

FCC TEST REPORT

FCC ID:2AH4J-HUB430

Applicant Name..... : Consumer 2.0
Address..... : 6300 Wilshire Blvd Suite 620, Los Angeles, CA 90048,United States
Manufacturer Name..... : Consumer 2.0
Address..... : 6300 Wilshire Blvd Suite 620, Los Angeles, CA 90048,United States
Product..... : Hub 4 - Long Range
Model(s)..... : HUB430
Additional Model(s)..... : /
Trademark..... : /
Model Difference..... : /
Prepared by..... : Guangdong Zhonghan Testing Technology Co., Ltd.
Address..... : Room 104/201, Building 1, Yibaolai Industrial Park, Qiaotou, Fuhai
Subdistrict, Bao'an District, Shenzhen, Guangdong, China
Date of Receipt..... : July 18, 2025
Date of Test(s)..... : July 18, 2025 to Aug. 8, 2025
Date of Issue..... : July 16, 2026
Test Requested..... : Select test(s) as requested by the client.
Test Standard(s)..... : FCC CFR Title 47 Part 15 Subpart C Section 15.249
Test procedure..... : ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 +
Errata to C63.10a-2024

In the configuration tested, the EUT complied with the standards specified above.

Prepared by

Reviewed by:

Leon Li

Baret Wu

Leon Li/ Engineer

Baret Wu/ Director



Note: This device described above has been tested by ZHT, and the test results show that the equipment under test (EUT) is in compliance with the IC requirements. And it is applicable only to the tested sample identified in the report. This report shall not be reproduced except in full, without the written approval of ZHT, this document may be altered or revised by ZHT, personal only, and shall be noted in the revision of the document.

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1.SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15 (15.249) , Subpart C			
Standard Section	Test Item	Judgment	Remark
FCC part 15.203	Antennarequirement	PASS	
FCC part 15.207	AC Power Line Conducted Emission	PASS	
FCC part 15.249	Fundamental &Radiated Spurious Emission Measurement	PASS	
FCC part 15.215 (c)	20dB Channel Bandwidth	PASS	

NOTE:

(1) " N/A" denotes test is not applicable in this Test Report

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Product Name:	Hub 4 - Long Range
Model No.:	HUB430
Model Different.:	N/A
Hardware Version:	V1.0
Software Version:	V1.0
Sample(s) Status:	Engineer sample
Operation Frequency:	908.4MHz, 908.42MHz, 912MHz, 916MHz, 920MHz
Channel Numbers:	5
Modulation Type:	FSK(908.4MHz, 908.42MHz), QFSK(916MHz), DSSS OQPSK (912MHz, 920MHz)
Antenna Type:	External antenna
Antenna gain:	2.28dBi
Power supply:	Input: DC 5V or DC 3.7V powered by battery
Sample Number:	250718106YP001
AC/DC ADAPTER:	
Model:	YHY-05002500
Power supply:	INPUT: 100-240 V, 50-60Hz, 0.5 A OUTPUT: 5 V  2.5 A
Remark: The antenna gain is provided by the customer, if the data provided by the customer is not accurate, Guangdong Zhonghan Testing Technology Co., Ltd. does not assume any responsibility.	

Operation Frequency each of channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	908.4MHz	2	908.42MHz	3	912MHz	4	916MHz
5	920MHz						

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

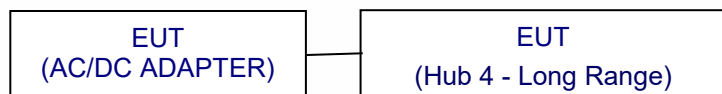
Modulation	Frequency
FSK	908.40MHz
FSK	908.42MHz
DSSS OQPSK	912MHz
QFSK	916MHz
DSSS OQPSK	920MHz

2.2 DESCRIPTION OF TEST MODES

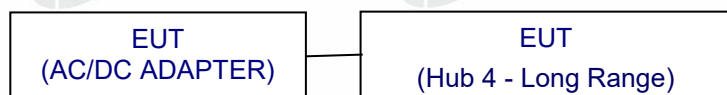
Transmitting mode	Keep the EUT in continuously transmitting mode
Remark: The EUT use new battery during the test. The test voltage was tuned from 85% to 115% of the nominal rated supply voltage, and found that the worst case was under the nominal rated supply condition. So the report just shows that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

2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

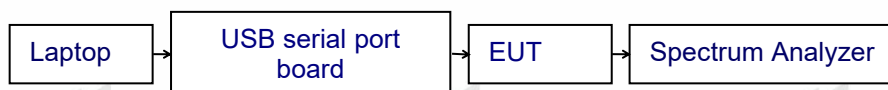
Conducted Emission



Radiated Emission



RF Conducted Emission



2.4 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)

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	Laptop	Lenovo (Beijing) Co., Ltd	ThinkPad E480	/	AE

Item	Shielded Type	Ferrite Core	Length	Note

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.
- (3) The test software is the SSCOM V5.13.1 which can set the EUT into the individual test modes.
Power set point: Auto



3.1 TEST FACILITY

Guangdong Zhonghan Testing Technology Co., Ltd.
Add.: Room 104/201, Building 1, Yibaolai Industrial Park, Qiaotou, Fuhai Subdistrict, Bao'an District,
Shenzhen, Guangdong, China

FCC Registration Number: 255941
Designation Number: CN0325
IC Registered No.: 29832
CAB identifier: CN0143

3.2 EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation Test equipment

Item	Equipment	Manufacturer	Model	Serial No.	Last Cal.	Next Cal.
1	Receiver	R&S	ESCI	100874	May 6, 2025	May 5, 2026
2	Loop Antenna	TESEQ	HLA6121	58357	Oct. 11, 2024	Oct. 10, 2025
3	Amplifier	Schwarzbeck	BBV 9743 B	00378	May 6, 2025	May 5, 2026
4	Amplifier	Schwarzbeck	BBV 9718 B	00040	May 7, 2025	May 6, 2026
5	Bilog Antenna	Schwarzbeck	VULB9162	00498	May 15, 2025	May 14, 2026
6	Horn Antenna	Schwarzbeck	BBHA9120D	02623	May 15, 2025	May 14, 2026
7	Horn Antenna	A.H.SYSTEMS	SAS574	588	Oct. 21, 2024	Oct. 20, 2025
8	Amplifier	AEROFLEX	100KHz-40GHz	097	Oct. 21, 2024	Oct. 20, 2025
9	Spectrum Analyzer	R&S	FSV40	101413	Oct. 21, 2024	Oct. 20, 2025
10	Spectrum Analyzer	KEYSIGHT	N9020A	MY53420208	May 7, 2025	May 6, 2026
11	WIDBAND RADIO COMMUNICATION TESTER	R&S	CMW500	109863	May 7, 2025	May 6, 2026
12	Single Generator	Agilent	N5182A	MY48180575	May 7, 2025	May 6, 2026
13	Power Sensor	MWRFTest	MW100-RFCB	/	May 7, 2025	May 6, 2026
14	Power Amplifier Shielding Room	EMToni	2m3m3m	/	Nov. 25, 2021	Nov. 24, 2026
15	CABLE	EMToni	DA800-NM-NM-11000MM	/	May 6, 2025	May 5, 2026

Conduction Test equipment

Equipment	Manufacturer	Model	Serial No.	Last Cal.	Next Cal.
Receiver	R&S	ESCI	100874	May 6, 2025	May 5, 2026
LISN	R&S	ENV216	102794	May 6, 2025	May 5, 2026
ISN CAT 6	Schwarzbeck	NTFM 8158	00318	May 7, 2025	May 6, 2026
ISN CAT 5	Schwarzbeck	CAT5 8158	00343	May 7, 2025	May 6, 2026
Capacitive Voltage Probe	Schwarzbeck	CVP 9222 C	00101	May 8, 2025	May 7, 2026
Current Transformer Clamp	Schwarzbeck	SW 9605	SW9605 #209	May 8, 2025	May 7, 2026
CABLE	EMToni	G223-NM-BNCM-2000MM	/	May 7, 2025	May 6, 2026

Conducted Test Instrument

Item	Equipment	Manufacturer	Model	Serial No.	Last Cal.	Next Cal.
1	Spectrum Analyzer	R&S	FSV40	101413	Oct. 21, 2024	Oct. 20, 2025
2	Spectrum Analyzer	KEYSIGHT	N9020A	MY53420208	May 7, 2025	May 6, 2026
3	Power Sensor	MWRTest	MW100-RFCB	/	May 7, 2025	May 6, 2026

Project	Software name	Edition
RF Conducted	MTS 8310	2.0.0.0
		4.0.0.0
Conducted Emission	EZ-EMC	EMC-CON 3A1.1+
Radiated Emission	EZ-EMC	FA-03A2 RE+

3.4 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95 %.

No.	Item	Uncertainty
1	Conducted Emission Test	0.92dB
2	RF conducted power	0.16dB
3	Conducted spurious emissions	0.21dB
4	All radiated emissions (9k-30MHz)	4.68dB
5	All radiated emissions (30-1GHz)	5.1dB
6	All radiated emissions (1-6GHz)	3.9dB
7	All radiated emissions (6GHz-18GHz)	4.3dB
8	All radiated emissions (18-40GHz)	4.65dB
9	Temperature	0.5°C
10	Humidity	2%
11	Occupied Bandwidth	4.96%

Decision Rule

- ☒ Uncertainty is not included
☐ Uncertainty is included

4. EMC EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

Test Requirement:	FCC Part15 C Section 15.207
Test Method:	ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024
Test Frequency Range:	150KHz to 30MHz
Receiver setup:	RBW=9KHz, VBW=30KHz, Sweep time=auto

4.1.1 POWER LINE CONDUCTED EMISSION Limits

FREQUENCY (MHz)	Limit (dBuV)		Standard
	Quas-peak	Average	
0.15 -0.5	66 - 56 *	56 - 46 *	FCC
0.50 -5.0	56.00	46.00	FCC
5.0 -30.0	60.00	50.00	FCC

Note:

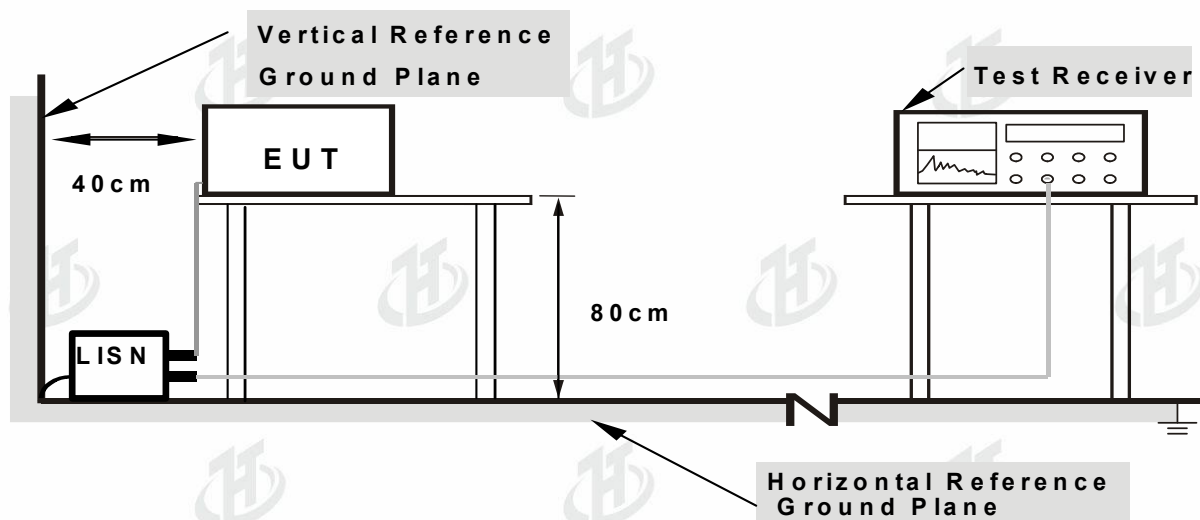
(1) *Decreases with the logarithm of the frequency.

4.1.2 TEST PROCEDURE

- The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- LISN at least 80 cm from nearest part of EUT chassis.
- For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.1.3 DEVIATION FROM TEST STANDARD

No deviation



Note: 1.Support units were connected to second LISN.

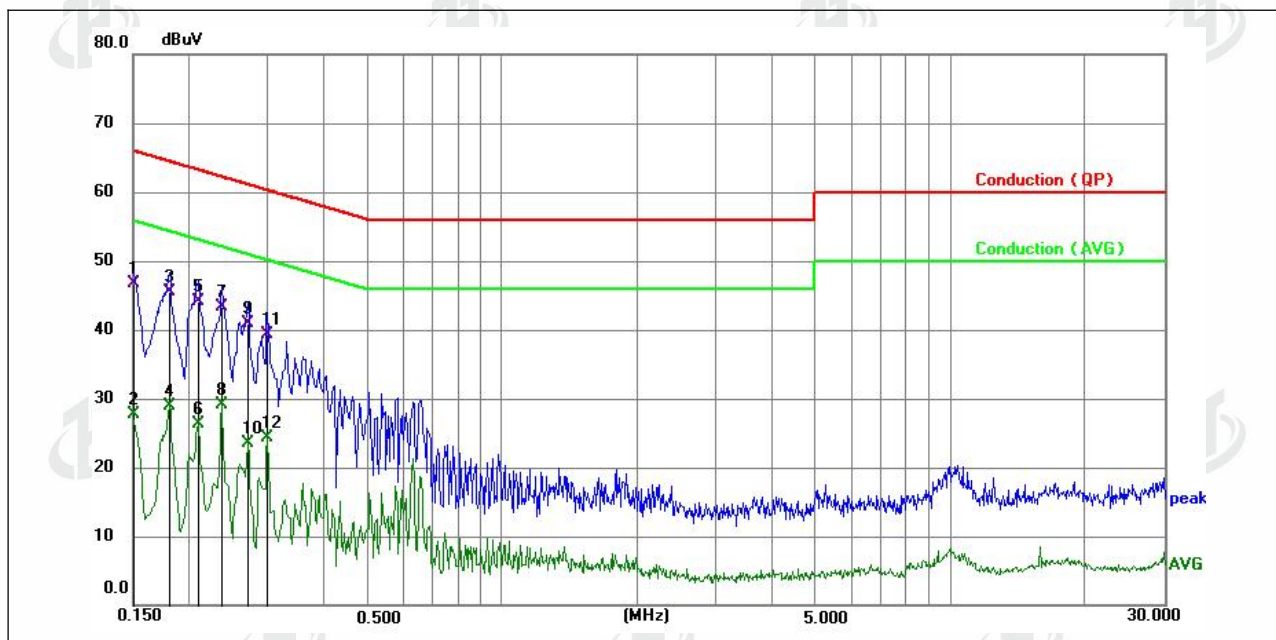
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes

4.1.5 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

4.1.6 TEST RESULTS

Temperature:	25.1℃	Relative Humidity :	50%
Pressure:	101kPa	Phase :	L
Test Voltage :	AC 120V/60Hz		

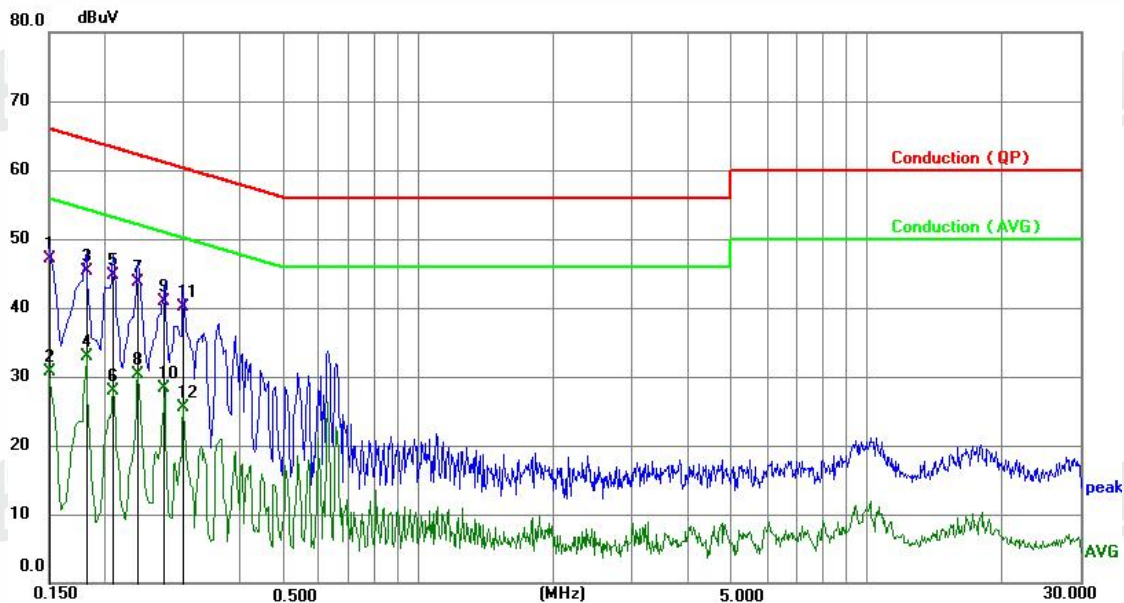


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1500	36.88	9.89	46.77	66.00	-19.23	QP
2	0.1500	17.75	9.89	27.64	56.00	-28.36	AVG
3 *	0.1805	35.60	9.90	45.50	64.46	-18.96	QP
4	0.1805	19.01	9.90	28.91	54.46	-25.55	AVG
5	0.2084	34.25	9.91	44.16	63.27	-19.11	QP
6	0.2084	16.31	9.91	26.22	53.27	-27.05	AVG
7	0.2354	33.30	9.92	43.22	62.26	-19.04	QP
8	0.2354	19.20	9.92	29.12	52.26	-23.14	AVG
9	0.2700	31.04	9.94	40.98	61.12	-20.14	QP
10	0.2700	13.49	9.94	23.43	51.12	-27.69	AVG
11	0.2983	29.41	9.95	39.36	60.29	-20.93	QP
12	0.2983	14.40	9.95	24.35	50.29	-25.94	AVG

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
4. The test data shows only the worst case (908.42MHz)

Temperature:	25.1℃	Relative Humidity :	50%
Pressure:	101kPa	Phase :	N
Test Voltage :	AC 120V/60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1500	37.13	9.89	47.02	66.00	-18.98	QP
2	0.1500	20.76	9.89	30.65	56.00	-25.35	AVG
3	0.1815	35.33	9.90	45.23	64.42	-19.19	QP
4	0.1815	23.02	9.90	32.92	54.42	-21.50	AVG
5	0.2083	34.78	9.91	44.69	63.27	-18.58	QP
6	0.2083	18.09	9.91	28.00	53.27	-25.27	AVG
7 *	0.2366	33.77	9.92	43.69	62.21	-18.52	QP
8	0.2366	20.35	9.92	30.27	52.21	-21.94	AVG
9	0.2714	31.06	9.94	41.00	61.07	-20.07	QP
10	0.2714	18.40	9.94	28.34	51.07	-22.73	AVG
11	0.2987	30.08	9.95	40.03	60.28	-20.25	QP
12	0.2987	15.50	9.95	25.45	50.28	-24.83	AVG

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
4. The test data shows only the worst case (908.42MHz)



Test Requirement:	FCC Part15 C Section 15.209				
Test Method:	ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024				
Test Frequency Range:	9kHz to 25GHz				
Test site:	Measurement Distance: 3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Value
	9KHz-150KHz	Quasi-peak	200Hz	600Hz	Quasi-peak
	150KHz-30MHz	Quasi-peak	9KHz	30KHz	Quasi-peak
	30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak
	Above 1GHz	Peak	1MHz	3MHz	Peak
		Peak	1MHz	10Hz	Average

4.2.1 RADIATED EMISSION LIMITS

Frequencies (MHz)	Field Strength (microvolt/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

The field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)
902-928 MHz	50	500
2400-2483.5 MHz	50	500
5725-5875 MHz	50	500
24.0-24.25 GHz	250	2500

LIMITS OF RADIATED EMISSION MEASUREMENT

FREQUENCY (MHz)	Limit (dBuV/m) (at 3M)	
	PEAK	AVERAGE
Above 1000	74	54

Notes:

- (1) The limit for radiated test was performed according to FCC PART 15C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

4.2.2 TEST PROCEDURE

- a. The measuring distance of at 3 m shall be used for measurements at frequency up to 25GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
- b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-chamber test. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The height of the equipment or of the substitution antenna shall be 0.8m; above 1GHz, the height was 1.5m, the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- f. For the actual test configuration, please refer to the related Item –EUT Test Photos.
- g. For the radiated emission test above 1GHz:
Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response.
The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.

Note:

Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

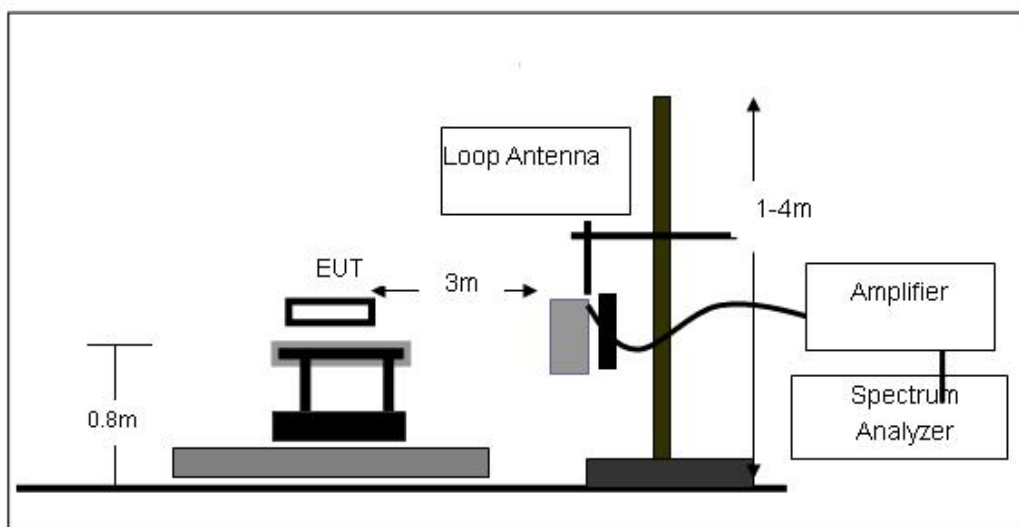
4.2.3 DEVIATION FROM TEST STANDARD

No deviation

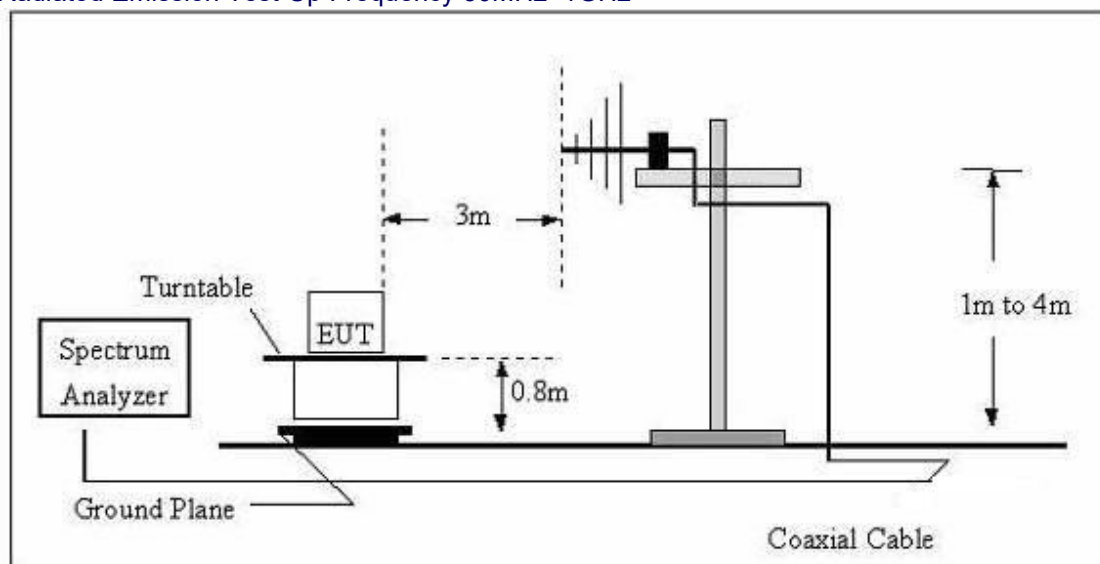


4.2.4 TEST SETUP

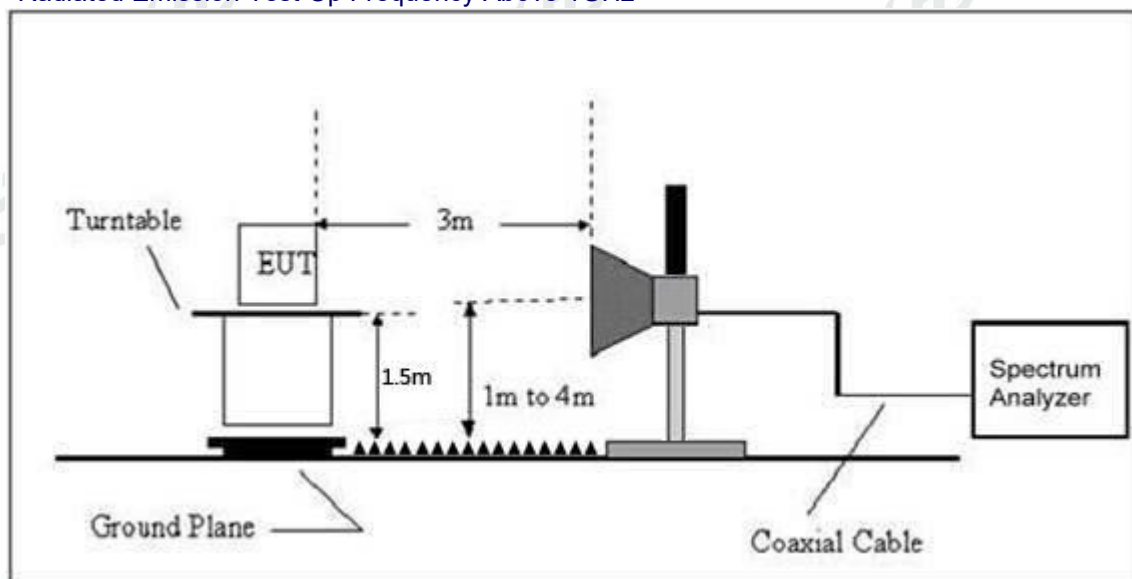
(A) Radiated Emission Test-Up Frequency Below 30MHz



(B) Radiated Emission Test-Up Frequency 30MHz~1GHz



(C) Radiated Emission Test-Up Frequency Above 1GHz



4.2.5 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.



4.2.6 TEST RESULTS (Between 9KHz – 30 MHz)

Field strength of Harmonics and Spurious Emissions
Only the worst-case (908.4MHz TX) were record in the report.

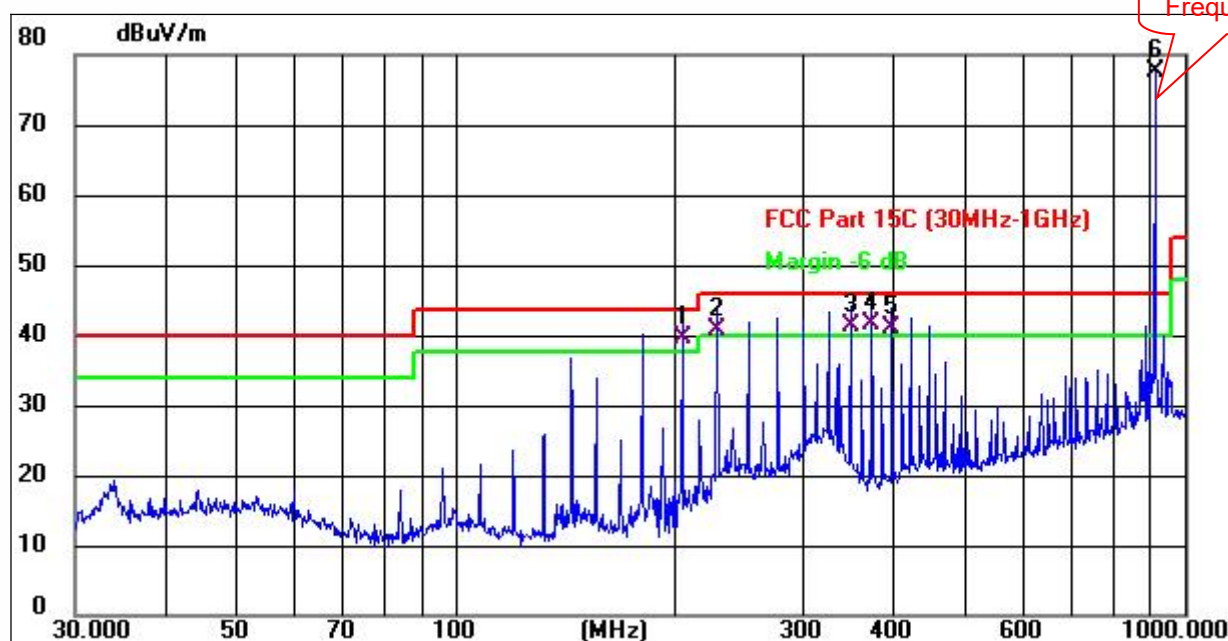
The emission from 9 kHz to 30MHz was pre-tested and found the result was 20dB lower than the limit, and according to 15.31(o), the test result no need to reported.

Field Strength of The Fundamental Signal

Note: maximum permissible field strength is 50mV/m(93.98dB μ V/m).

Between 30MHz – 1GHz

Temperature:	24.9°C	Relative Humidity:	54%
Pressure:	101 kPa	Polarization:	Horizontal
Test Voltage:	AC 120V/60Hz		

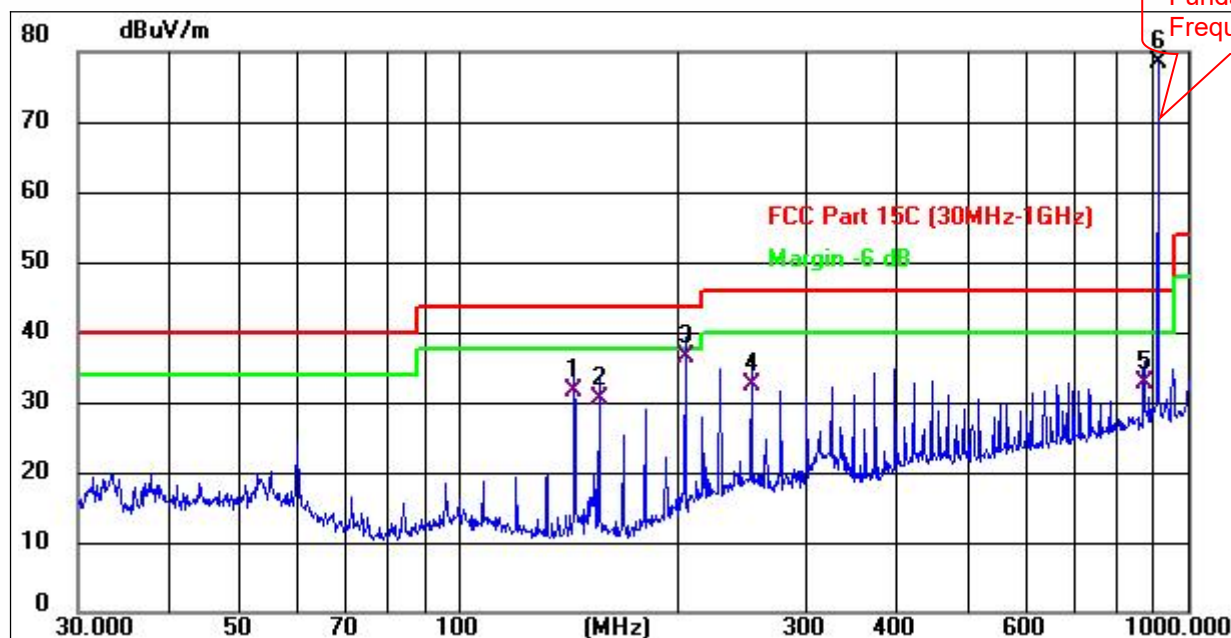


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 !	204.2375	50.70	-10.99	39.71	43.50	-3.79	QP
2 !	228.4902	50.80	-10.06	40.74	46.00	-5.26	QP
3 !	348.0274	48.37	-7.14	41.23	46.00	-4.77	QP
4 !	372.0045	48.25	-6.60	41.65	46.00	-4.35	QP
5 !	396.2412	46.95	-6.04	40.91	46.00	-5.09	QP
6 *	908.4200	75.12	2.45	77.57	/	/	peak

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
908.42	75.12	2.45	77.57	93.98	-16.41	Peak



Temperature:	24.9°C	Relative Humidity:	54%
Pressure:	101kPa	Polarization:	Vertical
Test Voltage:	AC 120V/60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	143.8295	45.45	-13.89	31.56	43.50	-11.94	QP
2	155.9101	44.33	-13.82	30.51	43.50	-12.99	QP
3	204.2377	47.40	-10.99	36.41	43.50	-7.09	QP
4	252.0627	41.68	-9.21	32.47	46.00	-13.53	QP
5	872.1832	30.78	1.95	32.73	46.00	-13.27	QP
6 *	908.4200	76.09	2.45	78.54	/	/	peak

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
908.42	76.09	2.45	78.54	93.98	-15.44	Peak

Remarks:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. The emission levels of other frequencies are very lower than the limit and not show in test report.
3. The test data shows only the worst case (908.42MHz)

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
Channel: 908.4MHz									
V	1816.8	56.12	30.55	5.77	24.66	56	74	-18	Pk
V	1816.8	42.93	30.55	5.77	24.66	42.81	54	-11.19	AV
V	2725.2	55.16	30.33	6.32	24.55	55.7	74	-18.3	Pk
V	2725.2	44.75	30.33	6.32	24.55	45.29	54	-8.71	AV
H	1816.8	55.53	30.55	5.77	24.66	55.41	74	-18.59	Pk
H	1816.8	41.95	30.55	5.77	24.66	41.83	54	-12.17	AV
H	2725.2	58.29	30.33	6.32	24.55	58.83	74	-15.17	Pk
H	2725.2	43.22	30.33	6.32	24.55	43.76	54	-10.24	AV
Channel: 908.42MHz									
V	1816.84	56.63	30.55	5.77	24.66	56.51	74	-17.49	Pk
V	1816.84	43.72	30.55	5.77	24.66	43.6	54	-10.4	AV
V	2725.26	58.21	30.33	6.32	24.55	58.75	74	-15.25	Pk
V	2725.26	44.96	30.33	6.32	24.55	45.5	54	-8.5	AV
H	1816.84	55.05	30.55	5.77	24.66	54.93	74	-19.07	Pk
H	1816.84	41.99	30.55	5.77	24.66	41.87	54	-12.13	AV
H	2725.26	56.7	30.33	6.32	24.55	57.24	74	-16.76	Pk
H	2725.26	41.25	30.33	6.32	24.55	41.79	54	-12.21	AV
Channel: 912MHz									
V	1824	55.01	30.55	5.77	24.66	54.89	74	-19.11	Pk
V	1824	41.4	30.55	5.77	24.66	41.28	54	-12.72	AV
V	2736	59.11	30.33	6.32	24.55	59.65	74	-14.35	Pk
V	2736	42.66	30.33	6.32	24.55	43.2	54	-10.8	AV
H	1824	59.98	30.55	5.77	24.66	59.86	74	-14.14	Pk
H	1824	41.64	30.55	5.77	24.66	41.52	54	-12.48	AV
H	2736	56.15	30.33	6.32	24.55	56.69	74	-17.31	Pk
H	2736	41.92	30.33	6.32	24.55	42.46	54	-11.54	AV
Channel: 916MHz									
V	1832	55.45	30.55	5.77	24.66	55.33	74	-18.67	Pk
V	1832	41.35	30.55	5.77	24.66	41.23	54	-12.77	AV
V	2748	55.16	30.33	6.32	24.55	55.7	74	-18.3	Pk
V	2748	44.24	30.33	6.32	24.55	44.78	54	-9.22	AV
H	1832	59.55	30.55	5.77	24.66	59.43	74	-14.57	Pk
H	1832	44.97	30.55	5.77	24.66	44.85	54	-9.15	AV
H	2748	57.45	30.33	6.32	24.55	57.99	74	-16.01	Pk
H	2748	44.48	30.33	6.32	24.55	45.02	54	-8.98	AV
Channel: 920MHz									
V	1840	55.78	30.55	5.77	24.66	55.66	74	-18.34	Pk
V	1840	41.62	30.55	5.77	24.66	41.5	54	-12.5	AV
V	2760	57.42	30.33	6.32	24.55	57.96	74	-16.04	Pk
V	2760	44.01	30.33	6.32	24.55	44.55	54	-9.45	AV
H	1840	59.83	30.55	5.77	24.66	59.71	74	-14.29	Pk
H	1840	41.9	30.55	5.77	24.66	41.78	54	-12.22	AV
H	2760	55.41	30.33	6.32	24.55	55.95	74	-18.05	Pk
H	2760	41.98	30.33	6.32	24.55	42.52	54	-11.48	AV

Remark:

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.

Test Requirement:	FCC Part15 C Section 15.249/15.215
Test Method:	ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024

5.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.249) , Subpart C			
Section	Test Item	Frequency Range (MHz)	Result
15.249(c)	Bandwidth	2400-2483.5	PASS

5.2 TEST PROCEDURE

1. Set resolution bandwidth (RBW) = 1%-5% OBW.
2. Set the video bandwidth (VBW) $\geq 3 \times$ RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 20 dB relative to the maximum level measured in the fundamental emission.

5.3 DEVIATION FROM STANDARD

No deviation.

5.4 TEST SETUP



5.5 EUT OPERATION CONDITIONS

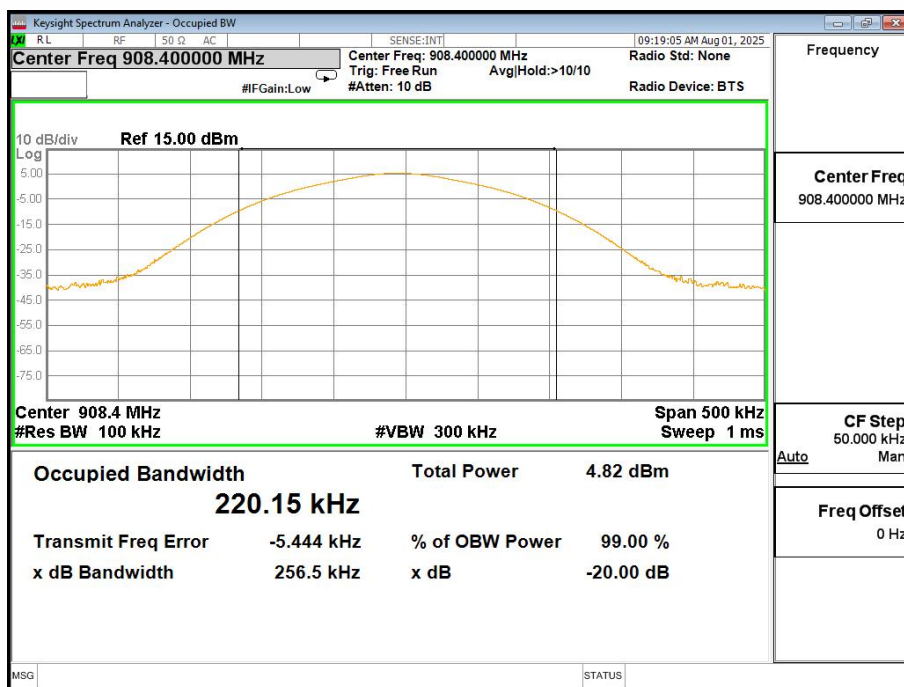
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

5.6 TEST RESULTS

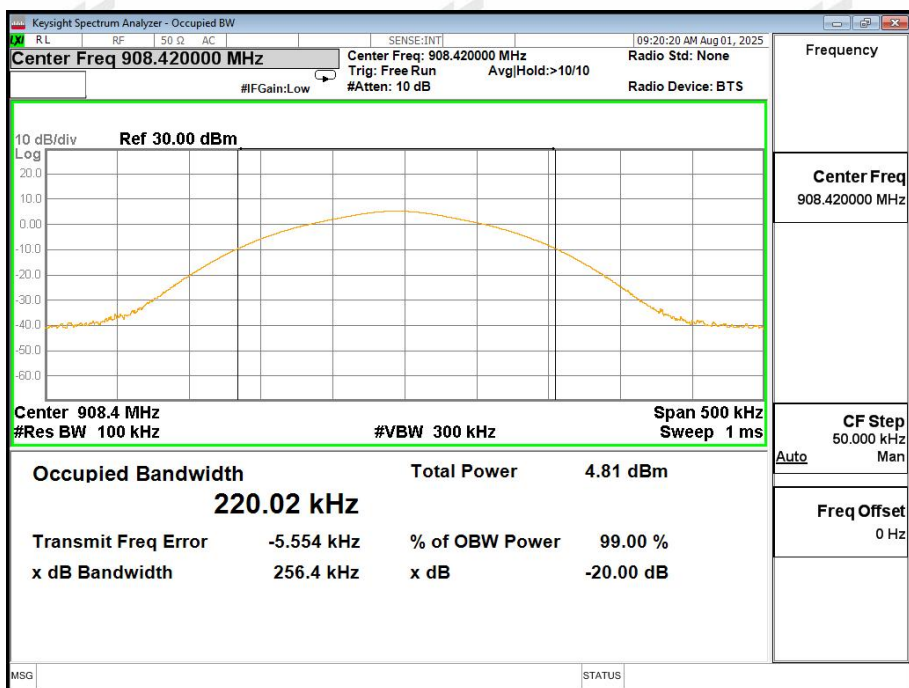
Temperature:	25.1°C	Relative Humidity:	53%
Test Mode :	FSK, QFSK	Test Voltage:	AC 120V/60Hz

Mode	Test channel (MHz)	20dB Emission Bandwidth (kHz)	Result
FSK	908.4	256.5	Pass
FSK	908.42	256.4	
DSSS OQPSK	912	255.5	
QFSK	916	256.6	
DSSS OQPSK	920	255.4	

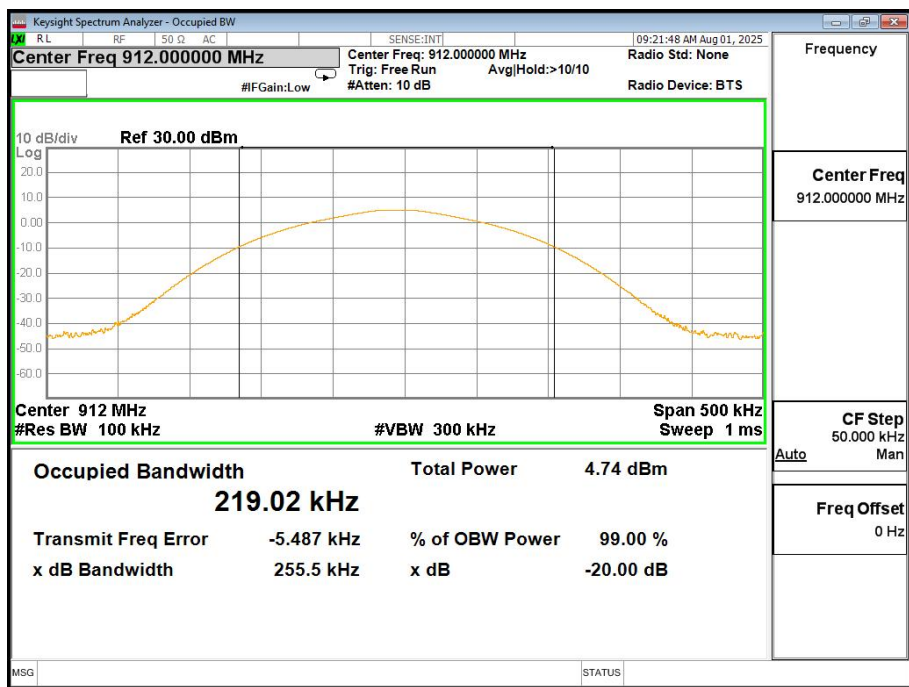
908.4 MHz



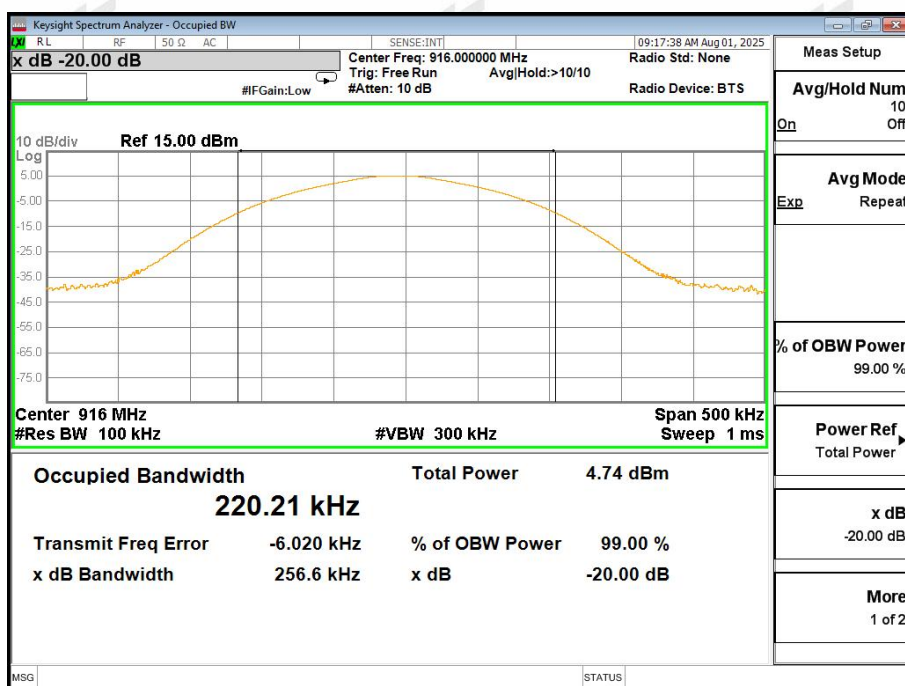
908.42 MHz



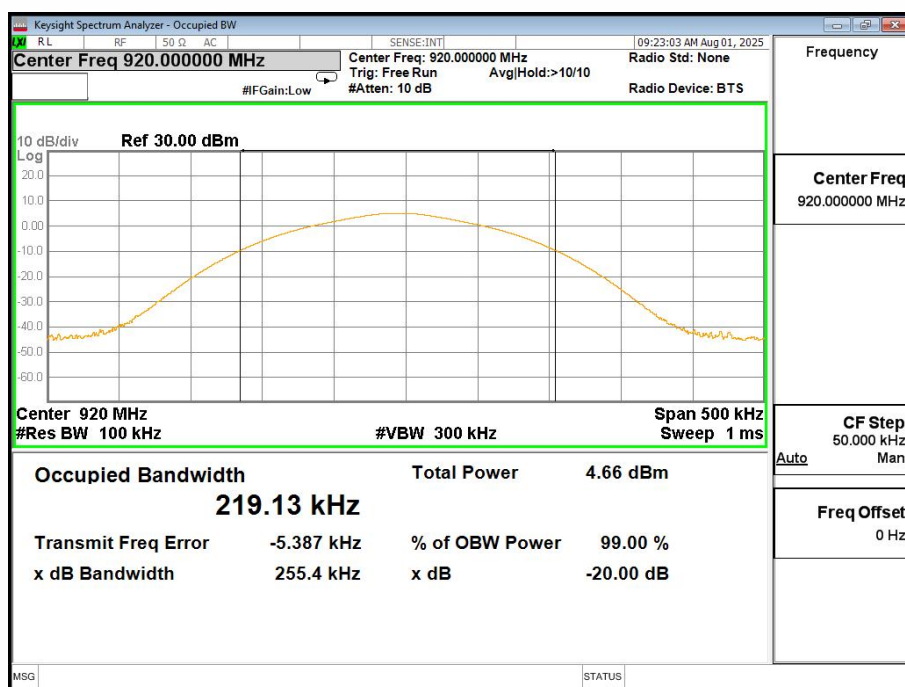
912 MHz



916 MHz



920 MHz



Note: Because the measured signal is CW-like, adjusting the RBW per C63.10 would not be practical since measurement bandwidth will always follow the RBW. The RBW is set to 100 KHz to perform the 20dB bandwidth test.



Standard requirement:	FCC Part15 C Section 15.203
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.	
EUT Antenna:	
The antennas are External Antenna, the best case gain of the antennas are 2.28dBi, reference to the appendix II for details.	

7. TEST SETUP PHOTO

Reference to the appendix I for details.

8. EUT CONSTRUCTIONAL DETAILS

Reference to the appendix II for details.

※※※※※ **END OF REPORT** ※※※※※