



TEST REPORT

Product Name: Smart Board
FCC ID: 2B05S55-SMARTBOARD
Trademark: N/A
Model Number: 55" smart board, 43"smart board, 49"smart board, 55"smart board, 65"smart board, 75"smart board, 86"smart board
Prepared For: Dongguan Mai Chao Technology Co.,Ltd.
Address: Room 101, Building 4, No. 1438, Chang'an Section, Tai'an Road, Chang'an Town, Dongguan City, Guangdong Province, China
Manufacturer: Shenzhen Jiyuanxin Electronics Co.,Ltd.
Address: The right side of the first floor of Building C, Chuangmei II Industrial Zone, Yingrenshi Community, Shiyan Street, Bao'an District, Shenzhen, China
Prepared By: Shenzhen CTB Testing Technology Co., Ltd.
Address: 1&2/F., Building A, No.26, Xinhe Road, Xinqiao, Xinqiao Street, Bao'an District, Shenzhen, Guangdong, China
Sample Received Date: Apr. 10, 2025
Sample tested Date: Apr. 10, 2025 to Apr. 29, 2025
Issue Date: Apr. 29, 2025
Report No.: CTB25041005001RF03
Test Standards: FCC CFR Title 47 Part 15 Subpart C Section 15.247
ANSI C63.10:2013
Test Results: PASS
Remark: This is WIFI-2.4GHz band radio test report.

Compiled by:

Reviewed by:

Approved by:

Zhou kui

Arron Liu

Bin Mei

Zhou Kui

Arron Liu

Bin Mei / Director

Note: If there is any objection to the inspection results in this report, please submit a written report to the company within 15 days from the date of receiving the report. The test report is effective only with both signature and specialized stamp. This result(s) shown in this report refer only to the sample(s) tested. Without written approval of Shenzhen CTB Testing Technology Co., Ltd. this report can't be reproduced except in full. The tested sample(s) and the sample information are provided by the client. "*" indicates the testing items were fulfilled by subcontracted lab. "#" indicates the items are not in CNAS accreditation scope.

TABLE OF CONTENT

Test Report Declaration	Page
1. VERSION	4
2. TEST SUMMARY	5
3. MEASUREMENT UNCERTAINTY	6
4. PRODUCT INFORMATION AND TEST SETUP	7
4.1 Product Information	7
4.2 Test Setup Configuration	7
4.3 Support Equipment	7
4.4 Channel List	8
4.5 Test Mode	8
4.6 Test Environment	8
5. TEST FACILITY AND TEST INSTRUMENT USED	9
5.1 Test Facility	9
5.2 Test Instrument Used	9
6. AC POWER LINE CONDUCTED EMISSION	12
6.1 Block Diagram Of Test Setup	12
6.2 Limit	12
6.3 Test procedure	12
6.4 Test Result	14
7. RADIATED SPURIOUS EMISSION	18
7.1 Block Diagram Of Test Setup	18
7.2 Limit	18
7.3 Test procedure	19
7.4 Test Result	20
8. BAND EDGE AND RF CONDUCTED SPURIOUS EMISSIONS	64
8.1 Block Diagram Of Test Setup	64
8.2 Limit	64
8.3 Test procedure	64
8.4 Test Result	65
9. CONDUCTED OUTPUT POWER	81
9.1 Block Diagram Of Test Setup	81
9.2 Limit	81
9.3 Test procedure	81
9.4 Test Result	82
10. 6DB OCCUPIED BANDWIDTH	83
10.1 Block Diagram Of Test Setup	83
10.2 Limit	83
10.3 Test procedure	83
10.4 Test Result	84
11. POWER SPECTRAL DENSITY	94
11.1 Block Diagram Of Test Setup	94
11.2 Limit	94



11.3 Test procedure 94

11.4 Test Result 95

12. ANTENNA REQUIREMENT 104

13. EUT TEST SETUP PHOTOGRAPHS 105

(NOTE: N/A MEANS NOT APPLICABLE)



1. VERSION

Report No.	Issue Date	Description	Approved
CTB25041005001RF03	Apr. 29, 2025	Original	Valid

2. TEST SUMMARY

The Product has been tested according to the following specifications:

Test Item	Test Requirement	Test method	Result
AC Power Line Conducted Emission	47 CFR Part 15 Subpart C Section 15.207	ANSI C63.10-2013	PASS
Radiated Spurious emissions	47 CFR Part 15 Subpart C Section 15.205/15.209	ANSI C63.10-2013	PASS
Band edge and RF Conducted Spurious Emissions	47 CFR Part 15 Subpart C Section 15.247(d)/15.205(a)	ANSI C63.10-2013	PASS
Conducted Peak Output Power	47 CFR Part 15 Subpart C Section 15.247 (b)(3)	ANSI C63.10-2013	PASS
6dB Occupied Bandwidth	47 CFR Part 15 Subpart C Section 15.247 (a)(2)	ANSI C63.10-2013	PASS
Power Spectral Density	47 CFR Part 15 Subpart C Section 15.247 (e)	ANSI C63.10-2013/ KDB 558074 D05v02	PASS
Antenna Requirement	47 CFR Part 15 Subpart C Section 15.203/15.247 (b)	/	PASS
RF Exposure Evaluation	47 CFR Part 15 Subpart C Section 15.247 (i)/1.1310/2.1091	KDB447498D01v06	PASS

Remark:

Test according to ANSI C63.10-2013.

3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the Product as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Item	Uncertainty
Occupancy bandwidth	U=±54.3Hz
Conducted output power Above 1G	U=±1.0dB
Conducted output power below 1G	U=±0.9dB
Power Spectral Density , Conduction	U=±1.0dB
Conduction spurious emissions	U=±2.8dB
Out of band emission	U=±54Hz
3m chamber Radiated spurious emission(9KHz-30MHz)	U=±4.8dB
3m chamber Radiated spurious emission(30MHz-1GHz)	U=±4.3dB
3m chamber Radiated spurious emission(1GHz-18GHz)	U=±4.5dB
3m chamber Radiated spurious emission(18GHz-40GHz)	U=±3.4dB
humidity uncertainty	U=±5.3%
Temperature uncertainty	U=±0.59°C
Supply voltages	U=±3%
Time	U=±5%

4. PRODUCT INFORMATION AND TEST SETUP

4.1 Product Information

Model(s): 55" smart board, 43"smart board, 49"smart board, 55"smart board, 65"smart board, 75"smart board, 86"smart board

Model Description: All the model are the same circuit and RF module, only the name and appearance are different. Test sample model: 55" smart board

Wi-Fi Specification: IEEE 802.11b/g/n

Hardware Version: V1.0

Software Version: V1.0

Operation Frequency: WiFi: IEEE 802.11b/g/n 20: 2412-2462MHz/ 11 channel
IEEE 802.11n 40: 2422-2452MHz/ 7 channel

Max. RF output power: WiFi (2.4G) module1: 17.181dBm
WiFi (2.4G) module2 (OPS computer): 13.927dBm

Type of Modulation: WiFi: DSSS, OFDM

Antenna installation: WiFi: Dipole antenna

Antenna Gain: WiFi (2.4G) module1: ANT1: 1.92dBi, ANT2:1.92dBi
WiFi (2.4G) module2 (OPS computer): 2.95dBi

Ratings: AC 100-240V~ 1.5-2.5A 160W-360W

4.2 Test Setup Configuration

See test photographs attached in EUT TEST SETUP PHOTOGRAPHS for the actual connections between Product and support equipment.

4.3 Support Equipment

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note

Notes:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

4.4 Channel List

CH	Frequency (MHz)	CH	Frequency (MHz)	CH	Frequency (MHz)	CH	Frequency (MHz)
1	2412	2	2417	3	2422	4	2427
5	2432	6	2437	7	2442	8	2447
9	2452	10	2457	11	2462		

4.5 Test Mode

All test mode(s) and condition(s) mentioned were considered and evaluated respectively by performing full tests, the worst data were recorded and reported.

Test mode	Low channel	Middle channel	High channel
Transmitting(802.11b/g/n20)	2412MHz	2437MHz	2462MHz
Transmitting(802.11n40)	2422MHz	2437MHz	2452MHz

NOTE: DutyCycle>98%.

Test mode	Rate
802.11b	11M
802.11g	54M
802.11/n20	65M
802.11/n40	65M

4.6 Test Environment

Humidity(%):	54
Atmospheric Pressure(kPa):	101
Normal Voltage(AC):	120V
Normal Temperature(°C)	23
Low Temperature(°C)	0
High Temperature(°C)	50

5. TEST FACILITY AND TEST INSTRUMENT USED

5.1 Test Facility

All measurement facilities used to collect the measurement data are located at 1&2F., Building A, No. 26, Xinhua Road, Xinqiao, Xinqiao Street, Bao'an District, Shenzhen, Guangdong, China. The site and apparatus are constructed in conformance with the requirements of ANSI C63.4 and CISPR 16-1-1 other equivalent standards.

FCC Test Firm Registration Number: CN1276

5.2 Test Instrument Used

No.	Equipment	Manufacturer	Type No.	Serial No.	Firmware Version	Calibrated until
1	Spectrum Analyzer	Agilent	N9020A	MY52090073	A.14.16	2025/6/28
2	Power Sensor	Agilent	U2021XA	MY56120032	/	2025/6/28
3	Power Sensor	Agilent	U2021XA	MY56120034	/	2025/6/28
4	Communication test set	R&S	CMW500	108058	V3.5.80	2025/6/28
5	Spectrum Analyzer	KEYSIGHT	N9020A	MY51289897	A.14.16	2025/6/28
6	Signal Generator	Agilent	N5181A	MY50140365	A.01.60	2025/6/28
7	Vector signal generator	Agilent	N5182A	MY47420195	A.01.87	2025/6/28
8	Communication test set	Agilent	E5515C	MY50102567	B.19.07 (E1962B)	2025/6/28
9	2.4 GHz Filter	Shenxiang	MSF2400-24 83.5MS-1154	20181015001	/	2025/6/30
10	5 GHz Filter	Shenxiang	MSF5150-58 50MS-1155	20181015001	/	2025/6/30
11	Filter	Xingbo	XBLBQ-DZA 120	190821-1-1	/	2025/6/30
12	BT&WI-FI Automatic test software	Microwave	MTS8310	Ver. 2.0.0.0	/	/
13	Rohde & Schwarz SFU Broadcast Test System	R&S	SFU	101017	/	2025/6/28
14	Temperature humidity chamber	Hongjing	TH-80CH	DG-15174	/	2025/6/28
15	234G Automatic test software	Microwave	MTS8200	Ver. 2.0.0.0	/	/
16	966 chamber	C.R.T.	966	/	/	2027/6/21
17	Receiver	R&S	ESPI	100362	RF_ATTEN_7 (104489/003)	2025/6/28
18	Amplifier	HP	8447E	2945A02747	/	2025/6/28
19	Amplifier	Agilent	8449B	3008A01838	/	2025/6/28
20	TRILOG Broadband Antenna	Schwarzbeck	VULB 9168	00869	/	2025/6/28

21	Double Ridged Broadband Horn Antenna	Schwarzbeck	BBHA9120D	01911	/	2025/6/28
22	EMI test software	Fala	EZ-EMC	FA-03A2 RE	/	/
23	Loop Antenna	Schwarzbeck	FMZB 1519B	1519B-224	/	2025/6/28
24	loop antenna	ZHINAN	ZN30900A	GTS534	/	/
25	40G Horn antenna	A/H/System	SAS-574	588	/	2025/6/28
26	Amplifier	AEROFLEX	Aeroflex	097	/	2025/6/28
27	Power Metter	KEYSIGHT	N1912AP	N/A	A.05.00	2025/6/28

Continuous disturbance

No.	Equipment	Manufacturer	Model No.	Serial No.	Firmware version	Calibrated until
1	843 Shield Room	C/ R/ T	843	/	/	2027/6/21
2	AMN	ROHDE&SCHWARZ	ESH3-Z5	831551852	/	2025/6/30
3	Pulse limiter	ROHDE&SCHWARZ	ESH3Z2	357881052	/	2025/6/28
4	EMI TEST RECEIVER	ROHDE&SCHWARZ	ESCI	100428	V4.42.SP3	2025/6/30
5	Coaxial cable	ZDECL	Z302S	18091904	/	2025/6/30
6	ISN	Schwarzbeck	NTFM8158	183	/	2025/6/30
7	Voltage sensor	Schwarzbeck	TK 9420	01189	/	2025/10/25
8	EZ-EMC	Frad	EMC-con3A1.1	/	/	/
9	Current Probe	FCC	F-52B	199453	/	2025/5/27
10	Communication test set	R&S	CMW500	108058	B.19.07 (E1962B)	2025/6/28
11	Communication test set	Agilent	E5515C	MY50102567	V3.5.80	2025/6/28

Radiated emission(No.1 Chamber)

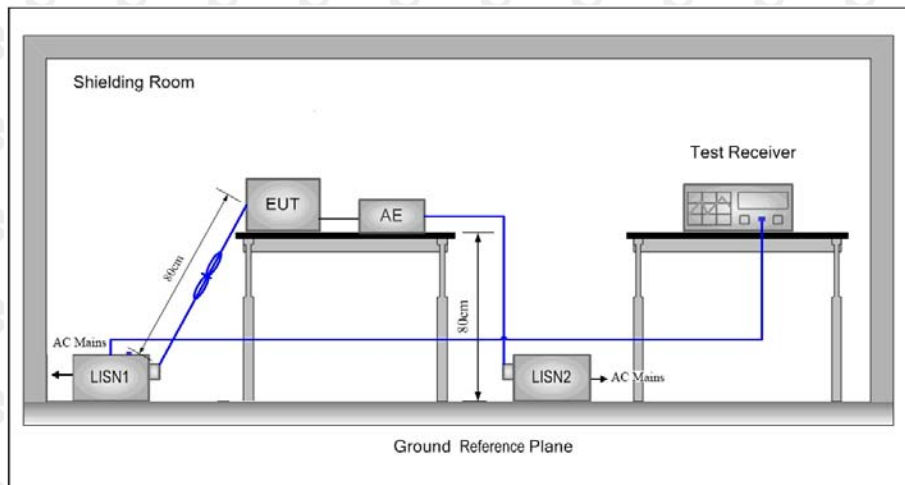
No.	Equipment	Manufacturer	Model No.	Serial No.	Firmware version	Calibrated until
1	966 Chamber	C/ R/ T	966	/	/	2027/6/21
2	Double Ridged Broadband Horn Antenna	Schwarzbeck	BBHA 9120 D	01911	/	2025/7/06
3	TRILOG Broadband Antenna	Schwarzbeck	VULB 9168	00869	/	2025/6/29
4	Amplifier	Agilent	8449B	3008A01838	/	2025/6/30
5	Amplifier	HP	8447E	2945A02747	/	2025/6/28
6	loop antenna	Schwarzbeck	FMZB 1519B	1519B-224	/	2025/6/29
7	EMI TEST RECEIVER	ROHDE&SCHWARZ	ESPI	100362	RF_ATTEN_7 (104489/003)	2025/6/28
8	Spectrum Analyzer	KEYSIGHT	N9020A	MY51289897	A.14.16	2025/6/28



9	Coaxial cable	ETS	RFC-SNS-100-NMS-80	/	/	2025/6/28
10	Coaxial cable	ETS	RFC-SN-100-NMS-20	/	/	2025/6/28
11	Coaxial cable	ETS	RFC-SNS-100-SMS-20	/	/	2025/6/28
12	Coaxial cable	ETS	RFC-NNS-100-NMS-300	/	/	2025/6/28
13	EMI test software	Frad	EZ-EMC	Ver/ FA-03A2 RE	/	/
14	Communication test set	R&S	CMW500	108058	B.19.07 (E1962B)	2025/6/28
15	Communication test set	Agilent	E5515C	MY50102567	V3.5.80	2025/6/28

6. AC POWER LINE CONDUCTED EMISSION

6.1 Block Diagram Of Test Setup



6.2 Limit

Table 4 – AC power-line conducted emissions limits

Frequency (MHz)	Conducted limit (dB μ V)	
	Quasi-peak	Average
0.15 - 0.5	66 to 56 ^{Note 1}	56 to 46 ^{Note 1}
0.5 - 5	56	46
5 - 30	60	50

Note 1: The level decreases linearly with the logarithm of the frequency.

* Decreasing linearly with the logarithm of the frequency

6.3 Test procedure

- 1) The mains terminal disturbance voltage test was conducted in a shielded room.
- 2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50 Ω /50 μ H + 5 Ω linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.
- 3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane,
- 4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0,4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0,8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0,8 m from the LISN 2.

- 5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10:2013 on conducted measurement.

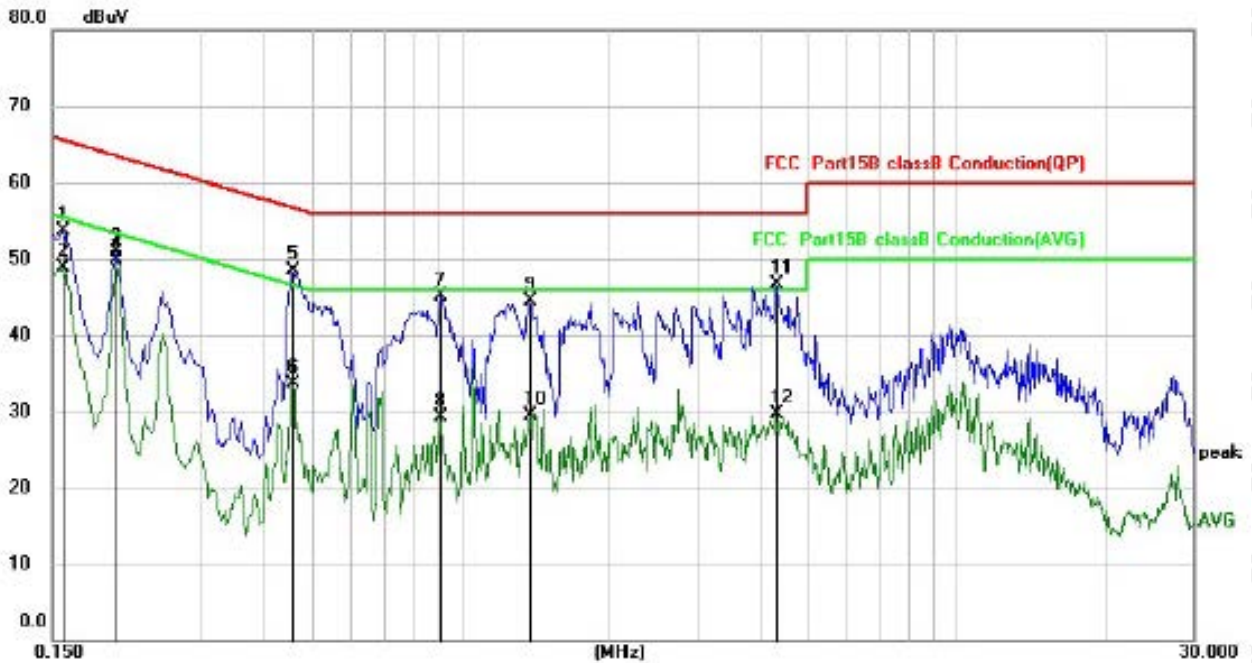
6.4 Test Result

module1 Worst mode:

Test Specification: Line

AC 120V 60Hz

the worst: 802.11b (low channel)



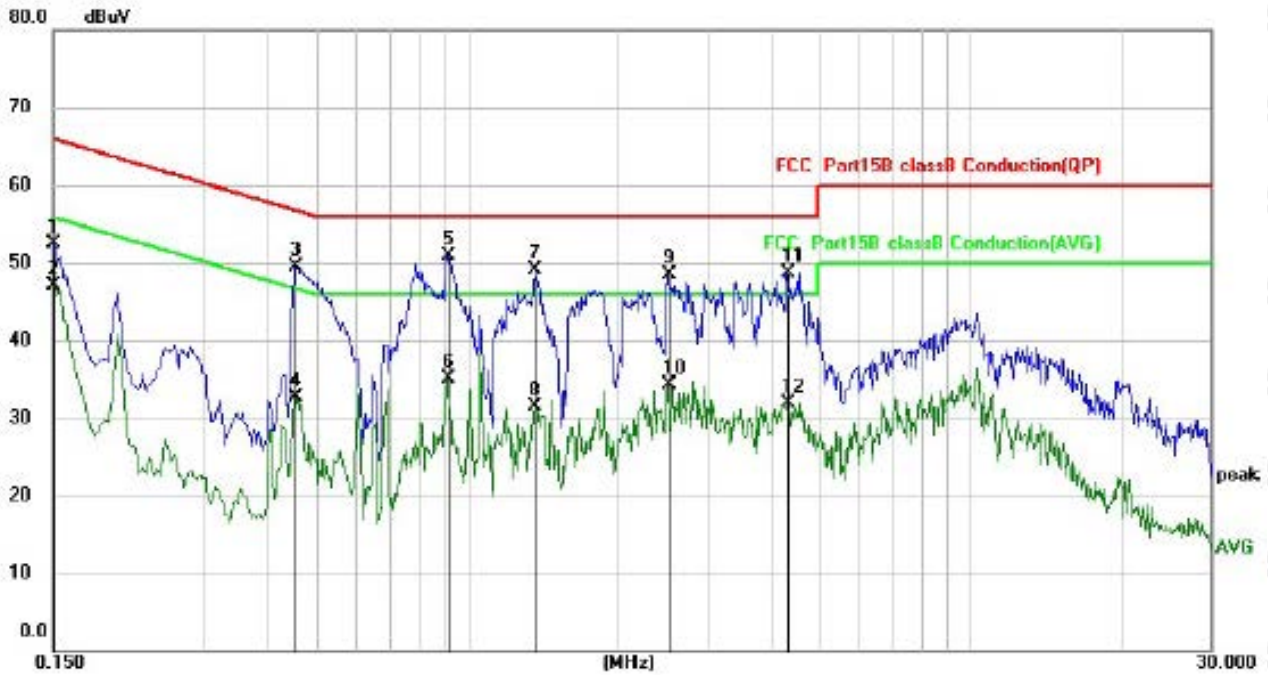
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB	dBuV	dBuV	dB	
1		0.1580	42.86	10.86	53.72	65.57	-11.85	QP
2		0.1580	37.95	10.86	48.81	55.57	-6.76	AVG
3		0.2020	40.26	10.71	50.97	63.53	-12.56	QP
4	*	0.2020	39.16	10.71	49.87	53.53	-3.66	AVG
5		0.4580	38.06	10.53	48.59	56.73	-8.14	QP
6		0.4580	23.17	10.53	33.70	46.73	-13.03	AVG
7		0.9100	34.21	10.88	45.09	56.00	-10.91	QP
8		0.9100	18.50	10.88	29.38	46.00	-16.62	AVG
9		1.3779	33.33	11.19	44.52	56.00	-11.48	QP
10		1.3779	18.24	11.19	29.43	46.00	-16.57	AVG
11		4.3178	34.55	12.09	46.64	56.00	-9.36	QP
12		4.3178	17.69	12.09	29.78	46.00	-16.22	AVG

Remark:

Factor = Cable loss + LISN factor, Margin = Measurement – Limit



Test Specification: Neutral
 AC 120V 60Hz
 the worst: 802.11b (low channel)



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	
		MHz	Level	Factor	ment			Detector
			dBuV	dB	dBuV	dBuV	dB	
1		0.1500	41.69	10.89	52.58	66.00	-13.42	QP
2		0.1500	36.18	10.89	47.07	56.00	-8.93	AVG
3		0.4540	38.97	10.53	49.50	56.80	-7.30	QP
4		0.4540	22.24	10.53	32.77	46.80	-14.03	AVG
5	*	0.9140	40.00	10.88	50.88	56.00	-5.12	QP
6		0.9140	24.13	10.88	35.01	46.00	-10.99	AVG
7		1.3660	37.98	11.18	49.16	56.00	-6.84	QP
8		1.3660	20.27	11.18	31.45	46.00	-14.55	AVG
9		2.5059	36.91	11.69	48.60	56.00	-7.40	QP
10		2.5059	22.59	11.69	34.28	46.00	-11.72	AVG
11		4.3258	36.67	12.09	48.76	56.00	-7.24	QP
12		4.3258	19.89	12.09	31.98	46.00	-14.02	AVG

Remark:

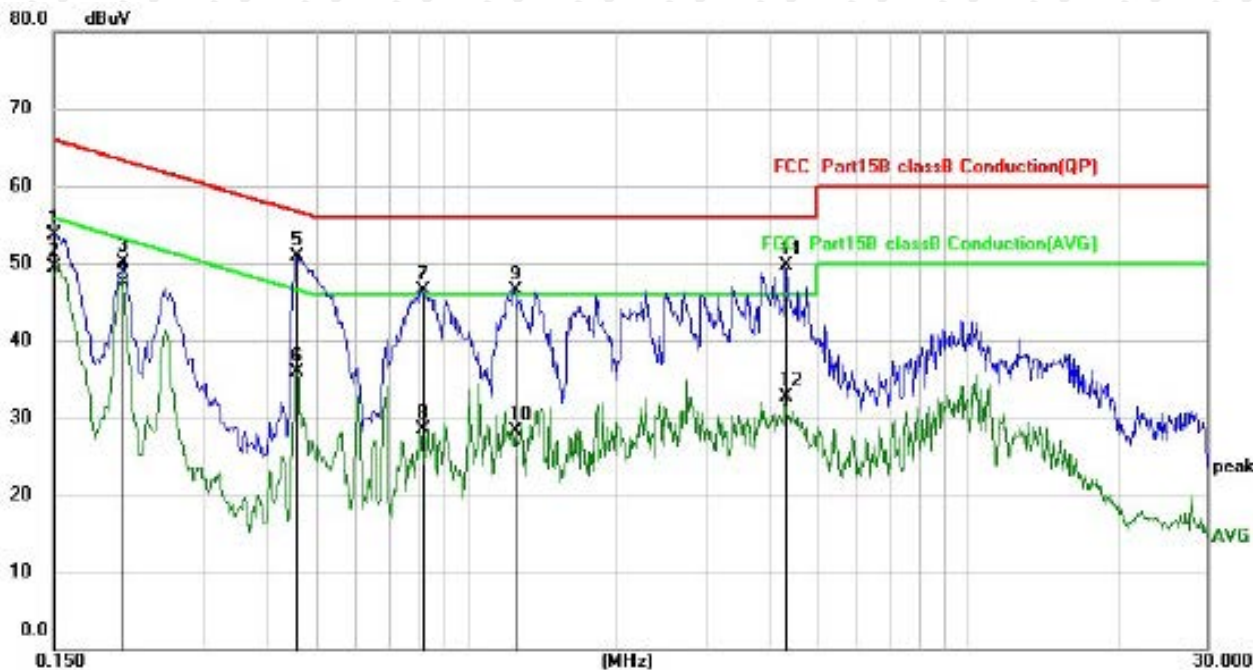
$$\text{Factor} = \text{Cable loss} + \text{LISN factor}, \text{Margin} = \text{Measurement} - \text{Limit}$$

module2 (OPS computer) Worst mode:

Test Specification: Line

AC 120V 60Hz

the worst: 802.11b (low channel)

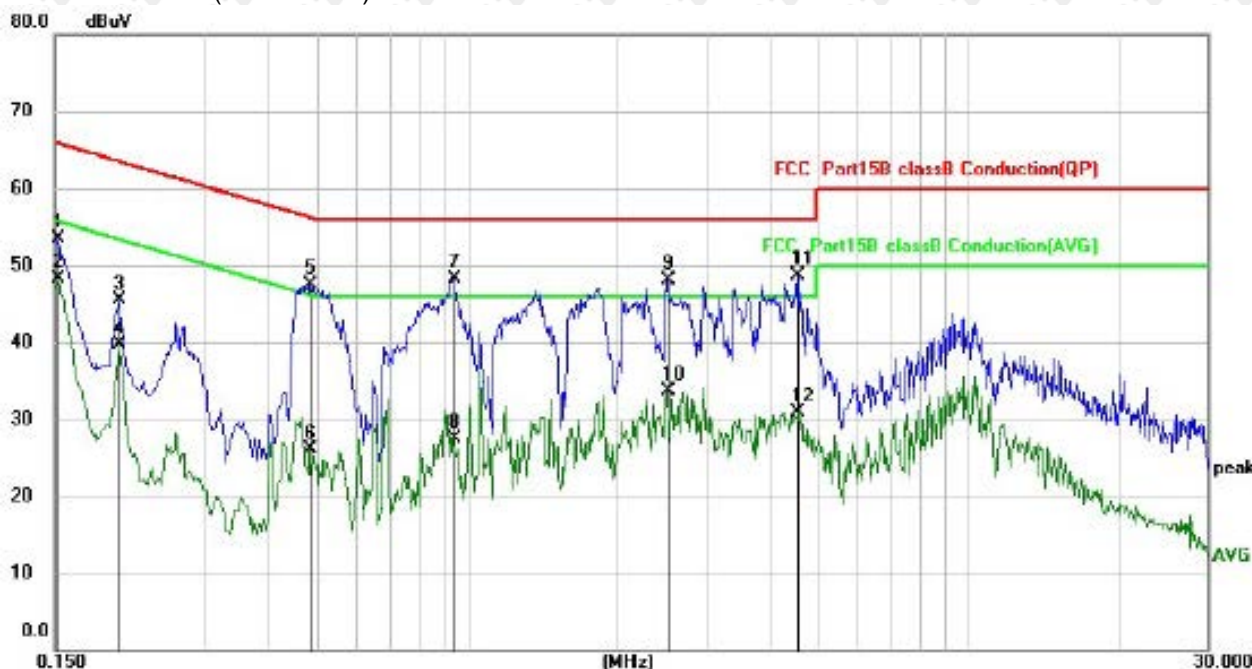


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1		0.1500	42.91	10.89	53.80	66.00	-12.20	QP
2		0.1500	38.60	10.89	49.49	56.00	-6.51	AVG
3		0.2061	39.43	10.71	50.14	63.36	-13.22	QP
4	*	0.2061	36.81	10.71	47.52	53.36	-5.84	AVG
5		0.4586	40.31	10.53	50.84	56.72	-5.88	QP
6		0.4586	25.46	10.53	35.99	46.72	-10.73	AVG
7		0.8139	35.69	10.81	46.50	56.00	-9.50	QP
8		0.8139	17.79	10.81	28.60	46.00	-17.40	AVG
9		1.2459	35.44	11.10	46.54	56.00	-9.46	QP
10		1.2459	17.24	11.10	28.34	46.00	-17.66	AVG
11		4.3178	37.55	12.09	49.64	56.00	-6.36	QP
12		4.3178	20.69	12.09	32.78	46.00	-13.22	AVG

Remark:

Factor = Cable loss + LISN factor, Margin = Measurement – Limit

Test Specification: Neutral
 AC 120V 60Hz
 the worst: 802.11b (low channel)



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1		0.1524	42.54	10.88	53.42	65.87	-12.45	QP
2		0.1524	37.36	10.88	48.24	55.87	-7.63	AVG
3		0.2020	34.80	10.71	45.51	63.53	-18.02	QP
4		0.2020	29.03	10.71	39.74	53.53	-13.79	AVG
5		0.4858	36.94	10.51	47.45	56.24	-8.79	QP
6		0.4858	15.66	10.51	26.17	46.24	-20.07	AVG
7		0.9418	37.45	10.91	48.36	56.00	-7.64	QP
8		0.9418	16.62	10.91	27.53	46.00	-18.47	AVG
9		2.5059	36.41	11.69	48.10	56.00	-7.90	QP
10		2.5059	22.09	11.69	33.78	46.00	-12.22	AVG
11	*	4.5500	36.59	12.14	48.73	56.00	-7.27	QP
12		4.5500	18.71	12.14	30.85	46.00	-15.15	AVG

Remark:

Factor = Cable loss + LISN factor, Margin = Measurement – Limit

7. RADIATED SPURIOUS EMISSION

7.1 Block Diagram Of Test Setup

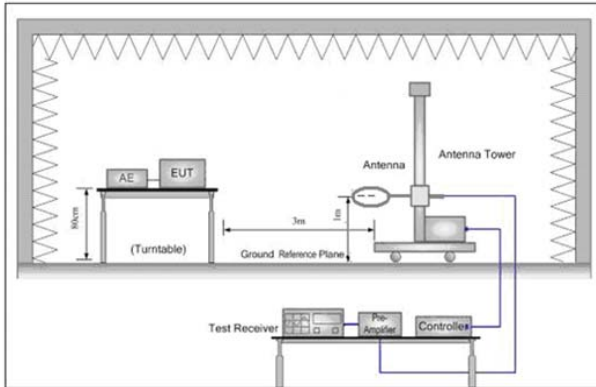


Figure 1. Below 30MHz

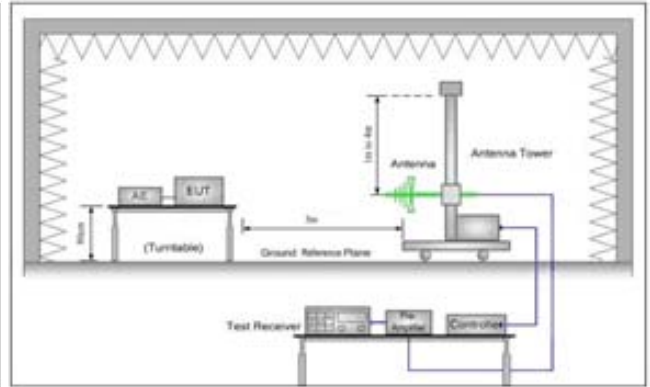


Figure 2. 30MHz to 1GHz

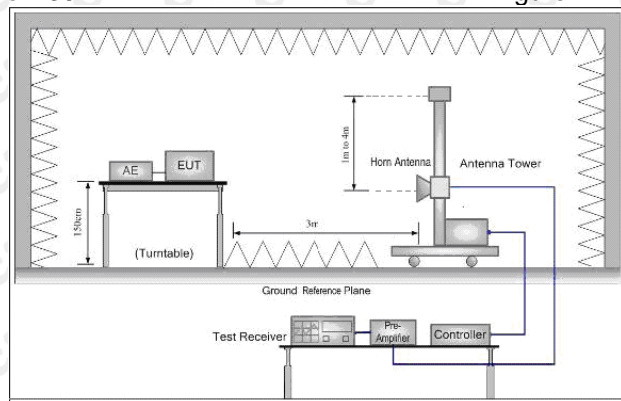


Figure 3. Above 1GHz

7.2 Limit

Spurious Emissions:

Frequency	Field strength (microvolt/meter)	Limit (dB μ V/m)	Remark	Measurement distance (m)
0.009MHz-0.490MHz	2400/F(kHz)	-	-	300
0.490MHz-1.705MHz	24000/F(kHz)	-	-	30
1.705MHz-30MHz	30	-	-	30
30MHz-88MHz	100	40.0	Quasi-peak	3
88MHz-216MHz	150	43.5	Quasi-peak	3
216MHz-960MHz	200	46.0	Quasi-peak	3
960MHz-1GHz	500	54.0	Quasi-peak	3
Above 1GHz	500	54.0	Average	3

Note: 15.35(b), Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.

7.3 Test procedure

Below 1GHz test procedure as below:

- a.The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b.The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c.The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d.For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rota table table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e.The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f.If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

Above 1GHz test procedure as below:

- g.Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber and change form table 0.8 meter to 1.5 meter(Above 18GHz the distance is 1 meter and table is 1.5 meter).
- h.Test the EUT in the lowest channel ,the middle channel ,the Highest channel
- i.Repeat above procedures until all frequencies measured was complete.

Receiver set:

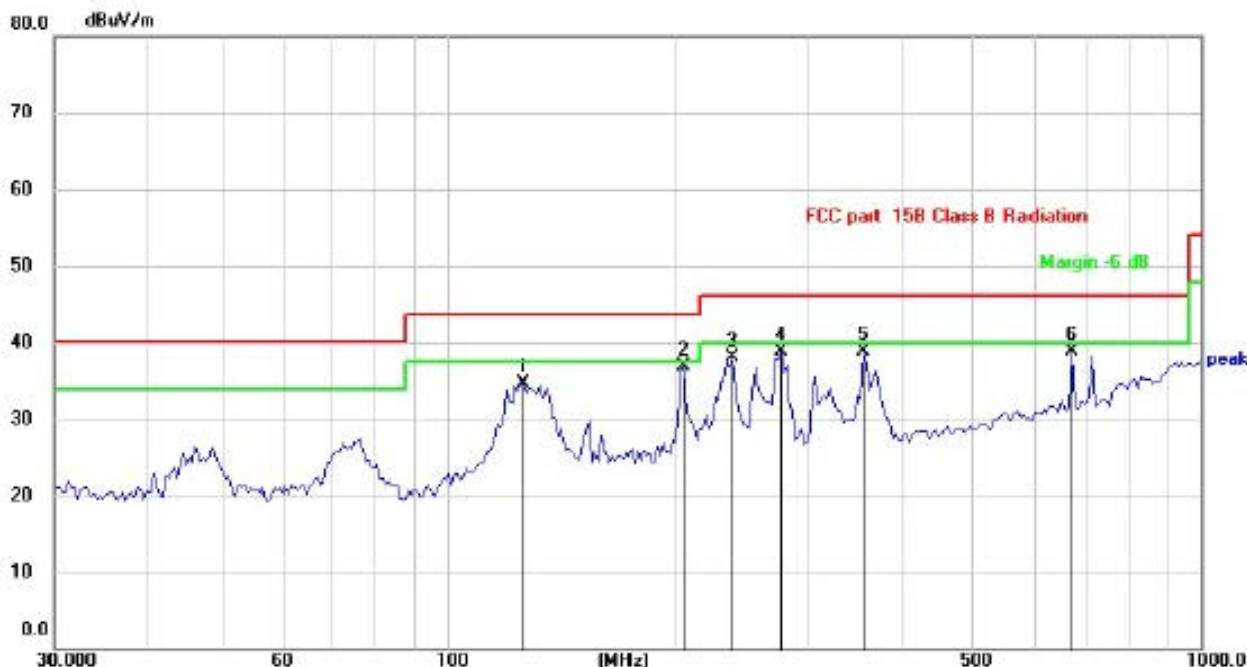
Frequency	Detector	RBW	VBW	Remark
0.009MHz-0.090MHz	Peak	10kHz	30KHz	Peak
0.009MHz-0.090MHz	Average	10kHz	30KHz	Average
0.090MHz-0.110MHz	Quasi-peak	10kHz	30KHz	Quasi-peak
0.110MHz-0.490MHz	Peak	10kHz	30KHz	Peak
0.110MHz-0.490MHz	Average	10kHz	30KHz	Average
0.490MHz -30MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
30MHz-1GHz	Quasi-peak	120 kHz	300KHz	Quasi-peak
Above 1GHz	Peak	1MHz	3MHz	Peak
	Peak	1MHz	10Hz	Average

7.4 Test Result

module1 Worst mode:

Below 1GHz Test Results:

Antenna polarity: H



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dB/m	Over dB	Detector
1		126.3285	40.12	-5.38	34.74	43.50	-8.76	QP
2	*	206.3975	41.62	-4.69	36.93	43.50	-6.57	QP
3		239.5669	42.16	-4.02	38.14	46.00	-7.86	QP
4		278.0668	42.25	-3.30	38.95	46.00	-7.05	QP
5		358.5568	40.43	-1.62	38.81	46.00	-7.19	QP
6		674.0252	34.02	4.92	38.94	46.00	-7.06	QP

Remark: Factor = Cable lose + Antenna factor - Pre-amplifier; Margin = Limit – Level

Antenna polarity: V



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dB/m	Over dB	Detector
1	!	49.8813	40.71	-6.62	34.09	40.00	-5.91	QP
2		72.7189	39.54	-8.69	30.85	40.00	-9.15	QP
3		129.6948	42.33	-5.38	36.95	43.50	-6.55	QP
4		206.3975	37.09	-4.69	32.40	43.50	-11.10	QP
5		337.2155	40.24	-2.09	38.15	46.00	-7.85	QP
6	*	565.6295	37.68	3.07	40.75	46.00	-5.25	QP

Remark: Factor = Cable lose + Antenna factor - Pre-amplifier; Margin = Limit – Level

1. The margin of 9K-30MH measurement exceeds 20dB, so the test chart is not included. Test Mode: 802.11b low channel (the worst)
2. All modes have been tested, and the test results show that b-mode data is the worst, only b-mode test chart is put. Test Mode: 802.11b low channel (the worst)
3. After pre-scanning three directions, the report recorded the worst case Test Mode: 802.11b low channel (the worst)

module2 (OPS computer) Worst mode:

Below 1GHz Test Results:

Antenna polarity: H



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dB/m	Over dB	Detector
1		46.5030	32.65	-6.72	25.93	40.00	-14.07	QP
2		74.6568	37.68	-8.69	28.99	40.00	-11.01	QP
3		118.8093	39.40	-5.58	33.82	43.50	-9.68	QP
4	*	259.2337	41.53	-3.64	37.89	46.00	-8.11	QP
5		361.7137	39.02	-1.55	37.47	46.00	-8.53	QP
6		674.0252	31.40	4.92	36.32	46.00	-9.68	QP

Remark: Factor = Cable lose + Antenna factor - Pre-amplifier; Margin = Limit – Level

Antenna polarity: V



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dB/m	Over dB	Detector
1	*	51.2105	40.54	-6.71	33.83	40.00	-6.17	QP
2		125.2258	42.09	-5.38	36.71	43.50	-6.79	QP
3		153.2001	37.34	-2.21	35.13	43.50	-8.37	QP
4		308.9125	40.15	-2.71	37.44	46.00	-8.56	QP
5		361.7137	38.87	-1.55	37.32	46.00	-8.68	QP
6		565.6295	36.19	3.07	39.26	46.00	-6.74	QP

Remark: Factor = Cable lose + Antenna factor - Pre-amplifier; Margin = Limit – Level

1. The margin of 9K-30MH measurement exceeds 20dB, so the test chart is not included. Test Mode: 802.11b low channel (the worst)
2. All modes have been tested, and the test results show that b-mode data is the worst, only b-mode test chart is put. Test Mode: 802.11b low channel (the worst)
3. After pre-scanning three directions, the report recorded the worst case Test Mode: 802.11b low channel (the worst)

module1 Worst mode:

Above 1 GHz Test Results:

LOW CH1 (802.11b Mode)/2412

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
4824	65.67	-3.64	62.03	74	-11.97	peak
4824	48.95	-3.64	45.31	54	-8.69	AVG
7236	57.92	-0.95	56.97	74	-17.03	peak
7236	43.97	-0.95	43.02	54	-10.98	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
4824	66.12	-3.64	62.48	74	-11.52	peak
4824	48.60	-3.64	44.96	54	-9.04	AVG
7236	58.92	-0.95	57.97	74	-16.03	peak
7236	44.83	-0.95	43.88	54	-10.12	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

MID CH6 (802.11b Mode)/2437

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4874	63.56	-3.51	60.05	74	-13.95	peak
4874	47.80	-3.51	44.29	54	-9.71	AVG
7311	58.27	-0.82	57.45	74	-16.55	peak
7311	43.57	-0.82	42.75	54	-11.25	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4874	65.20	-3.51	61.69	74	-12.31	peak
4874	48.65	-3.51	45.14	54	-8.86	AVG
7311	57.94	-0.82	57.12	74	-16.88	peak
7311	42.84	-0.82	42.02	54	-11.98	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

HIGH CH11 (802.11b Mode)/2462

Horizontal:

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
4924	64.60	-3.43	61.17	74	-12.83	peak
4924	48.52	-3.43	45.09	54	-8.91	AVG
7386	57.92	-0.75	57.17	74	-16.83	peak
7386	42.55	-0.75	41.80	54	-12.20	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor,
Margin = Emission level - Limits

Vertical:

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
4924	63.18	-3.43	59.75	74	-14.25	peak
4924	47.57	-3.43	44.14	54	-9.86	AVG
7386	56.60	-0.75	55.85	74	-18.15	peak
7386	42.45	-0.75	41.70	54	-12.30	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor,
Margin = Emission level - Limits

Remark:

- (1) Measuring frequencies from 1 GHz to the 25 GHz.
- (2) * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.
- (3) Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (4) When the test results of Peak Detected below the limits of Average Detected, the Average Detected is not need completed. For example: Top Channel at Fundamental 73.16dBuV/m(PK Value) <93.98(AV Limit), at harmonic 53.20 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed.

LOW CH1 (802.11g Mode)/2412

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
4824	64.02	-3.64	60.38	74	-13.62	peak
4824	49.34	-3.64	45.70	54	-8.30	AVG
7236	58.05	-0.95	57.10	74	-16.90	peak
7236	45.15	-0.95	44.20	54	-9.80	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
4824	62.05	-3.64	58.41	74	-15.59	peak
4824	48.42	-3.64	44.78	54	-9.22	AVG
7236	58.01	-0.95	57.06	74	-16.94	peak
7236	43.10	-0.95	42.15	54	-11.85	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

MID CH6 (802.11g Mode)/2437

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
4874	64.85	-3.51	61.34	74	-12.66	peak
4874	49.28	-3.51	45.77	54	-8.23	AVG
7311	58.22	-0.82	57.40	74	-16.60	peak
7311	45.94	-0.82	45.12	54	-8.88	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
4874	63.73	-3.51	60.22	74	-13.78	peak
4874	47.94	-3.51	44.43	54	-9.57	AVG
7311	56.52	-0.82	55.70	74	-18.30	peak
7311	41.81	-0.82	40.99	54	-13.01	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

HIGH CH11 (802.11g Mode)/2462

Horizontal:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4924	62.86	-3.43	59.43	74	-14.57	peak
4924	48.38	-3.43	44.95	54	-9.05	AVG
7386	56.26	-0.75	55.51	74	-18.49	peak
7386	41.34	-0.75	40.59	54	-13.41	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

Vertical:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4924	63.36	-3.43	59.93	74	-14.07	peak
4924	47.16	-3.43	43.73	54	-10.27	AVG
7386	57.80	-0.75	57.05	74	-16.95	peak
7386	41.19	-0.75	40.44	54	-13.56	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

Remark:

- (1) Measuring frequencies from 1 GHz to the 25 GHz.
- (2) * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.
- (3) Data of measurement within this frequency range shown “---” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (4) When the test results of Peak Detected below the limits of Average Detected, the Average Detected is not need completed. For example: Top Channel at Fundamental 73.16dBuV/m(PK Value) <93.98(AV Limit), at harmonic 53.20 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed.

LOW CH1 (802.11n/H20 Mode)/2412

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4824	63.65	-3.64	60.01	74	-13.99	peak
4824	48.53	-3.64	44.89	54	-9.11	AVG
7236	57.54	-0.95	56.59	74	-17.41	peak
7236	44.45	-0.95	43.50	54	-10.50	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4824	65.90	-3.64	62.26	74	-11.74	peak
4824	48.07	-3.64	44.43	54	-9.57	AVG
7236	57.43	-0.95	56.48	74	-17.52	peak
7236	44.81	-0.95	43.86	54	-10.14	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

MID CH6 (802.11n/H20 Mode)/2437

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4874.00	65.21	-3.51	61.70	74.00	-12.30	peak
4874.00	49.50	-3.51	45.99	54.00	-8.01	AVG
7311.00	59.43	-0.82	58.61	74.00	-15.39	peak
7311.00	44.45	-0.82	43.63	54.00	-10.37	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4874.00	64.18	-3.51	60.67	74.00	-13.33	peak
4874.00	48.10	-3.51	44.59	54.00	-9.41	AVG
7311.00	58.77	-0.82	57.95	74.00	-16.05	peak
7311.00	43.88	-0.82	43.06	54.00	-10.94	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

HIGH CH11 (802.11n/H20 Mode)/2462

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4924	63.02	-3.43	59.59	74	-14.41	peak
4924	46.42	-3.43	42.99	54	-11.01	AVG
7386	56.46	-0.75	55.71	74	-18.29	peak
7386	42.46	-0.75	41.71	54	-12.29	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4924	65.69	-3.43	62.26	74	-11.74	peak
4924	47.08	-3.43	43.65	54	-10.35	AVG
7386	56.63	-0.75	55.88	74	-18.12	peak
7386	43.35	-0.75	42.60	54	-11.40	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

LOW CH3 (802.11n/H40 Mode)/2422

Horizontal:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4844	65.06	-3.63	61.43	74	-12.57	peak
4844	49.12	-3.63	45.49	54	-8.51	AVG
7266	57.60	-0.94	56.66	74	-17.34	peak
7266	46.22	-0.94	45.28	54	-8.72	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor,
Margin = Emission level - Limits

Vertical:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4844	65.88	-3.63	62.25	74	-11.75	peak
4844	49.39	-3.63	45.76	54	-8.24	AVG
7266	58.80	-0.94	57.86	74	-16.14	peak
7266	45.40	-0.94	44.46	54	-9.54	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor,
Margin = Emission level - Limits

MID CH6 (802.11n/H40 Mode)/2437

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4874	64.23	-3.51	60.72	74	-13.28	peak
4874	48.19	-3.51	44.68	54	-9.32	AVG
7311	59.38	-0.82	58.56	74	-15.44	peak
7311	44.29	-0.82	43.47	54	-10.53	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4874	62.31	-3.51	58.80	74	-15.20	peak
4874	46.44	-3.51	42.93	54	-11.07	AVG
7311	56.63	-0.82	55.81	74	-18.19	peak
7311	43.28	-0.82	42.46	54	-11.54	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

HIGH CH9 (802.11n/H40 Mode)/2452

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4904	64.25	-3.43	60.82	74	-13.18	peak
4904	47.65	-3.43	44.22	54	-9.78	AVG
7356	57.14	-0.75	56.39	74	-17.61	peak
7356	43.60	-0.75	42.85	54	-11.15	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4904	62.90	-3.43	59.47	74	-14.53	peak
4904	47.42	-3.43	43.99	54	-10.01	AVG
7356	56.91	-0.75	56.16	74	-17.84	peak
7356	44.63	-0.75	43.88	54	-10.12	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

Remark :

- (1) Measuring frequencies from 1 GHz to the 25 GHz .
- (2) * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.
- (3) Data of measurement within this frequency range shown “---” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (4) When the test results of Peak Detected below the limits of Average Detected, the Average Detected is not need completed. For example: Top Channel at Fundamental 73.16dBuV/m(PK Value) <93.98(AV Limit), at harmonic 53.20 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed
- (5)Have tested in three orientations for radiated emissions, Only The worst record is in this report

Restricted bands around fundamental frequency (Radiated)

Operation Mode:

802.11b Mode TX CH Low (2412MHz)

Horizontal

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
2390	58.19	-5.81	52.38	74	-21.62	peak
2390	/	-5.81	/	54	/	AVG
2399	64.36	-5.84	58.52	74	-15.48	peak
2399	49.79	-5.84	43.95	54	-10.05	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

Vertical:

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
2390	57.79	-5.81	51.98	74	-22.02	peak
2390	/	-5.81	/	54	/	AVG
2399	63.04	-5.84	57.20	74	-16.80	peak
2399	46.61	-5.84	40.77	54	-13.23	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

When the peak value is smaller than the AVG limit, AVG is not reflected.

Operation Mode: TX CH High (2462MHz)

Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2483.5	57.41	-5.65	51.76	74	-22.24	peak
2483.5	/	-5.65	/	54	/	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2483.5	56.05	-5.65	50.40	74	-23.60	peak
2483.5	/	-5.65	/	54	/	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

Remark: All the other emissions not reported were too low to read and deemed to comply with FCC limit.

When the peak value is smaller than the AVG limit, AVG is not reflected.

Operation Mode: 802.11g Mode TX CH Low (2412MHz)

Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
2390	58.74	-5.81	52.93	74	-21.07	peak
2390	/	-5.81	/	54	/	AVG
2399	61.94	-5.84	56.10	74	-17.90	peak
2399	46.04	-5.84	40.20	54	-13.80	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
2390	56.09	-5.81	50.28	74	-23.72	peak
2390	/	-5.81	/	54	/	AVG
2399	61.57	-5.84	55.73	74	-18.27	peak
2399	46.11	-5.84	40.27	54	-13.73	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

When the peak value is smaller than the AVG limit, AVG is not reflected.

Operation Mode: TX CH High (2462MHz)

Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
2483.5	56.27	-5.65	50.62	74	-23.38	peak
2483.5	/	-5.65	/	54	/	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
2483.5	56.74	-5.65	51.09	74	-22.91	peak
2483.5	/	-5.65	/	54	/	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

Remark: All the other emissions not reported were too low to read and deemed to comply with FCC limit.

When the peak value is smaller than the AVG limit, AVG is not reflected.

Operation Mode: 802.11n/H20 Mode TX CH Low (2412MHz)

Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2390	57.91	-5.81	52.10	74	-21.90	peak
2390	/	-5.81	/	54	/	AVG
2399	63.25	-5.84	57.41	74	-16.59	peak
2399	47.31	-5.84	41.47	54	-12.53	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2390	56.85	-5.81	51.04	74	-22.96	peak
2390	/	-5.81	/	54	/	AVG
2399	60.38	-5.84	54.54	74	-19.46	peak
2399	46.93	-5.84	41.09	54	-12.91	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

When the peak value is smaller than the AVG limit, AVG is not reflected.

Operation Mode: TX CH High (2462MHz)

Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2483.5	56.03	-5.65	50.38	74	-23.62	peak
2483.5	/	-5.65	/	54	/	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2483.5	57.16	-5.65	51.51	74	-22.49	peak
2483.5	/	-5.65	/	54	/	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

Remark: All the other emissions not reported were too low to read and deemed to comply with FCC limit.

When the peak value is smaller than the AVG limit, AVG is not reflected.

Operation Mode: 802.11n/H40 Mode TX CH Low (2422MHz)

Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2390	58.55	-5.81	52.74	74	-21.26	peak
2390	/	-5.81	/	54	/	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2390	58.68	-5.81	52.87	74	-21.13	peak
2390	/	-5.81	/	54	/	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

When the peak value is smaller than the AVG limit, AVG is not reflected.

Operation Mode: TX CH High (2452MHz)

Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
2483.5	58.03	-5.65	52.38	74	-21.62	peak
2483.5	/	-5.65	/	54	/	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor,
Margin = Emission level - Limits

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
2483.5	56.01	-5.65	50.36	74	-23.64	peak
2483.5	/	-5.65	/	54	/	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor,
Margin = Emission level - Limits

Remark: All the other emissions not reported were too low to read and deemed to comply with FCC limit.

When the peak value is smaller than the AVG limit, AVG is not reflected.

module2 (OPS computer) Worst mode:

Above 1 GHz Test Results:

LOW CH1 (802.11b Mode)/2412

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
4824	66.10	-3.64	62.46	74	-11.54	peak
4824	49.93	-3.64	46.29	54	-7.71	AVG
7236	58.59	-0.95	57.64	74	-16.36	peak
7236	46.17	-0.95	45.22	54	-8.78	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
4824	64.37	-3.64	60.73	74	-13.27	peak
4824	49.39	-3.64	45.75	54	-8.25	AVG
7236	58.14	-0.95	57.19	74	-16.81	peak
7236	44.25	-0.95	43.30	54	-10.70	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

MID CH6 (802.11b Mode)/2437

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4874	63.82	-3.51	60.31	74	-13.69	peak
4874	48.06	-3.51	44.55	54	-9.45	AVG
7311	59.99	-0.82	59.17	74	-14.83	peak
7311	43.43	-0.82	42.61	54	-11.39	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4874	64.38	-3.51	60.87	74	-13.13	peak
4874	48.83	-3.51	45.32	54	-8.68	AVG
7311	58.96	-0.82	58.14	74	-15.86	peak
7311	42.48	-0.82	41.66	54	-12.34	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

HIGH CH11 (802.11b Mode)/2462

Horizontal:

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
4924	64.29	-3.43	60.86	74	-13.14	peak
4924	48.11	-3.43	44.68	54	-9.32	AVG
7386	59.12	-0.75	58.37	74	-15.63	peak
7386	44.27	-0.75	43.52	54	-10.48	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

Vertical:

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
4924	64.05	-3.43	60.62	74	-13.38	peak
4924	48.23	-3.43	44.80	54	-9.20	AVG
7386	58.40	-0.75	57.65	74	-16.35	peak
7386	42.88	-0.75	42.13	54	-11.87	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

Remark:

- (1) Measuring frequencies from 1 GHz to the 25 GHz.
- (2) * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.
- (3) Data of measurement within this frequency range shown "--" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (4) When the test results of Peak Detected below the limits of Average Detected, the Average Detected is not need completed. For example: Top Channel at Fundamental 73.16dBuV/m(PK Value) <93.98(AV Limit), at harmonic 53.20 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed.

LOW CH1 (802.11g Mode)/2412

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
4824	63.64	-3.64	60.00	74	-14.00	peak
4824	47.49	-3.64	43.85	54	-10.15	AVG
7236	57.76	-0.95	56.81	74	-17.19	peak
7236	44.14	-0.95	43.19	54	-10.81	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
4824	62.55	-3.64	58.91	74	-15.09	peak
4824	46.66	-3.64	43.02	54	-10.98	AVG
7236	59.87	-0.95	58.92	74	-15.08	peak
7236	43.52	-0.95	42.57	54	-11.43	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

MID CH6 (802.11g Mode)/2437

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4874	63.74	-3.51	60.23	74	-13.77	peak
4874	49.14	-3.51	45.63	54	-8.37	AVG
7311	58.25	-0.82	57.43	74	-16.57	peak
7311	45.77	-0.82	44.95	54	-9.05	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4874	64.48	-3.51	60.97	74	-13.03	peak
4874	47.83	-3.51	44.32	54	-9.68	AVG
7311	57.03	-0.82	56.21	74	-17.79	peak
7311	41.85	-0.82	41.03	54	-12.97	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

HIGH CH11 (802.11g Mode)/2462

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4924	63.33	-3.43	59.90	74	-14.10	peak
4924	49.97	-3.43	46.54	54	-7.46	AVG
7386	56.00	-0.75	55.25	74	-18.75	peak
7386	42.79	-0.75	42.04	54	-11.96	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4924	62.67	-3.43	59.24	74	-14.76	peak
4924	47.36	-3.43	43.93	54	-10.07	AVG
7386	56.53	-0.75	55.78	74	-18.22	peak
7386	41.80	-0.75	41.05	54	-12.95	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

Remark:

- (1) Measuring frequencies from 1 GHz to the 25 GHz.
- (2) * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.
- (3) Data of measurement within this frequency range shown “---” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (4) When the test results of Peak Detected below the limits of Average Detected, the Average Detected is not need completed. For example: Top Channel at Fundamental 73.16dBuV/m(PK Value) <93.98(AV Limit), at harmonic 53.20 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed.

LOW CH1 (802.11n/H20 Mode)/2412

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
4824	63.21	-3.64	59.57	74	-14.43	peak
4824	48.80	-3.64	45.16	54	-8.84	AVG
7236	59.25	-0.95	58.30	74	-15.70	peak
7236	44.37	-0.95	43.42	54	-10.58	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
4824	64.30	-3.64	60.66	74	-13.34	peak
4824	49.70	-3.64	46.06	54	-7.94	AVG
7236	59.13	-0.95	58.18	74	-15.82	peak
7236	44.76	-0.95	43.81	54	-10.19	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

MID CH6 (802.11n/H20 Mode)/2437

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
4874.00	63.77	-3.51	60.26	74.00	-13.74	peak
4874.00	47.88	-3.51	44.37	54.00	-9.63	AVG
7311.00	57.71	-0.82	56.89	74.00	-17.11	peak
7311.00	46.56	-0.82	45.74	54.00	-8.26	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
4874.00	63.78	-3.51	60.27	74.00	-13.73	peak
4874.00	48.17	-3.51	44.66	54.00	-9.34	AVG
7311.00	58.44	-0.82	57.62	74.00	-16.38	peak
7311.00	43.81	-0.82	42.99	54.00	-11.01	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

HIGH CH11 (802.11n/H20 Mode)/2462

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4924	63.26	-3.43	59.83	74	-14.17	peak
4924	45.85	-3.43	42.42	54	-11.58	AVG
7386	58.94	-0.75	58.19	74	-15.81	peak
7386	42.39	-0.75	41.64	54	-12.36	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4924	63.68	-3.43	60.25	74	-13.75	peak
4924	45.05	-3.43	41.62	54	-12.38	AVG
7386	56.30	-0.75	55.55	74	-18.45	peak
7386	41.35	-0.75	40.60	54	-13.40	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

LOW CH3 (802.11n/H40 Mode)/2422

Horizontal:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4844	65.64	-3.63	62.01	74	-11.99	peak
4844	49.37	-3.63	45.74	54	-8.26	AVG
7266	59.64	-0.94	58.70	74	-15.30	peak
7266	44.55	-0.94	43.61	54	-10.39	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor,
Margin = Emission level - Limits

Vertical:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4844	64.62	-3.63	60.99	74	-13.01	peak
4844	47.86	-3.63	44.23	54	-9.77	AVG
7266	58.76	-0.94	57.82	74	-16.18	peak
7266	44.63	-0.94	43.69	54	-10.31	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor,
Margin = Emission level - Limits

MID CH6 (802.11n/H40 Mode)/2437

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4874	63.08	-3.51	59.57	74	-14.43	peak
4874	48.45	-3.51	44.94	54	-9.06	AVG
7311	58.29	-0.82	57.47	74	-16.53	peak
7311	43.78	-0.82	42.96	54	-11.04	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4874	62.25	-3.51	58.74	74	-15.26	peak
4874	46.49	-3.51	42.98	54	-11.02	AVG
7311	56.61	-0.82	55.79	74	-18.21	peak
7311	43.38	-0.82	42.56	54	-11.44	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

HIGH CH9 (802.11n/H40 Mode)/2452

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4904	62.84	-3.43	59.41	74	-14.59	peak
4904	47.08	-3.43	43.65	54	-10.35	AVG
7356	56.83	-0.75	56.08	74	-17.92	peak
7356	43.13	-0.75	42.38	54	-11.62	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4904	62.04	-3.43	58.61	74	-15.39	peak
4904	47.20	-3.43	43.77	54	-10.23	AVG
7356	59.07	-0.75	58.32	74	-15.68	peak
7356	44.02	-0.75	43.27	54	-10.73	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

Remark :

- (1) Measuring frequencies from 1 GHz to the 25 GHz .
- (2) * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.
- (3) Data of measurement within this frequency range shown “---” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (4) When the test results of Peak Detected below the limits of Average Detected, the Average Detected is not need completed. For example: Top Channel at Fundamental 73.16dBuV/m(PK Value) <93.98(AV Limit), at harmonic 53.20 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed
- (5)Have tested in three orientations for radiated emissions, Only The worst record is in this report

Restricted bands around fundamental frequency (Radiated)

Operation Mode:

802.11b Mode TX CH Low (2412MHz)

Horizontal

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
2390	58.22	-5.81	52.41	74	-21.59	peak
2390	/	-5.81	/	54	/	AVG
2399	64.24	-5.84	58.40	74	-15.60	peak
2399	48.69	-5.84	42.85	54	-11.15	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor,
Margin = Emission level - Limits

Vertical:

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
2390	57.94	-5.81	52.13	74	-21.87	peak
2390	/	-5.81	/	54	/	AVG
2399	63.12	-5.84	57.28	74	-16.72	peak
2399	45.98	-5.84	40.14	54	-13.86	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor,
Margin = Emission level - Limits

When the peak value is smaller than the AVG limit, AVG is not reflected.

Operation Mode: TX CH High (2462MHz)

Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2483.5	56.35	-5.65	50.70	74	-23.30	peak
2483.5	/	-5.65	/	54	/	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2483.5	56.97	-5.65	51.32	74	-22.68	peak
2483.5	/	-5.65	/	54	/	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

Remark: All the other emissions not reported were too low to read and deemed to comply with FCC limit.

When the peak value is smaller than the AVG limit, AVG is not reflected.

Operation Mode: 802.11g Mode TX CH Low (2412MHz)

Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
2390	58.56	-5.81	52.75	74	-21.25	peak
2390	/	-5.81	/	54	/	AVG
2399	62.13	-5.84	56.29	74	-17.71	peak
2399	47.20	-5.84	41.36	54	-12.64	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor,
Margin = Emission level - Limits

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
2390	56.07	-5.81	50.26	74	-23.74	peak
2390	/	-5.81	/	54	/	AVG
2399	63.40	-5.84	57.56	74	-16.44	peak
2399	46.39	-5.84	40.55	54	-13.45	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor,
Margin = Emission level - Limits

When the peak value is smaller than the AVG limit, AVG is not reflected.

Operation Mode: TX CH High (2462MHz)

Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
2483.5	56.42	-5.65	50.77	74	-23.23	peak
2483.5	/	-5.65	/	54	/	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
2483.5	57.56	-5.65	51.91	74	-22.09	peak
2483.5	/	-5.65	/	54	/	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

Remark: All the other emissions not reported were too low to read and deemed to comply with FCC limit.

When the peak value is smaller than the AVG limit, AVG is not reflected.

Operation Mode: 802.11n/H20 Mode TX CH Low (2412MHz)

Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
2390	56.17	-5.81	50.36	74	-23.64	peak
2390	/	-5.81	/	54	/	AVG
2399	63.41	-5.84	57.57	74	-16.43	peak
2399	48.10	-5.84	42.26	54	-11.74	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
2390	57.02	-5.81	51.21	74	-22.79	peak
2390	/	-5.81	/	54	/	AVG
2399	61.69	-5.84	55.85	74	-18.15	peak
2399	47.93	-5.84	42.09	54	-11.91	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

When the peak value is smaller than the AVG limit, AVG is not reflected.

Operation Mode: TX CH High (2462MHz)

Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2483.5	56.74	-5.65	51.09	74	-22.91	peak
2483.5	/	-5.65	/	54	/	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2483.5	55.47	-5.65	49.82	74	-24.18	peak
2483.5	/	-5.65	/	54	/	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

Remark: All the other emissions not reported were too low to read and deemed to comply with FCC limit.

When the peak value is smaller than the AVG limit, AVG is not reflected.

Operation Mode: 802.11n/H40 Mode TX CH Low (2422MHz)

Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2390	58.99	-5.81	53.18	74	-20.82	peak
2390	/	-5.81	/	54	/	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2390	57.72	-5.81	51.91	74	-22.09	peak
2390	/	-5.81	/	54	/	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

When the peak value is smaller than the AVG limit, AVG is not reflected.

Operation Mode: TX CH High (2452MHz)

Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2483.5	57.51	-5.65	51.86	74	-22.14	peak
2483.5	/	-5.65	/	54	/	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2483.5	57.04	-5.65	51.39	74	-22.61	peak
2483.5	/	-5.65	/	54	/	AVG

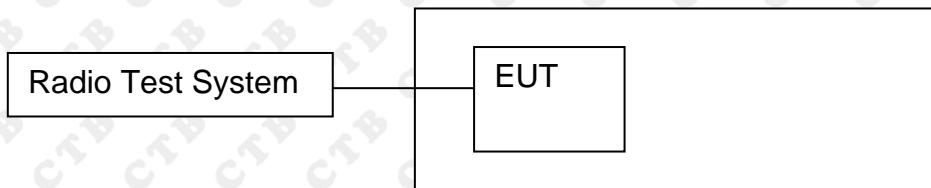
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Emission level = Reading Result + Factor, Margin = Emission level - Limits

Remark: All the other emissions not reported were too low to read and deemed to comply with FCC limit.

When the peak value is smaller than the AVG limit, AVG is not reflected.

8. BAND EDGE AND RF CONDUCTED SPURIOUS EMISSIONS

8.1 Block Diagram Of Test Setup



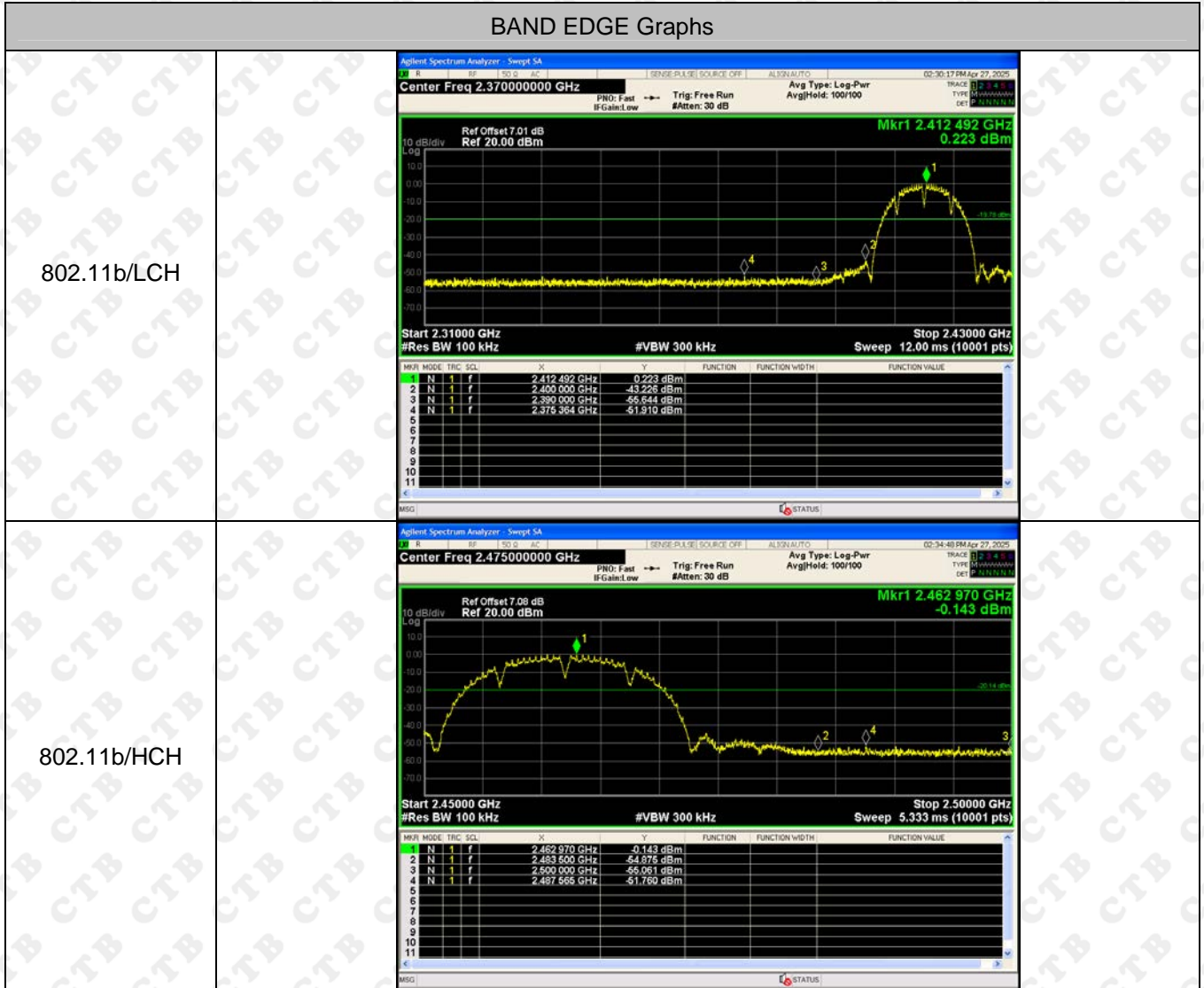
8.2 Limit

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. 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)).

8.3 Test procedure

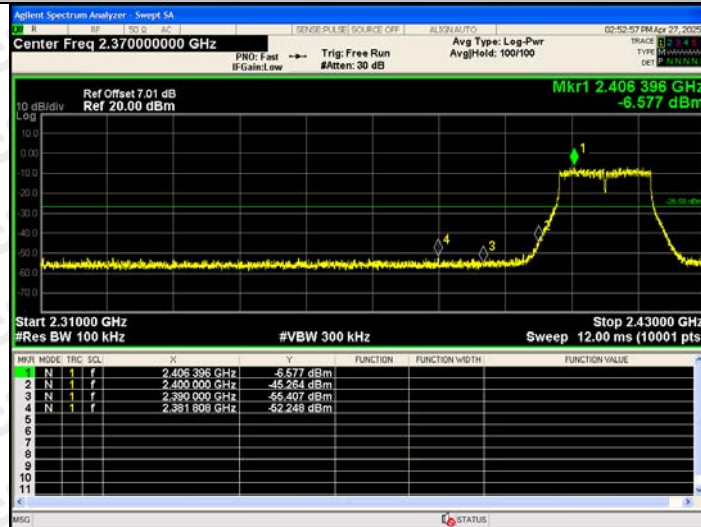
1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum;
2. Set the spectrum analyzer:
 - Below 30MHz:
 - RBW = 100kHz, VBW = 300kHz, Sweep = auto
 - Detector function = peak, Trace = max hold
 - Above 30MHz:
 - RBW = 100KHz, VBW = 300KHz, Sweep = auto
 - Detector function = peak, Trace = max hold

8.4 Test Result
module1 Worst mode:

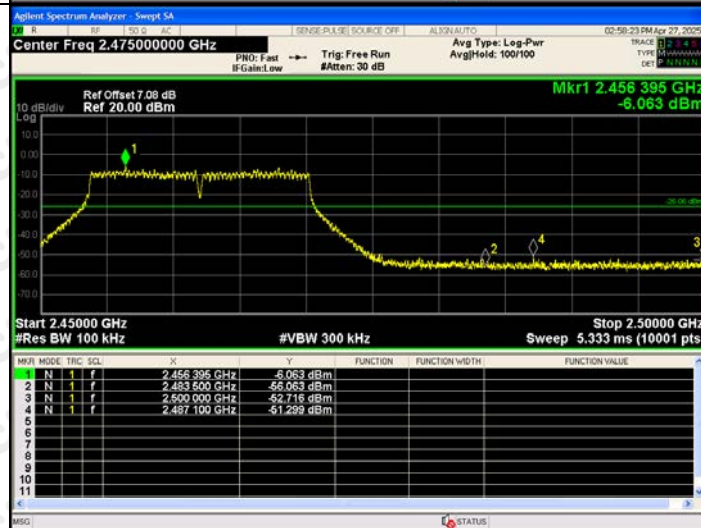


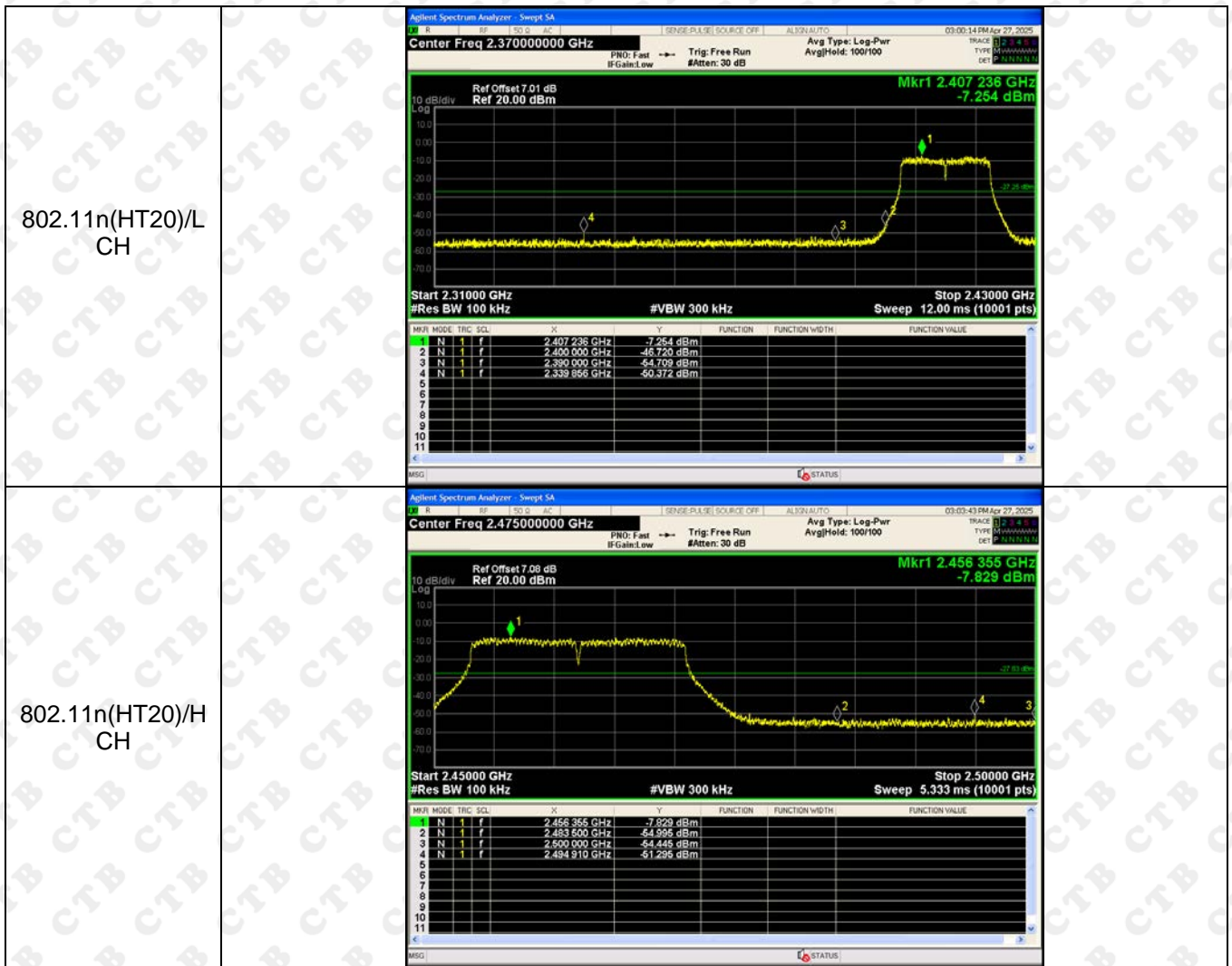
BAND EDGE Graphs

802.11g/LCH



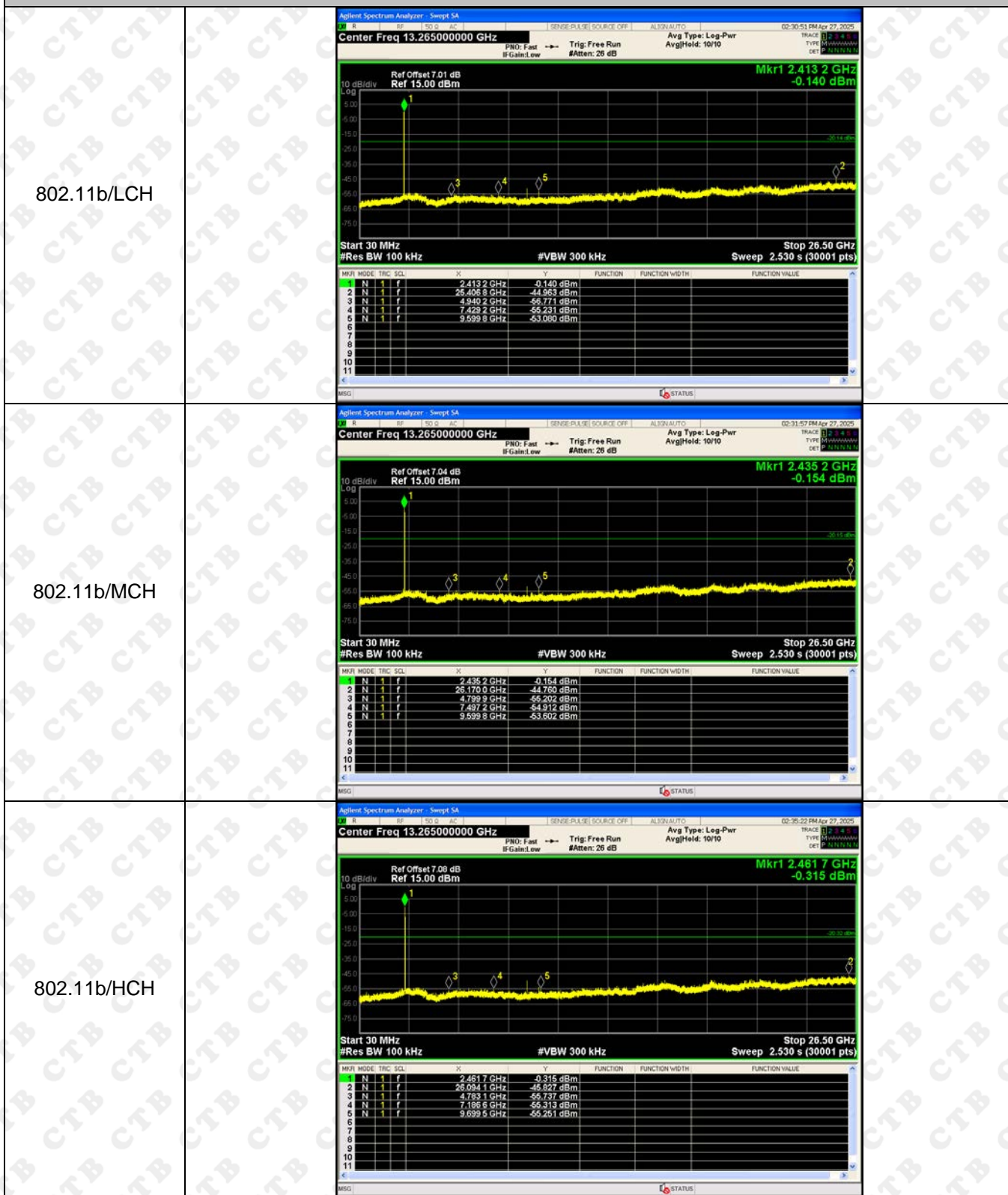
802.11g/HCH



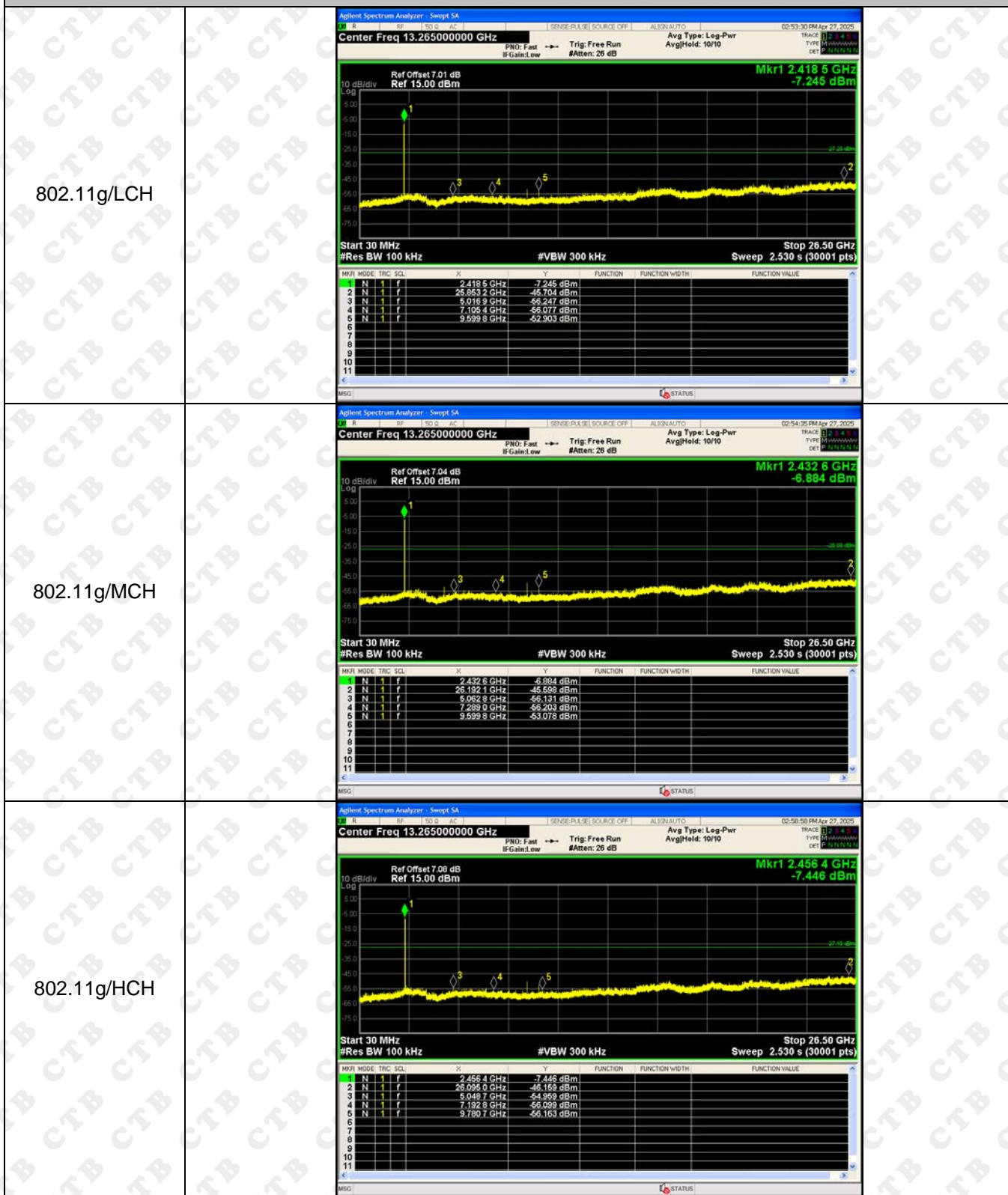




RF Conducted Spurious Emissions Graphs

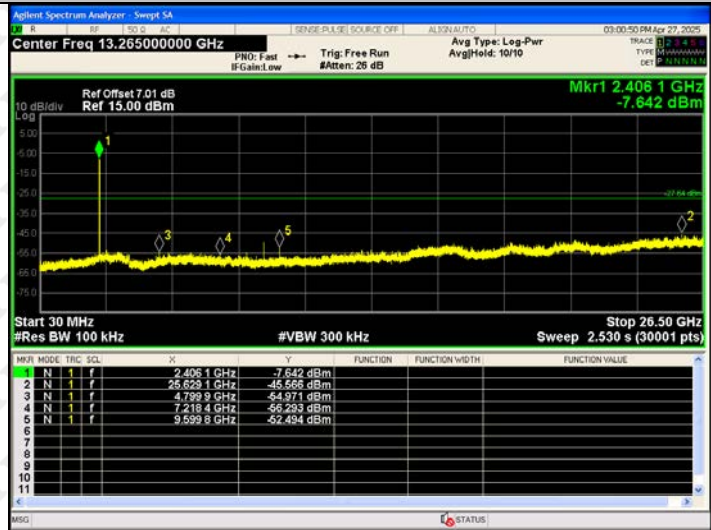


RF Conducted Spurious Emissions Graphs

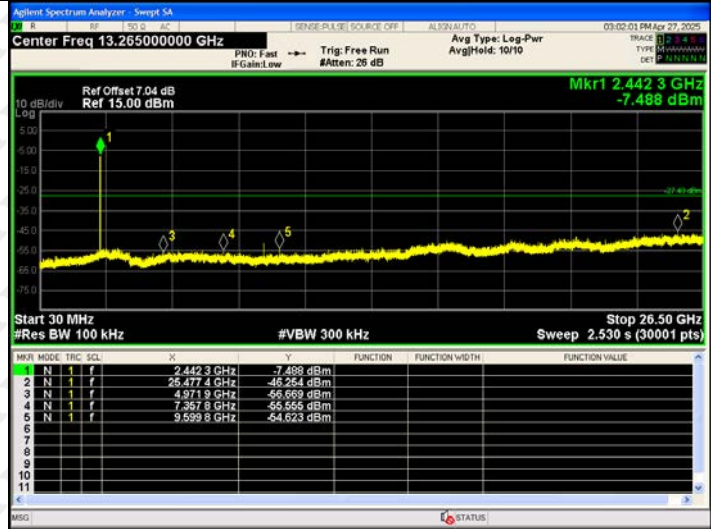


RF Conducted Spurious Emissions Graphs

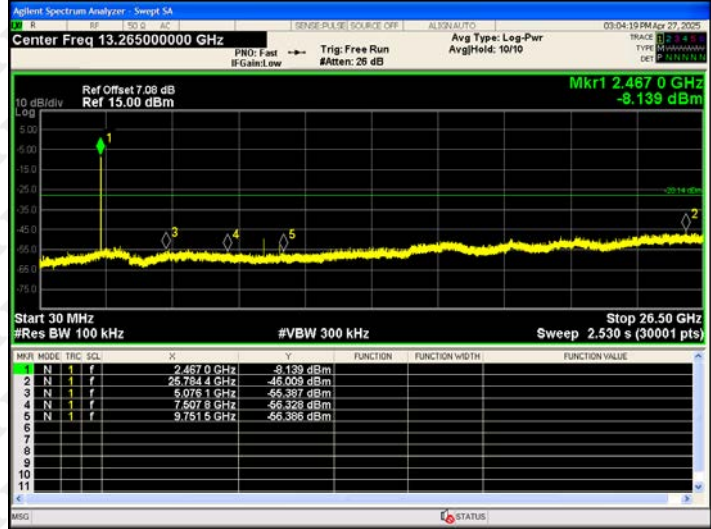
802.11n(HT20)/LCH



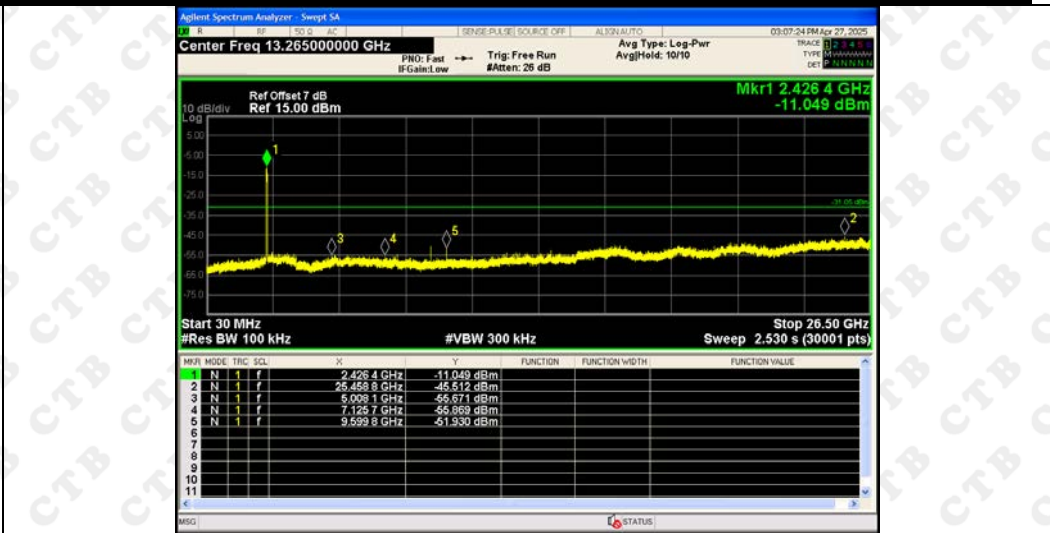
802.11 n(HT20)/MCH



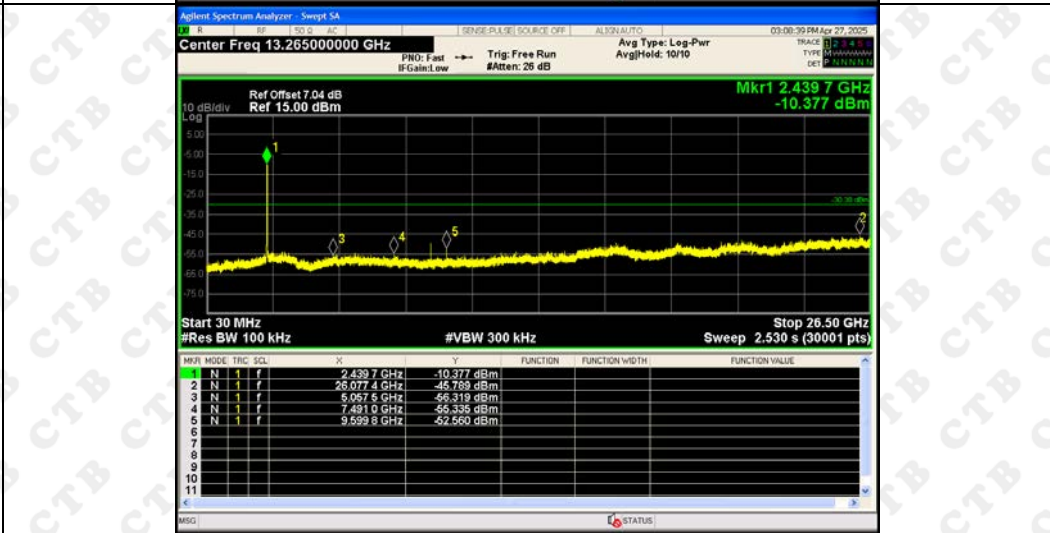
802.11 n(HT20)/HCH



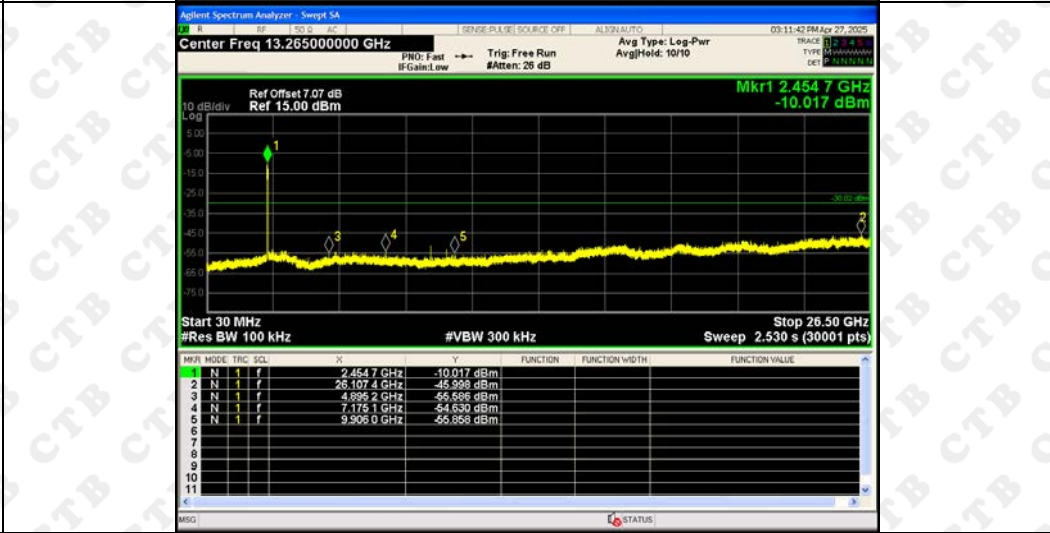
802.11n(HT40)/LCH



802.11 n(HT40)/MCH



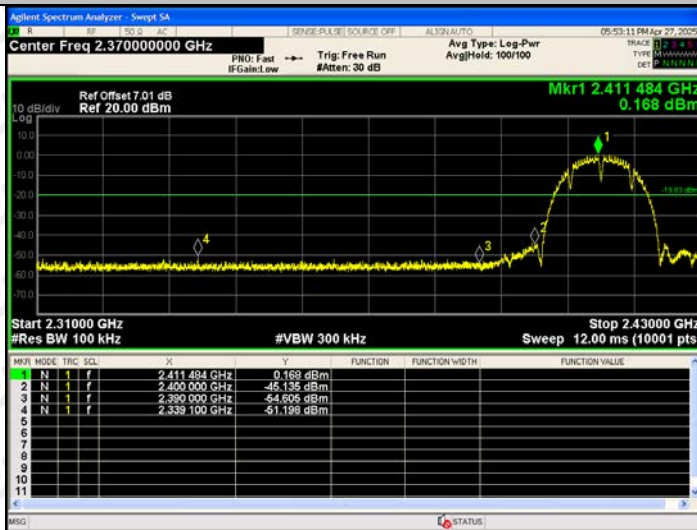
802.11 n(HT40)/HCH



module2 (OPS computer) Worst mode:

BAND EDGE Graphs

802.11b/LCH

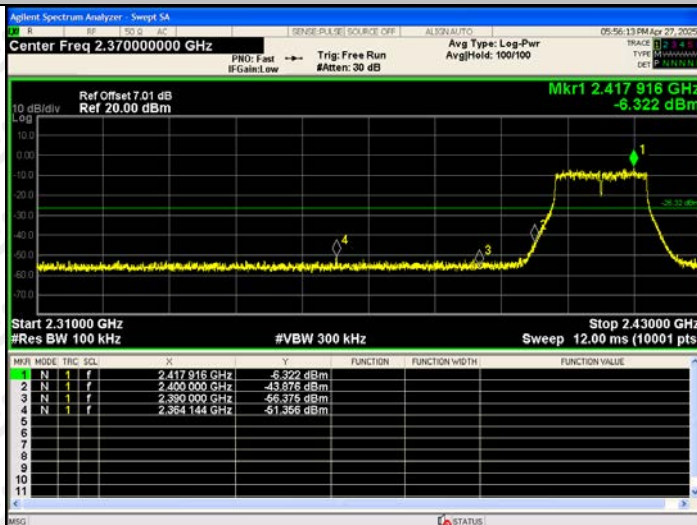


802.11b/HCH

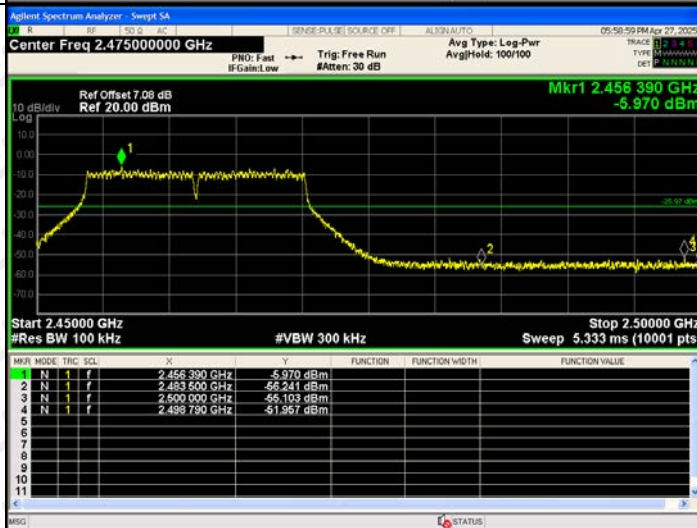


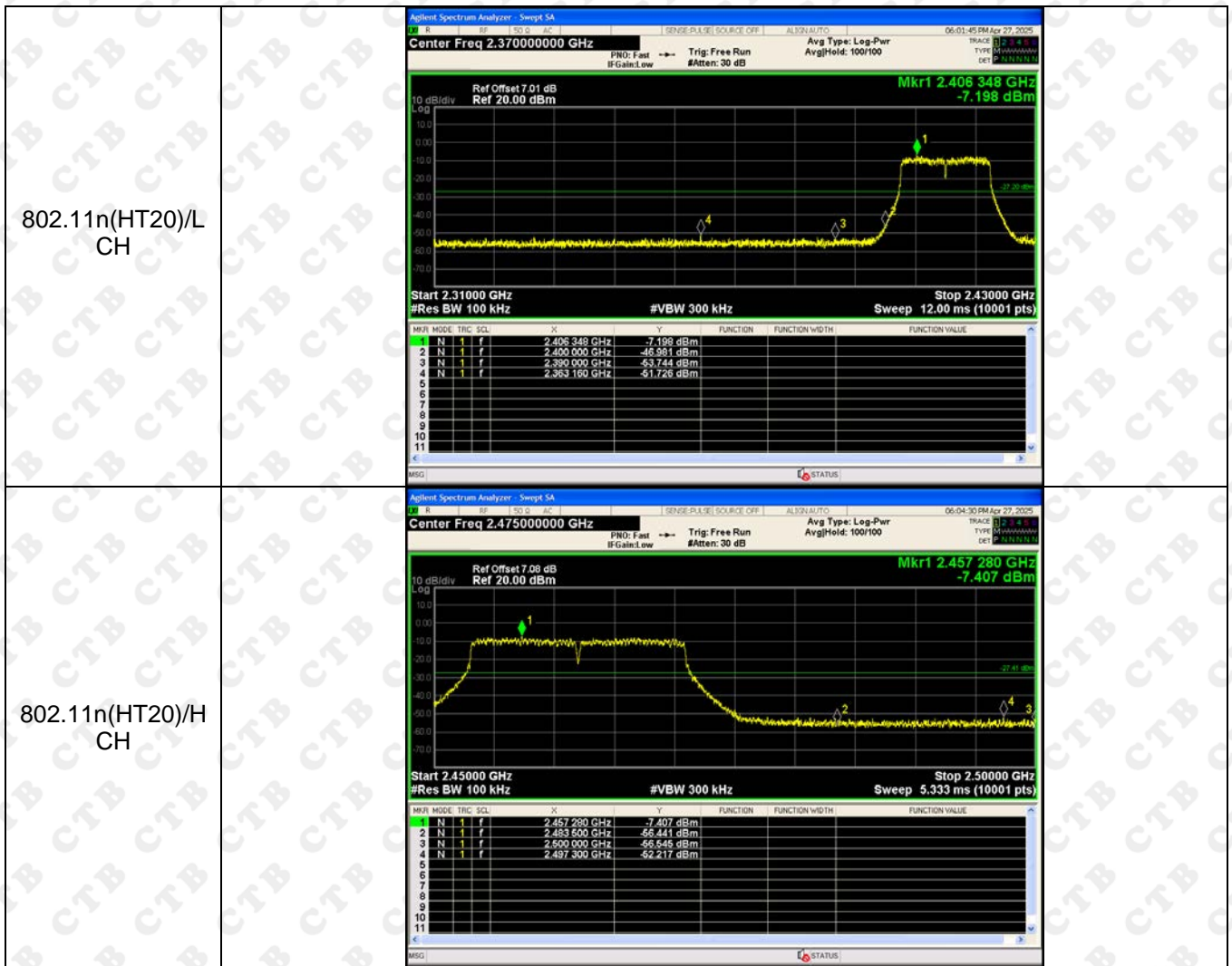
BAND EDGE Graphs

802.11g/LCH



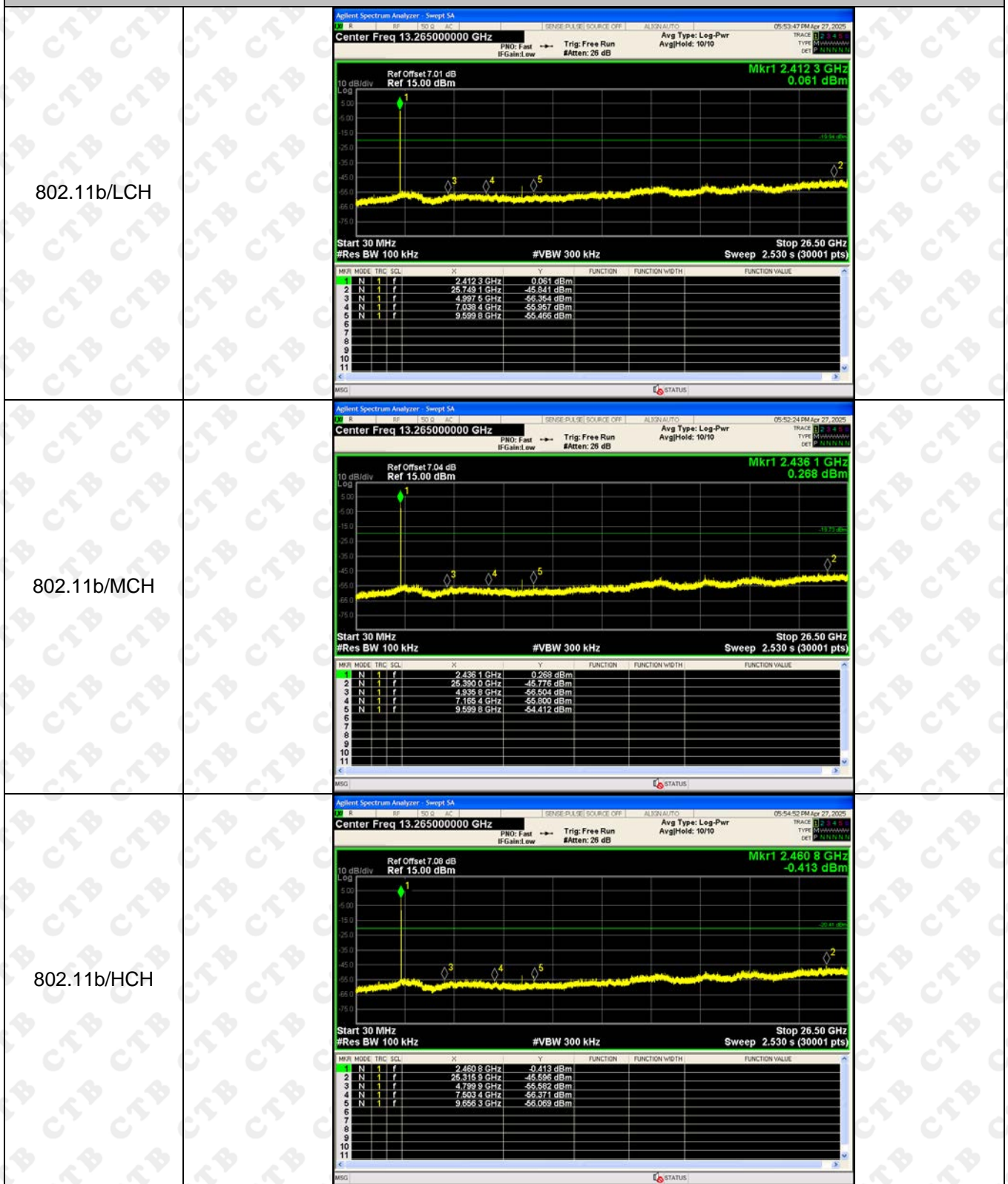
802.11g/HCH





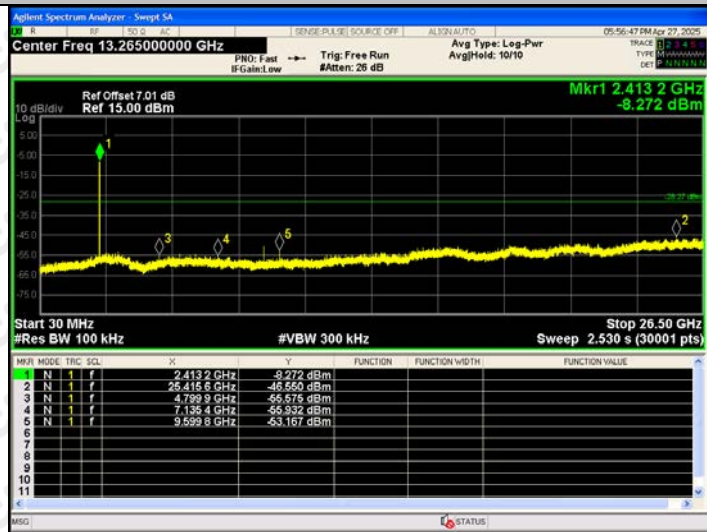


RF Conducted Spurious Emissions Graphs

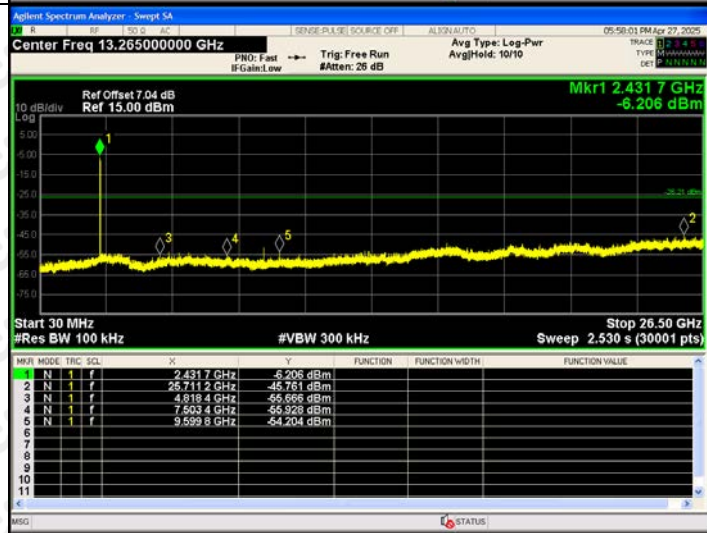


RF Conducted Spurious Emissions Graphs

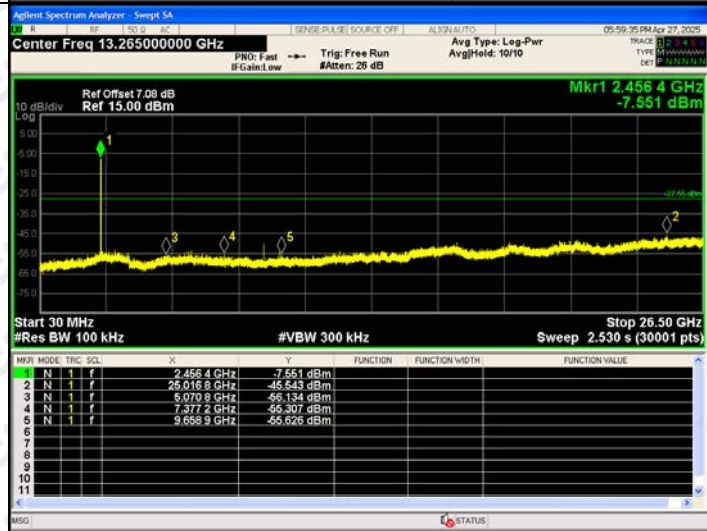
802.11g/LCH



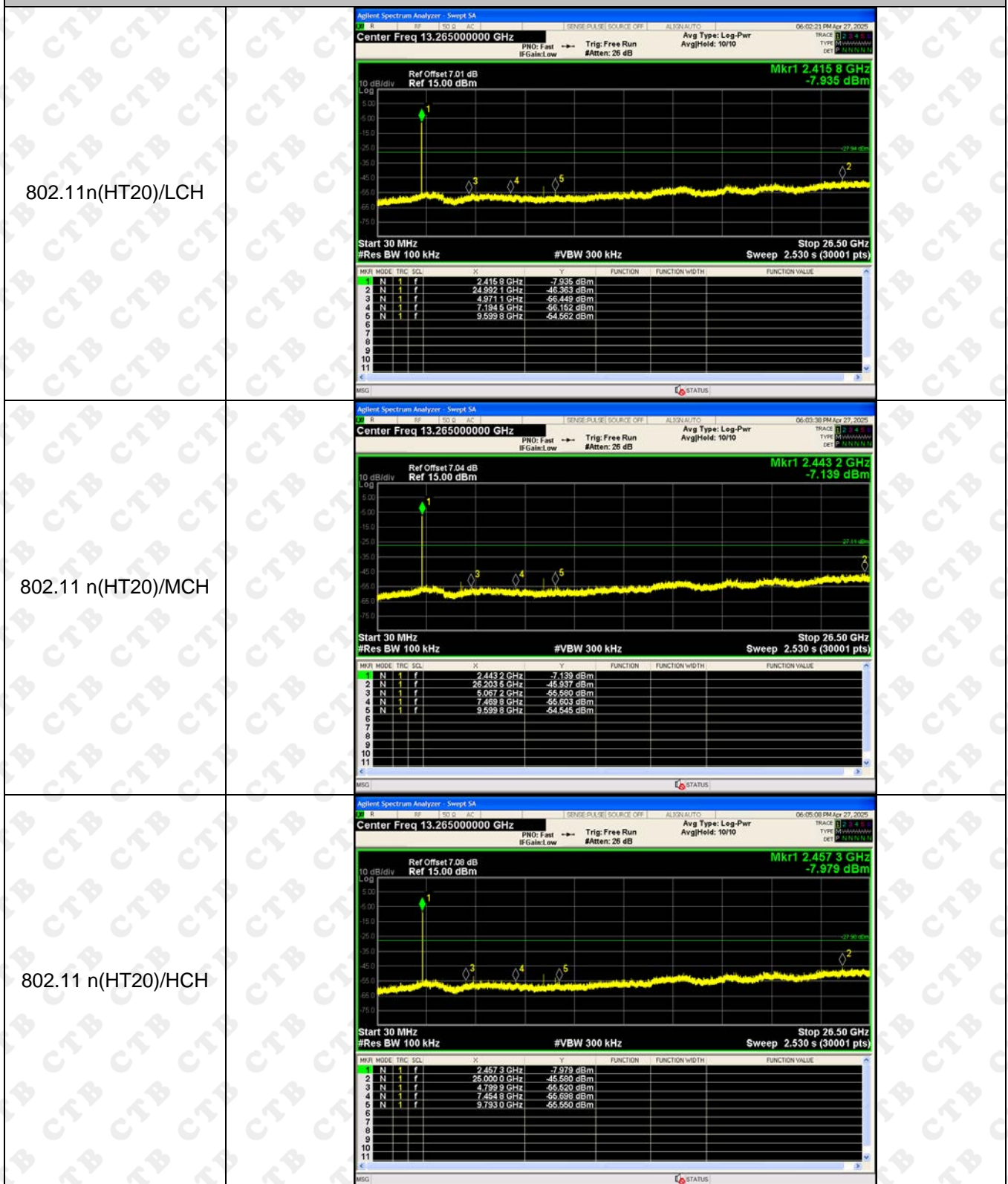
802.11g/MCH



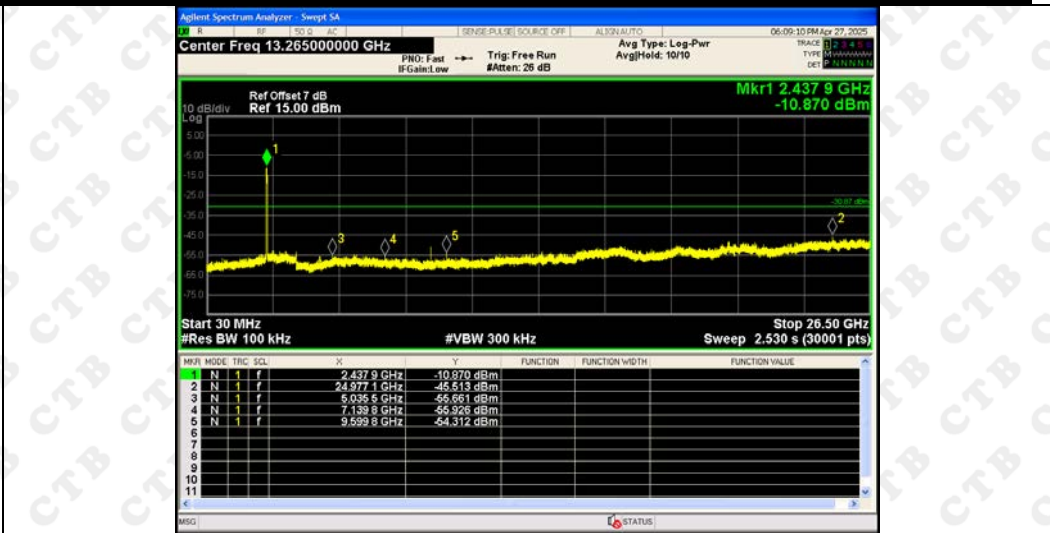
802.11g/HCH



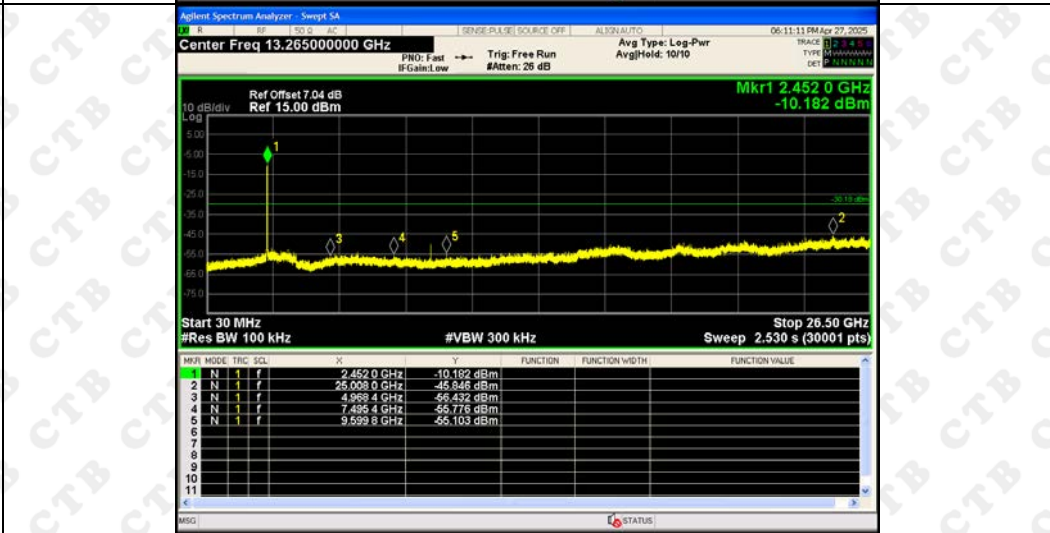
RF Conducted Spurious Emissions Graphs



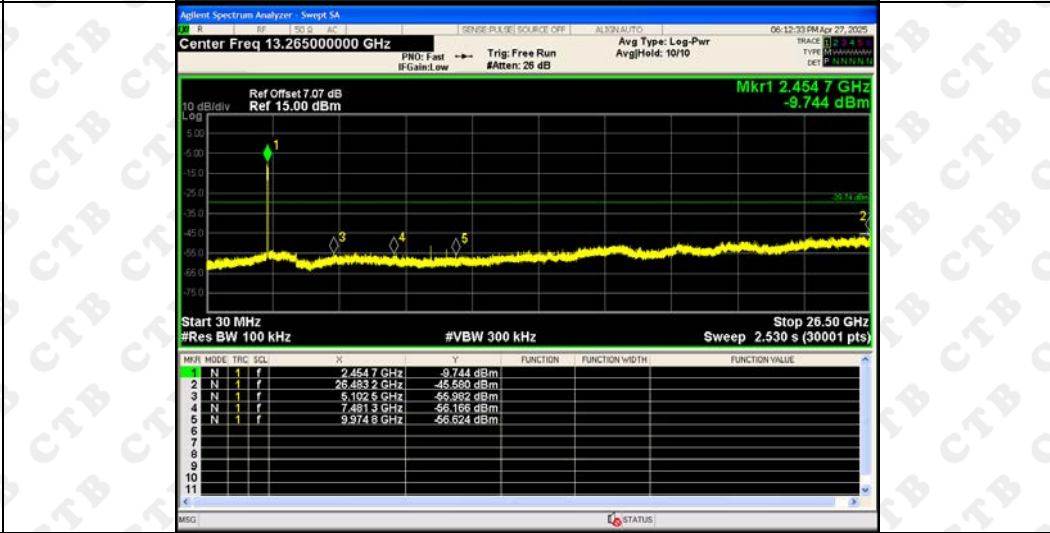
802.11n(HT40)/LCH



802.11 n(HT40)/MCH



802.11 n(HT40)/HCH



9. COUDUCTED OUTPUT POWER

9.1 Block Diagram Of Test Setup



9.2 Limit

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(b)(3)	Maximum Conducted Output Power	1 watt or 30dBm	2400-2483.5	PASS

9.3 Test procedure

1. The EUT was directly connected to the Power meter

9.4 Test Result

module1 Worst mode:

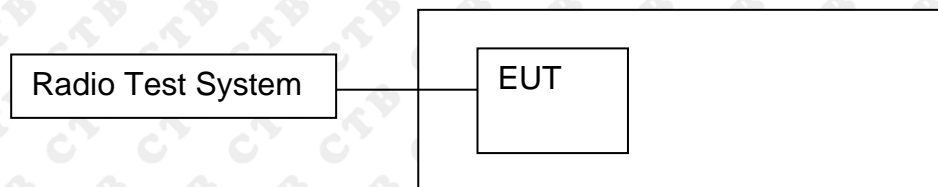
Mode	Channel.	Maximum Peak Power [dBm] ant 1	Maximum Peak Power [dBm] ant 2	Total Power Peak Output Power(dBm)	Limit[dBm]
802.11b	LCH	13.53	13.746	/	30
	MCH	13.842	13.945	/	30
	HCH	13.38	13.347	/	30
802.11g	LCH	13.605	13.581	/	30
	MCH	13.937	13.776	/	30
	HCH	13.441	13.136	/	30
802.11n(HT20)	LCH	13.108	13.354	16.243	30
	MCH	13.53	13.597	16.574	30
	HCH	13.033	13.057	16.055	30
802.11n(HT40)	LCH	13.538	13.683	16.621	30
	MCH	13.763	14.544	17.181	30
	HCH	13.595	14.266	16.954	30

module2 (OPS computer) Worst mode:

Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
802.11b	LCH	13.719	30	PASS
	MCH	13.914	30	PASS
	HCH	13.447	30	PASS
802.11g	LCH	13.641	30	PASS
	MCH	13.927	30	PASS
	HCH	13.556	30	PASS
802.11n(HT20)	LCH	13.167	30	PASS
	MCH	13.586	30	PASS
	HCH	13.145	30	PASS
802.11n(HT40)	LCH	13.64	30	PASS
	MCH	13.809	30	PASS
	HCH	13.753	30	PASS

10. 6DB OCCUPIED BANDWIDTH

10.1 Block Diagram Of Test Setup



10.2 Limit

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(a)(2)	Bandwidth	>= 500KHz (6dB bandwidth)	2400-2483.5	PASS

10.3 Test procedure

1. Rem1. Set RBW = 100 kHz.
2. Set the video bandwidth (VBW) ≥ 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 frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

10.4 Test Result

module1 Worst mode:

ANT1:

Test Mode	Frequency	6dB Bandwidth (MHz)	Limit(kHz)	Result
802.11b	LCH	10.133	500	PASS
	MCH	10.133	500	PASS
	HCH	10.139	500	PASS
802.11g	LCH	16.543	500	PASS
	MCH	16.494	500	PASS
	HCH	16.539	500	PASS
802.11n(HT20)	LCH	17.705	500	PASS
	MCH	17.781	500	PASS
	HCH	17.762	500	PASS
802.11n(HT40)	LCH	36.509	500	PASS
	MCH	36.475	500	PASS
	HCH	36.457	500	PASS

ANT2:

Test Mode	Frequency	6dB Bandwidth (MHz)	Limit(kHz)	Result
802.11b	LCH	10.115	500	PASS
	MCH	10.125	500	PASS
	HCH	10.116	500	PASS
802.11g	LCH	16.465	500	PASS
	MCH	16.5	500	PASS
	HCH	16.475	500	PASS
802.11n(HT20)	LCH	17.796	500	PASS
	MCH	17.778	500	PASS
	HCH	17.777	500	PASS
802.11n(HT40)	LCH	36.474	500	PASS
	MCH	36.448	500	PASS
	HCH	36.401	500	PASS

module2 (OPS computer) Worst mode:

Test Mode	Frequency	6dB Bandwidth (MHz)	Limit(kHz)	Result
802.11b	LCH	10.132	500	PASS
	MCH	10.075	500	PASS
	HCH	10.119	500	PASS
802.11g	LCH	16.5	500	PASS
	MCH	16.535	500	PASS
	HCH	16.549	500	PASS
802.11n(HT20)	LCH	17.8	500	PASS
	MCH	17.769	500	PASS
	HCH	17.744	500	PASS
802.11n(HT40)	LCH	36.482	500	PASS
	MCH	36.455	500	PASS
	HCH	36.455	500	PASS

Test Graph:
module1 Worst mode:

Graphs

802.11b /LCH



802.11b /MCH



802.11b/HCH



<p>802.11g/LCH</p>	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.41200000 GHz</p> <p>Ref Offset 7.01 dB Ref 27.01 dBm</p> <p>Mkr3 2.420246 GHz -12.242 dBm</p> <p>Center 2.412 GHz #Res BW 100 kHz</p> <p>#VBW 300 kHz</p> <p>Span 30 MHz Sweep 2.933 ms</p> <p>Occupied Bandwidth 16.470 MHz</p> <p>Total Power 12.6 dBm</p> <p>Transmit Freq Error -25.009 kHz</p> <p>x dB Bandwidth 16.54 MHz</p> <p>OBW Power 99.00 %</p> <p>x dB -6.00 dB</p>
<p>802.11g/MCH</p>	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.43700000 GHz</p> <p>Ref Offset 7.04 dB Ref 27.04 dBm</p> <p>Mkr3 2.445231 GHz -11.272 dBm</p> <p>Center 2.437 GHz #Res BW 100 kHz</p> <p>#VBW 300 kHz</p> <p>Span 30 MHz Sweep 2.933 ms</p> <p>Occupied Bandwidth 16.435 MHz</p> <p>Total Power 12.9 dBm</p> <p>Transmit Freq Error -15.987 kHz</p> <p>x dB Bandwidth 16.49 MHz</p> <p>OBW Power 99.00 %</p> <p>x dB -6.00 dB</p>
<p>802.11g/HCH</p>	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.46200000 GHz</p> <p>Ref Offset 7.06 dB Ref 27.06 dBm</p> <p>Mkr3 2.470235 GHz -10.412 dBm</p> <p>Center 2.462 GHz #Res BW 100 kHz</p> <p>#VBW 300 kHz</p> <p>Span 30 MHz Sweep 2.933 ms</p> <p>Occupied Bandwidth 16.473 MHz</p> <p>Total Power 12.3 dBm</p> <p>Transmit Freq Error -34.476 kHz</p> <p>x dB Bandwidth 16.54 MHz</p> <p>OBW Power 99.00 %</p> <p>x dB -6.00 dB</p>

<p>802.11n(HT20)/LC H</p>	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.41200000 GHz</p> <p>Ref Offset 7.01 dB Ref 27.01 dBm</p> <p>Mkr3 2.420831 GHz -13.467 dBm</p> <p>Center 2.412 GHz #Res BW 100 kHz</p> <p>#VBW 300 kHz</p> <p>Span 30 MHz Sweep 2.933 ms</p> <table border="1"> <tr> <td>Occupied Bandwidth</td> <td>Total Power</td> <td>12.4 dBm</td> </tr> <tr> <td colspan="3">17.595 MHz</td> </tr> <tr> <td>Transmit Freq Error</td> <td>OBW Power</td> <td>99.00 %</td> </tr> <tr> <td>x dB Bandwidth</td> <td>x dB</td> <td>-6.00 dB</td> </tr> </table>	Occupied Bandwidth	Total Power	12.4 dBm	17.595 MHz			Transmit Freq Error	OBW Power	99.00 %	x dB Bandwidth	x dB	-6.00 dB
Occupied Bandwidth	Total Power	12.4 dBm											
17.595 MHz													
Transmit Freq Error	OBW Power	99.00 %											
x dB Bandwidth	x dB	-6.00 dB											
<p>802.11n(HT20)/MC H</p>	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.43700000 GHz</p> <p>Ref Offset 7.04 dB Ref 27.04 dBm</p> <p>Mkr3 2.445882 GHz -12.480 dBm</p> <p>Center 2.437 GHz #Res BW 100 kHz</p> <p>#VBW 300 kHz</p> <p>Span 30 MHz Sweep 2.933 ms</p> <table border="1"> <tr> <td>Occupied Bandwidth</td> <td>Total Power</td> <td>12.8 dBm</td> </tr> <tr> <td colspan="3">17.636 MHz</td> </tr> <tr> <td>Transmit Freq Error</td> <td>OBW Power</td> <td>99.00 %</td> </tr> <tr> <td>x dB Bandwidth</td> <td>x dB</td> <td>-6.00 dB</td> </tr> </table>	Occupied Bandwidth	Total Power	12.8 dBm	17.636 MHz			Transmit Freq Error	OBW Power	99.00 %	x dB Bandwidth	x dB	-6.00 dB
Occupied Bandwidth	Total Power	12.8 dBm											
17.636 MHz													
Transmit Freq Error	OBW Power	99.00 %											
x dB Bandwidth	x dB	-6.00 dB											
<p>802.11n(HT20)/HC H</p>	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.46200000 GHz</p> <p>Ref Offset 7.06 dB Ref 27.06 dBm</p> <p>Mkr3 2.47085 GHz -13.164 dBm</p> <p>Center 2.462 GHz #Res BW 100 kHz</p> <p>#VBW 300 kHz</p> <p>Span 30 MHz Sweep 2.933 ms</p> <table border="1"> <tr> <td>Occupied Bandwidth</td> <td>Total Power</td> <td>12.3 dBm</td> </tr> <tr> <td colspan="3">17.631 MHz</td> </tr> <tr> <td>Transmit Freq Error</td> <td>OBW Power</td> <td>99.00 %</td> </tr> <tr> <td>x dB Bandwidth</td> <td>x dB</td> <td>-6.00 dB</td> </tr> </table>	Occupied Bandwidth	Total Power	12.3 dBm	17.631 MHz			Transmit Freq Error	OBW Power	99.00 %	x dB Bandwidth	x dB	-6.00 dB
Occupied Bandwidth	Total Power	12.3 dBm											
17.631 MHz													
Transmit Freq Error	OBW Power	99.00 %											
x dB Bandwidth	x dB	-6.00 dB											


<p>802.11n(HT40)/LC H</p>	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.422000000 GHz</p> <p>Ref Offset 7 dB Ref 27.00 dBm</p> <p>Mkr3 2.440256 GHz -15.272 dBm</p> <p>Center 2.422 GHz #Res BW 100 kHz</p> <p>#VBW 300 kHz</p> <p>Span 60 MHz Sweep 5.8 ms</p> <p>Occupied Bandwidth 36.159 MHz</p> <p>Total Power 12.9 dBm</p> <p>Transmit Freq Error 1.789 kHz</p> <p>x dB Bandwidth 36.51 MHz</p> <p>OBW Power 99.00 %</p> <p>x dB -6.00 dB</p>
<p>802.11n(HT40)/MC H</p>	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.437000000 GHz</p> <p>Ref Offset 7.04 dB Ref 27.04 dBm</p> <p>Mkr3 2.455227 GHz -15.916 dBm</p> <p>Center 2.437 GHz #Res BW 100 kHz</p> <p>#VBW 300 kHz</p> <p>Span 60 MHz Sweep 5.8 ms</p> <p>Occupied Bandwidth 36.107 MHz</p> <p>Total Power 13.1 dBm</p> <p>Transmit Freq Error -10.268 kHz</p> <p>x dB Bandwidth 36.48 MHz</p> <p>OBW Power 99.00 %</p> <p>x dB -6.00 dB</p>
<p>802.11n(HT40)/HC H</p>	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.452000000 GHz</p> <p>Ref Offset 7.07 dB Ref 27.07 dBm</p> <p>Mkr3 2.470197 GHz -14.599 dBm</p> <p>Center 2.452 GHz #Res BW 100 kHz</p> <p>#VBW 300 kHz</p> <p>Span 60 MHz Sweep 5.8 ms</p> <p>Occupied Bandwidth 36.110 MHz</p> <p>Total Power 13.0 dBm</p> <p>Transmit Freq Error -31.404 kHz</p> <p>x dB Bandwidth 36.46 MHz</p> <p>OBW Power 99.00 %</p> <p>x dB -6.00 dB</p>

module2 (OPS computer) Worst mode:

Graphs

<p>802.11b /LCH</p>	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.412000000 GHz</p> <p>Center Freq: 2.412000000 GHz</p> <p>Trig: Free Run</p> <p>AvgHeld: 100/100</p> <p>Radio Std: None</p> <p>Radio Device: BTS</p> <p>Ref Offset 7.01 dB</p> <p>Ref 27.01 dBm</p> <p>Mkr3 2.417055 GHz</p> <p>-5.0268 dBm</p> <p>Center 2.412 GHz</p> <p>#Res BW 100 kHz</p> <p>#VBW 300 kHz</p> <p>Span 30 MHz</p> <p>Sweep 2.933 ms</p> <p>Occupied Bandwidth 14.983 MHz</p> <p>Total Power 17.2 dBm</p> <p>Transmit Freq Error -10.907 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 10.13 MHz</p> <p>x dB -6.00 dB</p>
<p>802.11b /MCH</p>	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.437000000 GHz</p> <p>Center Freq: 2.437000000 GHz</p> <p>Trig: Free Run</p> <p>AvgHeld: 100/100</p> <p>Radio Std: None</p> <p>Radio Device: BTS</p> <p>Ref Offset 7.04 dB</p> <p>Ref 27.04 dBm</p> <p>Mkr3 2.442046 GHz</p> <p>-5.4163 dBm</p> <p>Center 2.437 GHz</p> <p>#Res BW 100 kHz</p> <p>#VBW 300 kHz</p> <p>Span 30 MHz</p> <p>Sweep 2.933 ms</p> <p>Occupied Bandwidth 14.960 MHz</p> <p>Total Power 17.4 dBm</p> <p>Transmit Freq Error 8.345 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 10.07 MHz</p> <p>x dB -6.00 dB</p>
<p>802.11b/HCH</p>	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.462000000 GHz</p> <p>Center Freq: 2.462000000 GHz</p> <p>Trig: Free Run</p> <p>AvgHeld: 100/100</p> <p>Radio Std: None</p> <p>Radio Device: BTS</p> <p>Ref Offset 7.08 dB</p> <p>Ref 27.08 dBm</p> <p>Mkr3 2.467009 GHz</p> <p>-4.5730 dBm</p> <p>Center 2.462 GHz</p> <p>#Res BW 100 kHz</p> <p>#VBW 300 kHz</p> <p>Span 30 MHz</p> <p>Sweep 2.933 ms</p> <p>Occupied Bandwidth 15.020 MHz</p> <p>Total Power 17.1 dBm</p> <p>Transmit Freq Error -50.199 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 10.12 MHz</p> <p>x dB -6.00 dB</p>

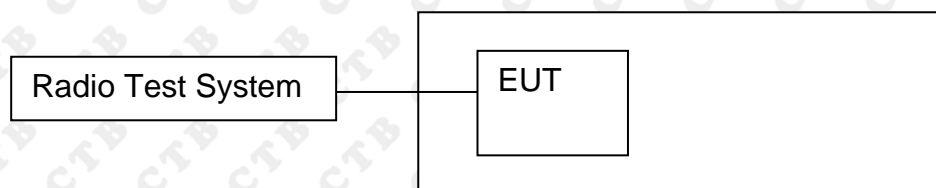
<p>802.11g/LCH</p>	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.412000000 GHz</p> <p>Ref Offset 7.01 dB Ref 27.01 dBm</p> <p>Mkr3 2.420234 GHz -9.8146 dBm</p> <p>Center 2.412 GHz #Res BW 100 kHz</p> <p>#VBW 300 kHz</p> <p>Span 30 MHz Sweep 2.933 ms</p> <p>Occupied Bandwidth 16.450 MHz</p> <p>Total Power 12.5 dBm</p> <p>Transmit Freq Error -15.678 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 16.50 MHz</p> <p>x dB -6.00 dB</p>
<p>802.11g/MCH</p>	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.437000000 GHz</p> <p>Ref Offset 7.04 dB Ref 27.04 dBm</p> <p>Mkr3 2.445248 GHz -12.344 dBm</p> <p>Center 2.437 GHz #Res BW 100 kHz</p> <p>#VBW 300 kHz</p> <p>Span 30 MHz Sweep 2.933 ms</p> <p>Occupied Bandwidth 16.463 MHz</p> <p>Total Power 12.9 dBm</p> <p>Transmit Freq Error -19.266 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 16.53 MHz</p> <p>x dB -6.00 dB</p>
<p>802.11g/HCH</p>	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.462000000 GHz</p> <p>Ref Offset 7.06 dB Ref 27.06 dBm</p> <p>Mkr3 2.470242 GHz -13.745 dBm</p> <p>Center 2.462 GHz #Res BW 100 kHz</p> <p>#VBW 300 kHz</p> <p>Span 30 MHz Sweep 2.933 ms</p> <p>Occupied Bandwidth 16.461 MHz</p> <p>Total Power 12.5 dBm</p> <p>Transmit Freq Error -32.400 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 16.55 MHz</p> <p>x dB -6.00 dB</p>

<p>802.11n(HT20)/LC H</p>	 <p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.412000000 GHz</p> <p>Ref Offset 7.01 dB Ref 27.01 dBm</p> <p>Mkr3 2.420891 GHz -12.889 dBm</p> <p>Center 2.412 GHz #Res BW 100 kHz</p> <p>#VBW 300 kHz</p> <p>Span 30 MHz Sweep 2.933 ms</p> <p>Occupied Bandwidth 17.630 MHz</p> <p>Total Power 12.5 dBm</p> <p>Transmit Freq Error -8.458 kHz</p> <p>x dB Bandwidth 17.80 MHz</p> <p>OBW Power 99.00 %</p> <p>x dB -6.00 dB</p>
<p>802.11n(HT20)/MC H</p>	 <p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.437000000 GHz</p> <p>Ref Offset 7.04 dB Ref 27.04 dBm</p> <p>Mkr3 2.44588 GHz -13.138 dBm</p> <p>Center 2.437 GHz #Res BW 100 kHz</p> <p>#VBW 300 kHz</p> <p>Span 30 MHz Sweep 2.933 ms</p> <p>Occupied Bandwidth 17.623 MHz</p> <p>Total Power 12.9 dBm</p> <p>Transmit Freq Error -4.809 kHz</p> <p>x dB Bandwidth 17.77 MHz</p> <p>OBW Power 99.00 %</p> <p>x dB -6.00 dB</p>
<p>802.11n(HT20)/HC H</p>	 <p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.462000000 GHz</p> <p>Ref Offset 7.06 dB Ref 27.06 dBm</p> <p>Mkr3 2.470846 GHz -12.986 dBm</p> <p>Center 2.462 GHz #Res BW 100 kHz</p> <p>#VBW 300 kHz</p> <p>Span 30 MHz Sweep 2.933 ms</p> <p>Occupied Bandwidth 17.641 MHz</p> <p>Total Power 12.5 dBm</p> <p>Transmit Freq Error -26.623 kHz</p> <p>x dB Bandwidth 17.74 MHz</p> <p>OBW Power 99.00 %</p> <p>x dB -6.00 dB</p>

<p>802.11n(HT40)/LC H</p>	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.42200000 GHz</p> <p>Ref Offset 7 dB Ref 27.00 dBm</p> <p>Mkr3 2.440245 GHz -15.552 dBm</p> <p>Center 2.422 GHz #Res BW 100 kHz</p> <p>#VBW 300 kHz</p> <p>Span 60 MHz Sweep 5.8 ms</p> <table border="1"> <tr> <td>Occupied Bandwidth</td> <td>Total Power</td> <td>12.9 dBm</td> </tr> <tr> <td>36.158 MHz</td> <td></td> <td></td> </tr> <tr> <td>Transmit Freq Error</td> <td>OBW Power</td> <td>99.00 %</td> </tr> <tr> <td>3.964 kHz</td> <td>x dB</td> <td>-6.00 dB</td> </tr> <tr> <td>x dB Bandwidth</td> <td></td> <td></td> </tr> <tr> <td>36.48 MHz</td> <td></td> <td></td> </tr> </table>	Occupied Bandwidth	Total Power	12.9 dBm	36.158 MHz			Transmit Freq Error	OBW Power	99.00 %	3.964 kHz	x dB	-6.00 dB	x dB Bandwidth			36.48 MHz			
Occupied Bandwidth	Total Power	12.9 dBm																		
36.158 MHz																				
Transmit Freq Error	OBW Power	99.00 %																		
3.964 kHz	x dB	-6.00 dB																		
x dB Bandwidth																				
36.48 MHz																				
<p>802.11n(HT40)/MC H</p>	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.43700000 GHz</p> <p>Ref Offset 7.04 dB Ref 27.04 dBm</p> <p>Mkr3 2.455224 GHz -16.027 dBm</p> <p>Center 2.437 GHz #Res BW 100 kHz</p> <p>#VBW 300 kHz</p> <p>Span 60 MHz Sweep 5.8 ms</p> <table border="1"> <tr> <td>Occupied Bandwidth</td> <td>Total Power</td> <td>13.2 dBm</td> </tr> <tr> <td>36.117 MHz</td> <td></td> <td></td> </tr> <tr> <td>Transmit Freq Error</td> <td>OBW Power</td> <td>99.00 %</td> </tr> <tr> <td>-3.612 kHz</td> <td>x dB</td> <td>-6.00 dB</td> </tr> <tr> <td>x dB Bandwidth</td> <td></td> <td></td> </tr> <tr> <td>36.45 MHz</td> <td></td> <td></td> </tr> </table>	Occupied Bandwidth	Total Power	13.2 dBm	36.117 MHz			Transmit Freq Error	OBW Power	99.00 %	-3.612 kHz	x dB	-6.00 dB	x dB Bandwidth			36.45 MHz			
Occupied Bandwidth	Total Power	13.2 dBm																		
36.117 MHz																				
Transmit Freq Error	OBW Power	99.00 %																		
-3.612 kHz	x dB	-6.00 dB																		
x dB Bandwidth																				
36.45 MHz																				
<p>802.11n(HT40)/HC H</p>	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.45200000 GHz</p> <p>Ref Offset 7.07 dB Ref 27.07 dBm</p> <p>Mkr3 2.47018 GHz -14.957 dBm</p> <p>Center 2.452 GHz #Res BW 100 kHz</p> <p>#VBW 300 kHz</p> <p>Span 60 MHz Sweep 5.8 ms</p> <table border="1"> <tr> <td>Occupied Bandwidth</td> <td>Total Power</td> <td>13.1 dBm</td> </tr> <tr> <td>36.084 MHz</td> <td></td> <td></td> </tr> <tr> <td>Transmit Freq Error</td> <td>OBW Power</td> <td>99.00 %</td> </tr> <tr> <td>-47.842 kHz</td> <td>x dB</td> <td>-6.00 dB</td> </tr> <tr> <td>x dB Bandwidth</td> <td></td> <td></td> </tr> <tr> <td>36.45 MHz</td> <td></td> <td></td> </tr> </table>	Occupied Bandwidth	Total Power	13.1 dBm	36.084 MHz			Transmit Freq Error	OBW Power	99.00 %	-47.842 kHz	x dB	-6.00 dB	x dB Bandwidth			36.45 MHz			
Occupied Bandwidth	Total Power	13.1 dBm																		
36.084 MHz																				
Transmit Freq Error	OBW Power	99.00 %																		
-47.842 kHz	x dB	-6.00 dB																		
x dB Bandwidth																				
36.45 MHz																				

11. POWER SPECTRAL DENSITY

11.1 Block Diagram Of Test Setup



11.2 Limit

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247	Power Spectral Density	8 dBm (in any 3KHz)	2400-2483.5	PASS

11.3 Test procedure

1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to 1.5 times the DTS bandwidth.
3. Set the RBW to: $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
4. Set the VBW $\geq 3 \times \text{RBW}$.
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 within the RBW.
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

11.4 Test Result

module1 Worst mode:

Mode	Channel.	Power Spectral Density [dBm /3kHz] ANT 1	Power Spectral Density [dBm /3kHz]] ANT 2	Power Spectral Density [dBm /3kHz]Total	Limit(dBm)
802.11b	LCH	-19.719	-19.497	/	8
	MCH	-19.474	-19.475	/	8
	HCH	-19.842	-19.894	/	8
802.11g	LCH	-20.136	-20.244	/	8
	MCH	-20.033	-19.927	/	8
	HCH	-20.684	-20.669	/	8
802.11n(H T20)	LCH	-21.137	-20.337	-17.708	8
	MCH	-20.372	-20.284	-17.317	8
	HCH	-20.998	-20.921	-17.949	8
802.11n(H T40)	LCH	-22.588	-22.214	-19.387	8
	MCH	-22.36	-22.115	-19.225	8
	HCH	-22.603	-22.02	-19.291	8

module2 (OPS computer) Worst mode:

Mode	Channel.	Power Spectral Density [dBm /3KHz]	Limit(8 dBm (in any 3KHz))	Verdict
802.11b	LCH	-19.828	8	PASS
	MCH	-19.5	8	PASS
	HCH	-19.981	8	PASS
802.11g	LCH	-20.308	8	PASS
	MCH	-20.057	8	PASS
	HCH	-20.52	8	PASS
802.11n(H T20)	LCH	-20.836	8	PASS
	MCH	-20.454	8	PASS
	HCH	-21.025	8	PASS
802.11n(H T40)	LCH	-22.44	8	PASS
	MCH	-22.195	8	PASS
	HCH	-22.373	8	PASS

Test Graph
module1 Worst mode:

Graphs

802.11b /LCH



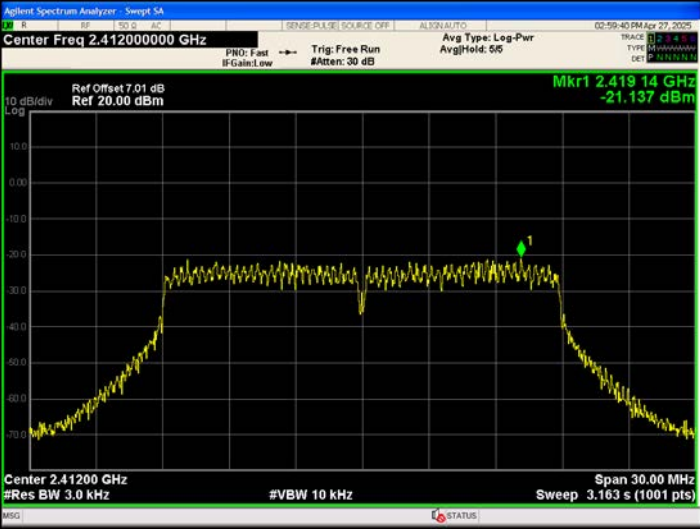
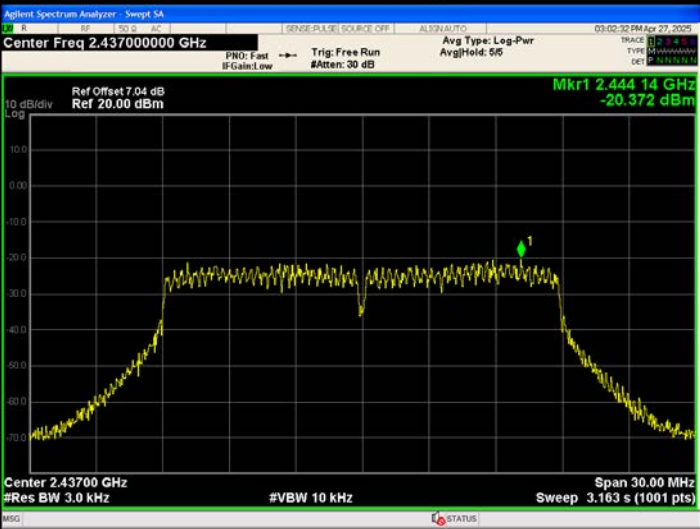
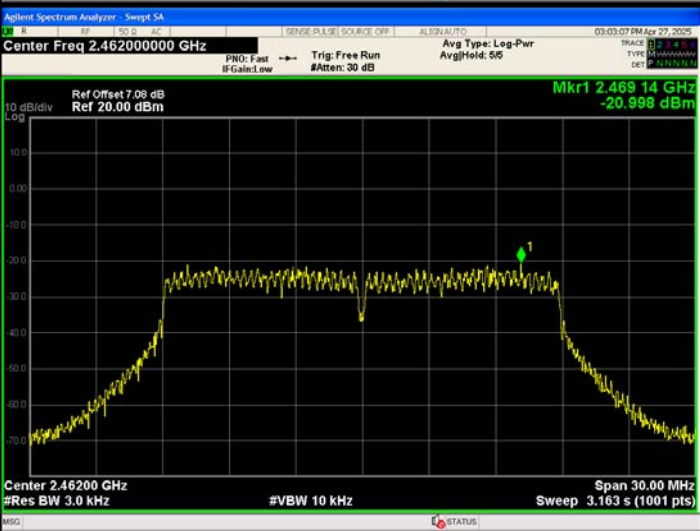
802.11b /MCH



802.11b/HCH

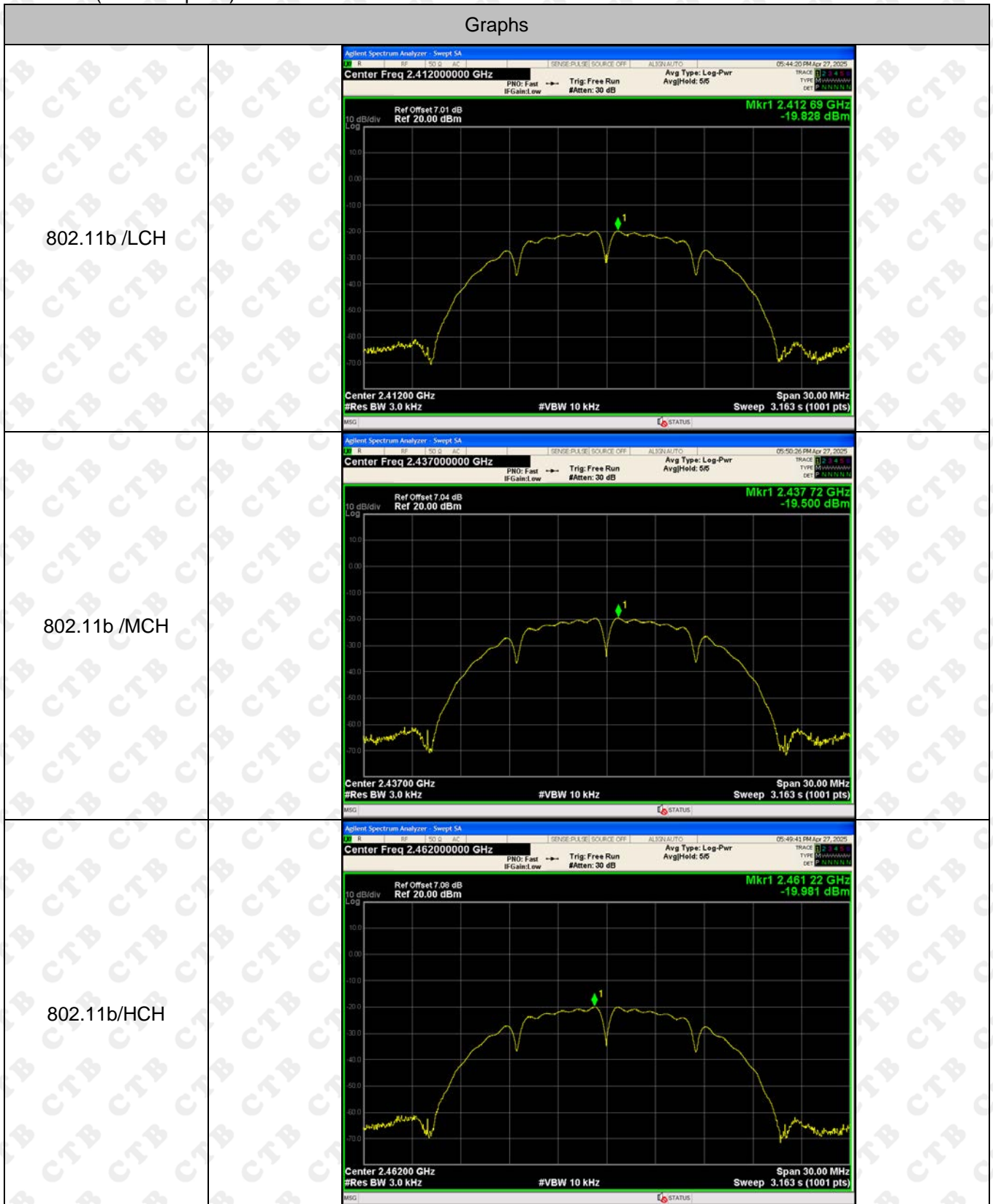


<p>802.11g/LCH</p>	<p>Agilent Spectrum Analyzer - Swept SA Center Freq 2.41200000 GHz Ref Offset 7.01 dB Ref 20.00 dBm Mkr1 2.416 35 GHz -20.136 dBm Center 2.41200 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 30.00 MHz Sweep 3.163 s (1001 pts)</p>
<p>802.11g/MCH</p>	<p>Agilent Spectrum Analyzer - Swept SA Center Freq 2.43700000 GHz Ref Offset 7.04 dB Ref 20.00 dBm Mkr1 2.441 35 GHz -20.033 dBm Center 2.43700 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 30.00 MHz Sweep 3.163 s (1001 pts)</p>
<p>802.11g/HCH</p>	<p>Agilent Spectrum Analyzer - Swept SA Center Freq 2.46200000 GHz Ref Offset 7.08 dB Ref 20.00 dBm Mkr1 2.457 02 GHz -20.684 dBm Center 2.46200 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 30.00 MHz Sweep 3.163 s (1001 pts)</p>

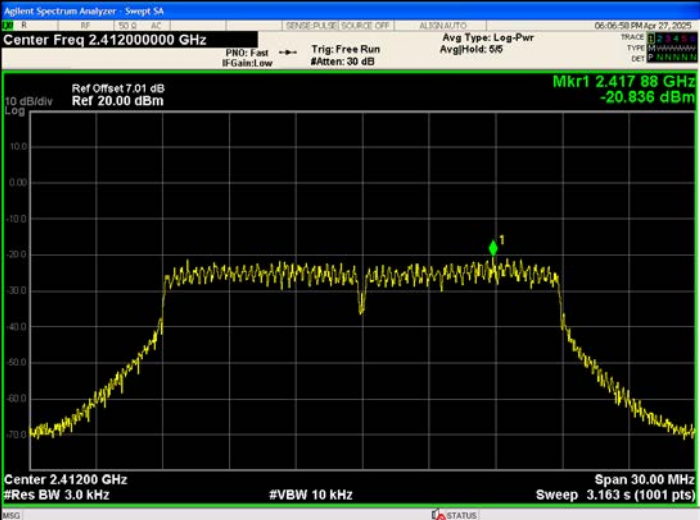
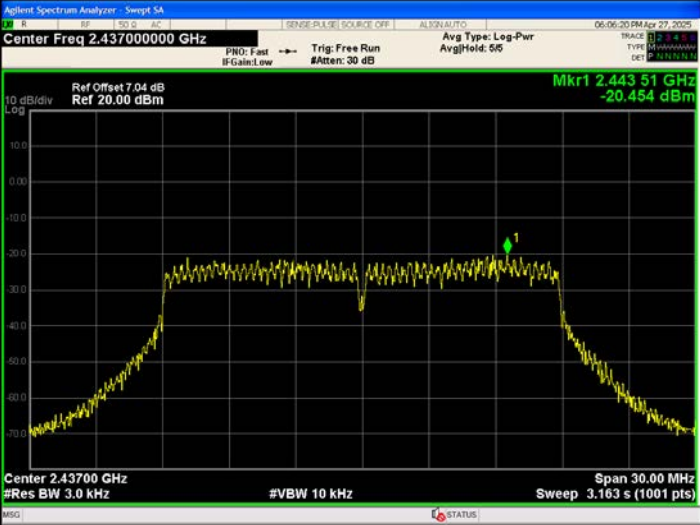

<p>802.11n(HT20)/LCH</p>	 <p>Agilent Spectrum Analyzer - Swept SA Center Freq 2.41200000 GHz Ref Offset 7.01 dB Ref 20.00 dBm Mkr1 2.41914 GHz -21.137 dBm Center 2.41200 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 30.00 MHz Sweep 3.163 s (1001 pts)</p>
<p>802.11n(HT20)/MCH</p>	 <p>Agilent Spectrum Analyzer - Swept SA Center Freq 2.43700000 GHz Ref Offset 7.04 dB Ref 20.00 dBm Mkr1 2.44414 GHz -20.372 dBm Center 2.43700 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 30.00 MHz Sweep 3.163 s (1001 pts)</p>
<p>802.11n(HT20)/HCH</p>	 <p>Agilent Spectrum Analyzer - Swept SA Center Freq 2.46200000 GHz Ref Offset 7.08 dB Ref 20.00 dBm Mkr1 2.46914 GHz -20.998 dBm Center 2.46200 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 30.00 MHz Sweep 3.163 s (1001 pts)</p>

<p>802.11n(HT40)/LCH</p>	<p>Agilent Spectrum Analyzer - Swept SA Center Freq 2.42200000 GHz Ref Offset 7 dB Ref 20.00 dBm Mkr1 2.43634 GHz -22.588 dBm Center 2.42200 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 60.00 MHz Sweep 6.326 s (1001 pts)</p>
<p>802.11n(HT40)/MCH</p>	<p>Agilent Spectrum Analyzer - Swept SA Center Freq 2.43700000 GHz Ref Offset 7.04 dB Ref 20.00 dBm Mkr1 2.43382 GHz -22.360 dBm Center 2.43700 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 60.00 MHz Sweep 6.326 s (1001 pts)</p>
<p>802.11n(HT40)/HCH</p>	<p>Agilent Spectrum Analyzer - Swept SA Center Freq 2.45200000 GHz Ref Offset 7.07 dB Ref 20.00 dBm Mkr1 2.44882 GHz -22.603 dBm Center 2.45200 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 60.00 MHz Sweep 6.326 s (1001 pts)</p>

module2 (OPS computer) Worst mode:



<p>802.11g/LCH</p>	
<p>802.11g/MCH</p>	
<p>802.11g/HCH</p>	

<p>802.11n(HT20)/LCH</p>	 <p>Agilent Spectrum Analyzer - Swept SA Center Freq 2.41200000 GHz Ref Offset 7.01 dB Ref 20.00 dBm Mkr1 2.417 88 GHz -20.836 dBm Center 2.41200 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 30.00 MHz Sweep 3.163 s (1001 pts)</p>
<p>802.11n(HT20)/MCH</p>	 <p>Agilent Spectrum Analyzer - Swept SA Center Freq 2.43700000 GHz Ref Offset 7.04 dB Ref 20.00 dBm Mkr1 2.443 51 GHz -20.454 dBm Center 2.43700 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 30.00 MHz Sweep 3.163 s (1001 pts)</p>
<p>802.11n(HT20)/HCH</p>	 <p>Agilent Spectrum Analyzer - Swept SA Center Freq 2.46200000 GHz Ref Offset 7.08 dB Ref 20.00 dBm Mkr1 2.454 14 GHz -21.025 dBm Center 2.46200 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 30.00 MHz Sweep 3.163 s (1001 pts)</p>

<p>802.11n(HT40)/LCH</p>	<p>Agilent Spectrum Analyzer - Swept SA Center Freq 2.42200000 GHz Ref Offset 7 dB Ref 20.00 dBm Mkr1 2.418 82 GHz -22.440 dBm Center 2.42200 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 60.00 MHz Sweep 6.326 s (1001 pts)</p>
<p>802.11n(HT40)/MCH</p>	<p>Agilent Spectrum Analyzer - Swept SA Center Freq 2.43700000 GHz Ref Offset 7.04 dB Ref 20.00 dBm Mkr1 2.433 82 GHz -22.195 dBm Center 2.43700 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 60.00 MHz Sweep 6.326 s (1001 pts)</p>
<p>802.11n(HT40)/HCH</p>	<p>Agilent Spectrum Analyzer - Swept SA Center Freq 2.45200000 GHz Ref Offset 7.07 dB Ref 20.00 dBm Mkr1 2.448 82 GHz -22.373 dBm Center 2.45200 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 60.00 MHz Sweep 6.326 s (1001 pts)</p>

12. ANTENNA REQUIREMENT

15.203 requirement:

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

15.247(b) (4) requirement:

The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

EUT Antenna:

The antenna is Dipole antenna and no consideration of replacement. The best case gain of the antenna is WiFi (2.4G) module1: ANT1: 1.92dBi, ANT2:1.92dBi
WiFi (2.4G) module2 (OPS computer): 2.95dBi

13. EUT TEST SETUP PHOTOGRAPHS

Radiated Emission

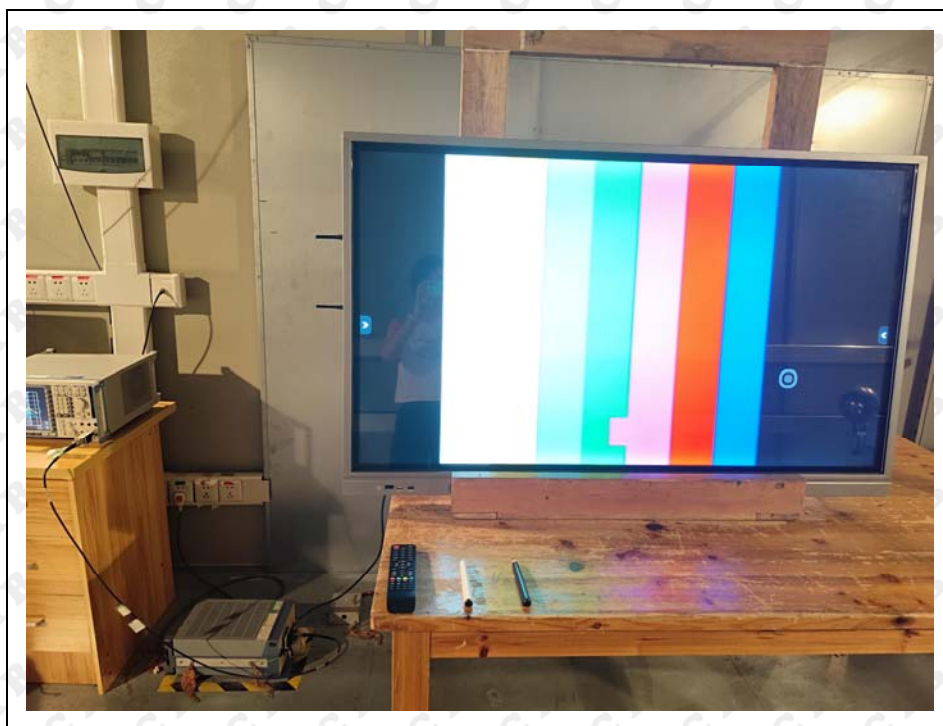
Below 1G



Above 1G



Conducted emissions



***** END OF REPORT *****