

Report No.: TW2210208-01E

Applicant: Nanjing Magewell Electronics CO., Ltd.

Product: Video Encoder

Model No.: Director Mini

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 long

Terry Tang

Manager

Dated: November 21, 2022

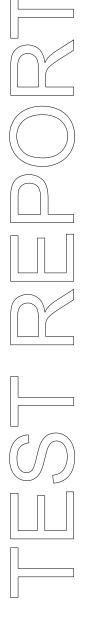
Results appearing herein relate only to the sample tested

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



Report No.: TW2210208-01E

Date: 2022-11-21



Page 2 of 102

Special Statement:

The testing quality ability of our laboratory meet with "Quality Law of People's Republic of China" Clause 19.

The testing quality system of our laboratory meet with ISO/IEC-17025 requirements, which is approved by CNAL. This approval result is accepted by MRA of APLAC.

Our test facility is recognized, certified, or accredited by the following organizations:

CNAS-LAB Code: L2292

The EMC Laboratory has been assessed and in compliance with CNAS-CL01 accreditation criteria for testing Laboratories (identical to ISO/IEC 17025:2017 General Requirements) for the Competence of testing Laboratories.

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

Page 3 of 102

Report No.: TW2210208-01E

Date: 2022-11-21



Test Report Conclusion

Content

1.0	General Details	4
1.1	Test Lab Details.	4
1.2	Applicant Details	4
1.3	Description of EUT	4
1.4	Submitted Sample	5
1.5	Test Duration.	5
1.6	Test Uncertainty.	5
1.7	Test By	5
2.0	List of Measurement Equipment	6
3.0	Technical Details	8
3.1	Summary of Test Results	8
3.2	Test Standards.	8
4.0	EUT Modification	8
5.0	Power Line Conducted Emission Test.	9
5.1	Schematics of the Test.	9
5.2	Test Method and Test Procedure.	9
5.3	Configuration of the EUT	9
5.4	EUT Operating Condition.	10
5.5	Conducted Emission Limit.	10
5.6	Test Result.	10
6.0	Radiated Emission test	13
5.1	Test Method and Test Procedure.	13
5.2	Configuration of the EUT	14
6.3	EUT Operation Condition.	14
6.4	Radiated Emission Limit.	14
7.0	6dB Bandwidth Measurement	24
8.0	Maximum Output Power	44
9.0	Power Spectral Density Measurement.	47
10.0	Out of Band Measurement	66
11.0	Antenna Requirement	84
12.0	FCC ID Label.	85
13.0	Photo of Test Setup and EUT View	86

Report No.: TW2210208-01E

Date: 2022-11-21



Page 4 of 102

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: Nanjing Magewell Electronics CO., Ltd.

Address: 14th Floor, Building 3, No.89 Shengli Road, Jiangning Economic and Technological

Development Zone, Nanjing, China.

Telephone: -Fax: --

1.3 Description of EUT

Product: Video Encoder

Manufacturer: Nanjing Magewell Electronics CO., Ltd.

Address: 14th Floor, Building 3, No.89 Shengli Road, Jiangning Economic and

Technological Development Zone, Nanjing, China.

Trademark: N/A

Model Number: Director Mini

Additional Model Number: N/A Serial No.: A511221018001

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; 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

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; EEE 802.11n (HT40): 7 Channels;

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Report No.: TW2210208-01E

Date: 2022-11-21



Page 5 of 102

Antenna: Two FPC Antennas used. The gain of the antennas is 3.0dBi Max for each (Get from

the antenna specification)

Rating: Input: DC12V, 1.5A, 18W Max

Switching Adapter: Model:PA1015-120IB150

Input: 100-240V~, 50/60Hz, 0.4A; Output: DC12V, 1.5A, 18W Max

1.4 Submitted Sample: 2 Samples

1.5 Test Duration: 2022-10-21 to 2022-11-21

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

Page 6 of 102

Report No.: TW2210208-01E

Date: 2022-11-21



2.0 Test Equipment					
Instrument Type	Manufacturer	Model	Serial No.	Date of Cal.	Due Date
ESPI Test Receiver	R&S	ESPI 3	100379	2022-07-15	2023-07-14
LISN	R&S	EZH3-Z5	100294	2022-07-18	2023-07-17
LISN	R&S	EZH3-Z5	100253	2022-07-18	2023-07-17
Impuls-Begrenzer	R&S	ESH3-Z2	100281	2022-07-18	2023-07-17
Loop Antenna	EMCO	6507	00078608	2022-07-18	2025-07-17
Spectrum	R&S	FSIQ26	100292	2022-07-15	2023-07-14
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	2022-07-18	2023-07-17
Power sensor	Anritsu	MA2491A	32263	2022-07-18	2023-07-17
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	2022-07-15	2023-07-14
EMI Test Receiver	RS	ESCS 30	834115/006	2022-07-15	2023-07-14
Spectrum	HP/Agilent	E4407B	MY50441392	2022-07-15	2023-07-14
Spectrum	RS	FSP	1164.4391.38	2022-07-15	2023-07-14
RF Cable	7h an adi	ZT26-NJ-NJ-8		2022-07-15	2023-07-14
Kr Cable	Zhengdi	M/FA			
RF Cable	Zhengdi	7m	1	2022-07-15	2023-07-14
Pre-Amplifier	Schwarebeck	BBV9743	#218	2022-07-15	2023-07-14
Pre-Amplifier	HP/Agilent	8449B	3008A00160	2022-07-15	2023-07-14
LISN	SCHAFFNER	NNB42	00012	2022-08-18	2023-07-17
ESPI Test Receiver	R&S	ESPI 3	100379	2022-07-15	2023-07-14
LISN	R&S	EZH3-Z5	100294	2022-07-18	2023-07-17
LISN	R&S	EZH3-Z5	100253	2022-07-18	2023-07-17

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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Report No.: TW2210208-01E Page 7 of 102

Date: 2022-11-21



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 100%.

Page 8 of 102

Report No.: TW2210208-01E

Date: 2022-11-21



3.0 **Technical Details**

3.1 **Summary of test results**

Standard	Test Type	Result	Notes
ECC Part 15, Paragraph 15.107 & 15.207	Conducted Emission Test	Pass	Complies
FCC Part 15 Subpart C Paragraph 15.247(a)(2) Limit	Spectrum bandwidth of a Orthogonal Frequency Division Multiplex System Limit: 6dB bandwidth>500kHz	Pass	Complies
FCC Part 15, Paragraph 15.247(b)	Maximum peak output power Limit: max. 30dBm	Pass	Complies
FCC Part 15, Paragraph 15.109,15.205 & 15.209	Transmitter Radiated Emission Limit: Table 15.209	Pass	Complies
FCC Part 15, Paragraph 15.247(e)	Power Spectral Density Limit: max. 8dBm	Pass	Complies
FCC Part 15, Paragraph 15.247(d)	Out of Band Emission and Restricted Band Radiation Limit: 20dB less than peak value of fundamental frequency Restricted band limit: Table 15.209	Pass	Complies

3.2 **Test Standards**

FCC Part 15 Subpart & Subpart C, Paragraph 15.247

EUT Modification 4.0

No modification by SHENZHEN TIMEWAY TESTING LABORATORIES.

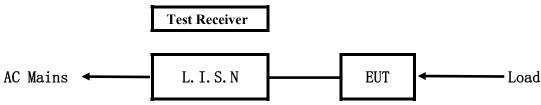
Report No.: TW2210208-01E

Date: 2022-11-21



5.0 Power Line Conducted Emission Test

5.1 Schematics of the test

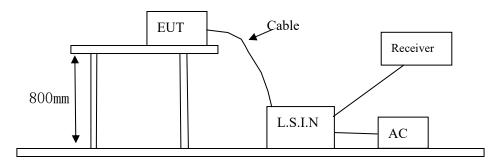


EUT: Equipment Under Test

5.2 Test Method and test Procedure

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

Test Voltage: 120V~, 60Hz 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
Video Encoder	Nanjing Magewell Electronics CO., Ltd.	Director Mini	2AP6W-ENCODER5511

B. Internal Device

Device	Manufacturer	Model	FCC ID/DOC
N/A			

C. Peripherals

Device	Manufacturer	Model	Rating
N/A			

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Report No.: TW2210208-01E Page 10 of 102

Date: 2022-11-21



5.4 **EUT Operating Condition**

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

- Setup the EUT and simulators as shown on follow Α
- В 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

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

Report No.: TW2210208-01E

Date: 2022-11-21



Conducted Emission on Live Terminal (150kHz to 30MHz) A:

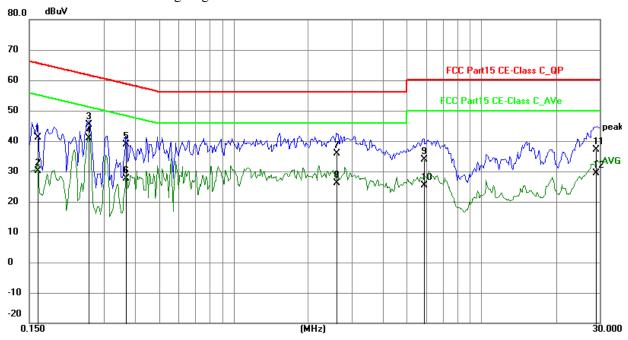
EUT Operating Environment

Temperature: 26℃ Humidity: 65%RH Atmospheric Pressure: 101 kPa

EUT set Condition: Keep WIFI Transmitting

Results: Pass

Please refer to following diagram for individual



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1617	31.45	9.78	41.23	65.38	-24.15	QP	Р
2	0.1617	20.34	9.78	30.12	55.38	-25.26	AVG	Р
3	0.2615	35.58	9.75	45.33	61.38	-16.05	QP	Р
4	0.2615	31.08	9.75	40.83	51.38	-10.55	AVG	Р
5	0.3684	29.14	9.76	38.90	58.54	-19.64	QP	Р
6	0.3684	17.94	9.76	27.70	48.54	-20.84	AVG	Р
7	2.5953	26.09	9.83	35.92	56.00	-20.08	QP	Р
8	2.5953	16.36	9.83	26.19	46.00	-19.81	AVG	Р
9	5.8587	24.01	9.96	33.97	60.00	-26.03	QP	Р
10	5.8587	15.40	9.96	25.36	50.00	-24.64	AVG	Р
11	29.0613	25.86	11.24	37.10	60.00	-22.90	QP	Р
12	29.0613	18.18	11.24	29.42	50.00	-20.58	AVG	Р

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Report No.: TW2210208-01E

Date: 2022-11-21



B: Conducted Emission on Neutral Terminal (150kHz to 30MHz)

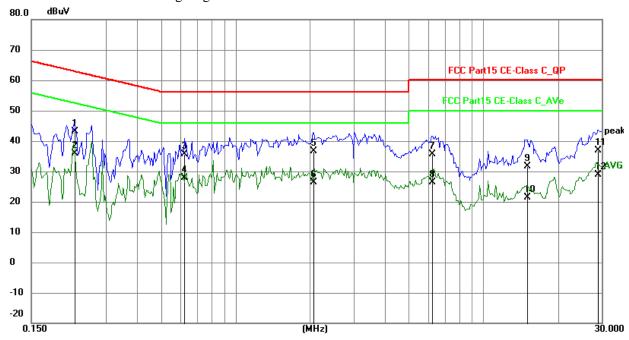
EUT Operating Environment

Temperature: 26℃ Humidity: 65%RH Atmospheric Pressure: 101 kPa

EUT set Condition: Keep WIFI Transmitting

Results: Pass

Please refer to following diagram for individual



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.2241	33.43	9.75	43.18	62.67	-19.49	QP	Р
2	0.2241	26.09	9.75	35.84	52.67	-16.83	AVG	Р
3	0.6219	25.95	9.78	35.73	56.00	-20.27	QP	Р
4	0.6219	18.17	9.78	27.95	46.00	-18.05	AVG	Р
5	2.0610	26.95	9.80	36.75	56.00	-19.25	QP	Р
6	2.0610	16.57	9.80	26.37	46.00	-19.63	AVG	Р
7	6.2058	25.71	9.98	35.69	60.00	-24.31	QP	Р
8	6.2058	16.47	9.98	26.45	50.00	-23.55	AVG	Р
9	15.0549	21.33	10.38	31.71	60.00	-28.29	QP	Р
10	15.0549	11.07	10.38	21.45	50.00	-28.55	AVG	Р
11	28.9974	25.69	11.24	36.93	60.00	-23.07	QP	Р
12	28.9974	17.65	11.24	28.89	50.00	-21.11	AVG	Р

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Report No.: TW2210208-01E Page 13 of 102

Date: 2022-11-21

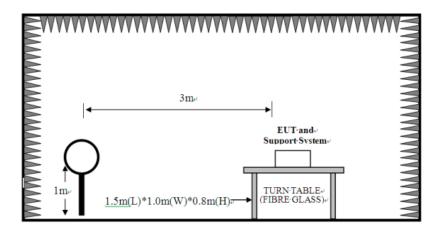


6 Radiated Emission Test

- 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 30 MHz 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



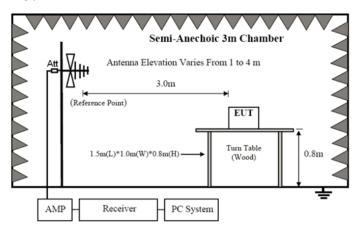
Page 14 of 102

Report No.: TW2210208-01E

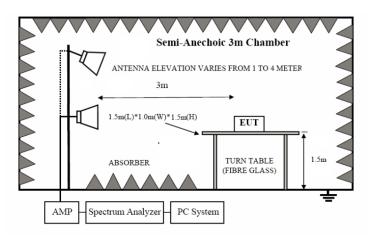
Date: 2022-11-21



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:

Report No.: TW2210208-01E Page 15 of 102

Date: 2022-11-21



Frequencies in restricted band are complied to limit on Paragraph 15.209

Frequency Range (MHz)	Distance (m)	Field strength (dB μ V/m)
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 higher limit applies at the band edges.
- 3. Distance refers to the distance in meters between the measuring instrument antenna and the EUT
- 4. Worse case were recorded in the test report. 802.11b was the worst case.

Page 16 of 102

Report No.: TW2210208-01E

Date: 2022-11-21

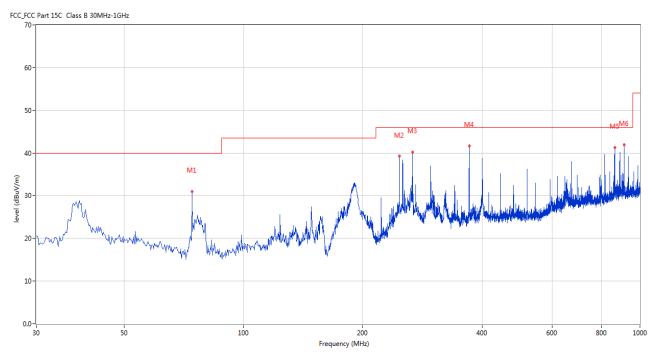


Test result General Radiated Emission Data and Harmonics Radiated Emission Data

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

EUT set Condition: Keep Transmitting

Results: Pass



No.	Frequency	Results	Factor	Limit	Over	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	Limit		(0)	(cm)		
					(dB)					
1	74.124	30.99	-17.14	40.0	-9.01	Peak	0.00	200	Horizontal	Pass
2	247.226	39.22	-12.10	46.0	-6.78	Peak	347.00	100	Horizontal	Pass
3	266.863	40.26	-11.76	46.0	-5.74	Peak	0.00	200	Horizontal	Pass
4	370.870	41.68	-9.53	46.0	-4.32	Peak	32.00	100	Horizontal	Pass
5	865.204	41.32	-2.36	46.0	-4.68	Peak	0.00	200	Horizontal	Pass
6	912.479	41.97	-1.81	46.0	-4.03	Peak	0.00	200	Horizontal	Pass

Page 17 of 102

Report No.: TW2210208-01E

Date: 2022-11-21

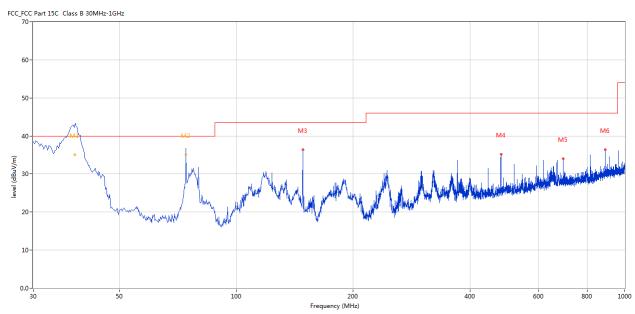


Test result General Radiated Emission Data and Harmonics Radiated Emission Data

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

EUT set Condition: Keep Transmitting

Results: Pass



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	38.432	41.44	-12.66	40.0	1.44	Peak	275.00	185	Vertical	N/A
1*	38.432	35.03	-12.66	40.0	-4.97	QP	275.00	185	Vertical	Pass
2	74.179	40.25	-17.14	40.0	0.25	Peak	287.00	104	Vertical	N/A
2*	74.179	35.13	-17.14	40.0	-4.87	QP	287.00	104	Vertical	Pass
3	148.310	36.43	-17.16	43.5	-7.07	Peak	306.00	100	Vertical	Pass
4	479.968	35.21	-7.40	46.0	-10.79	Peak	0.00	200	Vertical	Pass
5	695.011	33.98	-4.25	46.0	-12.02	Peak	336.00	100	Vertical	Pass
6	890.175	36.44	-1.89	46.0	-9.56	Peak	37.00	100	Vertical	Pass

Page 18 of 102

18000

Report No.: TW2210208-01E

Date: 2022-11-21

30 20-

10-

0.0-



Please refer to the following test plots for details:

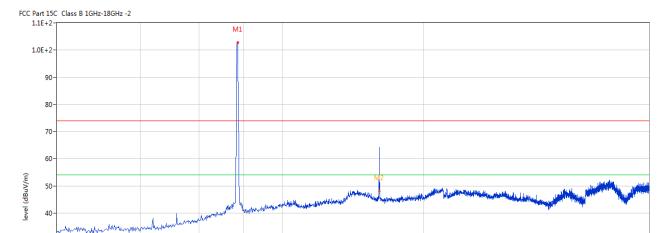
CH01 for 11b at 1Mbps: Horizontal

1500

2000

2483.5

3000



No. Frequency Results Factor Limit Over Detector Table Height **ANT** Verdict (MHz) (dBuV/m) (dB) (dBuV/m) Limit (dB) (cm) (o) 1 2414.896 102.75 -3.57 74.0 28.75 Peak 94.00 100 Horizontal N/A 2 4824.044 64.16 3.14 74.0 -9.84 Peak 94.00 100 Horizontal Pass 2** 4824.044 54.0 -5.85 94.00 100 48.15 3.14 ΑV Pass Horizontal

Frequency (MHz)

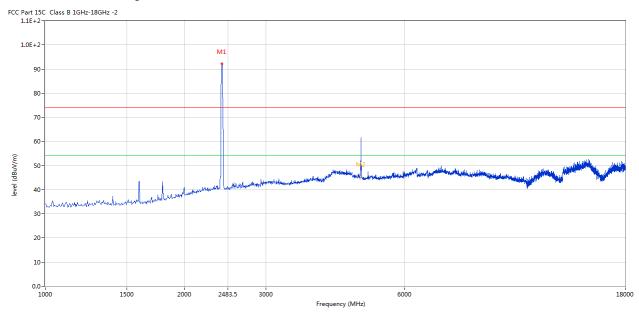
6000

Page 19 of 102 Report No.: TW2210208-01E

Date: 2022-11-21



CH01 for 11b at 1Mbps: Vertical



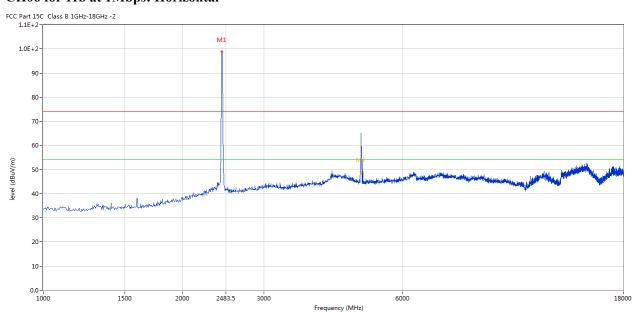
No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2410.647	92.14	-3.57	74.0	18.14	Peak	249.00	100	Vertical	N/A
2	4824.044	61.55	3.14	74.0	-12.45	Peak	311.00	100	Vertical	Pass
2**	4824.044	45.52	3.14	54.0	-8.48	AV	311.00	100	Vertical	Pass

Page 20 of 102 Report No.: TW2210208-01E

Date: 2022-11-21



CH06 for 11b at 1Mbps: Horizontal



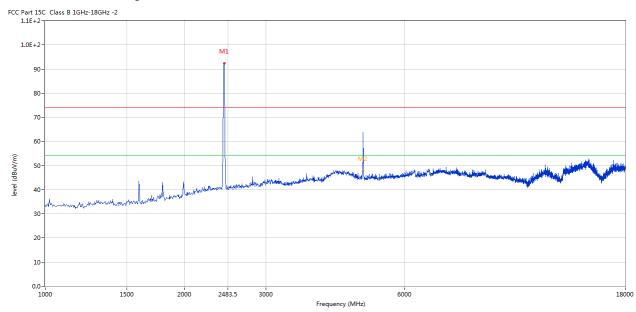
No.	Frequency	Results	Factor	Limit	Over	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	Limit (dB)		(o)	(cm)		
1	2436.141	98.72	-3.57	74.0	24.72	Peak	144.00	100	Horizontal	N/A
2	4875.031	65.07	3.19	74.0	-8.93	Peak	80.00	100	Horizontal	Pass
2**	4875.031	48.94	3.19	54.0	-5.06	AV	80.00	100	Horizontal	Pass

Page 21 of 102 Report No.: TW2210208-01E

Date: 2022-11-21



CH06 for 11b at 1Mbps: Vertical



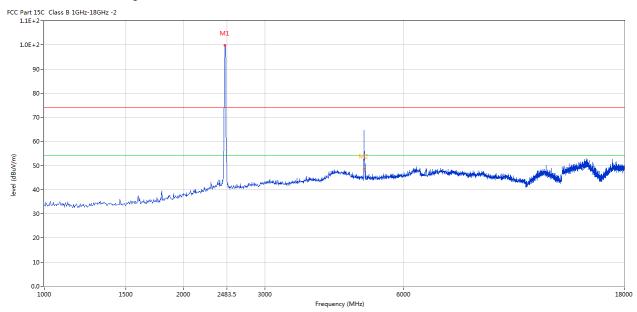
No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2440.390	92.46	-3.57	74.0	18.46	Peak	318.00	100	Vertical	N/A
2	4875.031	63.87	3.19	74.0	-10.13	Peak	313.00	100	Vertical	Pass
2**	4875.031	47.75	3.19	54.0	-6.25	AV	313.00	100	Vertical	Pass

Page 22 of 102 Report No.: TW2210208-01E

Date: 2022-11-21



CH11 for 11b at 1Mbps: Horizontal



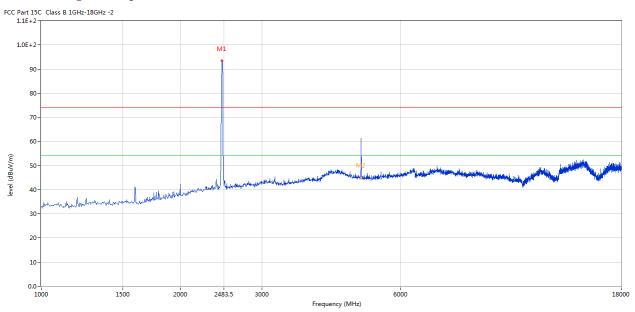
No.	Frequency	Results	Factor	Limit	Over	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	Limit (dB)		(o)	(cm)		
1	2461.635	99.87	-3.57	74.0	25.87	Peak	94.00	100	Horizontal	N/A
2	4921.770	64.65	3.27	74.0	-9.35	Peak	89.00	100	Horizontal	Pass
2**	4921.770	48.61	3.27	54.0	-5.39	AV	89.00	100	Horizontal	Pass

Report No.: TW2210208-01E Page 23 of 102

Date: 2022-11-21



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	93.38	-3.57	74.0	19.38	Peak	1.00	100	Vertical	N/A
2	4921.770	61.25	3.27	74.0	-12.75	Peak	1.00	100	Vertical	Pass
2**	4921.770	45.13	3.27	54.0	-8.87	AV	1.00	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.
- 5. The peak value less than the AV limit, no necessary to take down the AV measurement result.

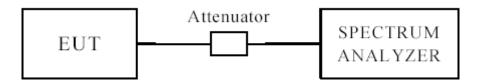
Report No.: TW2210208-01E Page 24 of 102

Date: 2022-11-21



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) \geq 3 x 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

Report No.: TW2210208-01E Page 25 of 102

Date: 2022-11-21



6dB Occupied Bandwidth

EUT		Vide	eo Encoder		Mod	lel	Direct	or Mini
Mode		8	302.11b		Input Vol	tage	120	0V~
Temperat	ure	24 deg. C,			Humidity		56% RH	
Channel	Channel Frequency (MHz)		Data Transfer Rate (Mbps)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)		Pass/ Fail
1		2412		10.16		0.5		Pass
6		2437	1	10	.16		0.5	Pass
11		2462	1	10	.16		0.5	Pass
1		2412	11	11	.30		0.5	Pass
6		2437	11	11	.30		0.5	Pass
11		2462 11 1		11	.30	30 0.5		Pass

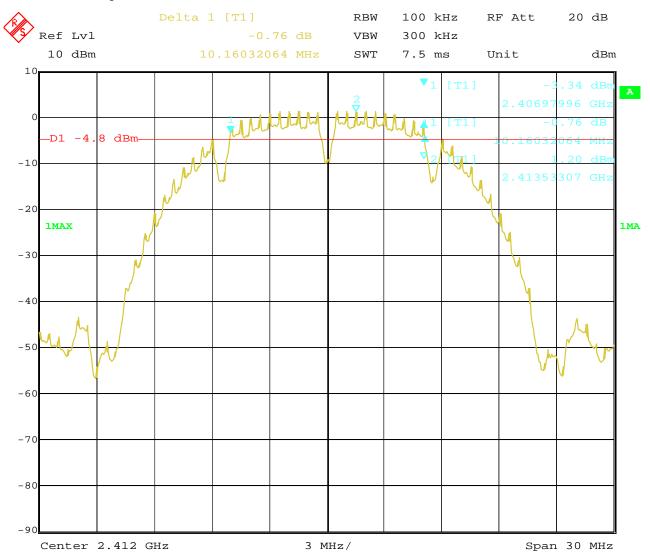
Note: Two antennas (ANT-CH0 and ANT-CH1) were tested and only the worst cased was recorded in the test report. ANT-CH0 was the worst case.

Report No.: TW2210208-01E Page 26 of 102

Date: 2022-11-21



1. 802.11b at 1Mbps of CH01



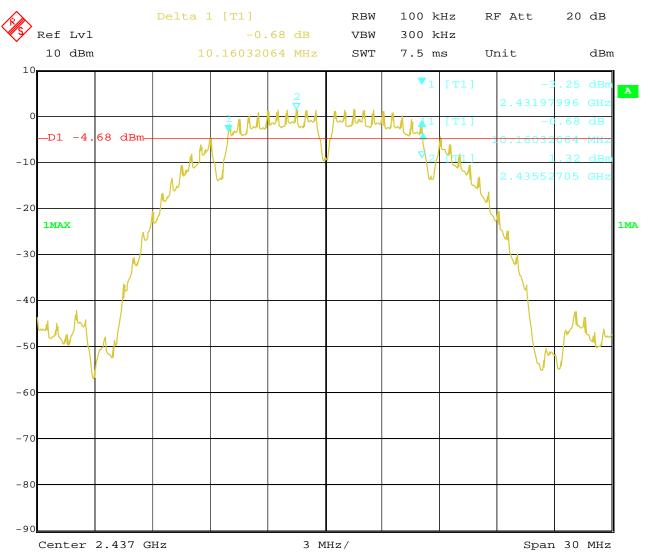
17.NOV.2022 15:08:22 Date:

Report No.: TW2210208-01E Page 27 of 102

Date: 2022-11-21



2. 802.11b at 1Mbps of CH06



17.NOV.2022 15:20:11 Date:

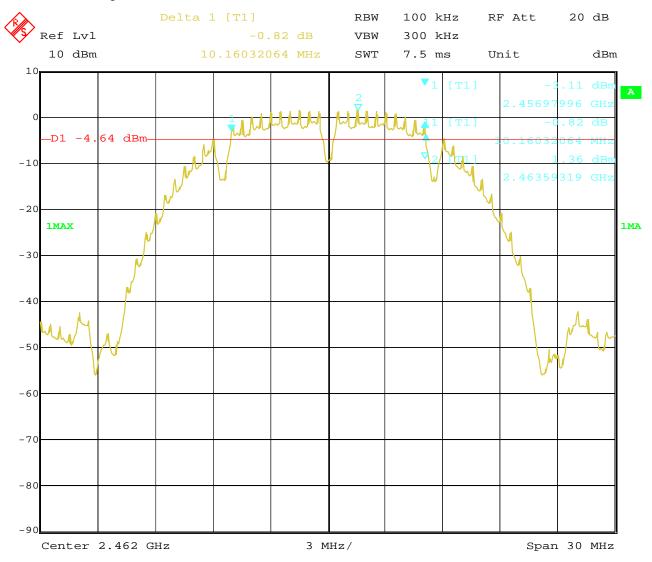
Page 28 of 102

Report No.: TW2210208-01E

Date: 2022-11-21



3. 802.11b at 1Mbps of CH11



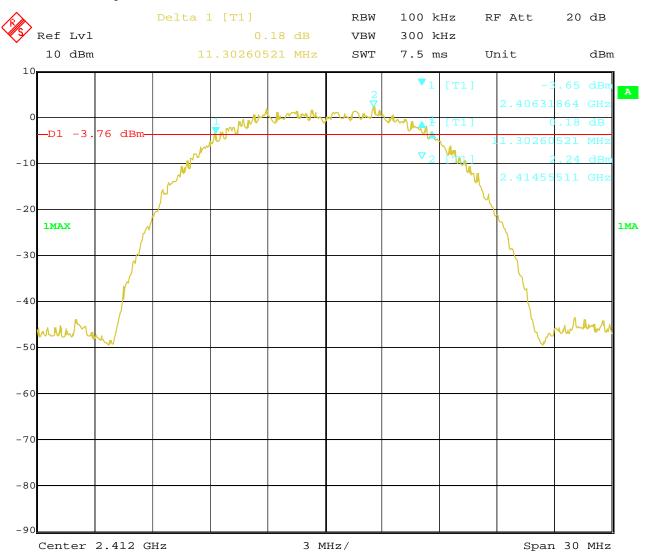
17.NOV.2022 15:22:55 Date:

Report No.: TW2210208-01E Page 29 of 102

Date: 2022-11-21



4. 802.11b at 11Mbps of CH01



17.NOV.2022 15:15:32 Date:

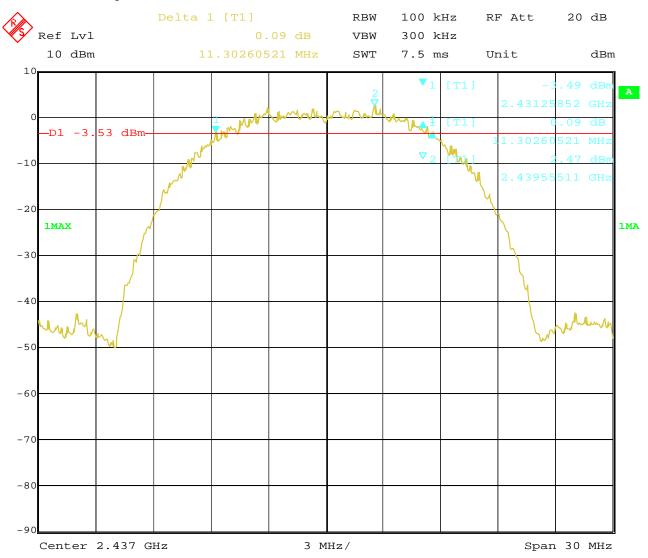
Page 30 of 102

Date: 2022-11-21



5. 802.11b at 11Mbps of CH06

Report No.: TW2210208-01E



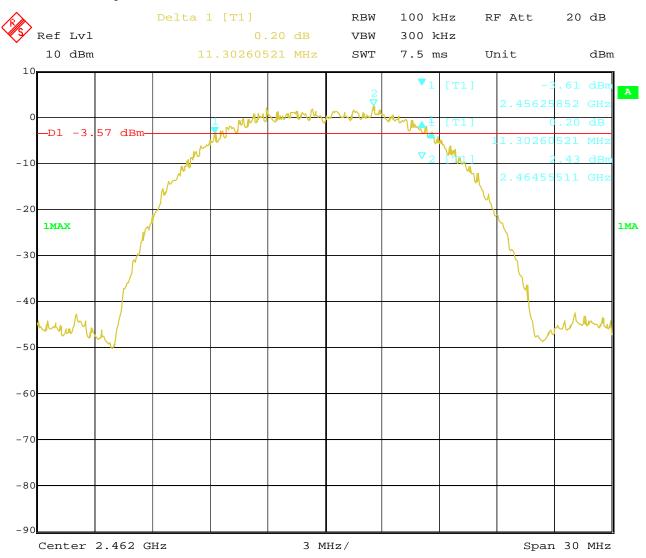
17.NOV.2022 15:18:05 Date:

Report No.: TW2210208-01E Page 31 of 102

Date: 2022-11-21



6. 802.11b at 11Mbps of CH11



17.NOV.2022 15:24:48 Date:

Report No.: TW2210208-01E Page 32 of 102

Date: 2022-11-21



6dB Occupied Bandwidth

EUT		Vide	eo Encoder		Mod	lel	Dire	ector Mini
Mode		8	302.11g		Input Voltage		120V~	
Temperature		24 deg. C,			Humidity		5	6% RH
Channel		el Frequency (MHz)	Data Transfer Rate (Mbps)	-	ndwidth Hz)	Minimum Limit (MHz)		Pass/ Fail
1	2412		6	16	3.35		0.5	Pass
6		2437	6	16.35		35 0.5		Pass
11	2462 6		16	5.35	0.5		Pass	

Note: Two antennas (ANT-CH0 and ANT-CH1) were tested and only the worst cased was recorded in the test report. ANT-CH0 was the worst case.

Page 33 of 102

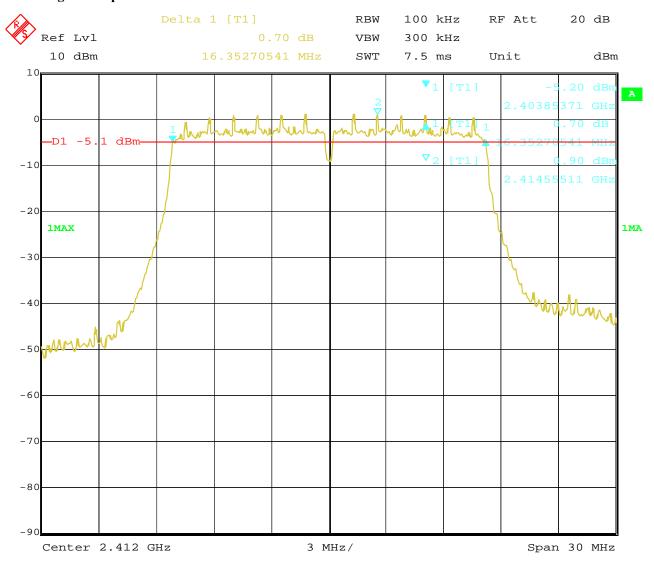
Report No.: TW2210208-01E

Date: 2022-11-21



Test Plots:

1. 802.11g at 6Mbps of CH01



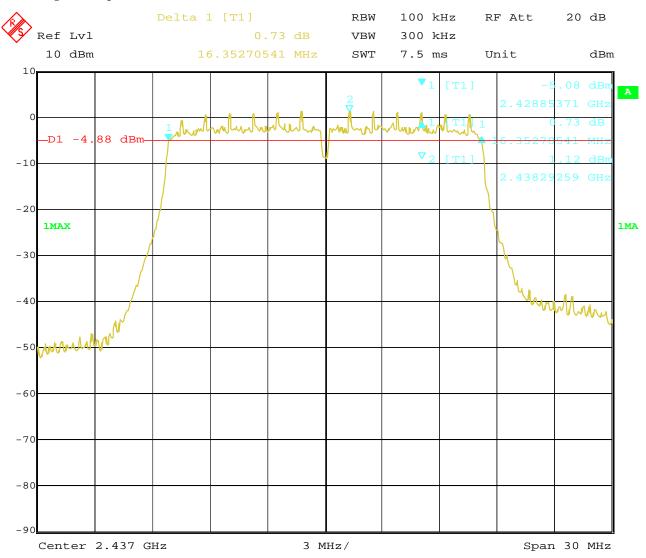
17.NOV.2022 15:01:53 Date:

Report No.: TW2210208-01E Page 34 of 102

Date: 2022-11-21



2. 802.11g at 6Mbps of CH06



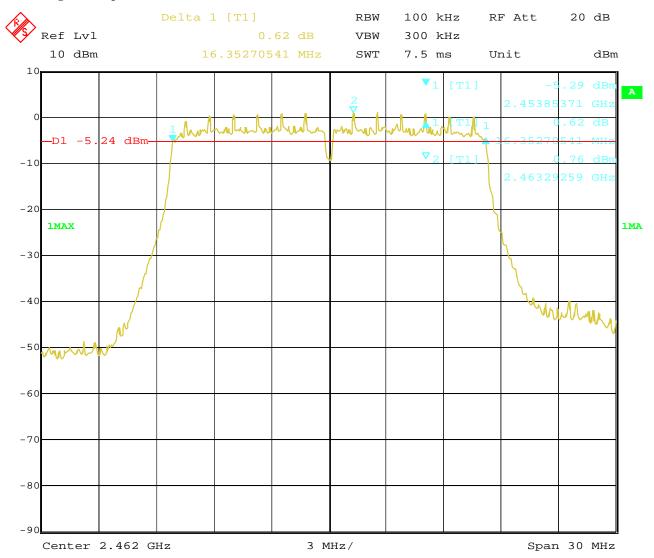
17.NOV.2022 14:49:29 Date:

Report No.: TW2210208-01E Page 35 of 102

Date: 2022-11-21



3. 802.11g at 6Mbps of CH11



17.NOV.2022 14:44:12 Date:

Report No.: TW2210208-01E Page 36 of 102

Date: 2022-11-21



6dB Occupied Bandwidth

EUT		Vide	eo Encoder		Mod	lel	Direct	or Mini
Mode		802	.11n HT20		Input Voltage		120V~	
Temperature		24 deg. C,			Humidity		56%	6 RH
Channel		el Frequency (MHz)	Data Transfer 6 dB Bandwidth M Rate (MHz) (Mbps)		Minimum Limit (MHz)		Pass/ Fail	
1	2412		mcs0	17.63		0.5		Pass
6	2437		mcs0	17.61		61 0.5		Pass
11	1 2462		mcs0	17	.61	61 0.5		Pass

Note: Two antennas (ANT-CH0 and ANT-CH1) were tested and only the worst cased was recorded in the test report. ANT-CH0 was the worst case.

Page 37 of 102

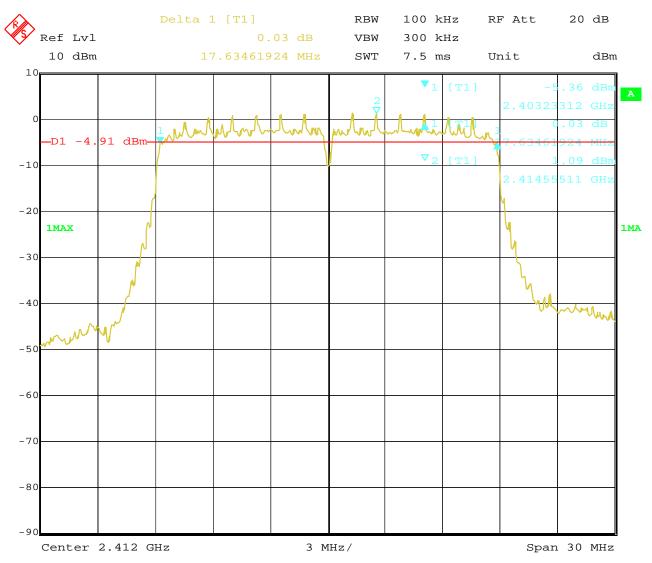
Report No.: TW2210208-01E

Date: 2022-11-21



Test Plots:

1. 802.11n at HT20 of CH01



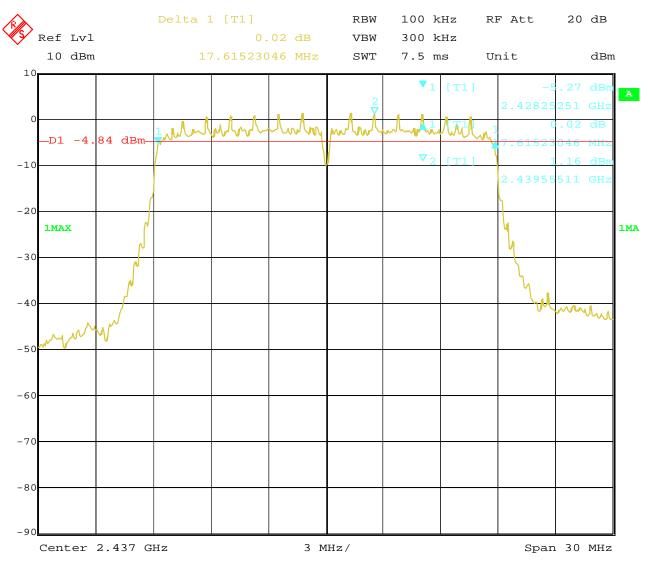
17.NOV.2022 14:27:40 Date:

Report No.: TW2210208-01E Page 38 of 102

Date: 2022-11-21



2. 802.11n at HT20 of CH06



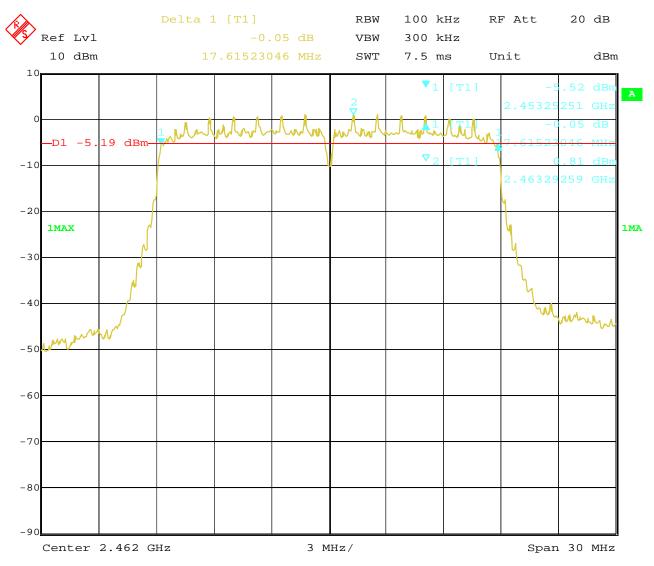
17.NOV.2022 14:35:53 Date:

Report No.: TW2210208-01E Page 39 of 102

Date: 2022-11-21



3. 802.11n at HT20 of CH11



17.NOV.2022 14:39:52 Date:

Report No.: TW2210208-01E Page 40 of 102

Date: 2022-11-21



6dB Occupied Bandwidth

EUT		Vide	eo Encoder		Mod	lel	Direct	or Mini
Mode		802.11n HT40 Input Voltage		12	0V~			
Temperat	ure	24		Humidity		56% RH		
Channel	Channel Frequency (MHz)		Data Transfer Rate (Mbps)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)		Pass/ Fail
3		2422	mcs0	36.87			0.5	Pass
6		2437	mcs0	36	.02		0.5	Pass
9	2452		mcs0	36	.05		0.5	Pass

Note: Two antennas (ANT-CH0 and ANT-CH1) were tested and only the worst cased was recorded in the test report. ANT-CH0 was the worst case.

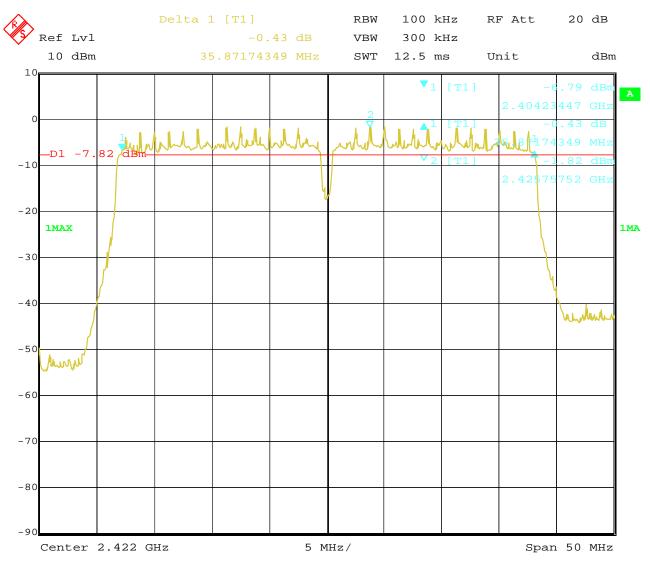
Report No.: TW2210208-01E Page 41 of 102

Date: 2022-11-21



Test Plots:

1. 802.11n at HT40 of CH03



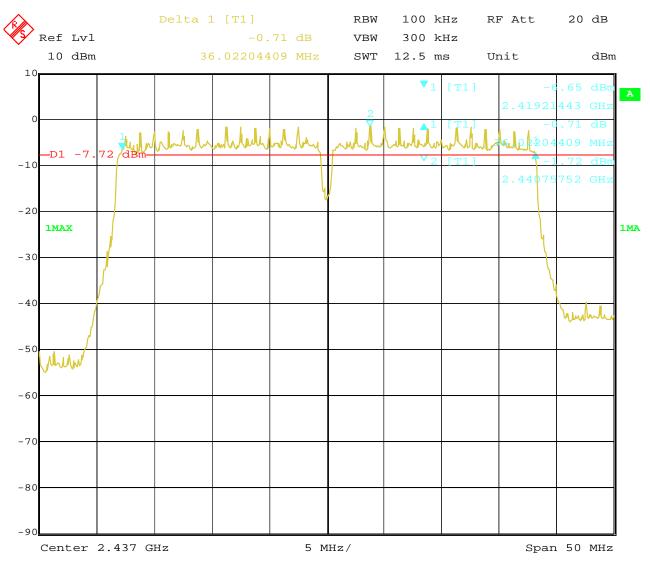
17.NOV.2022 15:27:08 Date:

Report No.: TW2210208-01E Page 42 of 102

Date: 2022-11-21



2. 802.11n at HT40 of CH06



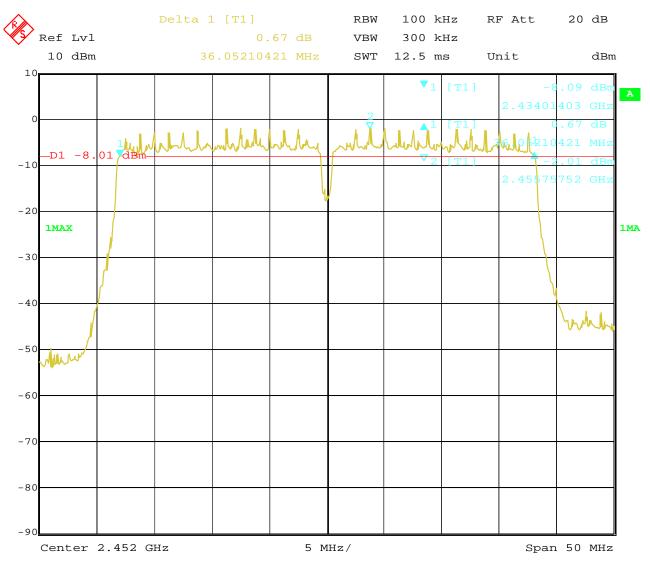
17.NOV.2022 15:29:12 Date:

Report No.: TW2210208-01E Page 43 of 102

Date: 2022-11-21



3. 802.11n at HT40 of CH09



17.NOV.2022 15:33:16 Date:

Report No.: TW2210208-01E

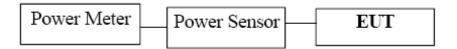
Date: 2022-11-21



Page 44 of 102

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 Peak power was measured

Page 45 of 102

Report No.: TW2210208-01E

Date: 2022-11-21



8.4Test Results

EUT			Vio	leo Enco	der		Model	Direc	ctor Mini
Mode		802.11b				Test Voltage	Test Voltage 1		
Temperat	ure		24 deg. C, Humidity			Humidity	56	% RH	
Channel	Freque	uency z)		-CH0 wer			Power Li		Pass/ Fail
		,	dBm	mW	dBm	mW		,	
1	2412		15.50	35.48	15.32	34.04	30		Pass
6	2437		15.56	35.97	15.03	31.84	30		Pass
11	2462		15.71	37.24	15.49	35.40	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			Video	Encode:	•	N	Iodel	Director	r Mini				
Mode			80	802.11g		Test Voltage 120		Test Voltage 120V~		V~			
Temperat	ure		24	deg. C,		Humidity 56%		Humidity 56%		Humidity		56% RH	
Channel	Frequ (MH	uency			ANT- Pov			ver Limit dBm)	Pass/ Fail				
	(11111)	<i>L)</i>	dBm	mW	dBm	mW	(dDiii)					
1	2412		17.99	62.95	17.16	52.00	30		Pass				
6	2437	,	18.16	65.46	18.13	65.01	30		Pass				
11	2462		17.84	60.81	17.29	53.58		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

Page 46 of 102

Report No.: TW2210208-01E

Date: 2022-11-21



EUT		Video Encode			•	N	Iodel		Director N	Mini .
Mode		802.11n (HT20)	Test Voltage		120V~		,
Temperat	ure	24		deg. C,		Humidity			56% RH	
Channel	Frequ (MH	uency	ANT-CH0 Power			ANT-CH1 Power		x. put	Power Limit	Pass/ Fail
	(17111	<i>L)</i>	dBm	mW	dBm	mW	-MIMO (dl	Bm)	(dBm)	
1	2412		18.18	65.77	18.02	63.39	21.11		30	Pass
6	2437		18.31	67.76	18.21	66.22	21.27		30	Pass
11	2462		18.18	65.77	18.11	64.71	21.16		30	Pass

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		Video Encode			er		Model		Director Mini	
Mode	;	802.11n (HT40)			Tes	Test Voltage		120V~		
Temperat	ture	24 deg. C,				Н	umidity	56% RH		
Channel	Frequence (MH	uency z)		wer mW	ANT- Pov dBm		Total Ma Power Output-MI (dBm)		Power Limit (dBm)	Pass/ Fail
3	2422		18.58	72.11	18.32	67.92	21.46		30	Pass
6	2437		18.74	74.82	18.66	73.45	21.71		30	Pass
9	2452		18.36	68.55	18.23	66.53	21.31		30	Pass

Note: 1. At finial test to get the worst-case emission at mcs0 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

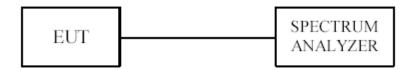
Report No.: TW2210208-01E Page 47 of 102

Date: 2022-11-21



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 $\leq 8 \text{ dBm/3kHz}$.

Report No.: TW2210208-01E Page 48 of 102

Date: 2022-11-21



9.4Test Result

EUT			Video Encoder	Model		Director M	[ini
Mode		802.11b 11Mbps		Test Voltage		120V~	
Temperat	ure	24 deg. C,		Humidity	56% RH		I
Channel	Freq	uency ANT-CH0 Power Spe		ctral Density (dBm/10kHz)		Limit	Pass/ Fail
	(M	(Hz)				(dBm/3kHz)	
1	24	412		-9.05		8	Pass
6	24	137		-8.86		8	Pass
11	24	162		-8.70		8	Pass

Note: ANT-CH0 and ANT-CH1 were tested and ANT-CH0 was the worst case

EUT			Video Encoder	Model	Director N	⁄lini
Mode		802.11b 1Mbps		Test Voltage	120V~	,
Temperat	ure	24 deg. C,		Humidity	56% RH	
Channel	Freq	uency ANT-CH0 Power Spectra		al Density (dBm/10kHz)	Limit	Pass/ Fail
	(M	(Hz)			(dBm/3kHz)	
1	24	112	-10	.13	8	Pass
6	24	-10		.30	8	Pass
11	24	162	-9.	89	8	Pass

Note: ANT-CH0 and ANT-CH1 were tested and ANT-CH0 was the worst case

Report No.: TW2210208-01E Page 49 of 102

Date: 2022-11-21



EUT			Video Encoder	Model		Director Mi	ni	
Mode		802.11g 6Mbps		Test Voltage		120V~		
Temperat	ure	24 deg. C,		Humidity		56% RH		
Channel	Freq	uency ANT-CH0 Power Spec		etral Density (dBm/10kHz)		Limit	Pass/ Fail	
	(M	Hz)				(dBm/3kHz)		
1	24	112	-1	10.38		8	Pass	
6	24	137	-1	10.33		8	Pass	
11	24	162	-1	10.40		8	Pass	

Note: ANT-CH0 and ANT-CH1 were tested and ANT-CH0 was the worst case

EUT			Video Encoder			Model		Director N	Mini .
Mode	;	802.11n HT20 m		802.11n HT20 mcs0		Test Voltage		120V~	
Temperat	ture	24 deg. C,			Humidity		56% RH		
Channel	Frequ	ency	ANT-CH0	Factor		Total Power Spectra	al	Limit	Pass/ Fail
	(MF	Hz) Power				Density-MIMO		(dBm/3kHz)	
		Spectral Density				(dBm/10kHz)			
1	241	12	-11.06	3.01		-8.05		8	Pass
6	243	37	-11.00	3.01		-7.99		8	Pass
11	246	52	-11.26	3.01		-8.25		8	Pass

Note: 1. Total Power Spectral Density = Ant1 Power Spectral Density + Factor

^{2.} Factor=10log2=3.01

^{3.} ANT-CH0 and ANT-CH1 were tested and ANT-CH0 was the worst case

Report No.: TW2210208-01E Page 50 of 102

Date: 2022-11-21



EUT			Video Encoder			Model		Director Mini		
Mode	;	802.11n HT40 mcs0			Т	est Voltage		120V~		
Temperat	ture		24 deg. C,			Humidity		56% RH		
Channel	Freq	uency	ANT-CH0	Factor	,	Total Power Spectral		Limit	Pass/ Fail	
	(M	Hz) Power				Density-MIM	O	(dBm/3kHz)		
		Spectral Density				(dBm/10kHz)				
3	24	122	-14.51	3.01		-11.50		8	Pass	
6	24	137	-13.78	3.01		-10.77		8	Pass	
9	24	152	-14.52	3.01		-11.51		8	Pass	

Note: 1. Total Power Spectral Density = Ant1 Power Spectral Density + Factor

^{2.} Factor=10log2=3.01

^{3.} ANT-CH0 and ANT-CH1 were tested and ANT-CH0 was the worst case

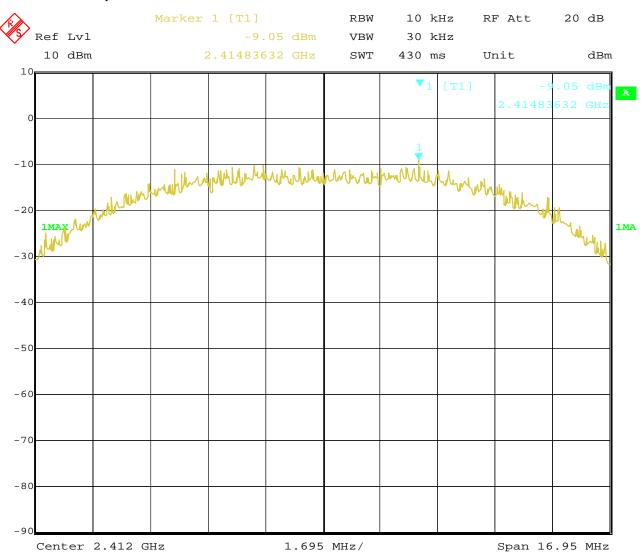
Report No.: TW2210208-01E Page 51 of 102

Date: 2022-11-21



9.5 Photo of Power Spectral Density Measurement

1.802.11b at 11Mbps of CH01



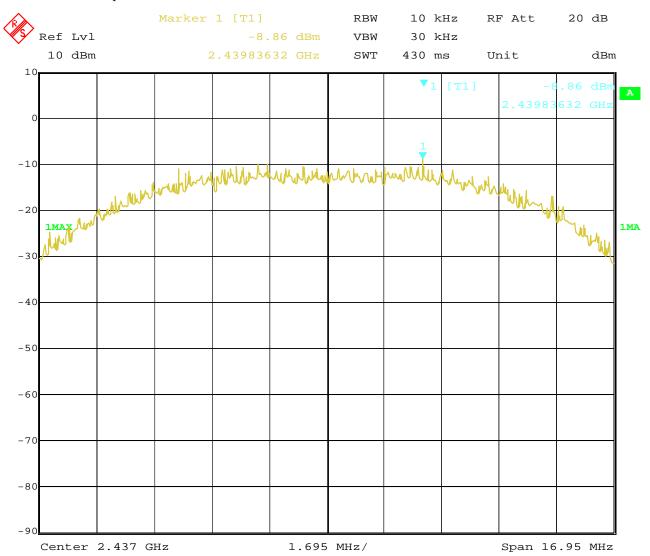
17.NOV.2022 16:55:57 Date:

Report No.: TW2210208-01E Page 52 of 102

Date: 2022-11-21



2. 802.11b at 11Mbps at CH06



17.NOV.2022 16:57:32 Date:

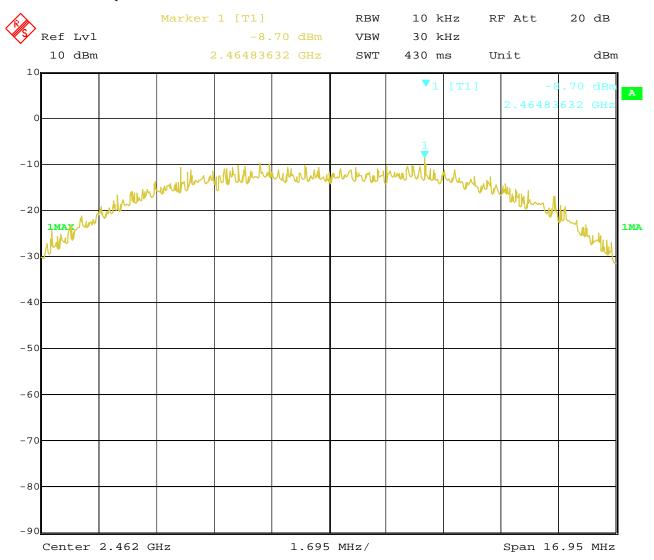
Page 53 of 102

Report No.: TW2210208-01E

Date: 2022-11-21



3. 802.11b at 11Mbps of CH11



17.NOV.2022 16:59:40 Date:

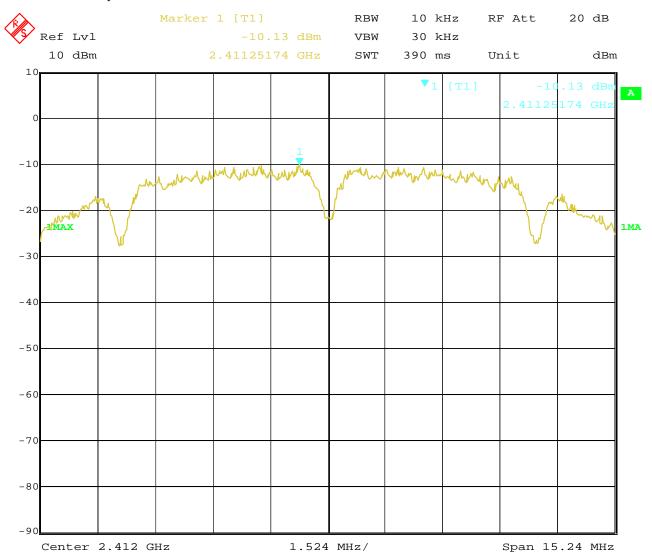
Page 54 of 102

Report No.: TW2210208-01E

Date: 2022-11-21



4. 802.11b at 1Mbps of CH1



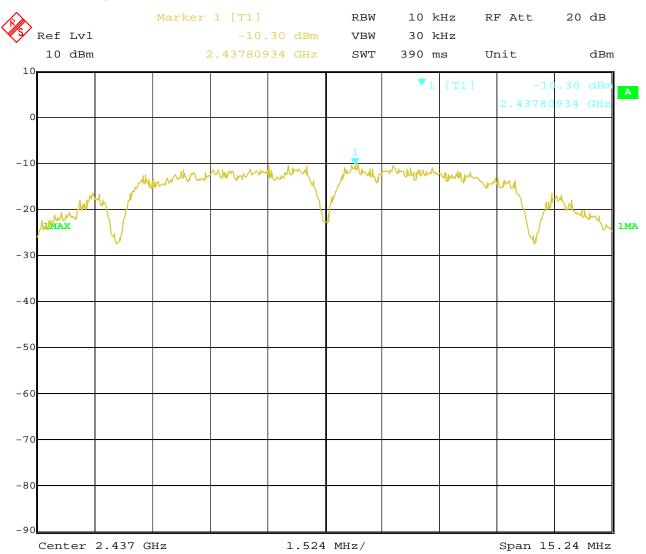
17.NOV.2022 16:53:36 Date:

Report No.: TW2210208-01E Page 55 of 102

Date: 2022-11-21



5. 802.11b at 1Mbps of CH6



17.NOV.2022 16:52:48 Date:

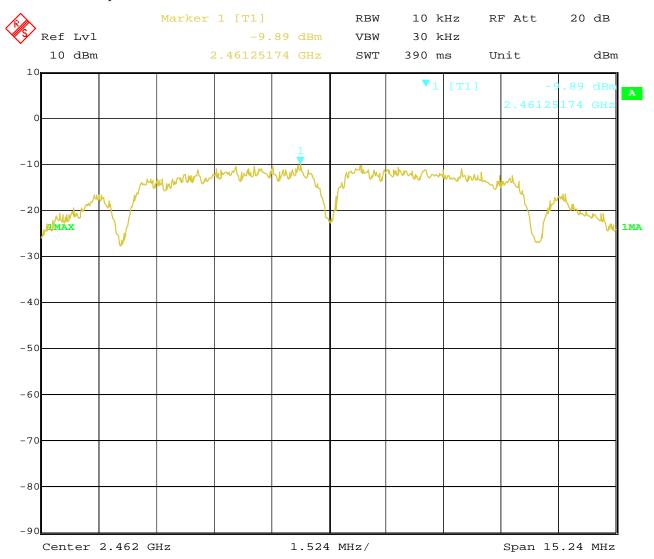
Page 56 of 102

Report No.: TW2210208-01E

Date: 2022-11-21



6. 802.11b at 1Mbps of CH11



17.NOV.2022 16:52:15 Date:

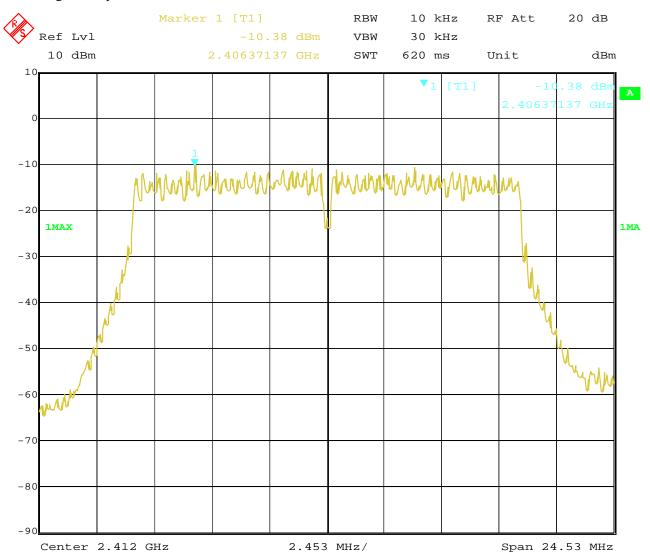
Page 57 of 102

Report No.: TW2210208-01E

Date: 2022-11-21



7. 802.11g at 6Mbps of CH1



17.NOV.2022 17:06:54 Date:

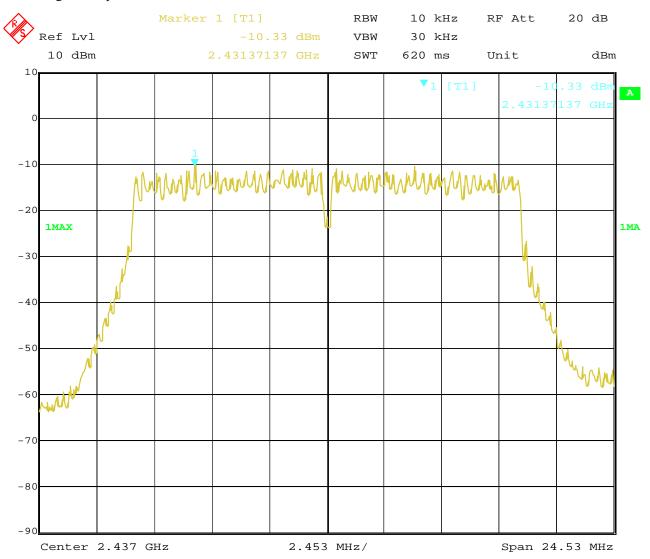
Page 58 of 102

Report No.: TW2210208-01E

Date: 2022-11-21



8. 802.11g at 6Mbps of CH6



17.NOV.2022 17:05:15 Date:

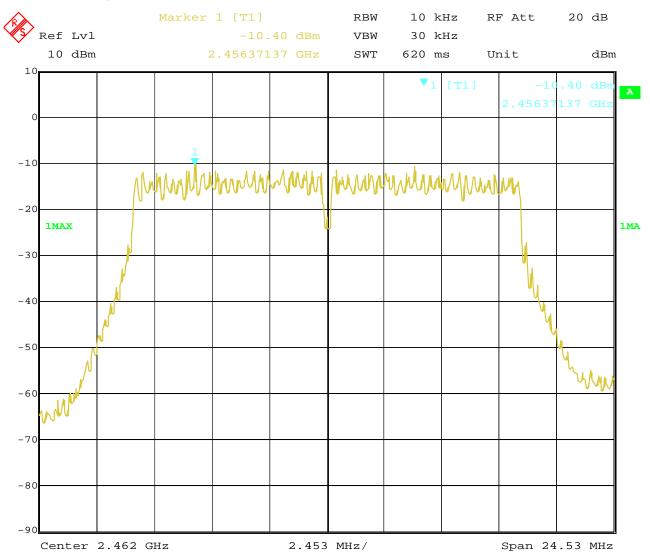
Page 59 of 102

Report No.: TW2210208-01E

Date: 2022-11-21



9.802.11g at 6Mbps of CH11



17.NOV.2022 17:02:20 Date:

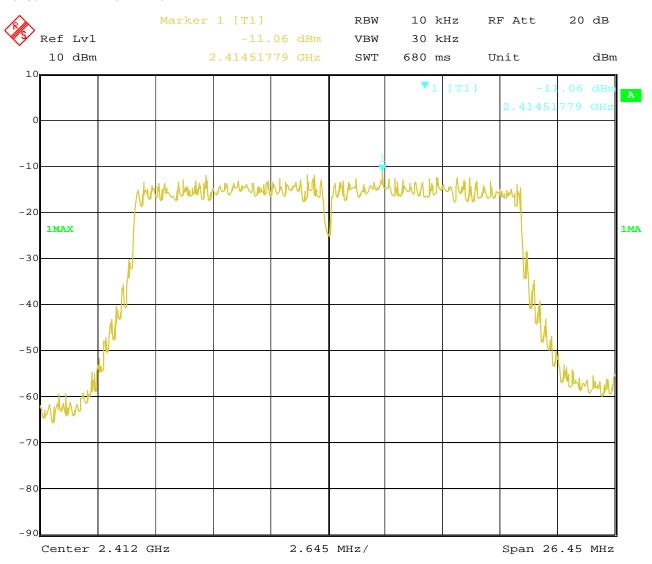
Page 60 of 102

Report No.: TW2210208-01E

Date: 2022-11-21



10. 802.11n at HT20 of CH01



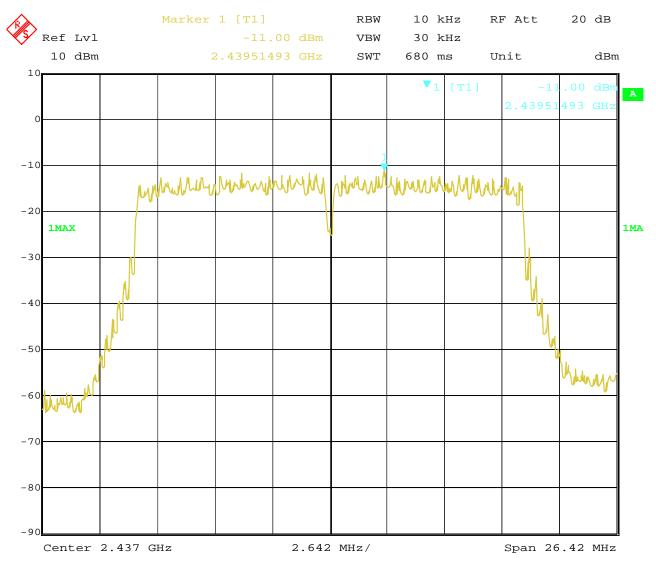
Date: 17.NOV.2022 16:43:33

Report No.: TW2210208-01E Page 61 of 102

Date: 2022-11-21



11. 802.11n at HT20 of CH06



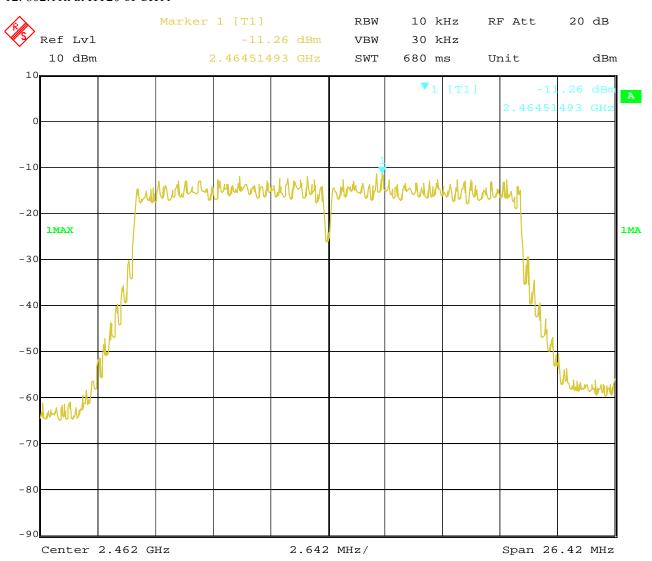
17.NOV.2022 16:47:14 Date:

Report No.: TW2210208-01E Page 62 of 102

Date: 2022-11-21



12. 802.11n at HT20 of CH11



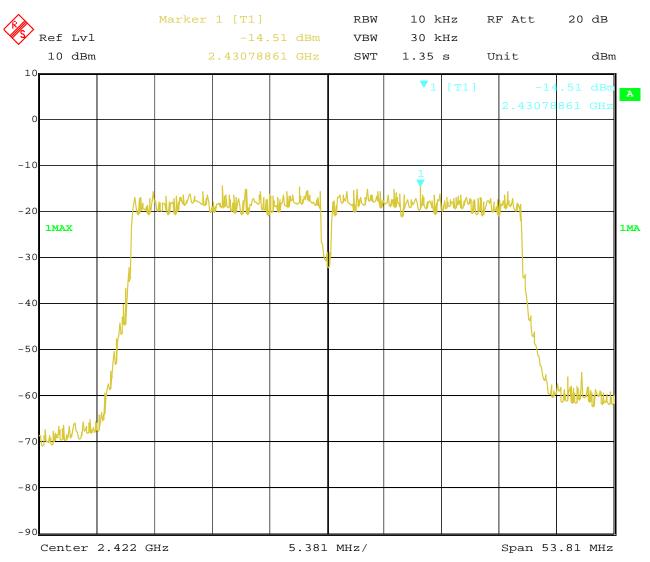
17.NOV.2022 16:51:22 Date:

Report No.: TW2210208-01E Page 63 of 102

Date: 2022-11-21



13. 802.11n at HT40 of CH03



17.NOV.2022 17:08:54 Date:

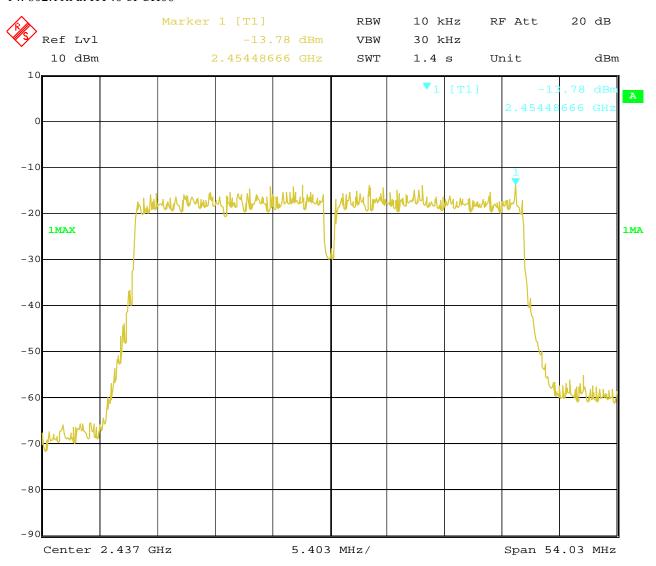
Page 64 of 102

Report No.: TW2210208-01E

Date: 2022-11-21



14. 802.11n at HT40 of CH06



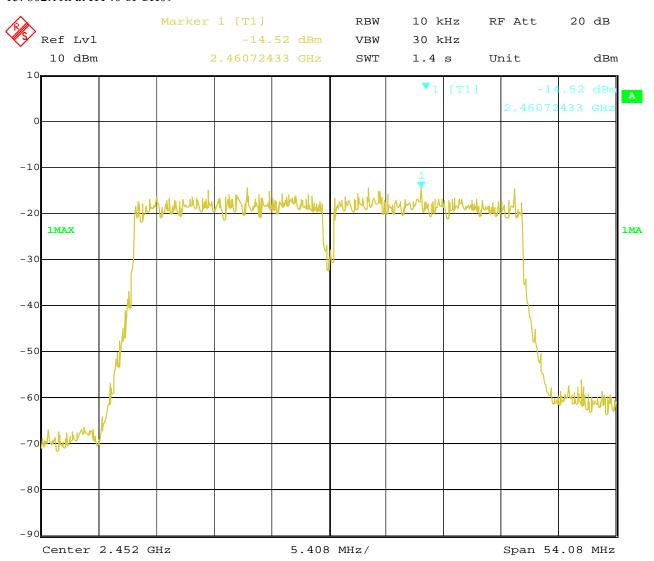
17.NOV.2022 17:09:51 Date:

Report No.: TW2210208-01E Page 65 of 102

Date: 2022-11-21



15. 802.11n at HT40 of CH09



17.NOV.2022 17:10:39 Date:

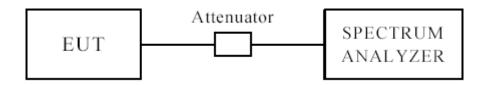
Report No.: TW2210208-01E Page 66 of 102

Date: 2022-11-21



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 –20dB 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.

2. Two antennas were tested and only the worst cased was recorded in the test report. Ant 2 was the worst case.

Page 67 of 102

Report No.: TW2210208-01E

Date: 2022-11-21



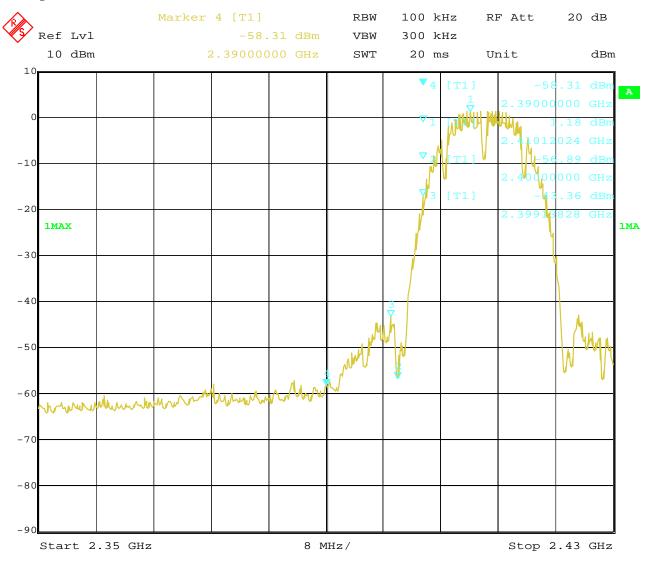
For 802.11b mode

CH01 at 1Mbps

10.4 Band-edge Measurement

EUT	Video Encoder	Model	Director Mini
Mode	Keeping Transmitting	Input Voltage	120V~
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK

Test Figure:



Date: 17.NOV.2022 17:13:25

Page 68 of 102

Report No.: TW2210208-01E

Date: 2022-11-21

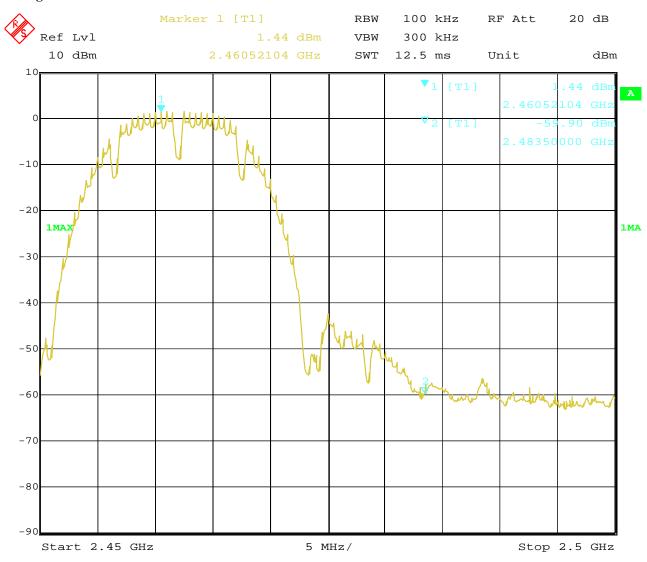


CH11 at 1Mbps

10.4 Band-edge Measurement

EUT	Video Encoder	Model	Director Mini
Mode	Keeping Transmitting	Input Voltage	120V~
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK

Test Figure:



Date: 17.NOV.2022 17:19:35

Page 69 of 102

Report No.: TW2210208-01E

Date: 2022-11-21



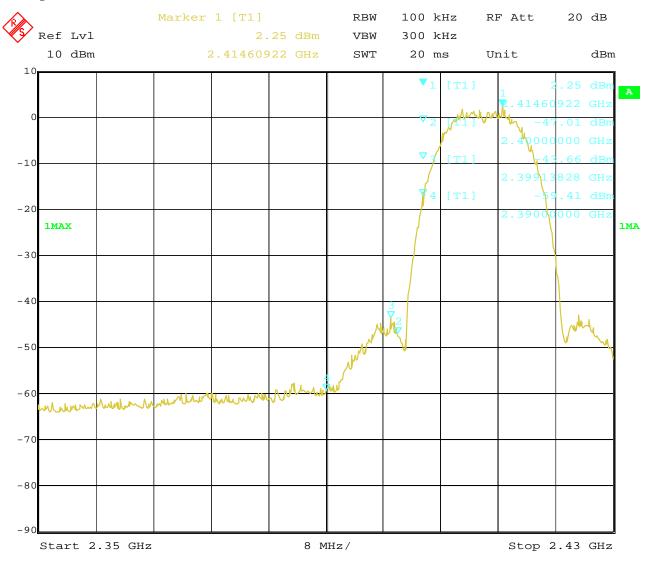
For 802.11b mode

CH01 at 11Mbps

10.4 Band-edge Measurement

EUT	Video Encoder	Model	Director Mini
Mode	Keeping Transmitting	Input Voltage	120V~
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK

Test Figure:



Date: 17.NOV.2022 17:14:16

Page 70 of 102

Report No.: TW2210208-01E

Date: 2022-11-21

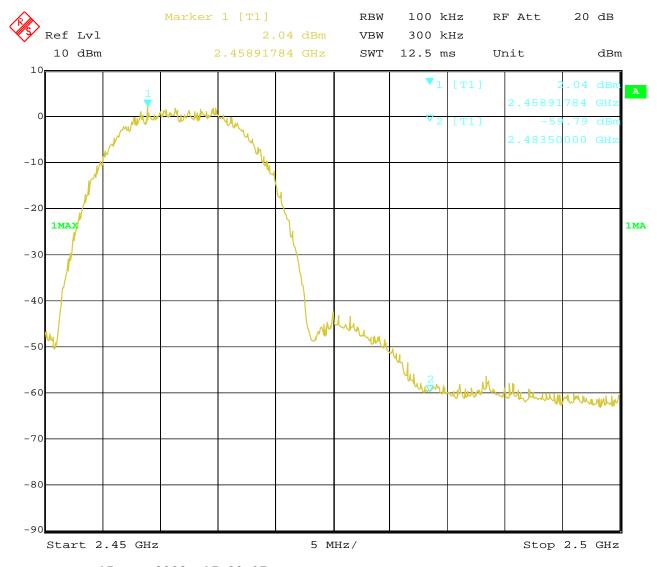


CH11 at 11Mbps

10.4 Band-edge Measurement

EUT	Video Encoder	Model	Director Mini
Mode	Keeping Transmitting	Input Voltage	120V~
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK

Test Figure:



Date: 17.NOV.2022 17:20:07

Page 71 of 102

Report No.: TW2210208-01E

Date: 2022-11-21



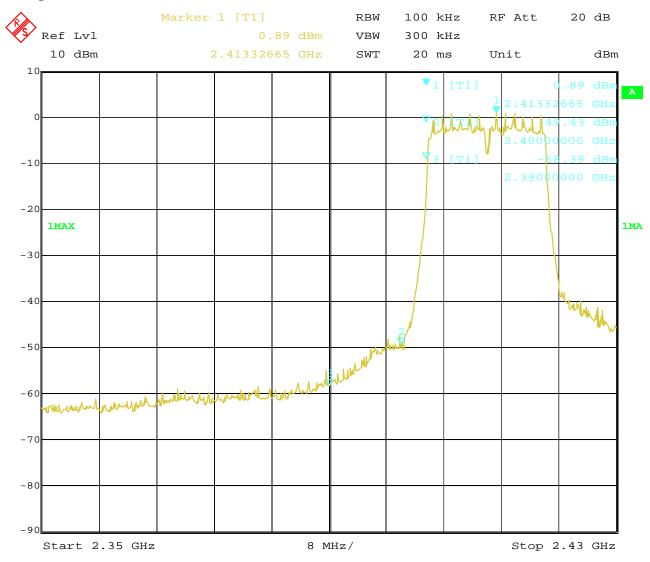
For 802.11g mode

CH01 at 6Mbps

10.4 Band-edge Measurement

EUT	Video Encoder	Model	Director Mini
Mode	Keeping Transmitting	Input Voltage	120V~
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK

Test Figure:



Date: 17.NOV.2022 17:14:48

Page 72 of 102

Report No.: TW2210208-01E

Date: 2022-11-21

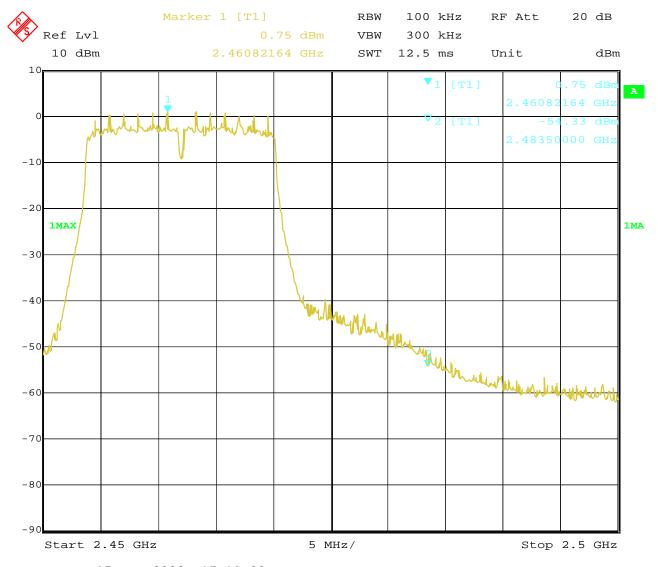


CH11 at 6Mbps

Band-edge Measurement 10.4

EUT	Video Encoder	Model	Director Mini
Mode	Keeping Transmitting	Input Voltage	120V~
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK

Test Figure:



17.NOV.2022 17:19:00 Date:

Page 73 of 102

Report No.: TW2210208-01E

Date: 2022-11-21



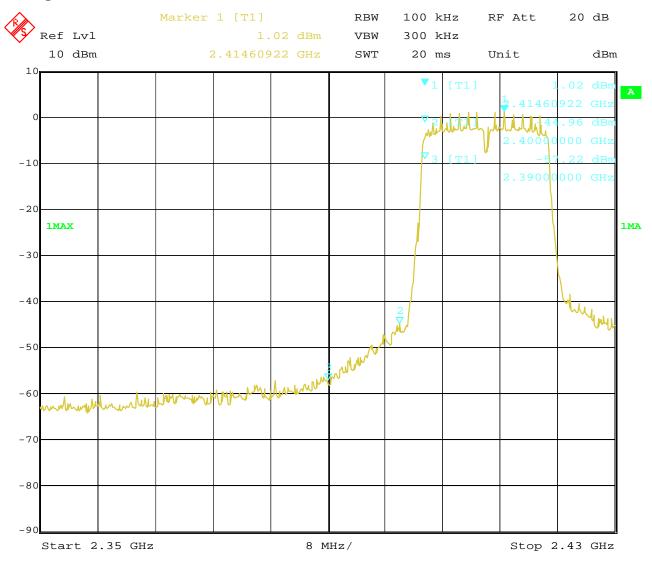
For 802.11n (HT20) mode

CH01 at mcs0

Band-edge Measurement 10.4

EUT	Video Encoder	Model	Director Mini
Mode	Keeping Transmitting	Input Voltage	120V~
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK

Test Figure:



Date: 17.NOV.2022 17:15:26

Page 74 of 102

Report No.: TW2210208-01E

Date: 2022-11-21

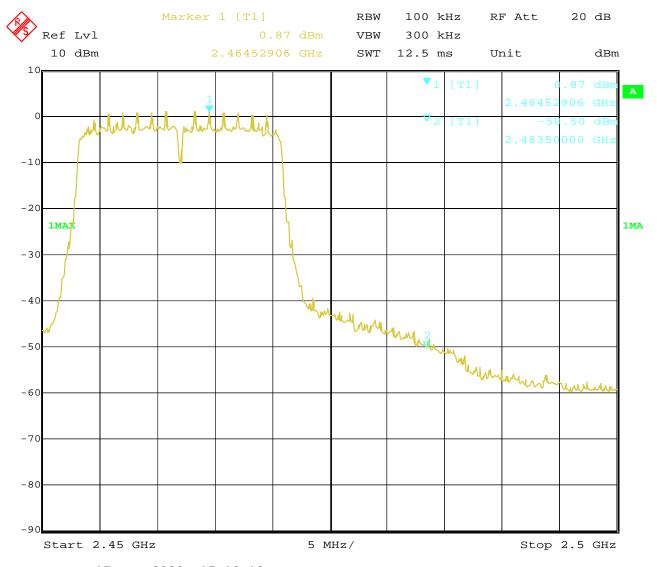


CH11 at mcs0

10.4 Band-edge Measurement

EUT	Video Encoder	Model	Director Mini
Mode	Keeping Transmitting	Input Voltage	120V~
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK

Test Figure:



Date: 17.NOV.2022 17:18:13

Page 75 of 102

Report No.: TW2210208-01E

Date: 2022-11-21



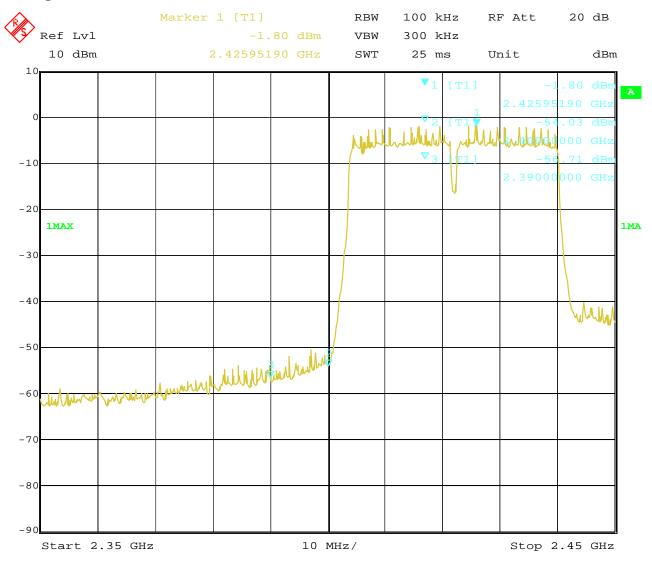
For 802.11n (HT40) mode

CH03 at mcs0

10.4 Band-edge and Restricted band Measurement

EUT	Video Encoder	Model	Director Mini
Mode	Keeping Transmitting	Input Voltage	120V~
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK

Test Figure:



Date: 17.NOV.2022 17:12:31

Page 76 of 102

Report No.: TW2210208-01E

Date: 2022-11-21

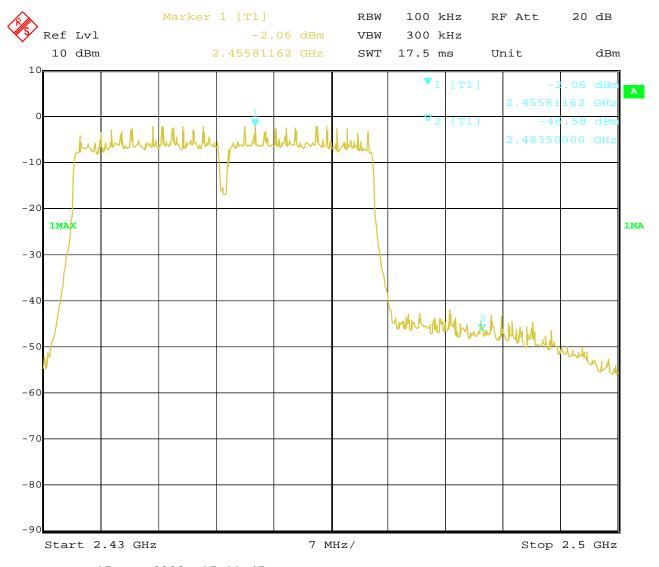


CH09 at mcs0

10.4 Band-edge and Restricted band Measurement

EUT	Video Encoder	Model	Director Mini
Mode	Keeping Transmitting	Input Voltage	120V~
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK

Test Figure:



Date: 17.NOV.2022 17:11:47 Report No.: TW2210208-01E Page 77 of 102

Date: 2022-11-21



10.5 Restricted band Measurement

EUT	Video Encoder			Model		Director Mini	
Mode	Kee	eping Transmitting		Test V	oltage	120V~	
Temperature		24 deg. C,		Hum	idity	56% RH	
Test Result:		Pass		Dete	ector	PK	
		802.11b mode, Low C	hannel, F	Iorizonta	1		
2390	PK (dBμV/m)	54.59	т:.			$74(dB\mu V/m)$	
	AV (dBμV/m)	28.61	Lii	mit		$54(dB\mu V/m)$	
		802.11b mode, Low	Channel,	Vertical			
2390	PK (dBμV/m)	44.18	т:.	Limit		74(dBμV/m)	
	AV (dBμV/m)		Lli	mı		54(dBµV/m)	

10.5 Restricted band Measurement

EUT		Video Encoder			odel	Director Mini		
Mode	Ke	eping Transmitting		Test Voltage		120V~		
Temperature		24 deg. C,		Hur	nidity	56% RH		
Test Result:		Pass		Det	ector	PK		
	802.11b mode, High Channel, Horizontal							
2483.5	PK (dBμV/m)	55.93	т::			$74(dB\mu V/m)$		
	AV (dBμV/m)	36.58	Limi	Limit		$54(dB\mu V/m)$		
		802.11b mode, High	Channel, V	ertical				
2483.5	PK (dBµV/m)	46.78	т ::	Limit		74(dBμV/m)		
	AV (dBμV/m)		LIIII	ıı		$54(dB\mu V/m)$		

Report No.: TW2210208-01E Page 78 of 102

Date: 2022-11-21



10.5 Restricted band Measurement

EUT	Video Encoder			Mo	odel	Director Mini	
Mode	Kee	eping Transmitting		Test V	oltage/	120V~	
Temperature		24 deg. C,		Hun	nidity	56% RH	
Test Result:		Pass		Dete	ector	PK	
	802.11g mode, Low Channel, Horizontal						
2390	PK (dBµV/m)	57.61	т:.	mit		$74(dB\mu V/m)$	
	AV (dBμV/m)	40.23	Lii	mıı		$54(dB\mu V/m)$	
		802.11g mode, Low	Channel,	Vertical			
2390	PK (dBμV/m)	45.37	Limit			74(dBμV/m)	
	AV (dBμV/m)			IIIIt		$54(dB\mu V/m)$	

10.5 Restricted band Measurement

EUT	Video Encoder				odel	Director Mini		
Mode	Ke	eping Transmitting		Test '	Voltage	120V~		
Temperature		24 deg. C,		Hur	nidity	56% RH		
Test Result:		Pass		Det	tector	PK		
	802.11g mode, High Channel, Horizontal							
2483.5	PK (dBµV/m)	59.32	т::	:4		$74(dB\mu V/m)$		
	AV (dBμV/m)	41.08	Limi	Limit		$54(dB\mu V/m)$		
		802.11g mode, High	Channel, V	/ertical				
2483.5	PK (dBµV/m)	48.03	Limit			74(dBμV/m)		
	AV (dBμV/m)		LIIII	IL		$54(dB\mu V/m)$		

Report No.: TW2210208-01E Page 79 of 102

Date: 2022-11-21



10.5 Restricted band Measurement

EUT	Video Encoder			Mo	del	Director Mini	
Mode	Keeping Transmitting			Test V	oltage	120V~	
Temperature		24 deg. C,		Hum	idity	56% RH	
Test Result:		Pass		Dete	ector	PK	
	80	2.11n HT20 mode, Lov	w Channe	el, Horizo	ntal		
2390	PK (dBµV/m)	58.36	Limit			$74(dB\mu V/m)$	
	AV (dBμV/m)	40.19	LII	mı		$54(dB\mu V/m)$	
	{	302.11n HT20 mode, Lo	ow Chanr	nel, Vertic	al		
2390	PK (dBμV/m)	45.76	т:.	mit	74(dBμV/m)		
	AV (dBμV/m)		Lii	mı		54(dBμV/m)	

Restricted band Measurement 10.5

EUT		Video Encoder			odel	Director Mini
Mode	Ke	eeping Transmitting		Test '	Voltage	120V~
Temperature		24 deg. C,		Hur	nidity	56% RH
Test Result:		Pass		Det	tector	PK
	8	02.11n HT20 mode, Hi	gh Channel	, Horiz	ontal	
2483.5	PK (dBμV/m)	60.53	т.	٠,		$74(dB\mu V/m)$
	AV (dBμV/m)	42.39	Limi	IT	$54(dB\mu V/m)$	
	8	302.11n HT20 mode, Hi	igh Channe	l, Verti	cal	
2483.5	PK (dBμV/m)	49.71	Limit			74(dBµV/m)
	AV (dBμV/m)		LIIII	ll		$54(dB\mu V/m)$

Page 80 of 102

Report No.: TW2210208-01E

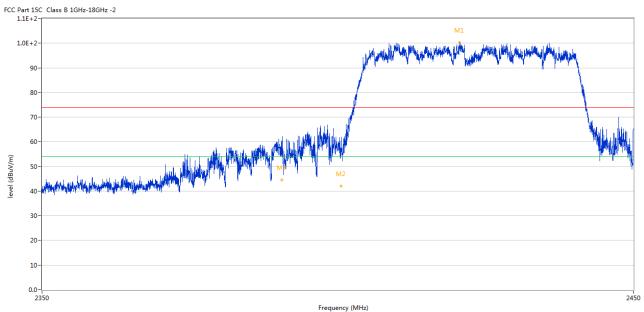
Date: 2022-11-21



10.5 Restricted band Measurement

EUT	Video Encoder			Model		Director Mini	
Mode	Kee	eping Transmitting		Test	Voltage	120V~	
Temperature		24 deg. C,		Hur	nidity	56% RH	
Test Result:		Pass		De	tector	PK	
	802.11n HT40 mode, Low Channel, Horizontal						
2390	PK (dBμV/m)	60.53	т:.	:4		$74(dB\mu V/m)$	
	AV (dBμV/m)	44.50	Lli	nit		54(dBμV/m)	
		802.11n HT40 mode, L	ow Chan	nel Vertic	al		
2390	PK (dBμV/m)	46.31	1.5	Limit		74(dBμV/m)	
	AV (dBμV/m)			IIII		54(dBμV/m)	

Test Plots



					rrequeriey (minz)					
No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2420.157	100.23	-3.57	74.0	26.23	Peak	103.00	100	Horizontal	N/A
2	2400.012	58.28	-3.57	74.0	-15.72	Peak	92.00	100	Horizontal	Pass
2**	2400.012	42.10	-3.57	54.0	-11.90	AV	92.00	100	Horizontal	Pass
3	2390.025	63.53	-3.53	74.0	-10.47	Peak	103.00	100	Horizontal	Pass
3**	2390.025	44.50	-3.53	54.0	-9.50	AV	103.00	100	Horizontal	Pass

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

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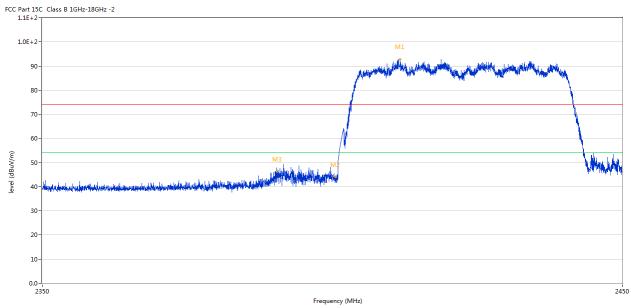
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Page 81 of 102

Report No.: TW2210208-01E

Date: 2022-11-21





No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2411.185	92.90	-3.57	74.0	18.90	Peak	178.00	100	Vertical	N/A
2	2400.013	44.10	-3.57	74.0	-29.90	Peak	242.00	100	Vertical	Pass
3	2390.015	46.31	-3.53	74.0	-27.69	Peak	105.00	100	Vertical	Pass

Page 82 of 102

Report No.: TW2210208-01E

Date: 2022-11-21



10.5 Restricted band Measurement

EUT		Video Encoder	N	Iodel	Director Mini					
Mode	Ke	eeping Transmitting	Test	Voltage	120V~					
Temperature		24 deg. C,	Hu	midity	56% RH					
Test Result:		Pass	De	etector	PK					
802.11n HT40 mode, High Channel, Horizontal										
2483.5	PK (dBµV/m)	63.66	т.	•,		$74(dB\mu V/m)$				
	AV (dBμV/m)	43.15	Lim	Ιτ	54(dBµV/m)					
802.11n HT40 mode, High Channel, Vertical										
2483.5	PK (dBμV/m)	51.14	т :	:,		74(dBμV/m)				
	AV (dBμV/m)		Limit			$54(dB\mu V/m)$				



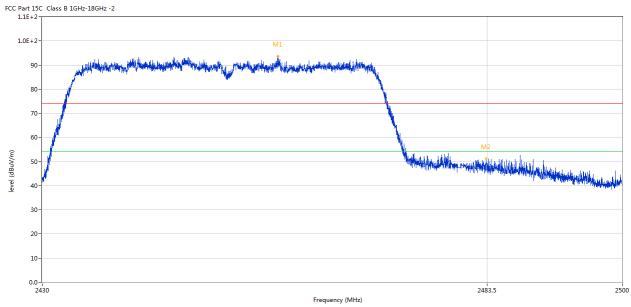
No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2458.430	100.98	-3.57	74.0	26.98	Peak	104.00	100	Horizontal	N/A
2	2483.464	63.66	-3.57	74.0	-10.34	Peak	104.00	100	Horizontal	Pass
2**	2483.464	43.15	-3.57	54.0	-10.85	AV	104.00	100	Horizontal	Pass

Page 83 of 102

Report No.: TW2210208-01E

Date: 2022-11-21





No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2458.185	93.60	-3.57	74.0	19.60	Peak	188.00	100	Vertical	N/A
2	2483.412	51.14	-3.57	74.0	-22.86	Peak	2.00	100	Vertical	Pass

Report No.: TW2210208-01E

Date: 2022-11-21



Page 84 of 102

vale. 2022-11-21

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

Two FPC antennas used. The gain of the antenna is 3.0dBi for each one.

Report No.: TW2210208-01E Page 85 of 102

Date: 2022-11-21

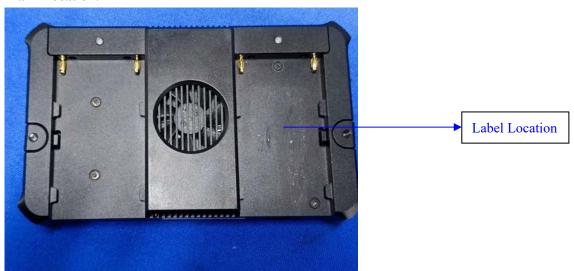


FCC ID Label 12.0

FCC ID: 2AP6W-ENCODER5511

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:



Page 86 of 102

Report No.: TW2210208-01E

Date: 2022-11-21



13.0 **Photo of testing**

Conducted Emission Test Setup:



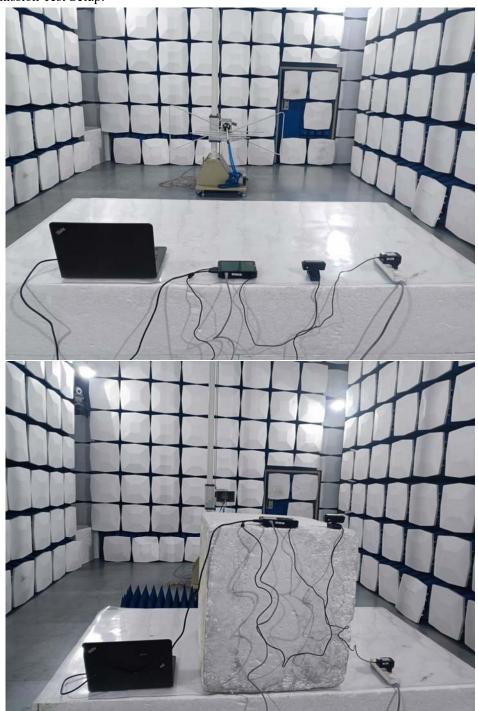
Page 87 of 102

Report No.: TW2210208-01E

Date: 2022-11-21



Radiated Emission Test Setup:



Page 88 of 102

Report No.: TW2210208-01E

Date: 2022-11-21



Photographs – EUT

Outside View



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Page 89 of 102

Report No.: TW2210208-01E

Date: 2022-11-21



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Page 90 of 102

Report No.: TW2210208-01E

Date: 2022-11-21



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Page 91 of 102

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Date: 2022-11-21



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Page 92 of 102

Report No.: TW2210208-01E

Date: 2022-11-21



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Page 93 of 102

Report No.: TW2210208-01E

Date: 2022-11-21



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Page 94 of 102

Report No.: TW2210208-01E

Date: 2022-11-21



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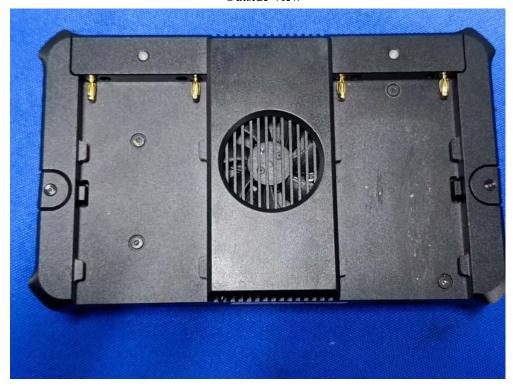
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Report No.: TW2210208-01E Page 95 of 102

Date: 2022-11-21



Outside View



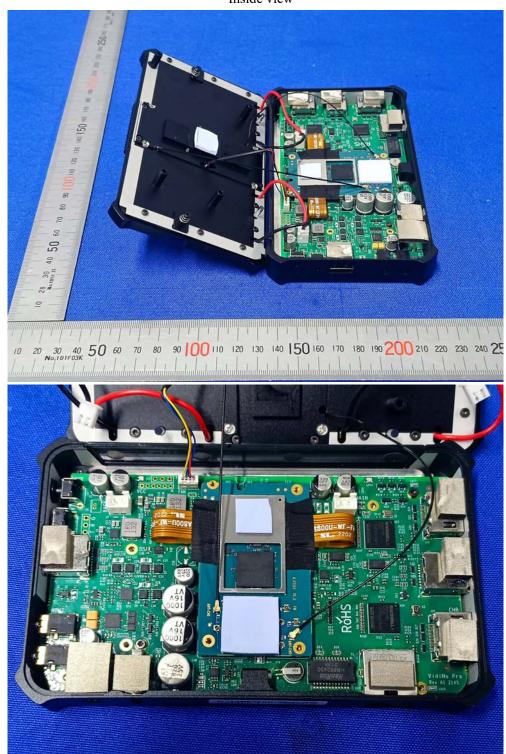
Page 96 of 102

Report No.: TW2210208-01E

Date: 2022-11-21



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Page 97 of 102

Report No.: TW2210208-01E

Date: 2022-11-21



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Page 98 of 102

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Date: 2022-11-21



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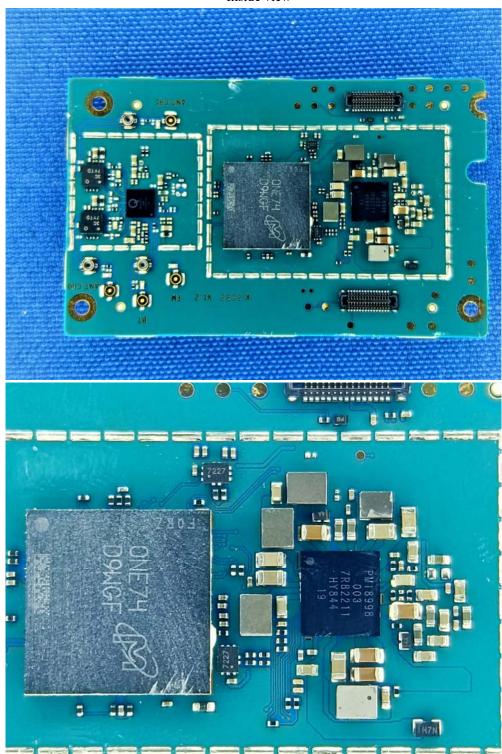
Page 99 of 102

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Date: 2022-11-21



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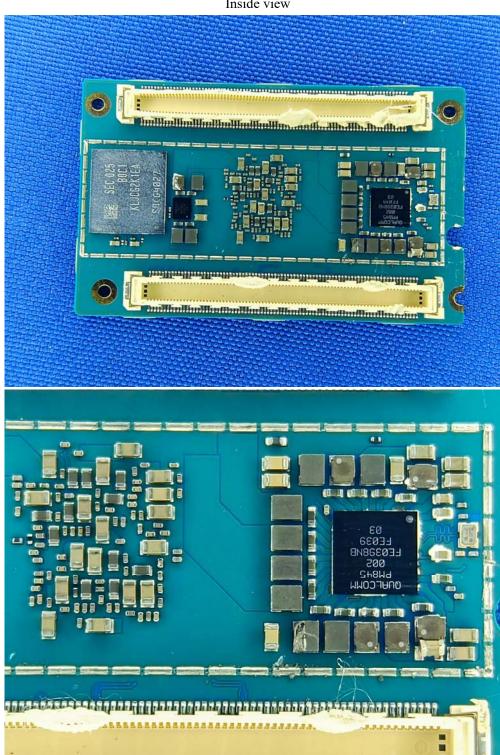
Page 100 of 102

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Date: 2022-11-21



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Page 101 of 102

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Date: 2022-11-21



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Report No.: TW2210208-01E Page 102 of 102

Date: 2022-11-21



Inside view



End of the report