

FCC TEST REPORT

FCC ID:2BULY-KHEV-01

Product : EVIE

Model Name : KHEV-01

Brand :



Report No. : NCT260031316E

Prepared for

Little Hippo Inc.

24 Tiffany Circle, Manhasset NEW YORK 11030 USA

Prepared by

Shenzhen NCT Testing Technology Co., Ltd.

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1 TEST RESULT CERTIFICATION

Applicant : Little Hippo Inc.

Address : 24 Tiffany Circle, Manhasset NEW YORK 11030 USA

Manufacturer : A&H Design Group, Ltd

Address : Suite 608, Tower One, Harbour Centre 1 Hok Cheung Street, Hung Hom Kowloon, Hong Kong

Product name : EVIE

Model name : KHEV-01

Standards : FCC CFR47 Part 15 Section 15.247

Test procedure : ANSI C63.10:2020

Date of test : Jan. 05, 2026- Feb. 04, 2026

Date of Issue : Feb. 04, 2026

This device described above has been tested by NCT, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Test Engineer:

Keven Wu / Engineer

Technical Manager:

Henry Wang / Manager



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2 Test Summary

Test Items	Test Requirement	Result
Conduct Emission	FCC part 15.207	PASS
Radiated Spurious Emissions	FCC part 15.205/15.209	PASS
Conducted Spurious Emission	FCC part 15.205/15.209	PASS
Band edge	FCC part 15.247(d)	PASS
6dB&99% Bandwidth	FCC part 15.247 (a)(2)	PASS
Maximum Peak Output Power	FCC part 15.247 (b)(3)	PASS
Power Spectral Density	FCC part 15.247 (e)	PASS
Antenna Requirement	FCC part 15.203/15.247 (c)	PASS

Remark:

"N/A" denotes test is not applicable in this Test Report.

3 General Information

3.1 General Description of E.U.T.

Product Name	:	EVIE
Model Name	:	KHEV-01
Sample ID	:	NCT260031316-001#
Sample(s) Status:	:	Engineer sample
Series Model	:	N/A
Model Different.:	:	N/A
Specification	:	2.4G WIFI:802.11b/g/n HT20 BLE
Operation Frequency	:	2.4G WIFI:2412-2462MHz for 802.11b/g/n20 BLE:2402 MHz to 2480 MHz
Number of Channel	:	2.4G WIFI:11 channels for 802.11b/g/n20 BLE: 40 Channels
Type of Modulation	:	2.4G WIFI:DSSS with DBPSK/DQPSK/CCK for 802.11b; OFDM with BPSK/QPSK/16QAM/64QAM for 802.11g/n; BLE: GFSK
Antenna installation	:	PCB Antenna
Antenna Gain	:	2.54dBi
Power supply	:	DC 3.7V from Battery or DC 5V from adapter input AC 120V/60Hz
Adapter Information	:	Model: GQ12-050200-ZU Input:AC100-240V, 50/60Hz, 0.4Amax Output: DC5V 2A
Remark: the Antenna gain is provided by customer from Antenna spec. and the laboratory will not be responsible for the accumulated calculation results which covers the information provided by the applicant.		

3.2 Channel List

The EUT has been tested under its typical operating condition.

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

The Transmitter was operated in the normal operating mode. The TX frequency was fixed which was for the purpose of the measurements.

Test of channel included the lowest and middle and highest frequency to perform the test, then record on this report.

2.4G WIFI:

Those data rates (802.11b: 1 Mbps; 802.11g: 6 Mbps; 802.11n (HT20): MCS0; we used for all test.

Pre-defined engineering program for regulatory testing used to control the EUT for staying in continuous transmitting and receiving mode is programmed.

Frequency and Channel list for 802.11 b/g/n (HT20):

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

Test Frequency and Channel for 802.11 b/g/n (HT20):

Lowest Frequency		Middle Frequency		Highest Frequency	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2412	6	2437	11	2462

BLE:

The details of test channels and bandwidth were for RF conductive measurement.

Channel List:

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
00	2402	14	2430	28	2458
01	2404	15	2432	29	2460
02	2406	16	2434	30	2462
03	2408	17	2436	31	2464
04	2410	18	2438	32	2466
05	2412	19	2440	33	2468
06	2414	20	2442	34	2470
07	2416	21	2444	35	2472
08	2418	22	2446	36	2474
09	2420	23	2448	37	2476
10	2422	24	2450	38	2478
11	2424	25	2452	39	2480
12	2426	26	2454		
13	2428	27	2456		

lowest	middle	highest
2402 MHz	2440 MHz	2480 MHz

3.3 Test Site

Site Description

EMC Lab. : Accredited by CNAS, 2022-09-27

The certificate is valid until 2028.01.07

The Laboratory has been assessed and proved to be in compliance with CNAS-CL01:2006 (identical to ISO/IEC 17025:2017)

The Certificate Registration Number is L8251

Designation Number: CN1347

Test Firm Registration Number: 894804

Accredited by A2LA, June 14, 2023

The Certificate Registration Number is 6837.01

Accredited by Industry Canada, November 09, 2018

The Conformity Assessment Body Identifier is CN0150

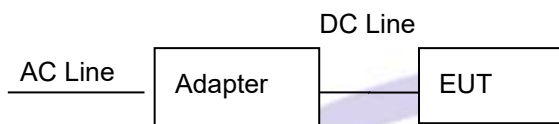
Company Number: 30806

Name of Firm : Shenzhen NCT Testing Technology Co., Ltd.

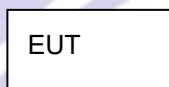
Site Location : A101&2F B2, Fuqiao 6th Area, Xintian Community, Fuhai Street, Baoan District, Shenzhen, People's Republic of China

3.4 Test Setup Configuration

Conducted Emission



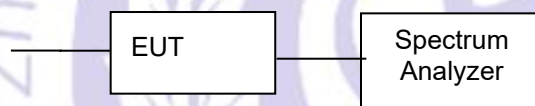
Radiated Emission



Radiated Spurious



Conducted Spurious



3.5 Test Mode

Transmitting mode	Keep the EUT in continuously transmitting mode.
Remark: During the test, the test voltage was tuned from 85% to 115% of the nominal rated supply voltage, and found that the worst case was under the nominal rated supply condition. So the report just shows that condition's data.	

2.4G WIFI:

Test Software	AmebaZ2_mptool
Power level setup	< 20 dBm

BLE:

Test Software	RTLBTAPP
Power level setup	< 20 dBm

4 Equipment During Test

4.1 Equipments List

Conducted emission Test Equipment

Name	Model No.	Serial No.	Manufacturer	Date of Cal.	Due Date
944 Shielded Room	944 Room	/	EMToni	2025/6/10	2028/6/09
EMI Test Receiver	ESPI	101604	RS	2025/6/10	2026/6/09
LISN	ENV 216	102796	RS	2025/6/10	2026/6/09
LISN	VN1-13S	004023	CRANAGE	2025/6/10	2026/6/09
Cable	RG223-1500MM	NA	RG	2025/6/21	2026/6/20

Radiated emission & Radio Frequency Test Equipment

Name	Model No.	Serial No.	Manufacturer	Date of Cal.	Due Date
966 Shielded Room	966 Room	/	EMToni	2025/6/10	2028/6/09
EMI Test Receiver	ESCI	101178	Rohde & Schwarz	2025/6/10	2026/6/09
Amplifier (30MHz-1GHz)	BBV 9743 B	00374	SCHNWARZBECK	2025/6/10	2026/6/09
Bilog Antenna (30MHz-1GHz)	VULB9162	00473	SCHNWARZBECK	2025/6/10	2026/6/09
Horn antenna (1GHz-18GHz)	BBHA 9120 D	02622	SCHNWARZBECK	2025/6/10	2026/6/09
Preamplifier (1GHz-18GHz)	BBV 9718D	0024	SCHNWARZBECK	2025/6/10	2026/6/09
Spectrum Analyzer (10Hz-40GHz)	FSV 40	100952	Rohde & Schwarz	2025/6/10	2026/6/09
Preamplifier (18GHz-40GHz)	BBV 9721	0056	SCHNWARZBECK	2025/6/10	2026/6/09
Double Ridge Guide Horn Antenna (18GHz-40GHz)	SAS-574	588	A.H.System	2025/6/10	2026/6/09
Loop Antenna (9KHz-30MHz)	FMZB 1513-60	00115	SCHNWARZBECK	2025/6/10	2026/6/09

Amplifier (9KHz-30MHz)	BBV 9745	00109	CHNWARZBECK	2025/6/10	2026/6/09
MXG Signal Analyzer	N9020A	MY50510202	Agilent	2025/6/10	2026/6/09
MXG Vector Signal Generator	N5182A	MY50140020	Agilent	2025/6/10	2026/6/09
MXG Analog Signal Generator	N5181A	MY47420919	Agilent	2025/6/10	2026/6/09
Power Sensor	TR1029-2	512364	Techoy	2025/6/10	2026/6/09
RF Swith	TR1029-1	512364	Techoy	2025/6/10	2026/6/09
Cable	DA800- 4000MM	NA	DA	2025/6/10	2026/6/09
Cable	DA800- 11000MM	NA	DA	2025/6/10	2026/6/09
Power Meter	E4416A	GB41292161	Agilent	2025/6/10	2026/6/09

Other

Item	Name	Manufacturer	Model	Software version
1	EMC Conduction Test System	AUDIX	e3	6.120718
2	EMC radiation test system	AUDIX	e3	6.120718
3	RF test system	TACHOY	RFTest	V1.0.0
4	RF communication test system	TACHOY	RFTest	V1.0.0

4.2 Measurement Uncertainty

Parameter	Uncertainty
RF output power, conducted	±1.0dB
Power Spectral Density, conducted	±2.2dB
Radio Frequency	± 1 x 10 ⁻⁶
Bandwidth	± 1.5 x 10 ⁻⁶
Time	±2%
Duty Cycle	±2%
Temperature	±1°C
Humidity	±5%
DC and low frequency voltages	±3%
Conducted Emissions (150kHz~30MHz)	±3.64dB
Radiated Emission(9KHz~30MHz)	±4.51dB
Radiated Emission(30MHz~1GHz)	±5.03dB
Radiated Emission(1GHz~25GHz)	±4.74dB
Radiated Emission(25GHz~40GHz)	±3.38dB
Remark: The coverage Factor (k=2), and measurement Uncertainty for a level of Confidence of 95%	

4.3 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note
E-1	EVIE		KHEV-01	N/A	EUT

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in 『Length』 column.



5 Conducted Emission

Test Requirement: : FCC CFR 47 Part 15 Section 15.207
Test Method : ANSI C63.10:2020
Test Result : PASS
Frequency Range : 150kHz to 30MHz
Class/Severity : Class B

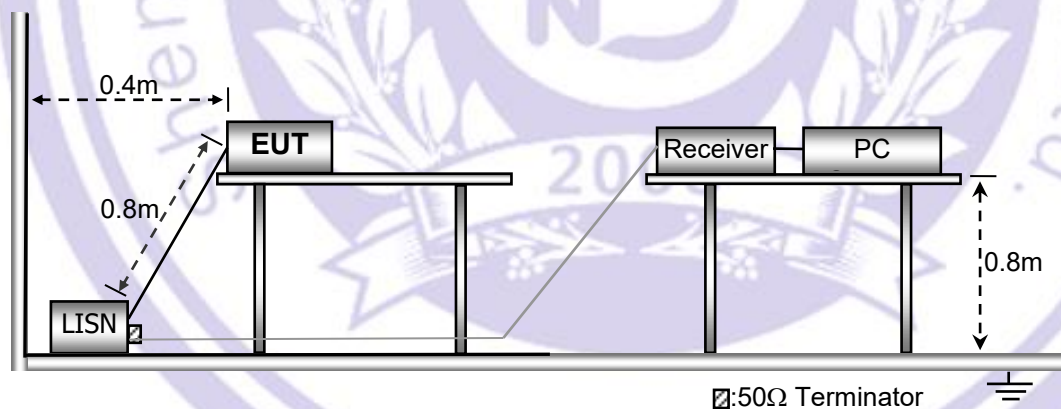
5.1 E.U.T. Operation

Operating Environment :

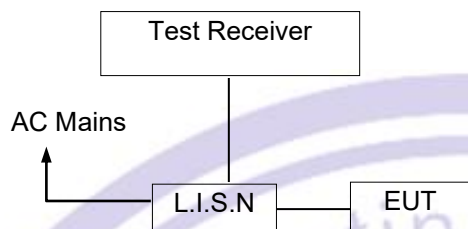
Temperature : 24.5 °C
Humidity : 51.3 % RH
Atmospheric Pressure : 101.11kPa

5.2 EUT Setup

The conducted emission tests were performed using the setup accordance with the ANSI C63.10:2020.



5.3 Test SET-UP (Block Diagram of Configuration)



5.4 Measurement Procedure

1. The EUT was placed on a table, which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. Repeat above procedures until all frequency measured was complete.

5.5 Conducted Emission Limit

Conducted Emission

Frequency(MHz)	Quasi-peak	Average
0.15-0.5	66-56	56-46
0.5-5.0	56	46
5.0-30.0	60	50

Note:

1. The lower limit shall apply at the transition frequencies
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

5.6 Measurement Description

The maximised peak emissions from the EUT was scanned and measured for both the Live and Neutral Lines. Quasi-peak & average measurements were performed if peak emissions were within 6dB of the average limit line.

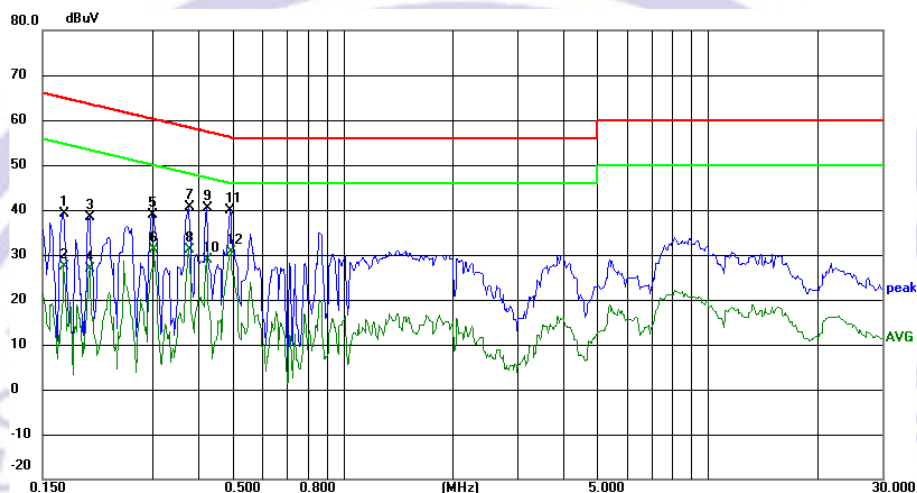
5.7 Conducted Emission Test Result

Pass.

Please refer to the following pages.

2.4G WIFI

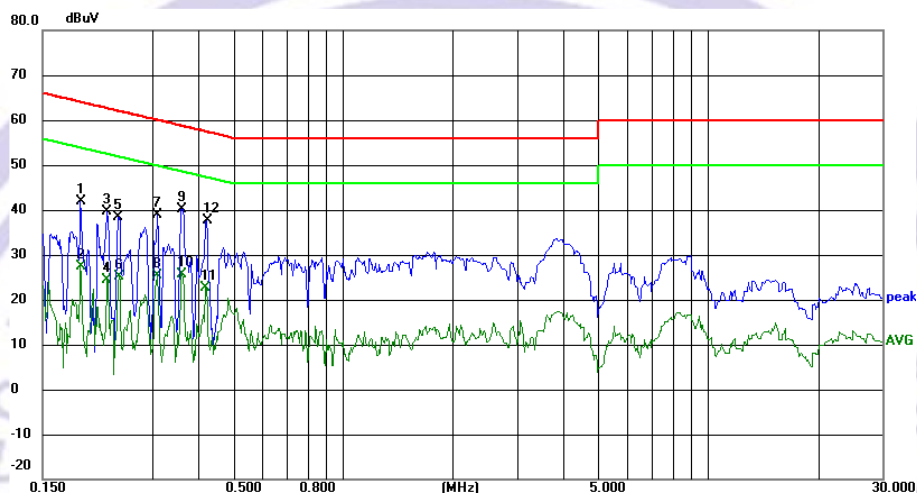
Temperature:	26°C	Relative Humidity:	54%
Pressure:	101kPa	Phase :	L
Test Voltage :	AC 120V/60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1712	29.04	10.14	39.18	64.90	-25.72	peak	P
2	0.1712	17.26	10.14	27.40	54.90	-27.50	AVG	P
3	0.2017	28.18	10.12	38.30	63.54	-25.24	peak	P
4	0.2017	16.68	10.12	26.80	53.54	-26.74	AVG	P
5	0.2986	28.76	10.21	38.97	60.28	-21.31	peak	P
6	0.3034	20.88	10.21	31.09	50.15	-19.06	AVG	P
7	0.3771	30.32	10.27	40.59	58.34	-17.75	peak	P
8	0.3771	20.85	10.27	31.12	48.34	-17.22	AVG	P
9	0.4214	30.04	10.31	40.35	57.42	-17.07	peak	P
10	0.4214	18.66	10.31	28.97	47.42	-18.45	AVG	P
11	0.4893	29.50	10.37	39.87	56.18	-16.31	peak	P
12 *	0.4914	20.18	10.37	30.55	46.14	-15.59	AVG	P

Notes: 1.An initial pre-scan was performed on the line and neutral lines with peak detector.
 2.Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
 3.Measurement Level = Reading level + Correct Factor

Temperature:	26°C	Relative Humidity:	54%
Pressure:	101kPa	Phase :	N
Test Voltage :	AC 120V/60Hz		



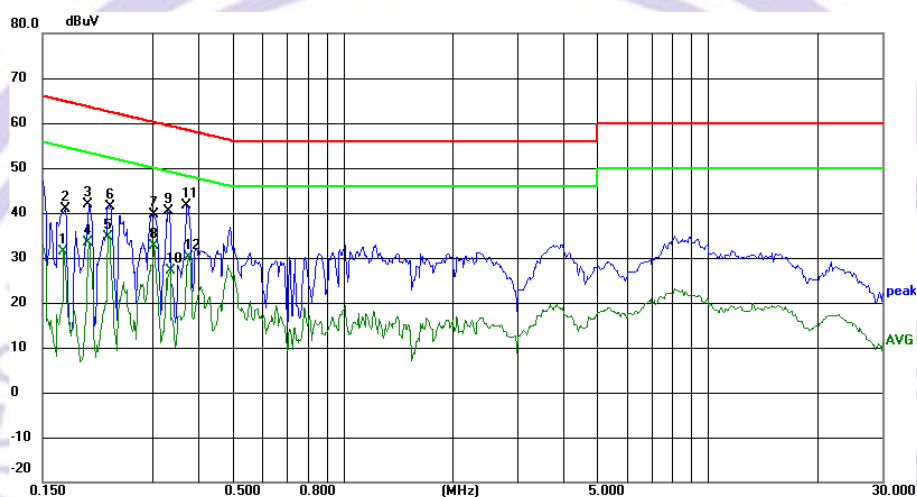
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1903	31.82	10.13	41.95	64.02	-22.07	peak	P
2	0.1903	17.23	10.13	27.36	54.02	-26.66	AVG	P
3	0.2243	29.40	10.14	39.54	62.66	-23.12	peak	P
4	0.2255	14.30	10.14	24.44	52.61	-28.17	AVG	P
5	0.2416	28.29	10.16	38.45	62.04	-23.59	peak	P
6	0.2436	15.06	10.16	25.22	51.97	-26.75	AVG	P
7	0.3100	28.64	10.22	38.86	59.97	-21.11	peak	P
8	0.3100	15.19	10.22	25.41	49.97	-24.56	AVG	P
9 *	0.3605	29.99	10.26	40.25	58.72	-18.47	peak	P
10	0.3605	15.47	10.26	25.73	48.72	-22.99	AVG	P
11	0.4192	12.34	10.31	22.65	47.46	-24.81	AVG	P
12	0.4229	27.20	10.31	37.51	57.39	-19.88	peak	P

Notes: 1.An initial pre-scan was performed on the line and neutral lines with peak detector.
2.Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3.Measurement Level = Reading level + Correct Factor

Conducted emission at both 120V & 240V is assessed, and emission at 120V represents the worst case. All the modulation modes were tested the data of the worst mode (802.11b: 1 Mbps, Highest channel) are recorded in the following pages and the others modulation methods do not exceed the limits.

BLE

Temperature:	26°C	Relative Humidity:	54%
Pressure:	101kPa	Phase :	L
Test Voltage :	AC 120V/60Hz		

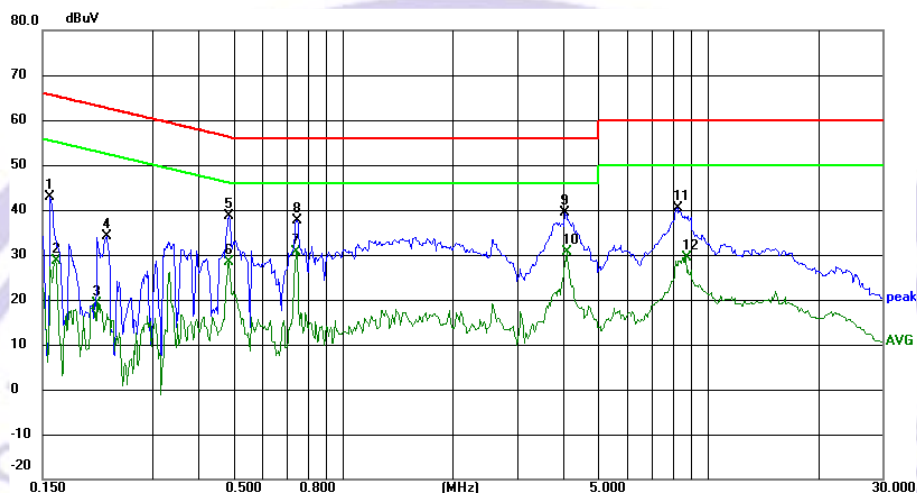


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1711	21.26	10.14	31.40	54.91	-23.51	AVG	P
2	0.1733	30.74	10.14	40.88	64.80	-23.92	peak	P
3	0.2006	31.87	10.12	41.99	63.59	-21.60	peak	P
4	0.2006	23.22	10.12	33.34	53.59	-20.25	AVG	P
5	0.2267	24.59	10.14	34.73	52.57	-17.84	AVG	P
6	0.2303	31.35	10.15	41.50	62.44	-20.94	peak	P
7	0.3019	29.42	10.21	39.63	60.19	-20.56	peak	P
8	0.3034	22.38	10.21	32.59	50.15	-17.56	AVG	P
9	0.3302	30.26	10.23	40.49	59.45	-18.96	peak	P
10	0.3371	16.84	10.24	27.08	49.27	-22.19	AVG	P
11 *	0.3723	31.38	10.27	41.65	58.45	-16.80	peak	P
12	0.3769	19.85	10.27	30.12	48.35	-18.23	AVG	P

Notes: 1.An initial pre-scan was performed on the line and neutral lines with peak detector.
 2.Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
 3.Measurement Level = Reading level + Correct Factor

Temperature:	26°C	Relative Humidity:	54%
--------------	------	--------------------	-----

Pressure:	101kPa	Phase :	N
Test Voltage :	AC 120V/60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1577	32.76	10.15	42.91	65.58	-22.67	peak	P
2	0.1623	18.39	10.15	28.54	55.35	-26.81	AVG	P
3	0.2104	8.88	10.13	19.01	53.19	-34.18	AVG	P
4	0.2242	23.90	10.14	34.04	62.66	-28.62	peak	P
5	0.4863	28.36	10.37	38.73	56.23	-17.50	peak	P
6	0.4863	17.97	10.37	28.34	46.23	-17.89	AVG	P
7	0.7467	20.21	10.38	30.59	46.00	-15.41	AVG	P
8	0.7469	27.24	10.38	37.62	56.00	-18.38	peak	P
9	4.0567	29.10	10.27	39.37	56.00	-16.63	peak	P
10 *	4.1073	20.44	10.26	30.70	46.00	-15.30	AVG	P
11	8.2350	21.85	18.50	40.35	60.00	-19.65	peak	P
12	8.7211	10.29	19.02	29.31	50.00	-20.69	AVG	P

Notes: 1.An initial pre-scan was performed on the line and neutral lines with peak detector.
2.Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3.Measurement Level = Reading level + Correct Factor

Conducted emission at both 120V & 240V is assessed, and emission at 120V represents the worst case. All the modulation modes were tested the data of the worst mode (GFSK, Highest channel) are recorded in the following pages and the others modulation methods do not exceed the limits.

6 Radiated Spurious Emissions

Test Requirement : FCC CFR47 Part 15 Section 15.209 & 15.247
Test Method : ANSI C63.10:2020
Test Result : PASS
Measurement Distance : 3m
Limit : See the follow table

Frequency (MHz)	Field Strength		Field Strength Limit at 3m Measurement Dist	
	uV/m	Distance (m)	uV/m	dBuV/m
0.009 ~ 0.490	$2400/F(\text{kHz})$	300	$10000 * 2400/F(\text{kHz})$	$20\log^{(2400/F(\text{kHz}))} + 80$
0.490 ~ 1.705	$24000/F(\text{kHz})$	30	$100 * 24000/F(\text{kHz})$	$20\log^{(24000/F(\text{kHz}))} + 40$
1.705 ~ 30	30	30	$100 * 30$	$20\log^{(30)} + 40$
30 ~ 88	100	3	100	$20\log^{(100)}$
88 ~ 216	150	3	150	$20\log^{(150)}$
216 ~ 960	200	3	200	$20\log^{(200)}$
Above 960	500	3	500	$20\log^{(500)}$

6.1 EUT Operation

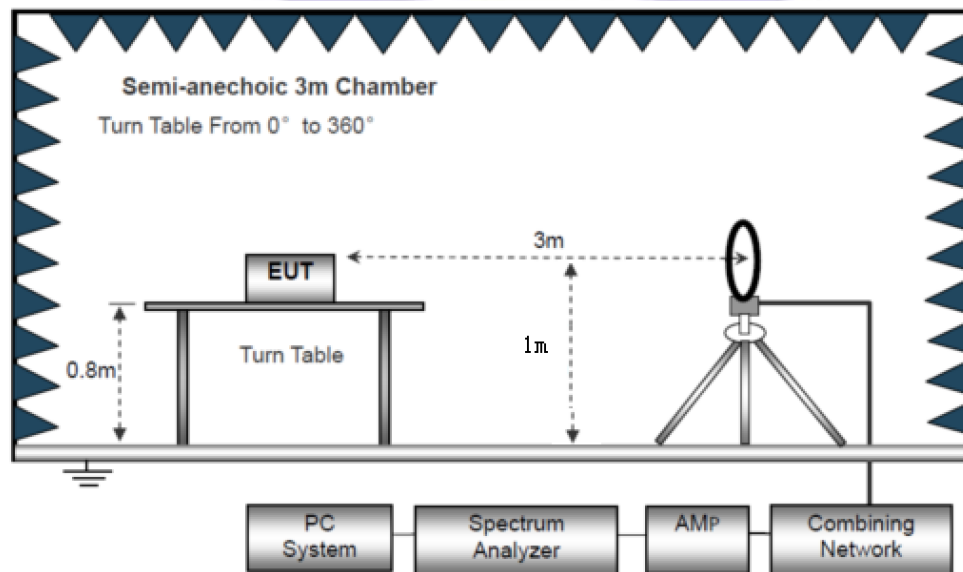
Operating Environment :

Temperature: : 24.5°C
Humidity: : 52 % RH
Atmospheric Pressure: : 101.11kPa
Test Voltage : DC3.7V

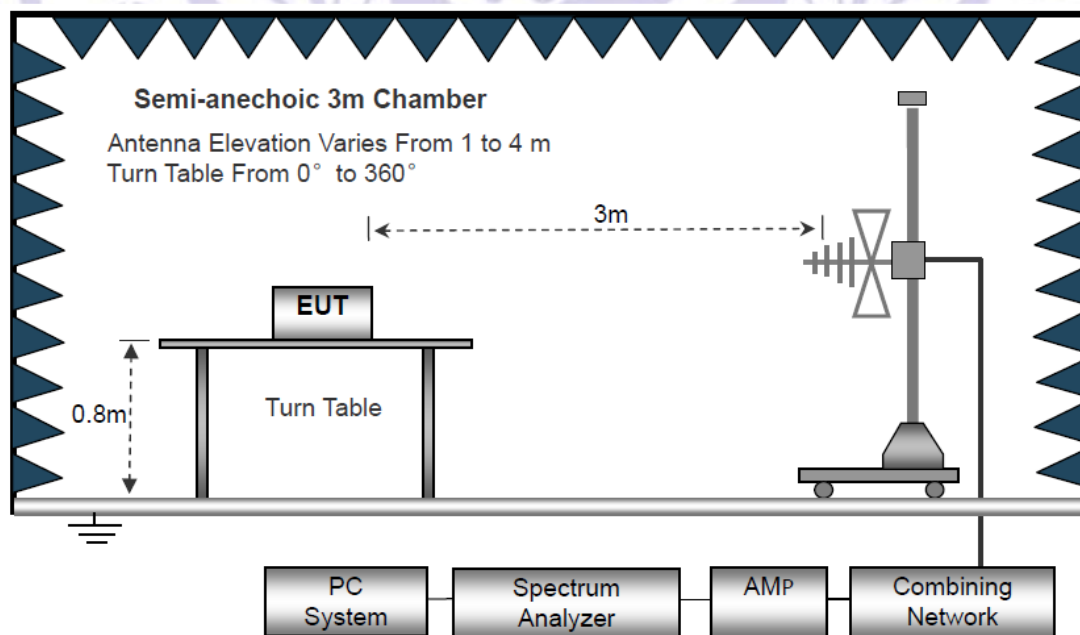
6.2 Test Setup

The radiated emission tests were performed in the 3m Semi- Anechoic Chamber test site

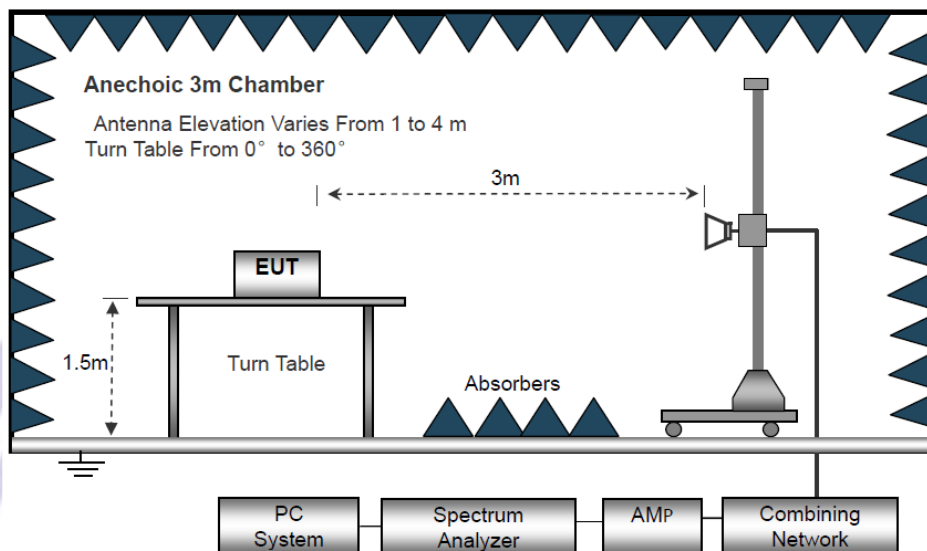
The test setup for emission measurement below 30MHz



The test setup for emission measurement from 30 MHz to 1 GHz.



The test setup for emission measurement above 1 GHz



6.3 Spectrum Analyzer Setup

Below 30MHz			
IF Bandwidth	:	10kHz	
Resolution Bandwidth	:	10kHz	
Video Bandwidth	:	10kHz	
30MHz ~ 1GHz			
Detector	:	PK	QP
Resolution Bandwidth	:	100kHz	120kHz
Video Bandwidth	:	300kHz	300kHz
Above 1GHz			
Detector	:	PK	AV
Resolution Bandwidth	:	1MHz	1MHz
Video Bandwidth	:	3MHz	10Hz

6.4 Test Procedure

1. Below 1000MHz, The EUT was placed on a turn table which is 0.8m above ground plane, And above 1000MHz, The EUT was placed on a styrofoam table which is 1.5m above ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is moved from 1m to 4m to find out the maximum emissions. The spectrum was investigated from the lowest radio frequency signal generated in the device, without going below 9 kHz, up to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Repeat above procedures until the measurements for all frequencies are complete.
7. The radiation measurements are tested under 3-axes(X,Y,Z) position(X denotes lying on the table, Y denotes side stand and Z denotes vertical stand), After pre-test, It was found that the worse radiation emission was get at the X position. So the data shown was the X position only.
8. The test above 1GHz must be use the fully anechoic room, and the test below 1GHz use the half anechoic room

For Average Measurement:

$VBW=10\text{Hz}$, when duty cycle is no less than 98 percent.

$VBW \geq 1/T$, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

6.5 Summary of Test Results

Test Frequency: 9KHz-30MHz

Freq. (MHz)	Ant.Pol. H/V	Emission Level (dBuV/m)	Limit 3m (dBuV/m)	Over (dB)
--	--	--	--	>20

Note:

The amplitude of spurious emission that is attenuated by more than 20dB below the permissible limit has no need to be reported.

Distance extrapolation factor = $40 \log(\text{Specific distance} / \text{test distance})$ (dB);
Limit line = Specific limits (dBuV) + distance extrapolation factor.

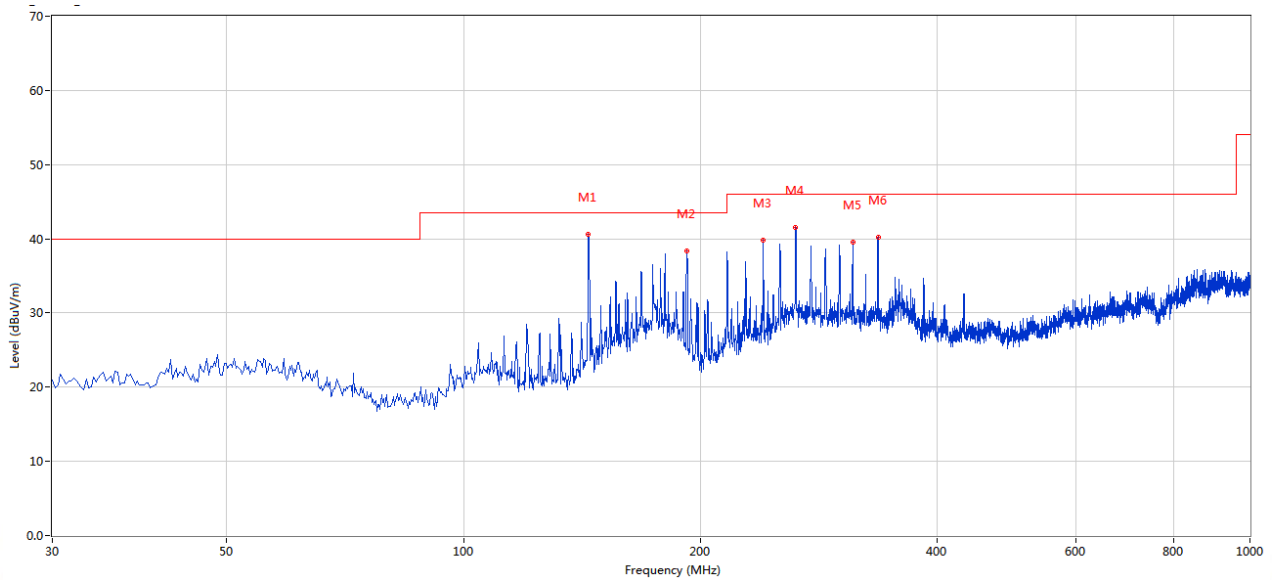
2.4GWIFI:

Test Frequency: 30MHz ~ 1GHz

All the modulation modes were tested the data of the worst mode (TX 802.11b Low Channel) are recorded in the following pages and the others modulation methods do not exceed the limits.

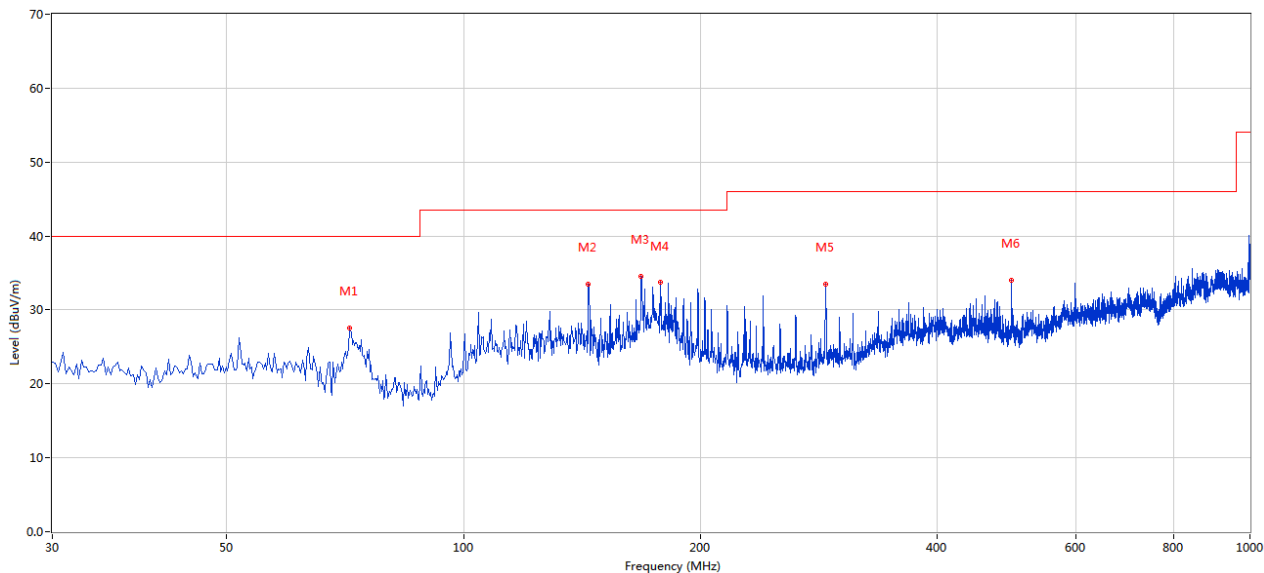
Please refer to the following test plots:

TX 802.11b Low Channel



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna	Verdict
1	144.189	40.63	-12.93	43.5	2.87	Peak	Horizontal	Pass
2	192.434	38.42	-11.01	43.5	5.08	Peak	Horizontal	Pass
3	240.437	39.83	-8.93	46.0	6.17	Peak	Horizontal	Pass
4	264.439	41.51	-8.68	46.0	4.49	Peak	Horizontal	Pass
5	312.684	39.56	-7.88	46.0	6.44	Peak	Horizontal	Pass
6	336.686	40.22	-6.20	46.0	5.78	Peak	Horizontal	Pass

TX 802.11b Low Channel



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna	Verdict
1	71.700	27.59	-11.22	40.0	12.41	Peak	Vertical	Pass
2	144.189	33.48	-12.93	43.5	10.02	Peak	Vertical	Pass
3	168.190	34.60	-11.84	43.5	8.90	Peak	Vertical	Pass
4	178.130	33.68	-11.29	43.5	9.82	Peak	Vertical	Pass
5	288.925	33.55	-7.87	46.0	12.45	Peak	Vertical	Pass
6	497.423	34.02	-4.65	46.0	11.98	Peak	Vertical	Pass

Remark: Emission Level = Reading + Cable Loss + ANT Factor

Test Frequency: From 1GHz to 25GHz

Mode: TX 802.11b

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre- amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/ m)	Margin (dB)	Detect or Type
Low Channel:2412MHz									
V	4824.00	47.61	34.12	5.03	32.39	50.91	74.00	-23.09	PK
V	4824.00	38.38	34.12	5.03	32.39	41.68	54.00	-12.32	AV
V	7236.00	46.97	32.54	6.29	35.86	56.58	74.00	-17.42	PK
V	7236.00	30.15	32.54	6.29	35.86	39.76	54.00	-14.24	AV
V	9648.00	37.17	32.98	7.55	38.40	50.14	74.00	-23.86	PK
V	9648.00	26.63	32.98	7.55	38.40	39.6	54.00	-14.4	AV
V	12060.00	35.26	32.09	8.93	39.00	51.1	74.00	-22.9	PK
V	12060.00	22.81	32.09	8.93	39.00	38.65	54.00	-15.35	AV
H	4824.00	50.53	34.12	5.03	32.39	53.83	74.00	-20.17	PK
H	4824.00	37.87	34.12	5.03	32.39	41.17	54.00	-12.83	AV
H	7236.00	40.95	32.54	6.29	35.86	50.56	74.00	-23.44	PK
H	7236.00	28.06	32.54	6.29	35.86	37.67	54.00	-16.33	AV
H	9648.00	40.13	32.98	7.55	38.40	53.1	74.00	-20.90	PK
H	9648.00	26.30	32.98	7.55	38.40	39.27	54.00	-14.73	AV
H	12060.00	35.88	32.09	8.93	39.00	51.72	74.00	-22.28	PK
H	12060.00	28.14	32.09	8.93	39.00	43.98	54.00	-10.02	AV

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre- amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/ m)	Margin (dB)	Detect or Type
Middle Channel:2437MHz									
V	4874.00	48.46	34.07	5.09	32.59	52.07	74.00	-21.93	PK
V	4874.00	39.89	34.07	5.09	32.59	43.50	54.00	-10.50	AV
V	7311.00	45.75	32.63	6.34	35.96	55.42	74.00	-18.58	PK
V	7311.00	33.60	32.63	6.34	35.96	43.27	54.00	-10.73	AV
V	9748.00	43.95	32.92	7.59	38.40	57.02	74.00	-16.98	PK
V	9748.00	31.02	32.92	7.59	38.40	44.09	54.00	-9.91	AV
V	12185.00	44.86	31.96	8.88	39.04	60.82	74.00	-13.18	PK
V	12185.00	28.09	31.96	8.88	39.04	44.05	54.00	-9.95	AV
H	4874.00	50.17	34.07	5.09	32.59	53.78	74.00	-20.22	PK
H	4874.00	34.51	34.07	5.09	32.59	38.12	54.00	-15.88	AV
H	7311.00	40.87	32.63	6.34	35.96	50.54	74.00	-23.46	PK
H	7311.00	34.19	32.63	6.34	35.96	43.86	54.00	-10.14	AV
H	9748.00	44.04	32.92	7.59	38.40	57.11	74.00	-16.89	PK
H	9748.00	31.58	32.92	7.59	38.40	44.65	54.00	-9.35	AV
H	12185.00	35.46	31.96	8.88	39.04	51.42	74.00	-22.58	PK
H	12185.00	23.58	31.96	8.88	39.04	39.54	54.00	-14.46	AV

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre- amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/ m)	Margin (dB)	Detect or Type
High Channel:2462MHz									
V	4924.00	46.88	34.02	5.15	32.8	50.81	74.00	-23.19	PK
V	4924.00	36.76	34.02	5.15	32.8	40.69	54.00	-13.31	AV
V	7386.00	40.05	32.71	6.40	36.05	49.79	74.00	-24.21	PK
V	7386.00	29.62	32.71	6.40	36.05	39.36	54.00	-14.64	AV
V	9848.00	40.38	32.86	7.62	38.4	53.54	74.00	-20.46	PK
V	9848.00	27.04	32.86	7.62	38.4	40.20	54.00	-13.80	AV
V	12310.00	39.53	31.82	8.84	39.08	55.63	74.00	-18.37	PK
V	12310.00	25.18	31.82	8.84	39.08	41.28	54.00	-12.72	AV
H	4924.00	48.92	34.02	5.15	32.8	52.85	74.00	-21.15	PK
H	4924.00	35.12	34.02	5.15	32.8	39.05	54.00	-14.95	AV
H	7386.00	44.40	32.71	6.4	36.05	54.14	74.00	-19.86	PK
H	7386.00	27.84	32.71	6.4	36.05	37.58	54.00	-16.42	AV
H	9848.00	40.19	32.86	7.62	38.4	53.35	74.00	-20.65	PK
H	9848.00	27.40	32.86	7.62	38.4	40.56	54.00	-13.44	AV
H	12310.00	36.12	31.82	8.84	39.08	52.22	74.00	-21.78	PK
H	12310.00	25.60	31.82	8.84	39.08	41.70	54.00	-12.30	AV

Note:

1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier,
Margin= Emission Level - Limit
2. If peak below the average limit, the average emission was no test.
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.
4. We test all the mode and recorded the worst mode (TX 802.11b) in the report.

Radiated Band Emission Measurement:

	Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB/m)	Emission level (dBuV/m)	Limit (dBuV/m)	Detector Type	Result
802.11b	Low Channel 2412MHz									
	H	2310.00	55.17	35.17	3.48	27.49	50.97	74.00	PK	PASS
	H	2310.00	46.08	35.17	3.48	27.49	41.88	54.00	AV	PASS
	H	2390.00	58.99	35.17	3.48	27.49	54.79	74.00	PK	PASS
	H	2390.00	49.87	35.17	3.48	27.49	45.67	54.00	AV	PASS
	H	2400.00	60.99	35.16	3.49	27.52	56.84	74.00	PK	PASS
	H	2400.00	50.17	35.16	3.49	27.52	46.02	54.00	AV	PASS
	V	2310.00	55.17	35.17	3.48	27.49	50.97	74.00	PK	PASS
	V	2310.00	46.74	35.17	3.48	27.49	42.54	54.00	AV	PASS
	V	2390.00	58.37	35.17	3.48	27.49	54.17	74.00	PK	PASS
	V	2390.00	51.81	35.17	3.48	27.49	47.61	54.00	AV	PASS
	V	2400.00	60.46	35.16	3.49	27.52	56.31	74.00	PK	PASS
	V	2400.00	50.85	35.16	3.49	27.52	46.70	54.00	AV	PASS
	High Channel 2462MHz									
	H	2483.50	58.44	35.11	3.56	27.75	54.64	74.00	PK	PASS
	H	2483.50	49.31	35.11	3.56	27.75	45.51	54.00	AV	PASS
	H	2500.00	61.25	35.1	3.57	27.8	57.52	74.00	PK	PASS
	H	2500.00	51.75	35.1	3.57	27.8	48.02	54.00	AV	PASS
	V	2483.50	59.64	35.11	3.56	27.75	55.84	74.00	PK	PASS
	V	2483.50	50.80	35.11	3.56	27.75	47.00	54.00	AV	PASS
	V	2500.00	59.29	35.1	3.57	27.80	55.56	74.00	PK	PASS
	V	2500.00	50.85	35.1	3.57	27.80	47.12	54.00	AV	PASS
802.11g	Low Channel 2412MHz									

	H	2310.00	55.47	35.17	3.48	27.49	51.27	74.00	PK	PASS
	H	2310.00	47.02	35.17	3.48	27.49	42.82	54.00	AV	PASS
	H	2390.00	58.27	35.17	3.48	27.49	54.07	74.00	PK	PASS
	H	2390.00	50.52	35.17	3.48	27.49	46.32	54.00	AV	PASS
	H	2400.00	60.09	35.16	3.49	27.52	55.94	74.00	PK	PASS
	H	2400.00	49.76	35.16	3.49	27.52	45.61	54.00	AV	PASS
	V	2310.00	55.32	35.17	3.48	27.49	51.12	74.00	PK	PASS
	V	2310.00	46.11	35.17	3.48	27.49	41.91	54.00	AV	PASS
	V	2390.00	57.17	35.17	3.48	27.49	52.97	74.00	PK	PASS
	V	2390.00	49.26	35.17	3.48	27.49	45.06	54.00	AV	PASS
	V	2400.00	59.05	35.16	3.49	27.52	54.90	74.00	PK	PASS
	V	2400.00	49.33	35.16	3.49	27.52	45.18	54.00	AV	PASS
	High Channel 2462MHz									
	H	2483.50	57.33	35.11	3.56	27.75	53.53	74.00	PK	PASS
	H	2483.50	49.16	35.11	3.56	27.75	45.36	54.00	AV	PASS
	H	2500.00	59.21	35.1	3.57	27.8	55.48	74.00	PK	PASS
	H	2500.00	50.01	35.1	3.57	27.8	46.28	54.00	AV	PASS
	V	2483.50	57.88	35.11	3.56	27.75	54.08	74.00	PK	PASS
	V	2483.50	50.26	35.11	3.56	27.75	46.46	54.00	AV	PASS
	V	2500.00	58.16	35.1	3.57	27.8	54.43	74.00	PK	PASS
	V	2500.00	49.33	35.1	3.57	27.8	45.60	54.00	AV	PASS
802.11 n20	Low Channel 2412MHz									
	H	2310.00	54.46	35.17	3.48	27.49	50.26	74.00	PK	PASS
	H	2310.00	45.88	35.17	3.48	27.49	41.68	54.00	AV	PASS
	H	2390.00	58.02	35.17	3.48	27.49	53.82	74.00	PK	PASS
	H	2390.00	50.01	35.17	3.48	27.49	45.81	54.00	AV	PASS

H	2400.00	60.15	35.16	3.49	27.52	56.00	74.00	PK	PASS
H	2400.00	49.17	35.16	3.49	27.52	45.02	54.00	AV	PASS
V	2310.00	54.34	35.17	3.48	27.49	50.14	74.00	PK	PASS
V	2310.00	45.28	35.17	3.48	27.49	41.08	54.00	AV	PASS
V	2390.00	58.16	35.17	3.48	27.49	53.96	74.00	PK	PASS
V	2390.00	49.27	35.17	3.48	27.49	45.07	54.00	AV	PASS
V	2400.00	60.01	35.16	3.49	27.52	55.86	74.00	PK	PASS
V	2400.00	50.15	35.16	3.49	27.52	46.00	54.00	AV	PASS
High Channel 2462MHz									
H	2483.50	58.05	35.11	3.56	27.75	54.25	74.00	PK	PASS
H	2483.50	49.35	35.11	3.56	27.75	45.55	54.00	AV	PASS
H	2500.00	59.44	35.1	3.57	27.8	55.71	74.00	PK	PASS
H	2500.00	49.27	35.1	3.57	27.8	45.54	54.00	AV	PASS
V	2483.50	58.37	35.11	3.56	27.75	54.57	74.00	PK	PASS
V	2483.50	50.16	35.11	3.56	27.75	46.36	54.00	AV	PASS
V	2500.00	59.02	35.1	3.57	27.8	55.29	74.00	PK	PASS
V	2500.00	50.03	35.1	3.57	27.8	46.30	54.00	AV	PASS
Remark: 1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier, Margin= Emission Level - Limit 2. We test all the mode and recorded the worst mode in the report.									

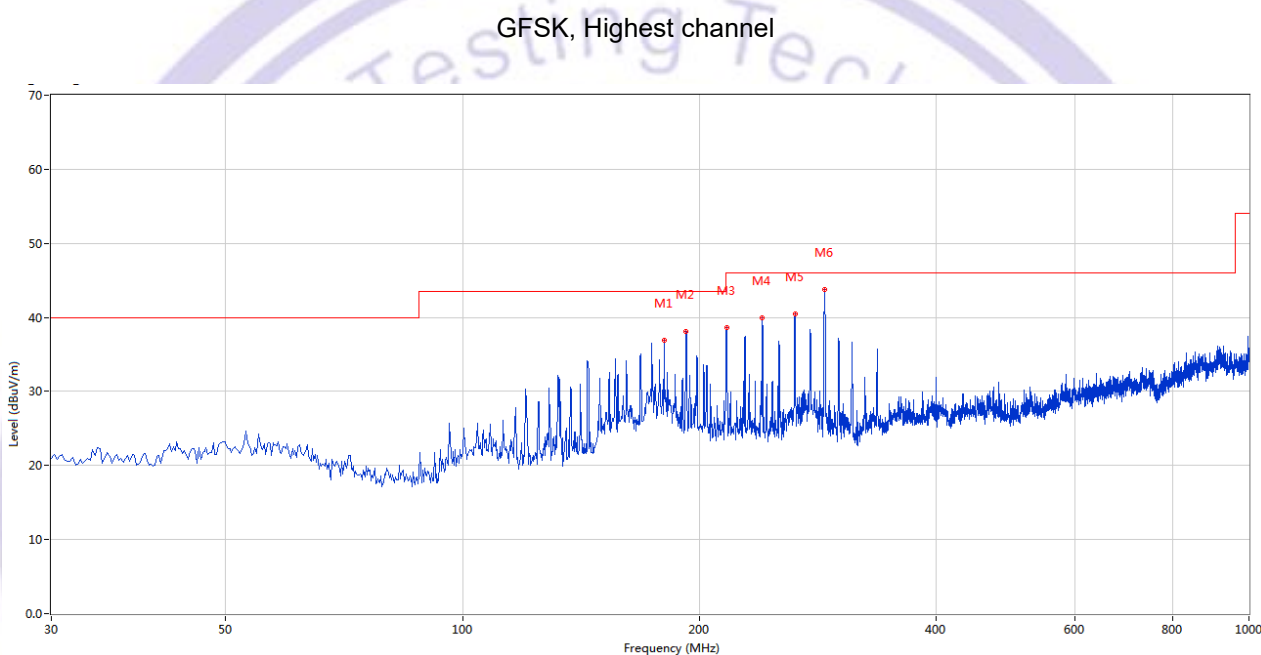
BLE

Test Frequency: 30MHz ~ 1GHz

Pass.

Please refer to the following test plots for the worst test mode (GFSK, Highest channel).

Test plot for Horizontal

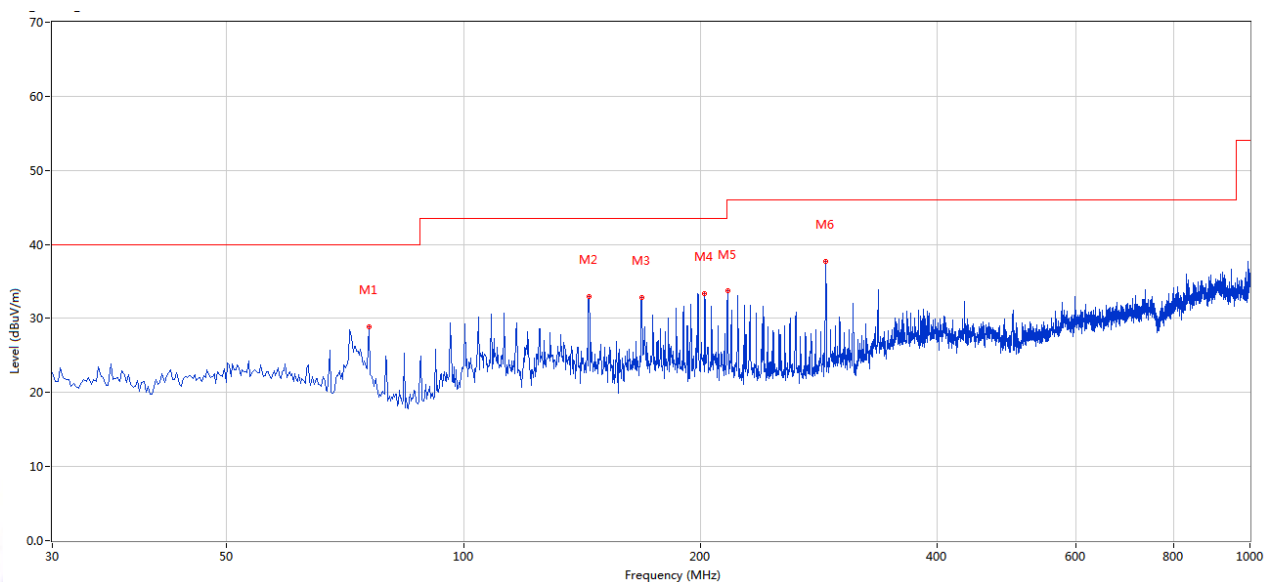


No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	ANT	Verdict
1	180.555	36.91	-11.27	43.5	6.59	Peak	Horizontal	Pass
2	192.434	38.07	-11.01	43.5	5.43	Peak	Horizontal	Pass
3	216.678	38.59	-9.80	46.0	7.41	Peak	Horizontal	Pass
4	240.680	39.90	-8.92	46.0	6.10	Peak	Horizontal	Pass
5	264.681	40.53	-8.71	46.0	5.47	Peak	Horizontal	Pass
6	288.683	43.78	-7.87	46.0	2.22	Peak	Horizontal	Pass

Remark: Emission Level = Reading + Cable Loss + ANT Factor - AMP Factor

Test plot for Vertical

GFSK, Highest channel



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	ANT	Verdict
1	75.821	28.87	-12.51	40.0	11.13	Peak	Vertical	Pass
2	144.431	32.98	-12.98	43.5	10.52	Peak	Vertical	Pass
3	168.433	32.81	-11.86	43.5	10.69	Peak	Vertical	Pass
4	202.617	33.34	-10.73	43.5	10.16	Peak	Vertical	Pass
5	216.678	33.69	-9.80	46.0	12.31	Peak	Vertical	Pass
6	288.925	37.74	-7.87	46.0	8.26	Peak	Vertical	Pass

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Test Frequency 1GHz-25GHz:

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre- amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel:2402MHz									
V	4804.00	56.44	34.12	5.03	32.39	59.74	74.00	-14.26	Pk
V	4804.00	41.03	34.12	5.03	32.39	44.33	54.00	-9.67	AV
V	7206.00	48.56	32.54	6.29	35.86	58.17	74.00	-15.83	Pk
V	7206.00	32.68	32.54	6.29	35.86	42.29	54.00	-11.71	AV
V	9608.00	43.36	32.98	7.55	38.4	56.33	74.00	-17.67	Pk
V	9608.00	31.08	32.98	7.55	38.4	44.05	54.00	-9.95	AV
V	12010.00	41.57	32.09	8.93	39	57.41	74.00	-16.59	Pk
V	12010.00	26.51	32.09	8.93	39	42.35	54.00	-11.65	AV
H	4804.00	56.45	34.12	5.03	32.39	59.75	74.00	-14.25	Pk
H	4804.00	40.04	34.12	5.03	32.39	43.34	54.00	-10.66	AV
H	7206.00	49.63	32.54	6.29	35.86	59.24	74.00	-14.76	Pk
H	7206.00	33.74	32.54	6.29	35.86	43.35	54.00	-10.65	AV
H	9608.00	47.43	32.98	7.55	38.4	60.40	74.00	-13.60	Pk
H	9608.00	31.41	32.98	7.55	38.4	44.38	54.00	-9.62	AV
H	12010.00	38.15	32.09	8.93	39	53.99	74.00	-20.01	Pk
H	12010.00	28.87	32.09	8.93	39	44.71	54.00	-9.29	AV

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre- amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Middle Channel:2440MHz									
V	4880.00	55.32	34.07	5.09	32.59	58.93	74.00	-15.07	Pk
V	4880.00	37.62	34.07	5.09	32.59	41.23	54.00	-12.77	AV
V	7320.00	47.08	32.63	6.34	35.96	56.75	74.00	-17.25	Pk
V	7320.00	33.21	32.63	6.34	35.96	42.88	54.00	-11.12	AV
V	9760.00	43.05	32.92	7.59	38.4	56.12	74.00	-17.88	Pk
V	9760.00	30.54	32.92	7.59	38.4	43.61	54.00	-10.39	AV
V	12200.00	42.01	31.96	8.88	39.04	57.97	74.00	-16.03	Pk
V	12200.00	27.05	31.96	8.88	39.04	43.01	54.00	-10.99	AV
H	4880.00	56.02	34.07	5.09	32.59	59.63	74.00	-14.37	Pk
H	4880.00	38.77	34.07	5.09	32.59	42.38	54.00	-11.62	AV
H	7320.00	49.57	32.63	6.34	35.96	59.24	74.00	-14.76	Pk
H	7320.00	33.01	32.63	6.34	35.96	42.68	54.00	-11.32	AV
H	9760.00	46.35	32.92	7.59	38.4	59.42	74.00	-14.58	Pk
H	9760.00	29.02	32.92	7.59	38.4	42.09	54.00	-11.91	AV
H	12200.00	41.17	31.96	8.88	39.04	57.13	74.00	-16.87	Pk
H	12200.00	27.98	31.96	8.88	39.04	43.94	54.00	-10.06	AV

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre- amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
High Channel:2480MHz									
V	4960.00	54.22	34.02	5.15	32.8	58.15	74.00	-15.85	Pk
V	4960.00	39.77	34.02	5.15	32.8	43.70	54.00	-10.30	AV
V	7440.00	47.23	32.71	6.4	36.05	56.97	74.00	-17.03	Pk
V	7440.00	32.79	32.71	6.4	36.05	42.53	54.00	-11.47	AV
V	9920.00	44.02	32.86	7.62	38.4	57.18	74.00	-16.82	Pk
V	9920.00	30.75	32.86	7.62	38.4	43.91	54.00	-10.09	AV
V	12400.00	41.62	31.82	8.84	39.08	57.72	74.00	-16.28	Pk
V	12400.00	27.71	31.82	8.84	39.08	43.81	54.00	-10.19	AV
H	4960.00	57.07	34.02	5.15	32.8	61.00	74.00	-13.00	Pk
H	4960.00	40.01	34.02	5.15	32.8	43.94	54.00	-10.06	AV
H	7440.00	50.15	32.71	6.4	36.05	59.89	74.00	-14.11	Pk
H	7440.00	33.65	32.71	6.4	36.05	43.39	54.00	-10.61	AV
H	9920.00	46.11	32.86	7.62	38.4	59.27	74.00	-14.73	Pk
H	9920.00	30.74	32.86	7.62	38.4	43.90	54.00	-10.10	AV
H	12400.00	41.65	31.82	8.84	39.08	57.75	74.00	-16.25	Pk
H	12400.00	28.32	31.82	8.84	39.08	44.42	54.00	-9.58	AV

Note: 1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier,

Margin= Emission Level - Limit

2. If peak below the average limit, the average emission was no test.

3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

4. All the modes have tested and recorded the worst mode(GFSK) in the report

Spurious Emission in Restricted Band 2310-2390MHz and 2483.5-2500MHz

	Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre- amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB/m)	Emission level (dBuV/m)	Limit (dBuV /m)	Detec tor Type	Result
GFSK	Low Channel: 2402MHz									
	H	2310.00	55.55	35.17	3.48	27.49	51.35	74.00	PK	PASS
	H	2310.00	46.03	35.17	3.48	27.49	41.83	54.00	AV	PASS
	H	2390.00	58.03	35.17	3.48	27.49	53.83	74.00	PK	PASS
	H	2390.00	50.09	35.17	3.48	27.49	45.89	54.00	AV	PASS
	H	2400.00	62.63	35.16	3.49	27.52	58.48	74.00	PK	PASS
	H	2400.00	50.16	35.16	3.49	27.52	46.01	54.00	AV	PASS
	V	2310.00	55.03	35.17	3.48	27.49	50.83	74.00	PK	PASS
	V	2310.00	45.62	35.17	3.48	27.49	41.42	54.00	AV	PASS
	V	2390.00	57.54	35.17	3.48	27.49	53.34	74.00	PK	PASS
	V	2390.00	50.03	35.17	3.48	27.49	45.83	54.00	AV	PASS
	V	2400.00	60.05	35.16	3.49	27.52	55.90	74.00	PK	PASS
	V	2400.00	50.27	35.16	3.49	27.52	46.12	54.00	AV	PASS
	High Channel: 2480MHz									
	H	2483.50	60.03	35.11	3.56	27.75	56.23	74.00	PK	PASS
	H	2483.50	51.35	35.11	3.56	27.75	47.55	54.00	AV	PASS
	H	2500.00	58.62	35.1	3.57	27.8	54.89	74.00	PK	PASS
	H	2500.00	50.01	35.1	3.57	27.8	46.28	54.00	AV	PASS
	V	2483.50	59.32	35.11	3.56	27.75	55.52	74.00	PK	PASS
	V	2483.50	50.46	35.11	3.56	27.75	46.66	54.00	AV	PASS
	V	2500.00	57.67	35.1	3.57	27.8	53.94	74.00	PK	PASS
	V	2500.00	49.72	35.1	3.57	27.8	45.99	54.00	AV	PASS
Remark:										
1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier, Margin= Emission Level - Limit										

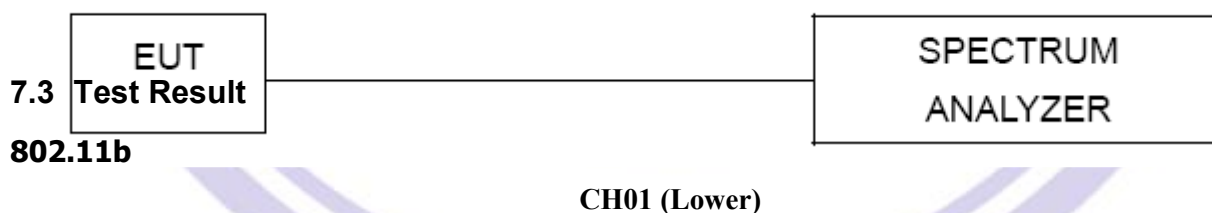
7 Conduct Band Edge And Spurious Emissions Measurement

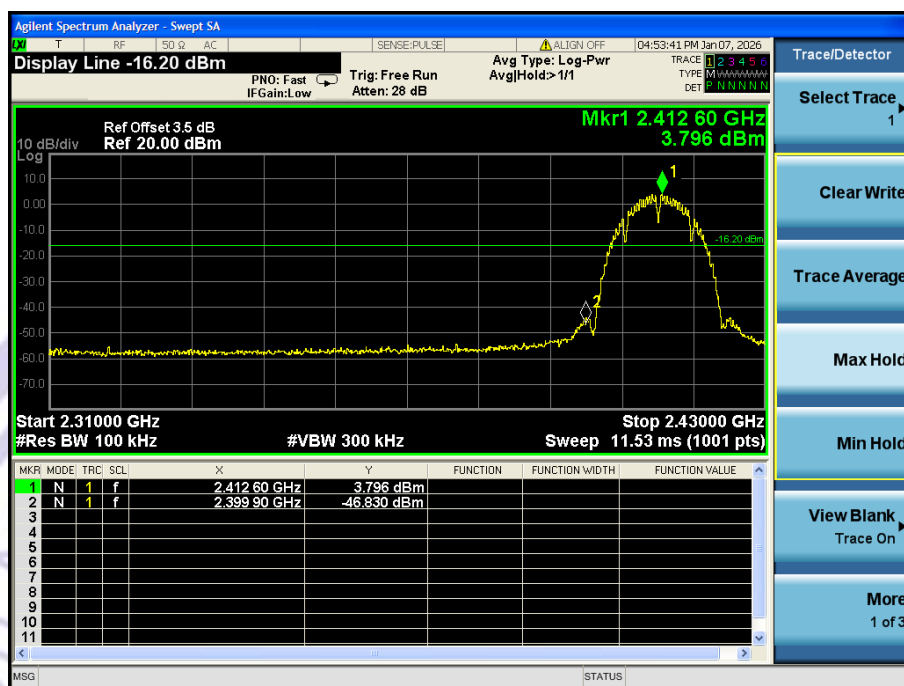
Test Requirement	:	FCC CFR47 Part 15 Section 15.247
Test Method	:	ANSI C63.10:2020
Test Limit	:	Regulation 15.247 (d), In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. 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)).

7.1 Test Procedure

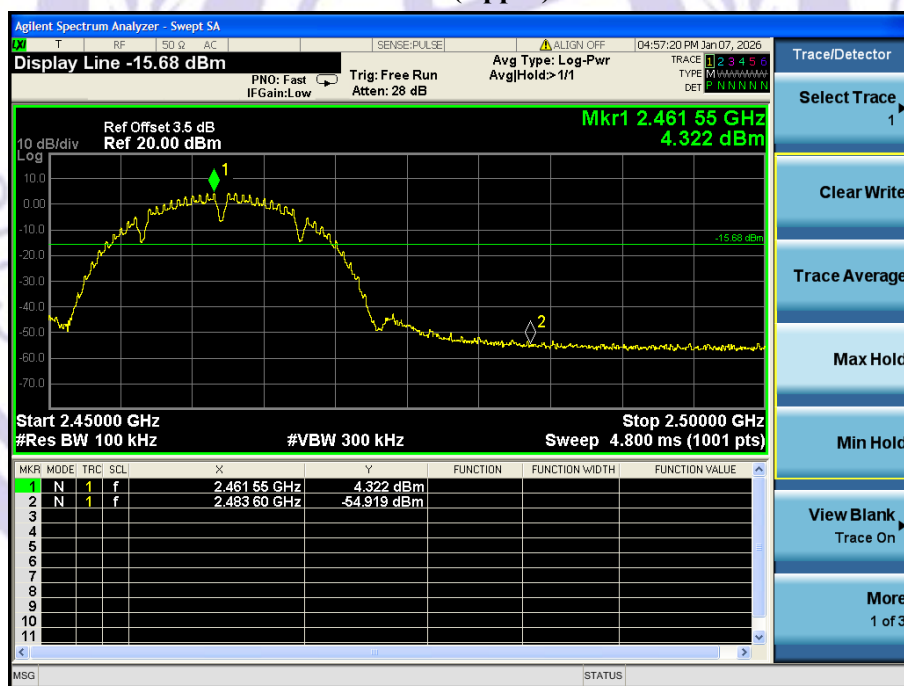
1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum;
2. Set the spectrum analyzer: RBW = 100kHz, VBW = 300kHz, Sweep = auto
Detector function = peak, Trace = max hold

7.2 TEST SETUP

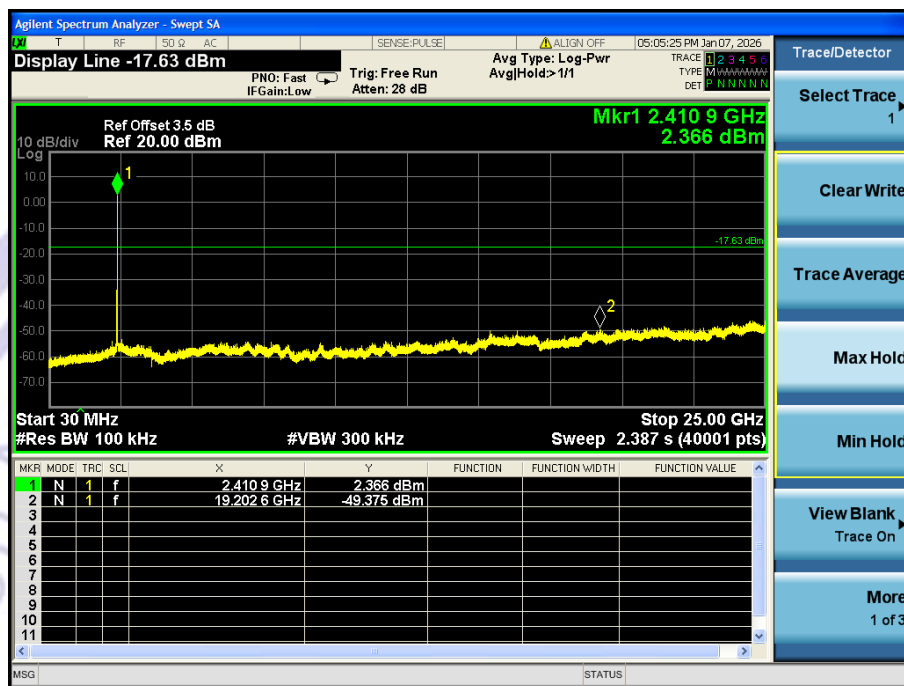




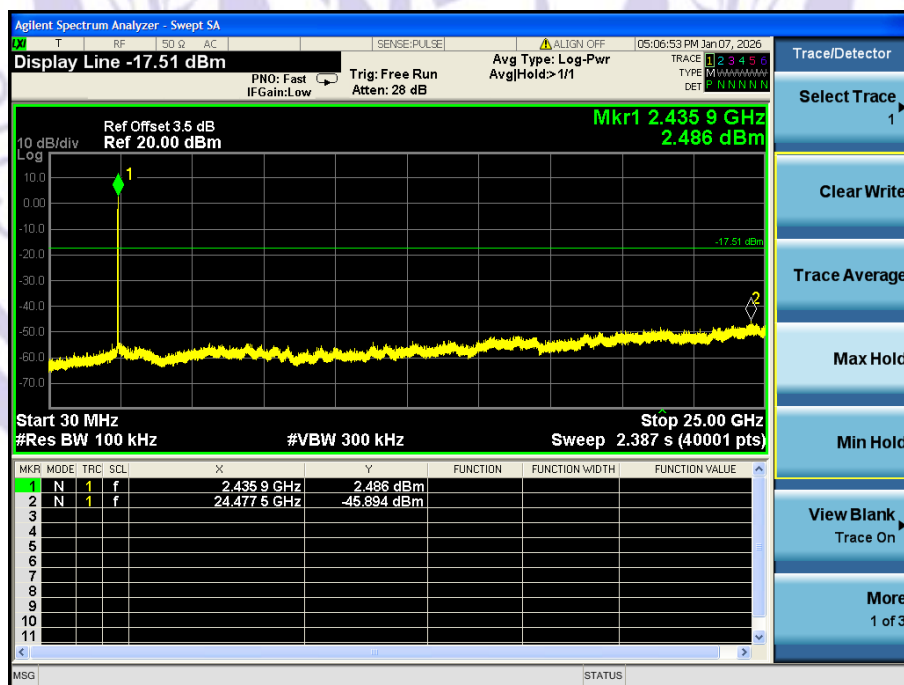
CH 11(Upper)



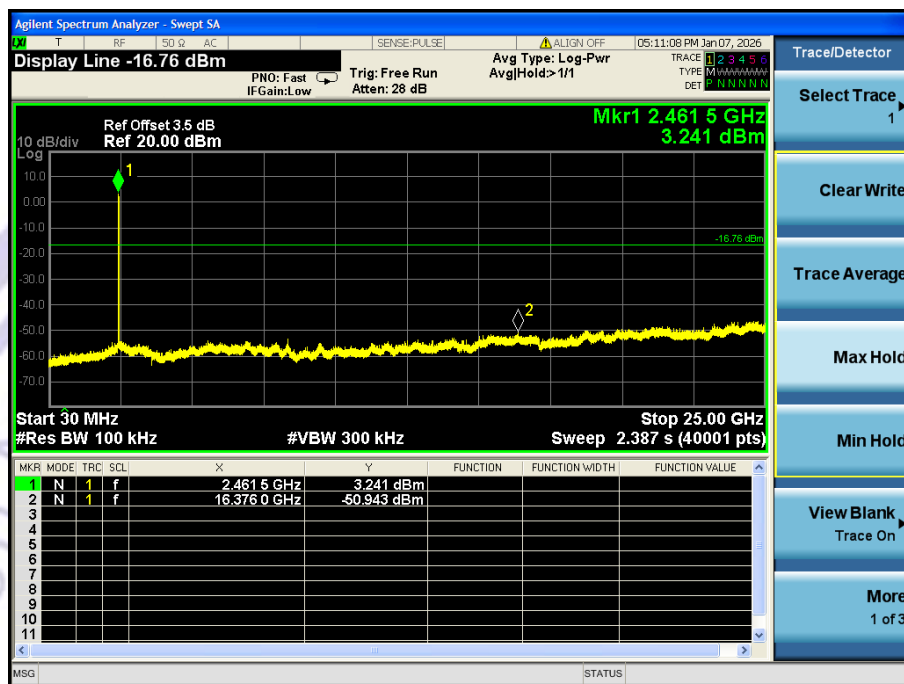
CH01



CH06

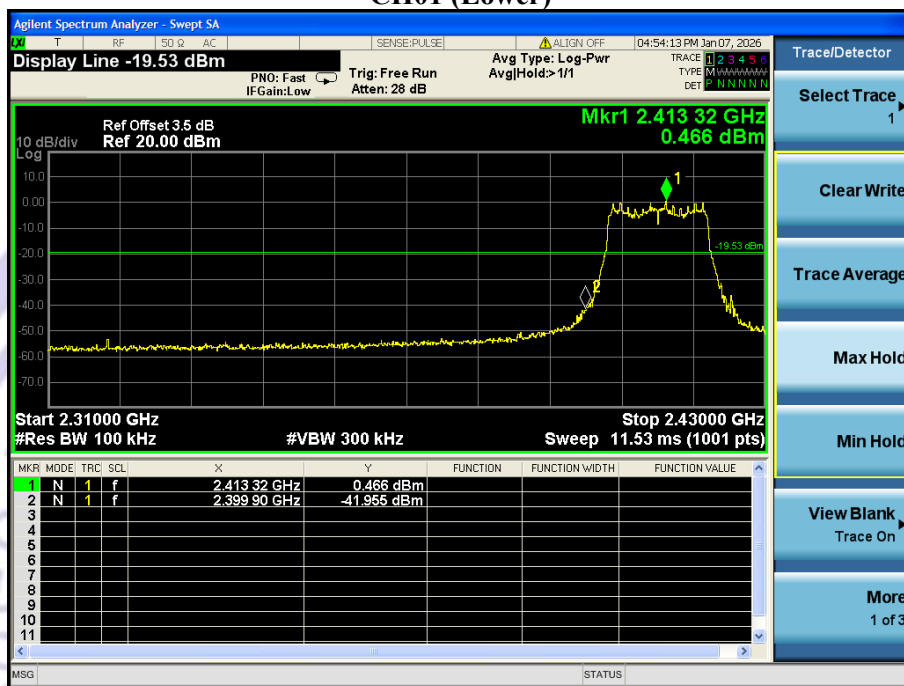


CH11



802.11g

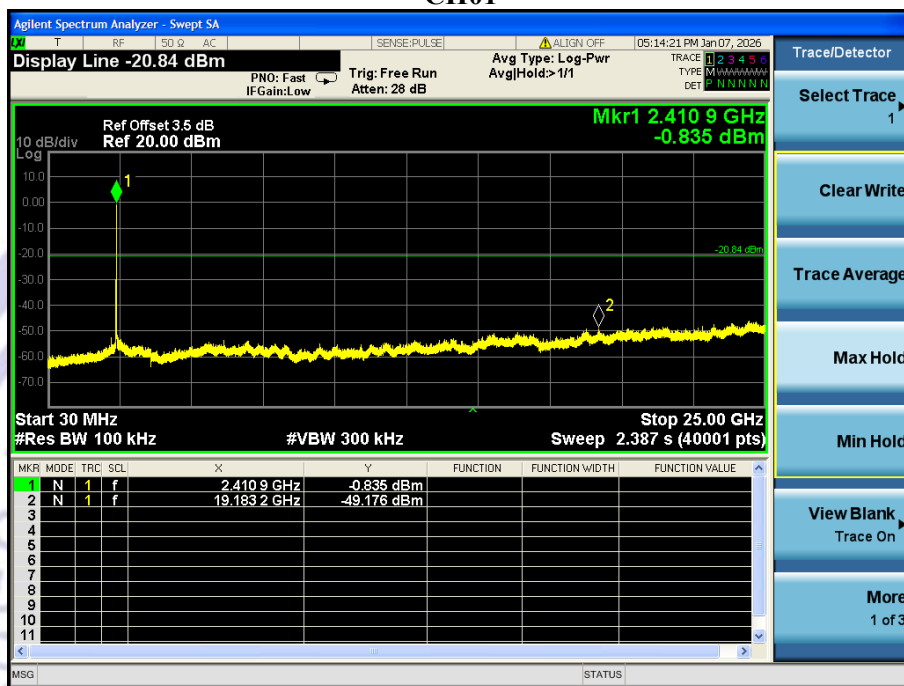
CH01 (Lower)



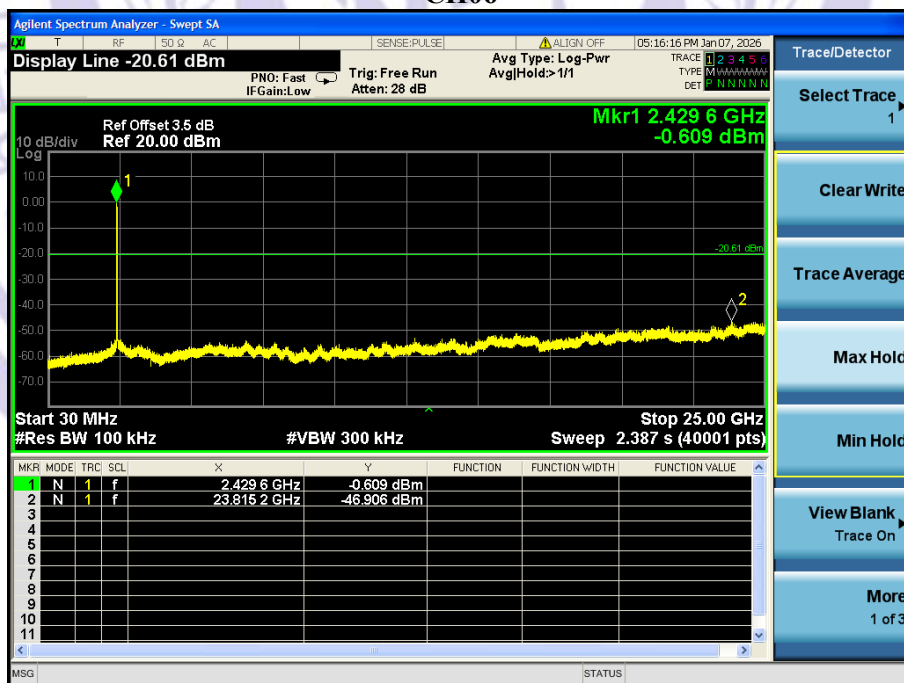
CH 11(Upper)



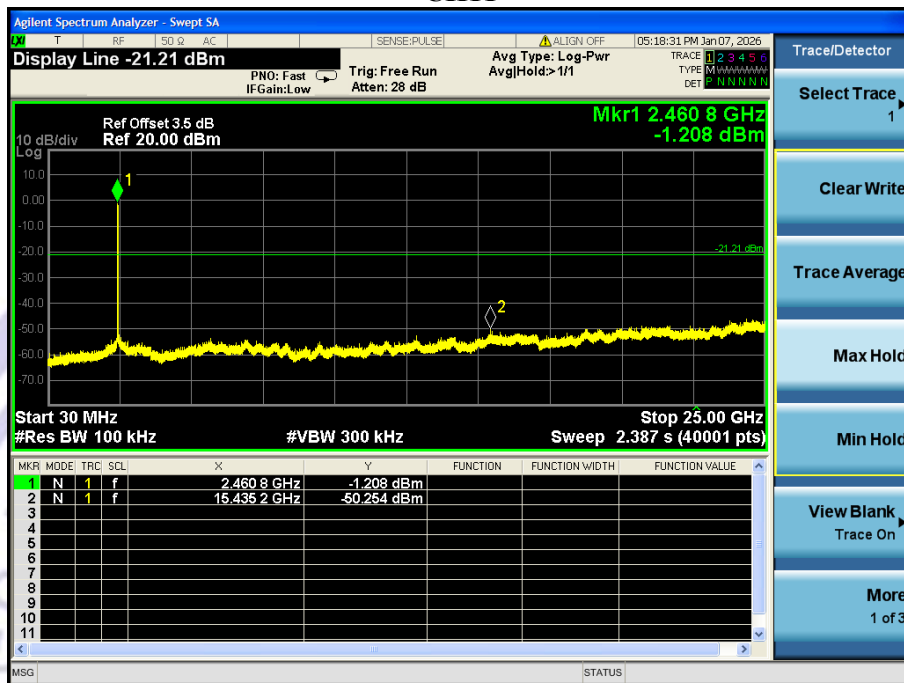
CH01



CH06

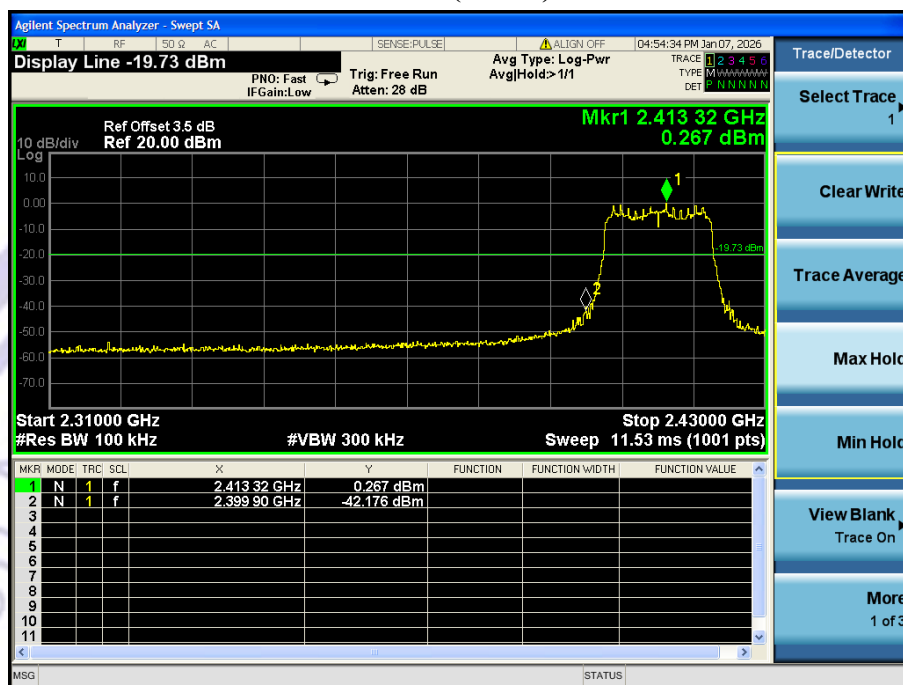


CH11

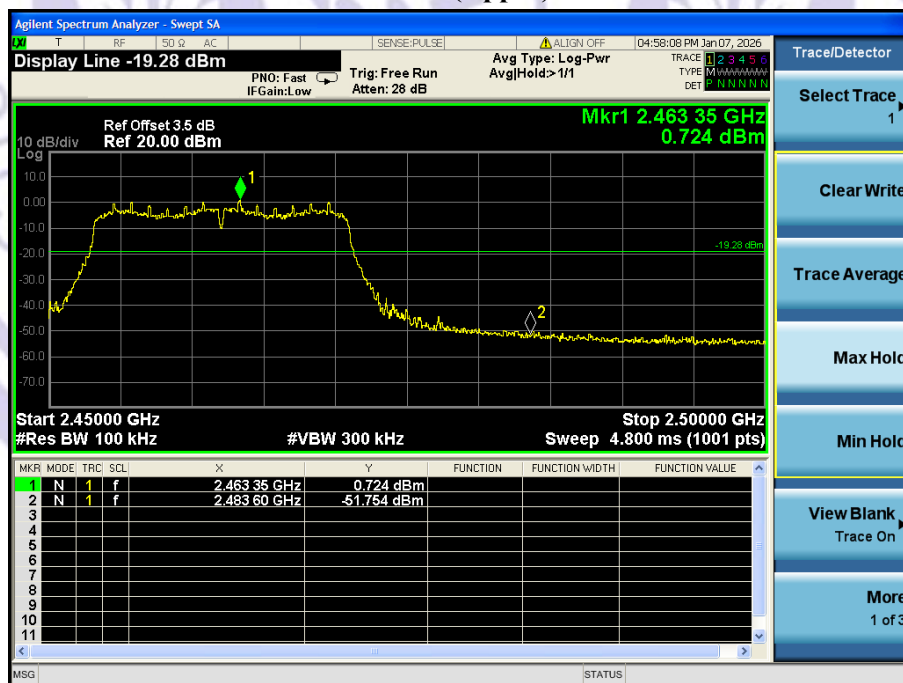


802.11n20

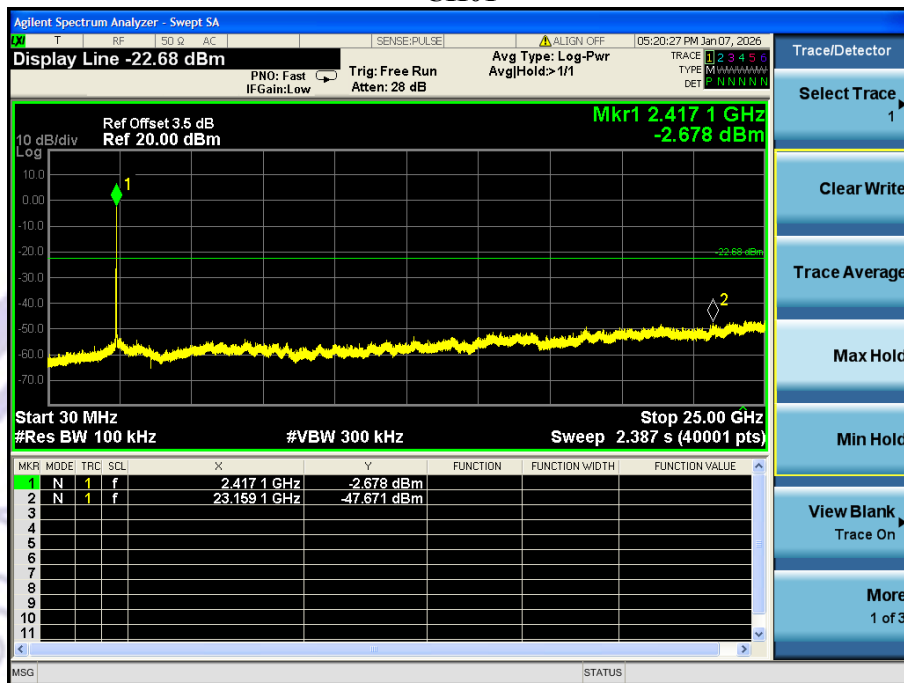
CH01 (Lower)



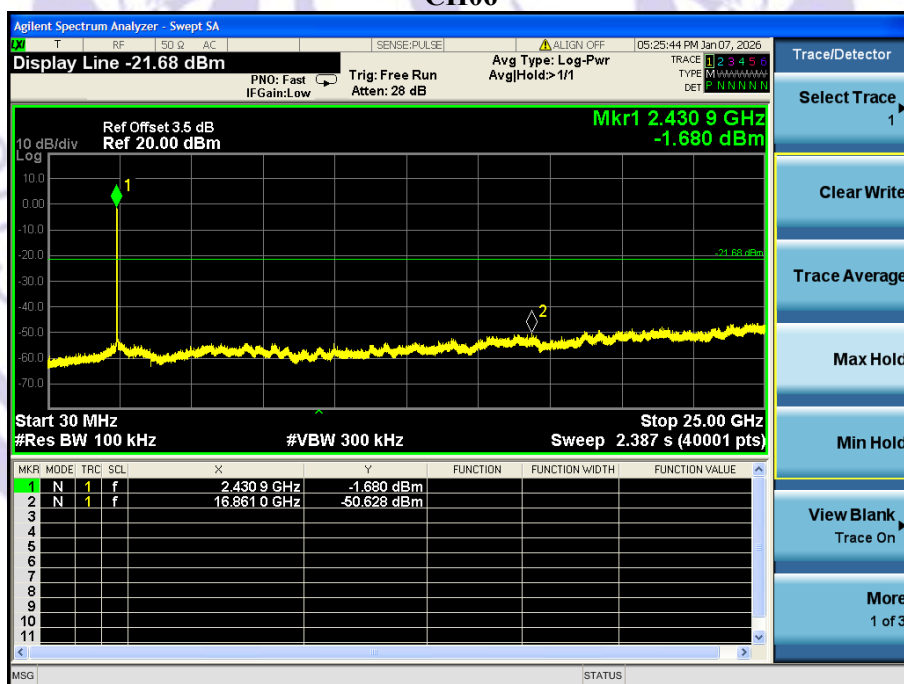
CH 11(Upper)



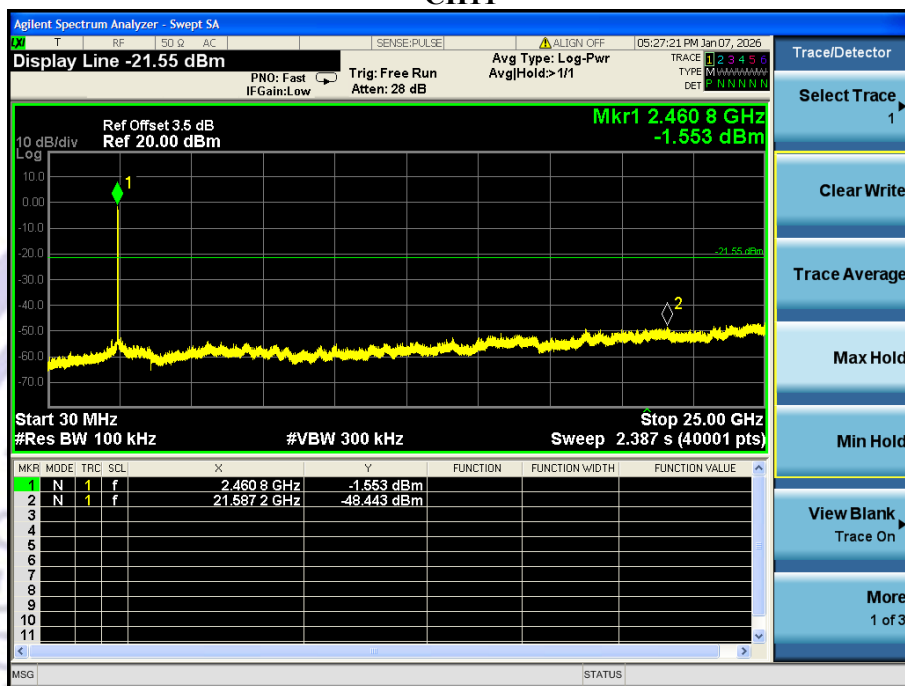
CH01



CH06

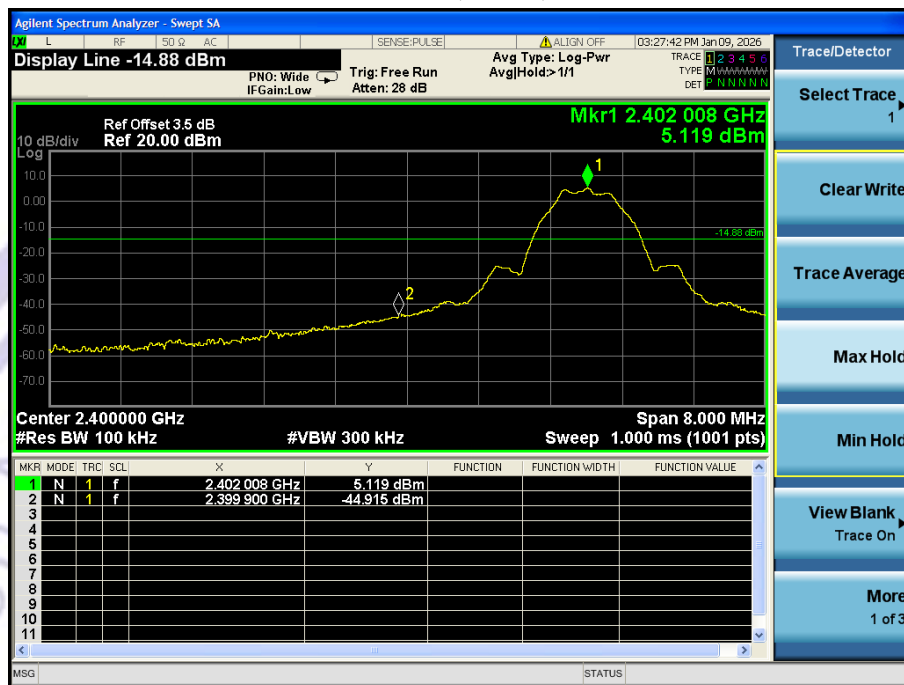


CH11

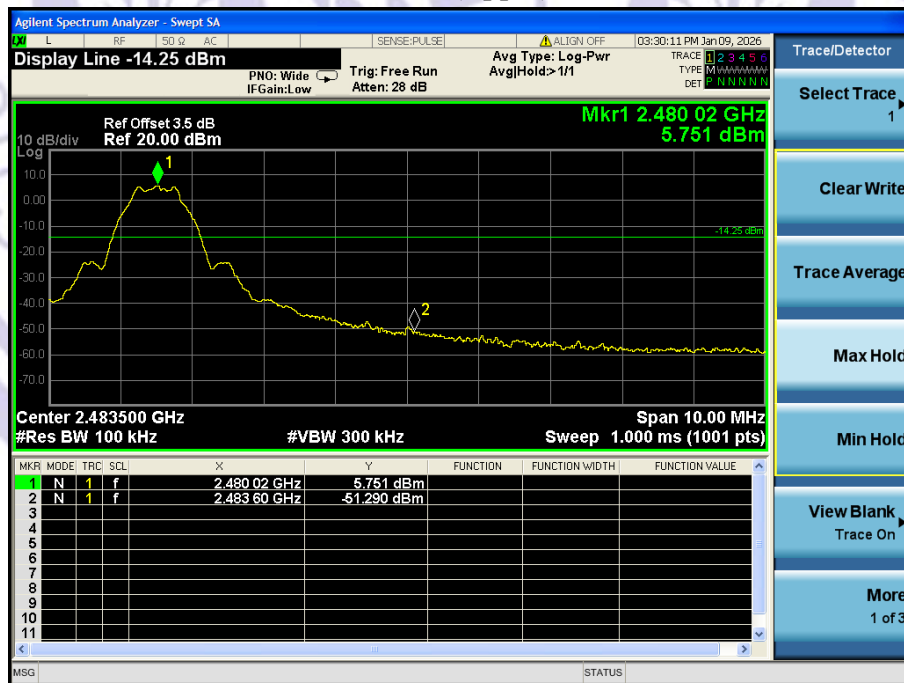


BLE

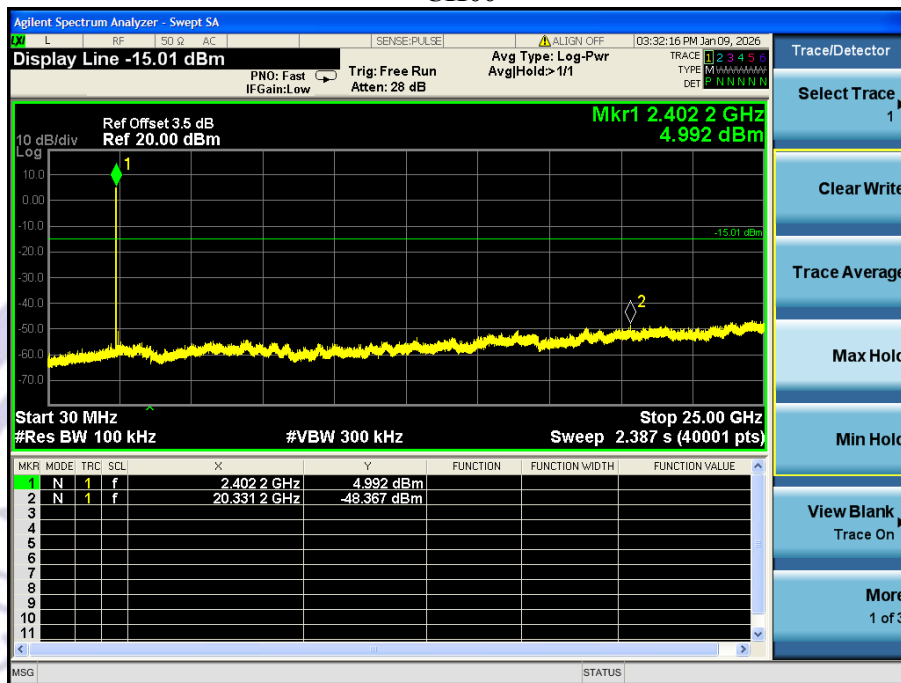
CH00 (Lower)



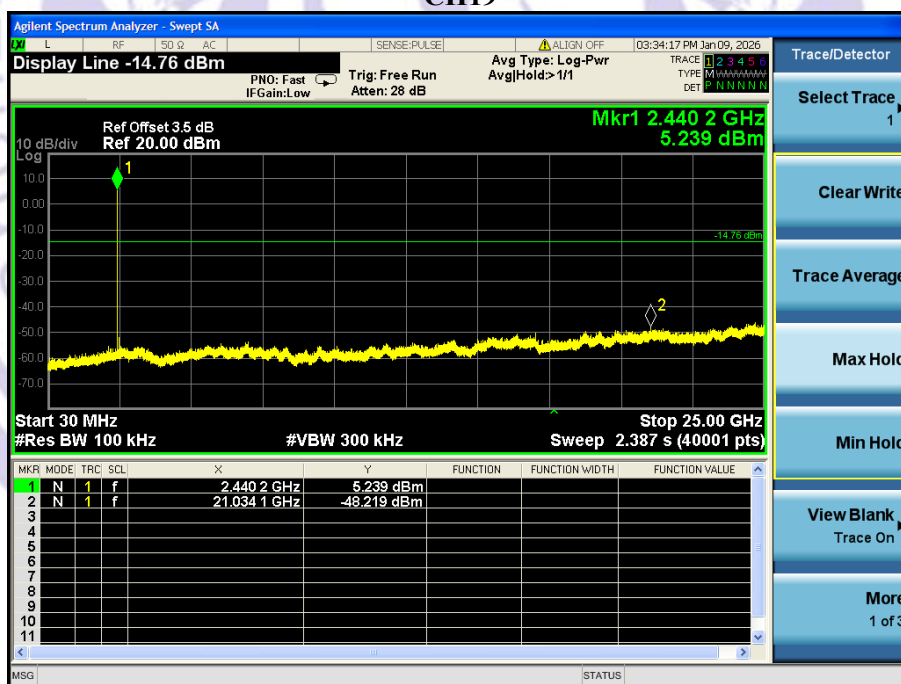
CH 39(Upper)



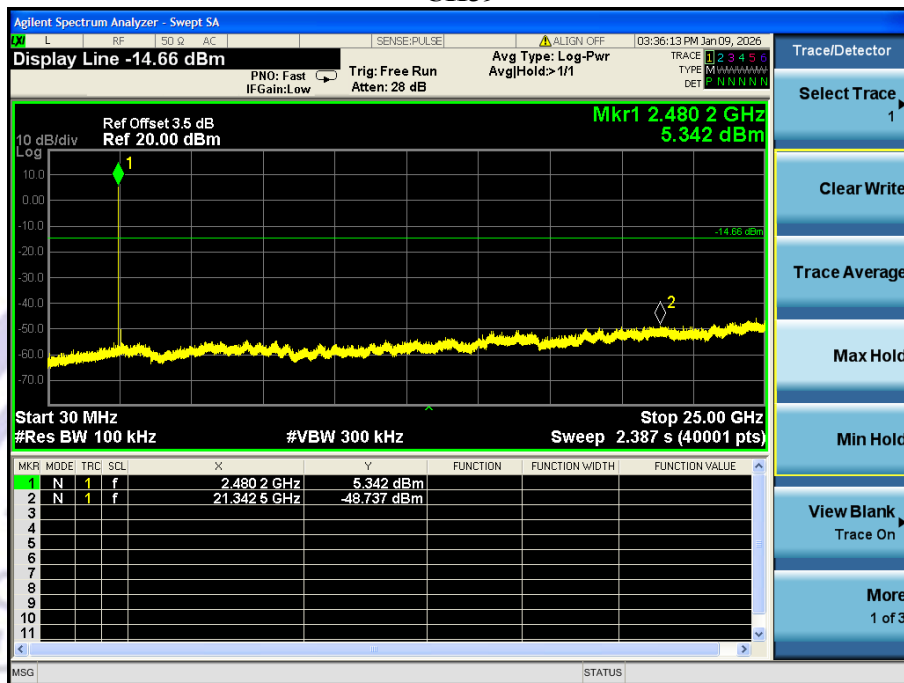
CH00



CH19



CH39



8 6dB&99% Bandwidth Measurement

Test Requirement : FCC CFR47 Part 15 Section 15.247

Test Method : ANSI C63.10:2020

Test Limit : Systems using digital modulation techniques may operate in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

8.1 Test Procedure

For 6dB Bandwidth Measurement

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: $RBW = 1\%$ to 5% of the OBW but not less than 100 kHz, $VBW \geq 3RBW$

For 99% Bandwidth Measurement

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: $RBW = 1\%-5\%$ OBW, $VBW \geq 3RBW$

8.2 TEST SETUP

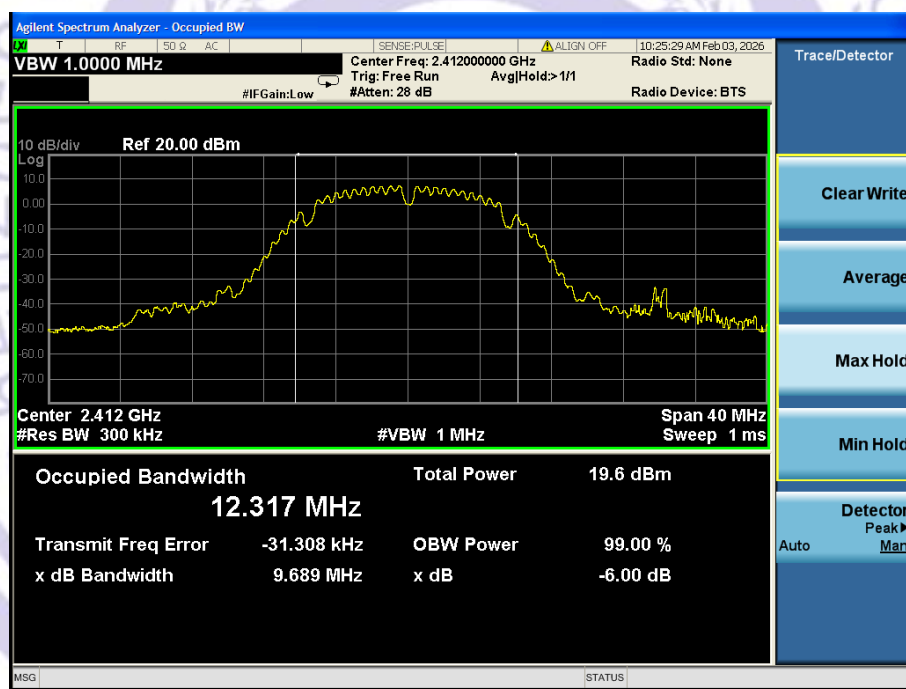


8.3 Test Result

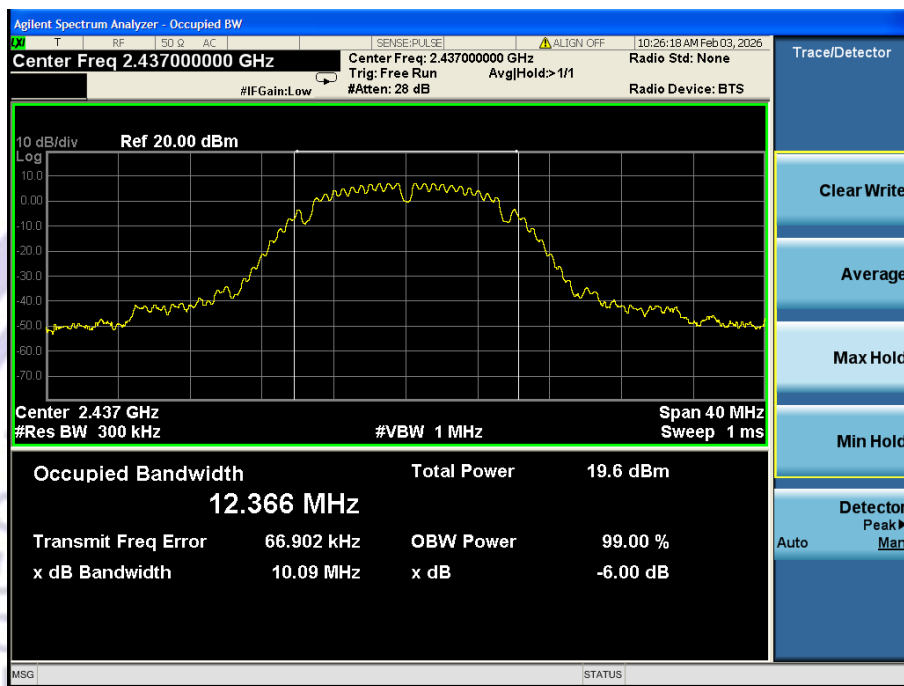
802.11b

Frequency	6dB Bandwidth (MHz)	Limit (kHz)	Result
2412 MHz	9.689	≥ 500	Pass
2437 MHz	10.09	≥ 500	Pass
2462 MHz	9.261	≥ 500	Pass

CH01



CH06



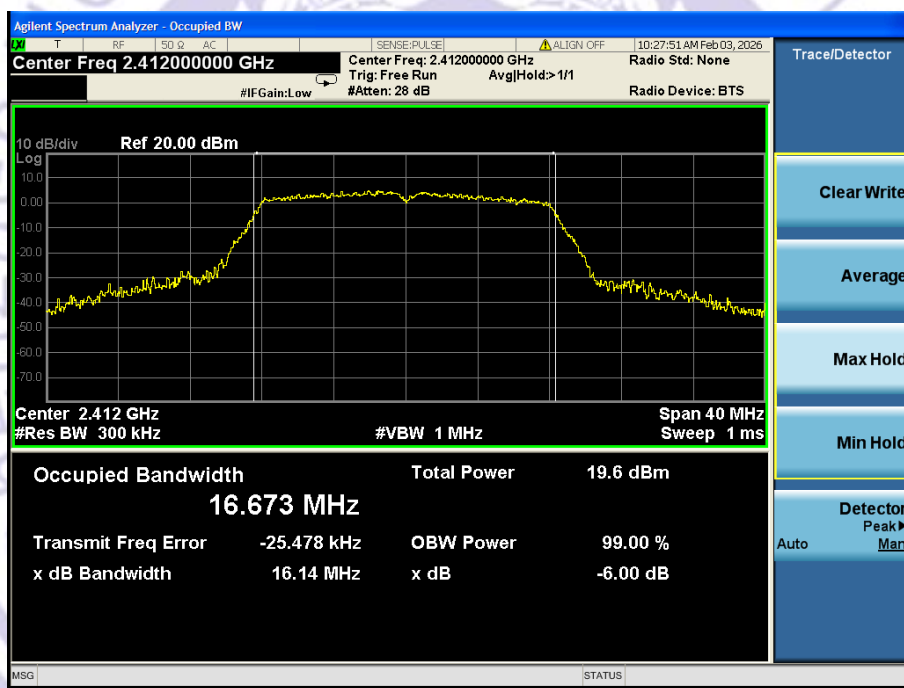
CH11



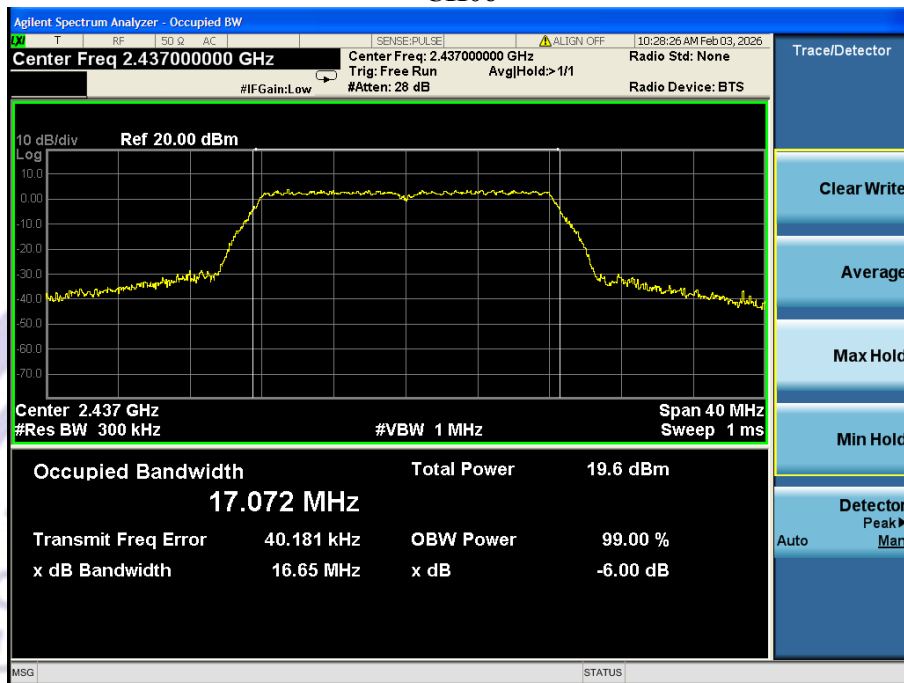
802.11g

Frequency	6dB Bandwidth (MHz)	Limit (kHz)	Result
2412 MHz	16.14	≥ 500	Pass
2437 MHz	16.65	≥ 500	Pass
2462 MHz	16.50	≥ 500	Pass

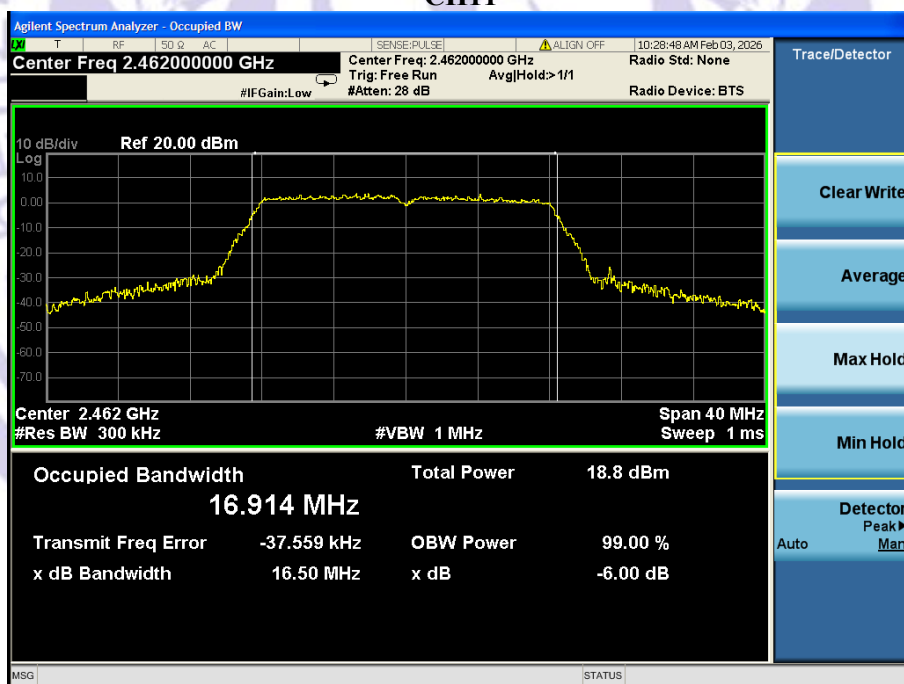
CH01



CH06



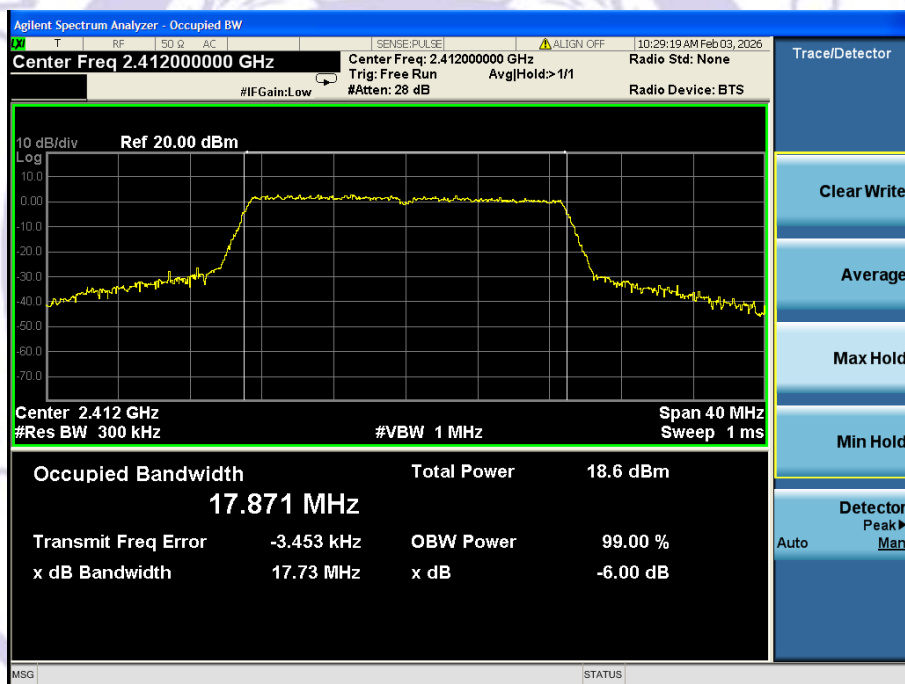
CH11



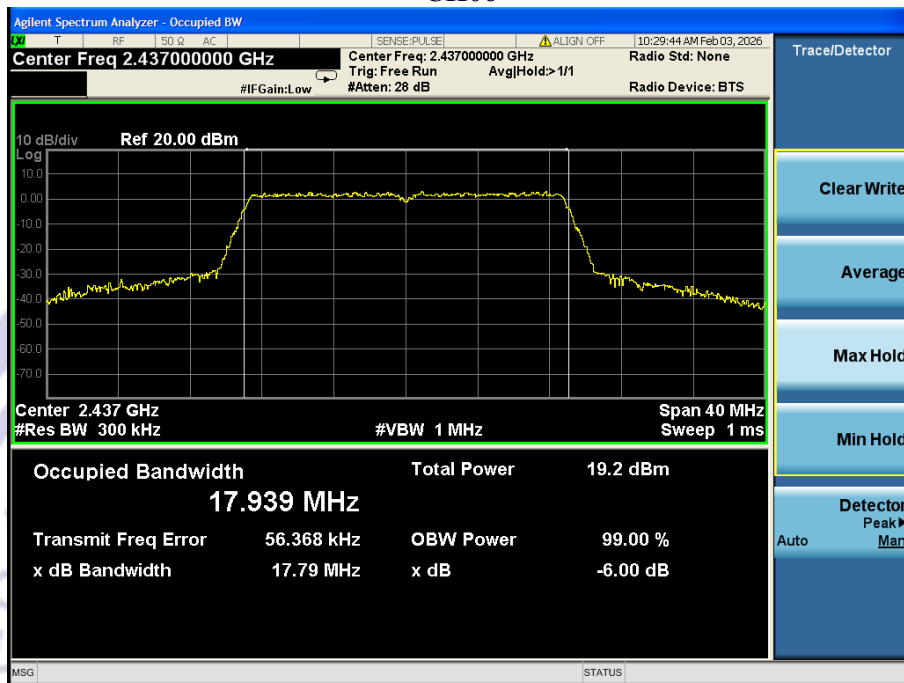
802.11n20

Frequency	6dB Bandwidth (MHz)	Limit (kHz)	Result
2412 MHz	17.73	≥ 500	Pass
2437 MHz	17.79	≥ 500	Pass
2462 MHz	17.68	≥ 500	Pass

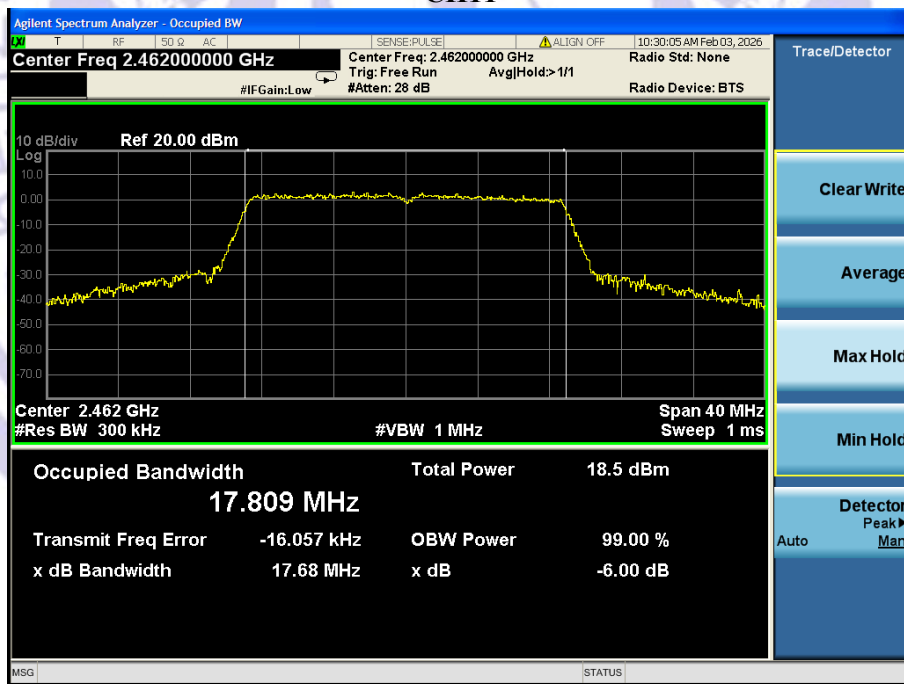
CH01



CH06



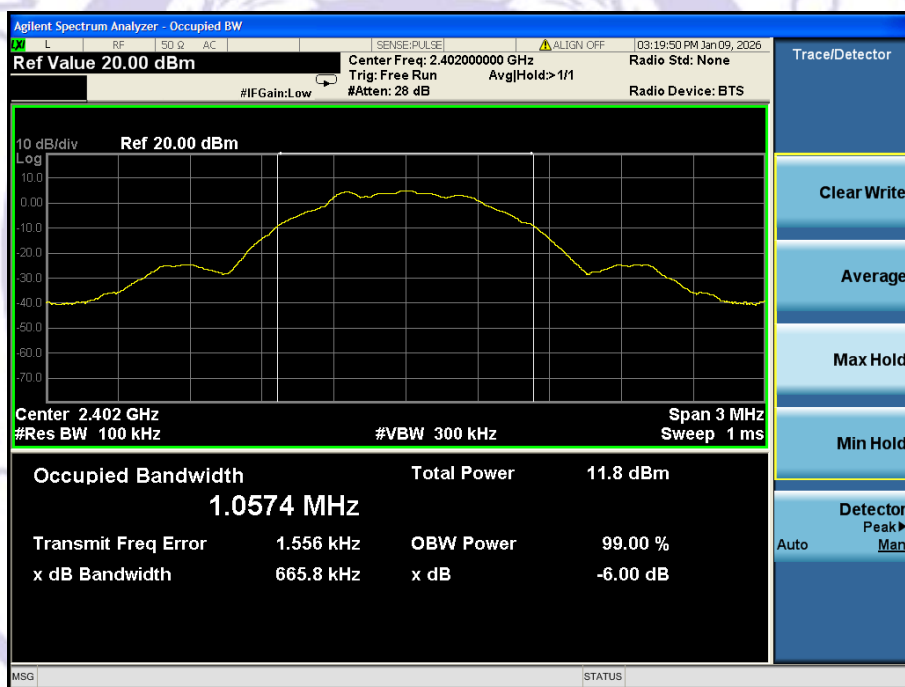
CH11



BLE

Frequency	6dB Bandwidth (kHz)	Limit (kHz)	Result
2402 MHz	665.8	≥ 500	Pass
2440 MHz	667.6	≥ 500	Pass
2480 MHz	664.7	≥ 500	Pass

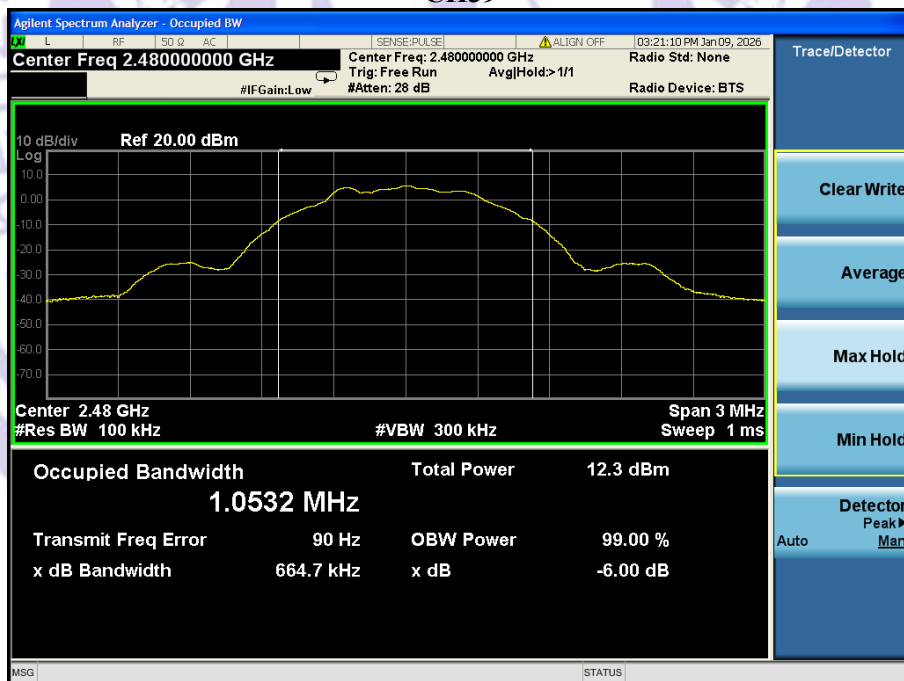
CH00



CH19



CH39



9 Maximum Peak Output Power

Test Requirement : FCC CFR47 Part 15 Section 15.247

Test Method : ANSI C63.10:2020

Test Limit : Regulation 15.247 (b)(3), For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power.

9.1 Test Procedure

2.4G WIFI : The maximum peak conducted output power may be measured using a broadband peak RF power meter. The power meter shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall utilize a fast-responding diode detector.

BLE:

1. The RF output of EUT was connected to the spectrum analyzer by RF cable. The path loss was compensated to the results for each measurement.
2. Set to the maximum power setting and enable the EUT transmit continuously.

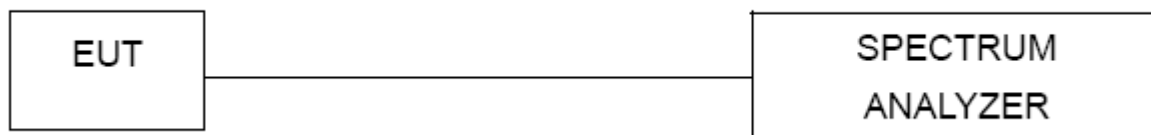
Measure the conducted output power and record the results in the test report.

9.2 Test Setup

2.4G WIFI



BLE:



9.3 Test Result

802.11b

Test Channel	Frequency (MHz)	Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH01	2412 MHz	20.76	30	1
CH06	2437MHz	21.11	30	1
CH11	2462 MHz	21.46	30	1

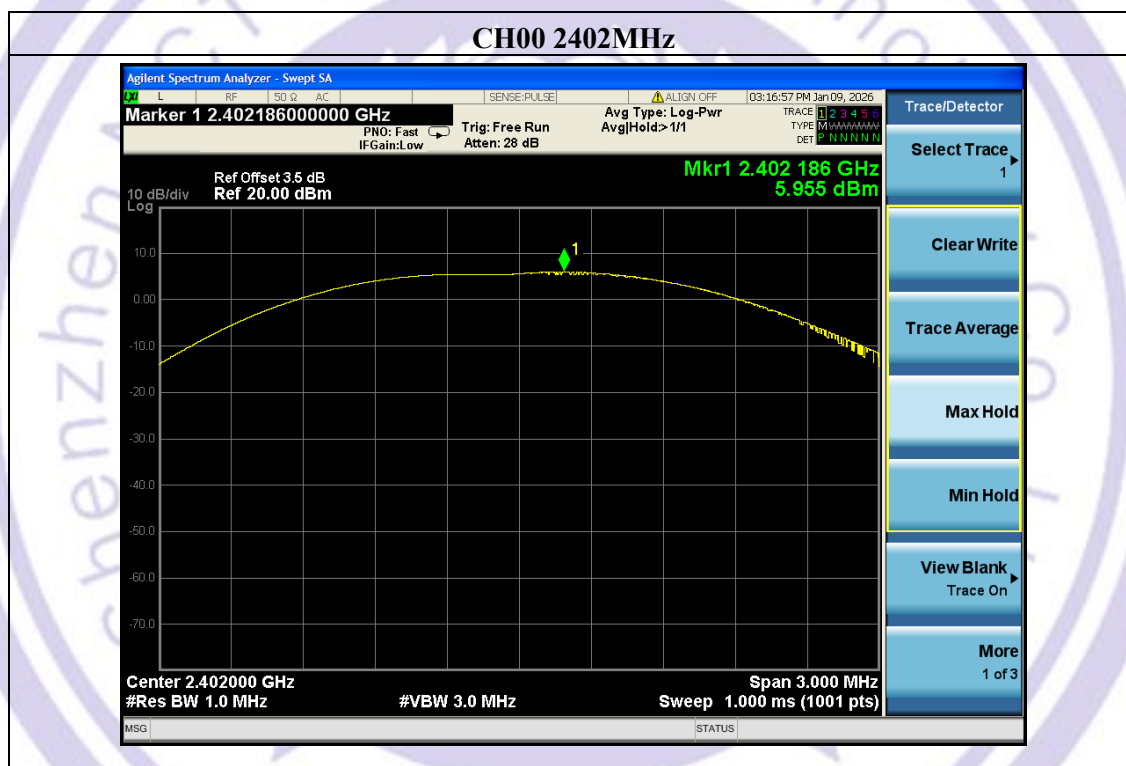
802.11g

Test Channel	Frequency (MHz)	Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH01	2412 MHz	20.25	30	1
CH06	2437MHz	20.77	30	1
CH11	2462 MHz	21.27	30	1

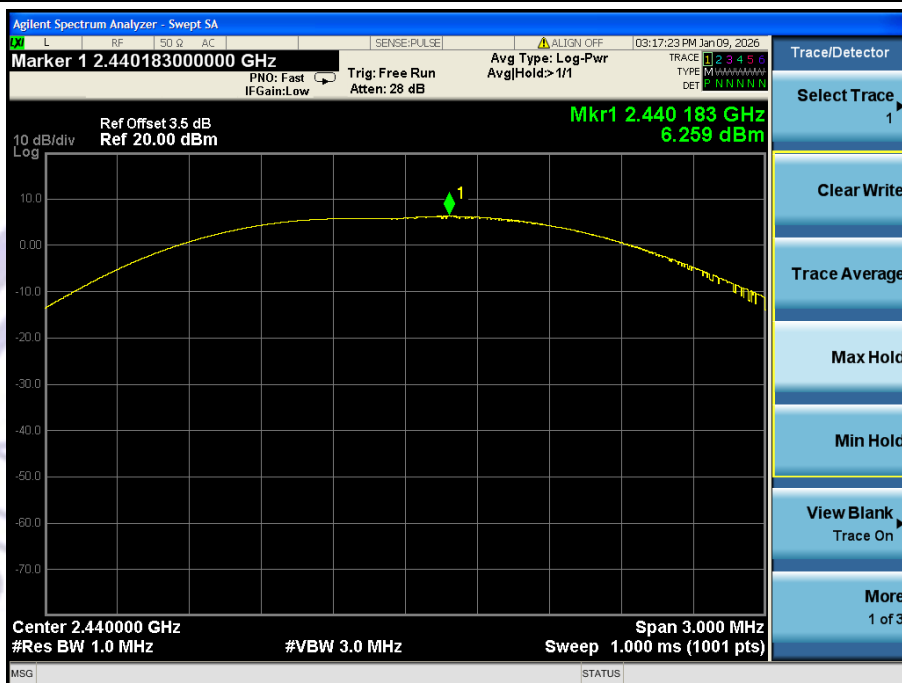
802.11n20

Test Channel	Frequency (MHz)	Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH01	2412 MHz	20.09	30	1
CH06	2437MHz	20.22	30	1
CH11	2462 MHz	20.57	30	1

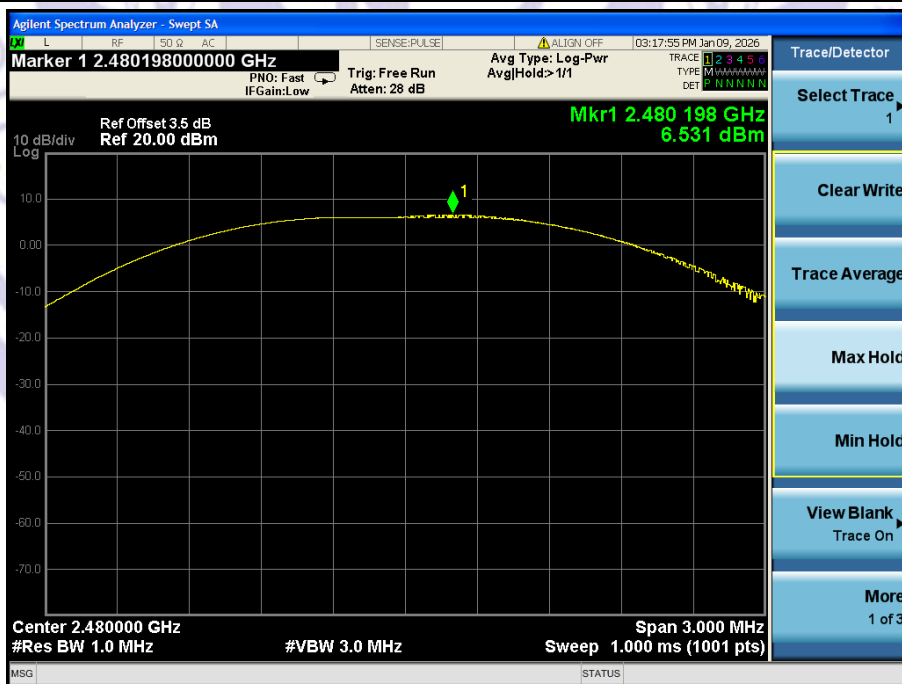
Test Channel	Frequency (MHz)	Output Power (dBm)	Limit(dBm)	Result
CH00	2402 MHz	5.955	30	PASS
CH19	2440MHz	6.259	30	PASS
CH39	2480 MHz	6.531	30	PASS



CH19 2440MHz



CH39 2480MHz



10 Power Spectral density

Test Requirement	: FCC CFR47 Part 15 Section 15.247
Test Method	: ANSI C63.10:2020
Test Limit	: Regulation 15.247(f) The power spectral density conducted from the intentional radiator to the antenna due to the digital modulation operation of the hybrid system, with the frequency hopping operation turned off, shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

10.1 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: RBW = 3kHz. VBW = 10kHz, Span = 1.5 times the DTS channel bandwidth(6 dB bandwidth). Sweep = auto; Detector Function = Peak. Trace = Max hold.
3. Allow the trace to stabilize. Use the marker-delta function to determine the separation between the peaks of the adjacent channels. The limit is specified in one of the subparagraphs of this Section Submit this plot.

10.2 TEST SETUP

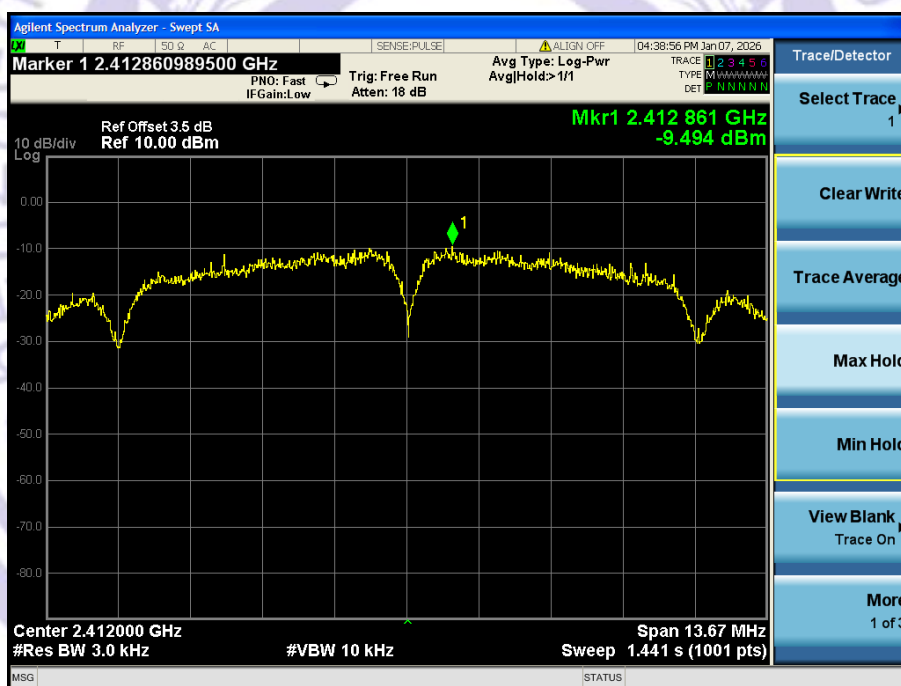


10.3 Test Result

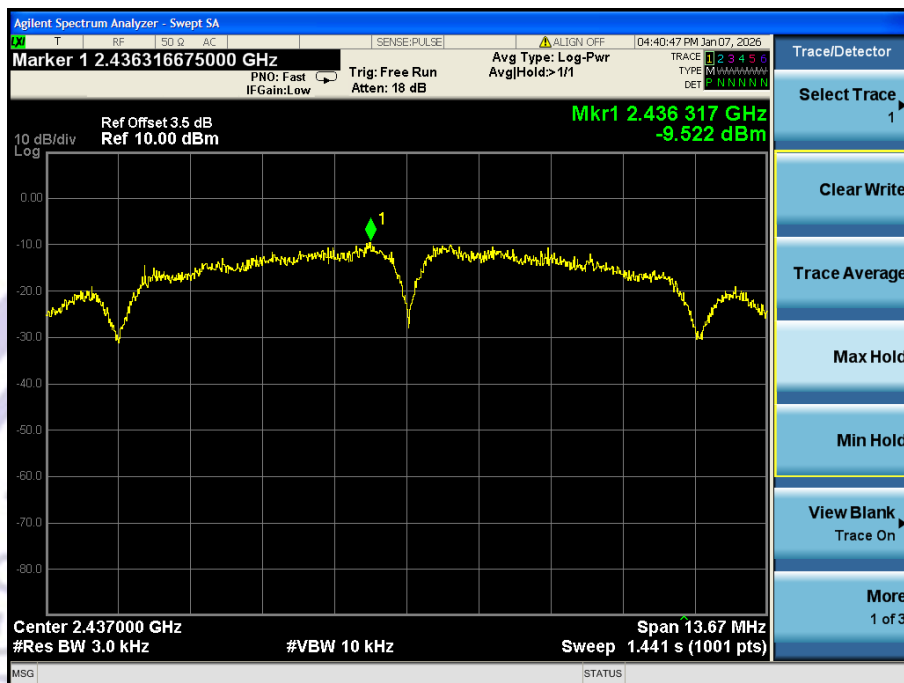
802.11b

Test Channel	Frequency (MHz)	Power Density (dBm/3KHz)	LIMIT (dBm/3KHz)
CH01	2412 MHz	-9.494	8
CH06	2437 MHz	-9.522	8
CH11	2462 MHz	-9.384	8

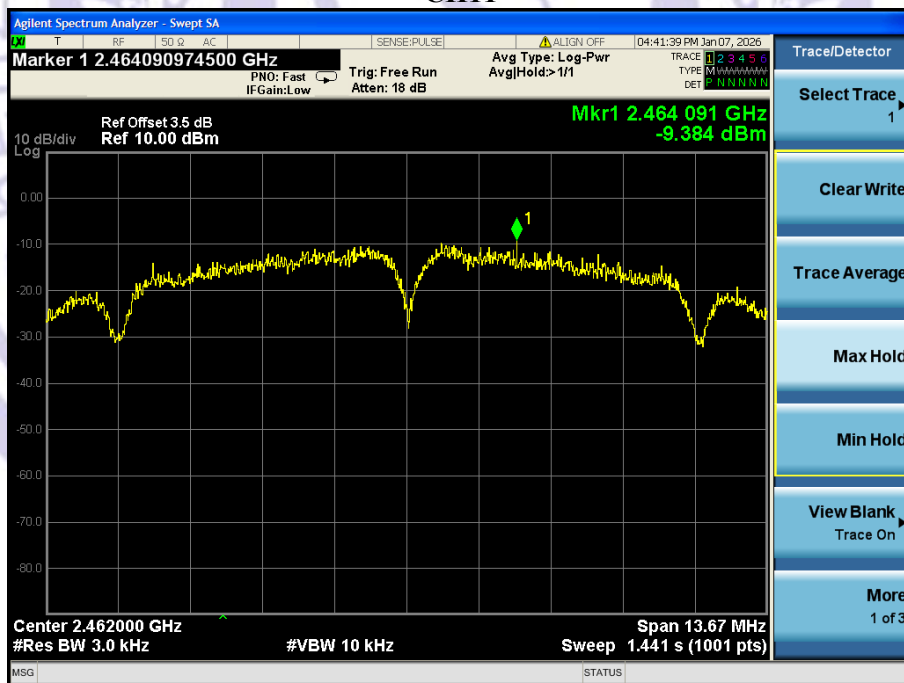
CH01



CH06



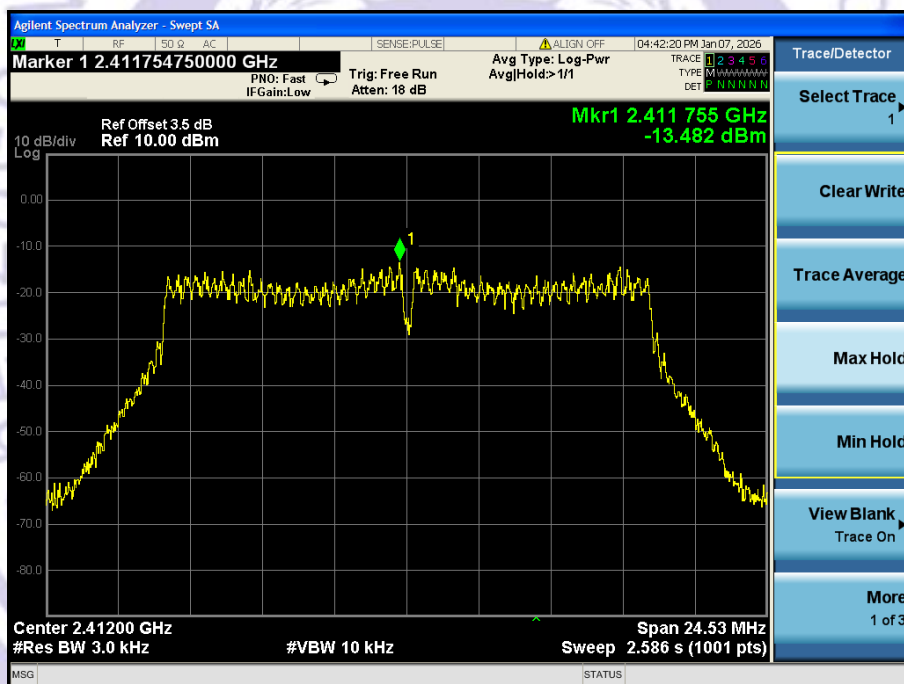
CH11



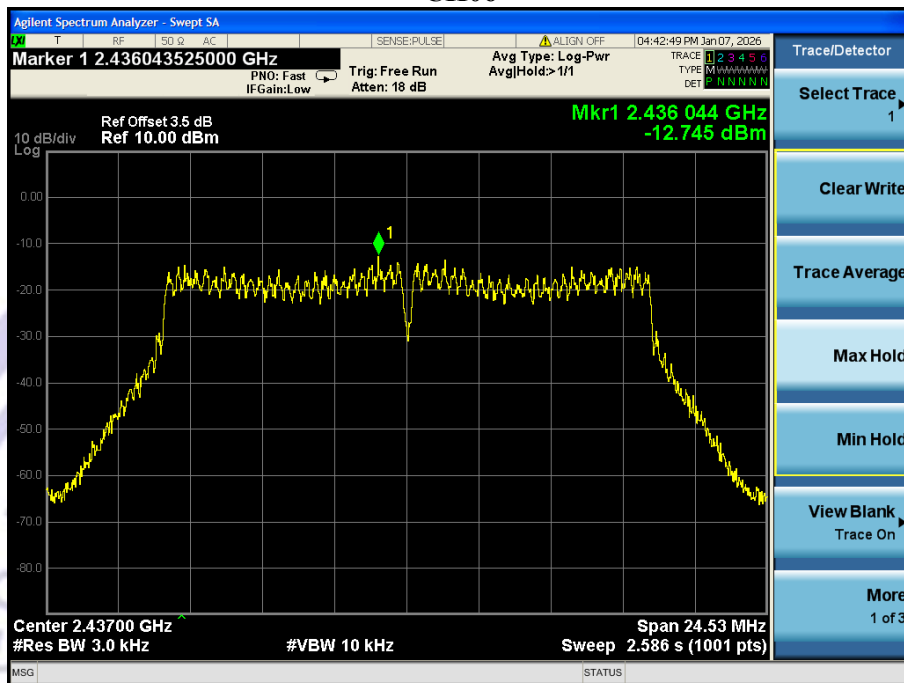
802.11g

Test Channel	Frequency (MHz)	Power Density (dBm/3KHz)	LIMIT (dBm/3KHz)
CH01	2412 MHz	-13.482	8
CH06	2437 MHz	-12.745	8
CH11	2462 MHz	-13.486	8

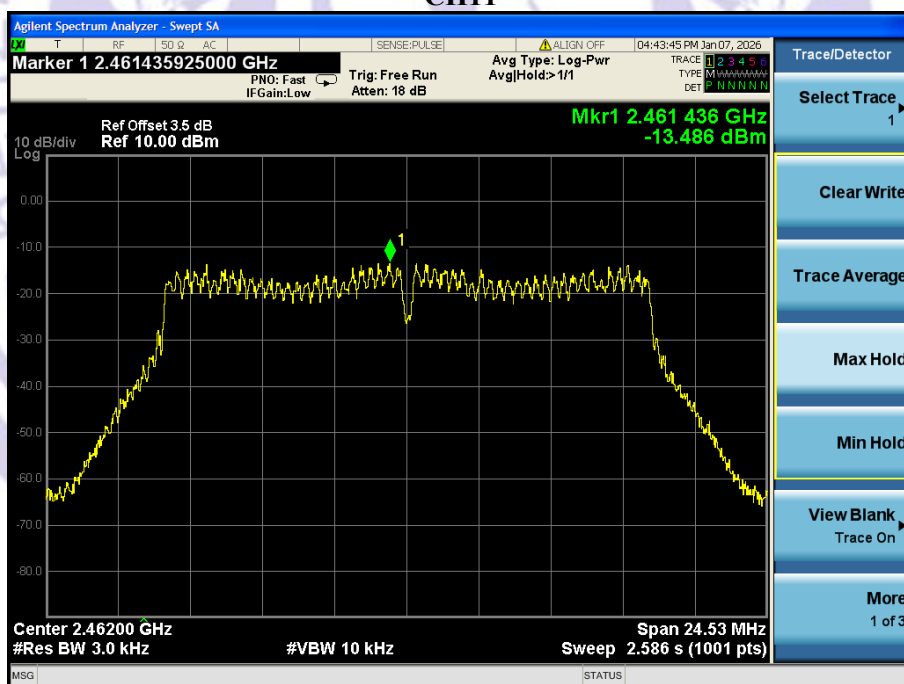
CH01



CH06



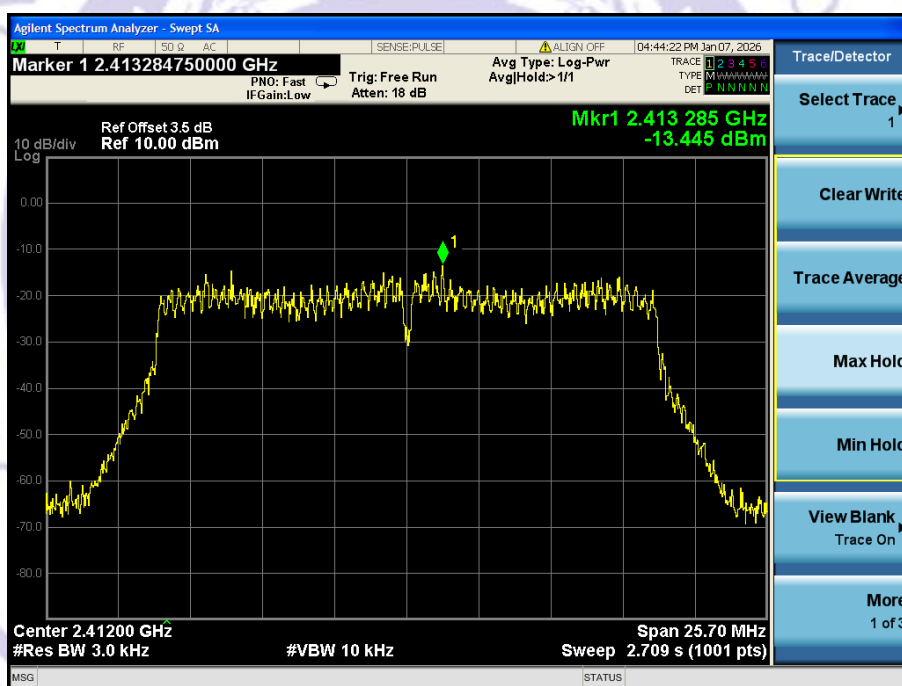
CH11



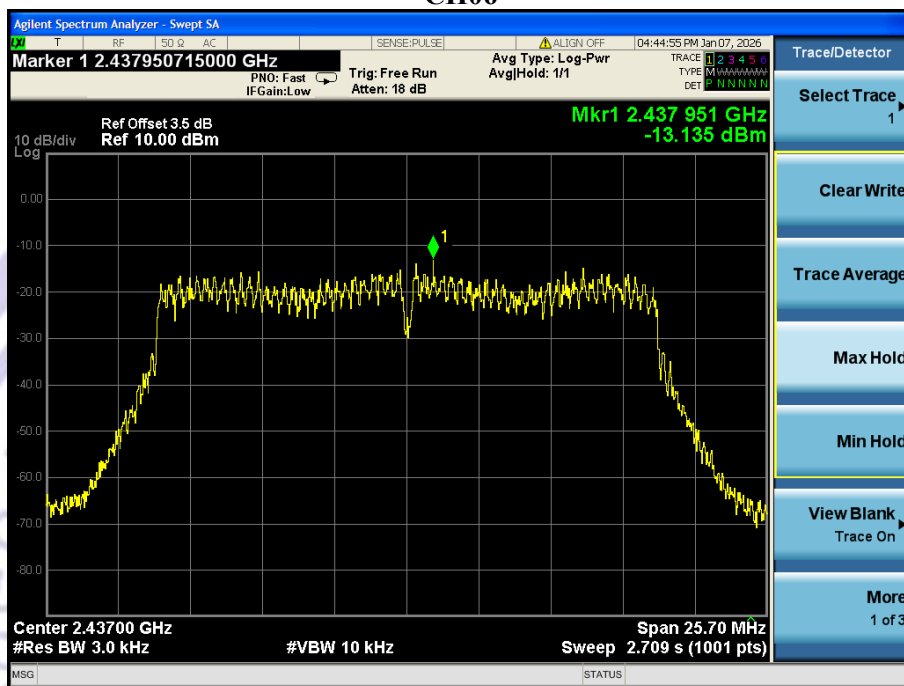
802.11n20

Test Channel	Frequency (MHz)	Power Density (dBm/3KHz)	LIMIT (dBm/3KHz)
CH01	2412 MHz	-13.445	8
CH06	2437 MHz	-13.135	8
CH11	2462 MHz	-13.603	8

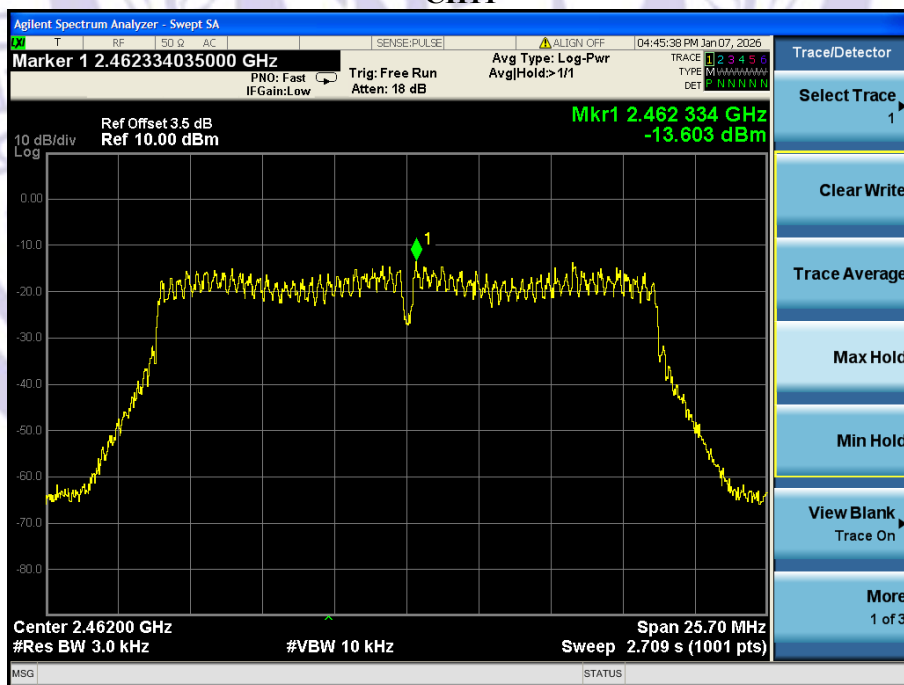
CH01



CH06



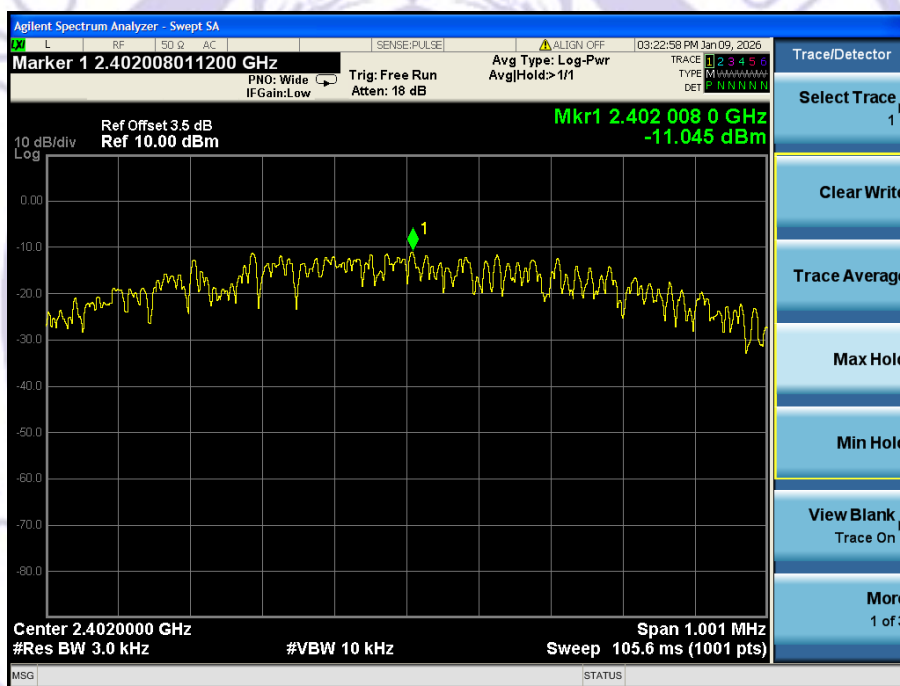
CH11



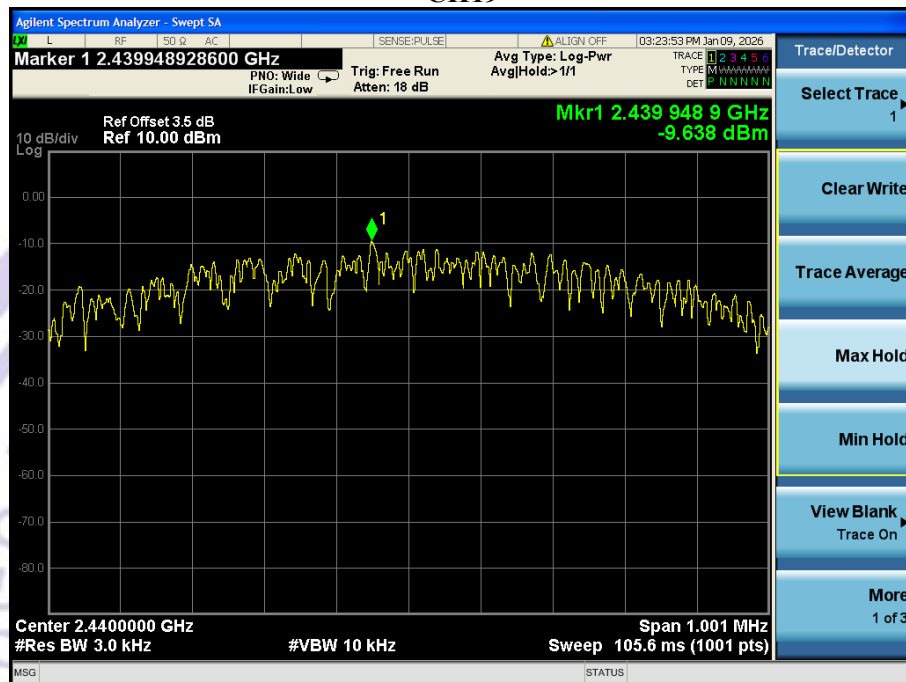
BLE

Test Channel	Frequency (MHz)	Power Density (dBm/3KHz)	LIMIT (dBm/3KHz)
CH00	2402 MHz	-11.045	8.00
CH19	2440 MHz	-9.638	8.00
CH39	2480 MHz	-10.071	8.00

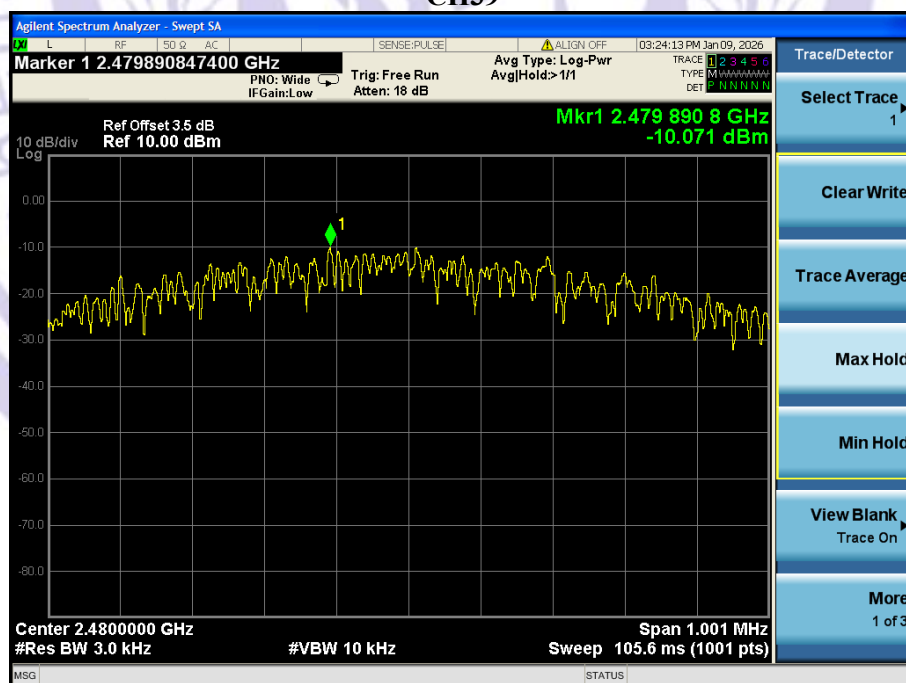
CH00



CH19



CH39



11 Antenna Application

11.1 Antenna Requirement

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

According to RSS-GEN section 6.8

The applicant for equipment certification shall provide a list of all antenna types that may be used with the transmitter, where applicable (i.e. for transmitters with detachable antenna), indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna. The test report shall demonstrate the compliance of the transmitter with the limit for maximum equivalent isotropically radiated power (e.i.r.p.) specified in the applicable RSS, when the transmitter is equipped with any antenna type, selected from this list.

For expediting the testing, measurements may be performed using only the antenna with highest gain of each combination of transmitter and antenna type, with the transmitter output power set at the maximum level. However, the transmitter shall comply with the applicable requirements under all operational conditions and when in combination with any type of antenna from the list provided in the test report (and in the notice to be included in the user manual, provided below).

11.2 Result

The antenna is PCB Antenna which permanently attached, and the best case gain of the antenna is 2.54dBi. It complies with the standard requirement.

12 Test Setup and EUT Photos

Reference to the attachment for details.

*****THE END REPORT*****

