

- h. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- j. Repeat above procedures until all frequencies measured was complete.

Remark 1: $\text{Level} = \text{Read Level} + \text{Cable Loss} + \text{Antenna Factor} - \text{Preamp Factor}$

Remark 2: For frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.

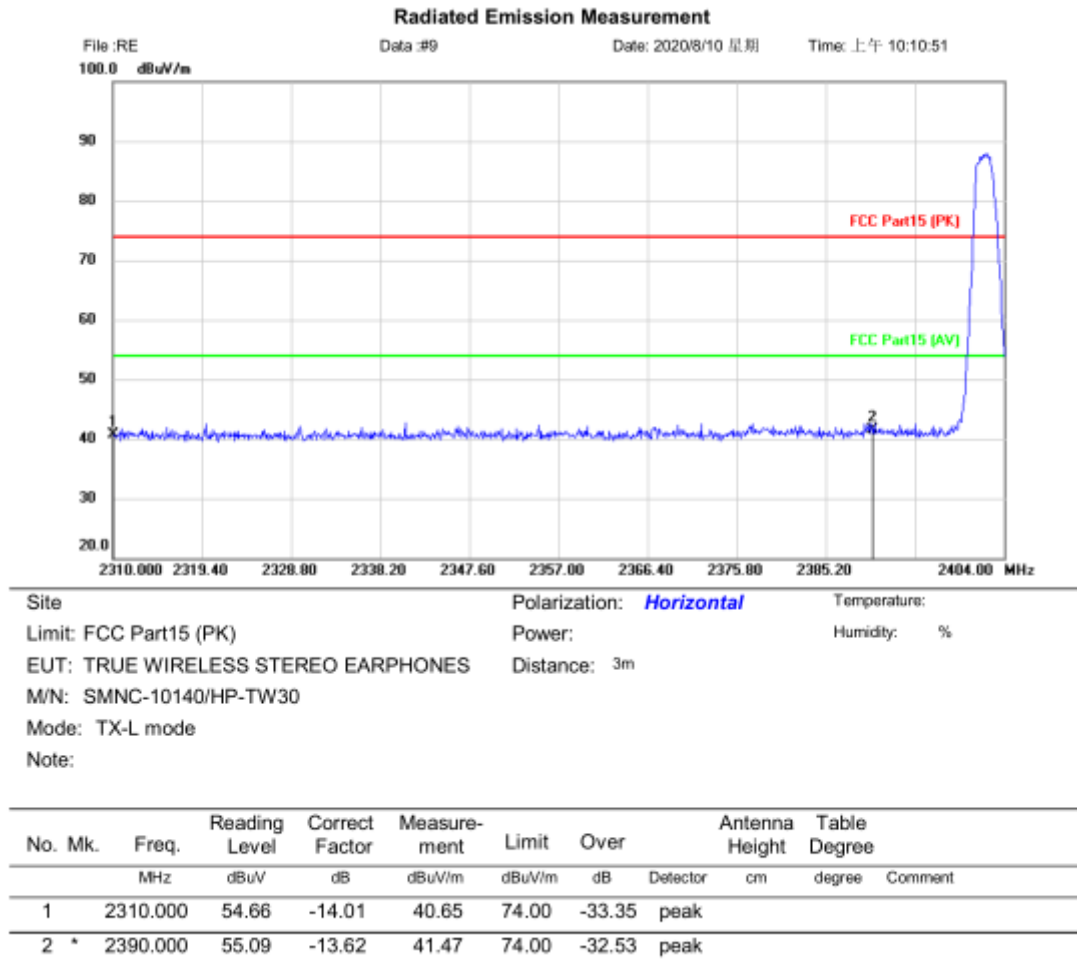
BlueAsia

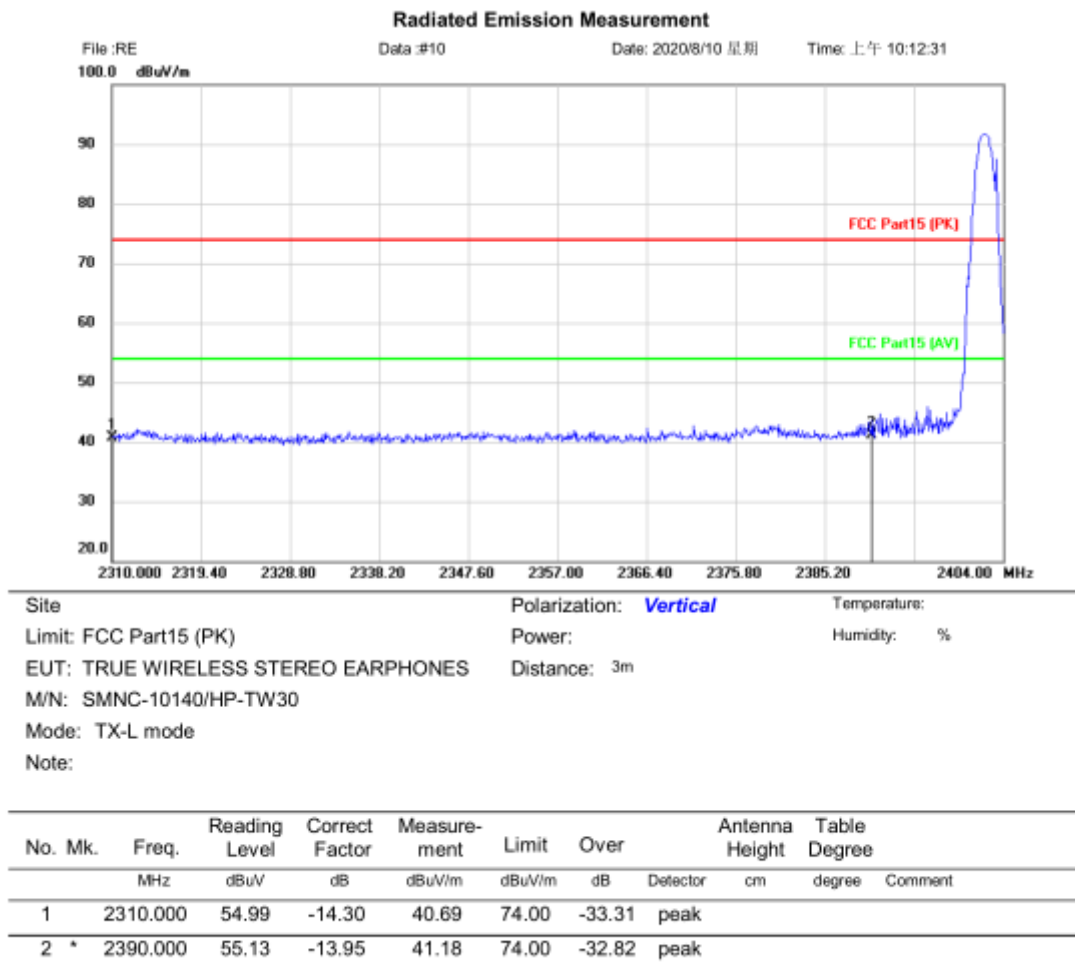
TEST DATA

Remark: During the test, pre-scan all modulation, and found the Pi/4QPSK modulation which it is worse case.

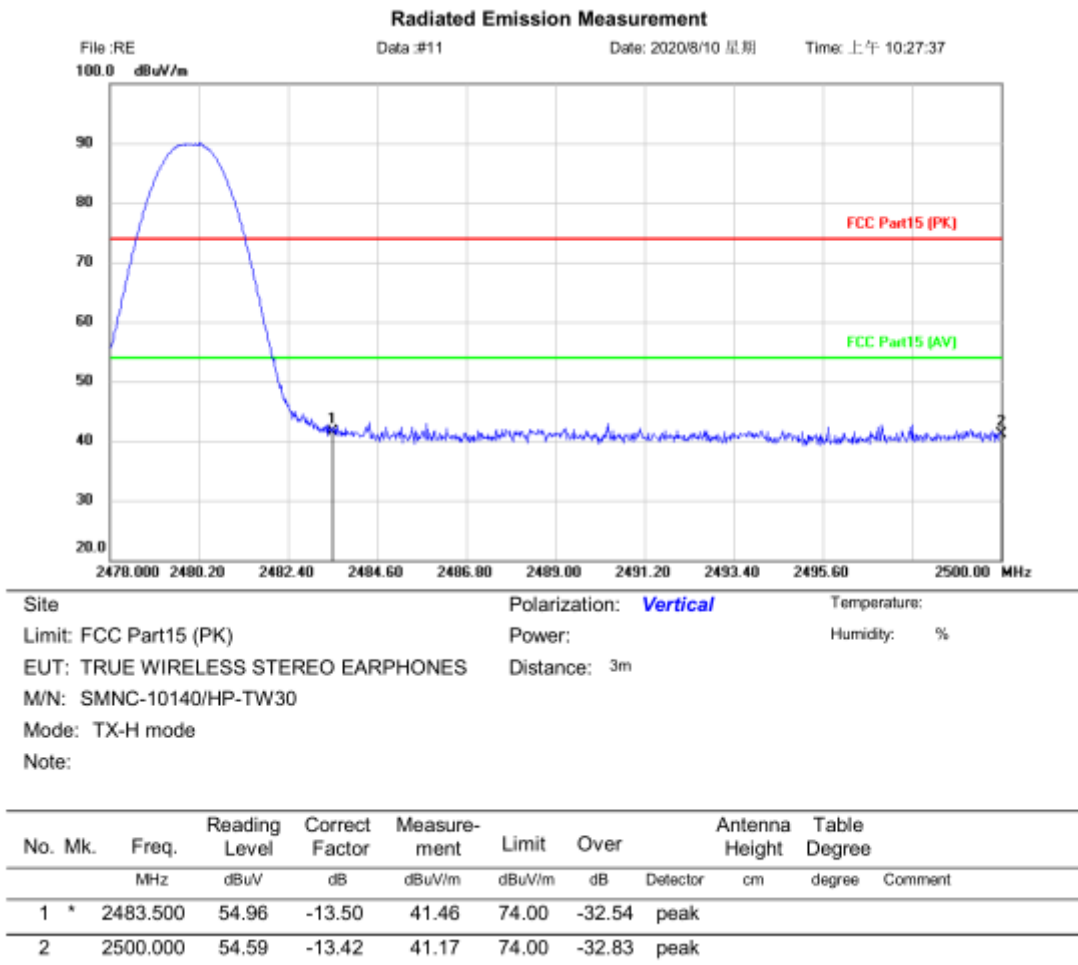
Lowest channel

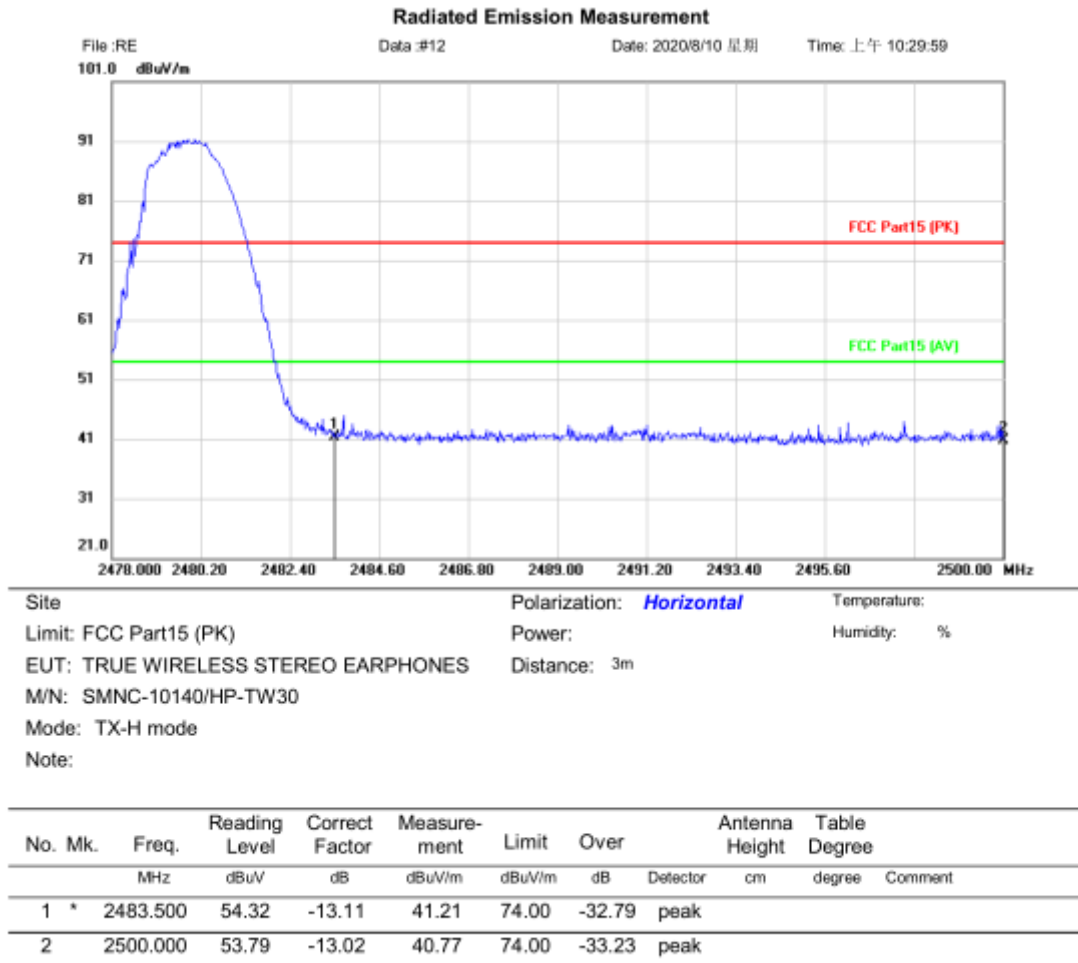
Peak Value





Highest channel Peak Value





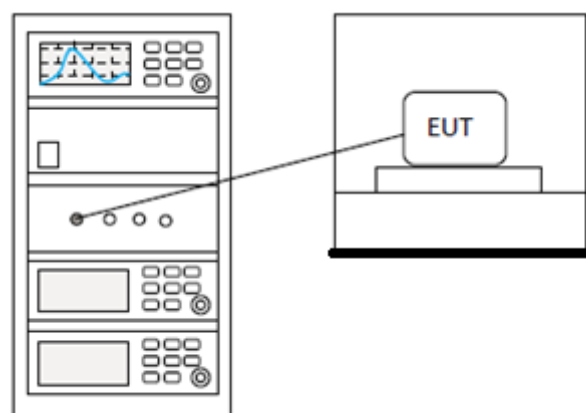
CONDUCTED BAND EDGES MEASUREMENT

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	Eason
Temperature	25°C
Humidity	60%

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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BLOCK DIAGRAM OF TEST SETUP



TEST DATA**Pass: Please Refer To Appendix: Appendix1 For Details**

BlueAsia

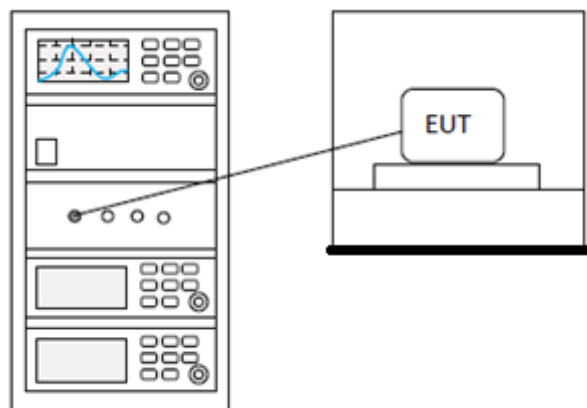
DWELL TIME

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 7.8.4
Test Mode (Pre-Scan)	TX_non-Hop mode
Test Mode (Final Test)	TX_non-Hop mode
Tester	Eason
Temperature	25°C
Humidity	60%

LIMITS

Frequency(MHz)	Limit
902-928	0.4S within a 20S period(20dB bandwidth<250kHz)
	0.4S within a 10S period(20dB bandwidth≥250kHz)
2400-2483.5	0.4S within a period of 0.4S multiplied by the number of hopping channels
5725-5850	0.4S within a 30S period

BLOCK DIAGRAM OF TEST SETUP



TEST DATA

Pass: Please Refer To Appendix: Appendix1 For Details

BlueAsia

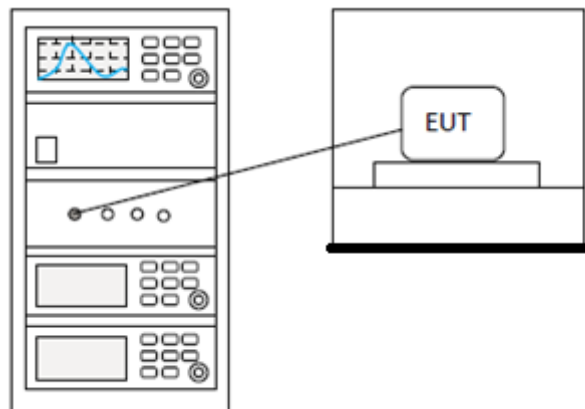
HOPPING CHANNEL NUMBER

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 7.8.3
Test Mode (Pre-Scan)	TX_non-Hop mode
Test Mode (Final Test)	TX_non-Hop mode
Tester	Eason
Temperature	25℃
Humidity	60%

LIMITS

Frequency range(MHz)	Number of hopping channels (minimum)
902-928	50 for 20dB bandwidth <250kHz
	25 for 20dB bandwidth ≥250kHz
2400-2483.5	15
5725-5850	75

BLOCK DIAGRAM OF TEST SETUP



TEST DATA

Pass: Please Refer To Appendix: Appendix1 For Details

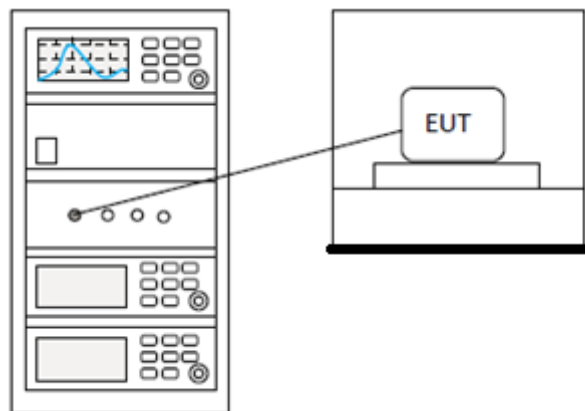
CARRIER FREQUENCIES SEPARATION

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 7.8.2
Test Mode (Pre-Scan)	TX_non-Hop mode
Test Mode (Final Test)	TX_non-Hop mode
Tester	Jozu
Temperature	25°C
Humidity	60%

LIMITS

Limit:	2/3 of the 20dB bandwidth base on the transmission power is less than 0.125W
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BLOCK DIAGRAM OF TEST SETUP



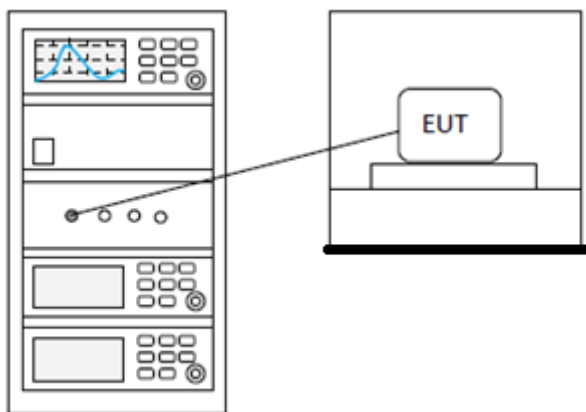
TEST DATA

Pass: Please Refer To Appendix: Appendix1 For Details

20DB BANDWIDTH

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 7.8.7
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25℃
Humidity	60%

BLOCK DIAGRAM OF TEST SETUP



TEST DATA

Pass: Please Refer To Appendix: Appendix1 For Details

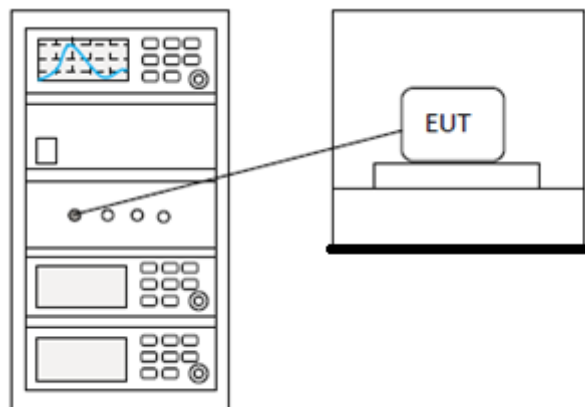
CONDUCTED PEAK OUTPUT POWER

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 7.8.5
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Eason
Temperature	25°C
Humidity	60%

LIMITS

Frequency range(MHz)	Output power of the intentional radiator(watt)
902-928	1 for ≥ 50 hopping channels
	0.25 for $25 \leq \text{hopping channels} < 50$
	1 for digital modulation
2400-2483.5	1 for ≥ 75 non-overlapping hopping channels
	0.125 for all other frequency hopping systems
	1 for digital modulation
5725-5850	1 for frequency hopping systems and digital modulation

BLOCK DIAGRAM OF TEST SETUP



TEST DATA

Pass: Please Refer To Appendix: Appendix1 For Details

BlueAsia

10 APPENDIX

Appendix1

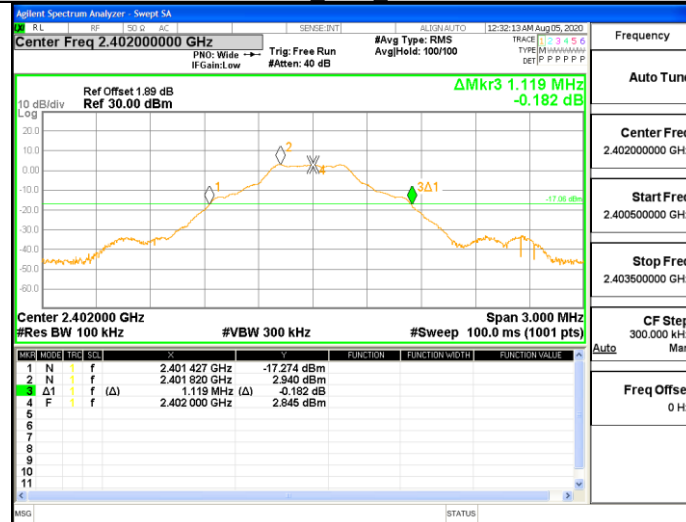
10.1 APPENDIX: 20DBEMISSION BANDWIDTH

Test Result

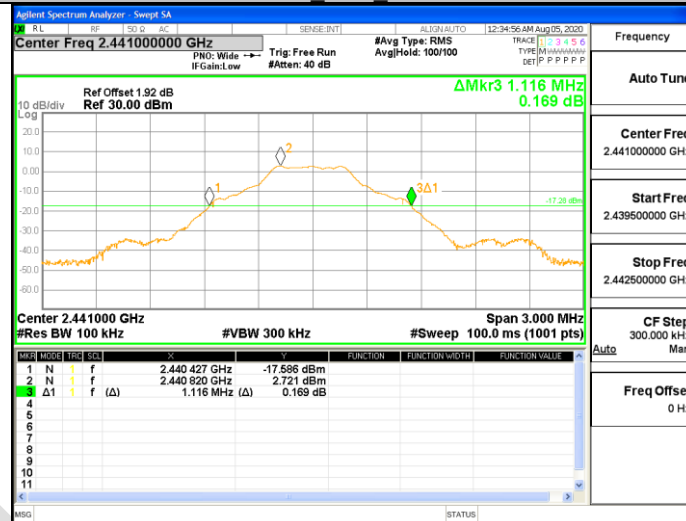
TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH1	Ant1	2402	1.119	2401.427	2402.546	---	PASS
		2441	1.116	2440.427	2441.543	---	PASS
		2480	1.116	2479.427	2480.543	---	PASS
2DH1	Ant1	2402	1.299	2401.328	2402.627	---	PASS
		2441	1.299	2440.328	2441.627	---	PASS
		2480	1.302	2479.328	2480.630	---	PASS
3DH1	Ant1	2402	1.290	2401.346	2402.636	---	PASS
		2441	1.284	2440.349	2441.633	---	PASS
		2480	1.287	2479.346	2480.633	---	PASS

Test Graphs

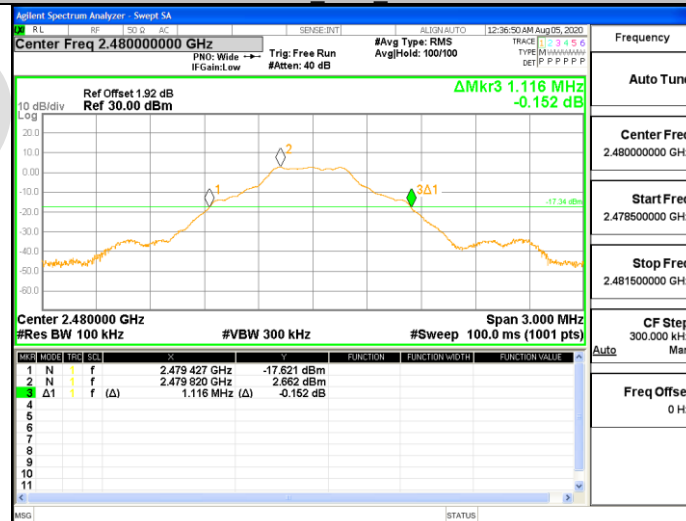
DH1 Ant1 2402



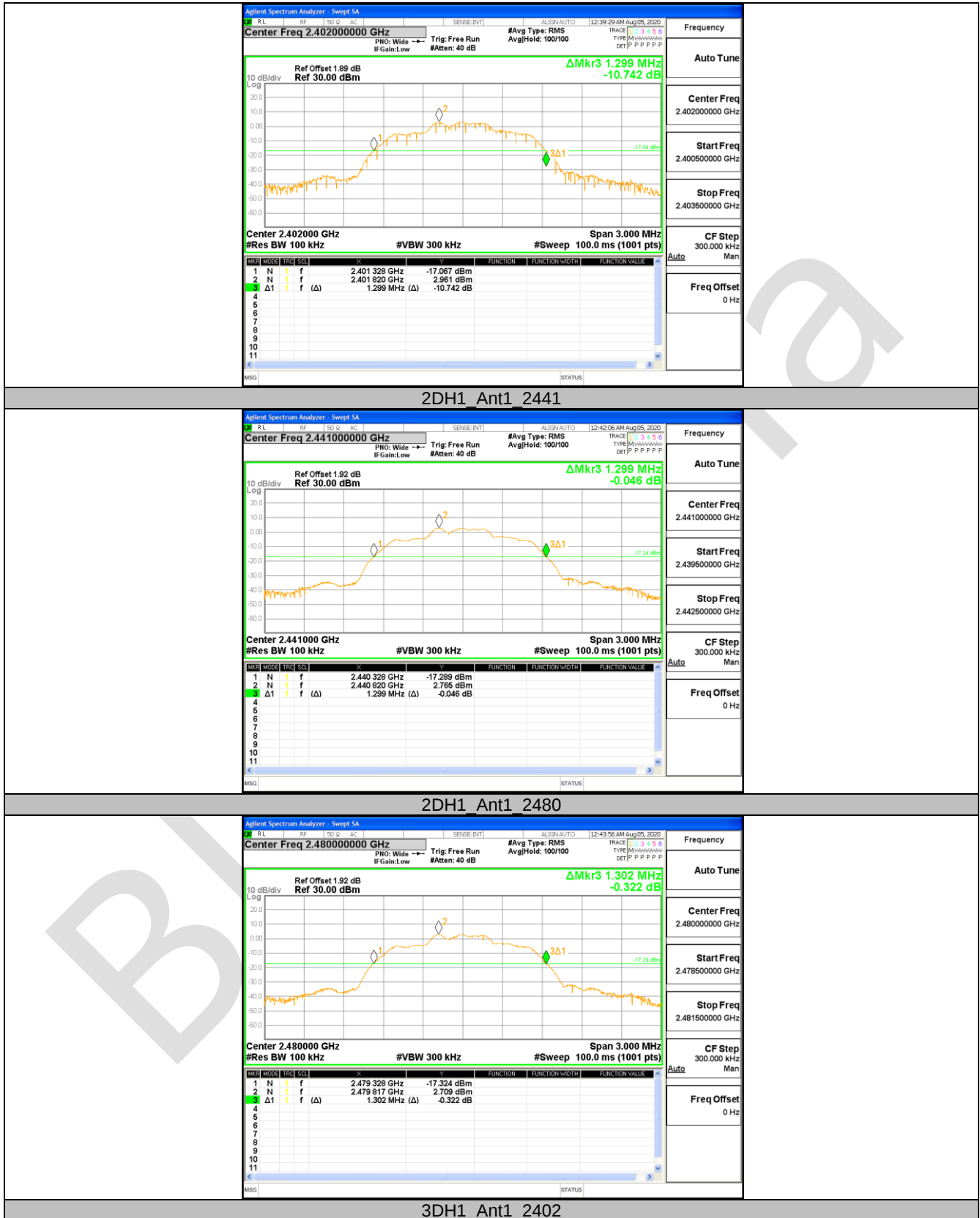
DH1 Ant1 2441



DH1 Ant1 2480



2DH1 Ant1 2402



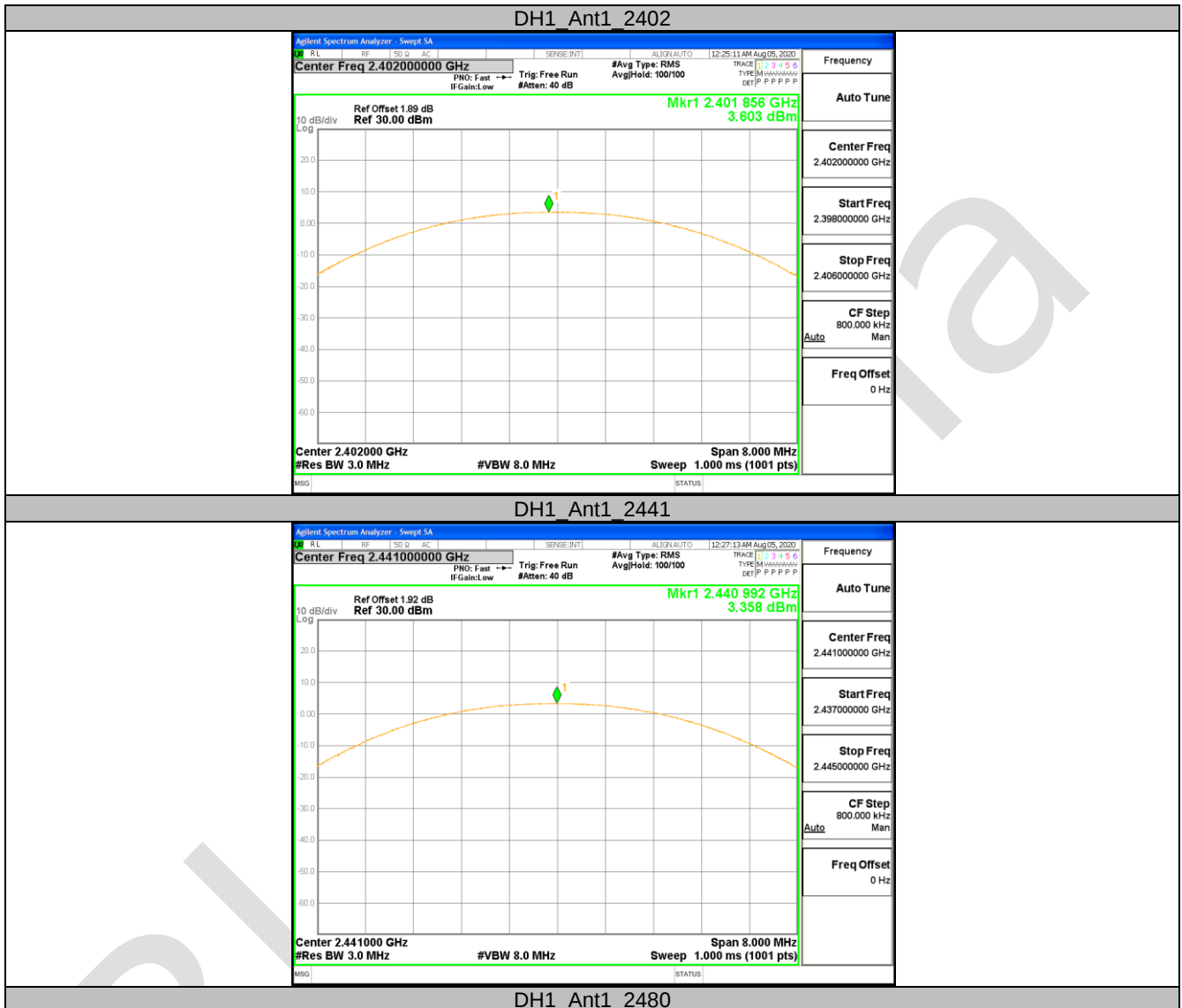


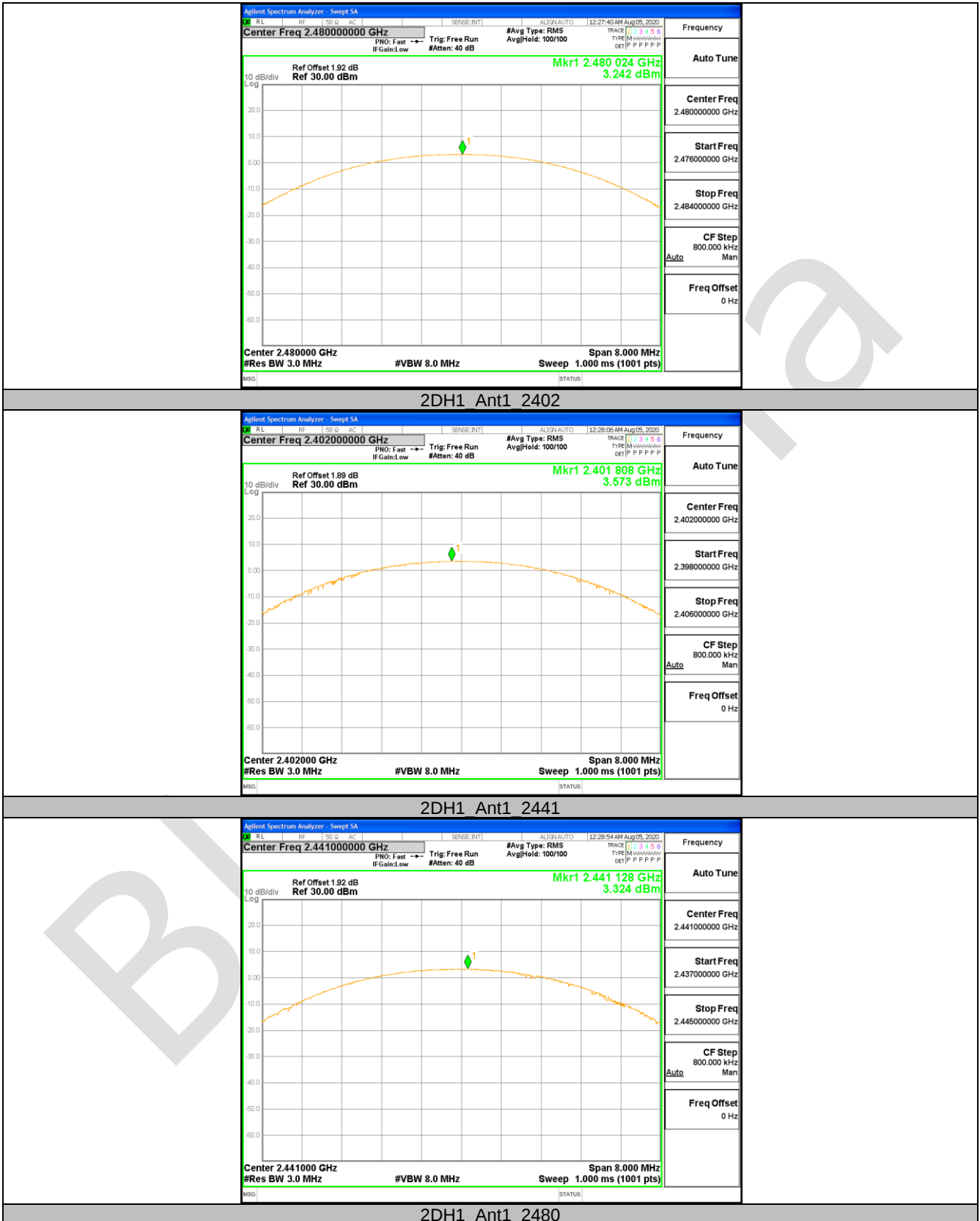
10.2 APPENDIX: MAXIMUM CONDUCTED OUTPUT POWER

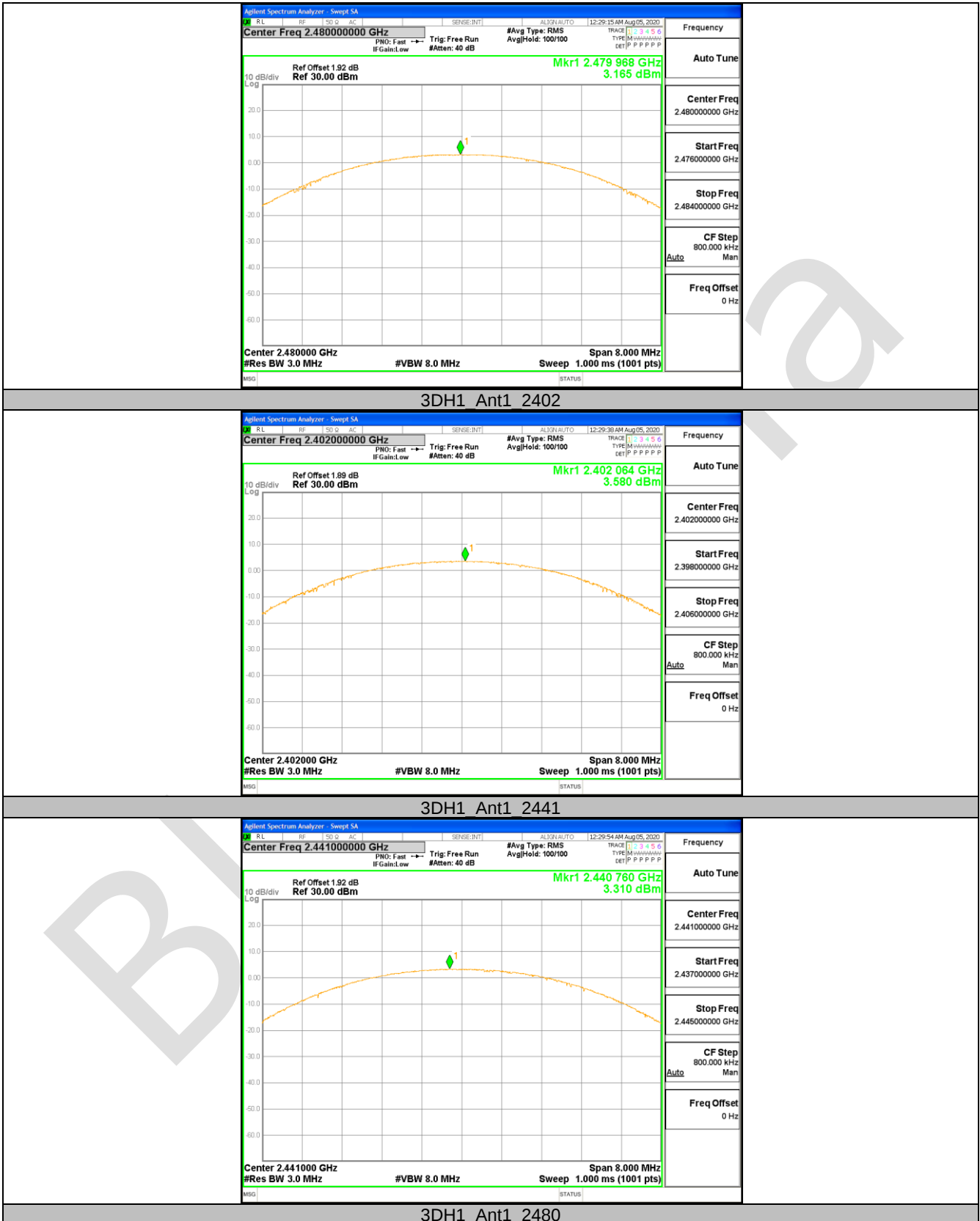
Test Result

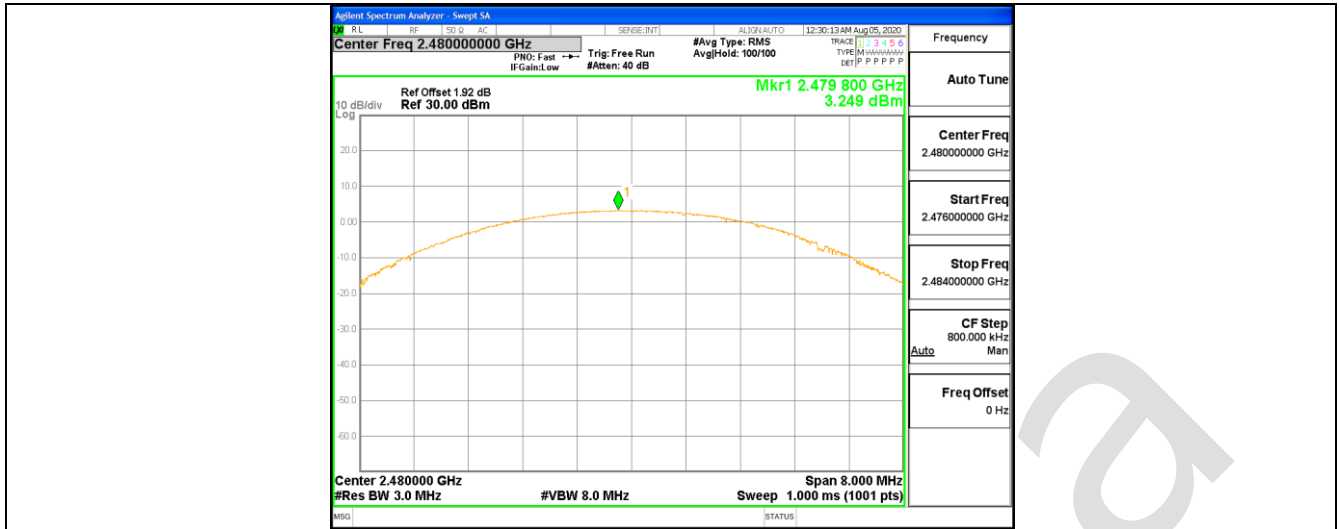
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH1	Ant1	2402	3.6	<=20.97	PASS
		2441	3.36	<=20.97	PASS
		2480	3.24	<=20.97	PASS
2DH1	Ant1	2402	3.57	<=20.97	PASS
		2441	3.32	<=20.97	PASS
		2480	3.17	<=20.97	PASS
3DH1	Ant1	2402	3.58	<=20.97	PASS
		2441	3.31	<=20.97	PASS
		2480	3.25	<=20.97	PASS

Test Graphs







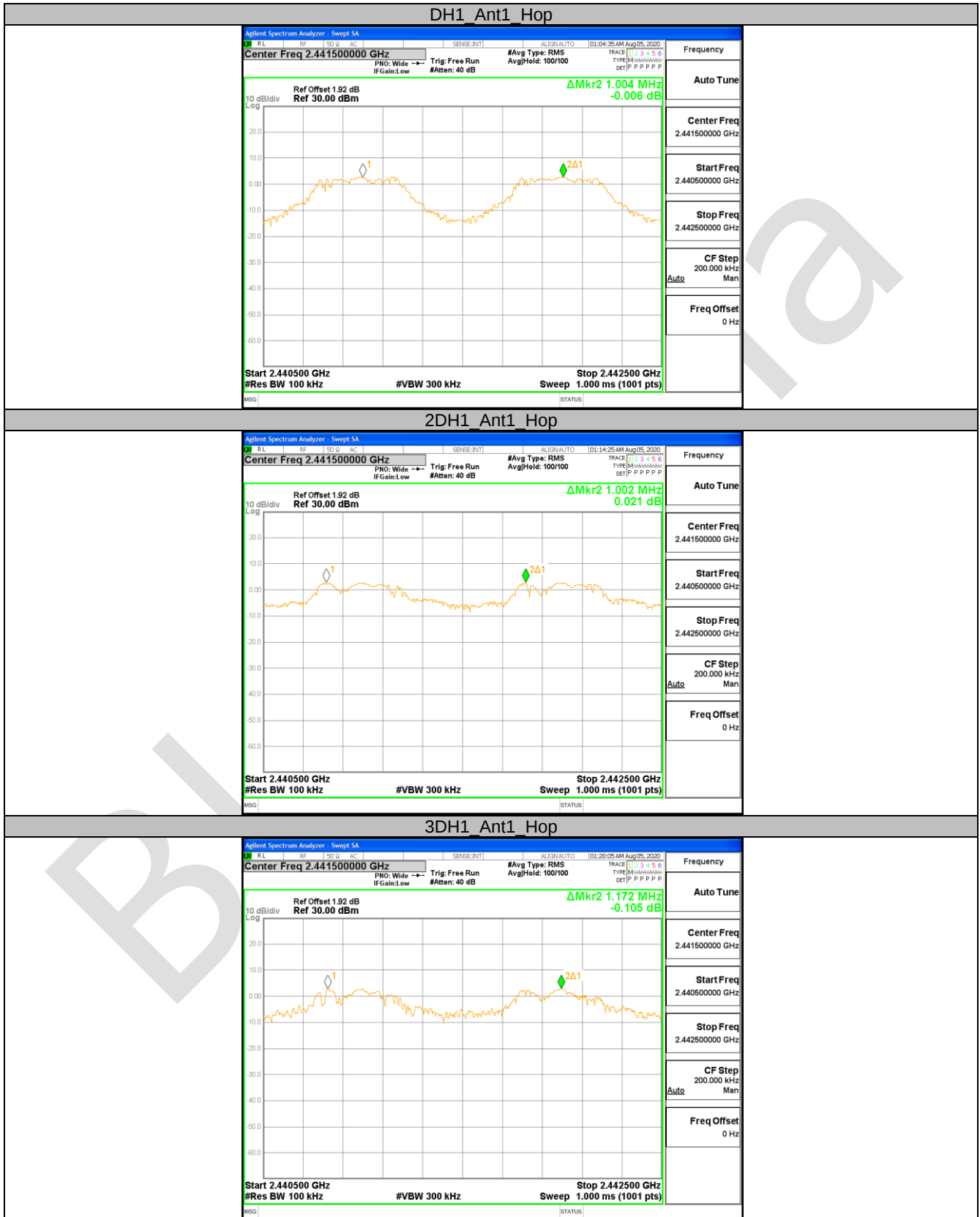


10.3 APPENDIX: CARRIER FREQUENCY SEPARATION

Test Result

TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH1	Ant1	Hop	1.004	≥ 0.746	PASS
2DH1	Ant1	Hop	1.002	≥ 0.868	PASS
3DH1	Ant1	Hop	1.172	≥ 0.860	PASS

Test Graphs

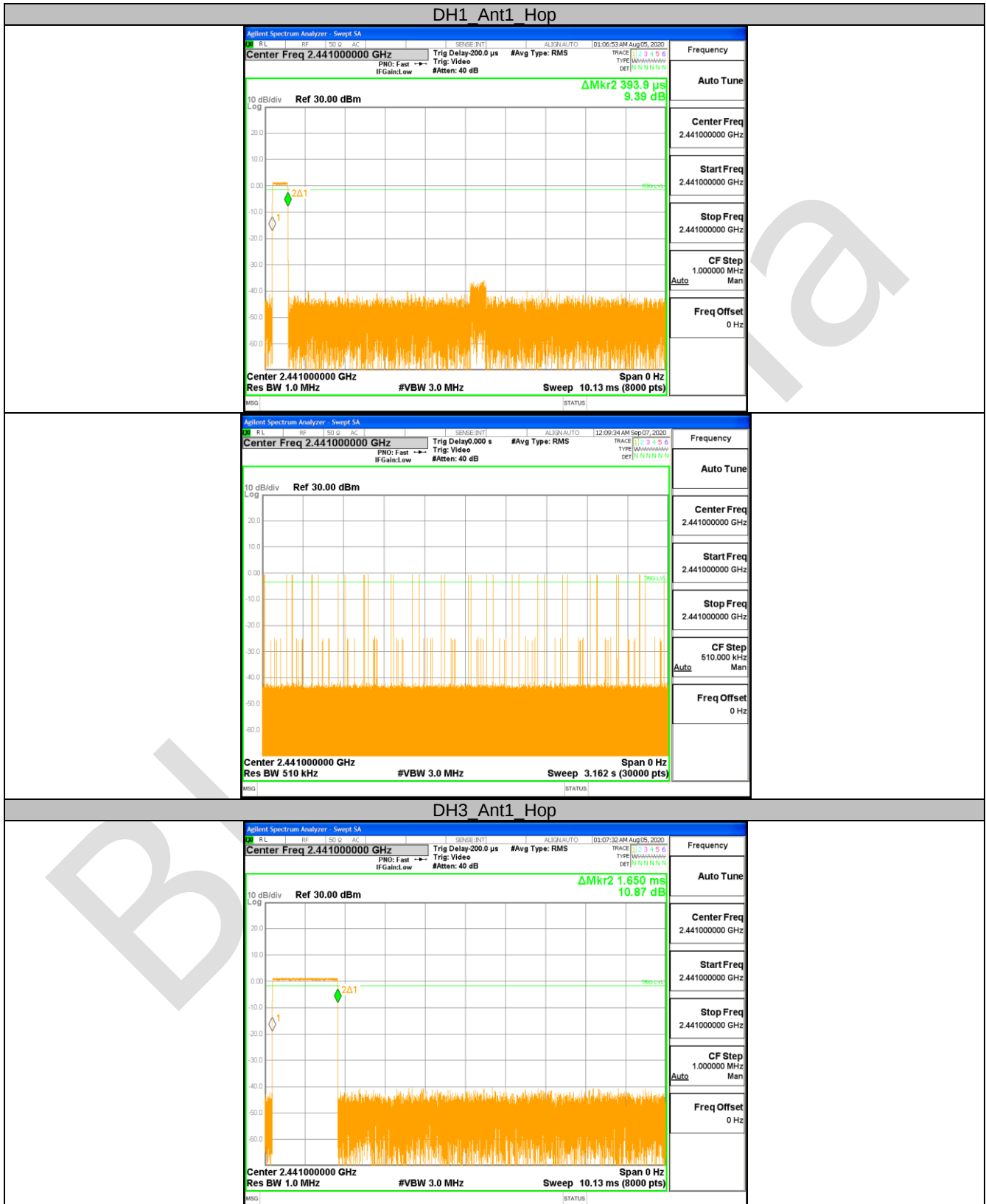


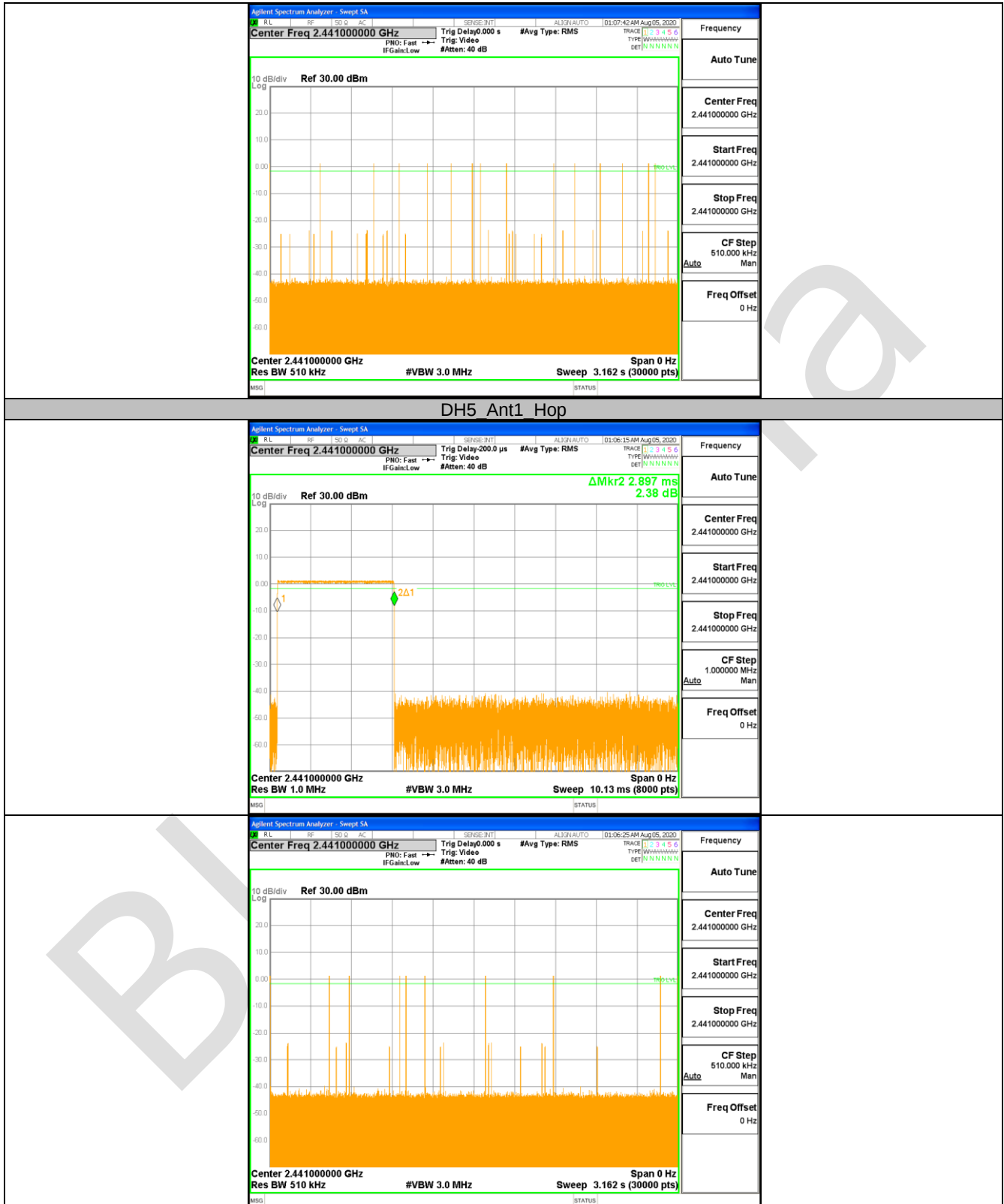
10.4 APPENDIX: TIME OF OCCUPANCY

Test Result

TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Hop	0.39	320	0.125	≤ 0.4	PASS
DH3	Ant1	Hop	1.65	150	0.248	≤ 0.4	PASS
DH5	Ant1	Hop	2.90	90	0.261	≤ 0.4	PASS

Test Graphs





10.5 APPENDIX F: NUMBER OF HOPPING CHANNELS**Test Result**

TestMode	Antenna	Channel	Result[Num]	Limit[Num]	Verdict
DH1	Ant1	Hop	79	≥ 15	PASS
2DH1	Ant1	Hop	79	≥ 15	PASS
3DH1	Ant1	Hop	79	≥ 15	PASS

Test Graphs



10.6 APPENDIX: BAND EDGE MEASUREMENTS

Test Result

TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH1	Ant1	Low	2402	2.86	-51.81	<=-17.14	PASS
		High	2480	2.65	-51.56	<=-17.35	PASS
		Low	Hop_2402	2.12	-52.11	-17.88	PASS
		High	Hop_2480	2.65	-53.41	-17.35	PASS
2DH1	Ant1	Low	2402	2.87	-52.9	<=-17.13	PASS
		High	2480	2.65	-51.65	<=-17.35	PASS
		Low	Hop_2402	2.82	-51.67	-17.18	PASS
		High	Hop_2480	2.75	-52.56	-17.25	PASS
3DH1	Ant1	Low	2402	3.05	-52.26	<=-16.95	PASS
		High	2480	2.86	-53	<=-17.14	PASS
		Low	Hop_2402	2.41	-52.38	-17.59	PASS
		High	Hop_2480	2.85	-53.17	-17.15	PASS

Test Graphs



