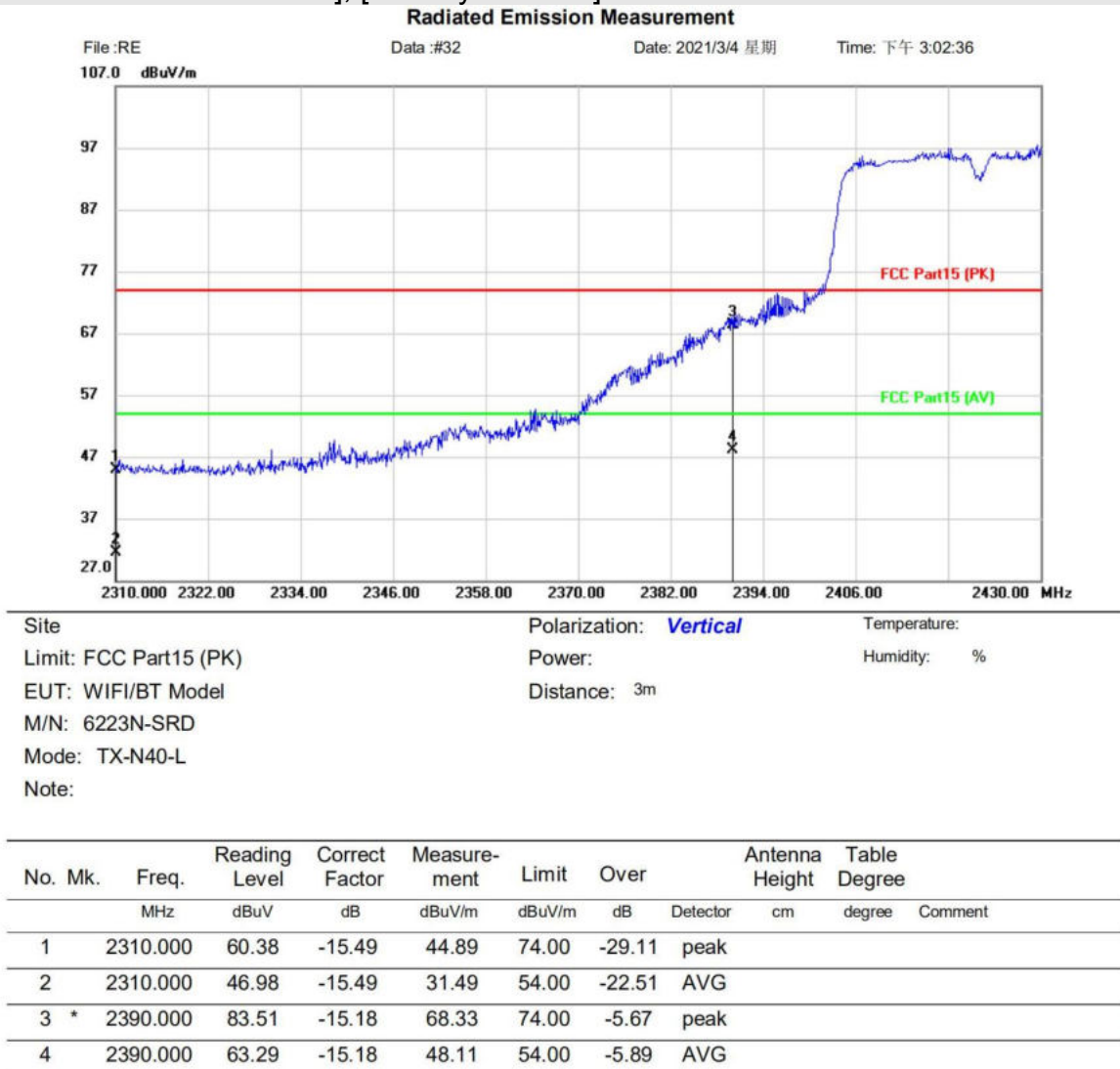


[TestMode: TX Low channel]; [Polarity: Vertical]

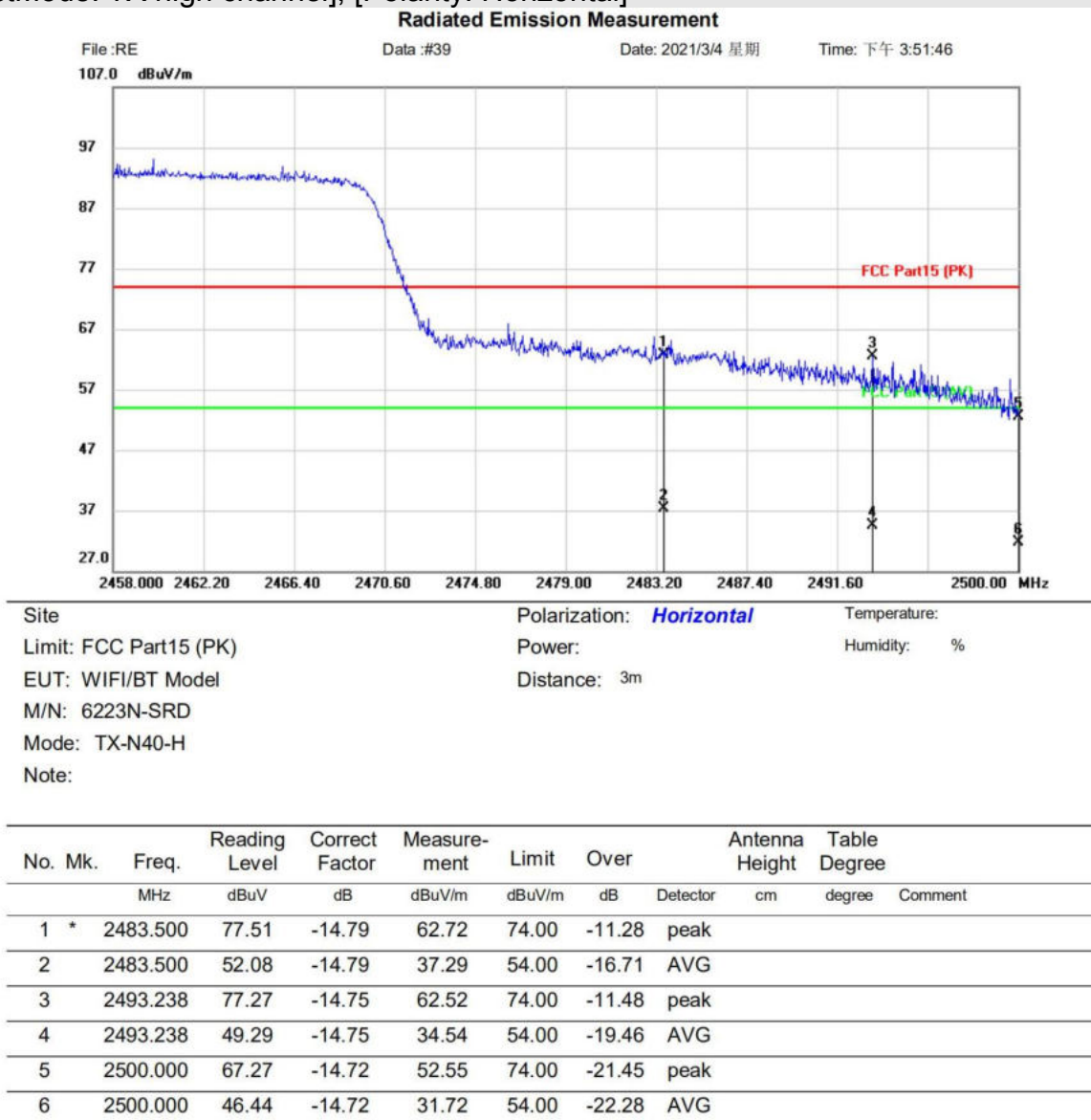


*:Maximum data x:Over limit !:over margin

⟨Reference Only

Test Result: Pass

[TestMode: TX high channel]; [Polarity: Horizontal]

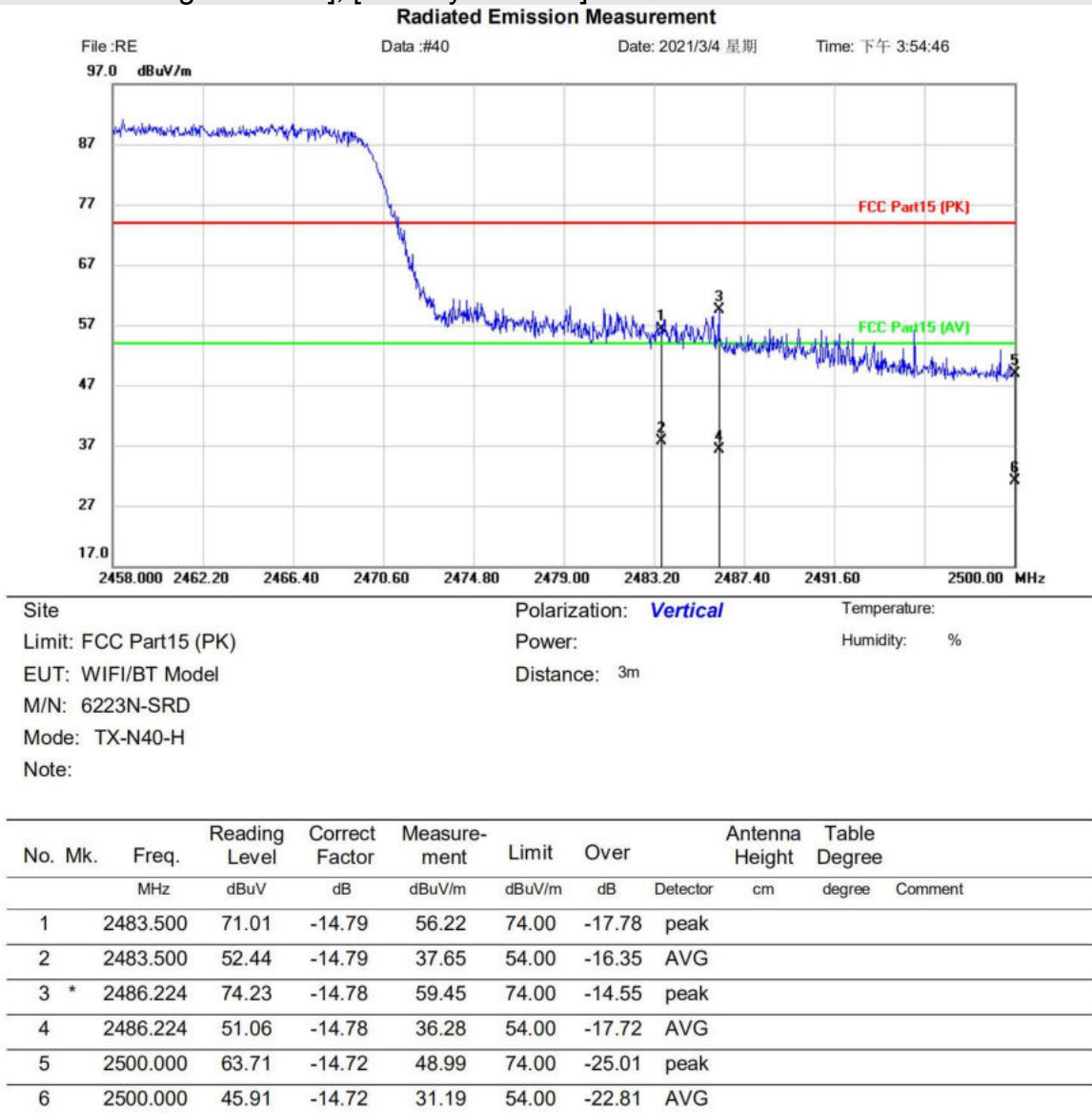


*:Maximum data x:Over limit !:over margin

⟨Reference Only

Test Result: Pass

[TestMode: TX high channel]; [Polarity: Vertical]



*:Maximum data x:Over limit !:over margin

⟨Reference Only

Test Result: Pass

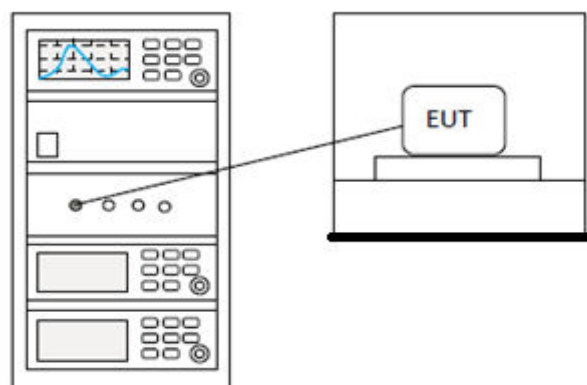
4 CONDUCTED SPURIOUS EMISSIONS

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 7.8.6 & Section 11.11
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25°C
Humidity	60%

4.1 LIMITS

Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).
---------------	--

4.2 BLOCK DIAGRAM OF TEST SETUP



4.3 TEST DATA

Pass: Please Refer To Appendix: For Details

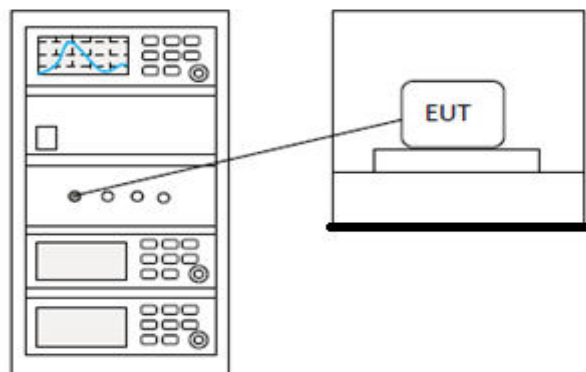
5 CONDUCTED BAND EDGES MEASUREMENT

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 7.8.8 & Section 11.13.3.2
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25°C
Humidity	60%

5.1 LIMITS

Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).
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5.2 BLOCK DIAGRAM OF TEST SETUP



5.3 TEST DATA

Pass: Please Refer To Appendix: Appendix1 For Details

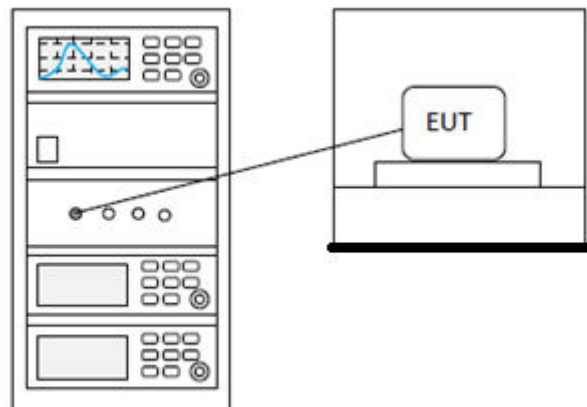
6 MINIMUM 6DB BANDWIDTH

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 11.8.1
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25°C
Humidity	60%

6.1 LIMITS

Limit:	≥ 500 kHz
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6.2 BLOCK DIAGRAM OF TEST SETUP



6.3 TEST DATA

Pass: Please Refer To Appendix: Appendix1 For Details

7 CONDUCTED EMISSIONS AT AC POWER LINE (150KHZ-30MHZ)

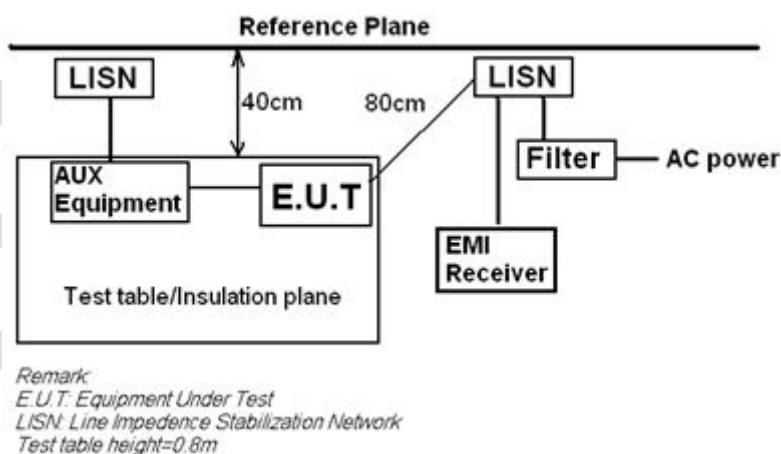
Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 6.2
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25°C
Humidity	60%

7.1 LIMITS

Frequency of emission(MHz)	Conducted limit(dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

7.2 BLOCK DIAGRAM OF TEST SETUP



7.3 PROCEDURE

- 1) The mains terminal disturbance voltage test was conducted in a shielded room.
- 2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50ohm/50μH + 5ohm linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.

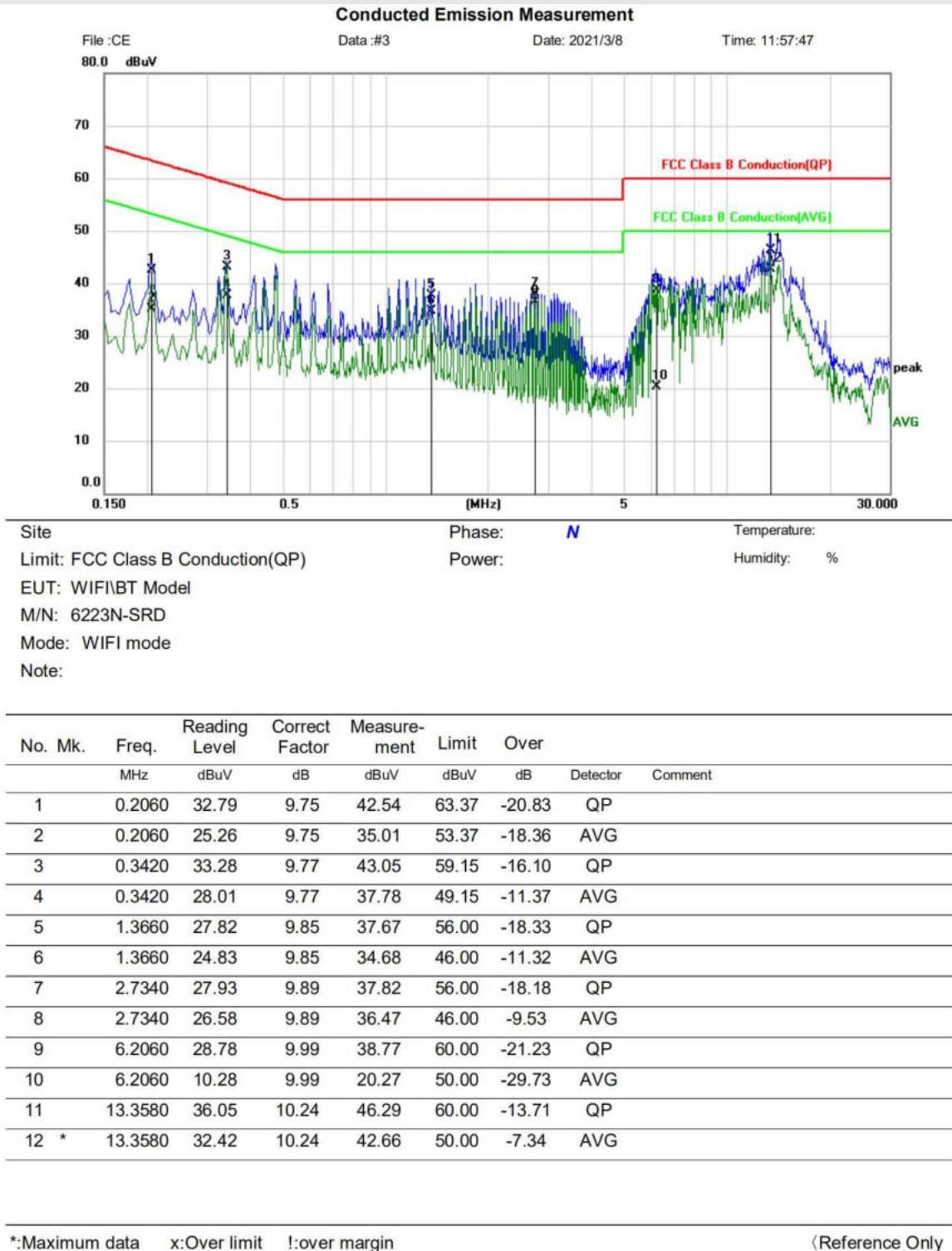
- 3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane,
- 4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.
- 5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.

Remark: $\text{LISN} = \text{Read Level} + \text{Cable Loss} + \text{LISN Factor}$

7.4 TEST DATA

[TestMode: TX]; [Line: Nutral]

Power: AC120V60Hz

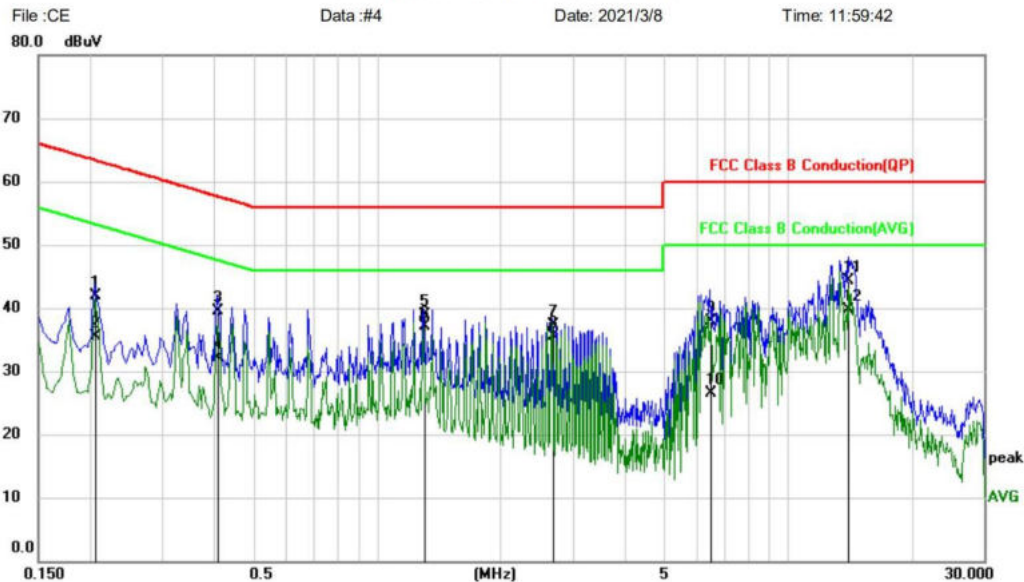


Test Result: Pass

[TestMode: TX]; [Line: Line]

Power: AC120V60Hz

Conducted Emission Measurement



Site: Phase: **L1** Temperature:
Limit: FCC Class B Conduction(QP) Power: Humidity: %
EUT: WIFI\BT Model
M/N: 6223N-SRD
Mode: WIFI mode
Note:

No. Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
	MHz	dBuV	dB	dBuV	dBuV	dB		
1	0.2060	32.05	9.83	41.88	63.37	-21.49	QP	
2	0.2060	25.64	9.83	35.47	53.37	-17.90	AVG	
3	0.4100	29.66	9.85	39.51	57.65	-18.14	QP	
4	0.4100	22.24	9.85	32.09	47.65	-15.56	AVG	
5	1.2980	28.98	9.93	38.91	56.00	-17.09	QP	
6 *	1.2980	27.14	9.93	37.07	46.00	-8.93	AVG	
7	2.6660	27.32	9.96	37.28	56.00	-18.72	QP	
8	2.6660	25.56	9.96	35.52	46.00	-10.48	AVG	
9	6.4820	27.83	10.07	37.90	60.00	-22.10	QP	
10	6.4820	16.43	10.07	26.50	50.00	-23.50	AVG	
11	14.0300	33.95	10.32	44.27	60.00	-15.73	QP	
12	14.0300	29.38	10.32	39.70	50.00	-10.30	AVG	

*:Maximum data x:Over limit !:over margin

<Reference Only

Test Result: Pass

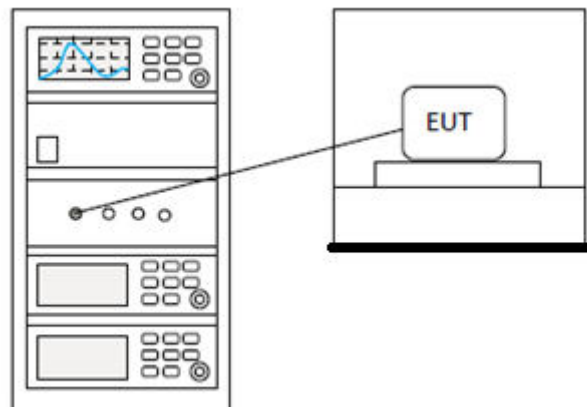
8 POWER SPECTRUM DENSITY

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 11.10.2
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25°C
Humidity	60%

8.1 LIMITS

Limit: $\leq 8\text{dBm}$ in any 3 kHz band during any time interval of continuous transmission

8.2 BLOCK DIAGRAM OF TEST SETUP



8.3 TEST DATA

Pass: Please Refer To Appendix: Appendix1 For Details

9 ANTENNA REQUIREMENT

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	N/A

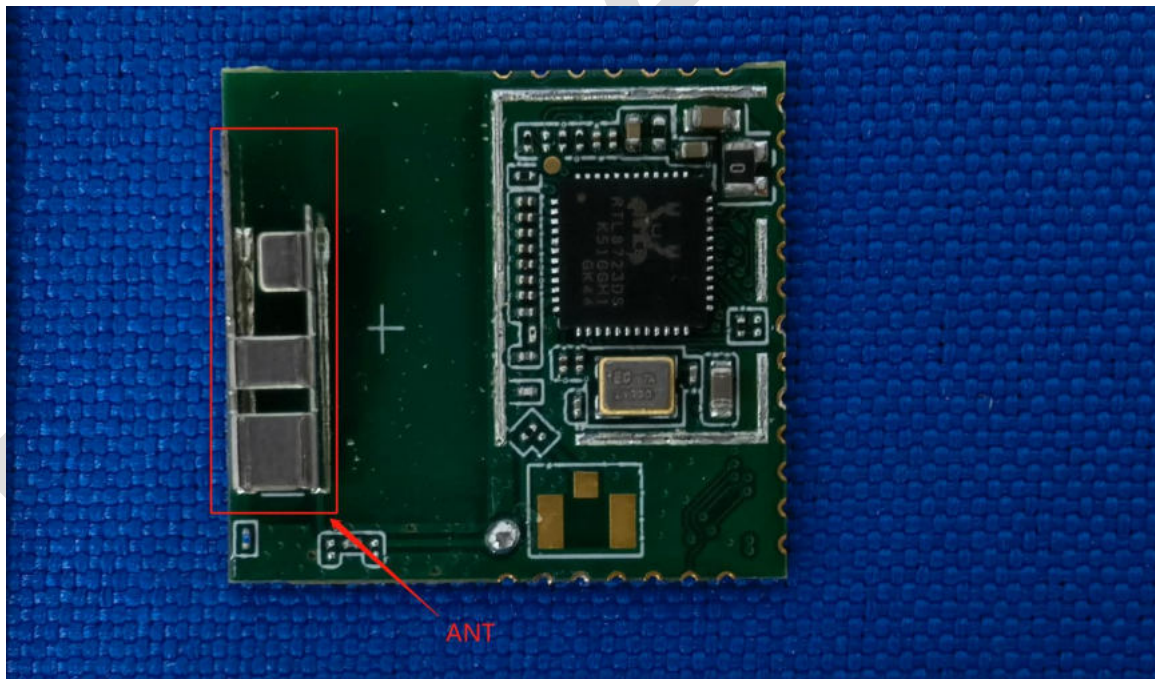
9.1 CONCLUSION

Standard Requirement:

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

EUT Antenna:

The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is 1.2dBi.



11 APPENDIX

11.1 APPENDIX : DTS BANDWIDTH

Test Result

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	9.600	2406.960	2416.560	≥ 0.5	PASS
		2437	10.120	2431.960	2442.080	≥ 0.5	PASS
		2462	9.200	2457.400	2466.600	≥ 0.5	PASS
11G	Ant1	2412	16.400	2403.800	2420.200	≥ 0.5	PASS
		2437	16.360	2428.840	2445.200	≥ 0.5	PASS
		2462	16.200	2454.000	2470.200	≥ 0.5	PASS
11N20SISO	Ant1	2412	17.560	2403.200	2420.760	≥ 0.5	PASS
		2437	17.360	2428.440	2445.800	≥ 0.5	PASS
		2462	17.360	2453.200	2470.560	≥ 0.5	PASS
11N40SISO	Ant1	2422	35.200	2404.400	2439.600	≥ 0.5	PASS
		2437	35.360	2419.320	2454.680	≥ 0.5	PASS
		2452	34.320	2435.280	2469.600	≥ 0.5	PASS

Test Graphs

11B Ant1 2412



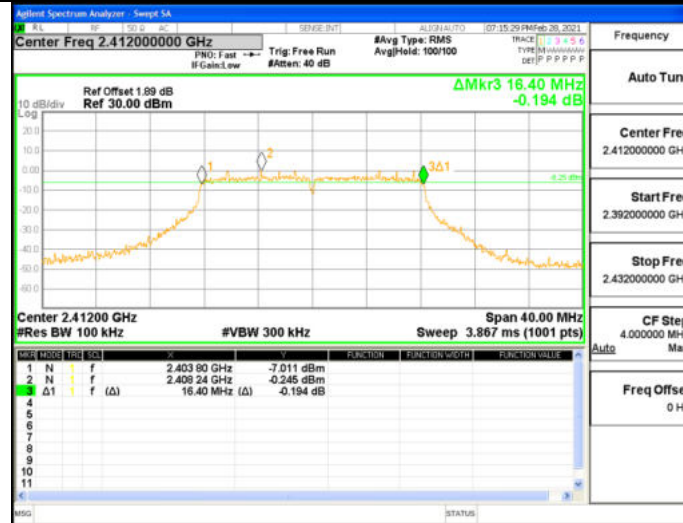
11B Ant1 2437



11B Ant1 2462



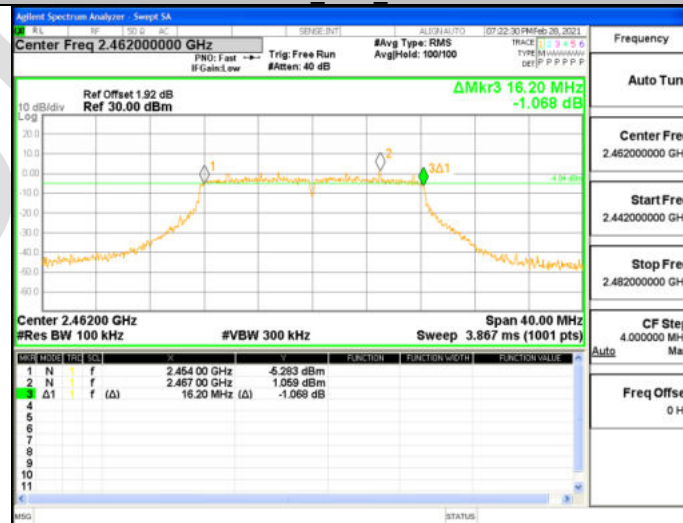
11G_Ant1_2412



11G_Ant1_2437

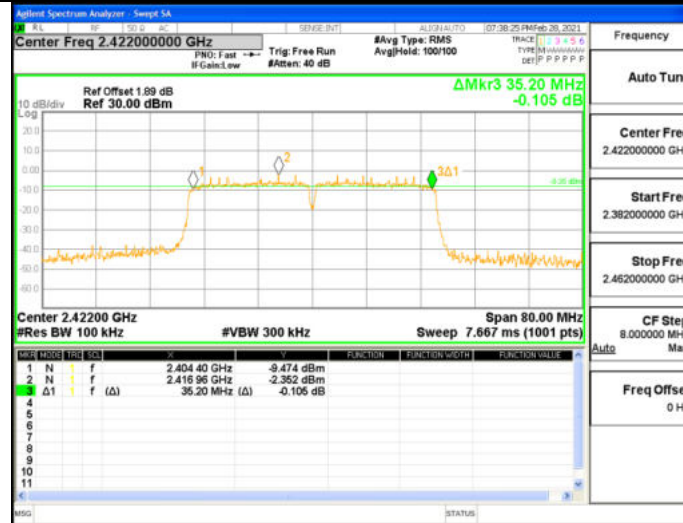


11G_Ant1_2462

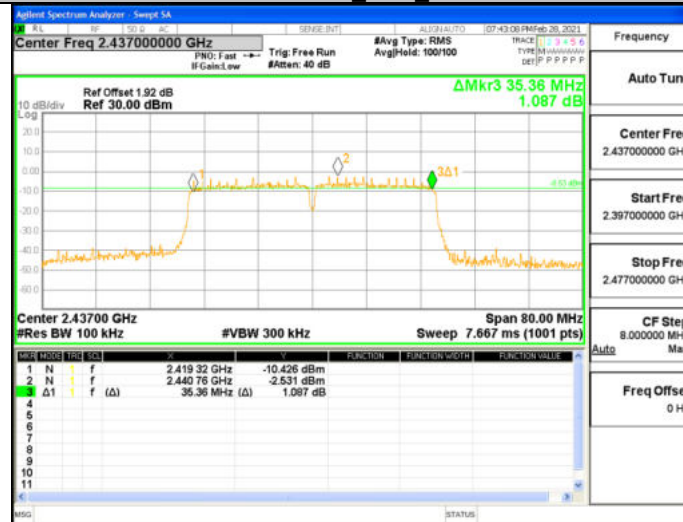




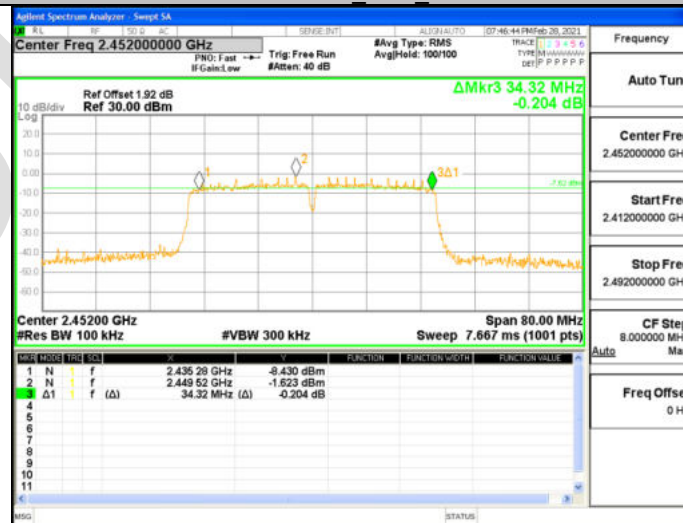
11N40SISO_Ant1_2422



11N40SISO_Ant1_2437



11N40SISO_Ant1_2452



11.2 APPENDIX B: OCCUPIED CHANNEL BANDWIDTH

Test Result

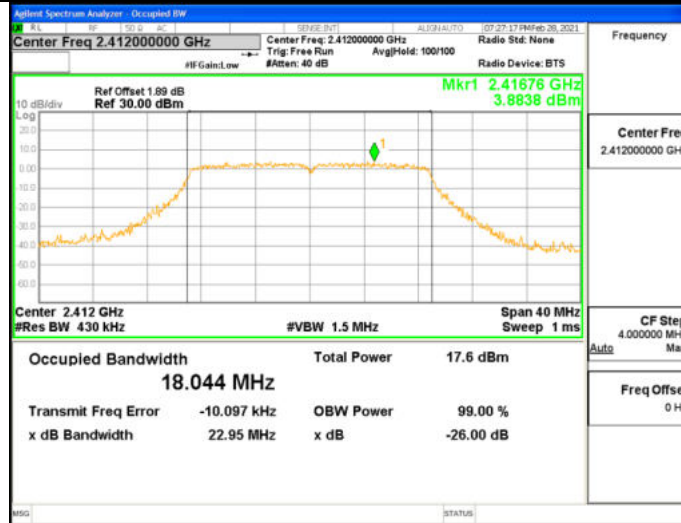
TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	14.575	2404.733	2419.308	---	PASS
		2437	14.641	2429.750	2444.391	---	PASS
		2462	14.616	2454.672	2469.288	---	PASS
11G	Ant1	2412	17.062	2403.421	2420.483	---	PASS
		2437	17.092	2428.488	2445.580	---	PASS
		2462	17.026	2453.427	2470.453	---	PASS
11N20SISO	Ant1	2412	18.044	2402.968	2421.012	---	PASS
		2437	18.113	2427.992	2446.105	---	PASS
		2462	18.038	2452.942	2470.980	---	PASS
11N40SISO	Ant1	2422	35.936	2404.064	2440.000	---	PASS
		2437	35.931	2419.079	2455.010	---	PASS
		2452	35.851	2434.106	2469.957	---	PASS

Test Graphs

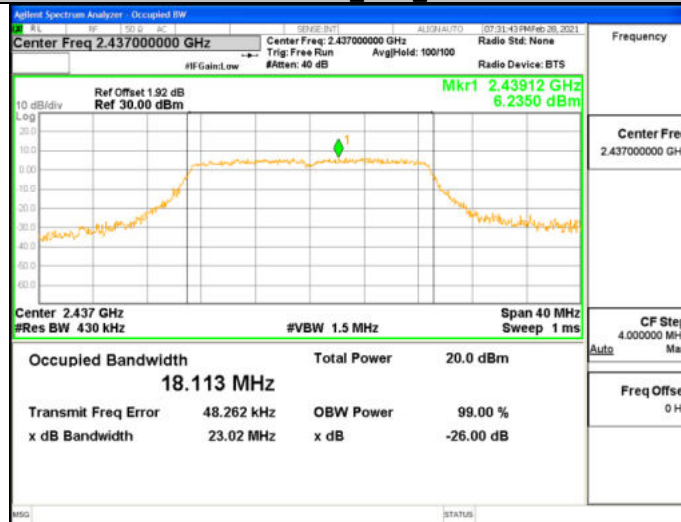




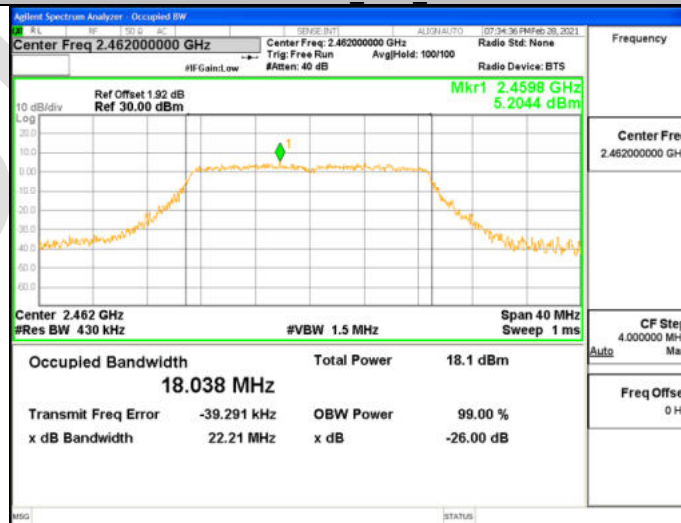
11N20SISO_Ant1_2412



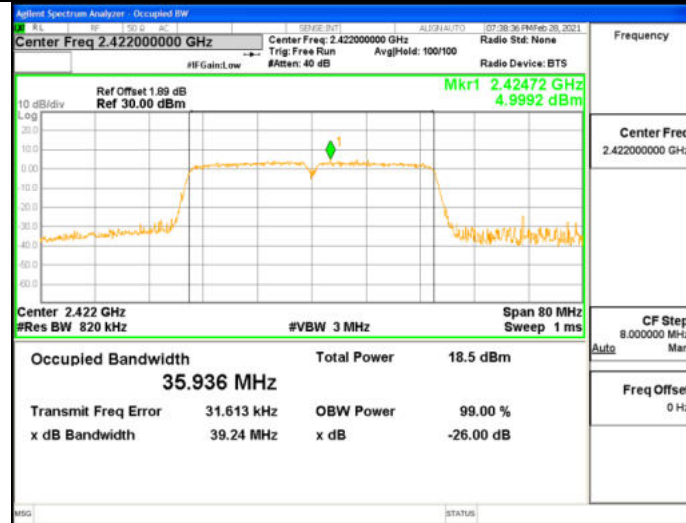
11N20SISO_Ant1_2437



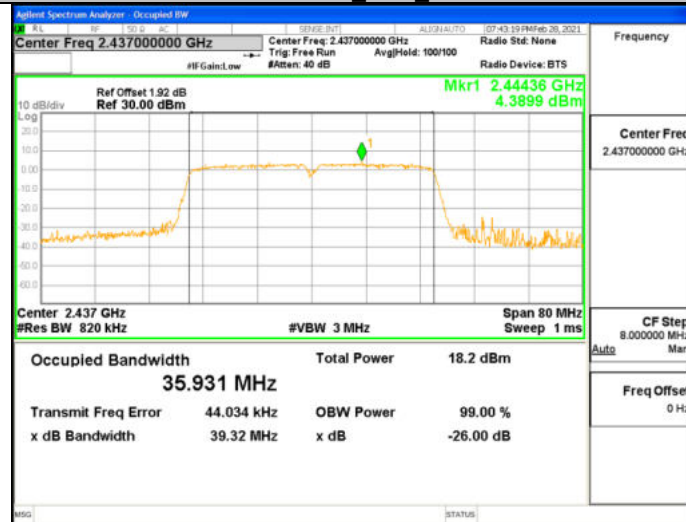
11N20SISO_Ant1_2462



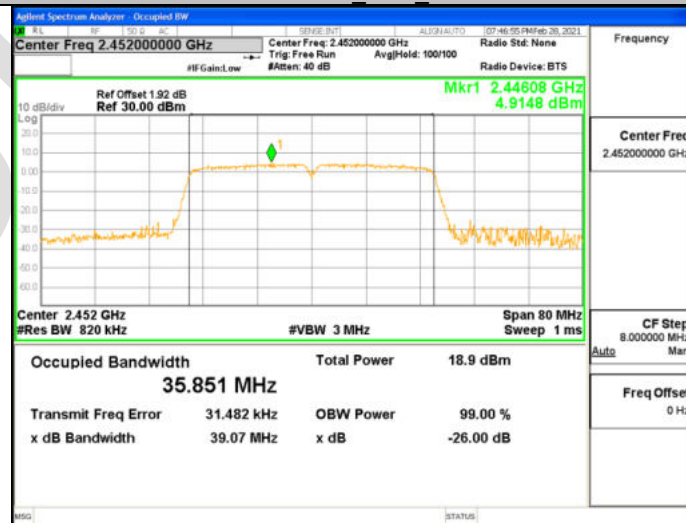
11N40SISO_Ant1_2422



11N40SISO_Ant1_2437



11N40SISO_Ant1_2452



11.3 APPENDIX C: MAXIMUM CONDUCTED OUTPUT POWER

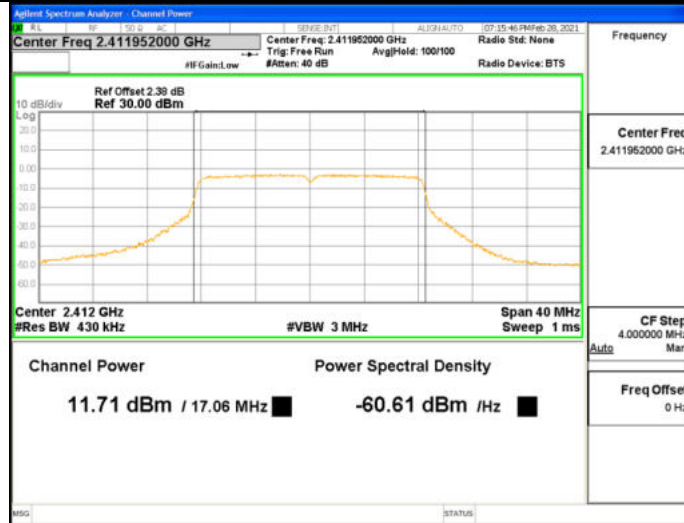
Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	2412	15.15	<=30	PASS
		2437	14.84	<=30	PASS
		2462	15.63	<=30	PASS
11G	Ant1	2412	11.71	<=30	PASS
		2437	12.79	<=30	PASS
		2462	16.37	<=30	PASS
11N20SISO	Ant1	2412	11.49	<=30	PASS
		2437	13.82	<=30	PASS
		2462	11.70	<=30	PASS
11N40SISO	Ant1	2422	11.07	<=30	PASS
		2437	11.21	<=30	PASS
		2452	12.12	<=30	PASS

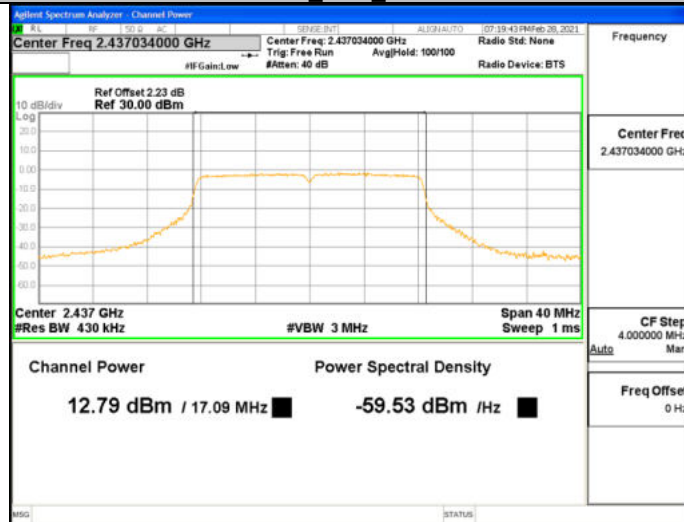
Test Graphs



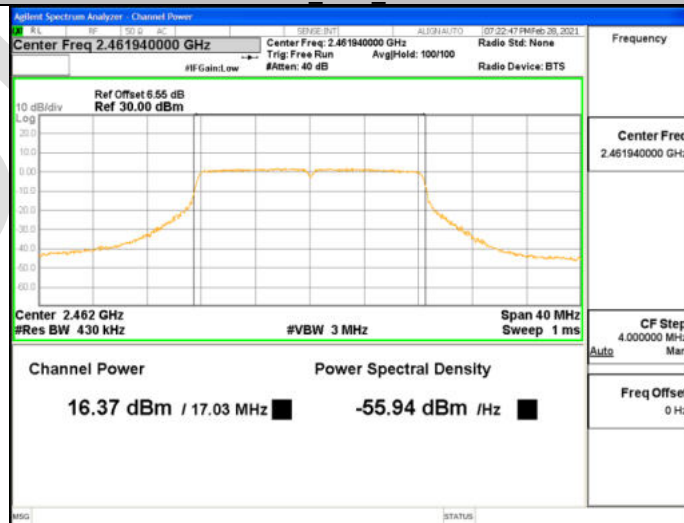
11G_Ant1_2412



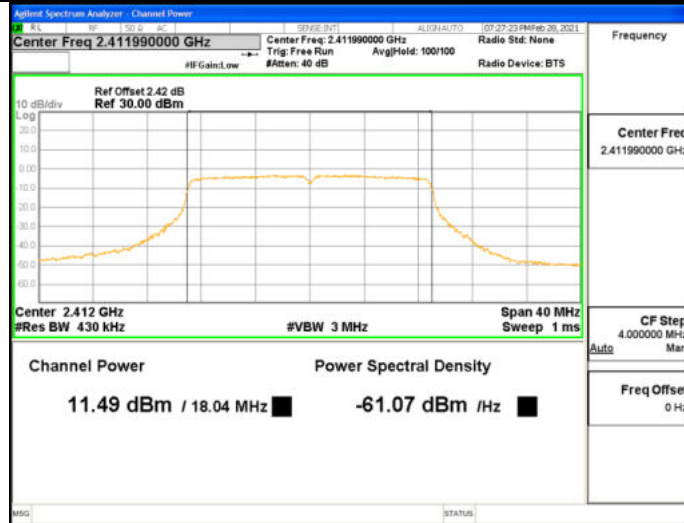
11G_Ant1_2437



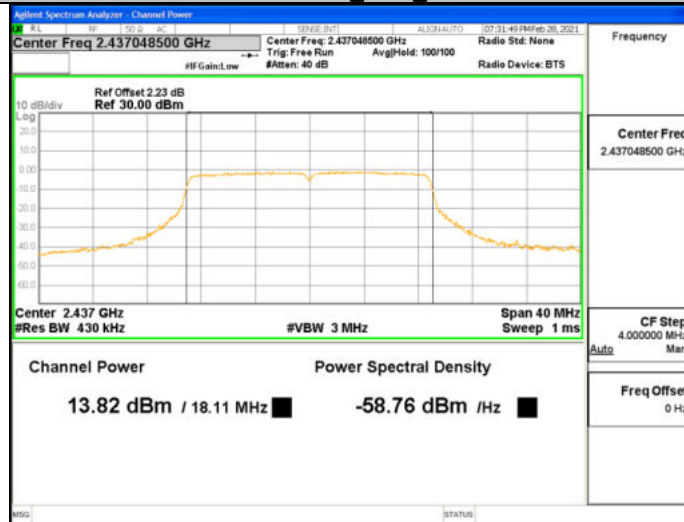
11G_Ant1_2462



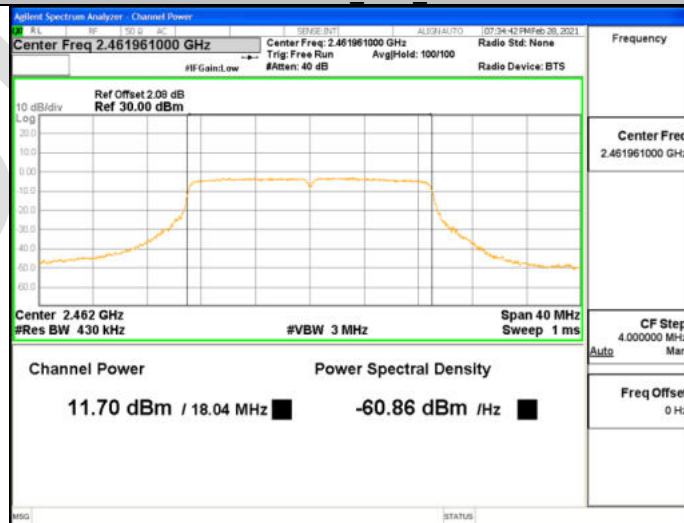
11N20SISO_Ant1_2412



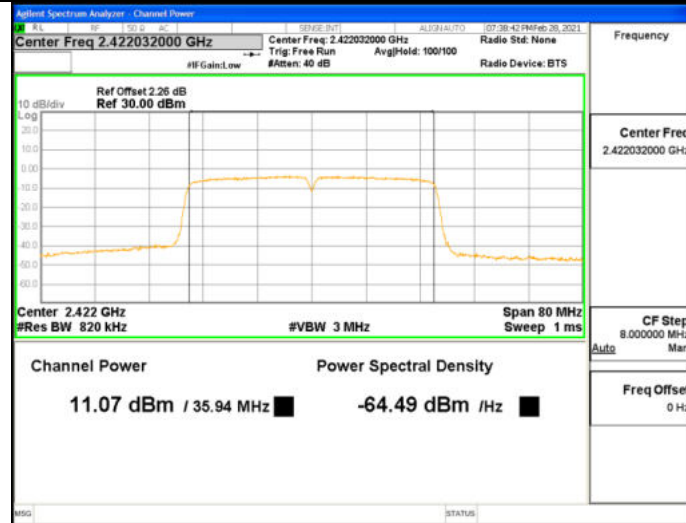
11N20SISO_Ant1_2437



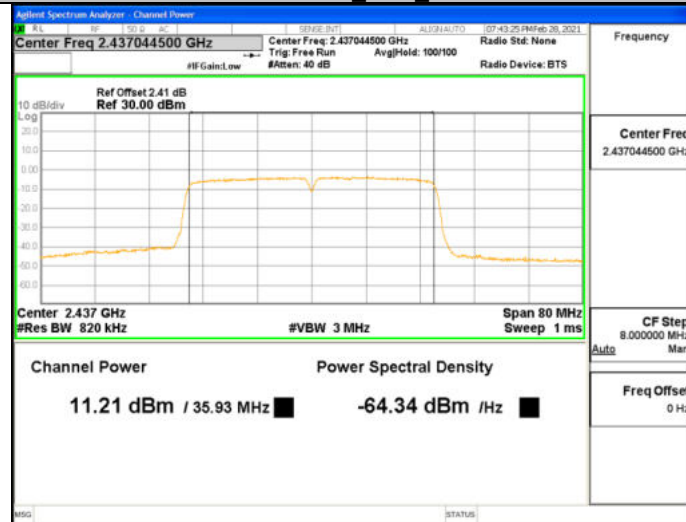
11N20SISO_Ant1_2462



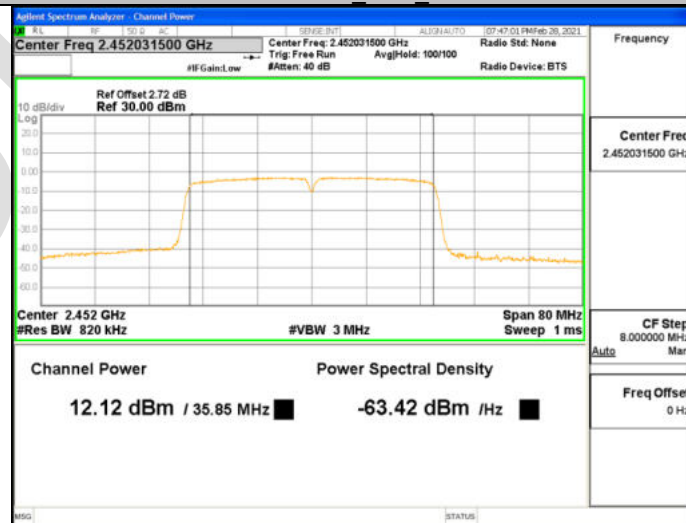
11N40SISO_Ant1_2422



11N40SISO_Ant1_2437



11N40SISO_Ant1_2452



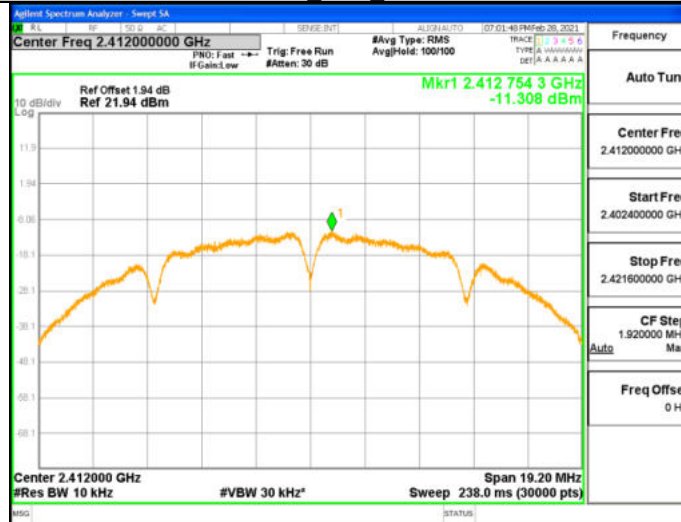
11.4 APPENDIX : MAXIMUM POWER SPECTRAL DENSITY

Test Result

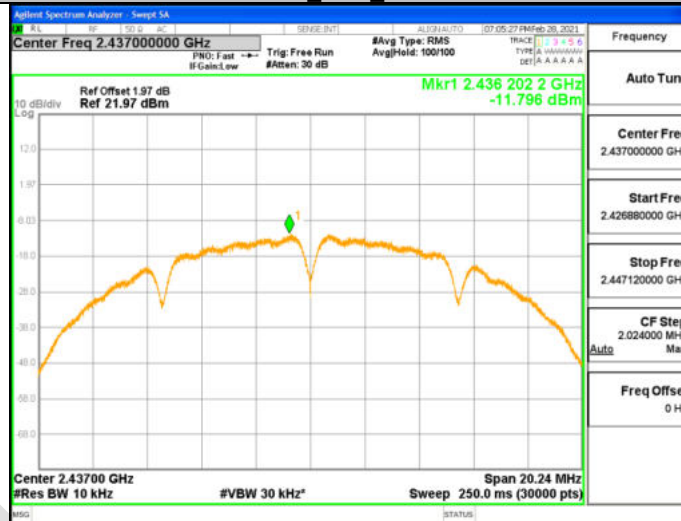
TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-11.31	<=8	PASS
		2437	-11.8	<=8	PASS
		2462	-10.46	<=8	PASS
11G	Ant1	2412	-17.18	<=8	PASS
		2437	-15.67	<=8	PASS
		2462	-12.55	<=8	PASS
11N20SISO	Ant1	2412	-17.46	<=8	PASS
		2437	-14.43	<=8	PASS
		2462	-17.33	<=8	PASS
11N40SISO	Ant1	2422	-19.42	<=8	PASS
		2437	-19.57	<=8	PASS
		2452	-18.1	<=8	PASS

Test Graphs

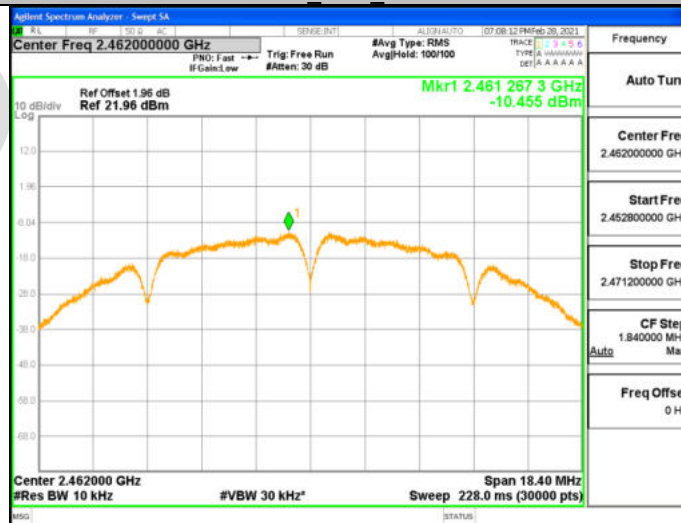
11B Ant1 2412

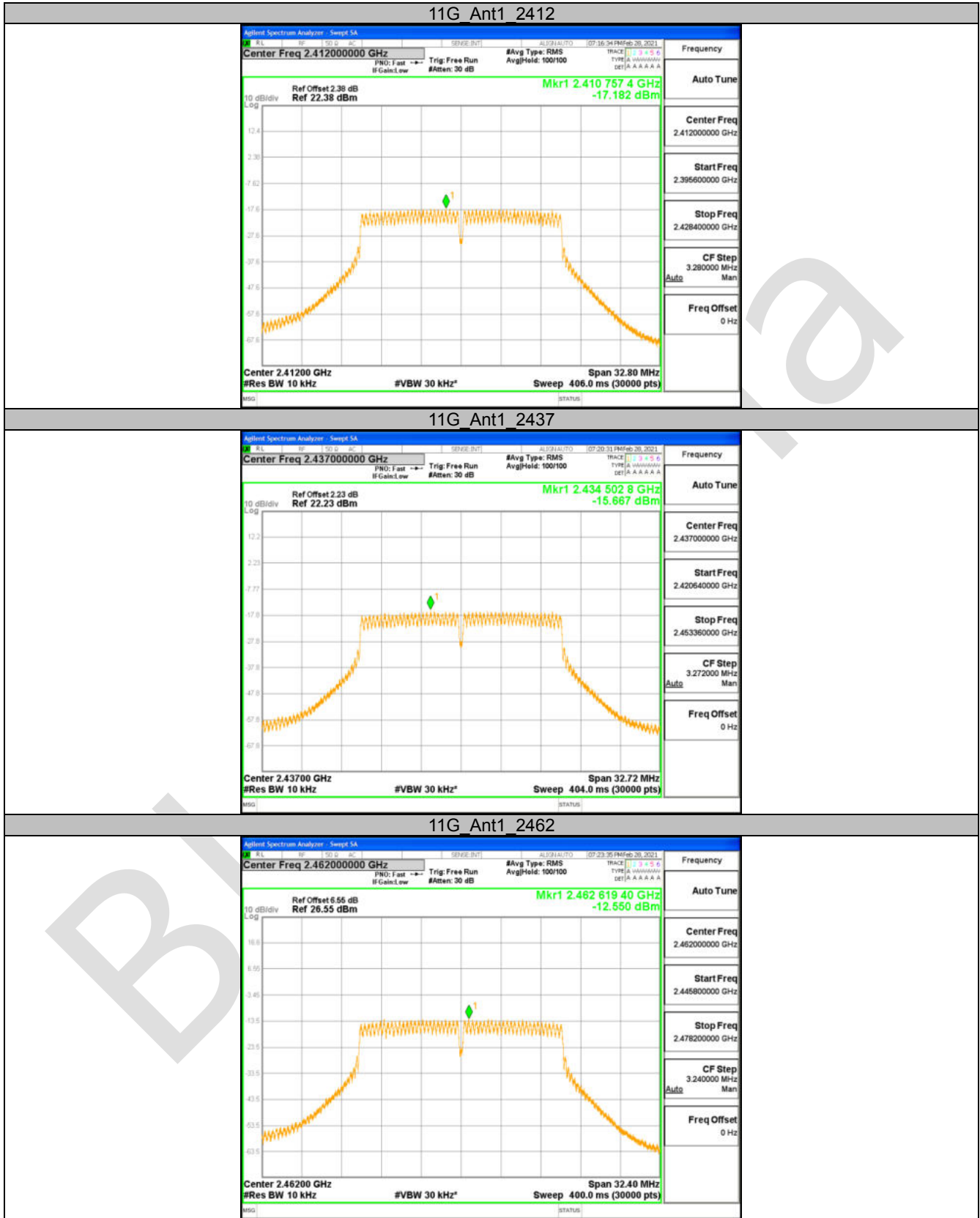


11B Ant1 2437

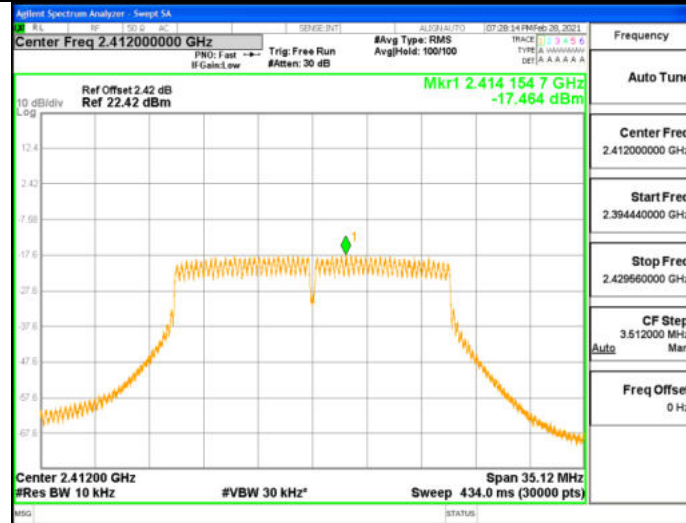


11B Ant1 2462

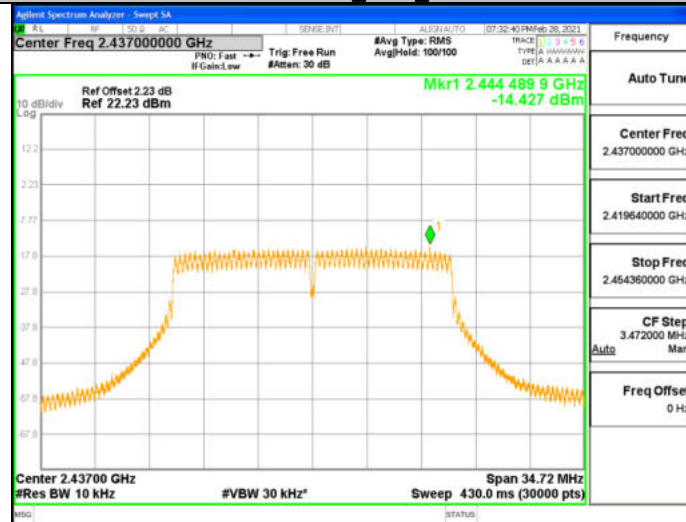




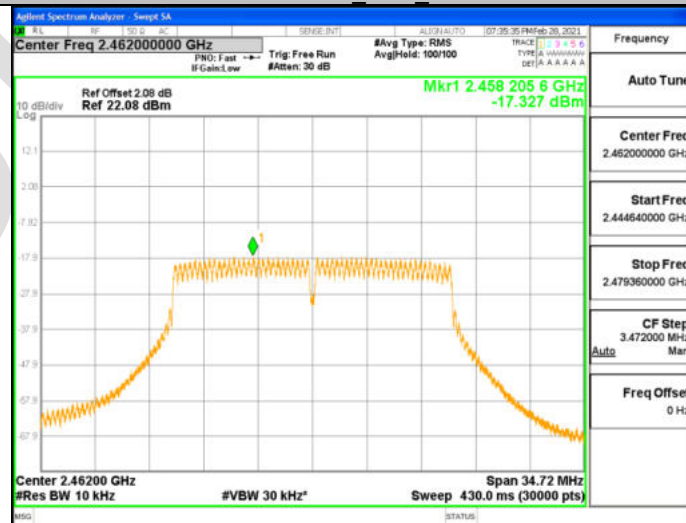
11N20SISO_Ant1_2412

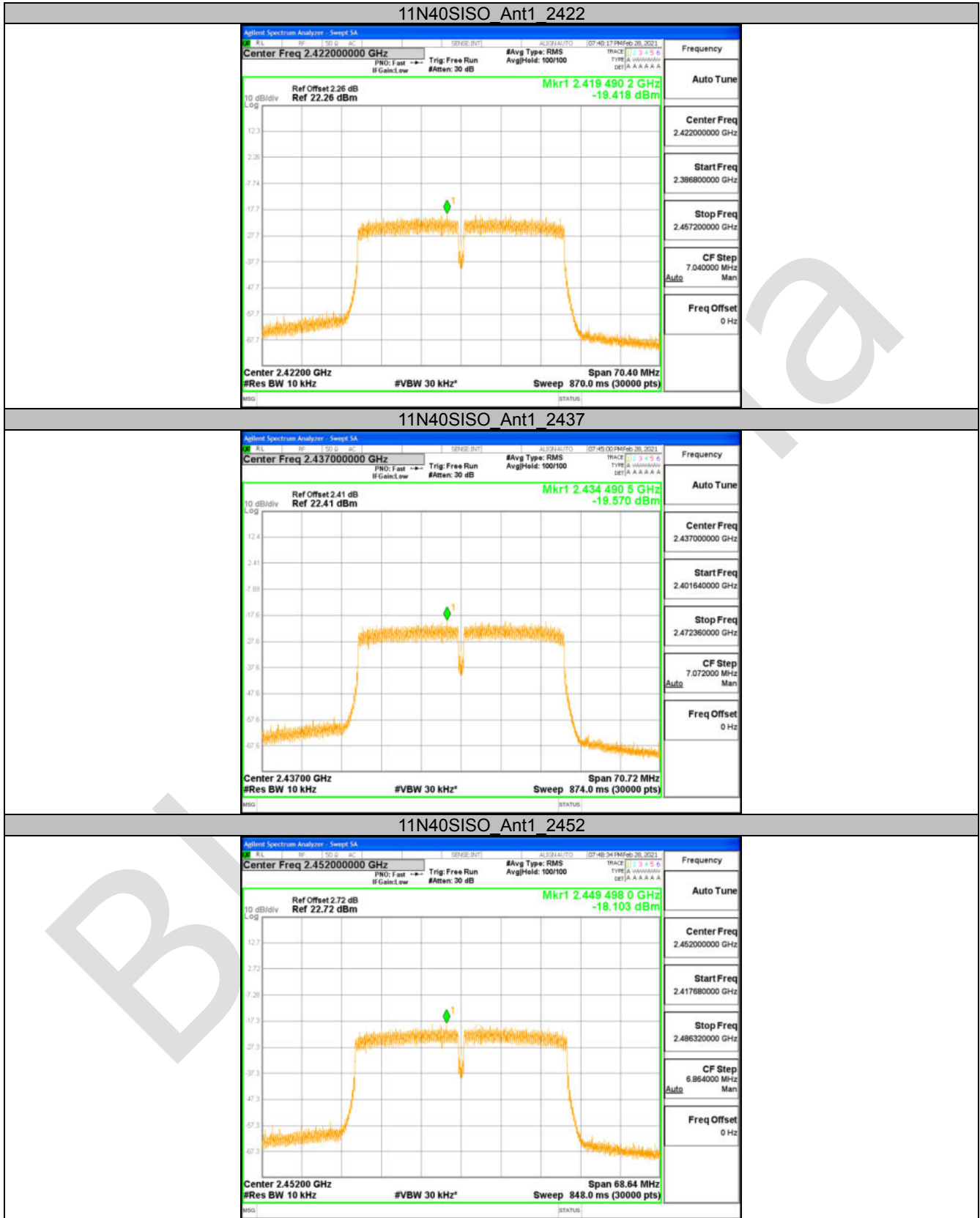


11N20SISO_Ant1_2437



11N20SISO_Ant1_2462





11.5 APPENDIX E: BAND EDGE MEASUREMENTS

Test Result

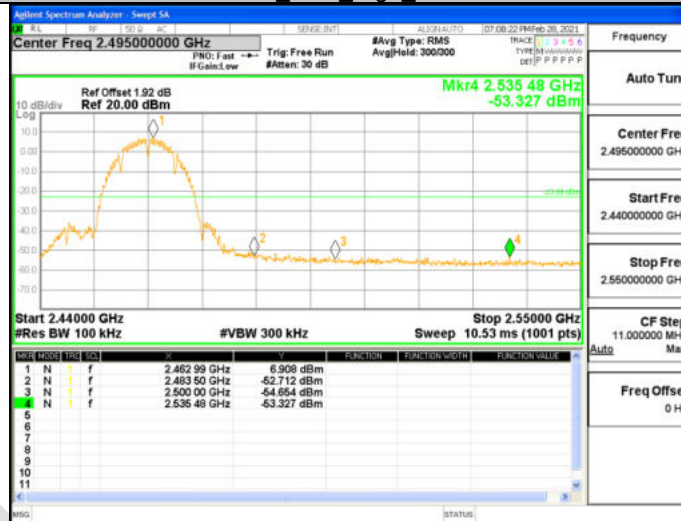
TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	6.16	-52.12	<=-23.84	PASS
		High	2462	6.91	-53.33	<=-23.09	PASS
11G	Ant1	Low	2412	0.63	-47.94	<=-29.37	PASS
		High	2462	0.94	-53.34	<=-29.06	PASS
11N20SISO	Ant1	Low	2412	0.08	-47.09	<=-29.93	PASS
		High	2462	0.89	-52.13	<=-29.11	PASS
11N40SISO	Ant1	Low	2422	-2.22	-37.25	<=-32.22	PASS
		High	2452	-1.69	-48.19	<=-31.69	PASS

Test Graphs

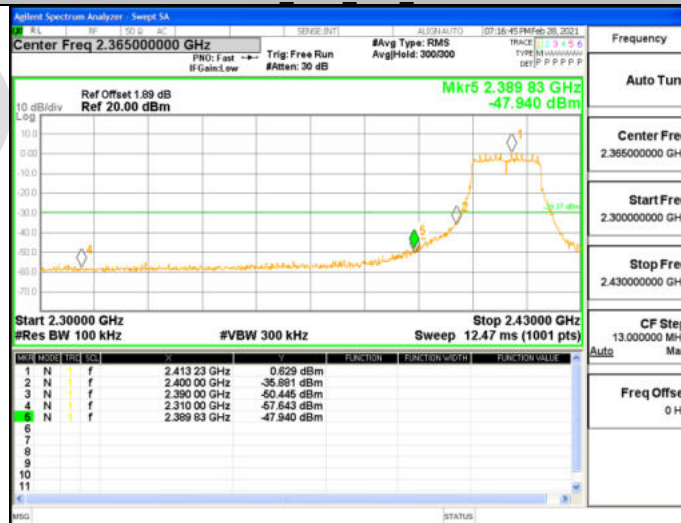
11B Ant1 Low 2412



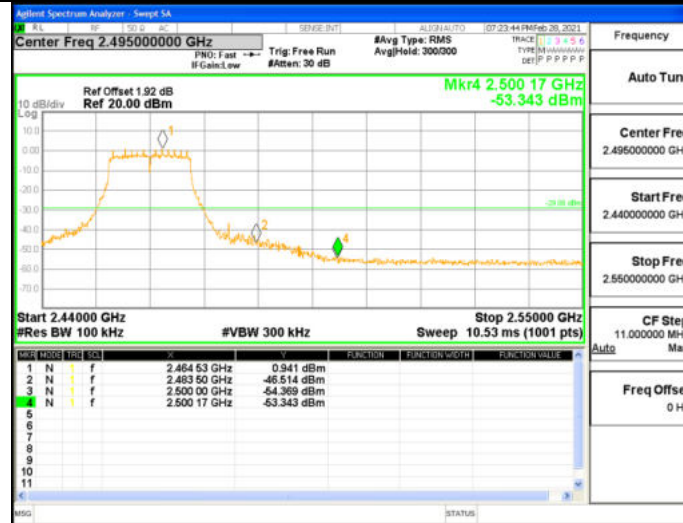
11B Ant1 High 2462



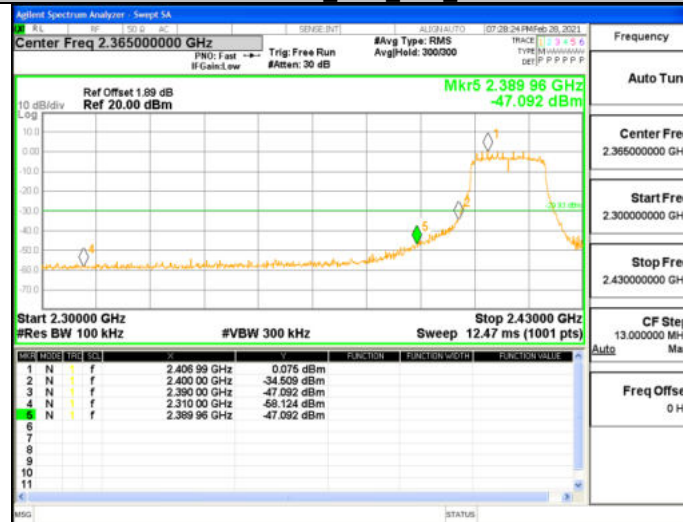
11G Ant1 Low 2412



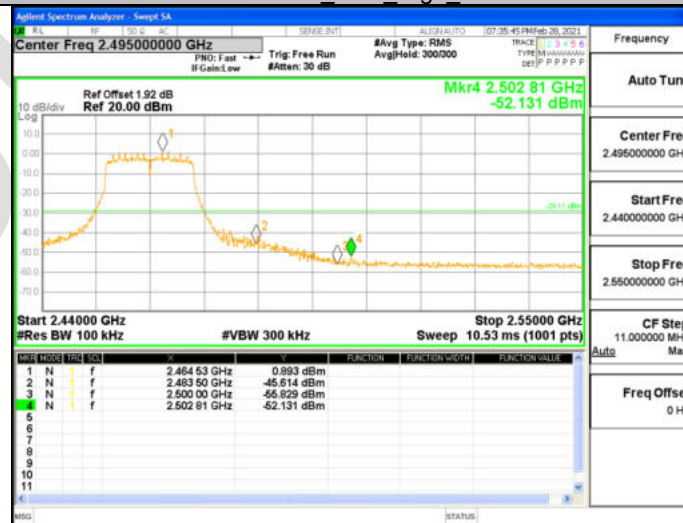
11G Ant1 High 2462



11N20SISO Ant1 Low 2412



11N20SISO Ant1 High 2462





11.6 APPENDIX : CONDUCTED SPURIOUS EMISSION

Test Result

TestMode	Antenna	Channel	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	5.79	5.79	---	PASS
			30~1000	30~1000	-49.174	<=-24.208	PASS
			1000~26500	1000~26500	-37.535	<=-24.208	PASS
		2437	Reference	5.85	5.85	---	PASS
			30~1000	30~1000	-48.904	<=-24.146	PASS
			1000~26500	1000~26500	-40.212	<=-24.146	PASS
		2462	Reference	6.39	6.39	---	PASS
			30~1000	30~1000	-49.503	<=-23.606	PASS
			1000~26500	1000~26500	-40.148	<=-23.606	PASS
11G	Ant1	2412	Reference	0.01	0.01	---	PASS
			30~1000	30~1000	-51.022	<=-29.989	PASS
			1000~26500	1000~26500	-45.495	<=-29.989	PASS
		2437	Reference	1.67	1.67	---	PASS
			30~1000	30~1000	-50.533	<=-28.335	PASS
			1000~26500	1000~26500	-46.471	<=-28.335	PASS
		2462	Reference	0.72	0.72	---	PASS
			30~1000	30~1000	-50.775	<=-29.279	PASS
			1000~26500	1000~26500	-48.719	<=-29.279	PASS
11N20SISO	Ant1	2412	Reference	0.10	0.10	---	PASS
			30~1000	30~1000	-51.204	<=-29.898	PASS
			1000~26500	1000~26500	-46.305	<=-29.898	PASS
		2437	Reference	2.26	2.26	---	PASS
			30~1000	30~1000	-51.088	<=-27.737	PASS
			1000~26500	1000~26500	-46.549	<=-27.737	PASS
		2462	Reference	0.42	0.42	---	PASS
			30~1000	30~1000	-51.045	<=-29.581	PASS
			1000~26500	1000~26500	-49.73	<=-29.581	PASS
11N40SISO	Ant1	2422	Reference	-2.52	-2.52	---	PASS
			30~1000	30~1000	-51.079	<=-32.519	PASS
			1000~26500	1000~26500	-45.67	<=-32.519	PASS
		2437	Reference	-2.87	-2.87	---	PASS
			30~1000	30~1000	-50.666	<=-32.865	PASS
			1000~26500	1000~26500	-48.93	<=-32.865	PASS
		2452	Reference	-1.75	-1.75	---	PASS
			30~1000	30~1000	-50.966	<=-31.745	PASS
			1000~26500	1000~26500	-47.607	<=-31.745	PASS

Test Graphs

