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Test report No:
25A0670R.702

TEST REPORT

Product Name	Mobile Phone
Model and /or type reference	25128RN17L
Trademark	REDMI
FCC ID	2AFZZ8RN17L
Applicant´s name / address	Xiaomi Communications Co., Ltd. #019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085
Test method requested, standard	47 CFR FCC Part 15 (Section 15.247) ANSI C63.10: 2020
Verdict Summary	IN COMPLIANCE
Tested By (name / position & signature)	Tim Cao / Project Manager
Approved by (name / position & signature)	Frank He / Technical Manager
Date of issue	2025-11-25
Report Version	V1.0
Report template No.	Template_FCC Part 15C-RF-V1.0

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COMPETENCES AND GUARANTEES

DEKRA is a testing laboratory competent to carry out the tests described in this report.
In order to assure the traceability to other national and international laboratories, DEKRA has a calibration and maintenance program for its measurement equipment.

DEKRA guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated in the report and it is based on the knowledge and technical facilities available at DEKRA at the time of performance of the test.

DEKRA is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

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GENERAL CONDITIONS

Test Location	No. 99, Hongye Road, Suzhou Industrial Park Suzhou, 215006, P.R. China
Test Facility	A2LA (Certificate No. 3235.01) CNAS (Certificate No. L5313) FCC - Designation Number: CN1199 Test Firm Registration Number: 566524 ISED - CAB identifier: CN0040 IC#: 4075B
Date(receive sample)	Oct. 20, 2025
Date (start test)	Oct. 21, 2025
Date (finish test)	Nov. 15, 2025

1. This report is only referred to the item that has undergone the test.
2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or Competent Authorities.
3. This document is only valid if complete; no partial reproduction can be made without previous written permission of DEKRA.
4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of DEKRA.

DOCUMENT HISTORY

Report No.	Version	Description	Issued Date
25A0670R.702	V1.0	Initial issue of report.	2025-11-25

TEST SUMMARY

Requirement – Test Item	Standard(s)	Verdict	Remark
20dB Emission Bandwidth	FCC 15.247(a)(1)	PASS	Test data please refer to **Appendix**
Maximum conducted output power	FCC 15.247(b)(1)	PASS	Test data please refer to **Appendix**
Carrier Frequency Separation	FCC 15.247(a)(1)	PASS	Test data please refer to **Appendix**
Time of Occupancy (Dwell Time)	FCC 15.247(a)(1)(iii)	PASS	Test data please refer to **Appendix**
Number of Hopping Frequencies	FCC 15.247(a)(1)(iii)	PASS	Test data please refer to **Appendix**
Band edge measurements	FCC 15.247(d)	PASS	Test data please refer to **Appendix**
Conducted Spurious Emission	FCC 15.247(d) FCC 15.209	PASS	Test data please refer to **Appendix**
Duty Cycle	ANSI C63.10	PASS	Test data please refer to **Appendix**
Emissions in Restricted Bands	FCC 15.247(b)(3)	PASS	Test data please refer to **Appendix**
AC Power Line Conducted Emission	FCC 15.207	PASS	Test data please refer to **Appendix**
Antenna Requirement	FCC 15.203	PASS	---
Notes: The radiation measurement is pre tested under X, Y, and Z axis positioning to find the worst placement for final testing.			

USED EQUIPMENT

Conducted Test/ TR8

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Wireless Connectivity Tester	R&S	CMW 270	102593	2025.05.10	2026.05.09
High and low temperature and fast temperature change test box	ASTUOD	ASTD-FBT-225K	N/A	2025.03.15	2026.03.14
Temperature/Humidity Meter	RTS	RTS-8S	RF08	2025.06.17	2026.06.16
MAX Signal Analyzer	Agilent	N9020A	MY49100159	2025.10.13	2026.10.14
RF Control Unit	Tonscend	JS0806-2	22G8060594	2025.01.26	2026.01.25
Vector Signal Genertor	R&S	SMM 100A	101853	2025.09.20	2026.09.19
EXG-B MW Analog Signal Generator	Keysight	N5173B	MY61252566	2025.05.10	2026.05.09
Test Software	Tonscend	TS1120	JS1120-3	N/A	N/A

Radiated Emission(9KHz-1GHz) / AC2

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Anechoic chamber	Quietek	9m*6m*6m	AC2	2024.07.07	2027.07.06
EMI Test Receiver	R&S	ESCI	100573	2025.01.11	2026.01.10
Bilog Antenna	Teseq GmbH	CBL6112D	27611	2025.03.24	2026.03.23
Temperature/Humidity Meter	RTS	RTS-1909	THM-021	2025.04.30	2026.04.29
Dekra test software	Dekra	N/A	N/A	N/A	N/A

AC Power Line Conducted Emission / TR1

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Shielding room	Quietek	4.9m*4m*3m	TR1	2023.03.04	2028.03.03
EMI Test Receiver	R&S	ESR7	102086	2025.01.11	2026.01.10
Two-Line V-Network	R&S	ENV216	101189	2025.05.10	2026.05.09
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	2025.03.16	2026.03.15
Temperature/Humidity Meter	RTS	RTS-1909	THM-012	2025.04.30	2026.04.29
Dekra test software	Dekra	N/A	N/A	N/A	N/A

Radiated Emission Band Edge(1GHz-40GHz) / AC5

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Anechoic chamber	Quietek	9m*6m*6m	AC5	2024.07.07	2027.07.06
DRG Horn Antenna	ETS-Lindgren	3117	167055	2025.08.14	2026.08.13
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2025.06.22	2026.06.21
MXA Signal Analyzer	Keysight	N9020B	MY60112218	2025.09.20	2026.09.19
Pre-Amplifier	XH	LNA1845	LNA23040284	2025.05.17	2026.05.16
Pre-Amplifier	CY	EMC184045SE	980263	2025.05.10	2026.05.09
Filter Switch Box	MVE	MSW-F196	C070001S	2025.03.15	2026.03.14
Temperature/Humidity Meter	RTS	RTS-1909	THM-001	2025.08.22	2026.08.21
Temperature/Humidity Meter	RTS	RTS-1909	THM-024	2025.04.30	2026.04.29
Wideband Radio Communication Tester	R&S	CMW 500	170870	2025.05.10	2026.05.09
Test Software	Tonscend	JS1120	JS36-RE	N/A	N/A

UNCERTAINTY

Uncertainties have been calculated according to the DEKRA internal document. The reported expanded uncertainties are based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95%.

Test item Test Location	Uncertainty
AC Power Line Conducted Emission	9kHz~150kHz: 2.8 dB 150kHz~30MHz: 2.4 dB
Peak Power Output	± 1.3 dB
Radiated Emission(30MHz~1GHz)	Horizontal: 30MHz~200MHz: 3.5 dB 300MHz~1GHz: 3.6 dB Vertical: 30MHz~200MHz: 3.6 dB 300MHz~1GHz: 3.5 dB
Radiated Emission(1GHz~26.5GHz)	Horizontal: 1GHz~18GHz: 5.0 dB Vertical: 1GHz~18GHz: 4.8 dB Horizontal: 18GHz~26.5GHz: 5.3 dB Vertical: 18GHz~26.5GHz: 4.9 dB
RF antenna conducted test	± 1.3 dB
Carrier Frequency Separation	± 1.0 kHz
Number of Hopping Frequencies	± 1.0 kHz
Time of Occupancy (Dwell Time)	± 0.10 us
Radiated Emission Band Edge	± 3.9 dB
DTS Bandwidth	±1.0 kHz
Occupied Bandwidth	±1.0 kHz
Power Density	±1.3 dB

1 GENERAL INFORMATION

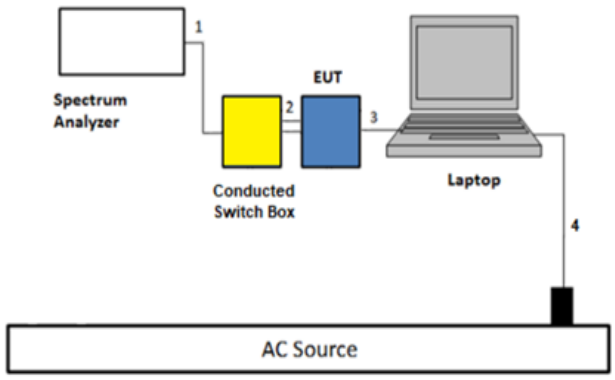
Product Name .....:	Mobile Phone	
Model Name .....:	25128RN17L	
Trademark. .....:	REDMI	
FCC ID.....:	2AFZZ8RN17L	
Power Supply .....:	3.86 Vdc, EUT is equipped with an adapter to power it via AC/DC.	
Hardware Version.....:	135100502	
Software Version .....:	Xiaomi HyperOS 3.0	
Manufacturer .....:	Xiaomi Communications Co., Ltd.	
Manufacturer Address .....:	#019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085	
Test Matrix/ IMEI .....:	RF Conducted	863426080042628 863426080042636
	RSE	863426080042321 863426080042339
Wireless specifiction.....:	Bluetooth	
Operating frequency range(s) .....:	2402~2480MHz	
Type of modulation.....:	GFSK	
Number of channels .....:	79	
Data Rate .....:	GFSK 1Mbit/s, Pi/4 DQPSK 1Mbit/s, 8DPSK 3Mbit/s	
Antenna type .....:	PIFA	
Antenna Gain .....:	-0.5 dBi	
Remark: As above information is provided and confirmed by the applicant. DEKRA is not liable to the accuracy, suitability, reliability or/and integrity of the information.		

Power setting in test

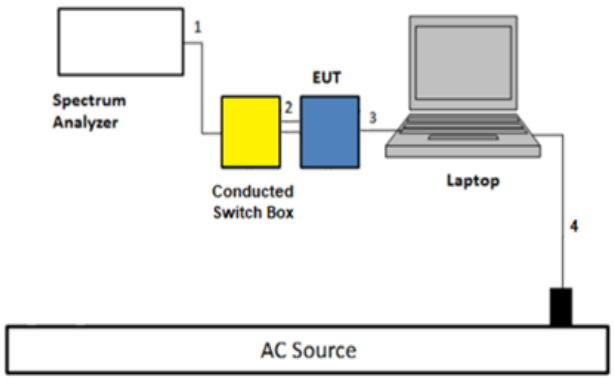
Mode	Power setting
BR / EDR	9

2 DESCRIPTION OF TEST SETUP

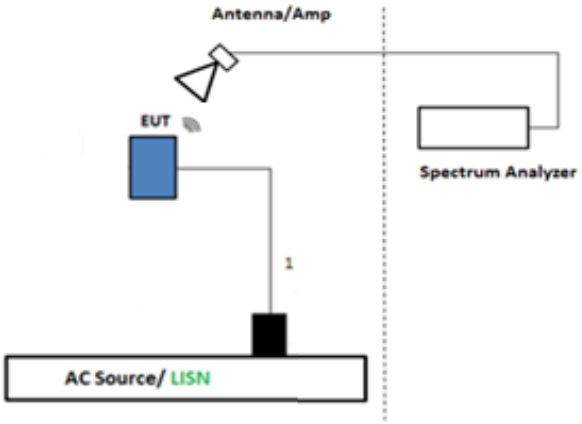
Auxiliary equipment	Type / Version	Manufacturer	Supplied by
(1) Notebook	Think pad x220	Lenovo	Adapter
(2) Ethernet cable	N/A	N/A	N/A
(3) Ethernet cable	N/A	N/A	N/A
Software	Type / Version	Manufacturer	Supplied by
##83781#*# *	N/A	N/A	N/A



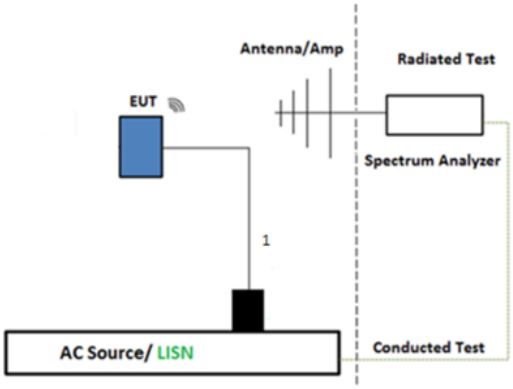
AC Power Line Conducted Emission



Conducted RF



Radiated Test Above 1GHz



Radiated Test Below 1GHz

Accessories Information	Cable		
	Length used during test [m]	Attached during test	Shielded
(2) Ethernet cable	1	☒	☒
(3) Ethernet cable	8	☒	☒

3 VERDICT SUMMARY SECTION

This chapter presents an overview of standards and results. Refer to the next chapters for details of measured test results and applied test levels.

3.1 Standards

Standard	Year	Description
FCC CFR Title 47 Part 15 Subpart C Section 15.247	2020	Operation within the bands 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz.
ANSI C63.10	2020	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices

3.2 Deviation(s) from the Standard(s) / Test Specification(s)

The following deviation(s) was / were made from the published requirements of the listed standards: N/A.

(Please define the deviations from the standard(s) if applicable)

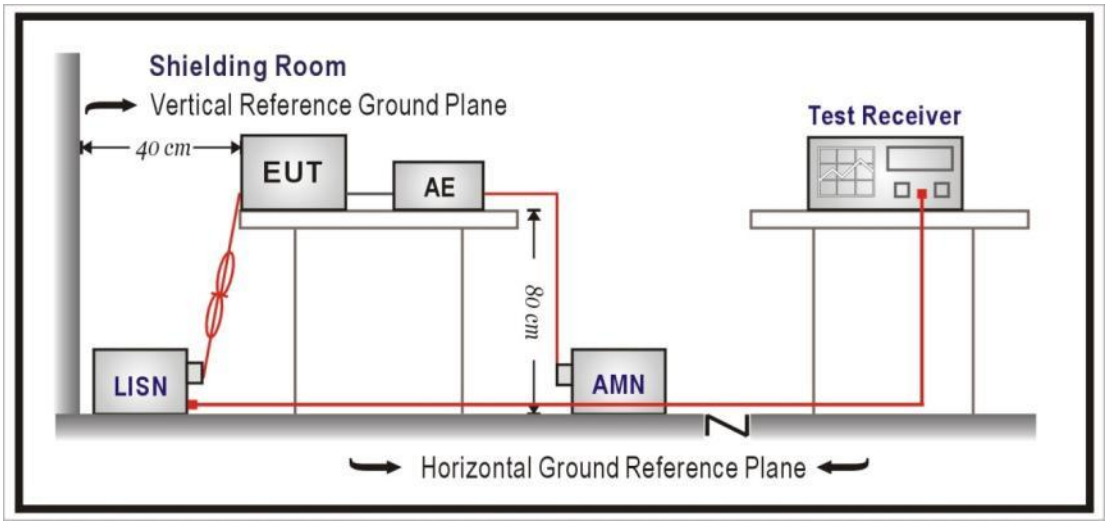
4 TEST RESULTS

4.1 AC Power Line Conducted Emission	VERDICT: PASS

4.1.1 Limit		
Standard	FCC Part 15 Subpart C Paragraph 15.207	
Frequency range [MHz]	Limit: QP [dB(μV)[1)]]	Limit: AV [dB(μV)[1)]]
0,15 - 0,50	66 - 56 [2)]	56 - 46 [2)]
0,50 - 5,0	56	46
5,0 - 30	60	50

[1)] At the transition frequency, the lower limit applies.
[2)] The limit decreases linearly with the logarithm of the frequency.

4.1.2 Test Setup



4.1.3 Test Procedure

	References Rule	Chapter	Item
☒	ANSI C63.10	6.2	Standard test method for ac power-line conducted emissions from unlicensed wireless devices

4.2 Emissions in restricted frequency bands — VERDICT: PASS

4.2.1 Limit

Standard	FCC Part 15 Subpart C Paragraph 15.205; 15.209

Restricted Bands of operation for FCC

Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.090 – 0.110	16.42 – 16.423	399.9 – 410	4.5 – 5.15
0.495 – 0.505	16.69475 –16.69525	608 – 614	5.35 – 5.46
2.1735 – 2.1905	16.80425 – 16.80475	960 – 1240	7.25 – 7.75
4.125 – 4.128	25.5 – 25.67	1300 – 1427	8.025 – 8.5
4.17725 – 4.17775	37.5 – 38.25	1435 – 1626.5	9.0 – 9.2
4.20725 – 4.20775	73 – 74.6	1645.5 – 1646.5	9.3 – 9.5
6.215 – 6.218	74.8 – 75.2	1660 – 1710	10.6 – 12.7
6.26775 – 6.26825	108 – 121.94	1718.8 – 1722.2	13.25 – 13.4
6.31175 – 6.31225	123 – 138	2200 – 2300	14.47 – 14.5
8.291 – 8.294	149.9 – 150.05	2310 – 2390	15.35 – 16.2
8.362 – 8.366	156.52475 – 156.52525	2483.5 – 2500	17.7 – 21.4
8.37625 – 8.38675	156.7 – 156.9	2690 – 2900	22.01 – 23.12
8.81425 – 8.81475	162.0125 – 167.17	3260 – 3267	23.6 – 24.0
12.29 – 12.293	167.72 – 173.2	3332 – 3339	31.2 – 31.8
12.51975–12.52025	240 – 285	3345.8 – 3358	36.43 – 36.5
12.57675–12.57725	322 – 335.4	3600 – 4400	Above 38.6
13.36 – 13.41	--	--	--

Restricted Band Emissions Limit

Frequency (MHz)	Field strength (μV/m)	Field strength (dBμV/m)	Measurement distance (m)
0.009 - 0.49	2400/F(kHz)	48.5 – 13.8	300(Note 1)
0.49 - 1.705	24000/F(kHz)	33.8 - 23	30(Note 1)
1.705 - 30	30	29.5	30(Note 1)
30 - 88	100	40	3(Note 2)
88 - 216	150	43.5	3(Note 2)
216 - 960	200	46	3(Note 2)
Above 960	500	54	3(Note 2)

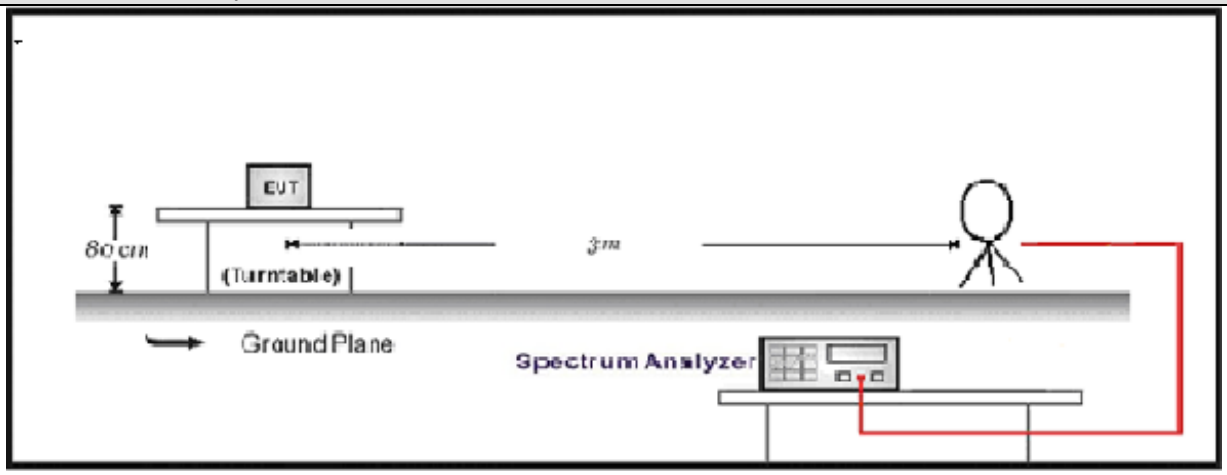
Note 1: At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed below 30 MHz, when performing measurements at a closer distance than specified, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade).

Note 2: At frequencies at or above 30 MHz, measurements may be performed at a distance other than what is specified provided: measurements are not made in the near field except where it can be shown that near field measurements are appropriate due to the characteristics of the device; and it can be demonstrated that the signal levels needed to be measured at the distance employed can be detected by the measurement equipment. Measurements shall not be performed at a distance greater than 30 meters unless it can be further demonstrated that measurements at a distance of 30 meters or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20

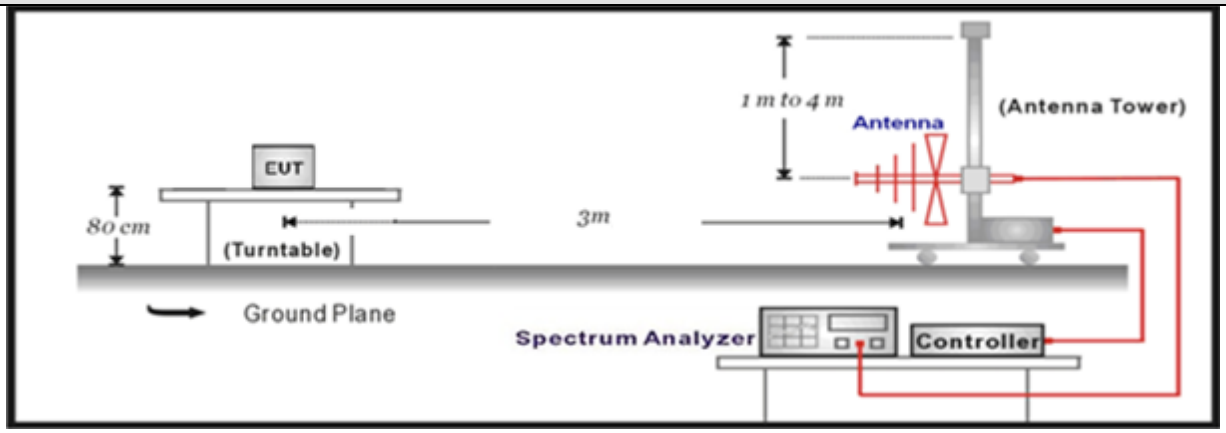
dB/decade (inverse linear-distance for field strength measurements; inverse-linear-distance-squared for power density measurements).

4.2.2 Test Setup

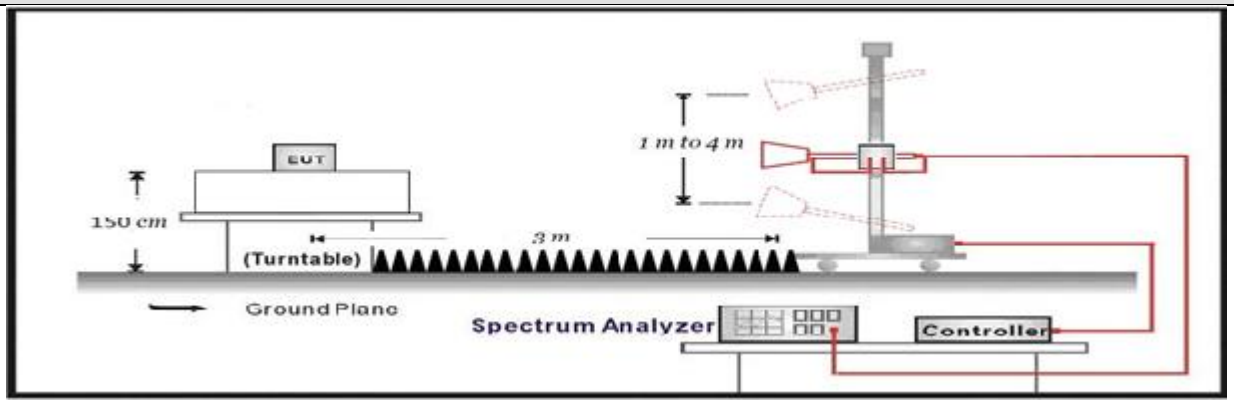
Below 30MHz Test Setup:



30MHz-1GHz Test Setup:



Above 1GHz Test Setup:



4.2.3 Test Procedure

	References Rule			Chapter	Description
☒	ANSI C63.10			11.12	Emissions in restricted frequency bands
	☒	ANSI C63.10		11.12.1	Radiated emission measurements
	☒	ANSI C63.10		6.3	Radiated spurious emission test
		☒	ANSI C63.10	6.4	Radiated emissions from unlicensed wireless devices below 30 MHz
		☒	ANSI C63.10	6.5	Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz
		☒	ANSI C63.10	6.6	Radiated emissions from unlicensed wireless devices above 1 GHz

4.3 Emissions in non-restricted frequency band	VERDICT: PASS

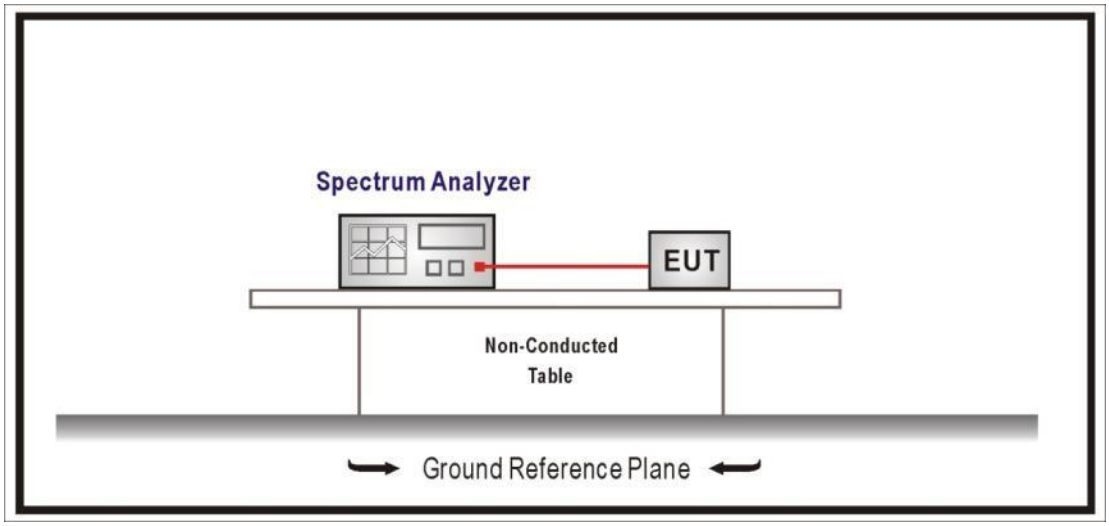
4.3.1 Limit

Standard	FCC Part 15 Subpart C Paragraph 15.247(d)
RF Output power (Detection methods)	Limit(dB)
RF Output power(Average detector)	30dBc(Note1)
RF Output power(PK detector)	20dBc(Note2)

Note 1: If maximum conducted (average) output power was used to demonstrate compliance as described in 9.2, then the peak power in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum in-band peak PSD level in 100 kHz (i.e., 30 dBc).

Note 2: If the maximum peak conducted output power procedure was used, then the peak output power measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz (i.e., 20 dBc).

4.3.2 Test Setup



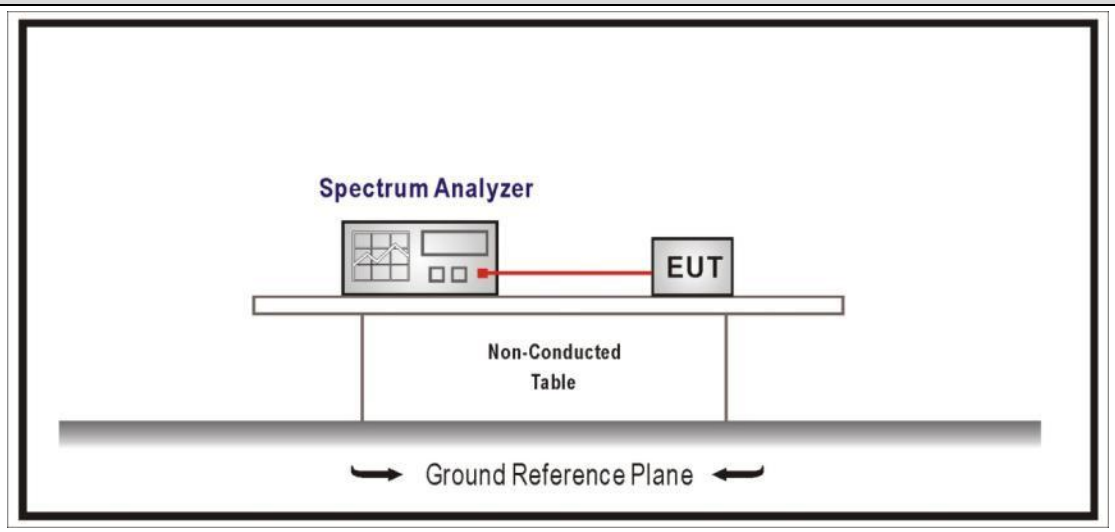
4.3.3 Test Procedure

References Rule			Chapter	Description
☒	ANSI C63.10		7.8.7	Conducted spurious emissions test methodology
	☒	ANSI C63.10	7.8.7.1	General
	☒	ANSI C63.10	7.8.7.2	Band-edges

4.4 Duty cycle	VERDICT: PASS

4.4.1 Limit
N/A

4.4.2 Test Setup



4.4.3 Test Procedure

References Rule		Chapter	Description
☒	ANSI C63.10	11.6	Duty cycle (D), transmission duration (T), and maximum power control level

4.5 Radiated Emission Band Edge — VERDICT: PASS

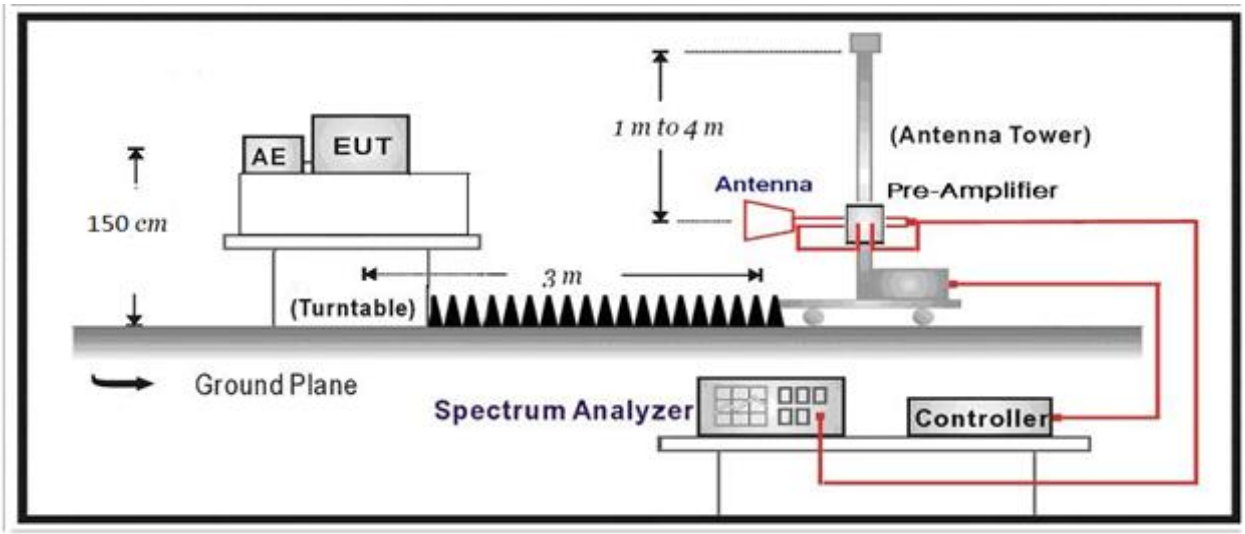
4.5.1 Limit

Standard	FCC Part 15 Subpart C Paragraph 15.247(d) , 15.205, 15.209			
Frequency bands (MHz)	Detector	Limit (dBμV/m)	RBW (MHz)	Distance (m)
2310-2390 2483.5-2500	PK	74	1	3
	AV	54	1	3

Note: The field strength of emissions appearing within these frequency bands shall not exceed the limits.

4.5.2 Test Setup

Above 1GHz Test Setup:



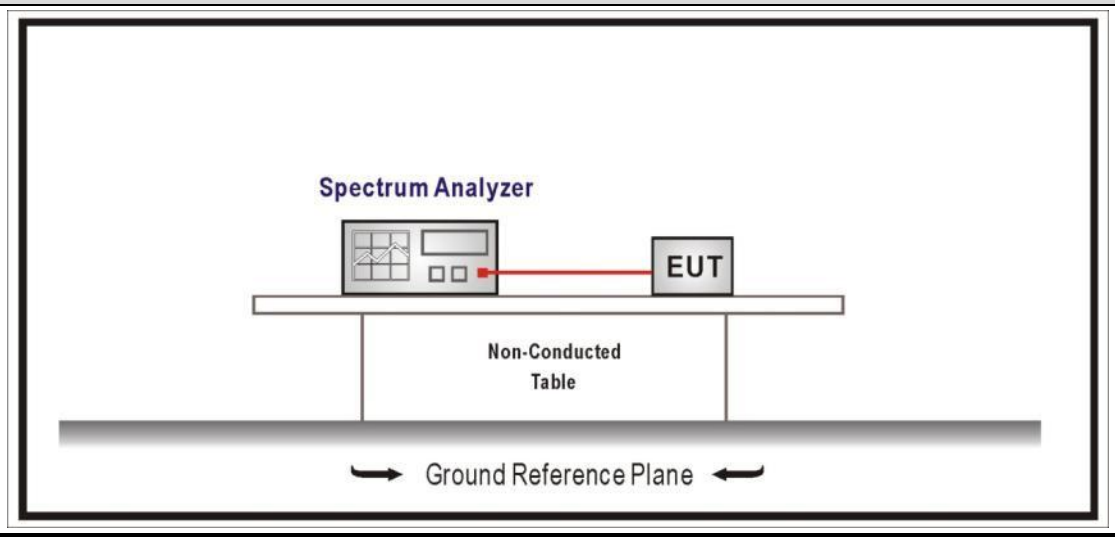
4.5.3 Test Procedure

	References Rule	Chapter	Description
☒	ANSI C63.10	7.8.8	Band-edge testing

4.6 20dB Emission Bandwidth	VERDICT: PASS

4.6.1 Limit	
Standard	FCC Part 15 Subpart C Paragraph 15.247 (a)(2)
Systems using digital modulation techniques operate in the2400-2483.5 MHz .The minimum 6 dB bandwidth shall be at least 500 kHz	
Standard	ANSI C63.10 Paragraph 6.7
The occupied bandwidth or the “99% emission bandwidth” is defined as the frequency range between two points, one above and the other below the carrier frequency, within which 99% of the total transmitted power of the fundamental transmitted emission is contained. The occupied bandwidth shall be reported for all equipment in addition to the specified bandwidth required in the applicable RSSs. The occupied bandwidth should within the required frequency range.	

4.6.2 Test Setup



4.6.3 Test Procedure

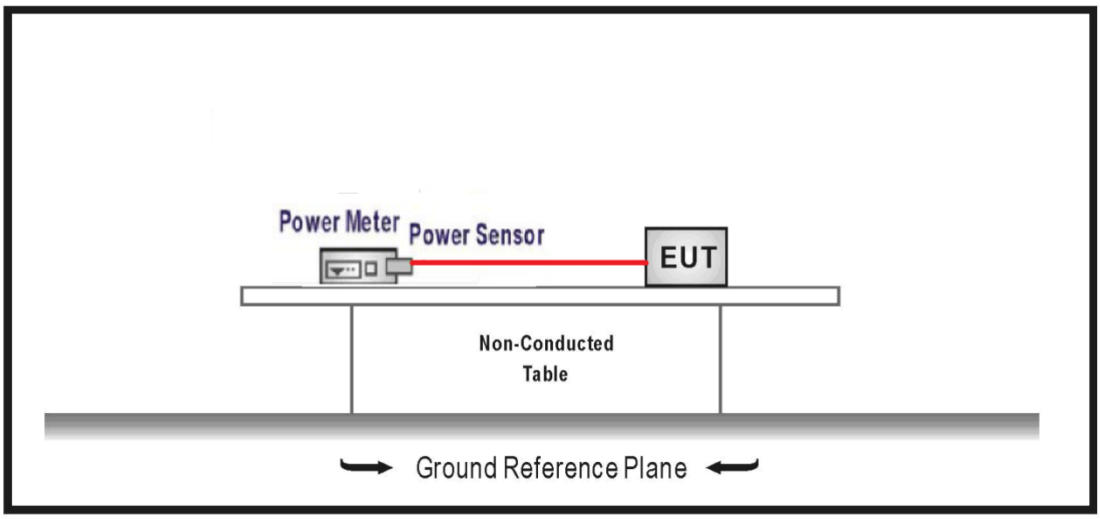
	Reference Rule	Chapter	Description
☒	ANSI C63.10	7.8.6	Occupied bandwidth

4.7 Fundamental emission output power — VERDICT: PASS

4.7.1 Limit

Standard	FCC Part 15 Subpart C Paragraph 15.247 (b)(3)
Frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.	
Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.	
Note 1 : GTX directional gain of transmitting antennas. Note 2 : Pout is maximum conducted output power .	

4.7.2 Test Setup



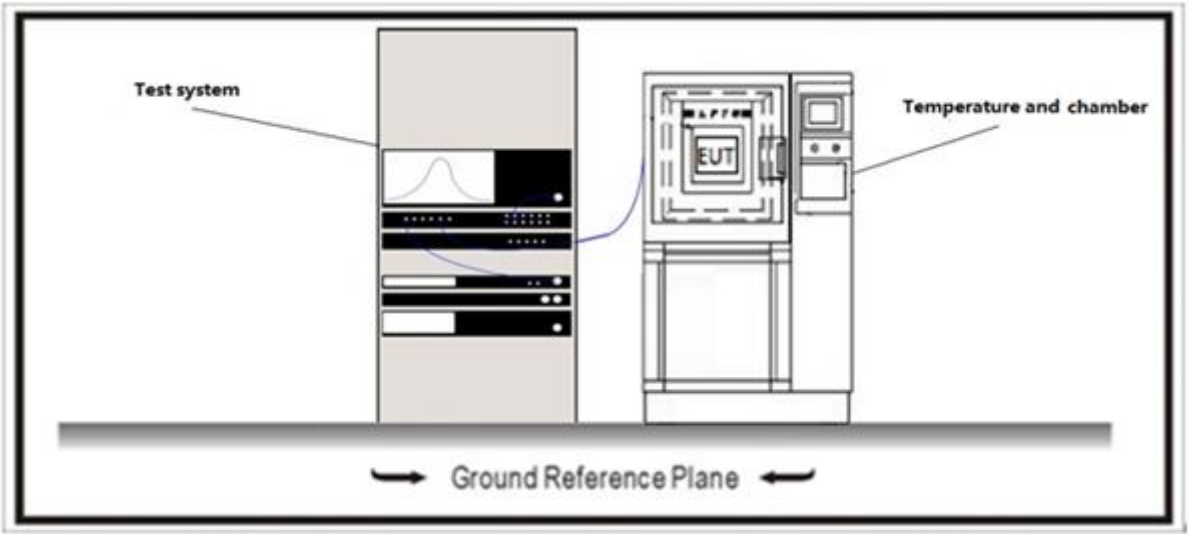
4.7.3 Test Procedure

	References Rule				Chapter	Description
☒	ANSI C63.10				11.9	Fundamental emission output power
	☒	ANSI C63.10			11.9.1	Maximum peak conducted output power
			☐	ANSI C63.10	11.9.1.1	RBW ≥ DTS bandwidth
			☒	ANSI C63.10	11.9.1.2	PKPM1 Peak power meter method

4.8 Carrier Frequency Separation	VERDICT: PASS

4.8.1 Limit	
Standard	FCC Part 15 Subpart C Paragraph 15.247(a);
☐	Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.
☒	Frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel.
☐	The 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 20 second period;
☐	The 20 dB bandwidth of the hopping channel is 250 kHz or greater, the system shall use at least 25 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 10 second period. The maximum allowed 20 dB bandwidth of the hopping channel is 500 kHz.
☐	Frequency hopping systems operating in the 5725-5850 MHz band shall use at least 75 hopping frequencies. The maximum 20 dB bandwidth of the hopping channel is 1 MHz.

4.8.2 Test Setup

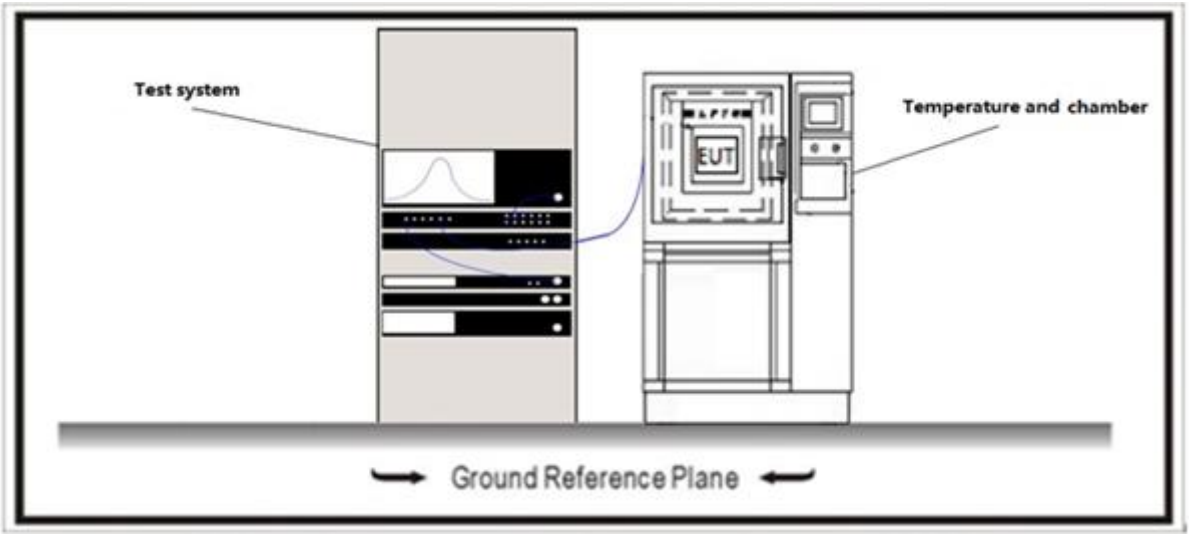


4.9.3 Test Procedure			
References Rule		Chapter	Description
☒	ANSI C63.10	7.8	Evaluation of frequency-hopping device parameters
☒	ANSI C63.10	7.8.2	Carrier frequency separation

4.9 Time of Occupancy	VERDICT: PASS

4.9.1 Limit	
Standard	FCC Part 15 Subpart C Paragraph 15.247(a);
☒	Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.
☐	For frequency hopping systems operating in the 902-928 MHz band: if the 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 20 second period
☐	For frequency hopping systems operating in the 902-928 MHz band: if the 20 dB bandwidth of the hopping channel is 250 kHz or greater, the system shall use at least 25 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 10 second period.
☐	Frequency hopping systems operating in the 5725-5850 MHz band shall use at least 75 hopping frequencies. The maximum 20 dB bandwidth of the hopping channel is 1 MHz. The average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 30 second period.

4.9.2 Test Setup

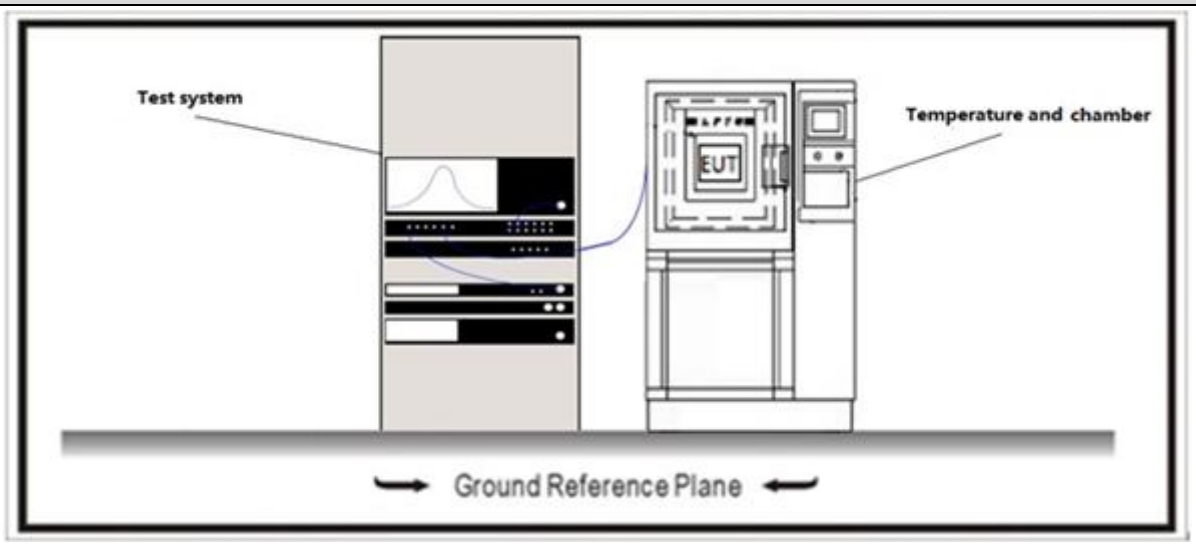


4.9.3 Test Procedure			
References Rule		Chapter	Description
☒	ANSI C63.10	7.8	Evaluation of frequency-hopping device parameters
☒	ANSI C63.10	7.8.4	Time of occupancy (dwell time)

4.10 Number of hopping Frequencies	VERDICT: PASS

4.10.1 Limit	
Standard	FCC Part 15 Subpart C Paragraph 15.247(a);
☒	For frequency hopping systems operating in the 2400-2483.5 MHz band shall use at least 15 hopping frequencies.
☐	For frequency hopping systems operating in 902-928 MHz band, if the 20 dB bandwidth of the hopping channel is less than 250 kHz, shall use at least 50 hopping frequencies.
☐	For frequency hopping systems operating in 902-928 MHz band, if the 20 dB bandwidth of the hopping channel is higher than 250 kHz, shall use at least 25 hopping frequencies.
☐	For frequency hopping systems operating in the 5725-5850 MHz band shall use at least 75 hopping frequencies.

4.10.2 Test Setup



4.10.3 Test Procedure			
References Rule		Chapter	Description
☒	ANSI C63.10	7.8.	Evaluation of frequency-hopping device parameters
	☒ ANSI C63.10	7.8.3	Number of Hopping Frequencies

4.11 Antenna Requirement	VERDICT: PASS

4.11.1 Limit:	
Standard	FCC Part 15 Subpart C Paragraph 15.203
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. 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. This requirement does not apply to carrier current devices or to devices operated under the provisions of §15.211, §15.213, §15.217, §15.219, or §15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.	

4.11.2 Antenna Connector Construction:	
☒	The use of a permanently attached antenna
☐	The antenna use of a unique coupling to the intentional radiator
☐	The use of a nonstandard antenna jack or electrical connector
Please refer to the attached document “Internal Photograph” to show the antenna connector.	

5 TEST SETUP PHOTO AND EUT PHOTO

Remark: The test setup photo and EUT Photo please see appendix.

Appendix

Maximum conducted output power

Mode	Channel	Frequency (MHz)	Peak Power (dBm)	Limit (dBm)	Verdict
DH5	00	2402	10.59	≤30	Pass
	39	2441	10.38	≤30	Pass
	79	2480	10.11	≤30	Pass
2DH5	00	2402	7.72	≤30	Pass
	39	2441	7.65	≤30	Pass
	79	2480	7.83	≤30	Pass
3DH5	00	2402	7.15	≤30	Pass
	39	2441	6.86	≤30	Pass
	79	2480	6.91	≤30	Pass

20dB Emission Bandwidth
Test Result

TestMode	Antenna	Frequency[MHz]	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.957	2401.541	2402.498	---	---
DH5	Ant1	2441	0.990	2440.496	2441.486	---	---
DH5	Ant1	2480	0.957	2479.529	2480.486	---	---
2DH5	Ant1	2402	1.290	2401.361	2402.651	---	---
2DH5	Ant1	2441	1.290	2440.358	2441.648	---	---
2DH5	Ant1	2480	1.293	2479.361	2480.654	---	---
3DH5	Ant1	2402	1.281	2401.346	2402.627	---	---
3DH5	Ant1	2441	1.302	2440.343	2441.645	---	---
3DH5	Ant1	2480	1.287	2479.358	2480.645	---	---

Test Graphs

DH5-Ant1-2402

DH5-Ant1-2441

DH5-Ant1-2480

2DH5-Ant1-2402

2DH5-Ant1-2441

2DH5-Ant1-2480

3DH5-Ant1-2402

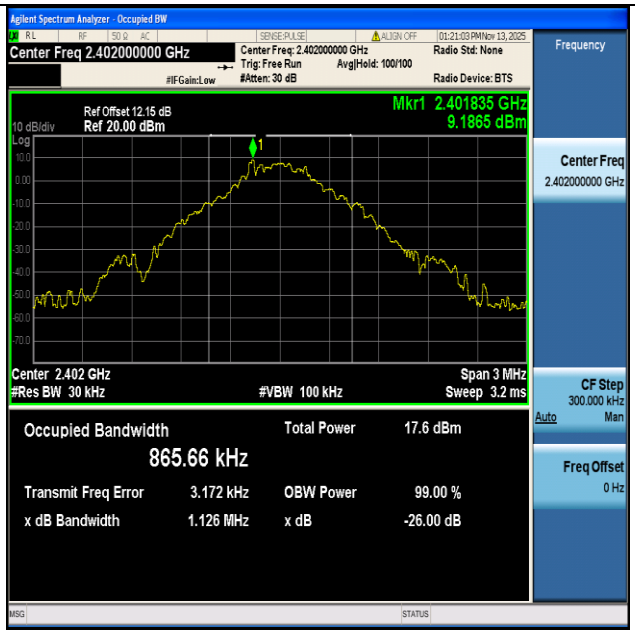
3DH5-Ant1-2441

3DH5-Ant1-2480

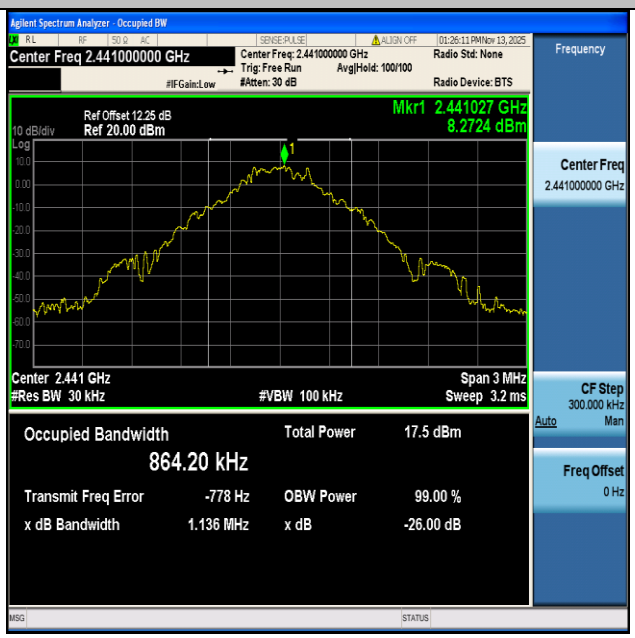
Occupied Channel Bandwidth
Test Result

TestMode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.86566	2401.5703	2402.4360	---	---
DH5	Ant1	2441	0.86420	2440.5671	2441.4313	---	---
DH5	Ant1	2480	0.85650	2479.5673	2480.4238	---	---
2DH5	Ant1	2402	1.1877	2401.4035	2402.5912	---	---
2DH5	Ant1	2441	1.1809	2440.4036	2441.5845	---	---
2DH5	Ant1	2480	1.1929	2479.3999	2480.5928	---	---
3DH5	Ant1	2402	1.1933	2401.4000	2402.5933	---	---
3DH5	Ant1	2441	1.1949	2440.3976	2441.5925	---	---
3DH5	Ant1	2480	1.1978	2479.3942	2480.5920	---	---

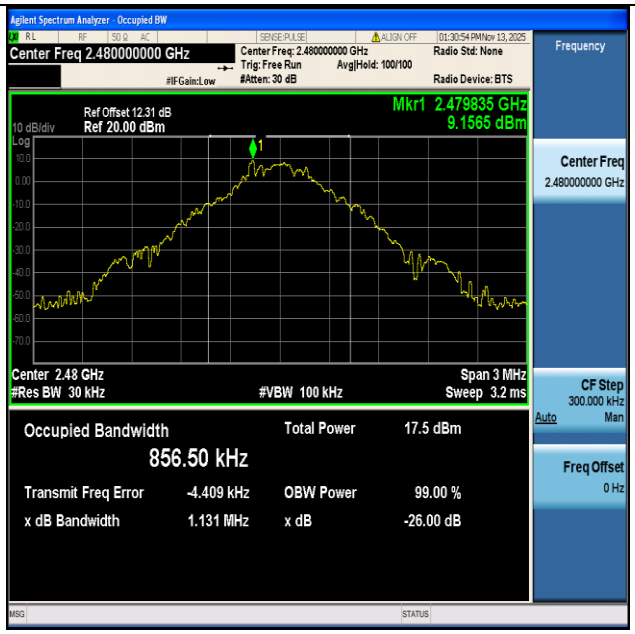
Test Graphs



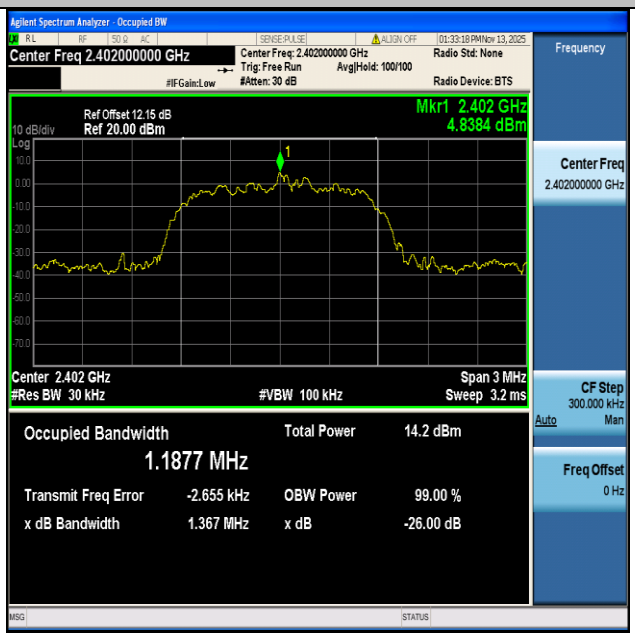
DH5-Ant1-2402



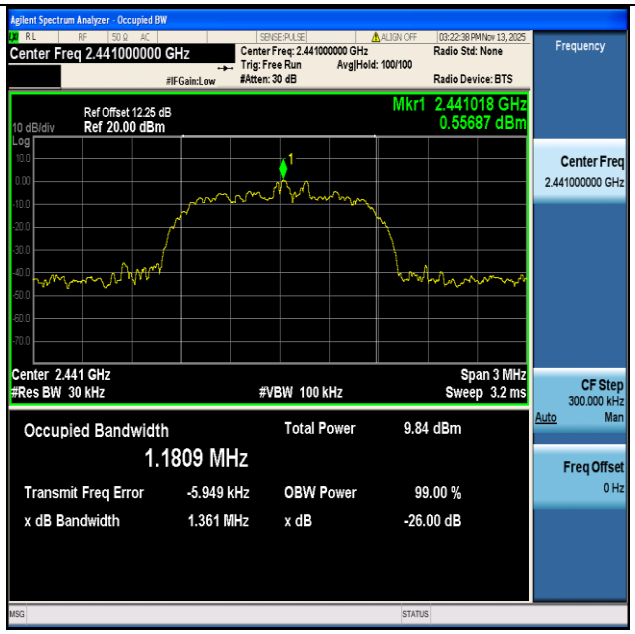
DH5-Ant1-2441



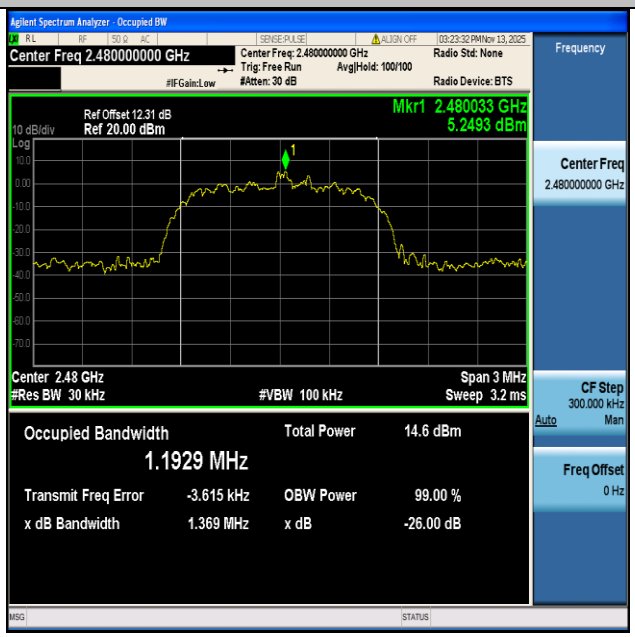
DH5-Ant1-2480



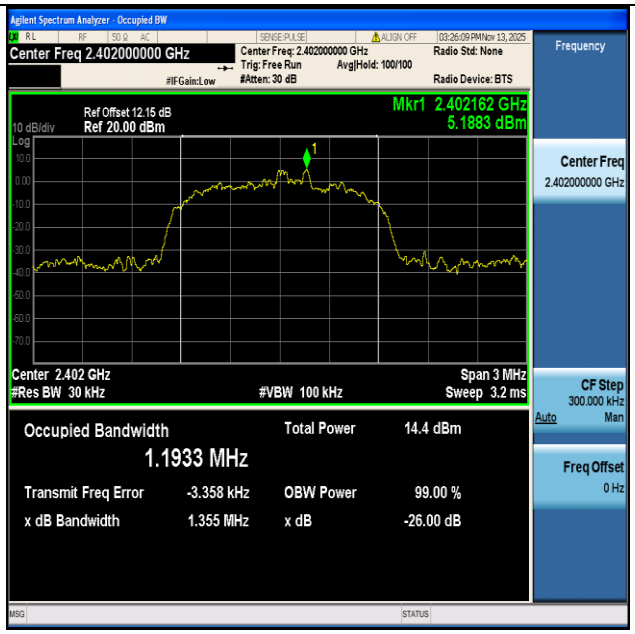
2DH5-Ant1-2402



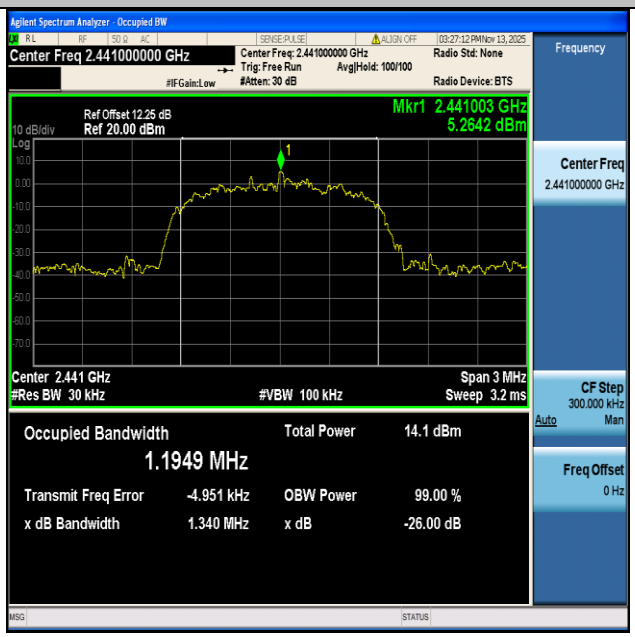
2DH5-Ant1-2441



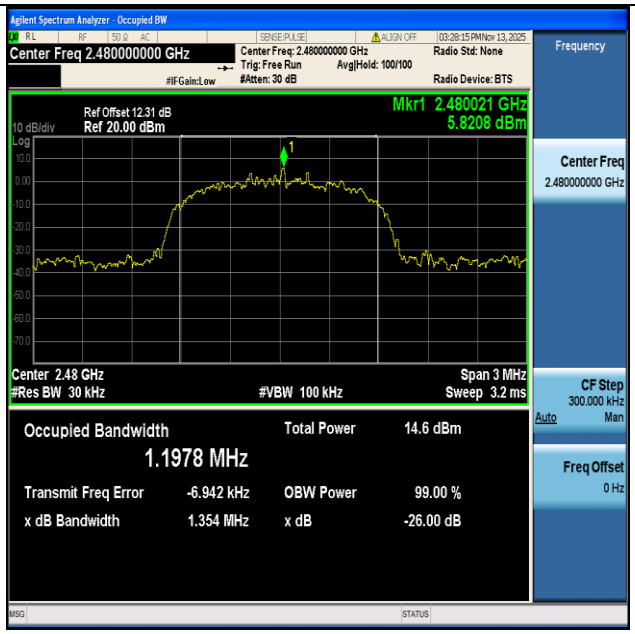
2DH5-Ant1-2480



3DH5-Ant1-2402



3DH5-Ant1-2441



3DH5-Ant1-2480

Carrier frequency separation
Test Result

TestMode	Antenna	Frequency[MHz]	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.006	≥0.990	PASS
2DH5	Ant1	Hop	1.252	≥0.862	PASS
3DH5	Ant1	Hop	0.95	≥0.868	PASS

Test Graphs

DH5-Ant1-Hop-PASS

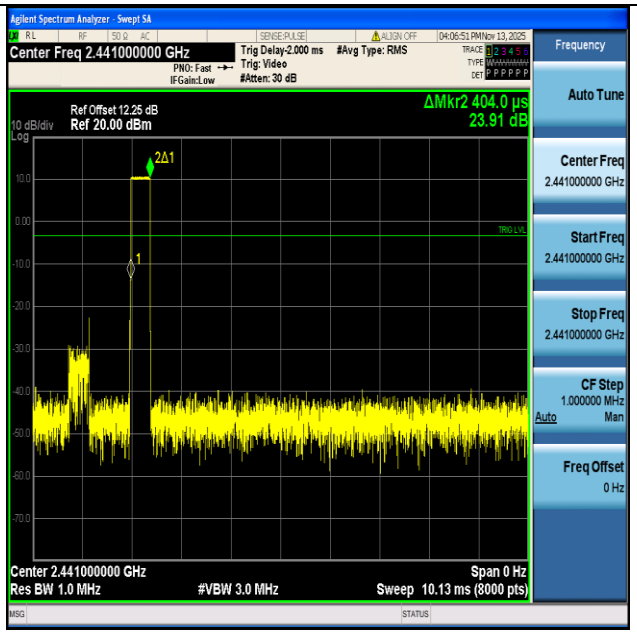
2DH5-Ant1-Hop-PASS

3DH5-Ant1-Hop-PASS

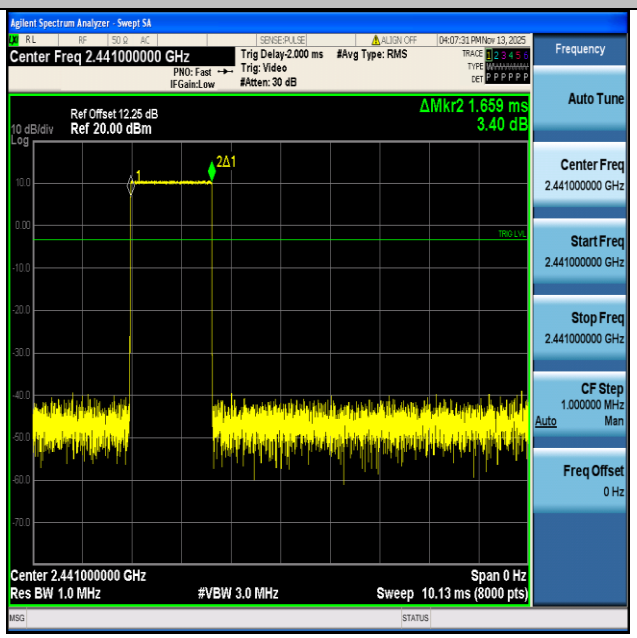
Time of occupancy
Test Result

TestMode	Antenna	Frequency[MHz]	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Hop	0.404	320	0.129	≤0.4	PASS
DH3	Ant1	Hop	1.659	160	0.265	≤0.4	PASS
DH5	Ant1	Hop	2.908	106.67	0.31	≤0.4	PASS
2DH1	Ant1	Hop	0.396	320	0.127	≤0.4	PASS
2DH3	Ant1	Hop	1.536	160	0.246	≤0.4	PASS
2DH5	Ant1	Hop	1.536	106.67	0.164	≤0.4	PASS
3DH1	Ant1	Hop	0.394	320	0.126	≤0.4	PASS
3DH3	Ant1	Hop	1.077	160	0.172	≤0.4	PASS
3DH5	Ant1	Hop	1.077	106.67	0.115	≤0.4	PASS

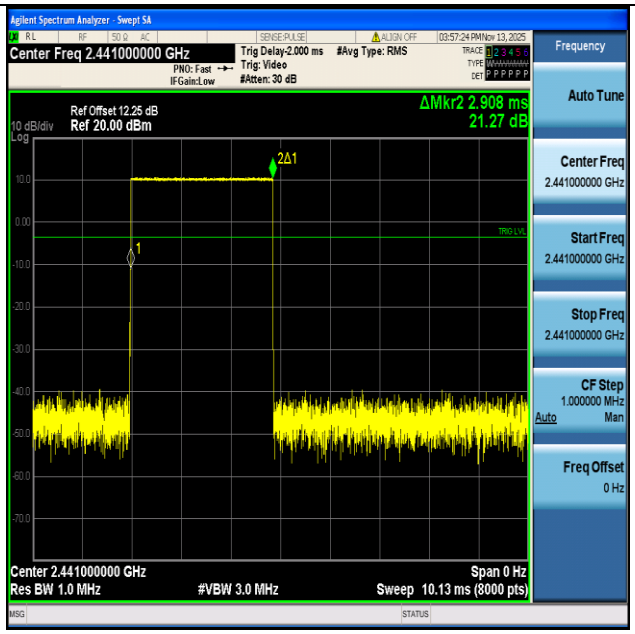
Test Graphs



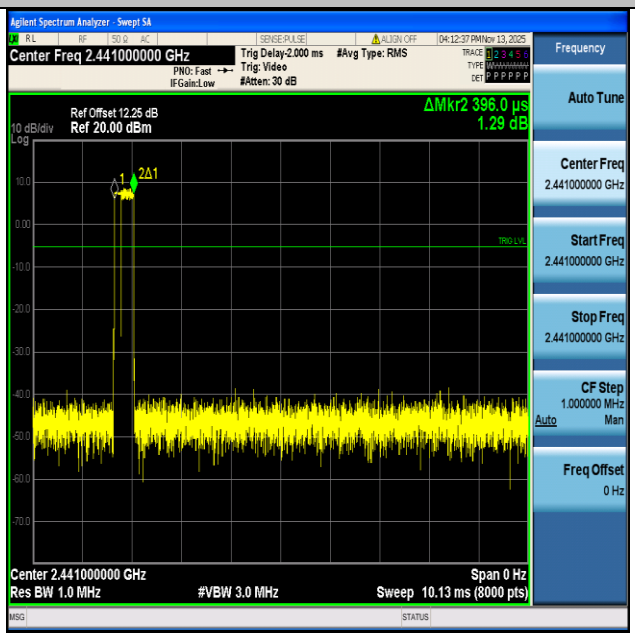
DH1-Ant1-Hop-PASS



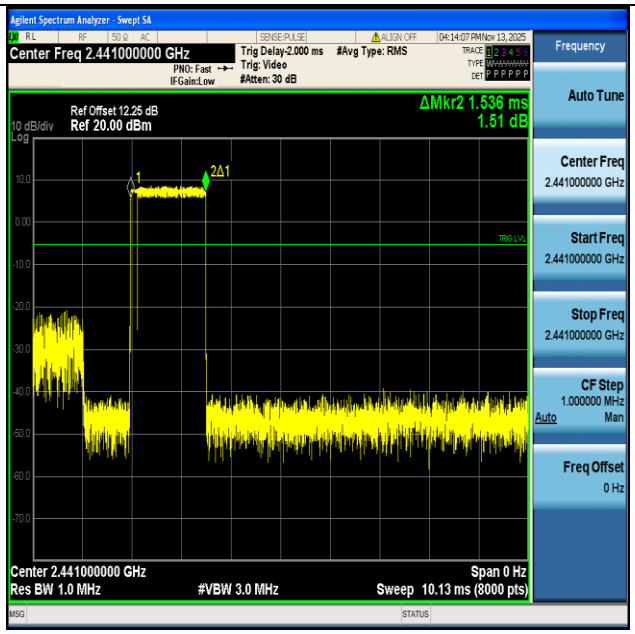
DH3-Ant1-Hop-PASS



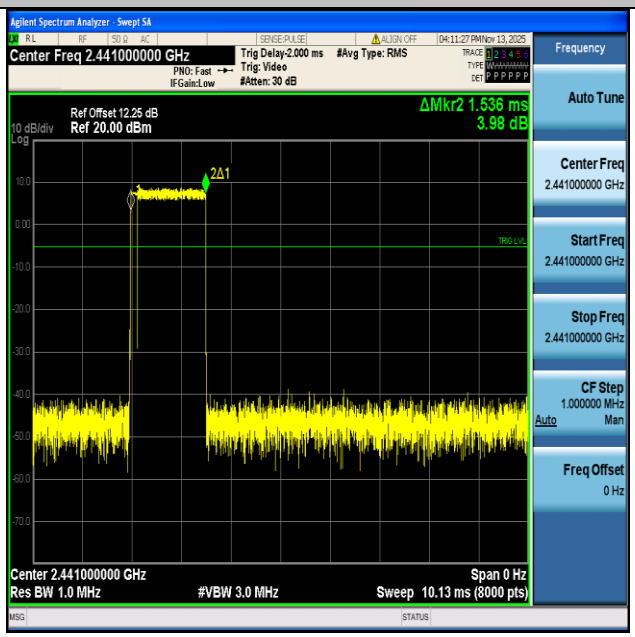
DH5-Ant1-Hop-PASS



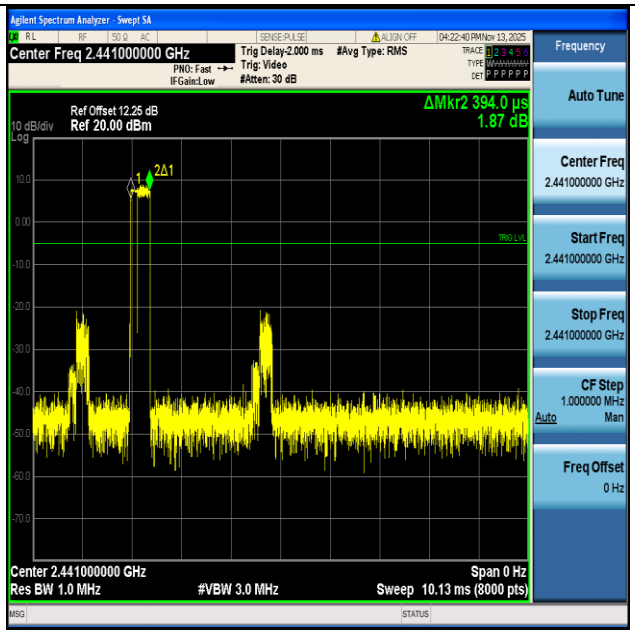
2DH1-Ant1-Hop-PASS



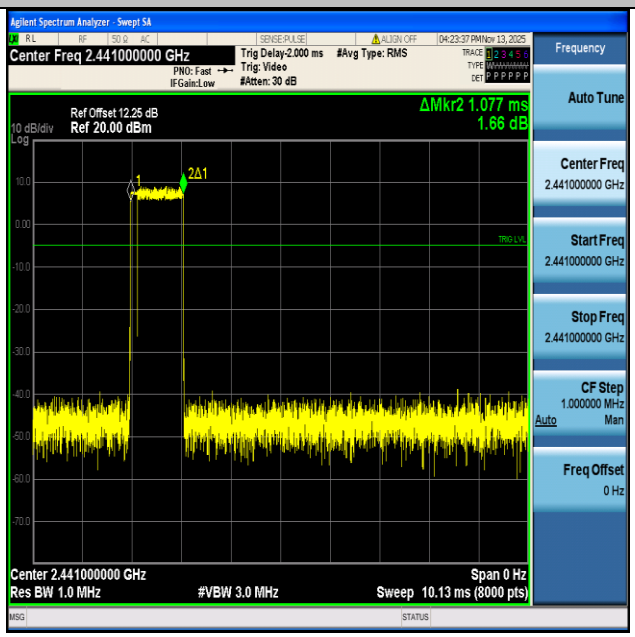
2DH3-Ant1-Hop-PASS



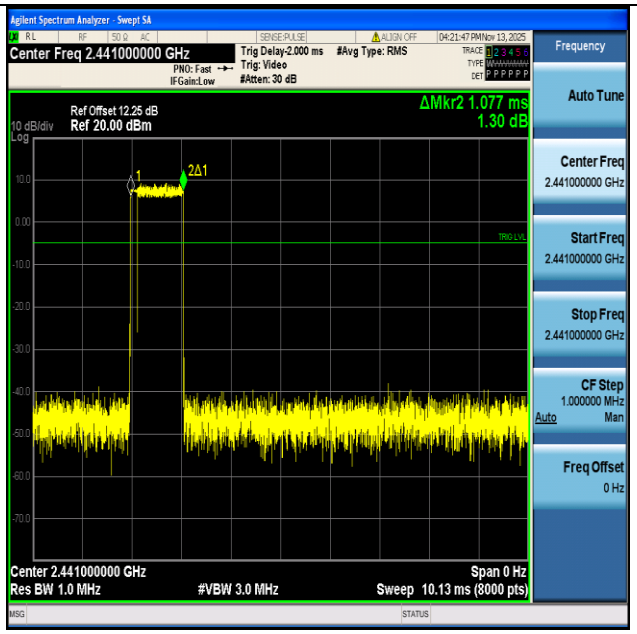
2DH5-Ant1-Hop-PASS



3DH1-Ant1-Hop-PASS



3DH3-Ant1-Hop-PASS

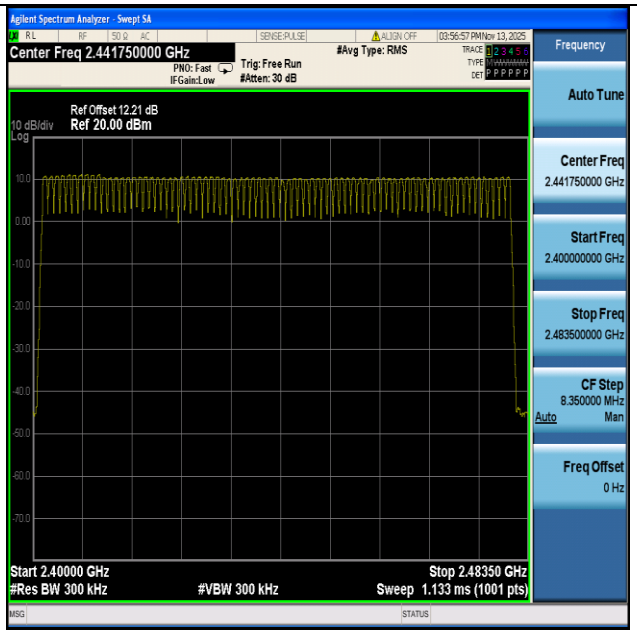


3DH5-Ant1-Hop-PASS

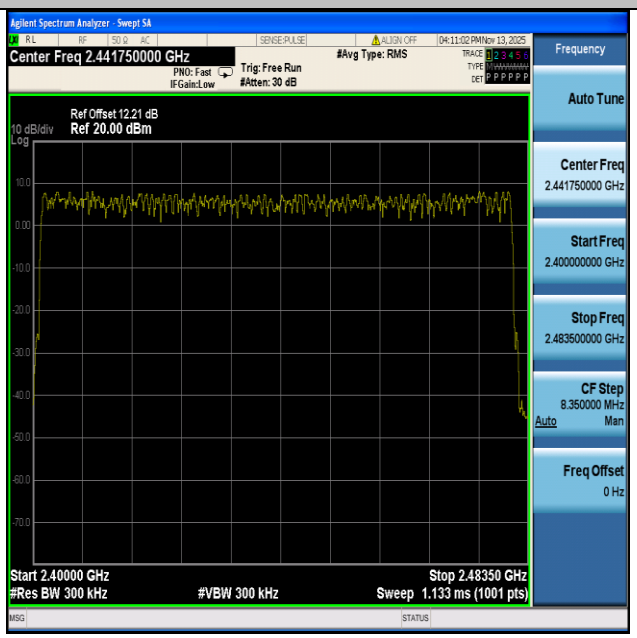
Number of hopping channels
Test Result

TestMode	Antenna	Frequency[MHz]	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	≥15	PASS
2DH5	Ant1	Hop	79	≥15	PASS
3DH5	Ant1	Hop	79	≥15	PASS

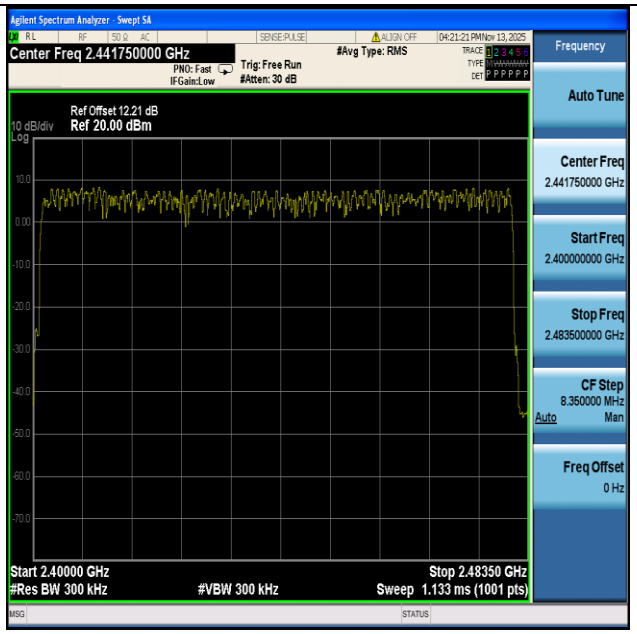
Test Graphs



DH5-Ant1-Hop-PASS



2DH5-Ant1-Hop-PASS



3DH5-Ant1-Hop-PASS

Reference level measurement
Test Result

TestMode	Antenna	Freq(MHz)	Max.Point[MHz]	Result[dBm]
DH5	Ant1	2402	2402.15	10.01
DH5	Ant1	2441	2441.15	9.98
DH5	Ant1	2480	2480.18	9.84
2DH5	Ant1	2402	2402.04	6.67
2DH5	Ant1	2441	2440.98	2.30
2DH5	Ant1	2480	2480.03	7.15
3DH5	Ant1	2402	2401.99	7.14
3DH5	Ant1	2441	2441.00	7.24
3DH5	Ant1	2480	2480.03	7.19

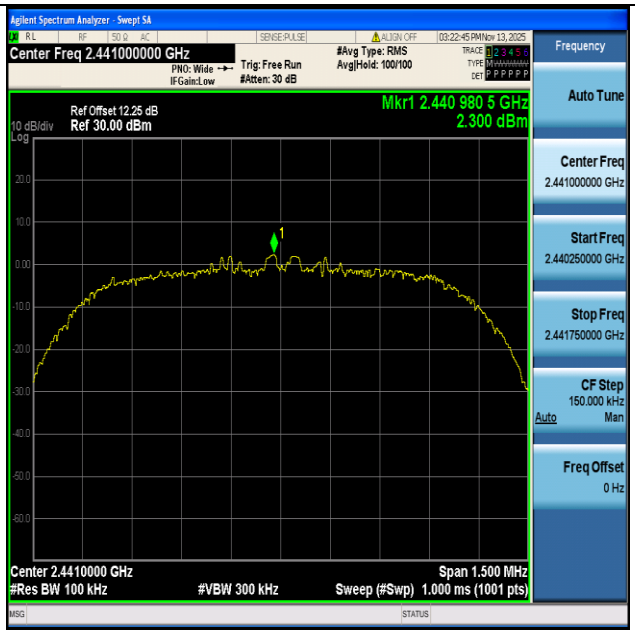
Test Graphs

DH5-Ant1-2402-PASS

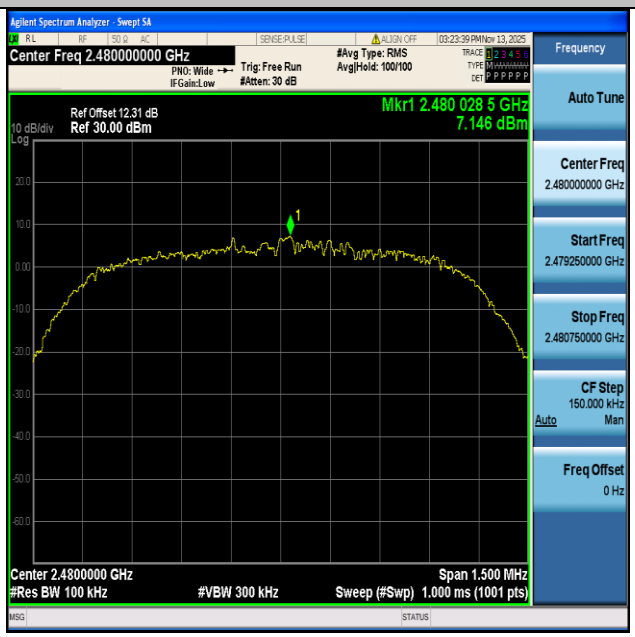
DH5-Ant1-2441-PASS

DH5-Ant1-2480-PASS

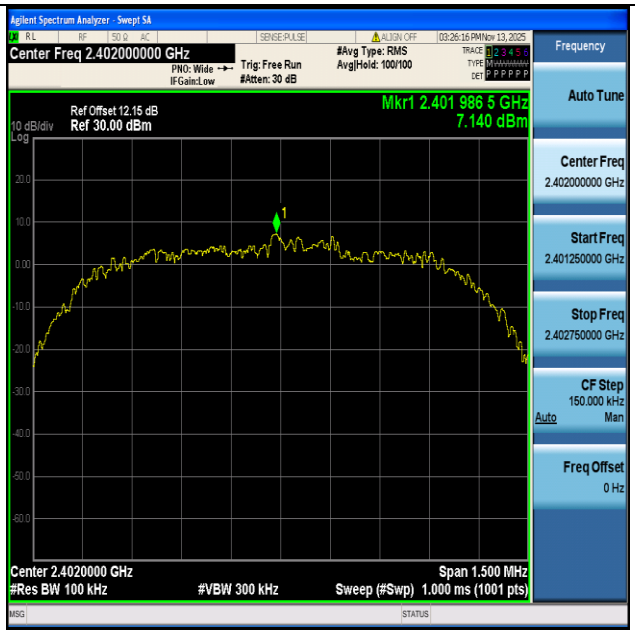
2DH5-Ant1-2402-PASS



2DH5-Ant1-2441-PASS

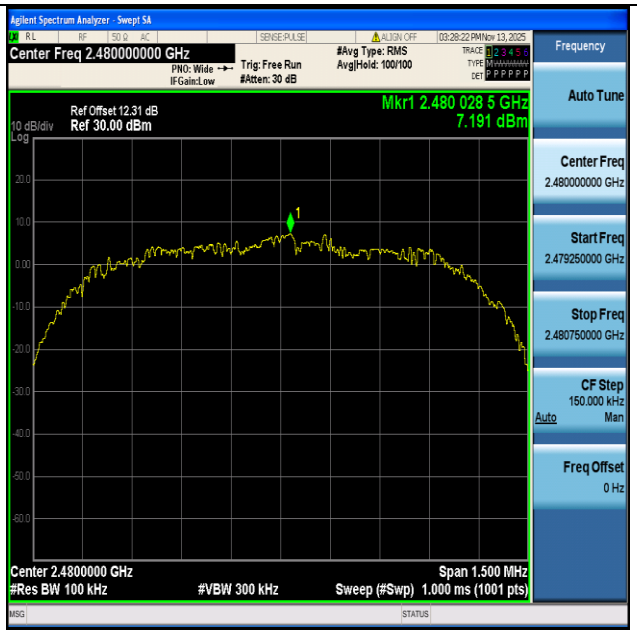


2DH5-Ant1-2480-PASS



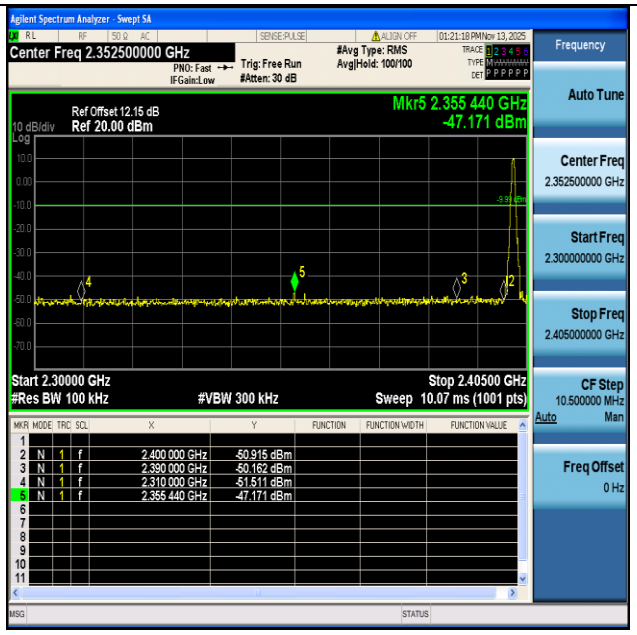
3DH5-Ant1-2402-PASS

3DH5-Ant1-2441-PASS

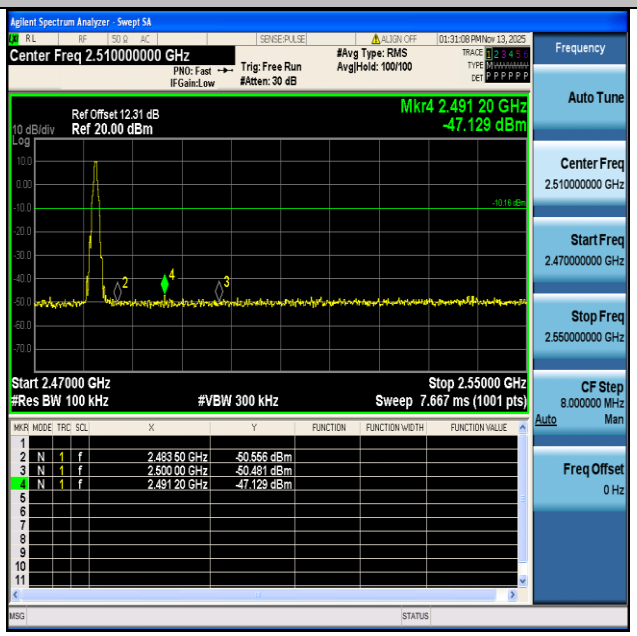


3DH5-Ant1-2480-PASS

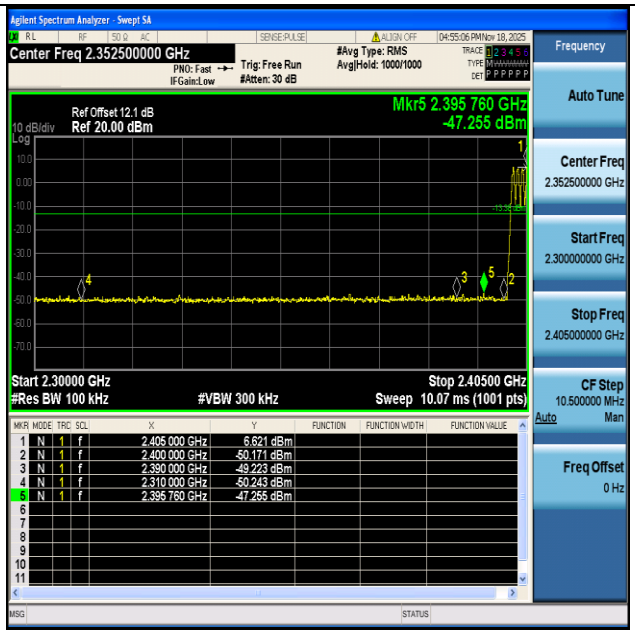
Conducted Band edge measurements
Test Graphs



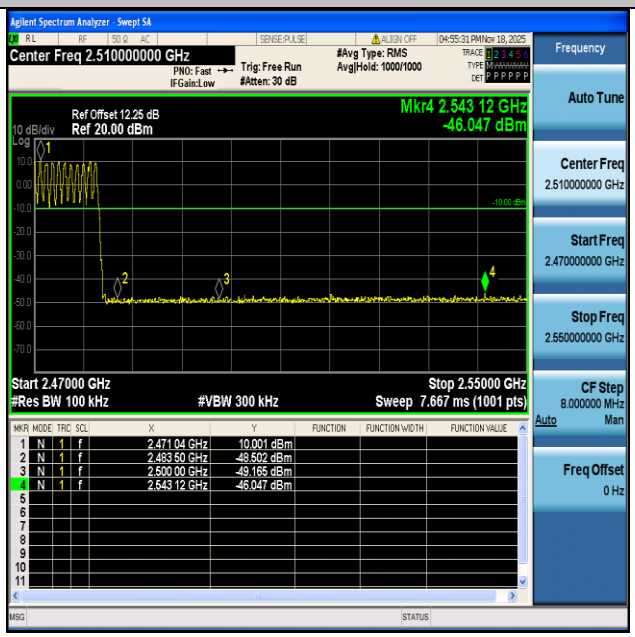
DH5-Ant1-2402-PASS



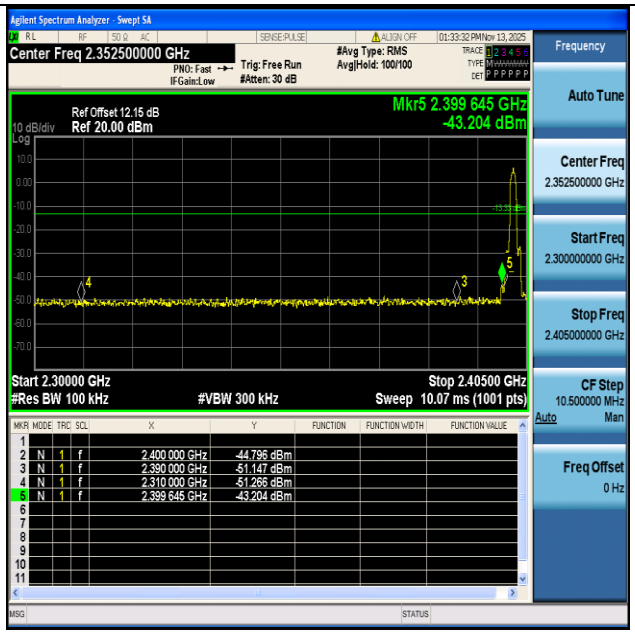
DH5-Ant1-2480-PASS



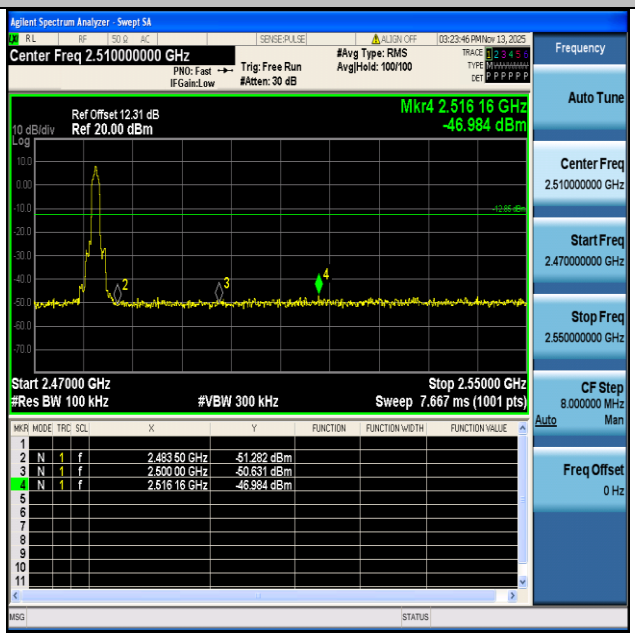
DH5-Ant1-Hop_2402-PASS



DH5-Ant1-Hop_2480-PASS



2DH5-Ant1-2402-PASS



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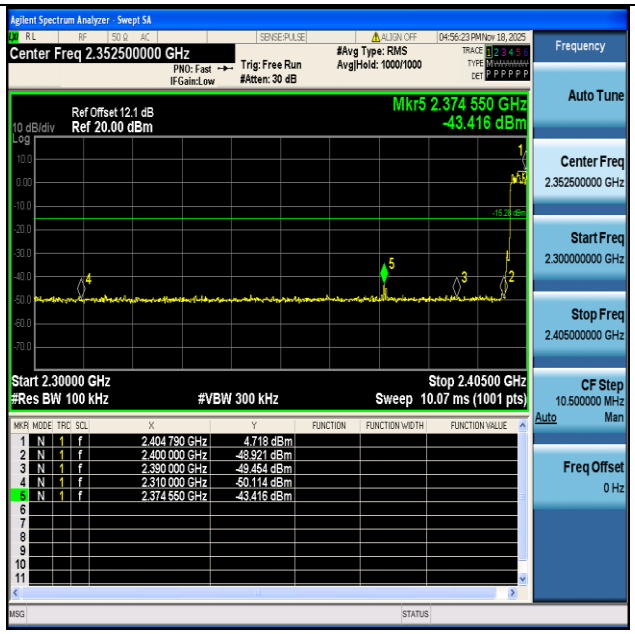
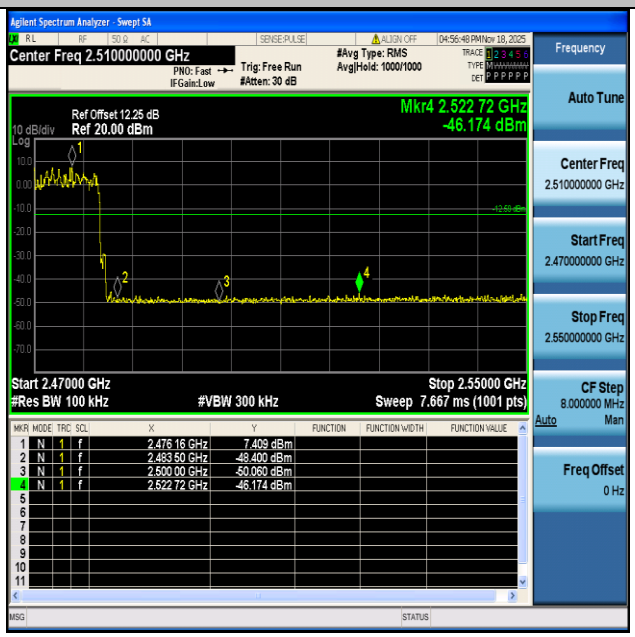
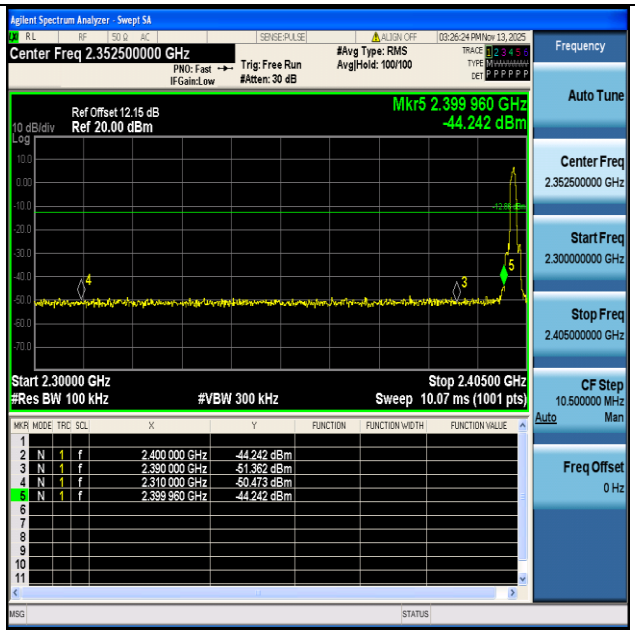


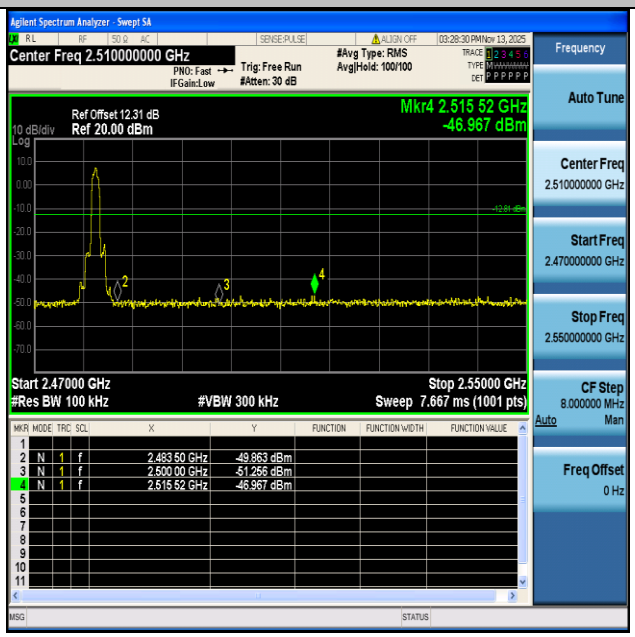
2DH5-Ant1-Hop_2402-PASS



2DH5-Ant1-Hop_2480-PASS



3DH5-Ant1-2402-PASS



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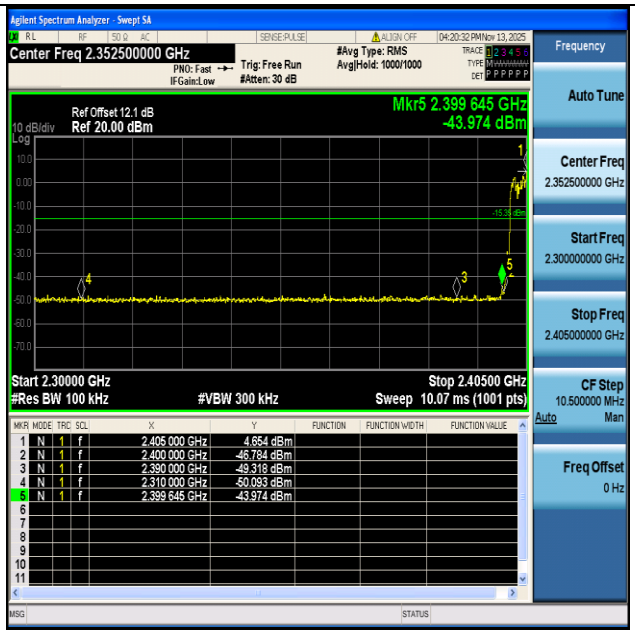
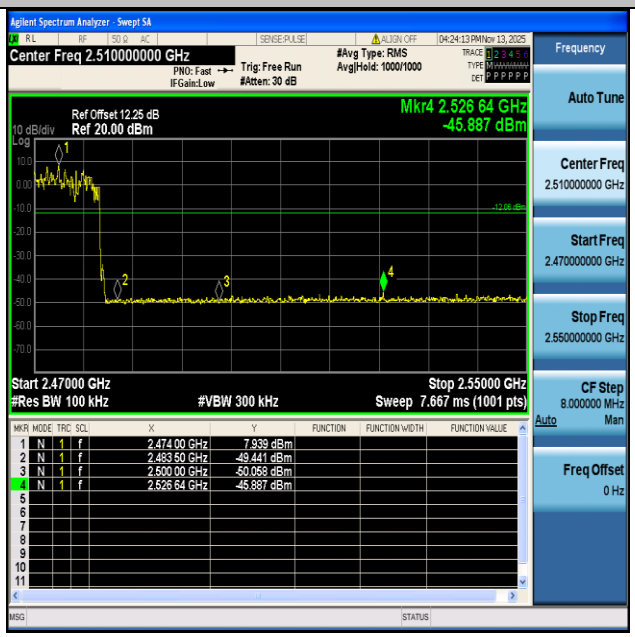
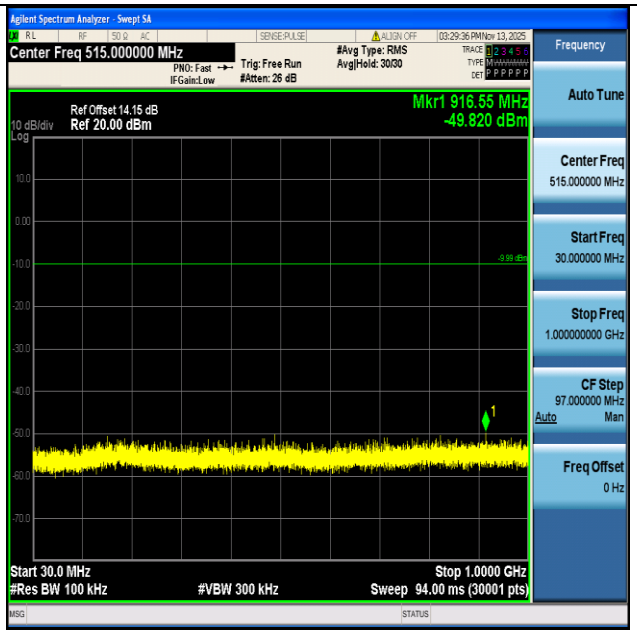


3DH5-Ant1-Hop_2402-PASS

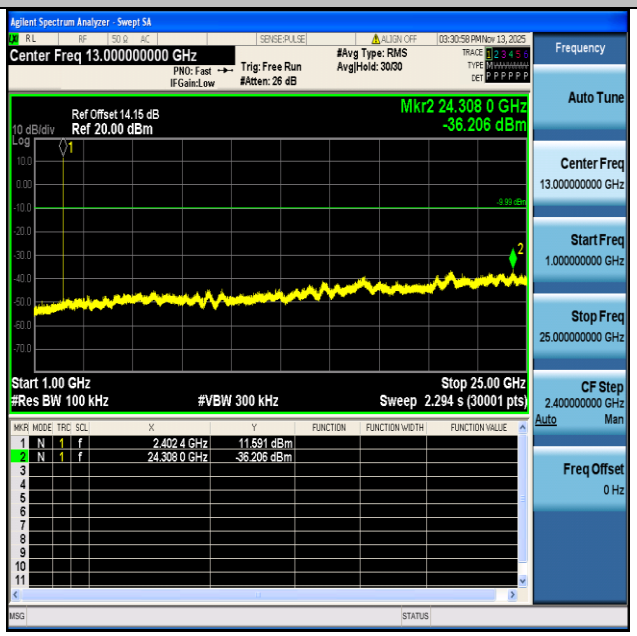


3DH5-Ant1-Hop_2480-PASS

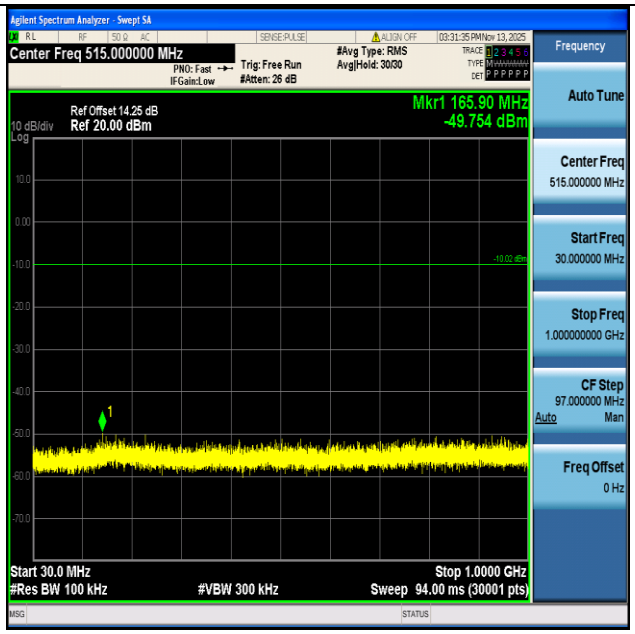
Conducted Spurious Emission
Test Graphs



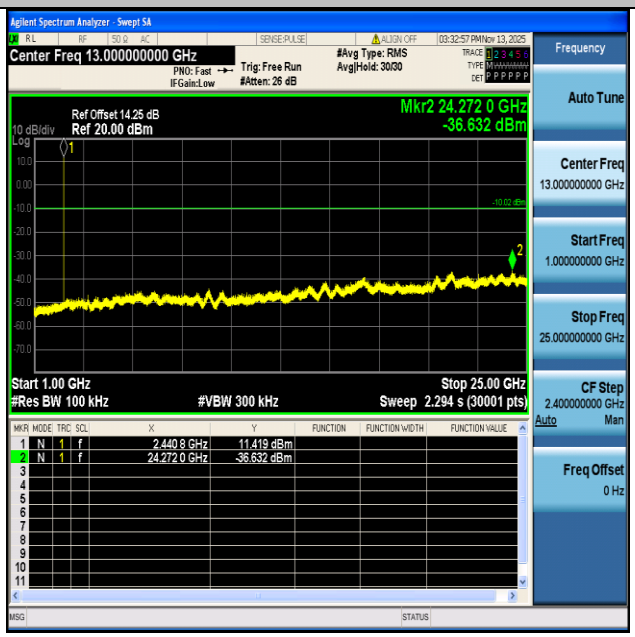
DH5-Ant1-2402-30~1000-PASS



DH5-Ant1-2402-1000~25000-PASS



DH5-Ant1-2441-30~1000-PASS



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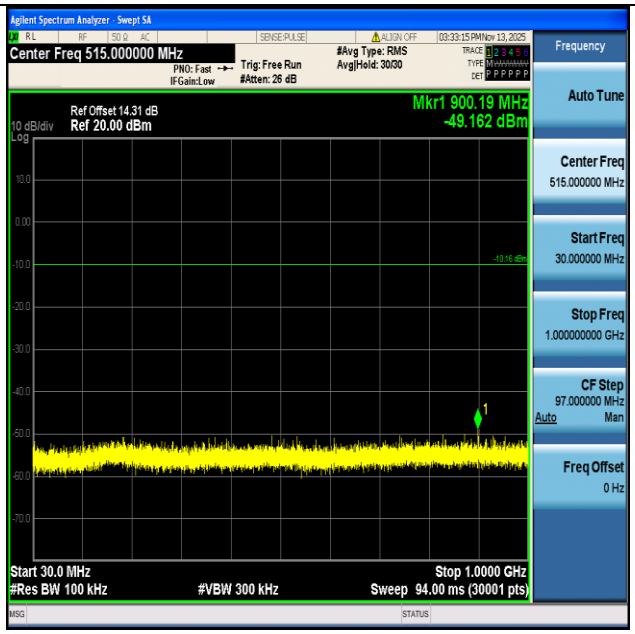
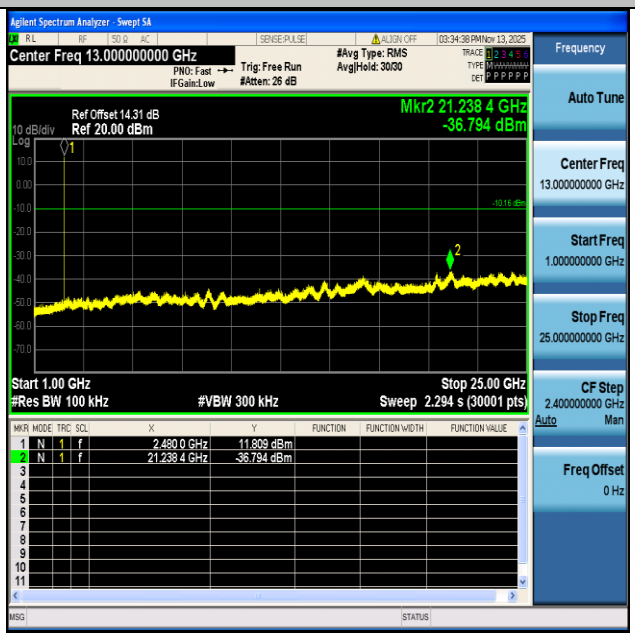


DH5-Ant1-2480-30~1000-PASS



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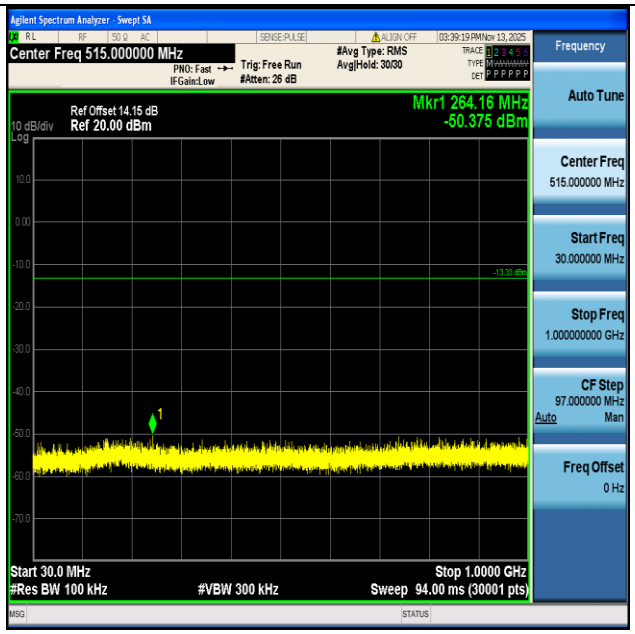
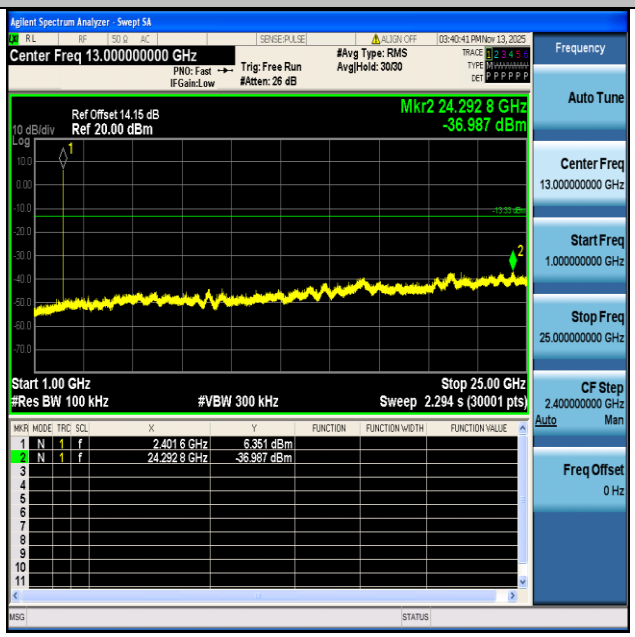
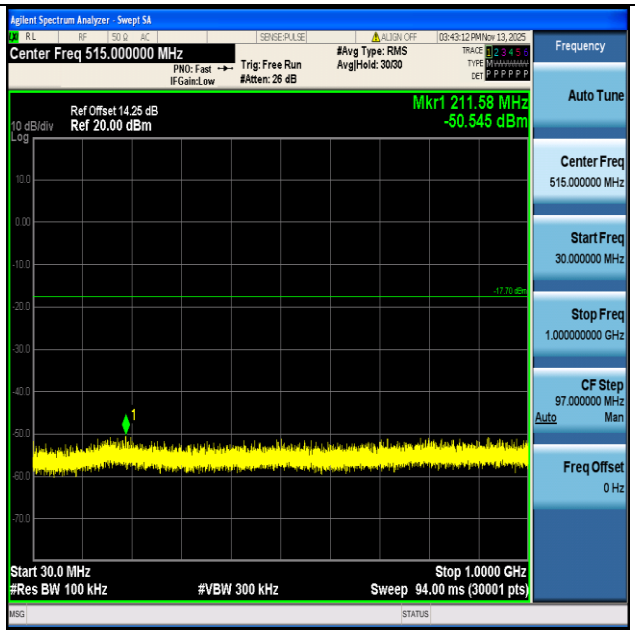


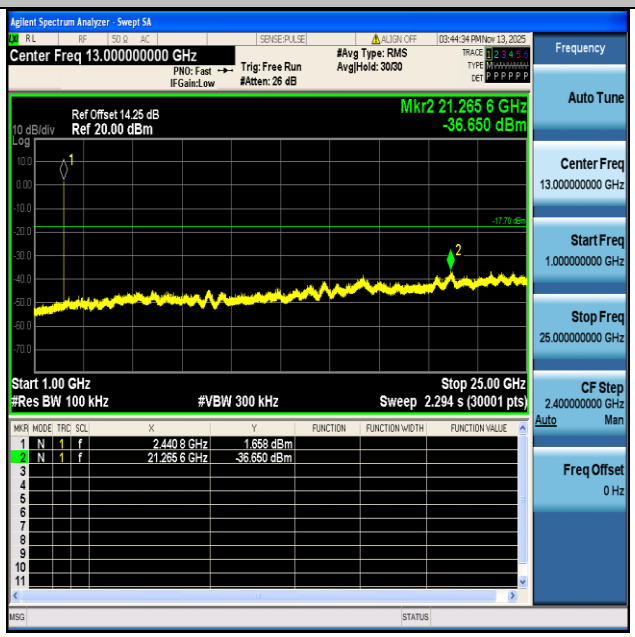
2DH5-Ant1-2402-30~1000-PASS



2DH5-Ant1-2402-1000~25000-PASS



2DH5-Ant1-2441-30~1000-PASS



2DH5-Ant1-2441-1000~25000-PASS