

Test Report

Report No.: MTi230317009-01E1

Date of issue: 2023-11-27

Applicant: RT Stream International Co., Ltd.

Product: Body Worn Camera

Model(s): F01

FCC ID: 2BAY3-F01

Shenzhen Microtest Co., Ltd.

<http://www.mtitest.com>

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Test Result Certification	
Applicant:	RT Stream International Co., Ltd.
Address:	2F-7, No. 14, Xiwei St., Sanchong Dist., New Taipei City, Taiwan, China.
Manufacturer:	RT Stream International Co., Ltd.
Address:	2F-7, No. 14, Xiwei St., Sanchong Dist., New Taipei City, Taiwan, China.
Product description	
Product name:	Body Worn Camera
Trade mark:	N/A
Model name:	F01
Series Model:	N/A
Standards:	47 CFR Part 15.247
Test Method:	ANSI C63.10-2013 KDB 558074 D01 15.247 Meas Guidance v05r02
Date of Test	
Date of test:	2023-07-24 ~ 2023-08-23
Test result:	Pass

Test Engineer	:	<i>Yanice Xie</i>
		(Yanice.Xie)
Reviewed By	:	<i>Leon Chen</i>
		(Leon Chen)
Approved By	:	<i>Tom Xue</i>
		(Tom Xue)

1 General Description

1.1 Description of the EUT

Product name:	Body Worn Camera
Model name:	F01
Series Model:	N/A
Model difference:	N/A
Electrical rating:	Input: DC 5V Battery: DC 3.7V 6000mAh
Accessories:	1. Adapter Model:HYT-0502000U INPUT:AC100-240V~ 50/60Hz 0.3A Max OUTPUT:5.0V/ 2A 2. Cable:USB-A to USB-C:1.5 cm 3. Cable:USB-A to DC Charger:0.6 cm
Hardware version:	V0
Software version:	V1.96
Test sample(s) number:	MTi230317009-01S1001
RF specification	
Operating frequency range:	802.11b/g/n20:2412~2462 MHz
Modulation type:	IEEE 802.11b : DSSS (DBPSK, DQPSK, CCK) IEEE 802.11g/n (HT20) : OFDM (64QAM, 16QAM, QPSK, BPSK)
Antenna(s) type:	FPC Antenna
Antenna(s) gain:	1.63 dBi

1.2 Description of test modes

No.	Emission test modes
Mode1	TX-802.11b
Mode2	TX-802.11g
Mode3	TX-802.11N20

1.2.1 Operation channel list

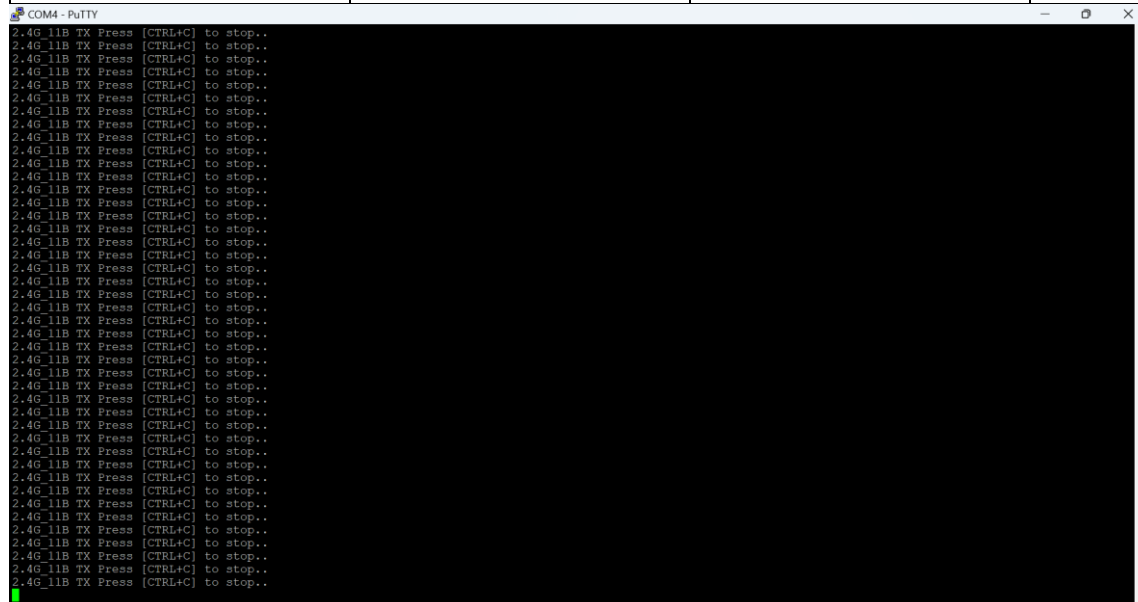
Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2412	07	2442
02	2417	08	2447
03	2422	09	2452
04	2427	10	2457
05	2432	11	2462
06	2437	/	

Note: The test software provided by manufacturer is used to control EUT for working in engineering mode, that enables selectable channel, and capable of continuous transmitting mode.

Test Software:

For power setting, refer to below table.

Test Software:		COM4-PuTTY	
802.11b		802.11g	
Channel	Power setting	Channel	Power setting
1	Default	1	Default
6	Default	6	Default
11	Default	11	Default
802.11n (HT20)			
Channel	Power setting		
1	12		
6	12		
11	12		


1.3 Environmental Conditions

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

Temperature:	15°C ~ 35°C
Humidity:	20% RH ~ 75% RH
Atmospheric pressure:	98 kPa ~ 101 kPa

1.4 Description of support units

Support equipment list			
Description	Model	Serial No.	Manufacturer
/	/	/	/
Support cable list			
Description	Length (m)	From	To
/	/	/	/

1.5 Measurement uncertainty

Measurement	Uncertainty
-------------	-------------

Conducted emissions (AMN 150kHz~30MHz)	±3.1dB
Occupied channel bandwidth	±3 %
RF output power, conducted	±1 dB
Power Spectral Density, conducted	±1 dB
Unwanted Emissions, conducted	±1 dB
Radiated spurious emissions (above 1GHz)	±5.3dB
Radiated spurious emissions (9kHz~30MHz)	±4.3dB
Radiated spurious emissions (30MHz~1GHz)	±4.7dB
Temperature	±1 °C
Humidity	± 5 %

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

2 Summary of Test Result

No.	Item	Standard	Requirement	Result
1	Antenna requirement	47 CFR Part 15.247	47 CFR 15.203	Pass
2	Conducted Emission at AC power line	47 CFR Part 15.247	47 CFR 15.207(a)	Pass
3	Occupied Bandwidth	47 CFR Part 15.247	47 CFR 15.247(a)(2)	Pass
4	Maximum Conducted Output Power	47 CFR Part 15.247	47 CFR 15.247(b)(3)	Pass
5	Power Spectral Density	47 CFR Part 15.247	47 CFR 15.247(e)	Pass
6	RF conducted spurious emissions and band edge measurement	47 CFR Part 15.247	47 CFR 15.247(d), 15.209, 15.205	Pass
7	Band edge emissions (Radiated)	47 CFR Part 15.247	47 CFR 15.247(d), 15.209, 15.205	Pass
8	Radiated emissions (below 1GHz)	47 CFR Part 15.247	47 CFR 15.247(d), 15.209, 15.205	Pass
9	Radiated emissions (above 1GHz)	47 CFR Part 15.247	47 CFR 15.247(d), 15.209, 15.205	Pass

3 Test Facilities and accreditations

3.1 Test laboratory

Test laboratory:	Shenzhen Microtest Co., Ltd.
Test site location:	101, No.7, Zone 2, Xinxing Industrial Park, Fuhai Avenue, Xinhe Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China
Telephone:	(86-755)88850135
Fax:	(86-755)88850136
CNAS Registration No.:	CNAS L5868
FCC Registration No.:	448573
IC Registration No.:	21760
CABID:	CN0093

4 List of test equipment

No.	Equipment	Manufacturer	Model	Serial No.	Cal. date	Cal. Due
Conducted Emission at AC power line						
1	EMI Test Receiver	Rohde&schwarz	ESCI3	101368	2023-04-26	2024-04-25
2	Artificial mains network	Schwarzbeck	NSLK 8127	183	2023-05-05	2024-05-04
3	Artificial Mains Network	Rohde & Schwarz	ESH2-Z5	100263	2023-06-03	2024-06-02
Maximum Conducted Output Power Power Spectral Density Emissions in non-restricted frequency bands Occupied Bandwidth						
1	Wideband Radio Communication Tester	Rohde&schwarz	CMW500	149155	2023-04-26	2024-04-25
2	ESG Series Analog Ssignal Generator	Agilent	E4421B	GB40051240	2023-04-25	2024-04-24
3	PXA Signal Analyzer	Agilent	N9030A	MY51350296	2023-04-25	2024-04-24
4	Synthesized Sweeper	Agilent	83752A	3610A01957	2023-04-25	2024-04-24
5	MXA Signal Analyzer	Agilent	N9020A	MY50143483	2023-04-26	2024-04-25
6	RF Control Unit	Tonscend	JS0806-1	19D8060152	2023-04-26	2024-04-25
7	Band Reject Filter Group	Tonscend	JS0806-F	19D8060160	2023-05-05	2024-05-04
8	ESG Vector Signal Generator	Agilent	N5182A	MY50143762	2023-04-25	2024-04-24
9	DC Power Supply	Agilent	E3632A	MY40027695	2023-05-05	2024-05-04
Band edge emissions (Radiated) Emissions in frequency bands (above 1GHz)						
1	EMI Test Receiver	Rohde&schwarz	ESCI7	101166	2023-04-26	2024-04-25
2	Double Ridged Broadband Horn Antenna	schwarabeck	BBHA 9120 D	2278	2023-05-26	2024-05-25
3	Amplifier	Agilent	8449B	3008A01120	2023-06-26	2024-06-25
4	Multi-device Controller	TuoPu	TPMDC	/	2023-05-04	2024-05-03
5	MXA signal analyzer	Agilent	N9020A	MY54440859	2023-05-05	2024-05-04
Emissions in frequency bands (below 1GHz)						
1	EMI Test Receiver	Rohde&schwarz	ESCI7	101166	2023-04-26	2024-04-25
2	TRILOG Broadband Antenna	schwarabeck	VULB 9163	9163-1338	2023-06-11	2025-06-10
3	Amplifier	Hewlett-Packard	8447F	3113A06184	2023-06-26	2024-06-25
4	Multi-device Controller	TuoPu	TPMDC	/	2023-05-04	2024-05-03
5	Active Loop Antenna	Schwarzbeck	FMZB 1519 B	00066	2023-06-11	2025-06-10

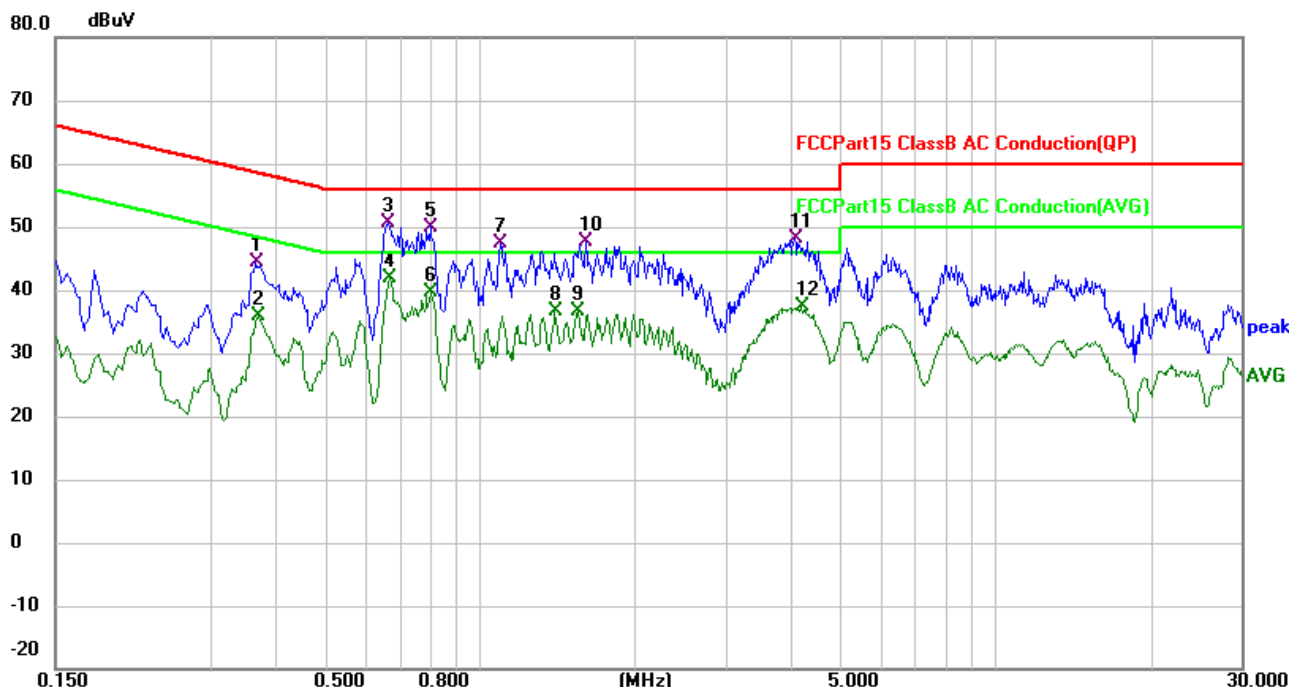
5 Evaluation Results (Evaluation)

5.1 Antenna requirement

Test Requirement:	Refer to 47 CFR Part 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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.
Description of the antenna of EUT:	The antenna of the EUT is permanently attached.
Conclusion:	The EUT complies with the requirement of FCC PART 15.203.

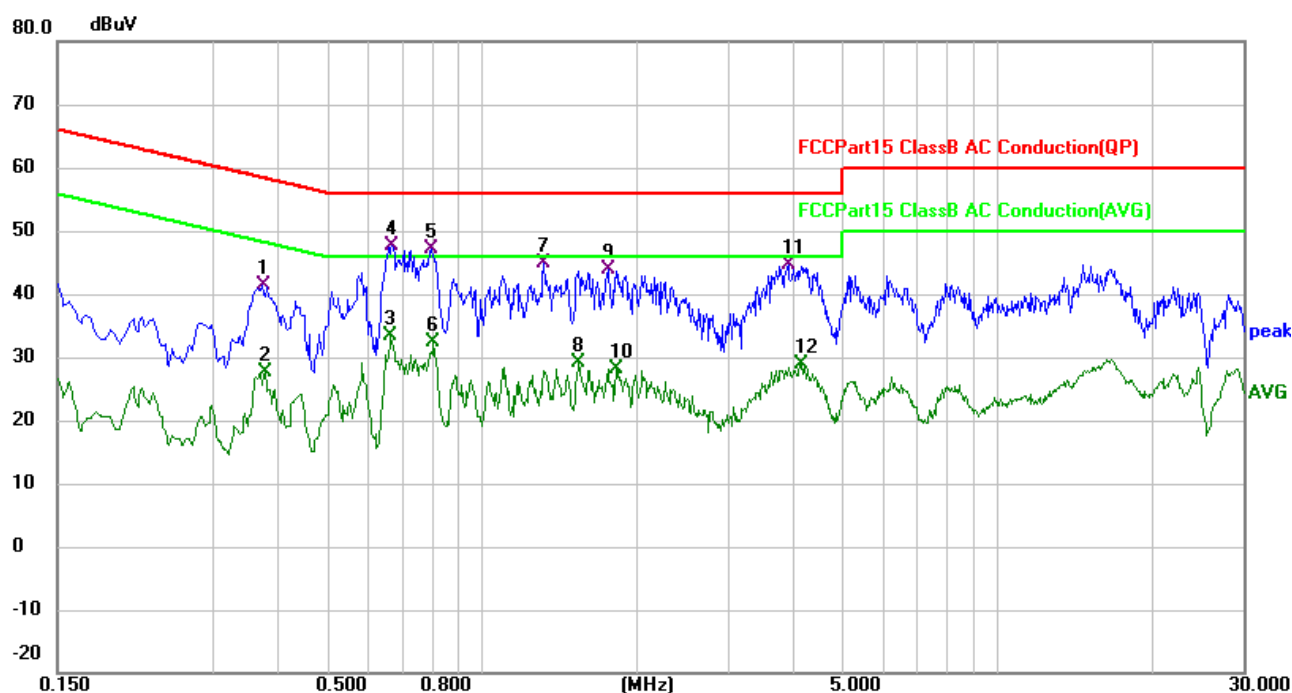
6.1.3 Test Data:

Test mode:	Mode 1	Phase:	L
Power supply:	Power by AC/DC adapter (AC 120V/60Hz)	Test site:	CE chamber 1



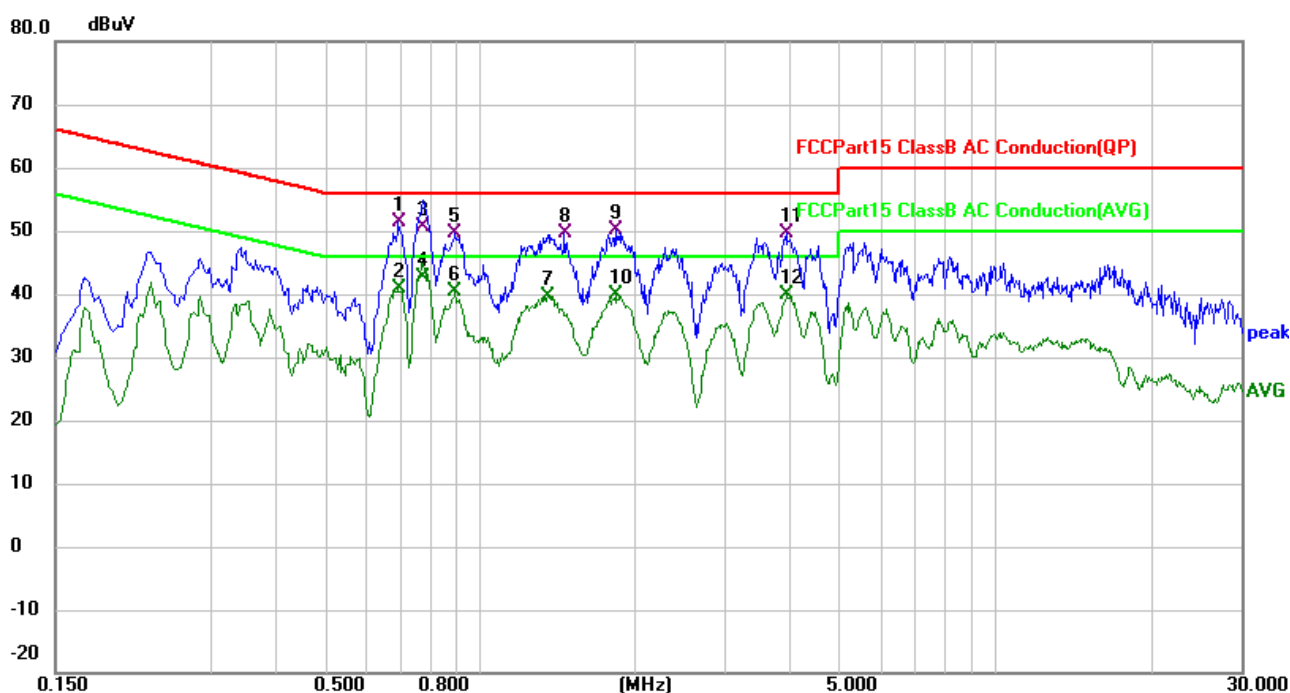
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1		0.3660	33.35	11.03	44.38	58.59	-14.21	QP
2		0.3700	24.77	11.03	35.80	48.50	-12.70	AVG
3		0.6620	39.00	11.67	50.67	56.00	-5.33	QP
4	*	0.6700	30.06	11.70	41.76	46.00	-4.24	AVG
5		0.8020	38.02	11.98	50.00	56.00	-6.00	QP
6		0.8020	27.62	11.98	39.60	46.00	-6.40	AVG
7		1.0940	34.79	12.56	47.35	56.00	-8.65	QP
8		1.3980	23.50	13.04	36.54	46.00	-9.46	AVG
9		1.5500	23.46	13.29	36.75	46.00	-9.25	AVG
10		1.6060	34.17	13.39	47.56	56.00	-8.44	QP
11		4.0779	37.97	10.27	48.24	56.00	-7.76	QP
12		4.2139	27.15	10.26	37.41	46.00	-8.59	AVG

Test mode:	Mode 1	Phase:	N
Power supply:	Power by AC/DC adapter (AC 120V/60Hz)	Test site:	CE chamber 1



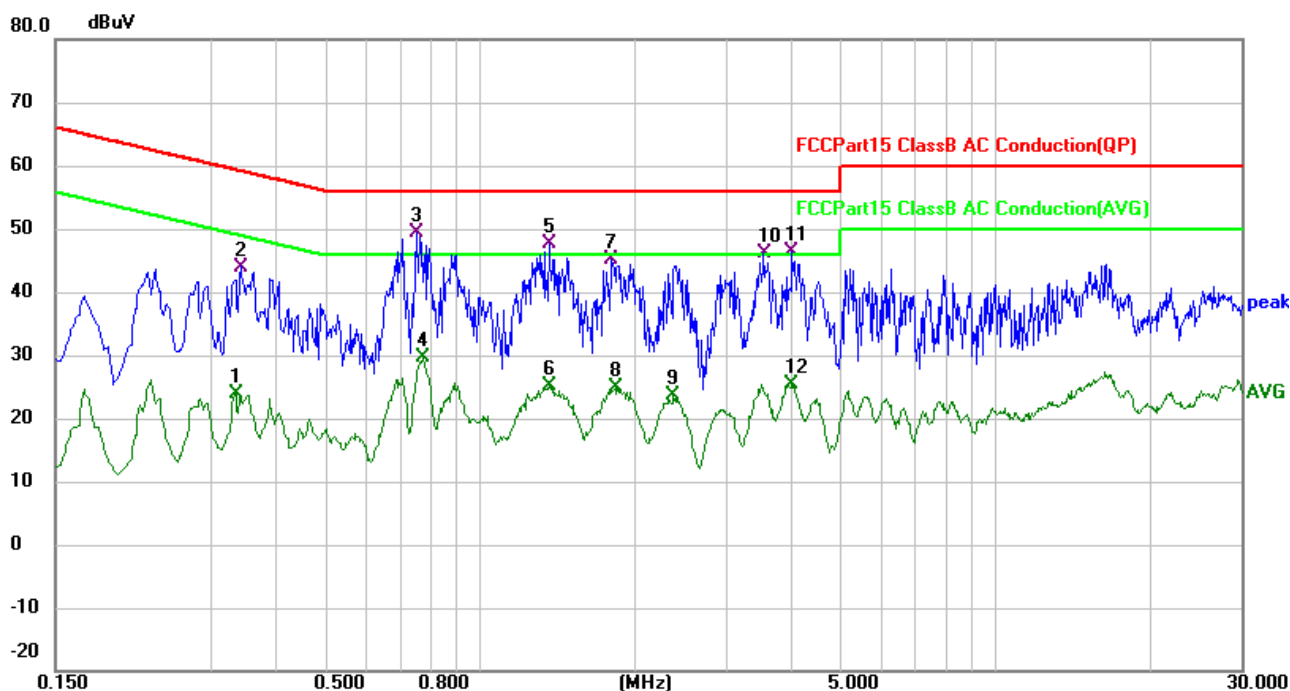
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1		0.3740	30.43	10.98	41.41	58.41	-17.00	QP
2		0.3780	16.67	11.00	27.67	48.32	-20.65	AVG
3		0.6660	21.73	11.71	33.44	46.00	-12.56	AVG
4	*	0.6700	35.80	11.71	47.51	56.00	-8.49	QP
5		0.7980	35.12	11.96	47.08	56.00	-8.92	QP
6		0.8059	20.30	11.98	32.28	46.00	-13.72	AVG
7		1.3180	31.85	13.02	44.87	56.00	-11.13	QP
8		1.5420	15.54	13.49	29.03	46.00	-16.97	AVG
9		1.7620	29.91	13.96	43.87	56.00	-12.13	QP
10		1.8260	17.66	10.45	28.11	46.00	-17.89	AVG
11		3.9420	34.31	10.28	44.59	56.00	-11.41	QP
12		4.1619	18.70	10.28	28.98	46.00	-17.02	AVG

Test mode:	Mode 1	Phase:	L
Power supply:	Power by AC/DC adapter (AC 240V/60Hz)	Test site:	CE chamber 1



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1		0.6940	39.72	11.75	51.47	56.00	-4.53	QP
2		0.6940	29.17	11.75	40.92	46.00	-5.08	AVG
3		0.7779	38.61	11.94	50.55	56.00	-5.45	QP
4	*	0.7779	30.79	11.94	42.73	46.00	-3.27	AVG
5		0.8980	37.44	12.19	49.63	56.00	-6.37	QP
6		0.8980	28.13	12.19	40.32	46.00	-5.68	AVG
7		1.3540	26.78	12.97	39.75	46.00	-6.25	AVG
8		1.4620	36.57	13.14	49.71	56.00	-6.29	QP
9		1.8300	40.13	10.07	50.20	56.00	-5.80	QP
10		1.8300	29.69	10.07	39.76	46.00	-6.24	AVG
11		3.9340	39.32	10.27	49.59	56.00	-6.41	QP
12		3.9580	29.60	10.27	39.87	46.00	-6.13	AVG

Test mode:	Mode 1	Phase:	N
Power supply:	Power by AC/DC adapter (AC 240V/60Hz)	Test site:	CE chamber 1



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1		0.3339	13.07	10.90	23.97	49.35	-25.38	AVG
2		0.3420	33.08	10.92	44.00	59.15	-15.15	QP
3	*	0.7539	37.44	11.88	49.32	56.00	-6.68	QP
4		0.7780	17.60	11.93	29.53	46.00	-16.47	AVG
5		1.3619	34.41	13.11	47.52	56.00	-8.48	QP
6		1.3619	11.96	13.11	25.07	46.00	-20.93	AVG
7		1.8060	31.13	14.06	45.19	56.00	-10.81	QP
8		1.8380	14.33	10.45	24.78	46.00	-21.22	AVG
9		2.3820	13.22	10.40	23.62	46.00	-22.38	AVG
10		3.5540	35.78	10.28	46.06	56.00	-9.94	QP
11		4.0419	36.00	10.29	46.29	56.00	-9.71	QP
12		4.0419	15.06	10.29	25.35	46.00	-20.65	AVG

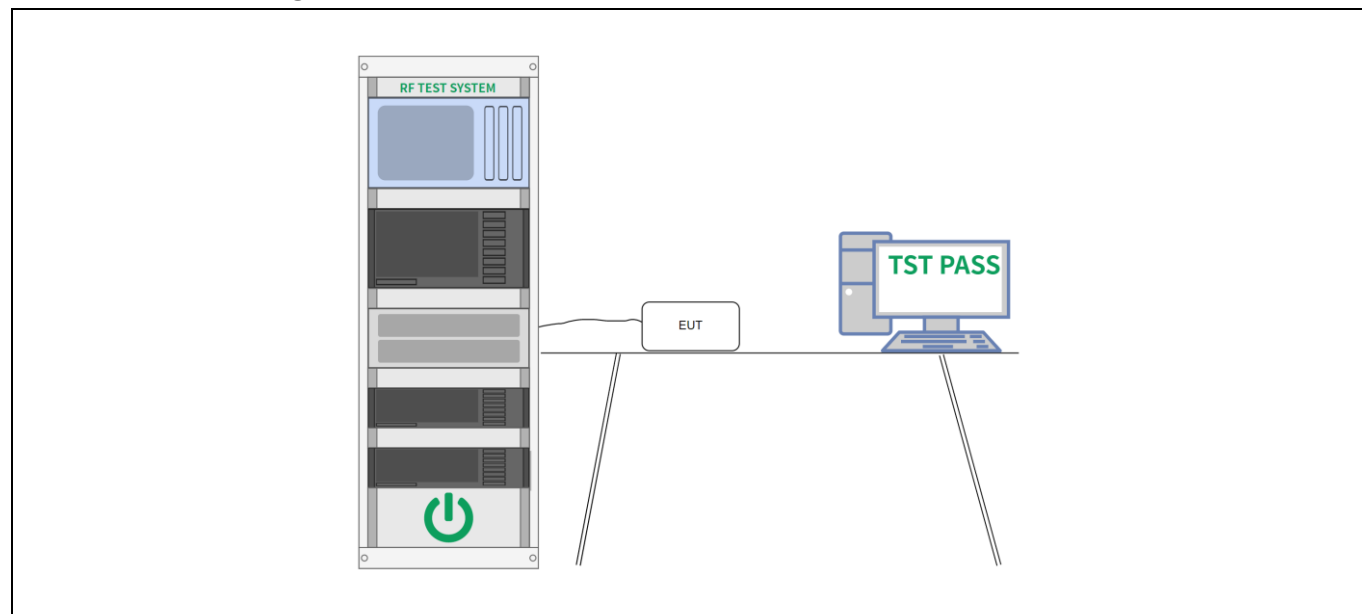
6.2 Occupied Bandwidth

Test Requirement:	47 CFR 15.247(a)(2)
Test Limit:	Refer to 47 CFR 15.247(a)(2), Systems using digital modulation techniques may operate in the 902-928 MHz, and 2400-2483.5 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.
Test Method:	ANSI C63.10-2013, section 11.8 KDB 558074 D01 15.247 Meas Guidance v05r02
Procedure:	a) Set RBW = 100 kHz. b) Set the VBW $\geq [3 \times \text{RBW}]$. c) Detector = peak. d) Trace mode = max hold. e) Sweep = auto couple. f) Allow the trace to stabilize. g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

6.2.1 E.U.T. Operation:

Operating Environment:					
Temperature:	25 °C	Humidity:	59 %	Atmospheric Pressure:	101 kPa
Test mode:	Mode1, Mode2, Mode3				

6.2.2 Test Setup Diagram:



6.2.3 Test Data:

Please Refer to Appendix for Details.

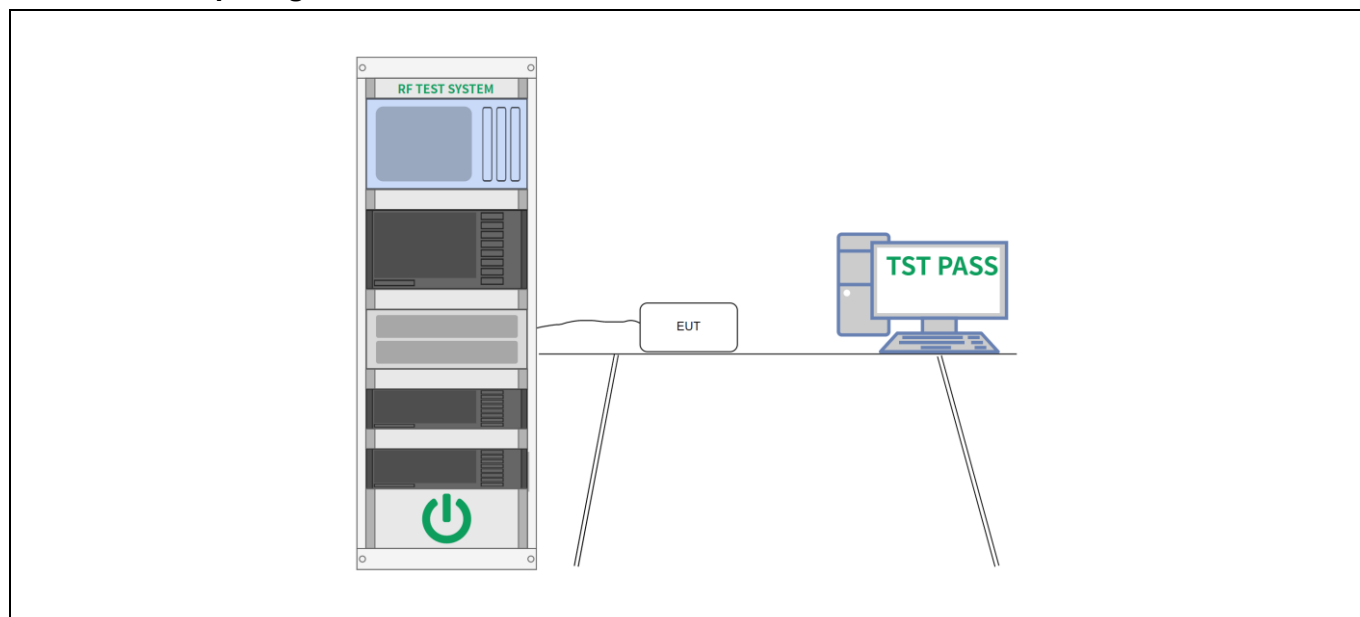
6.3 Maximum Conducted Output Power

Test Requirement:	47 CFR 15.247(b)(3)
Test Limit:	Refer to 47 CFR 15.247(b)(3), For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.
Test Method:	ANSI C63.10-2013, section 11.9.1 KDB 558074 D01 15.247 Meas Guidance v05r02
Procedure:	ANSI C63.10-2013, section 11.9.1 Maximum peak conducted output power

6.3.1 E.U.T. Operation:

Operating Environment:					
Temperature:	25 °C	Humidity:	59 %	Atmospheric Pressure:	101 kPa
Test mode:	Mode1, Mode2, Mode3				

6.3.2 Test Setup Diagram:



6.3.3 Test Data:

Please Refer to Appendix for Details.

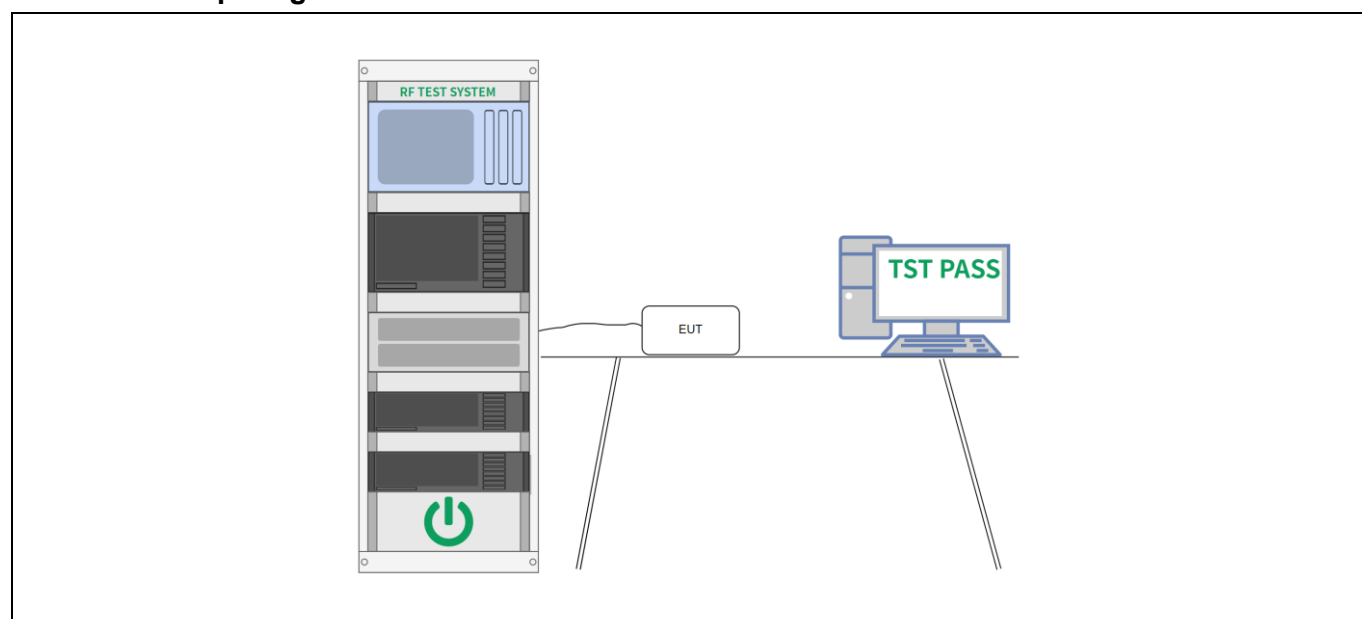
6.4 Power Spectral Density

Test Requirement:	47 CFR 15.247(e)
Test Limit:	Refer to 47 CFR 15.247(e), For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.
Test Method:	ANSI C63.10-2013, section 11.10 KDB 558074 D01 15.247 Meas Guidance v05r02
Procedure:	ANSI C63.10-2013, section 11.10, Maximum power spectral density level in the fundamental emission

6.4.1 E.U.T. Operation:

Operating Environment:					
Temperature:	25 °C	Humidity:	59 %	Atmospheric Pressure:	101 kPa
Test mode:	Mode1, Mode2, Mode3				

6.4.2 Test Setup Diagram:



6.4.3 Test Data:

Please Refer to Appendix for Details.

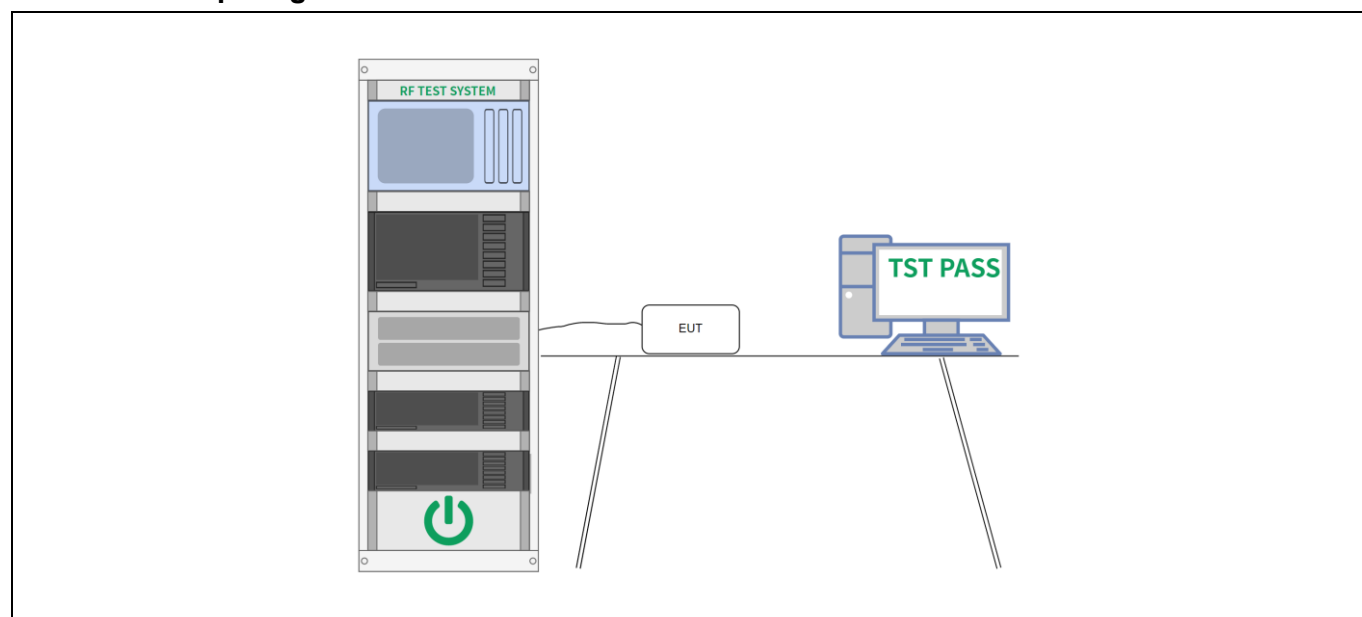
6.5 RF conducted spurious emissions and band edge measurement

Test Requirement:	47 CFR 15.247(d)
Test Limit:	Refer to 47 CFR 15.247(d), In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in § 15.209(a) is not required.
Test Method:	ANSI C63.10-2013 section 11.11 KDB 558074 D01 15.247 Meas Guidance v05r02
Procedure:	ANSI C63.10-2013 Section 11.11.1, Section 11.11.2, Section 11.11.3

6.5.1 E.U.T. Operation:

Operating Environment:					
Temperature:	25 °C	Humidity:	59 %	Atmospheric Pressure:	101 kPa
Test mode:	Mode1, Mode2, Mode3				

6.5.2 Test Setup Diagram:



6.5.3 Test Data:

Please Refer to Appendix for Details.

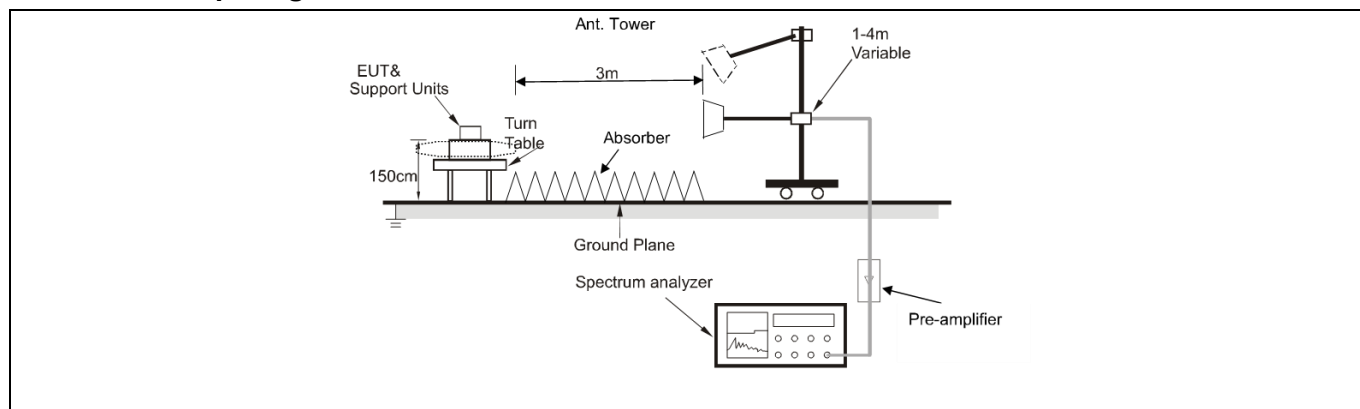
6.6 Band edge emissions (Radiated)

Test Requirement:	Refer to 47 CFR 15.247(d), In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a)(see § 15.205(c)).`		
Test Limit:	Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
	0.009-0.490	2400/F(kHz)	300
	0.490-1.705	24000/F(kHz)	30
	1.705-30.0	30	30
	30-88	100 **	3
	88-216	150 **	3
	216-960	200 **	3
	Above 960	500	3
	** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.		
Test Method:	ANSI C63.10-2013 section 6.10 KDB 558074 D01 15.247 Meas Guidance v05r02		
Procedure:	ANSI C63.10-2013 section 6.10.5.2		

6.6.1 E.U.T. Operation:

Operating Environment:					
Temperature:	29.7 °C	Humidity:	49.8 %	Atmospheric Pressure:	100 kPa
Test mode:		Mode1, Mode2, Mode3			
Note: The amplitude of spurious emissions which are attenuated more than 20 dB below the limits are not reported. All modes of operation of the EUT were investigated, and only the worst-case results are reported.					

6.6.2 Test Setup Diagram:



6.6.3 Test Data:

Frequency	Reading Level	Correct Factor	Measurement	Limits	Over	Detector	Polarization
(MHz)	(dB μ V)	(dB/m)	(dB μ V/m)	(dB μ V/m)	(dB)	Peak/AVG	H/V
802.11b – Low band-edge							
(MHz)	(dB μ V)	(dB/m)	(dB μ V/m)	(dB μ V/m)	(dB)	Peak/AVG	H/V
2310.000	43.02	-2.66	40.36	74.00	-33.64	Peak	V
2310.000	34.11	-2.66	31.45	54.00	-22.55	AVG	V
2390.000	54.41	-2.03	52.38	74.00	-21.62	Peak	V
2390.000	46.50	-2.03	44.47	54.00	-9.53	AVG	V
2310.000	42.62	-2.66	39.96	74.00	-34.04	Peak	H
2310.000	33.57	-2.66	30.91	54.00	-23.09	AVG	H
2390.000	53.37	-2.03	51.34	74.00	-22.66	Peak	H
2390.000	45.51	-2.03	43.48	54.00	-10.52	AVG	H
802.11b – High band-edge							
2483.500	55.72	-1.91	53.81	74.00	-20.19	Peak	V
2483.500	50.18	-1.91	48.27	54.00	-5.73	AVG	V
2500.000	49.56	-1.80	47.76	74.00	-26.24	Peak	V
2500.000	40.25	-1.80	38.45	54.00	-15.55	AVG	V
2483.500	55.37	-1.91	53.46	74.00	-20.54	Peak	H
2483.500	50.12	-1.91	48.21	54.00	-5.79	AVG	H
2500.000	49.22	-1.80	47.42	74.00	-26.58	Peak	H
2500.000	39.83	-1.80	38.03	54.00	-15.97	AVG	H

Frequency	Reading Level	Correct Factor	Measurement	Limits	Over	Detector	Polarization
(MHz)	(dBμV)	(dB/m)	(dBμV/m)	(dBμV/m)	(dB)	Peak/AVG	H/V
802.11g – Low band-edge							
(MHz)	(dBμV)	(dB/m)	(dBμV/m)	(dBμV/m)	(dB)	Peak/AVG	H/V
2310.000	42.59	-2.66	39.93	74.00	-34.07	Peak	V
2310.000	33.30	-2.66	30.64	54.00	-23.36	AVG	V
2390.000	56.41	-2.03	54.38	74.00	-19.62	Peak	V
2390.000	40.95	-2.03	38.92	54.00	-15.08	AVG	V
2310.000	43.03	-2.66	40.37	74.00	-33.63	Peak	H
2310.000	33.28	-2.66	30.62	54.00	-23.38	AVG	H
2390.000	57.10	-2.03	55.07	74.00	-18.93	Peak	H
2390.000	41.89	-2.03	39.86	54.00	-14.14	AVG	H
802.11g – High band-edge							
2483.500	56.48	-1.91	54.57	74.00	-19.43	Peak	V
2483.500	43.66	-1.91	41.75	54.00	-12.25	AVG	V
2500.000	49.53	-1.80	47.73	74.00	-26.27	Peak	V
2500.000	39.78	-1.80	37.98	54.00	-16.02	AVG	V
2483.500	54.15	-1.91	52.24	74.00	-21.76	Peak	H
2483.500	43.14	-1.91	41.23	54.00	-12.77	AVG	H
2500.000	49.29	-1.80	47.49	74.00	-26.51	Peak	H
2500.000	39.63	-1.80	37.83	54.00	-16.17	AVG	H

Frequency	Reading Level	Correct Factor	Measurement	Limits	Over	Detector	Polarization
(MHz)	(dBμV)	(dB/m)	(dBμV/m)	(dBμV/m)	(dB)	Peak/AVG	H/V
802.11n20 – Low band-edge							
(MHz)	(dBμV)	(dB/m)	(dBμV/m)	(dBμV/m)	(dB)	Peak/AVG	H/V
2310.000	42.75	-2.66	40.09	74.00	-33.91	Peak	V
2310.000	33.63	-2.66	30.97	54.00	-23.03	AVG	V
2390.000	63.84	-2.03	61.81	74.00	-12.19	Peak	V
2390.000	47.83	-2.03	45.80	54.00	-8.20	AVG	V
2310.000	44.07	-2.66	41.41	74.00	-32.59	Peak	H
2310.000	34.22	-2.66	31.56	54.00	-22.44	AVG	H
2390.000	67.66	-2.03	65.63	74.00	-8.37	Peak	H
2390.000	49.75	-2.03	47.72	54.00	-6.28	AVG	H
802.11n20 – High band-edge							
2483.500	72.27	-1.91	70.36	74.00	-3.64	Peak	V
2483.500	49.32	-1.91	47.41	54.00	-6.59	AVG	V
2500.000	51.78	-1.80	49.98	74.00	-24.02	Peak	V
2500.000	40.25	-1.80	38.45	54.00	-15.55	AVG	V
2483.500	68.10	-1.91	66.19	74.00	-7.81	Peak	H
2483.500	48.57	-1.91	46.66	54.00	-7.34	AVG	H
2500.000	50.06	-1.80	48.26	74.00	-25.74	Peak	H
2500.000	39.65	-1.80	37.85	54.00	-16.15	AVG	H

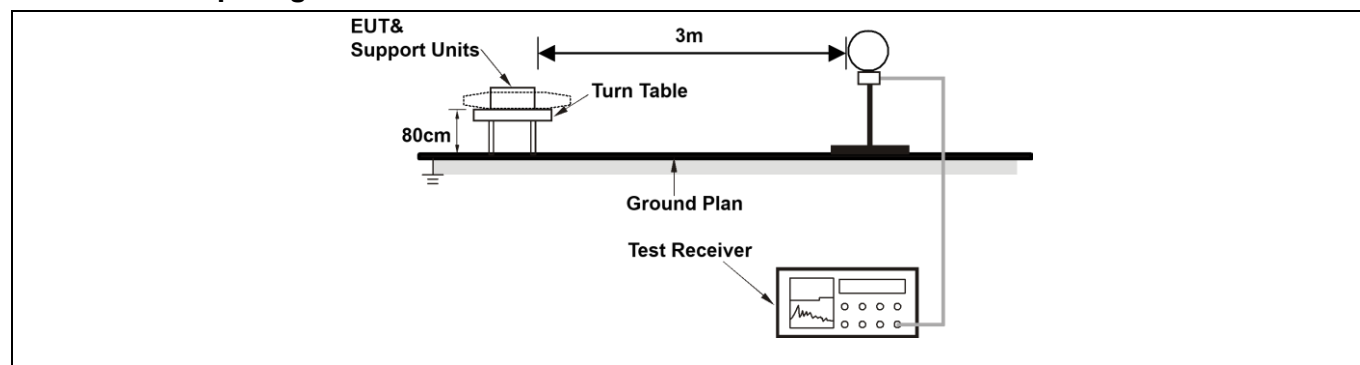
6.7 Radiated emissions (below 1GHz)

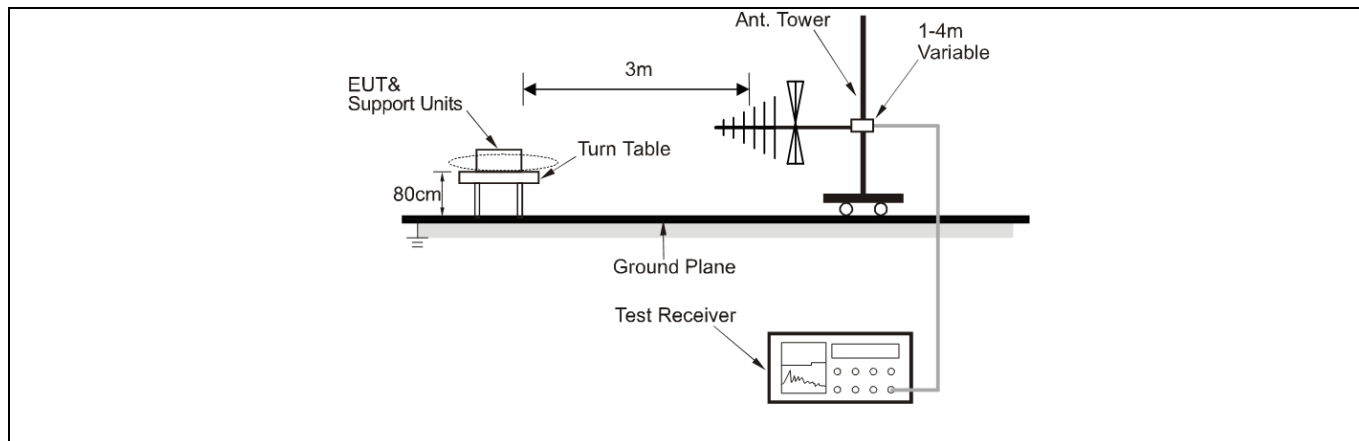
Test Requirement:	Refer to 47 CFR 15.247(d), In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a)(see § 15.205(c)).`		
Test Limit:	Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
	0.009-0.490	2400/F(kHz)	300
	0.490-1.705	24000/F(kHz)	30
	1.705-30.0	30	30
	30-88	100 **	3
	88-216	150 **	3
	216-960	200 **	3
	Above 960	500	3
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.			
Test Method:	ANSI C63.10-2013 section 6.6.4 KDB 558074 D01 15.247 Meas Guidance v05r02		
Procedure:	ANSI C63.10-2013 section 6.6.4		

6.7.1 E.U.T. Operation:

Operating Environment:					
Temperature:	29.7 °C	Humidity:	49.8 %	Atmospheric Pressure:	100 kPa
Test mode:	Mode1, Mode2, Mode3				
Note: The amplitude of spurious emissions which are attenuated more than 20 dB below the limits are not reported. All modes of operation of the EUT were investigated, and only the worst-case results are reported. There were no emissions found below 30MHz within 20dB of the limit.					

6.7.2 Test Setup Diagram:





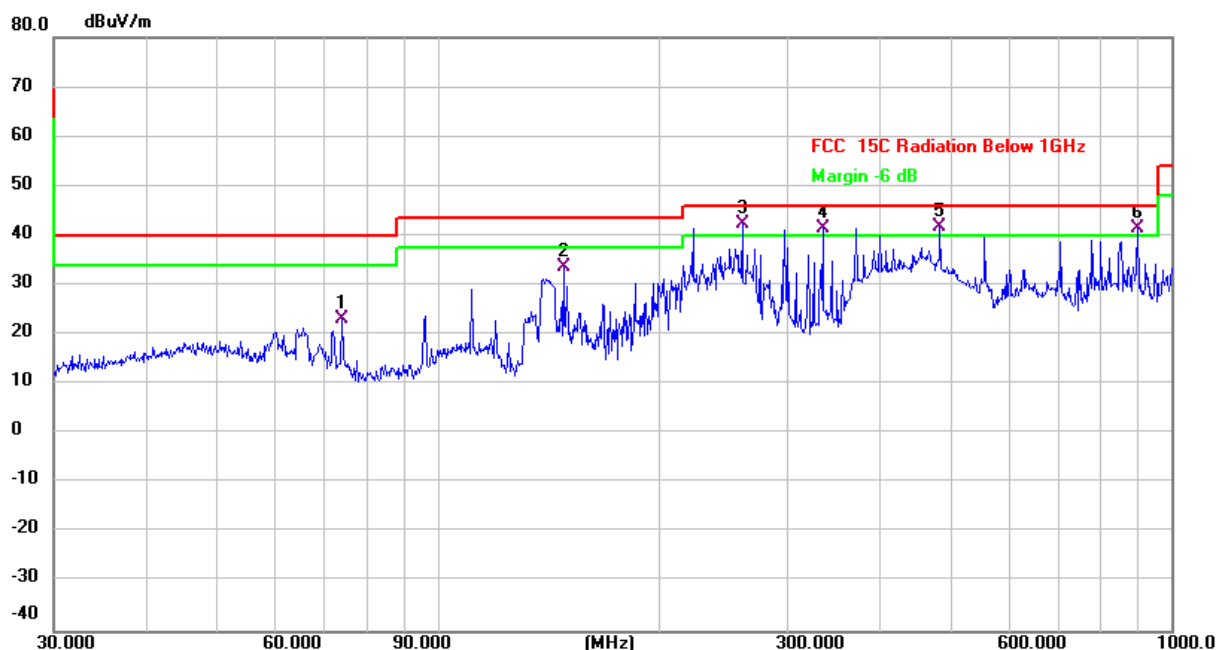
6.7.3 Test Data:

Calculation formula:

Measurement (dB μ V/m) = Reading Level (dB μ V) + Correct Factor (dB/m)

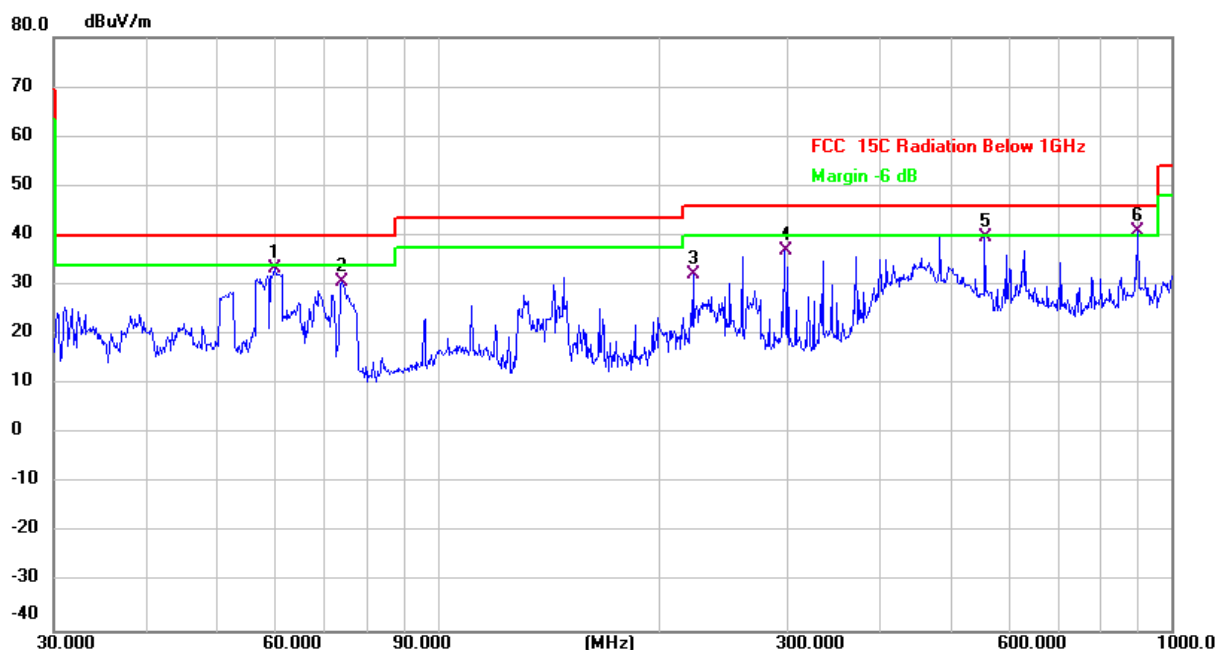
Over (dB) = Measurement (dB μ V/m) – Limit (dB μ V/m)

Test mode:	TX 802.11b-2462	Polarization:	Horizontal
Power supply:	DC 5V	Test site:	RE chamber 1



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		74.1351	35.22	-12.18	23.04	40.00	-16.96	QP
2		148.4410	45.28	-11.70	33.58	43.50	-9.92	QP
3	*	260.1444	49.67	-7.40	42.27	46.00	-3.73	QP
4	!	334.8589	45.69	-4.24	41.45	46.00	-4.55	QP
5	!	483.9094	45.49	-3.73	41.76	46.00	-4.24	QP
6	!	900.1474	38.03	3.39	41.42	46.00	-4.58	QP

Test mode:	TX 802.11b-2462	Polarization:	Vertical
Power supply:	DC 5V	Test site:	RE chamber 1



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		60.0691	43.08	-9.76	33.32	40.00	-6.68	QP
2		74.1351	42.91	-12.18	30.73	40.00	-9.27	QP
3		222.9502	40.49	-8.46	32.03	46.00	-13.97	QP
4		297.2241	41.82	-4.84	36.98	46.00	-9.02	QP
5		556.7744	41.60	-2.08	39.52	46.00	-6.48	QP
6	*	900.1474	37.41	3.39	40.80	46.00	-5.20	QP

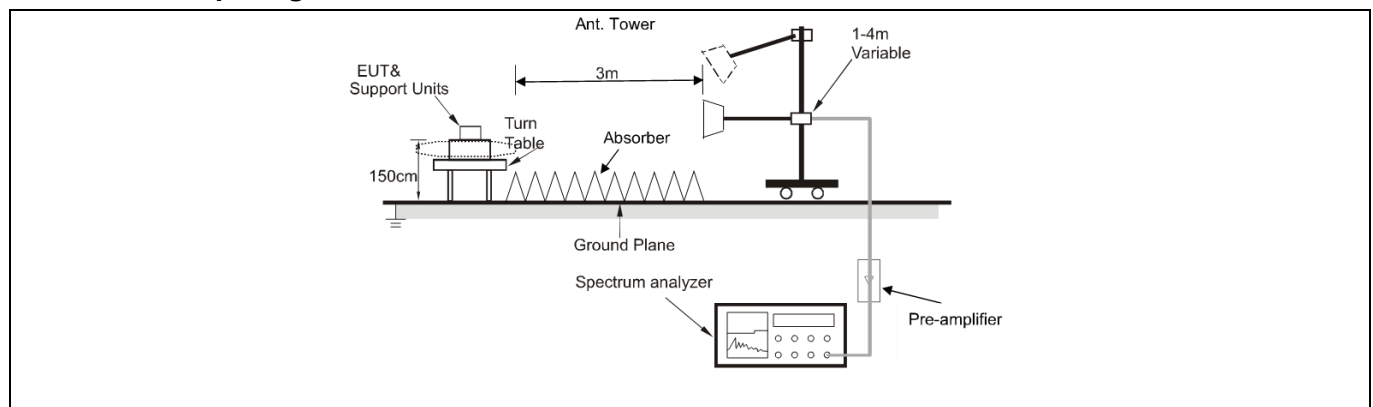
6.8 Radiated emissions (above 1GHz)

Test Requirement:	In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a)(see § 15.205(c)).`		
Test Limit:	Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
	0.009-0.490	2400/F(kHz)	300
	0.490-1.705	24000/F(kHz)	30
	1.705-30.0	30	30
	30-88	100 **	3
	88-216	150 **	3
	216-960	200 **	3
	Above 960	500	3
	** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.		
Test Method:	ANSI C63.10-2013 section 6.6.4 KDB 558074 D01 15.247 Meas Guidance v05r02		
Procedure:	ANSI C63.10-2013 section 6.6.4		

6.8.1 E.U.T. Operation:

Operating Environment:					
Temperature:	29.7 °C	Humidity:	49.8 %	Atmospheric Pressure:	100 kPa
Test mode:	Mode1, Mode2, Mode3				
Note: Test frequency are from 1GHz to 25GHz, the amplitude of spurious emissions which are attenuated more than 20 dB below the limits are not reported. All modes of operation of the EUT were investigated, and only the worst-case results are reported.					

6.8.2 Test Setup Diagram:



6.8.3 Test Data:

Calculation formula:

Measurement (dBμV/m) = Reading Level (dBμV) + Correct Factor (dB/m)

Over (dB) = Measurement (dBμV/m) – Limit (dBμV/m)

Frequency	Reading Level	Correct Factor	Measurement	Limits	Over	Detector	Polarization
(MHz)	(dBμV)	(dB/m)	(dBμV/m)	(dBμV/m)	(dB)	Peak/AVG	H/V
802.11b - 2412 MHz TX mode							
4824.000	43.64	2.81	46.45	74.00	-27.55	Peak	V
4824.000	37.30	2.81	40.11	54.00	-13.89	AVG	V
7236.000	43.52	9.10	52.62	74.00	-21.38	Peak	V
7236.000	37.72	9.10	46.82	54.00	-7.18	AVG	V
9648.000	41.33	10.98	52.31	74.00	-21.69	Peak	V
9648.000	35.68	10.98	46.66	54.00	-7.34	AVG	V
4824.000	42.13	2.81	44.94	74.00	-29.06	Peak	H
4824.000	35.64	2.81	38.45	54.00	-15.55	AVG	H
7236.000	42.94	9.10	52.04	74.00	-21.96	Peak	H
7236.000	36.59	9.10	45.69	54.00	-8.31	AVG	H
9648.000	41.55	10.98	52.53	74.00	-21.47	Peak	H
9648.000	35.77	10.98	46.75	54.00	-7.25	AVG	H
802.11b - 2437 MHz TX mode							
4874.000	40.91	3.02	43.93	74.00	-30.07	Peak	V
4874.000	34.15	3.02	37.17	54.00	-16.83	AVG	V
7311.000	39.84	8.97	48.81	74.00	-25.19	Peak	V
7311.000	33.22	8.97	42.19	54.00	-11.81	AVG	V
9748.000	41.18	11.95	53.13	74.00	-20.87	Peak	V
9748.000	35.09	11.95	47.04	54.00	-6.96	AVG	V
4874.000	40.89	3.02	43.91	74.00	-30.09	Peak	H
4874.000	34.25	3.02	37.27	54.00	-16.73	AVG	H
7311.000	40.32	8.97	49.29	74.00	-24.71	Peak	H
7311.000	34.28	8.97	43.25	54.00	-10.75	AVG	H
9748.000	41.05	11.95	53.00	74.00	-21.00	Peak	H
9748.000	34.60	11.95	46.55	54.00	-7.45	AVG	H

802.11b - 2462 MHz TX mode							
4924.000	41.54	3.27	44.81	74.00	-29.19	Peak	V
4924.000	34.88	3.27	38.15	54.00	-15.85	AVG	V
7386.000	45.06	9.16	54.22	74.00	-19.78	Peak	V
7386.000	37.45	9.16	46.61	54.00	-7.39	AVG	V
9848.000	41.08	11.50	52.58	74.00	-21.42	Peak	V
9848.000	33.30	11.50	44.80	54.00	-9.20	AVG	V
4924.000	41.78	3.27	45.05	74.00	-28.95	Peak	H
4924.000	35.73	3.27	39.00	54.00	-15.00	AVG	H
7386.000	44.33	9.16	53.49	74.00	-20.51	Peak	H
7386.000	38.47	9.16	47.63	54.00	-6.37	AVG	H
9848.000	41.30	11.50	52.80	74.00	-21.20	Peak	H
9848.000	33.49	11.50	44.99	54.00	-9.01	AVG	H

Photographs of the test setup

Refer to Appendix - Test setup Photos

Photographs of the EUT

Refer to Appendix - EUT Photos

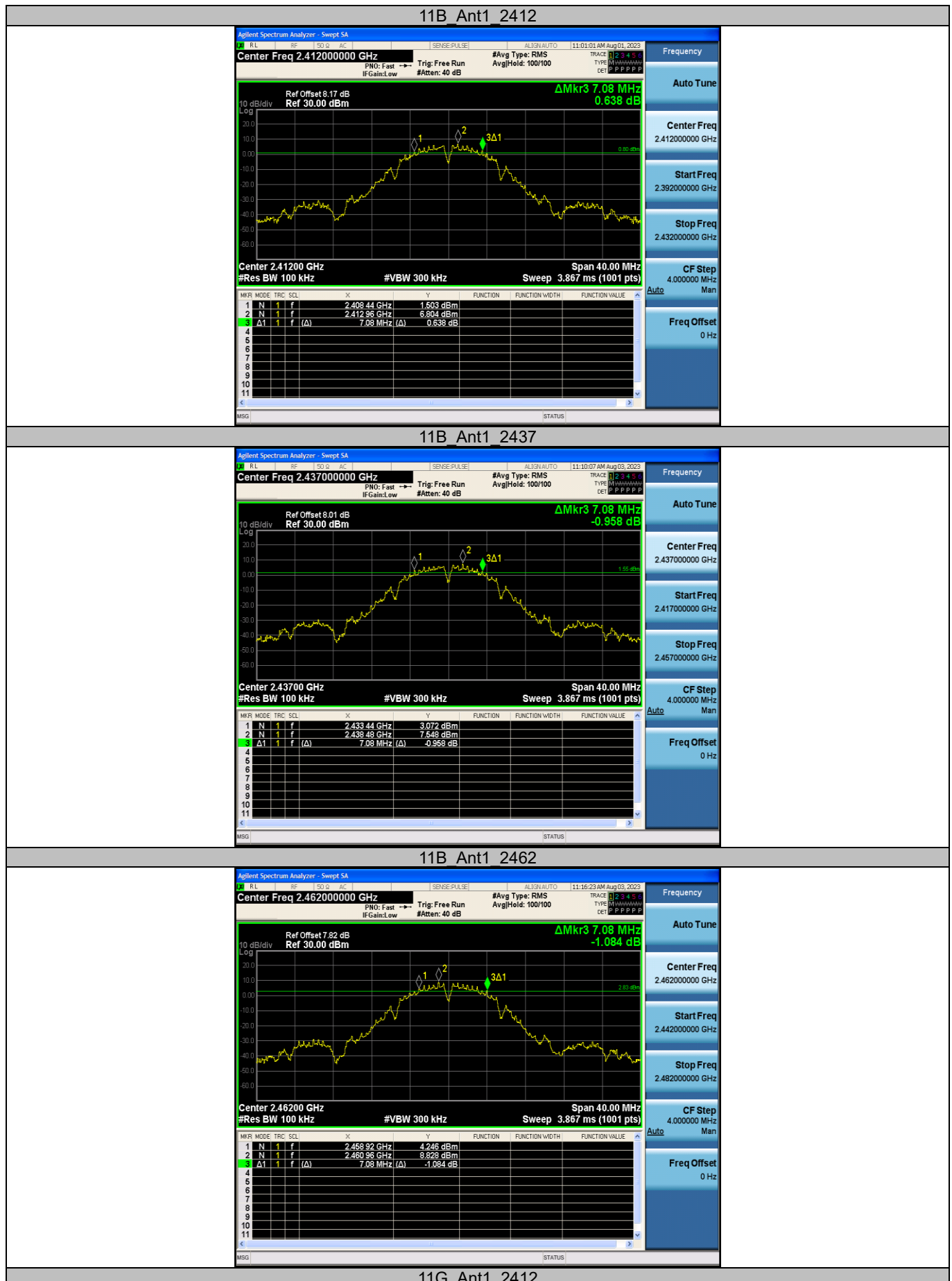
Appendix

Appendix A: DTS Bandwidth

Test Result

Test Mode	Antenna	Frequency [MHz]	DTS BW [MHz]	Limit [MHz]	Verdict
11B	Ant1	2412	7.080	0.5	PASS
		2437	7.080	0.5	PASS
		2462	7.080	0.5	PASS
11G	Ant1	2412	14.080	0.5	PASS
		2437	15.000	0.5	PASS
		2462	12.600	0.5	PASS
11N20SISO	Ant1	2412	15.160	0.5	PASS
		2437	13.920	0.5	PASS
		2462	13.840	0.5	PASS

Test Graphs





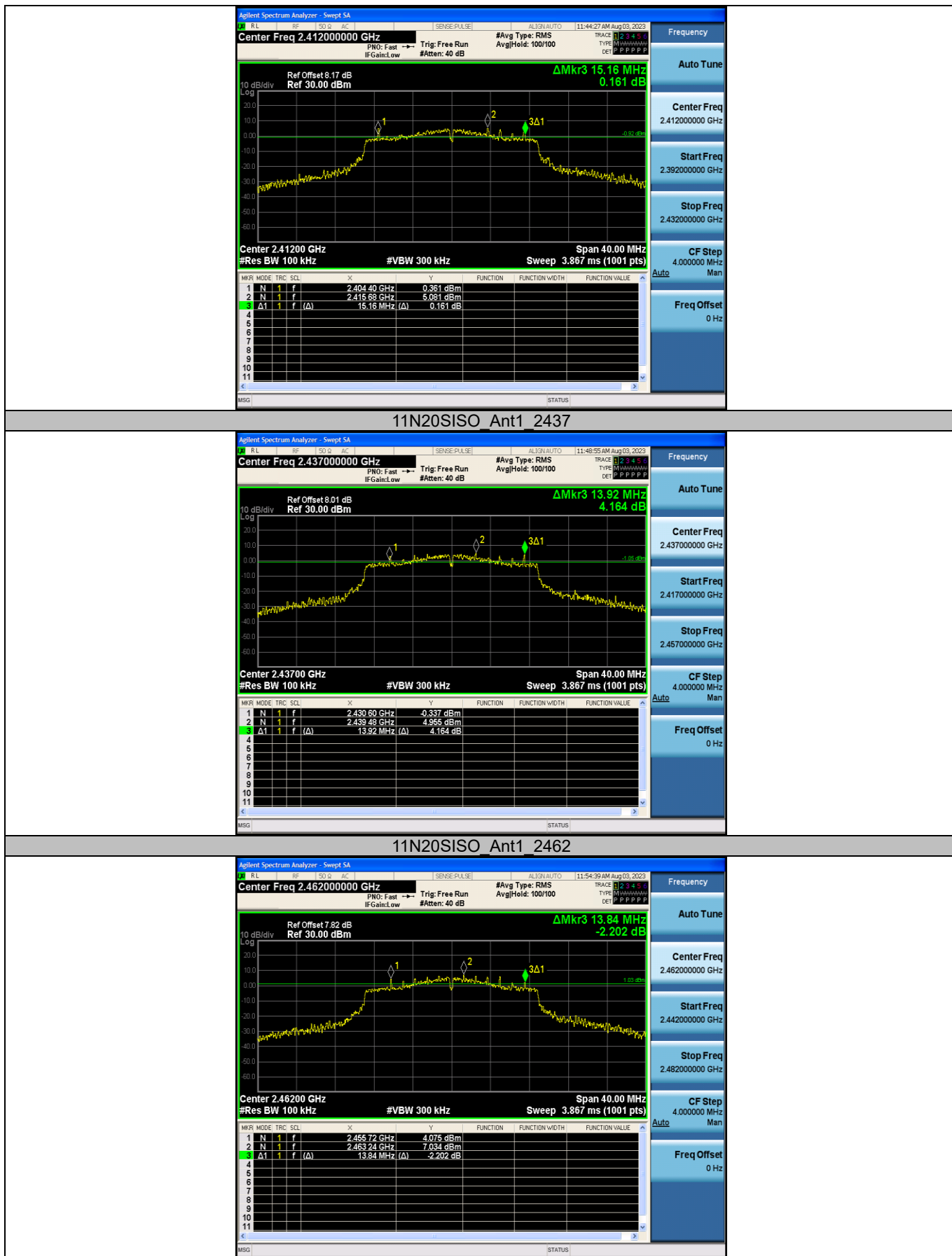
11G Ant1 2437



11G Ant1 2462



11N20SISO Ant1 2412



Appendix B: Maximum conducted output power

Test Result Peak

Test Mode	Antenna	Frequency [MHz]	Peak Power [dBm]	Conducted Limit [dBm]	Verdict
11B	Ant1	2412	17.82	≤30.00	PASS
		2437	17.92	≤30.00	PASS
		2462	18.88	≤30.00	PASS
11G	Ant1	2412	16.80	≤30.00	PASS
		2437	16.72	≤30.00	PASS
		2462	17.34	≤30.00	PASS
11N20SISO	Ant1	2412	17.61	≤30.00	PASS
		2437	17.00	≤30.00	PASS
		2462	17.30	≤30.00	PASS

Appendix C: Maximum power spectral density

Test Result

Test Mode	Antenna	Frequency [MHz]	Result [dBm/3-100kHz]	Limit [dBm/3kHz]	Verdict
11B	Ant1	2412	-5.35	≤8.00	PASS
		2437	-4.89	≤8.00	PASS
		2462	-5	≤8.00	PASS
11G	Ant1	2412	-12.53	≤8.00	PASS
		2437	-12.85	≤8.00	PASS
		2462	-11.61	≤8.00	PASS
11N20SISO	Ant1	2412	-6.07	≤8.00	PASS
		2437	-6.19	≤8.00	PASS
		2462	-4.99	≤8.00	PASS