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the mount in dB that the directional gain of the antenna exceeds 6 dBi.

11.2 Antenna Connected construction

PFC antenna with gain 1.63dBi Max (Get from the antenna specification)

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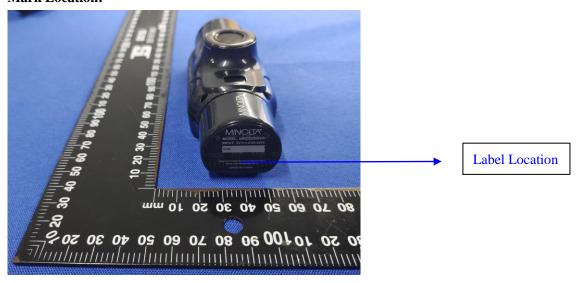


12.0 FCC ID Label

FCC ID: 2A75N-G36

The label must not be a stick-on paper label. The label on these products must be permanently affixed to the product and readily visible at the time of purchase and must last the expected lifetime of the equipment not be readily detachable.

Mark Location:



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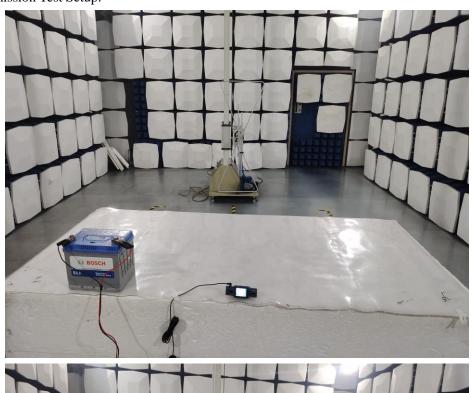
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13.0 Photo of testing

Conducted Emission Test Setup: N/A

Radiated Emission Test Setup:





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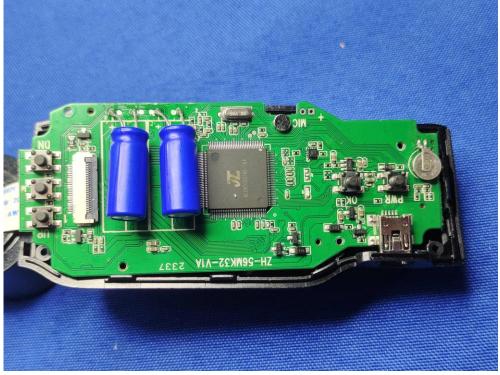
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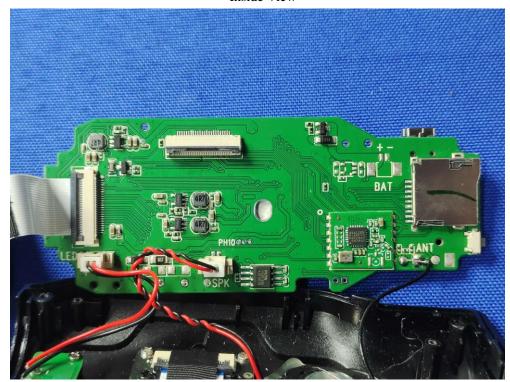
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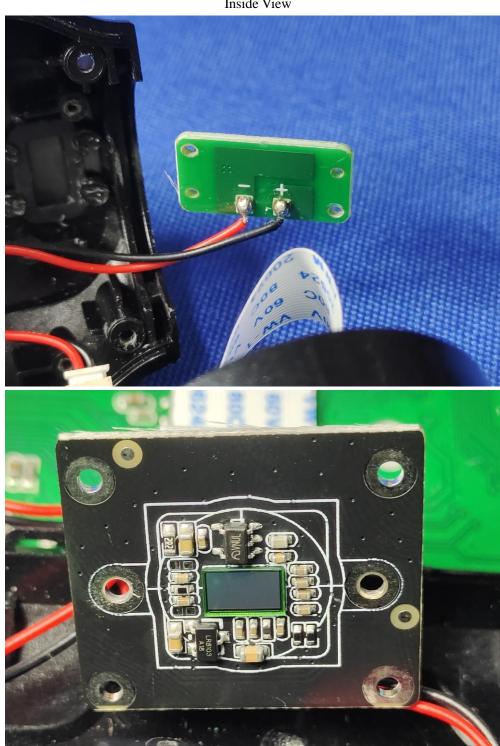
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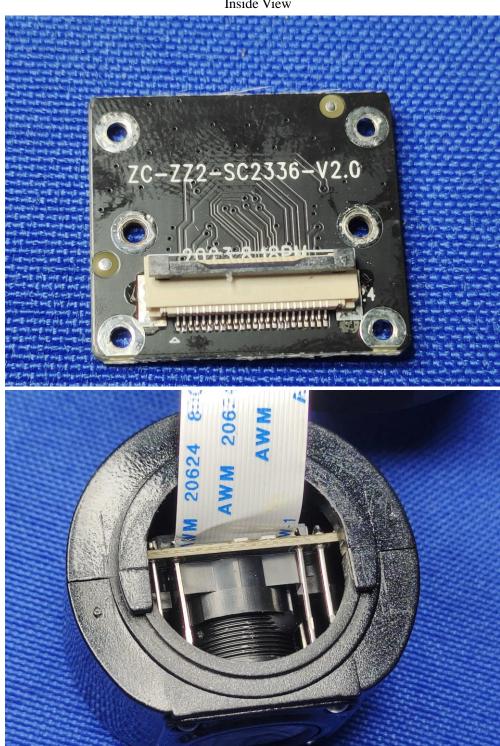
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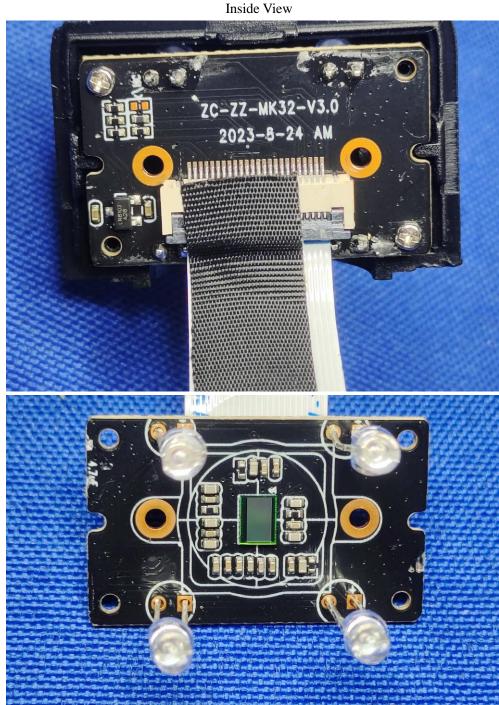
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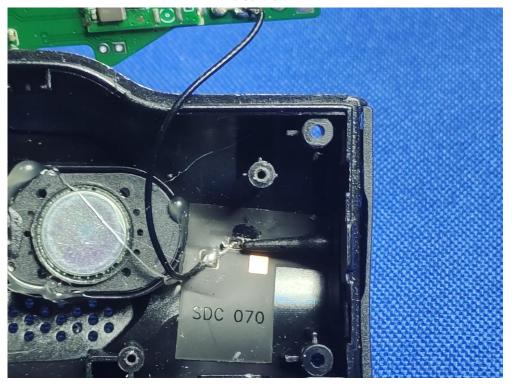
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Date: 2023-12-13



Inside View



-End of the report-