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Test report No:
25A0670R.704

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 15.407) ANSI C63.10: 2020
Verdict Summary	IN COMPLIANCE
Documented 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.704	V1.0	Initial issue of report.	2025-11-25

TEST SUMMARY

Test Item	Band[1]	FCC rules No.	Test Requirements	Result
Antenna Requirement	--	15.203/15.407(a)	--	**PASS**
26dB Emission Bandwidth	Band I	15.407(a)(1)	No limit.	**PASS**
	Band II-A	15.407(a)(2)		
	Band II-C	15.407(a)(2)		
6dB Emission Bandwidth	Band III	15.407(e)	≥ 500 kHz.	**PASS**
99% Occupied Bandwidth	Band I	KDB 789033 D02§ D	No limit.	**PASS**
	Band II-A			
	Band II-C			
	Band III			
Duty Cycle	Band I Band II-A Band II-C Band III	--	No limit.	**PASS**
Maximum Conducted Output Power	Band I	15.407(a)	< 250mW	**PASS**
	Band II-A	15.407(a)(2)	<MIN{250mW,11dBm+10*lg(EBW)}	
	Band II-C			
	Band III	15.407(a)(3)	< 1W	
Maximum Power Spectral Density	Band I	15.407(a)	<11dBm/MHz	**PASS**
	Band II-A	15.407(a)(2)	<11dBm/MHz	
	Band II-C			
	Band III	15.407(a)(3)	<30dBm/500KHz	
Unwanted Emissions that fall Out of the Restricted Bands (Radiated)	Band I	15.209 15.407(b)	F<1GHz: §15.209/§7.2.5 limit (QP). F≥1GHz & out-restricted: <-27dBm/MHz PK e.i.r.p. (exl. 5.15-5.35 GHz). F≥1GHz & in-restricted: §15.209/§7.2.5 limit (AV&PK).	**PASS**
	Band II-A	15.407(b) 15.209	F<1GHz: §15.209/§7.2.5 limit (QP). F≥1GHz & out-restricted: <-27dBm/MHz PK e.i.r.p. (exl. 5.25-5.35 GHz). F≥1GHz & in-restricted: §15.209/§7.2.5 limit (AV&PK).	**PASS**
	Band II-C	15.407(b) 15.209	F<1GHz: §15.209/§7.2.5 limit (QP). F≥1GHz & out-restricted: <-27dBm/MHz PK e.i.r.p. (exl. 5.47-5.725 GHz). F≥1GHz & in-restricted: §15.209/§7.2.5 limit (AV&PK).	**PASS**
	Band III	15.407(b) 15.209	F<1GHz: §15.209/§7.2.5 limit (QP) F≥1GHz &out-restricted:(QP) a) 27 dBm/MHz at frequencies from the band edges decreasing linearly to 15.6 dBm/MHz at 5 MHz above or below the band edges; b) 15.6 dBm/MHz at 5 MHz above or below the band edges decreasing linearly to 10 dBm/MHz at 25 MHz above or below the band edges; c) 10 dBm/MHz at 25 MHz above or below the band edges decreasing linearly to -27	**PASS**

			dBm/MHz at 75 MHz above or below the band edges; and d) -27 dBm/MHz at frequencies more than 75 MHz above or below the band edges. F≥1GHz & in-restricted: §15.209/§7.2.5 limit (AV&PK).	
Unwanted Emissions in the Restricted Bands (Radiated)	Band I Band II-A Band II-C Band III	15.209	---	**PASS**
AC Power Line Conducted Emissions	Band I Band II-A Band II-C Band III	15.207	---	**PASS**
Frequency Stability	Band I Band II-A Band II-C Band III	15.407(g)	Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the users manual	**N/A**
Dynamic Frequency Selection (DFS)	Band II-A Band II-C	15.407(h)	---	**PASS**

Remark:
Band I: 5150-5250MHz
Band II-A: 5250-5350MHz
Band II-C: 5470-5725MHz
Band III: 5725-5850MHz
Note: EUT is DC powered
Note: Frequency stability is claimed by the equipment manufacturer to ensure that the transmitted signal remains within the operating frequency band under all normal operating conditions specified in the user manual.
Note: The radiation measurement is pre tested under X, Y, and Z axis positioning to find the worst placement for final testing.

Requirement – Test case	Remark
Radiated Emission	Test data please refer to **Appendix**
Emission bandwidth and occupied bandwidth	Test data please refer to **Appendix**
6dB Emission Bandwidth	Test data please refer to **Appendix**
Duty cycle	Test data please refer to **Appendix**
Power Output	Test data please refer to **Appendix**
Peak Power Spectral Density	Test data please refer to **Appendix**
Radiated Emission Band Edge	Test data please refer to **Appendix**
AC Power Line Conducted Emissions	Test data please refer to **Appendix**
Dynamic Frequency Selection (DFS)	Test data please refer to **Appendix**
Antenna Requirement	---

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.....:	Wi-Fi			
Frequency Range.....:	U-NII-1: 5150 MHz to 5250 MHz			
	U-NII-2A: 5250 MHz to 5350 MHz			
	U-NII-2C: 5470 MHz to 5725 MHz			
	U-NII-3: 5725 MHz to 5850 MHz			
Channel Spacing .....:	802.11a 20 MHz 802.11n 20 MHz, 40 MHz 802.11ac 20 MHz, 40 MHz, 80 MHz			
Modulation technology .....:	OFDM			
Smart System .....:	☒	SISO		
DFS Function.....:	☐	Master device		
	☐	Slave with radar detection		
	☒	Slave without radar detection		
TPC Function:	☒	Support	☐	Not Support
Antenna type .....:	PIFA			
Antenna Gain.....:	5.15~5.25 GHz: 0.2 dBi 5.25~5.35 GHz: 0.1 dBi 5.47~5.725 GHz: 0.1 dBi 5.725~5.85 GHz: 0.1 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.

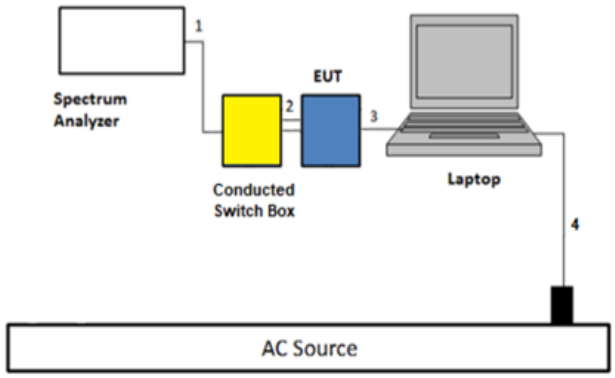
Power setting in test

Mode	Channel	Power Setting
802.11a 6Mbps	36	Default
	40	Default
	48	Default
	52	Default
	64	Default
	116	Default
	140	15
	157	Default
802.11n-HT20 MCS0	36	Default
	40	Default
	48	Default
	52	Default
	56	Default
	64	Default
	100	Default
	116	Default
	140	15
	149	Default
	157	Default
	165	Default
802.11n-HT40 MCS0	38	15
	46	Default
	54	Default
	62	Default
	102	11
	118	Default
	134	Default
	151	Default
	159	Default
802.11ac-VHT20 MCS0	36	Default
	40	Default
	48	Default
	52	Default
	56	Default
	64	Default
	100	Default
	116	Default
	140	15
	149	Default
	157	Default
	165	Default
802.11ac-VHT40 MCS0	38	15
	46	Default

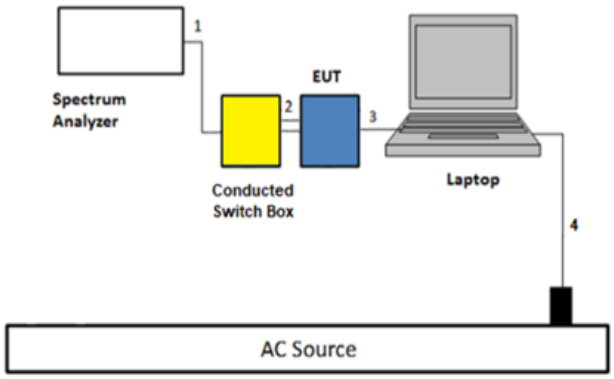
	54	Default
	62	Default
	102	11
	118	Default
	134	Default
	151	Default
	159	Default
802.11ac-VHT80 MCS0	42	Default
	58	Default
	106	Default
	122	Default
	155	Default

2 DESCRIPTION OF TEST SETUP

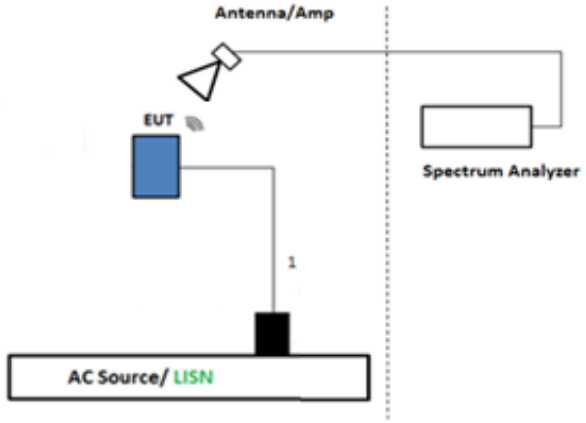
Auxiliary equipment	Type / Version	Manufacturer	Supplied by
(1) Notebook	Think pad x220	Lenovo	Adapter
(2) Ethernet cable	N/A	N/A	N/A
(3) Ethernet cable	N/A	N/A	N/A
Software	Type / Version	Manufacturer	Supplied by
##83781#*# *	N/A	N/A	N/A



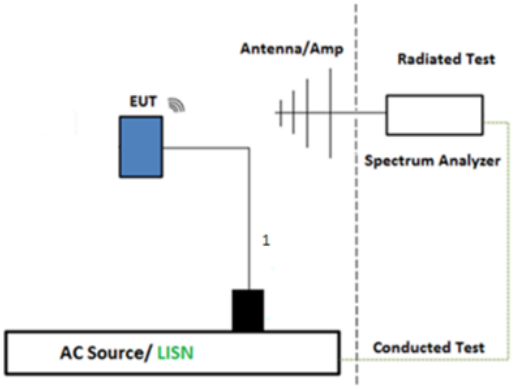
AC Power Line Conducted Emission



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 E	2024	FCC CFR Title 47 Part 15 Subpart E
ANSI C63.10	2020	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices
KDB 789033 D02V02r01	2017	This document provides guidance for determining emissions compliance of U-NII devices under Part 15, Subpart E of the FCC rules.
KDB 662911 D01V02r01	2020	Provision to Allow Measurement of Directional Gain of Multi-Antenna Systems for Compliance Verification
KDB 905462 D02V02	2016	UNII DFS Compliance Procedures New Rules

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 ITEMS OF LIMIT/SETUP/PROCEDURE

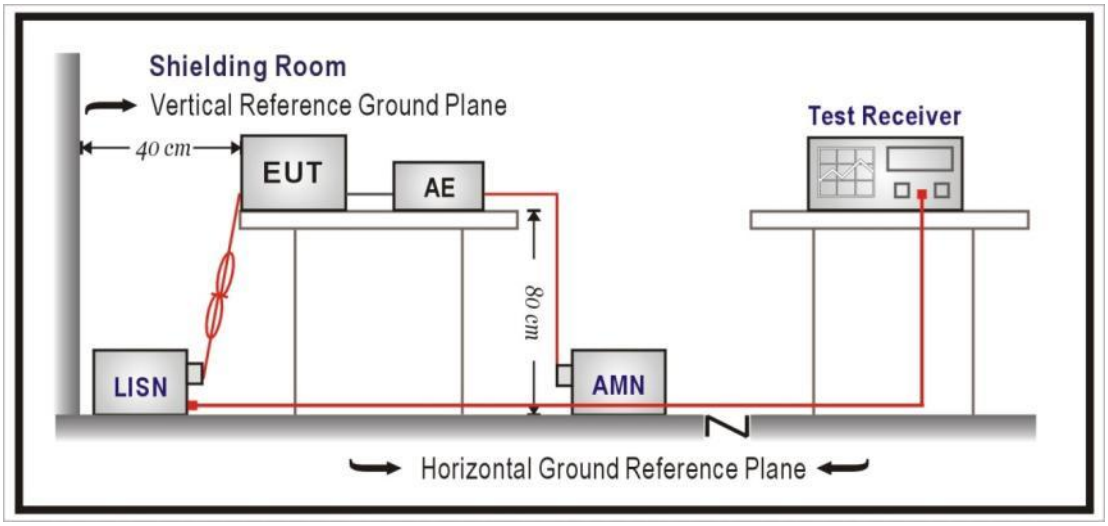
4.1 AC Power Line Conducted Emission	VERDICT: PASS

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.
NOTE 1: The exclusion band for transmitters shall be considered for transmitters operating at frequencies below 30 MHz.
NOTE 2: Where the AC output port is directly connected (or via a circuit breaker) to the AC power input port of the EUT the AC power output port need not to be tested.

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 Radiated Emissions — VERDICT: PASS

4.2.1 Limit

Standard	FCC Part 15 Subpart C Paragraph 15.205

Restricted Bands of operation

MHz	MHz	MHz	GHz
0. 090–0. 110	16. 42–16. 423	399. 9–410	4. 5–5. 15
[1]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. 41425–8. 41475	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	([2])
13. 36–13. 41			

[1]Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

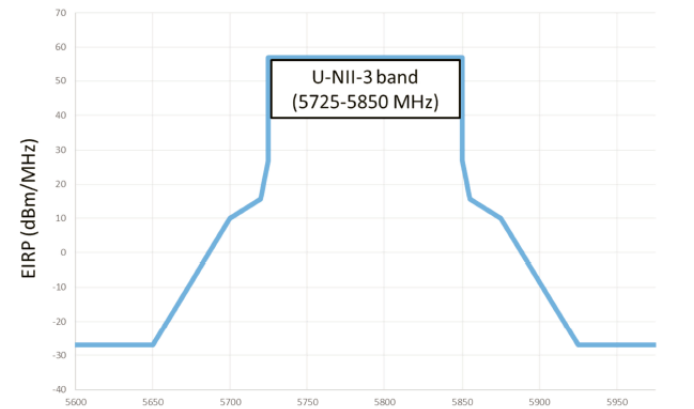
[2]Above 38.6

FCC Part 15 Subpart C Paragraph 15.209 (Restricted Band Emissions Limit)

Frequency (MHz)	Field strength (μ V/m)	Field strength (dB μ V/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)

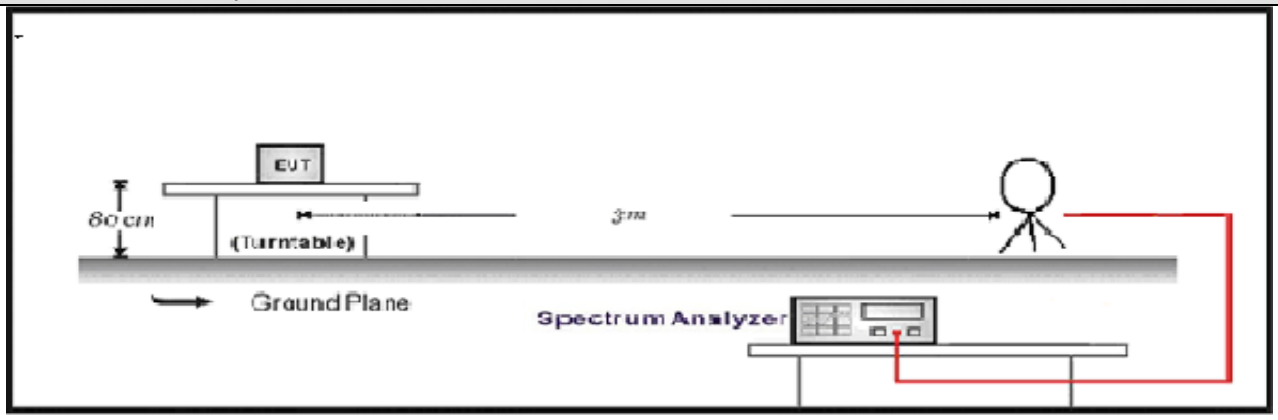
Note 1: At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed 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).

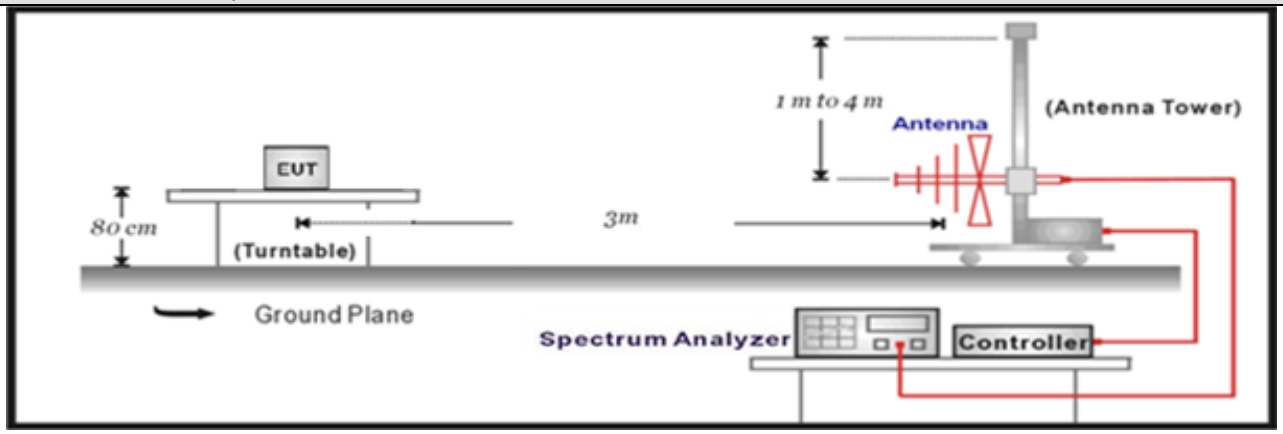
FCC Part 15 Subpart C Paragraph 15.407(5)(b) (Unrestricted Band Emissions Limit)		
Operating Frequency Band (MHz)	EIRP Limit (dBm/MHz)	Equivalent Field Strength at 3m (dBμV/m)
5150 - 5250	-27	68.3
5250 - 5350	-27	68.3
5470 - 5725	-27	68.3
Operating Frequency Band (MHz)	EIRP Limit (dBm/MHz)	
5725 - 5850		

4.2.2 Test Setup

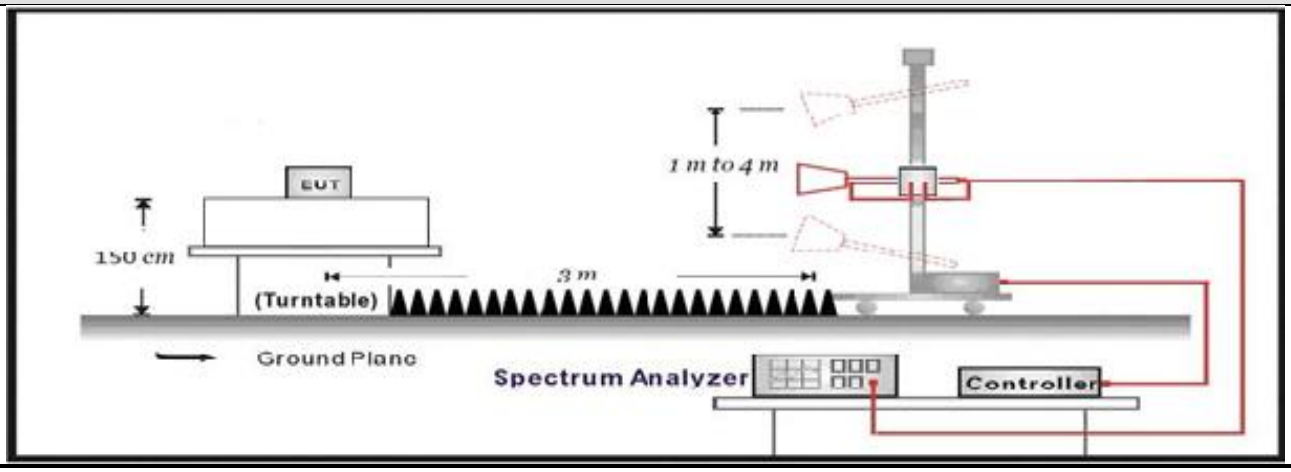
Below 30MHz Test Setup:



30MHz-1GHz Test Setup:



Above 1GHz Test Setup:



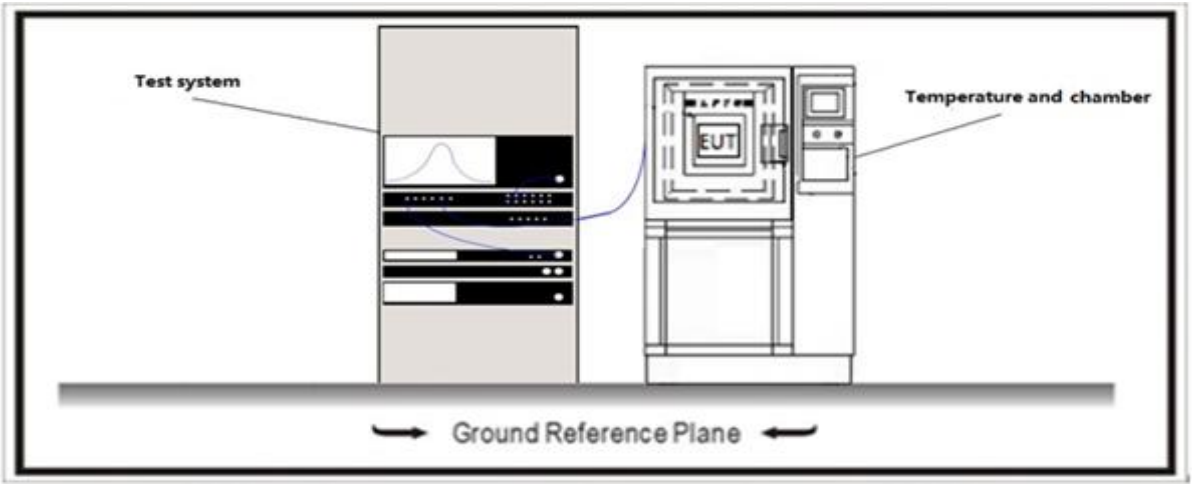
4.2.3 Test Procedure

Test Method				
	References Rule		Chapter	Description
☐	ANSI C63.10		12.7.3	Emissions in non-restricted frequency bands
☒	ANSI C63.10		12.7.2	Emissions in restricted frequency bands
	☒	ANSI C63.10	12.7.5	Radiated emission measurements
	☒	ANSI C63.10	12.7.6	Procedure for peak unwanted emissions measurements above 1000 MHz
	☒	ANSI C63.10	12.7.7	Procedures for average unwanted emissions measurements above 1000 MHz
		☐ ANSI C63.10	12.7.7.2	Method AD (average detection)—primary method
		☒ ANSI C63.10	12.7.7.3	Method VB-A (Alternative)
	☒	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 Emission bandwidth	VERDICT: PASS

4.3.1 Limit	
Standard	FCC CFR Title 47 Part 15 Subpart E: Section 15.407
Whin the Frequncy band.	

4.3.2 Test Setup



4.3.3 Test Procedure

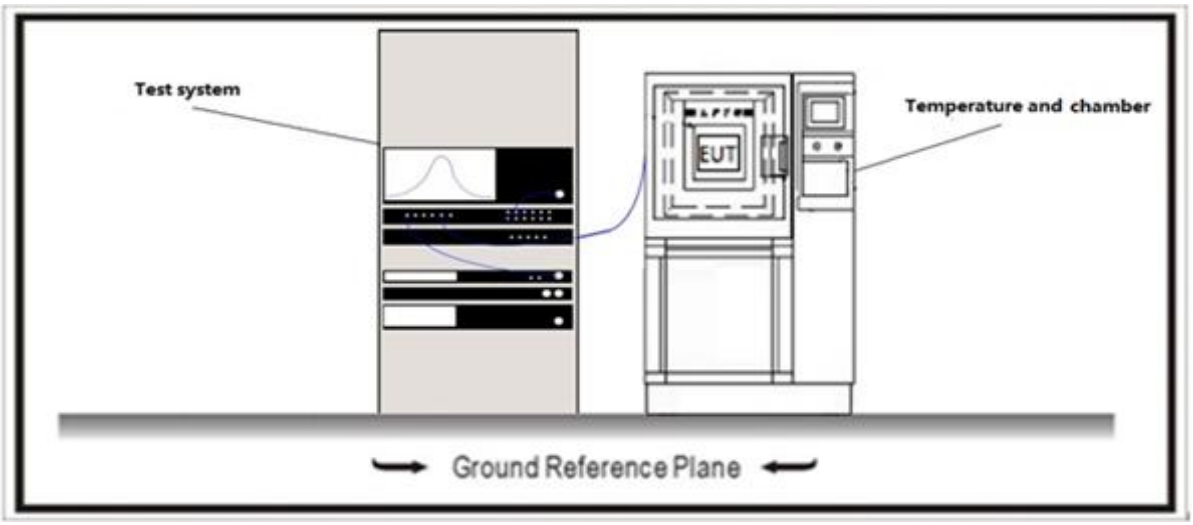
Test Method

	References Rule		Chapter	Description
☒	FCC KDB 789033 D02v02r01		C	Bandwidth Measurement
	☒	FCC KDB 789033 D02v02r01	C.1	Emission Bandwidth (26dB)
	☐	FCC KDB 789033 D02v02r01	C.2	Minimum Emission Bandwidth for the band 5.725-5.85 GHz (6dB)
☒	FCC KDB 789033 D02v02r01		D	99 Percent Occupied Bandwidth

4.4 6dB bandwidth	VERDICT: PASS

4.4.1 Limit	
Standard	FCC CFR Title 47 Part 15 Subpart E: Section 15.407(e)
6dB Bandwith ≥500kHz	

4.4.2 Test Setup



4.4.3 Test Procedure

Test Method

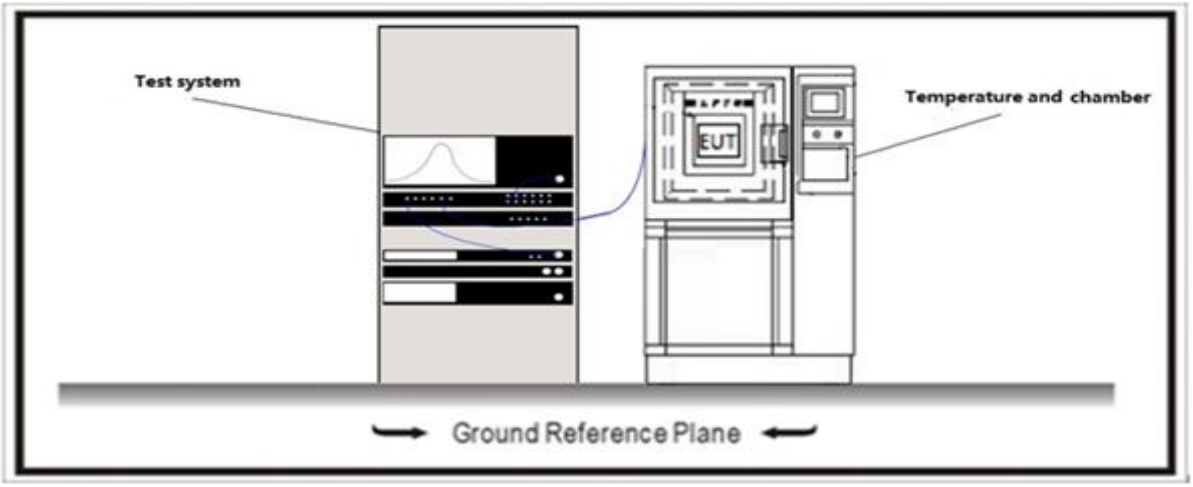
	References Rule	Chapter	Description
☒	FCC KDB 789033 D02v02r01	C	Bandwidth Measurement
	☐ FCC KDB 789033 D02v02r01	C.1	Emission Bandwidth (26dB)
	☒ FCC KDB 789033 D02v02r01	C.2	Minimum Emission Bandwidth for the band 5.725-5.85 GHz (6dB)
☐	FCC KDB 789033 D02v02r01	D	99 Percent Occupied Bandwidth

4.5 Duty cycle	VERDICT: PASS

4.5.1 Limit

N/A

4.5.2 Test Setup



4.5.3 Test Procedure

References Rule		Chapter	Description
☒	ANSI C63.10	12.2	Duty cycle (D), transmission duration (T), and maximum power control level

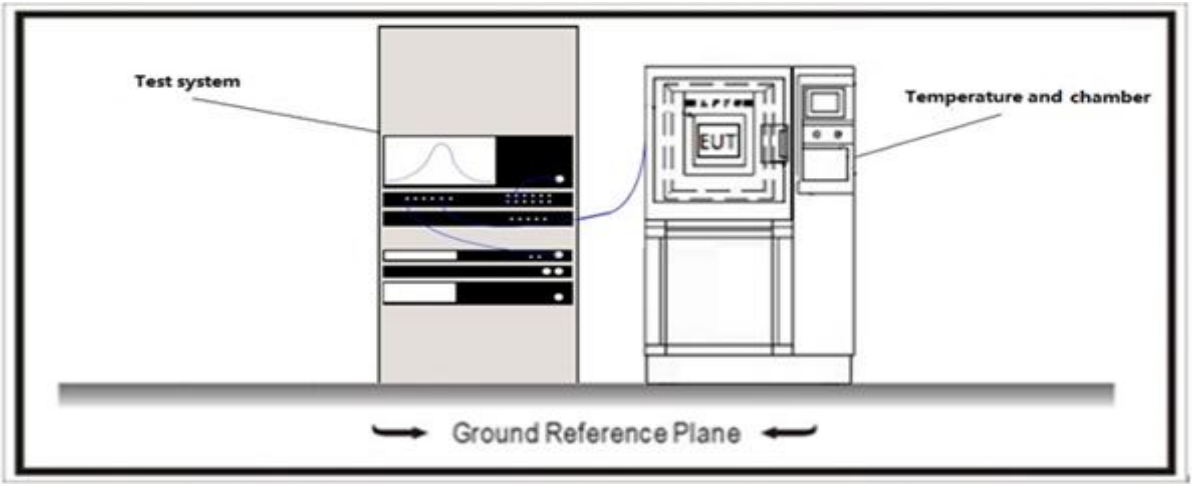
4.6 Power Output	VERDICT: PASS

4.6.1 Limit

Standard		FCC Part 15 Subpart E Paragraph 15.407 (a)
☒	For the band 5.15-5.25 GHz	
	☒	Client Devices: the maximum conducted output power shall not exceed 250 mW. If G_{TX}＞6dBi
☒	For the band 5.25-5.35 GHz:	
	☒	The maximum conducted output power shall not exceed 250mW or 11dBm+10 Log B, where B is the 26dB emission bandwidth in MHz. If G_{TX} ＞ 6dBi, then Pout ≤ (The lesser of 24 or 11dBm+10 Log B) - (GTX - 6)
☒	For the 5.47-5.725 GHz:	
	☒	The maximum conducted output power shall not exceed 250mW or 11dBm+10 Log B, where B is the 26dB emission bandwidth in MHz. If G_{TX}＞6dBi, then Pout ≤ (The lesser of 24 or 11dBm+10 Log B) - (G_{TX} - 6)
☒	For the band 5.725-5.85 GHz:	
	☒	Point-to-multipoint systems (P2M): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If G_{TX} > 6 dBi, then P_{Out} = 30 – (G_{TX} – 6)
	☐	Point-to-point systems (P2P): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W

Note 1 : GTX directional gain of transmitting antennas.
Note 2 : Pout is maximum conducted output power .

4.6.2 Test Setup



4.6.3 Test Procedure

	References Rule			Chapter	Description
☒	ANSI C63.10			12.4	Maximum conducted output power
	☒	ANSI C63.10		12.4.2	Maximum conducted output power measurement using a spectrum analyzer (SA) or EMI receiver
		☐	ANSI C63.10	12.4.2.2	Method SA-1

		☐	ANSI C63.10	12.4.2.3	Method SA-1A (alternative)
		☒	ANSI C63.10	12.4.2.4	Method SA-2
		☐	ANSI C63.10	12.4.2.5	Method SA-2A (alternative)
		☐	ANSI C63.10	12.4.2.6	Method SA-3
		☐	ANSI C63.10	12.4.2.7	Method SA-3A (alternative)

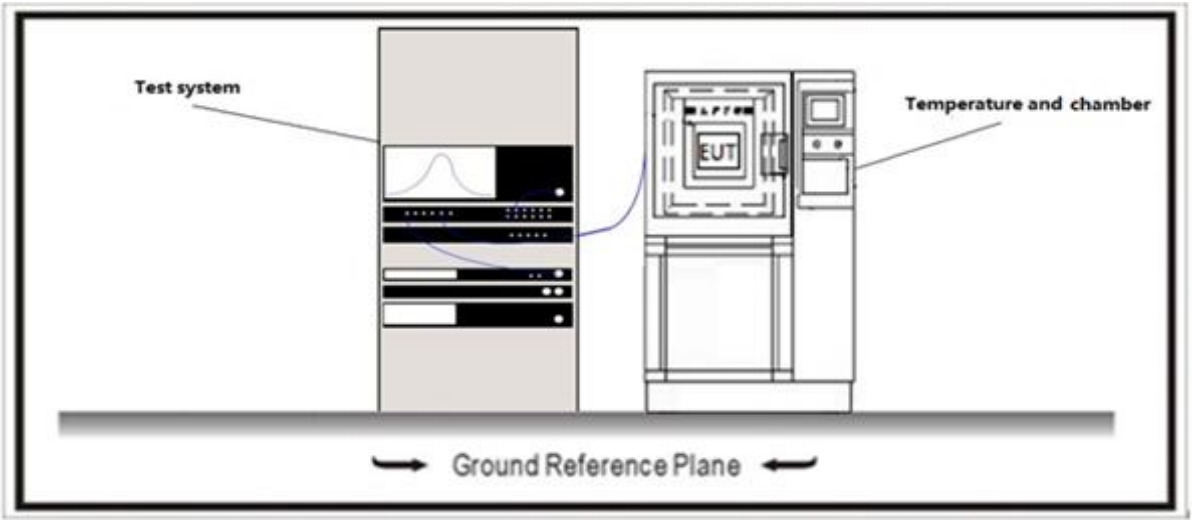
Directional Gain Calculations for In-Band test method				
	References Rule		Chapter	Description
☐	KDB 662911		F2)a)	Basic methodology
	☐	KDB 662911	F2)a) (i)	transmit signals are correlated
	☐	KDB 662911	F2)a) (ii)	transmit signals are uncorrelated
☐	KDB 662911		F2)b)	Sectorized antenna systems.
☐	KDB 662911		F2)c)	Cross-polarized antennas
	☐	ANSI C63.10	F2)c) (i)	Cross-polarized antennas
	☐	ANSI C63.10	F2)c) (ii)	Multiple antennas
☐	KDB 662911		F2)e)	Spatial stream
	☐	KDB 662911	F2)e) (i)	Antennas have the same gain
	☐	KDB 662911	F2)e) (ii)	Antenna have the different gain with one spatial stream
	☐	KDB 662911	F2)e) (iii)	Antenna have the different gain with more than one spatial stream
☒	KDB 662911		F2)f)	Cyclic Delay Diversity (CDD)
	☒	KDB 662911	F2)f) (i)	Antennas have the same gain
	☐	KDB 662911	F2)f) (ii)	Antenna have the different gain with one spatial stream
	☐	KDB 662911	F2)f) (iii)	Antenna have the different gain with more than one spatial stream

4.7 Maximum Power Spectral Density	VERDICT: PASS

4.7.1 Limit		
Standard	FCC Part 15 Subpart E Paragraph 15.407 (a)	
☒	For the band 5.15-5.25 GHz	
	☒	Outdoor access point: the maximum power spectral density shall not exceed 17 dBm/MHz. If G_{TX}>6dBi, then Pout≤17 - (G_{TX} - 6)
☒	For the 5.25-5.35 GHz:	
	☒	The maximum power spectral density shall not exceed 11 dBm/MHz. If G_{TX}>6dBi, then Pout≤11 - (G_{TX} - 6)
☒	For the 5.47-5.725 GHz:	
	☒	The maximum power spectral density shall not exceed 11 dBm/MHz.If G_{TX}>6dBi, then Pout≤11 - (G_{TX} - 6)
☒	For the band 5.725-5.85 GHz:	
	☒	The maximum power spectral density shall not exceed 30 dBm/500KHz. If G_{TX}>6dBi, then Pout≤30 - (G_{TX} - 6)
Note 1 : GTX directional gain of transmitting antennas. Note 2 : Pout is maximum conducted output power .		

Directional Gain Calculations for In-Band test method				
	References Rule		Chapter	Description
☒	KDB 662911		E2)c)	In-Band Power Spectral Density (PSD) Measurements
☒	KDB 662911		F2)f)	Cyclic Delay Diversity (CDD)
	☒	KDB 662911	F2)f) (i)	Antennas have the same gain
	☐	KDB 662911	F2)f) (ii)	Antenna have the different gain with one spatial stream
	☐	KDB 662911	F2)f) (iii)	Antenna have the different gain with more than one spatial stream

4.7.2 Test Setup



4.7.3 Test Procedure

	References Rule	Chapter	Description
☒	FCC KDB 789033 D02v02r01	F	Maximum Power Spectral Density (PSD)

4.8 Radiated Emission Band Edge — VERDICT: PASS

4.8.1 Limit

Standard FCC Part 15 Subpart C Paragraph 15.205

Restricted Bands of operation

MHz	MHz	MHz	GHz
0. 090–0. 110	16. 42–16. 423	399. 9–410	4. 5–5. 15
[1]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. 41425–8. 41475	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	([2])
13. 36–13. 41			

[1]Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

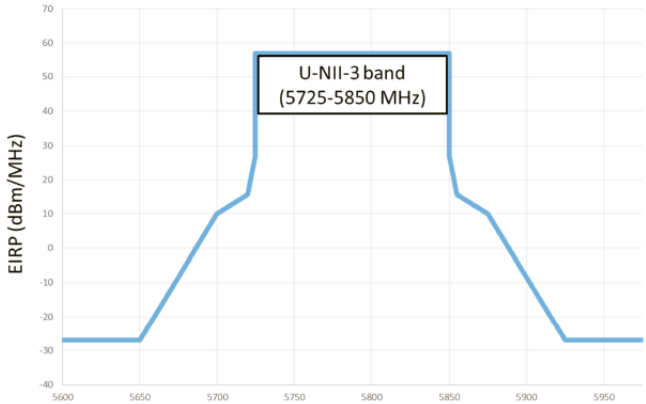
[2]Above 38.6

FCC Part 15 Subpart C Paragraph 15.209 (Restricted Band Emissions Limit)

Frequency (MHz)	Field strength (μV/m)	Field strength (dB μV/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)

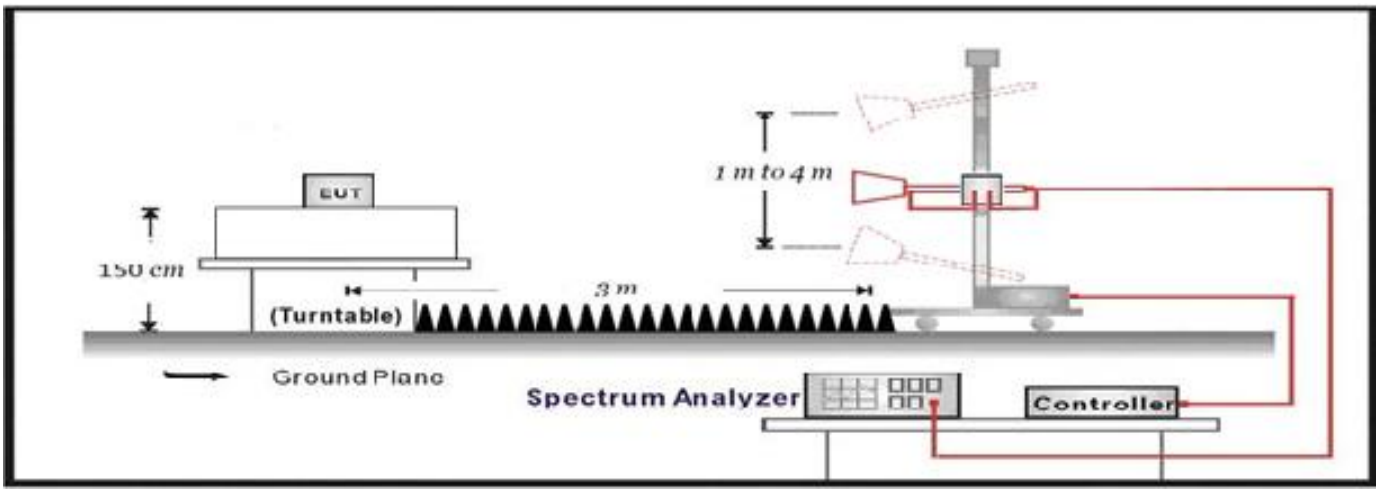
Note 1: At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed 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).

FCC Part 15 Subpart C Paragraph 15.407(5)(b) (Unrestricted Band Emissions Limit)		
Operating Frequency Band (MHz)	EIRP Limit (dBm/MHz)	Equivalent Field Strength at 3m (dBμV/m)
5150 - 5250	-27	68.3
5250 - 5350	-27	68.3
5470 - 5725	-27	68.3
Operating Frequency Band (MHz)	EIRP Limit (dBm/MHz)	
5725 - 5850		

4.8.2 Test Setup

Above 1GHz Test Setup:



4.8.3 Test Procedure

	References Rule	Chapter	Description

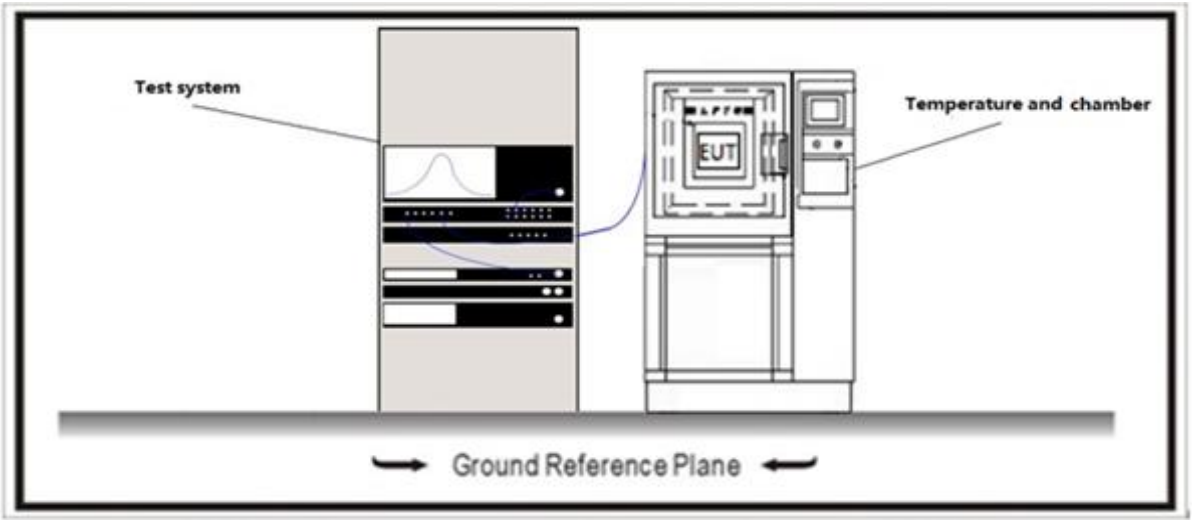
☐	ANSI C63.10			12.7.3	Emissions in non-restricted frequency bands
☒	ANSI C63.10			12.7.2	Emissions in restricted frequency bands
	☐	ANSI C63.10		12.7.5	Radiated emission measurements
	☒	ANSI C63.10		12.7.6	Procedure for peak unwanted emissions measurements above 1000 MHz
	☒	ANSI C63.10		12.7.7	Procedures for average unwanted emissions measurements above 1000 MHz
		☐	ANSI C63.10	12.7.7.2	Method AD (average detection)—primary method
		☒	ANSI C63.10	12.7.7.3	Method VB-A (Alternative)
	☐	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
☐	FCC KDB 789033 D02v02r01			G.2	Unwanted Emissions that fall Outside of the Restricted Bands
☐	FCC KDB 789033 D02v02r01			G.1	Unwanted Emissions in the Restricted Bands
	☐	FCC KDB 789033 D02v02r01		G.4	Procedure for Unwanted Emissions Measurements below 1000 MHz
	☐	FCC KDB 789033 D02v02r01		G.5	Procedure for Unwanted Maximum Emissions Measurements above 1000 MHz
	☐	FCC KDB 789033 D02v02r01		G.6	Procedures for Average Unwanted Emissions Measurements above 1000 MHz
		☐	FCC KDB 789033 D02v02r01	G.6.c	Method AD (Average detection)—primary method
		☐	FCC KDB 789033 D02v02r01	G.6.d	Method VB (Averaging using reduced video bandwidth): Alternative method.

4.9 Frequency Stability	VERDICT: N/A

4.9.1 Limit:

In-band emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.
The transmitter center frequency tolerance shall be ± 20 ppm maximum for the 5 GHz band and ± 25ppm maximum for the 2.4 GHz band.

4.9.2 Test Setup



4.9.3 Test Procedure

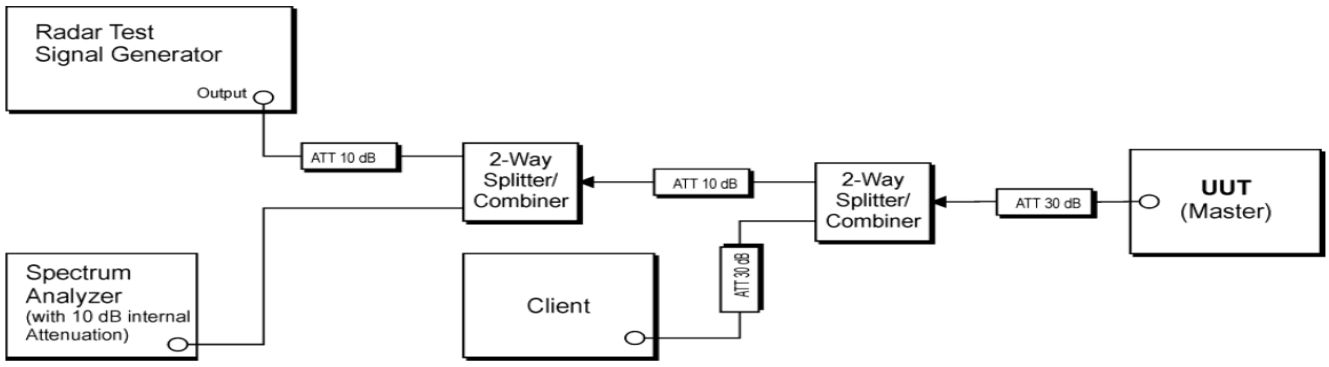
	References Rule		Chapter	Description
☒	ANSI C63.10		6.8	Frequency stability tests
	☒	ANSI C63.10	6.8.1	Frequency stability with respect to ambient temperature
	☒	ANSI C63.10	6.8.2	Frequency stability when varying supply voltage

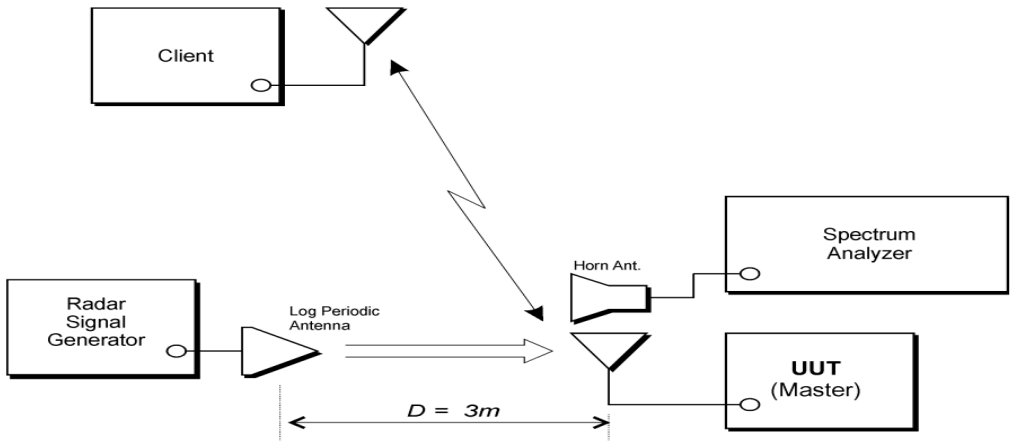
4.10 Dynamic Frequency Selection (DFS)	VERDICT: PASS

4.10.1 Limit	
Standard	FCC Part 15 Subpart E Paragraph 15.407(h)
Channel Availability Check (CAC)	
60 Seconds	
Radar Detection Threshold Level	
EIRP ≥ 200 milliwatt, level value: -64 dBm EIRP < 200 milliwatt and power spectral density < 10 dBm/MHz, level value: -62 dBm EIRP < 200 milliwatt that do not meet the power spectral density requirement, level value: -62 dBm Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna. Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response. Note3: EIRP is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911 D01.	
U-NII Detection Bandwidth	
Minimum 100% of the UNII 99% transmission power bandwidth. See Note Note: During the U-NII Detection Bandwidth detection test, radar type 0 should be used. For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.	
In-Service Monitoring	
the RLAN device shall be capable of detecting any of the radar test signals. Detection Probability (P_d): 60%	
Channel Shutdown - Channel Move Time.	
10 Seconds	
Channel Shutdown - Channel Closing Transmission Time	
200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period.(See Notes 1 and 2) Note 1: Channel Move Time and the Channel Closing Transmission Time should be performed with Radar Type 0.The measurement timing begins at the end of the Radar Type 0 burst. Note 2: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions. Note 3: During the U-NII Detection Bandwidth detection test, radar type 0 should be used. For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.	
Non-Occupancy Period	
Minimum 30 minutes	

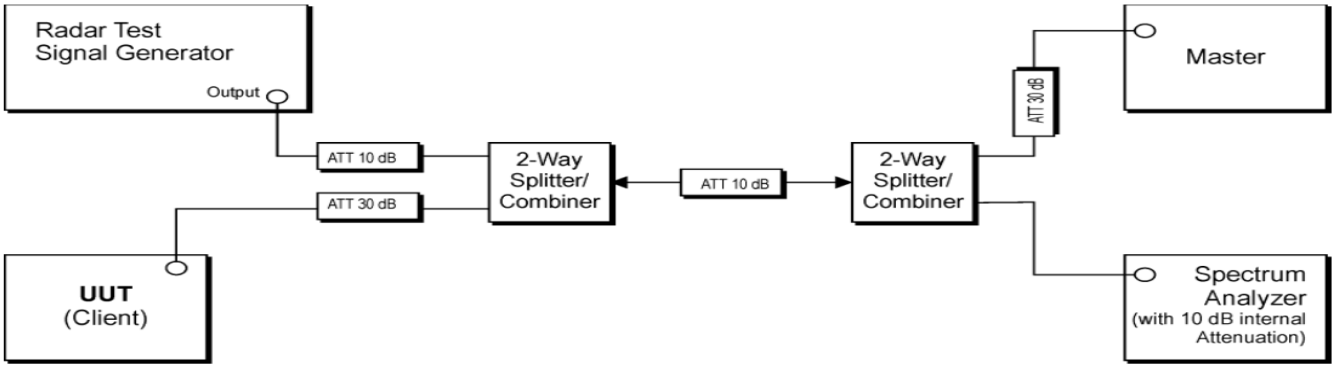
4.10.2 Test Setup

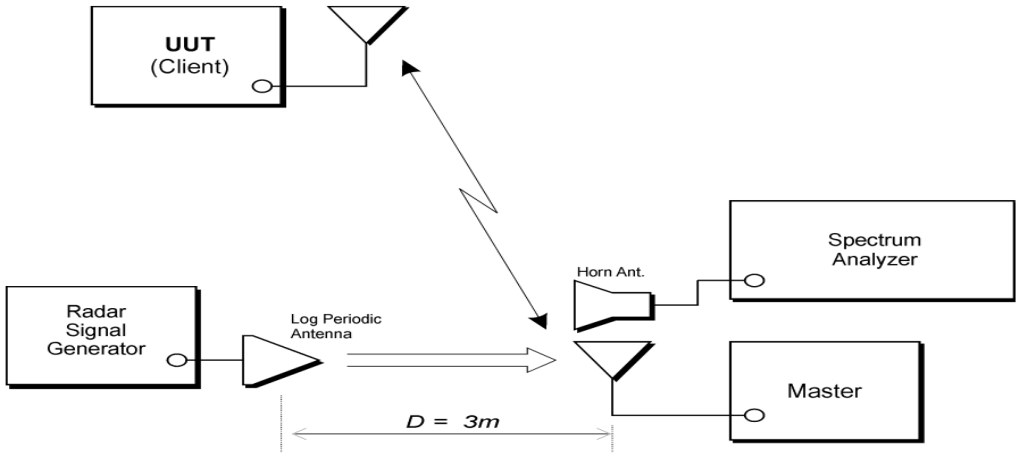
Master with injection at the Master



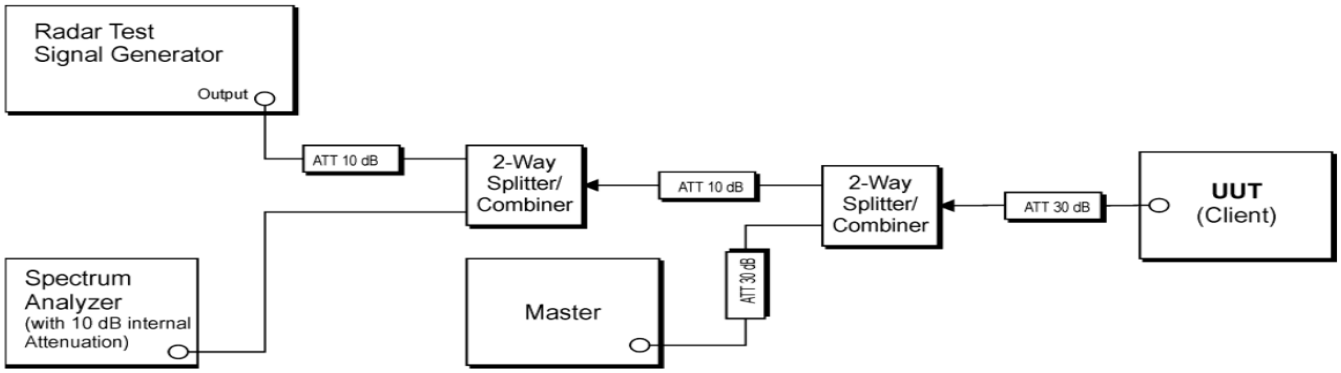


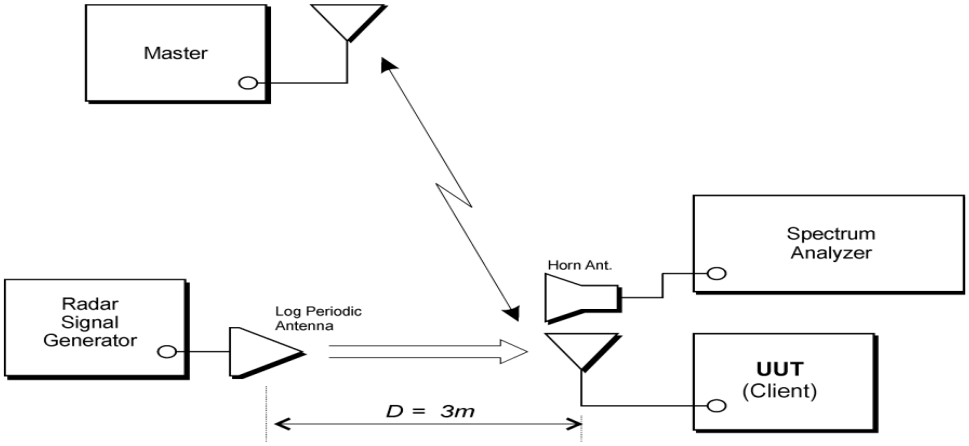
Client with injection at the Master





Client with injection at the Client





4.10.3 Test Procedure

References Rule		Description
☒	KDB 905462 D02	Dynamic Frequency Selection (DFS)

For a UUT with antenna connector(s) and using dedicated external antenna(s), or for a UUT with integral antenna(s) but with a temporary antenna connector(s) provided, conducted measurements shall be used.
When performing DFS testing on smart antenna systems, a power splitter/combiner shall be used to combine all the receive chains (antenna inputs) into a single test point. The insertion loss of the splitter/combiner shall be taken into account.
The UUT shall be configured to operate at the highest transmitter output power setting.
Beamforming gain Y of smart antenna systems, operating in a mode where beamforming is active, is ignored in order to test the worst case.
The centre frequencies of the radar test signals used in the test procedures below shall fall within the central 80 % of the Occupied Channel Bandwidth of the RLAN channel under test.

Tests with a radar burst at the beginning of the Channel Availability Check Time

a)The signal generator and UUT are connected using Set-up A as described in clause 5.4.8.1.3.1. The power of the UUT is switched off.
b)The UUT is powered on at T0. T1 denotes the instant when the UUT has completed its power-up sequence (T_{power_up}) and is ready to start the radar detection. The *Channel Availability Check* is expected to commence on Ch_r at instant T1 and is expected to end no sooner than T1 + $T_{ch_avail_check}$ unless the radar test signal is detected sooner. Additional verification may be needed to define T1 in case it is not exactly known or indicated by the UUT.
c) A single radar burst is generated on Chr using the reference test signal defined in table D.3 at a level of up to 10 dB above the level defined in clause 5.4.8.2.1.1. This single-burst radar test signal shall commence within 2 s after time T1.
d) It shall be recorded if the radar test signal was detected.
e) A timing trace or description of the observed timing and behaviour of the UUT shall be recorded.

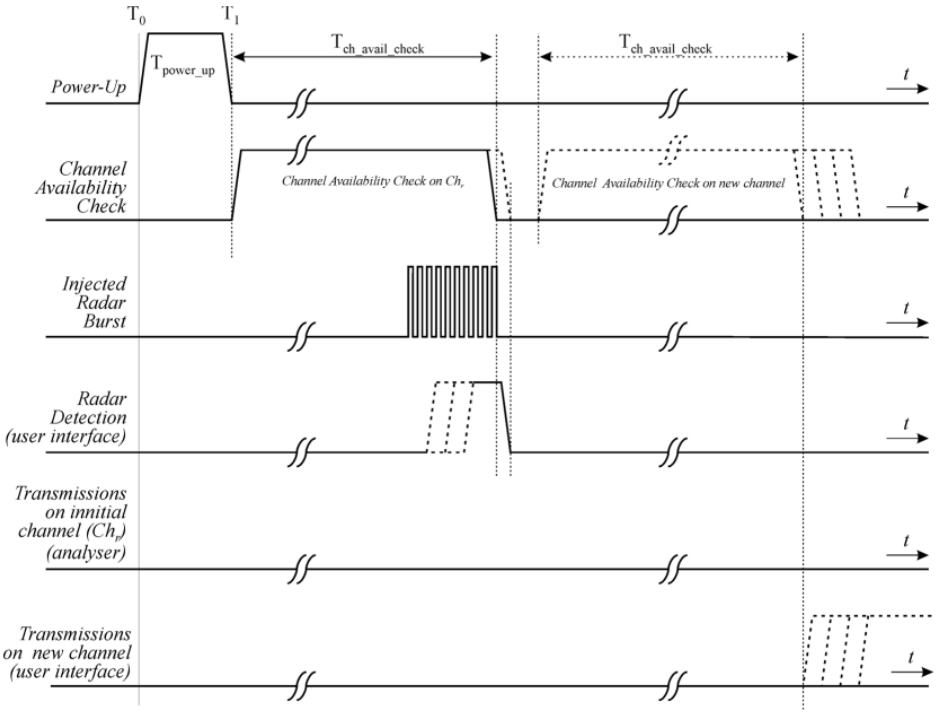


Figure 9: Example of timing for radar testing towards the end of the Channel Availability Check Time

In-Service Monitoring for Channel Move Time, Channel Closing Transmission Time and Non-Occupancy Period

These tests define how the following DFS parameters are verified during *In-Service Monitoring;*
- *Channel Closing Transmission Time*
- *Channel Move Time*
- *Non-Occupancy Period*

The steps below define the procedure to determine the above mentioned parameters when a radar Burst with a level equal to the DFS Detection Threshold + 1dB is generated on the Operating Channel of the UNII device (In- Service Monitoring).

a) One frequency will be chosen from the Operating Channels of the UUT within the 5250-5350 MHz or 5470-5725 MHz bands. For 802.11 devices, the test frequency must contain control signals. This can be verified by disabling channel loading and monitoring the spectrum analyzer. If no control signals are detected, another frequency must be selected within the emission bandwidth where control signals are detected.

b) In case the UUT is a U-NII device operating as a Client Device (with or without DFS), a U-NII device operating as a Master Device will be used to allow the UUT (Client device) to Associate with the Master Device. In case the UUT is a Master Device, a U-NII device operating as a Client Device will be used and it is assumed that the Client will Associate with the UUT (Master). In both cases for conducted tests, the Radar Waveform generator will be connected to the Master Device. For radiated tests, the emissions of the Radar Waveform generator will be directed towards the Master Device. If the Master Device has antenna gain, the main beam of the antenna will be directed toward the radar emitter. Vertical polarization is used for testing.

c) Stream the channel loading test file from the Master Device to the Client Device on the test Channel for the entire period of the test.

d) At time T0 the Radar Waveform generator sends a Burst of pulses for one of the Radar Type 0 in **Table 5** at levels defined in **Table 3**, on the Operating Channel. An additional 1 dB is added to the radar test signal to ensure it is at or above the DFS Detection Threshold, accounting for equipment variations/errors.

e) Observe the transmissions of the UUT at the end of the radar Burst on the Operating Channel for duration greater than 10 seconds. Measure and record the transmissions from the UUT during the observation time (Channel Move Time). Measure and record the Channel Move Time and Channel Closing Transmission Time if radar detection occurs. **Figure 17** illustrates Channel Closing Transmission Time.

f) When operating as a Master Device, monitor the UUT for more than 30 minutes following instant T2 to verify that the UUT does not resume any transmissions on this Channel. Perform this test once and record the measurement result.

g) In case the UUT is a U-NII device operating as a Client Device with In-Service Monitoring, perform steps a) to f).

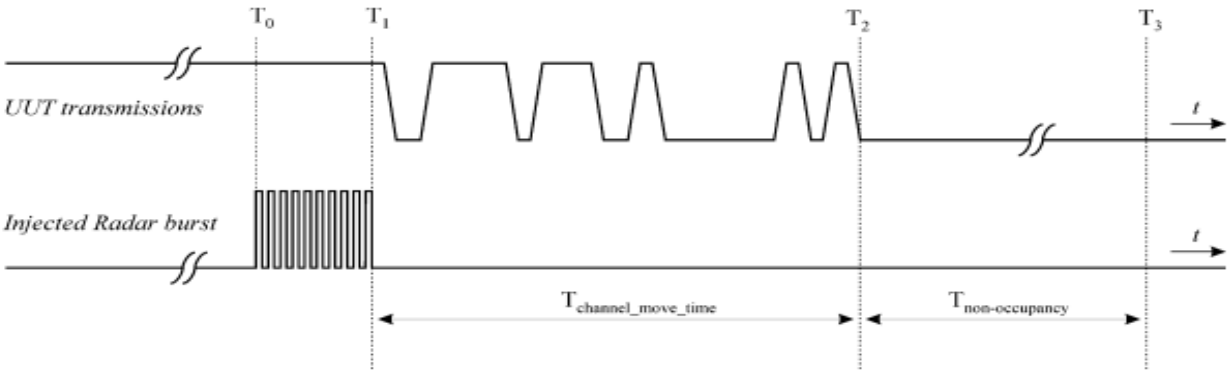


Figure 17: Example of Channel Closing Transmission Time & Channel Closing Time

Statistical Performance Check
The steps below define the procedure to determine the minimum percentage of successful detection requirements found in **Tables 5-7** when a radar burst with a level equal to the DFS Detection Threshold + 1dB is generated on the Operating Channel of the U-NII device (In- Service Monitoring).

a) One frequency will be chosen from the Operating Channels of the UUT within the 5250-5350 MHz or 5470-5725 MHz bands.
b) In case the UUT is a U-NII device operating as a Client Device (with or without Radar Detection), a U-NII device operating as a Master Device will be used to allow the UUT (Client device) to Associate with the Master Device. In case the UUT is a Master Device, a U-NII device operating as a Client Device will be used and it is assumed that the Client will Associate with the UUT (Master). In both cases for conducted tests, the Radar Waveform generator will be connected to the Master Device. For radiated tests, the emissions of the Radar Waveform generator will be directed towards the Master Device. If the Master Device has antenna gain, the main beam of the antenna will be directed toward the radar emitter. Vertical polarization is used for testing.
c) Stream the channel loading test file from the Master Device to the Client Device on the test Channel for the entire period of the test.
d) At time T0 the Radar Waveform generator sends the individual waveform for each of the Radar Types 1- 6 in **Tables 5-7**, at levels defined in **Table 3**, on the Operating Channel. An additional 1 dB is added to the radar test signal to ensure it is at or above the DFS Detection Threshold, accounting for equipment variations/errors.
e) Observe the transmissions of the UUT at the end of the Burst on the Operating Channel for duration greater than 10 seconds for Radar Type 0 to ensure detection occurs.
f) Observe the transmissions of the UUT at the end of the Burst on the Operating Channel for duration greater than 22 seconds for Long Pulse Radar Type 5 to ensure detection occurs.
g) In case the UUT is a U-NII device operating as a Client Device with In-Service Monitoring, perform steps a) to f).

Radar Detection Threshold Level (during Off-Channel CAC)

a) The signal generator, the UUT (master device) and a slave device associated with the UUT, are connected using *Set-up A* described in clause 5.4.8.1.3.1.
b) The UUT shall transmit a test transmission sequence in accordance with clause 5.3.1.2 on (all) the *Operating Channel(s)*.
c) A multi burst radar test signal is generated on Chr using any of the radar test signals defined in table D.4 at a level defined in clause 5.4.8.2.1.1. The radar test signal used shall be recorded in the report. This multi burst radar test signal shall commence at T3 and shall continue for the total duration of the *Off-Channel CAC Time* ($T_{Off\text{-}Channel_CAC}$) as declared by the manufacturer in accordance with table D.1. For channels within the 5 600 MHz to 5 650 MHz band test signals #3 and #4 shall not be used and the Burst Interval Time (BIT) during the test shall be varied between 8 min and 10 min. For channels outside this band, the Burst Interval Time (BIT) during the test shall be varied between 45 s and 60 s.
d) The UUT shall detect the radar test signal before the end of the *Off-Channel CAC Time* and this shall be recorded. For the purpose of reducing test time, the test may be terminated immediately once the UUT has reported detection of the radar test signal.

Detection Probability (P_d)

This test may be facilitated by disabling the *Channel Shutdown* feature for the duration of the test.
For channels outside the 5 600 MHz to 5 650 MHz band, the test in clause 5.4.8.2.1.4.2 is sufficient to demonstrate that the UUT meets the Detection Probability (Pd) defined in table D.5.
Where the declared channel plan includes channels whose nominal bandwidth falls completely or partly within the 5 600 MHz to 5 650 MHz band, the procedure in the steps below has to be performed on one of these channels. See clause 5.3.2.
a) A multi burst radar test signal is generated on Chr using any of the radar test signals defined in table D.4 (except signals #3 and #4) at a level of 10 dB above the level defined in clause 5.4.8.2.1.1. The radar test signal used shall be recorded in the report. This multi burst radar test signal shall commence at T3 and shall continue for the total duration of the Off-Channel CAC Time ($T_{Off\text{-}Channel_CAC}$) as declared by the manufacturer in accordance with table D.1. The Burst Interval Time (BIT) during the test shall be varied between 8 minutes and 10 minutes.

b) It shall be recorded how many bursts have been detected by the UUT at the end of the *Off-Channel CAC Time*. The minimum number of bursts that the UUT shall detect in order to comply with the detection probability defined for this frequency range in table D.5 is given by table 12.
For the purpose of reducing test time, the test may be terminated immediately the UUT has reported the minimum number of burst detections required.

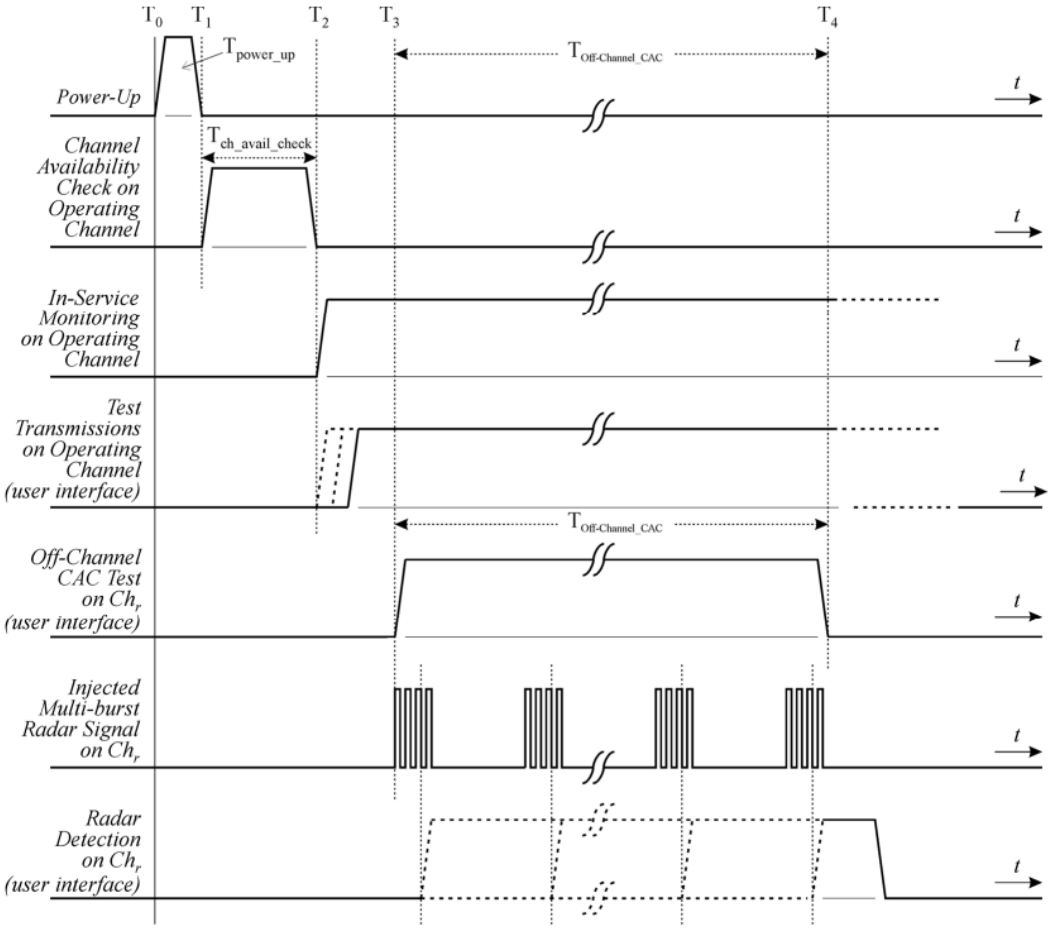


Figure 11: Example of timing for radar testing during the Off-Channel CAC

In-Service Monitoring

The steps below define the procedure to verify the *In-Service Monitoring* and the *Radar Detection Threshold Level* during the *In-Service Monitoring*.
The channel, on which the *In-Service Monitoring* test will be performed, shall be selected in accordance with clause 5.3.2. This channel, designated as Chr, is an *Operating Channel*.
a) When the UUT is a master device, a slave device will be used that associates with the UUT. The signal generator and the UUT are connected using *Set-up A* described in clause 5.4.8.1.3.1.
When the UUT is a slave device with a *Radar Interference Detection* function, the UUT shall associate with a master device. The signal generator and the UUT are connected using *Set-up C* described in clause 5.4.8.1.3.3.
b) The UUT shall transmit a test transmission sequence in accordance with clause 5.3.1.2 on the selected channel Ch_r. While the testing is performed on Chr, the equipment is allowed to have simultaneous transmissions on other adjacent or non-adjacent *Operating Channels*.
c) At a certain time T0, a single burst radar test signal is generated on Chr using radar test signal #1 defined in table D.4 and at a level defined in clause 5.4.8.2.1.1. T1 denotes the end of the radar burst.
d) It shall be recorded if the radar test signal was detected.
e) Step b) to step d) shall be performed 20 times, each time a random value shall be chosen for pulse width and pulse repetition frequency from the corresponding ranges provided in table D.4. For radar test signal #5 and radar

test signal #6 provided in table D.4 the number of PRF values shall vary between 2 or 3. The radar test signal shall be detected at least 12 times out of the 20 trials in order to comply with the detection probability specified in table D.5.
f) Step b) to step e) shall be repeated for each of the radar test signals defined in table D.4 and as described in clause 5.4.8.1.2.

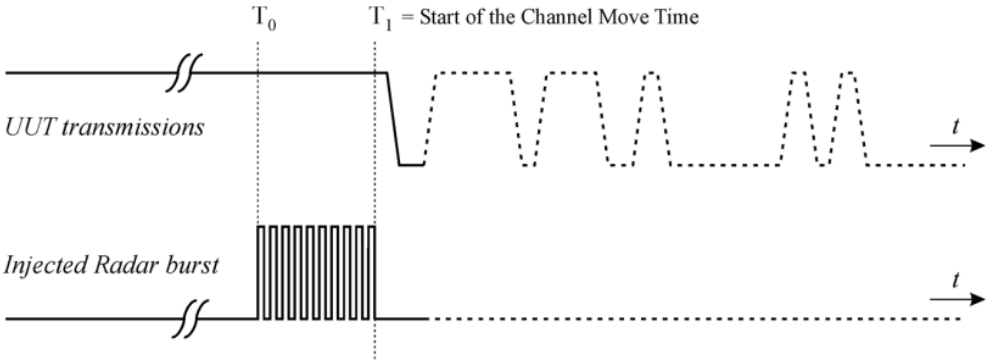


Figure 12: Example of timing for radar testing during In-Service Monitoring

Channel Shutdown and Non-Occupancy period

The steps below define the procedure to verify the *Channel Shutdown* process and to determine the *Channel Closing Transmission Time*, the *Channel Move Time* and the *Non-Occupancy Period.* This is illustrated in figure 13.
The channel, on which these tests will be performed, shall be selected in accordance with clause 5.3.2. This channel, designated as Chr, is an *Operating Channel*.
a) When the UUT is a master device, a slave device will be used that associates with the UUT. The signal generator and the UUT shall be connected using *Set-up A* described in clause 5.4.8.1.3.1.
When the UUT is a slave device (with or without a *Radar Interference Detection* function), the UUT shall associate with a master device. The signal generator and the UUT shall be connected using *Set-up B* described in clause 5.4.8.1.3.2.
In both cases, it is assumed that the channel selection mechanism for the *Uniform Spreading* requirement is disabled in the master.
b) The UUT shall transmit a test transmission sequence in accordance with clause 5.3.1.2 on the selected channel Ch_r. While the testing is performed on Chr, the equipment is allowed to have simultaneous transmissions on other adjacent or non-adjacent *Operating Channels*.
c) At a certain time T0, a single burst test signal is generated on Chr using the reference DFS test signal defined in table D.3 and at a level of up to 10 dB above the level defined in clause 5.4.8.2.1.1 on the selected channel. T1 denotes the end of the radar burst.
d) The transmissions of the UUT following instant T1 on the selected channel Chr shall be observed for a period greater than or equal to the *Channel Move Time* defined in table D.1. The aggregate duration (*Channel Closing Transmission Time)* of all transmissions from the UUT on Chr during the *Channel Move Time* shall be compared to the limit defined in table D.1. For equipment capable of having simultaneous transmissions on multiple (adjacent or non-adjacent) *Operating Channels*, the equipment is allowed to continue transmissions on other *Operating Channels* (different from Chr).
The aggregate duration of all transmissions of the UUT does not include quiet periods in between transmissions of the UUT.
e) T2 denotes the instant when the UUT has ceased all transmissions on the channel Chr. The time difference between T1 and T2 shall be measured. This value *(Channel Move Time*) shall be noted and compared with the limit defined in table D.1.
f) Following instant T2, the selected channel Chr shall be observed for a period equal to the *Non-Occupancy Period* (T3-T2) to verify that the UUT does not resume any transmissions on this channel.

g) When the UUT is a slave device with a *Radar Interference Detection* function step b) to step f) shall be repeated with the generator connected to the UUT using *Set-up C* as described in clause 5.4.8.1.3.3. See also note 2 in table D.2.

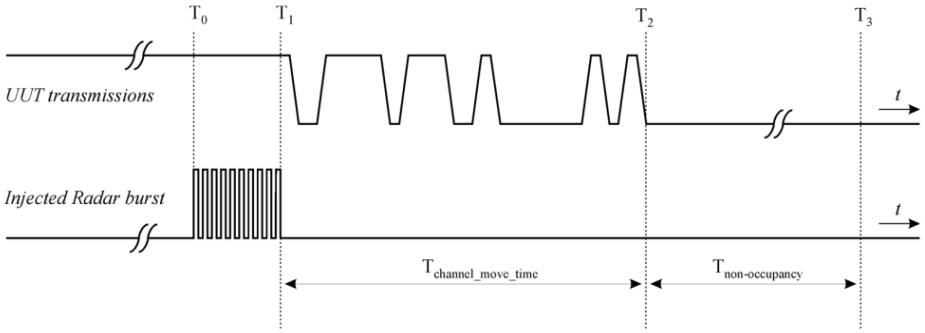


Figure 13: Channel Closing Transmission Time, Channel Move Time and Non-Occupancy Period

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

Emission Bandwidth
Test Result

TestMode	Antenna	Frequency[MHz]	26db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5180	28.000	5167.400	5195.400	---	---
11A	Ant1	5200	28.600	5184.080	5212.680	---	---
11A	Ant1	5240	28.120	5226.360	5254.480	---	---
11A	Ant1	5260	25.440	5247.240	5272.680	---	---
11A	Ant1	5280	30.640	5266.120	5296.760	---	---
11A	Ant1	5320	27.840	5307.000	5334.840	---	---
11A	Ant1	5500	28.520	5486.160	5514.680	---	---
11A	Ant1	5580	28.040	5564.840	5592.880	---	---
11A	Ant1	5700	28.040	5684.440	5712.480	---	---
11A	Ant1	5745	28.040	5731.880	5759.920	---	---
11A	Ant1	5785	30.600	5769.040	5799.640	---	---
11A	Ant1	5825	29.840	5809.560	5839.400	---	---
11N20SISO	Ant1	5180	28.720	5165.800	5194.520	---	---
11N20SISO	Ant1	5200	32.000	5186.120	5218.120	---	---
11N20SISO	Ant1	5240	29.240	5225.720	5254.960	---	---
11N20SISO	Ant1	5260	28.520	5247.120	5275.640	---	---
11N20SISO	Ant1	5280	26.720	5265.560	5292.280	---	---
11N20SISO	Ant1	5320	26.920	5307.280	5334.200	---	---
11N20SISO	Ant1	5500	31.080	5486.360	5517.440	---	---
11N20SISO	Ant1	5580	26.360	5564.680	5591.040	---	---
11N20SISO	Ant1	5700	31.560	5684.040	5715.600	---	---
11N20SISO	Ant1	5745	28.560	5731.160	5759.720	---	---
11N20SISO	Ant1	5785	26.840	5771.800	5798.640	---	---
11N20SISO	Ant1	5825	27.880	5811.600	5839.480	---	---
11N40SISO	Ant1	5190	54.560	5161.120	5215.680	---	---
11N40SISO	Ant1	5230	62.480	5194.000	5256.480	---	---
11N40SISO	Ant1	5270	61.120	5240.000	5301.120	---	---
11N40SISO	Ant1	5310	54.480	5281.520	5336.000	---	---
11N40SISO	Ant1	5510	56.880	5481.840	5538.720	---	---
11N40SISO	Ant1	5590	58.240	5562.160	5620.400	---	---
11N40SISO	Ant1	5670	58.080	5642.080	5700.160	---	---
11N40SISO	Ant1	5755	62.560	5724.360	5786.920	---	---
11N40SISO	Ant1	5795	54.560	5769.480	5824.040	---	---
11AC20SISO	Ant1	5180	25.720	5166.640	5192.360	---	---
11AC20SISO	Ant1	5200	28.040	5185.920	5213.960	---	---
11AC20SISO	Ant1	5240	34.200	5224.680	5258.880	---	---
11AC20SISO	Ant1	5260	31.320	5245.760	5277.080	---	---
11AC20SISO	Ant1	5280	25.960	5267.320	5293.280	---	---
11AC20SISO	Ant1	5320	26.400	5307.400	5333.800	---	---
11AC20SISO	Ant1	5500	27.080	5486.600	5513.680	---	---
11AC20SISO	Ant1	5580	24.920	5567.160	5592.080	---	---
11AC20SISO	Ant1	5700	33.920	5683.120	5717.040	---	---
11AC20SISO	Ant1	5745	29.480	5730.280	5759.760	---	---
11AC20SISO	Ant1	5785	29.280	5771.280	5800.560	---	---
11AC20SISO	Ant1	5825	24.400	5812.960	5837.360	---	---
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11AC40SISO	Ant1	5230	45.280	5207.600	5252.880	---	---

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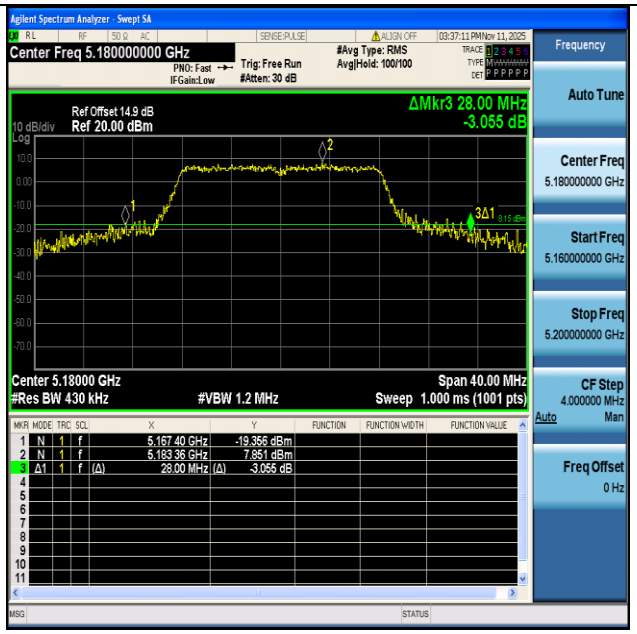
11AC80SISO	Ant1	5290	88.320	5247.920	5336.240	---	---
11AC80SISO	Ant1	5530	86.400	5487.760	5574.160	---	---
11AC80SISO	Ant1	5610	84.000	5570.000	5654.000	---	---
11AC80SISO	Ant1	5775	93.760	5729.880	5823.640	---	---

Test Graphs



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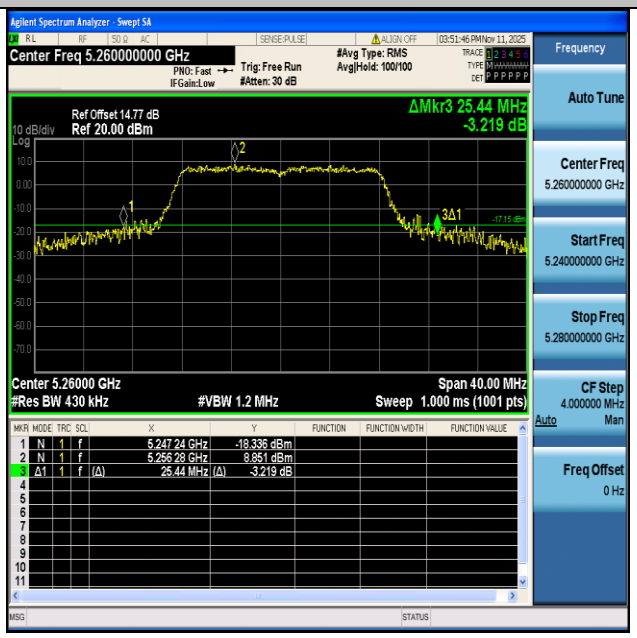

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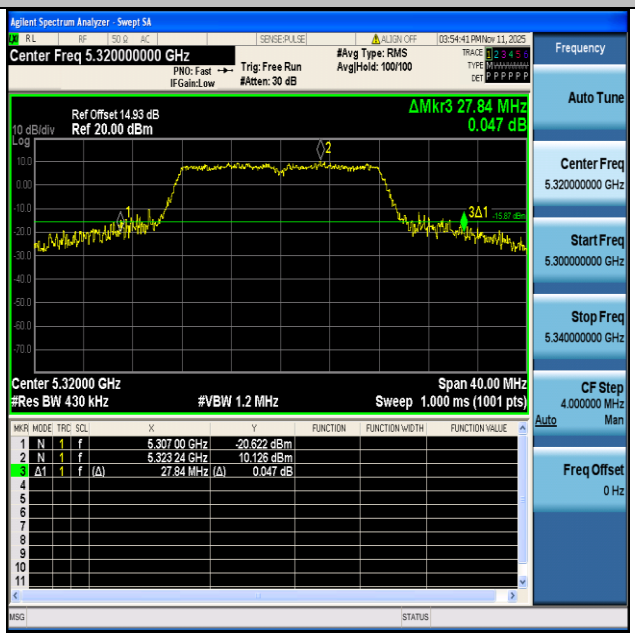

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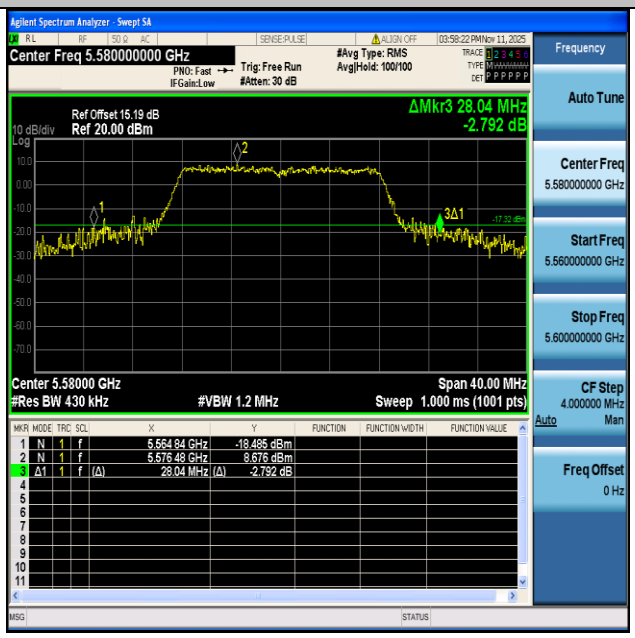

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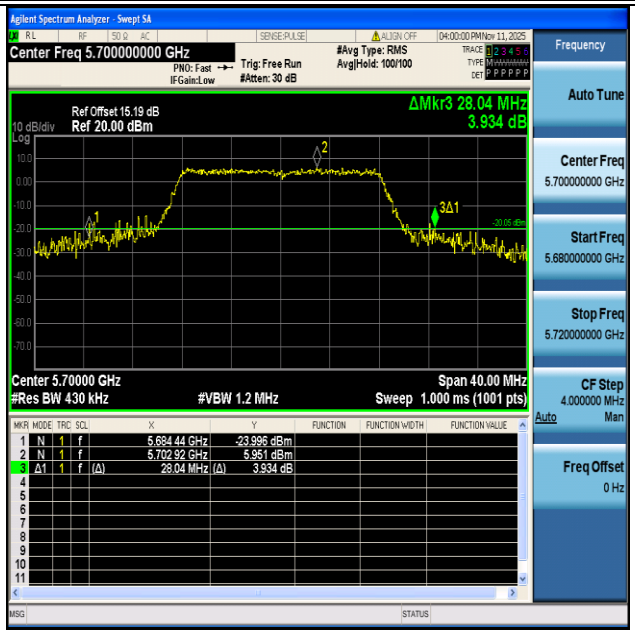

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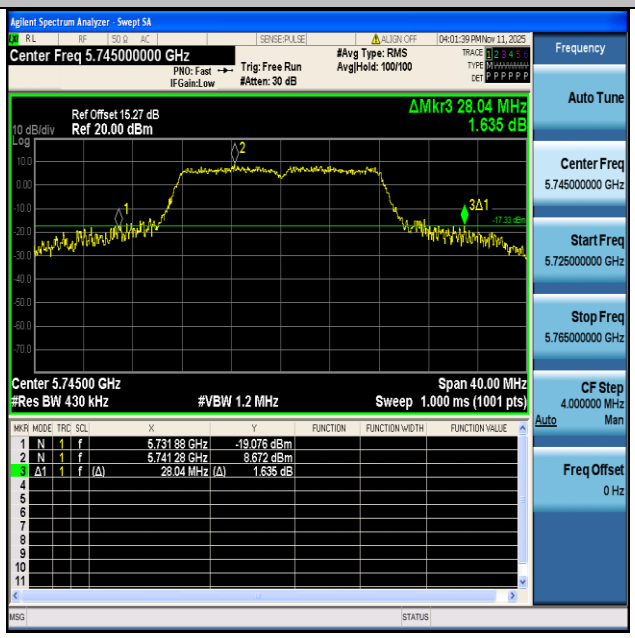

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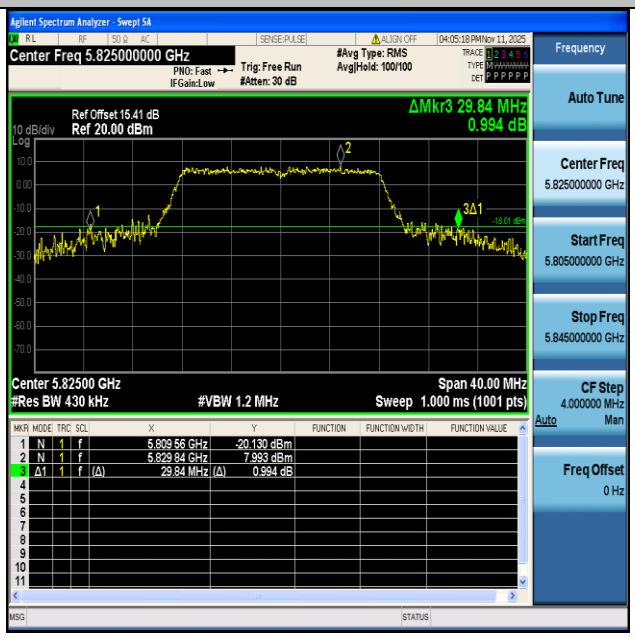

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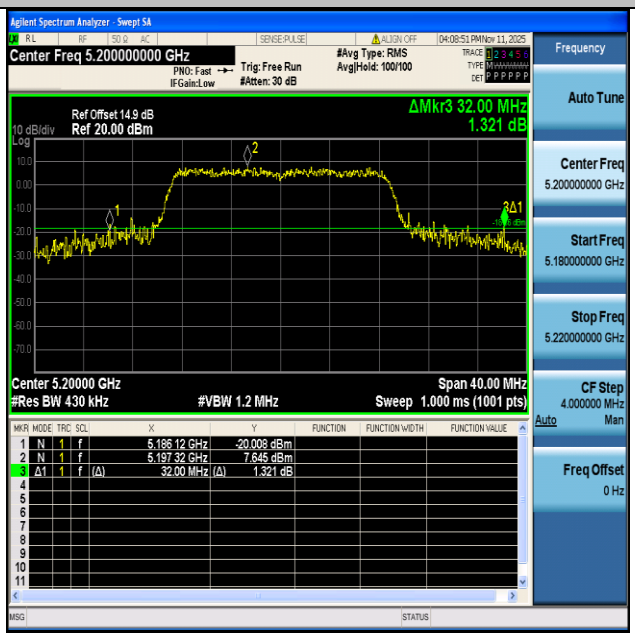

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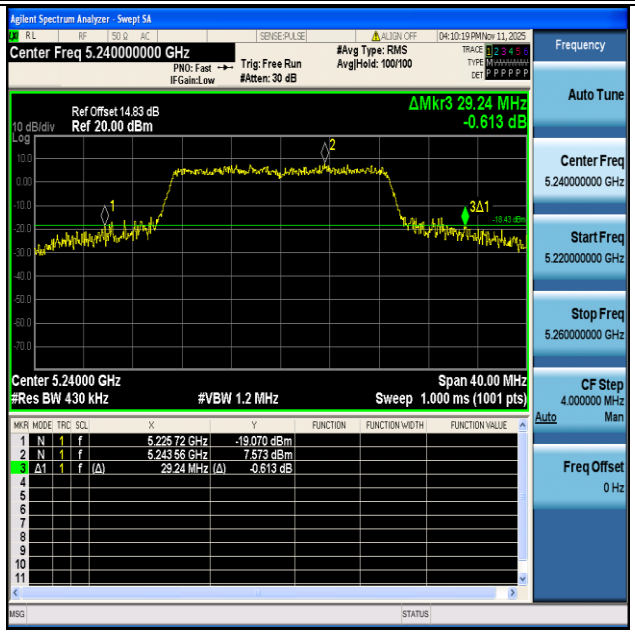

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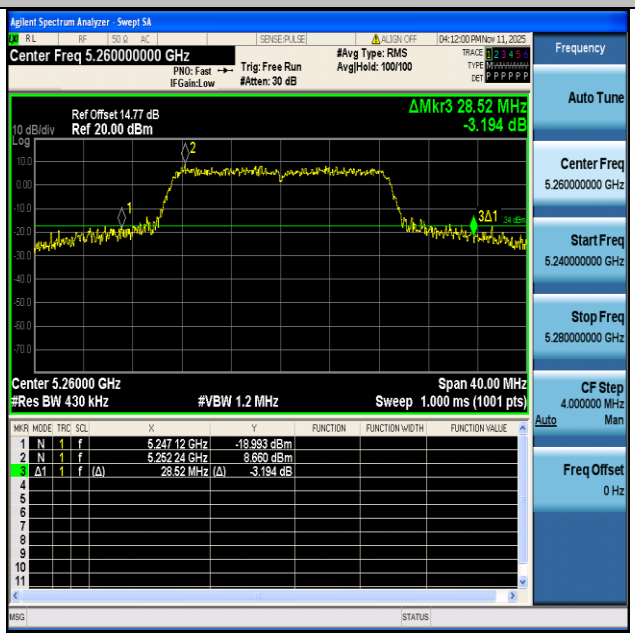

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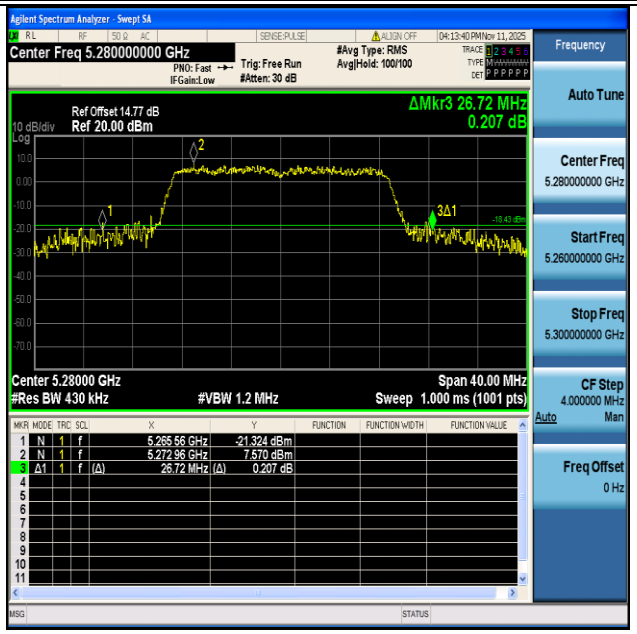

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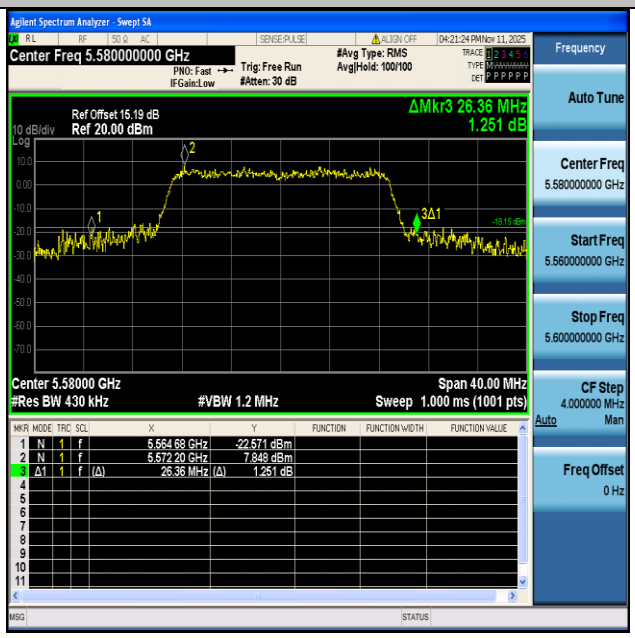

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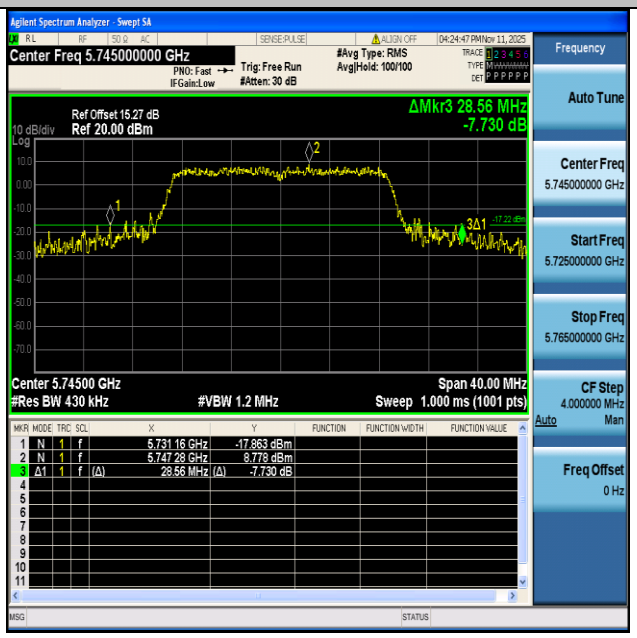

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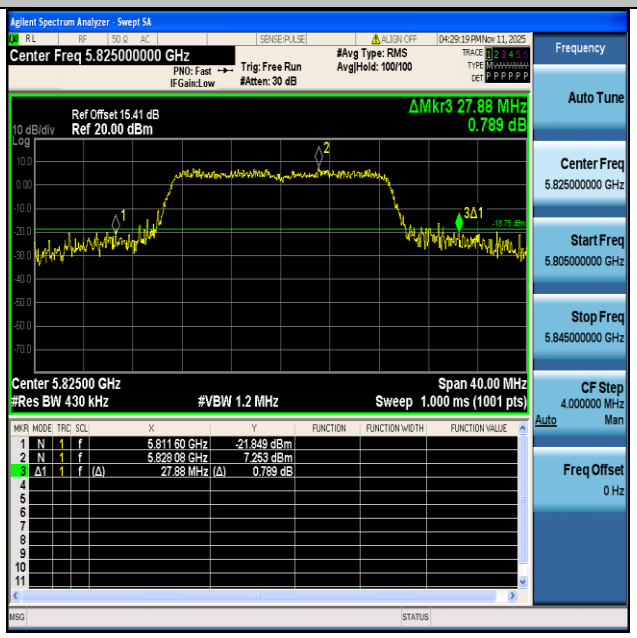

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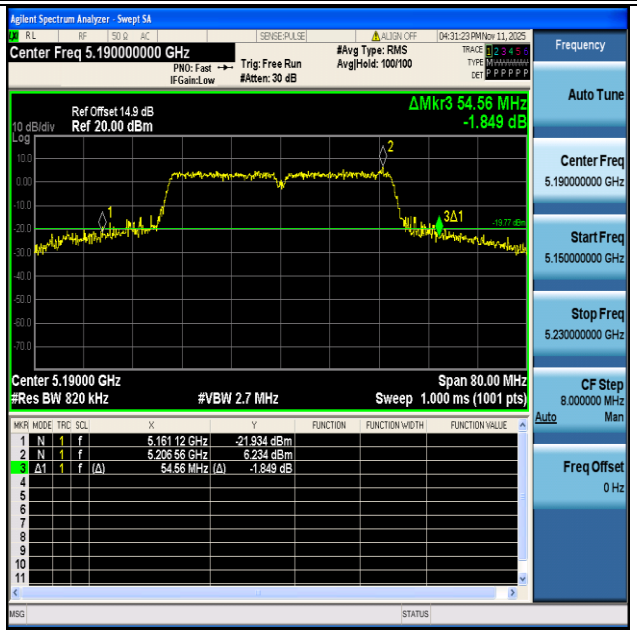

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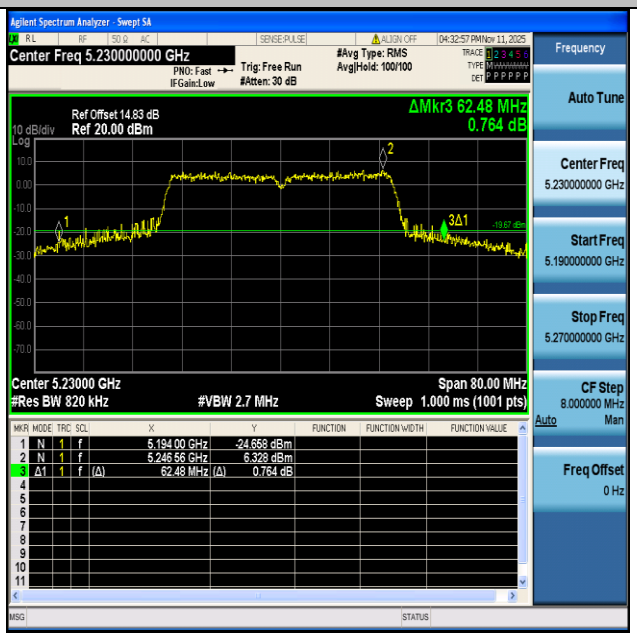

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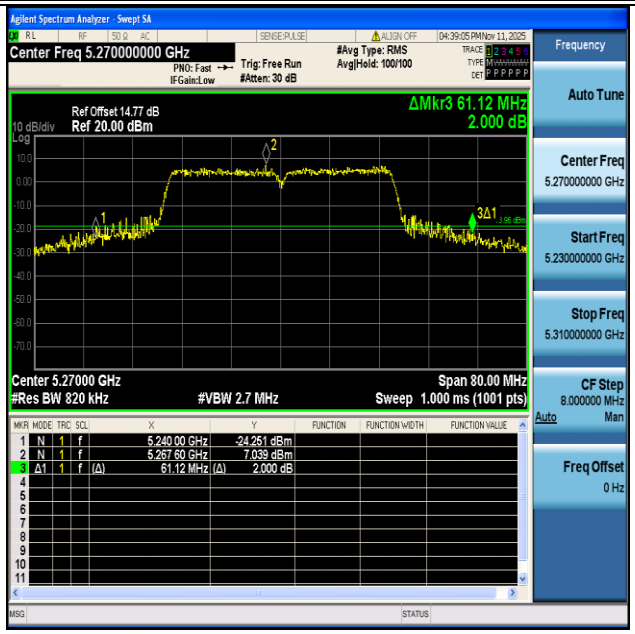

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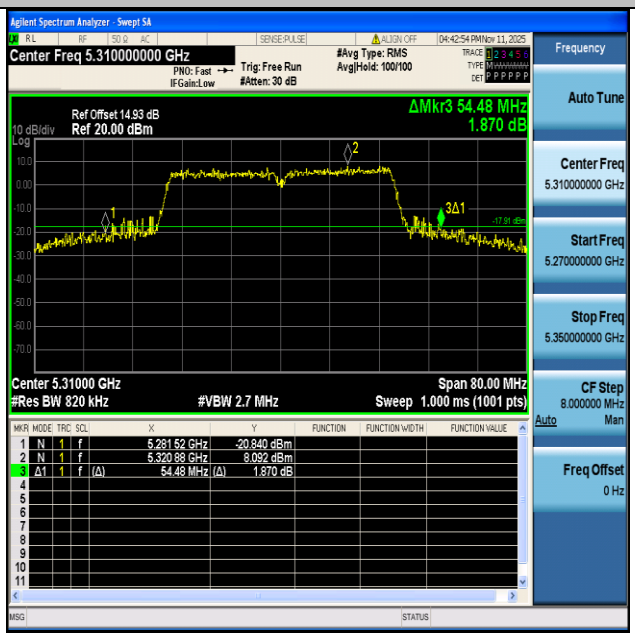

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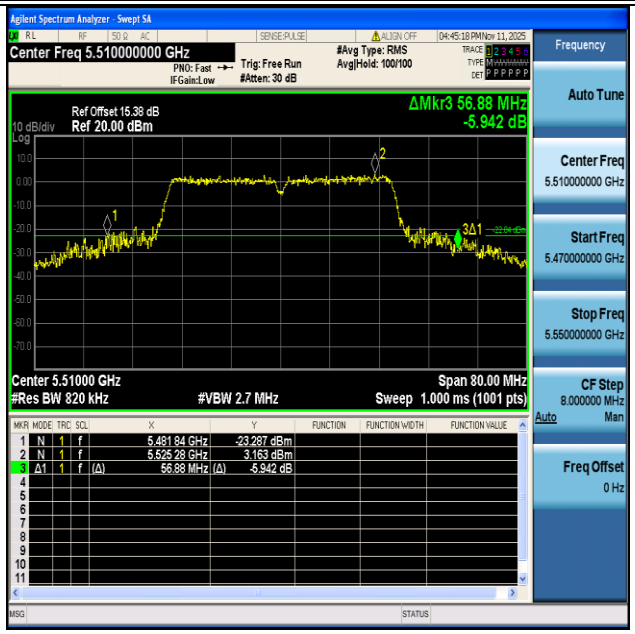

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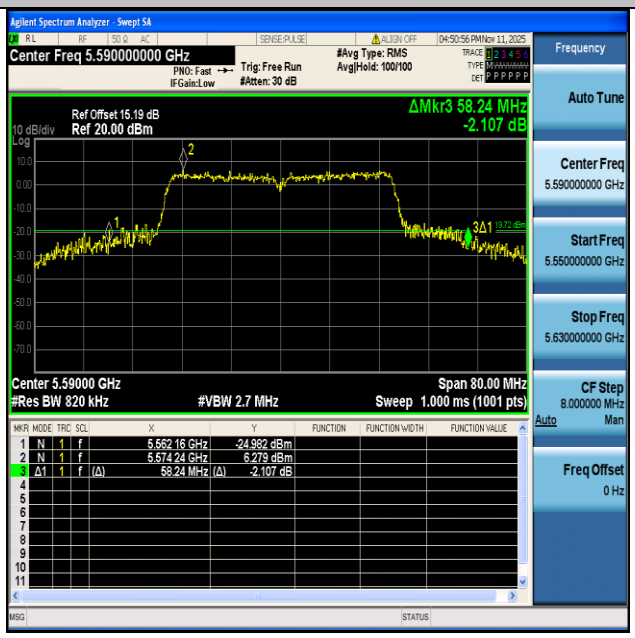

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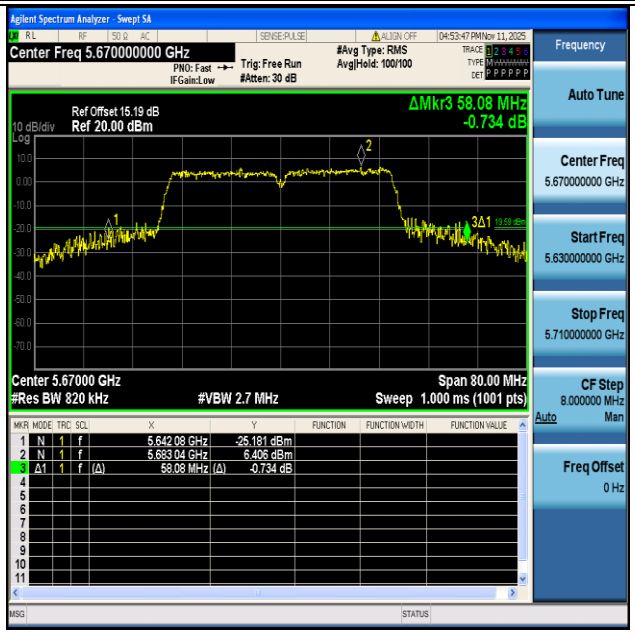

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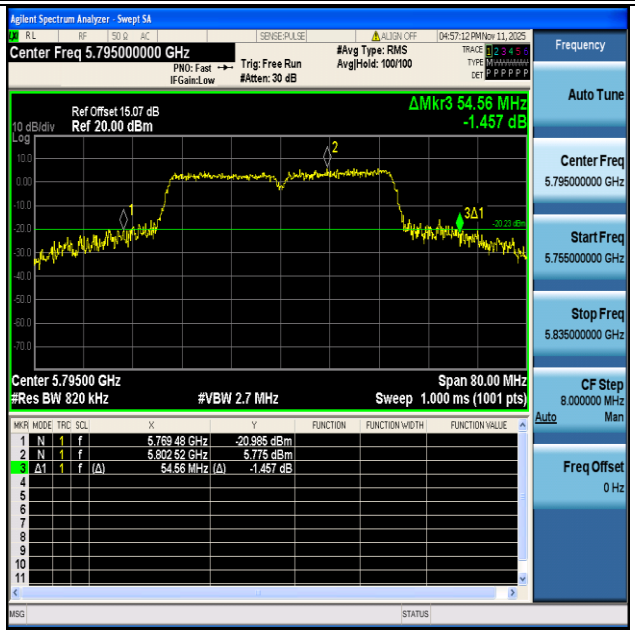

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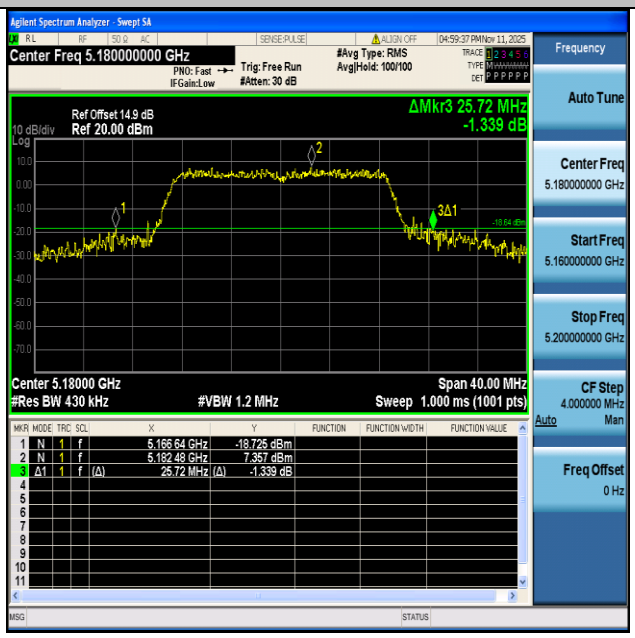

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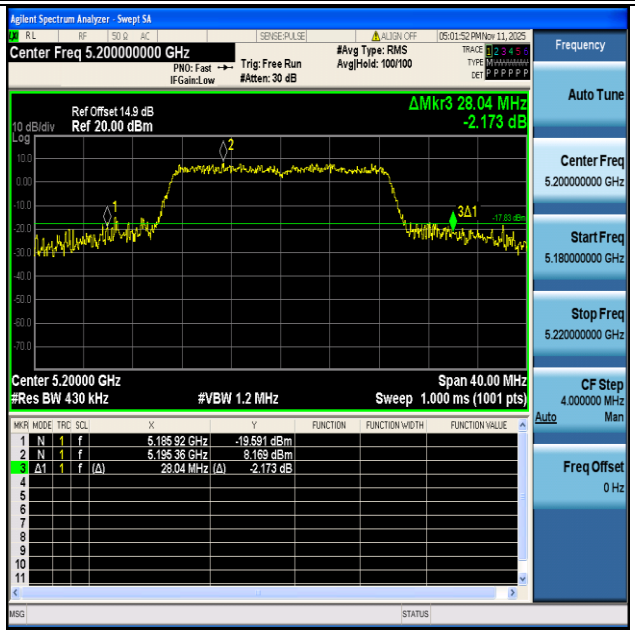

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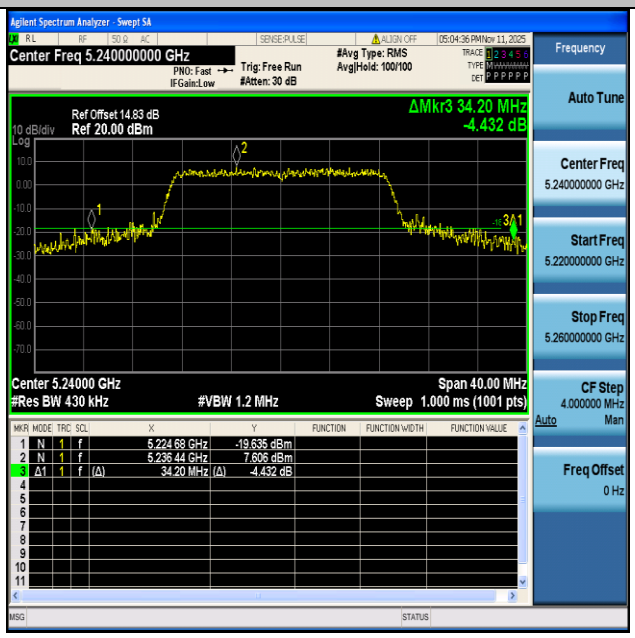

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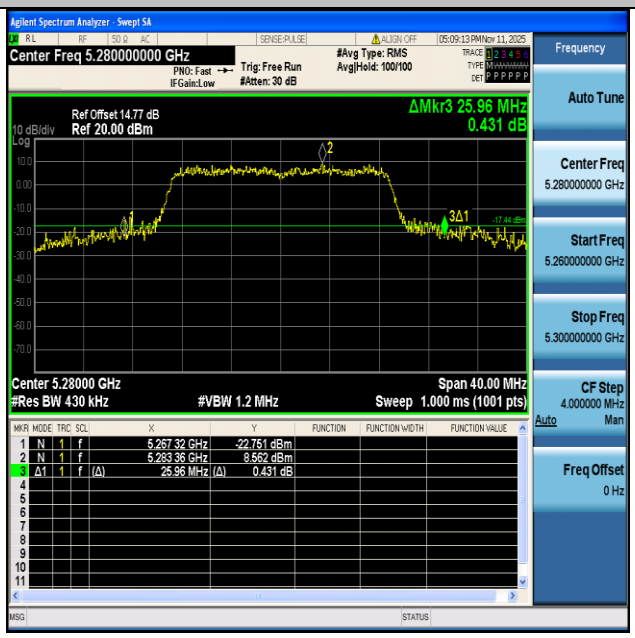

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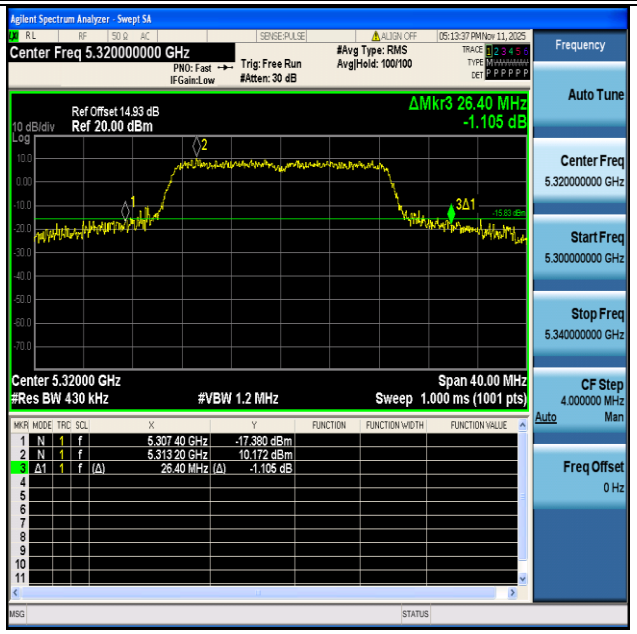

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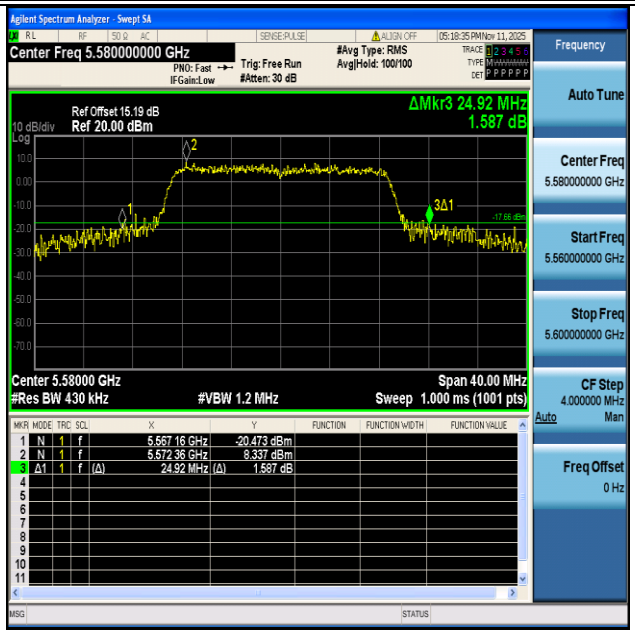

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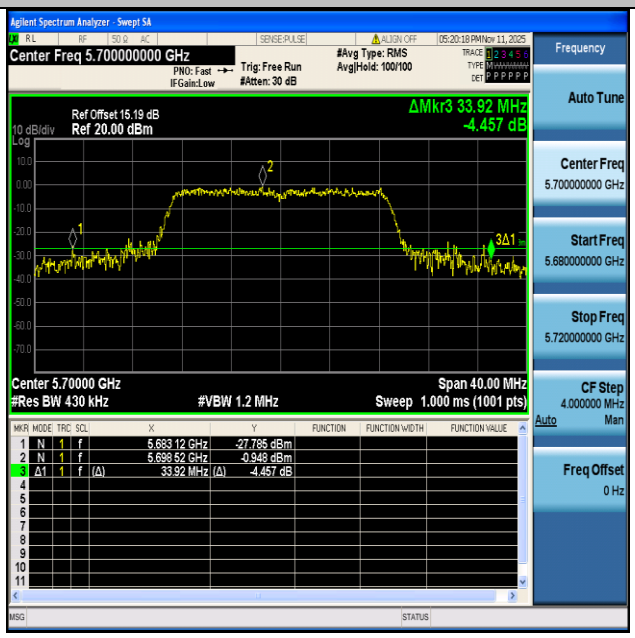

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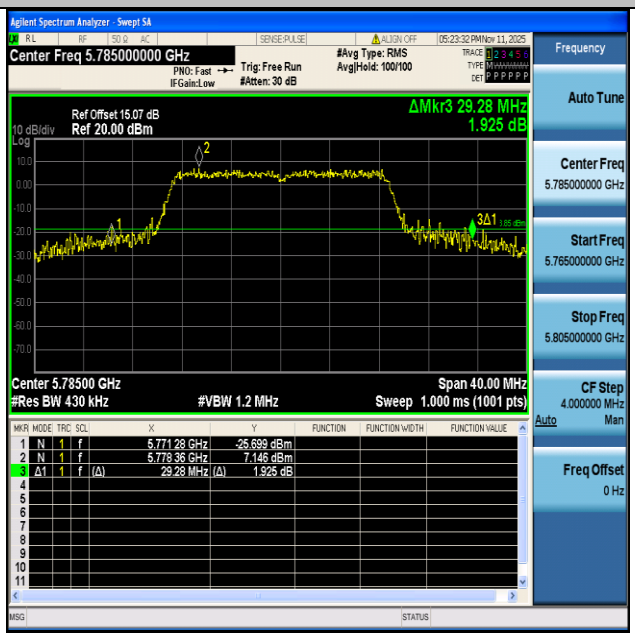

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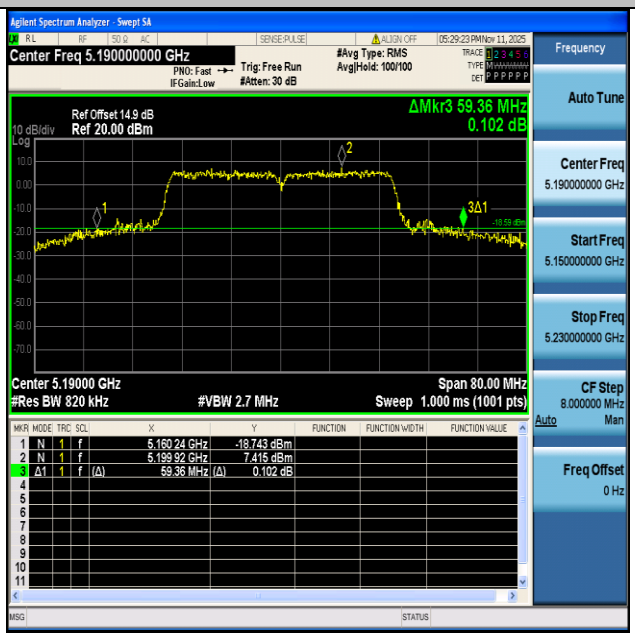

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11AC40SISO-Ant1-5270

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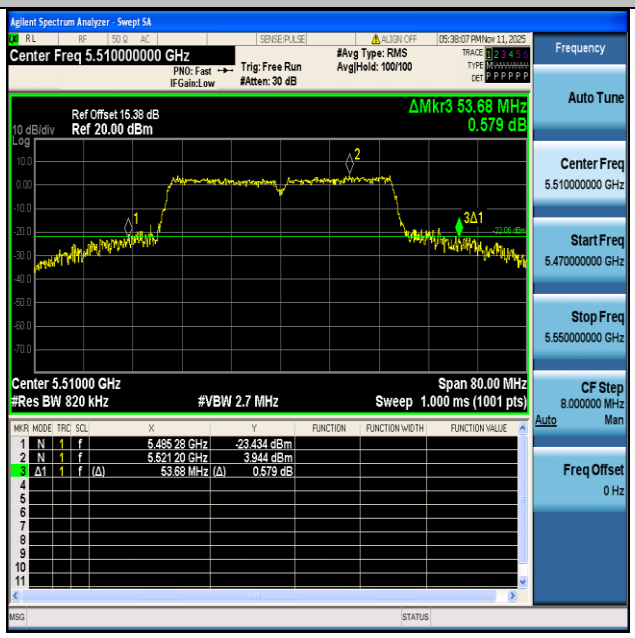

11AC40SISO-Ant1-5510

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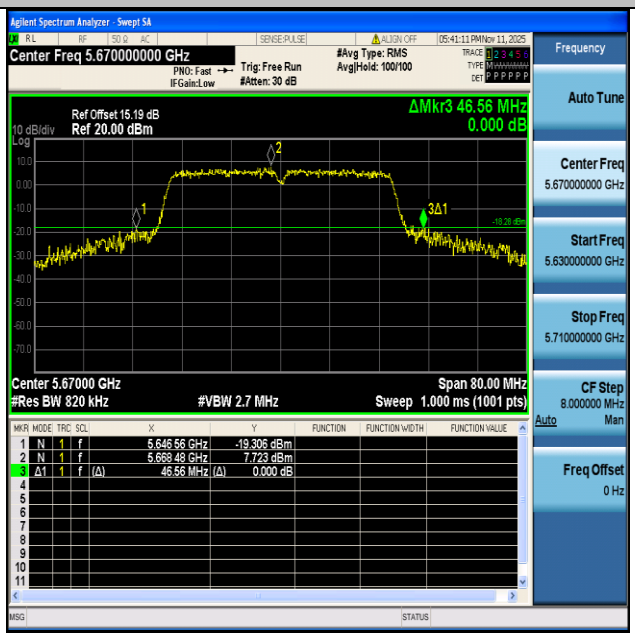

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