

Appendix: 2.4G GFSK

Contents

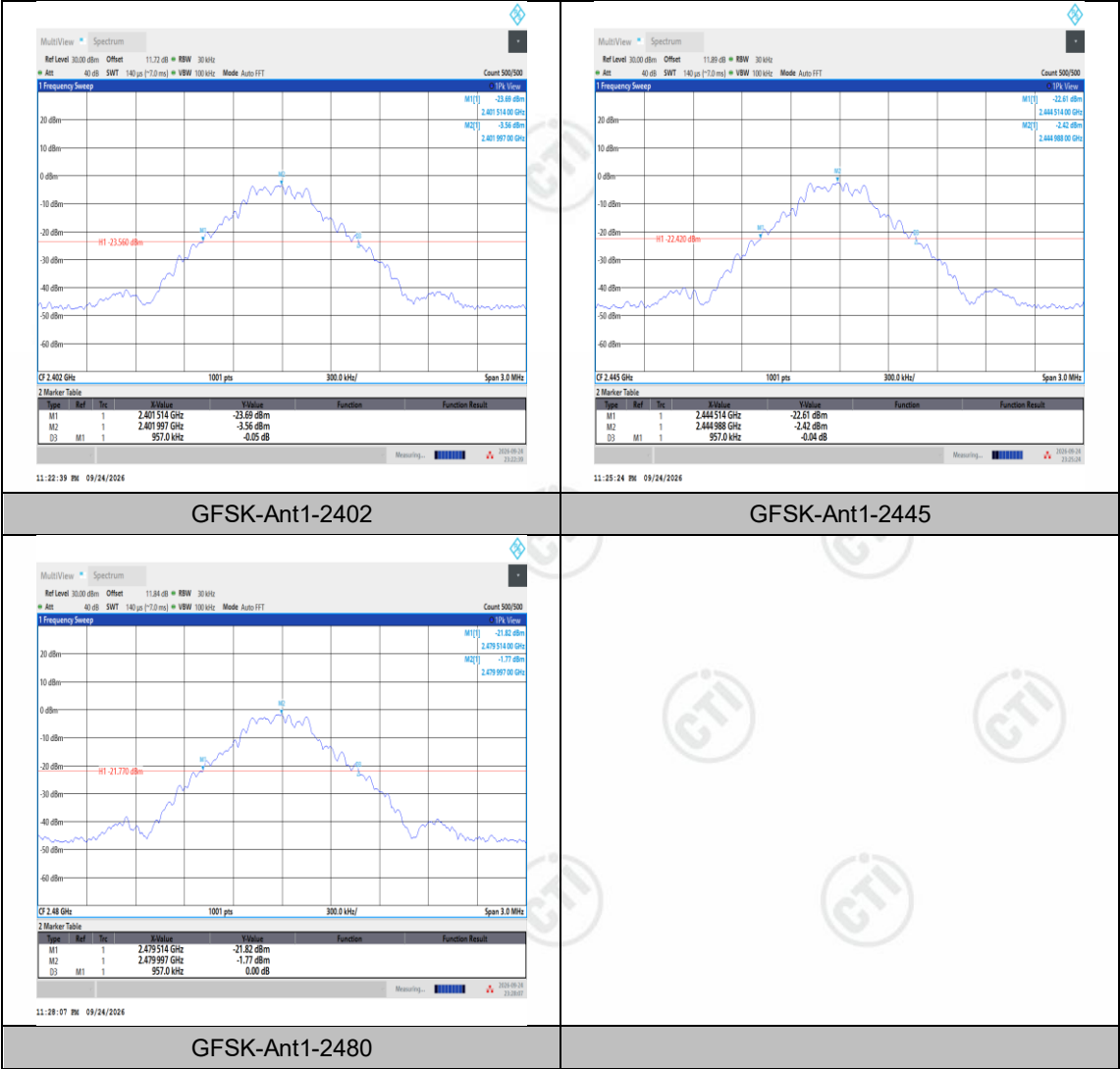
Appendix A: 20dB Emission Bandwidth	3
Test Result	3
Test Graphs	4
Appendix B: Occupied Channel Bandwidth.....	5
Test Result	5
Test Graphs	6
Appendix C: Maximum conducted output power.....	7
Test Result Peak	7
Test Graphs	8
Appendix D: Carrier frequency separation.....	9
Test Result	9
Test Graphs	10
Appendix E: Time of occupancy	11
Test Result	11
Test Graphs	12
Appendix F: Number of hopping channels.....	13
Test Result	13
Test Graphs	14
Appendix G: Band edge measurements.....	15
Test Result	15
Test Graphs	16
Appendix H: Conducted Spurious Emission	17
Test Result	17
Test Graphs	18
Appendix I: Duty Cycle	20
Test Result	20
Test Graphs	21
Appendix J: Emissions in Restricted Bands.....	22
Test Result	22

Appendix A: 20dB Emission Bandwidth

Test Result

TestMode	Antenna	Frequency[MHz]	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
GFSK	Ant1	2402	0.96	2401.51	2402.47	---	---
GFSK	Ant1	2445	0.96	2444.51	2445.47	---	---
GFSK	Ant1	2480	0.96	2479.51	2480.47	---	---

Test Graphs

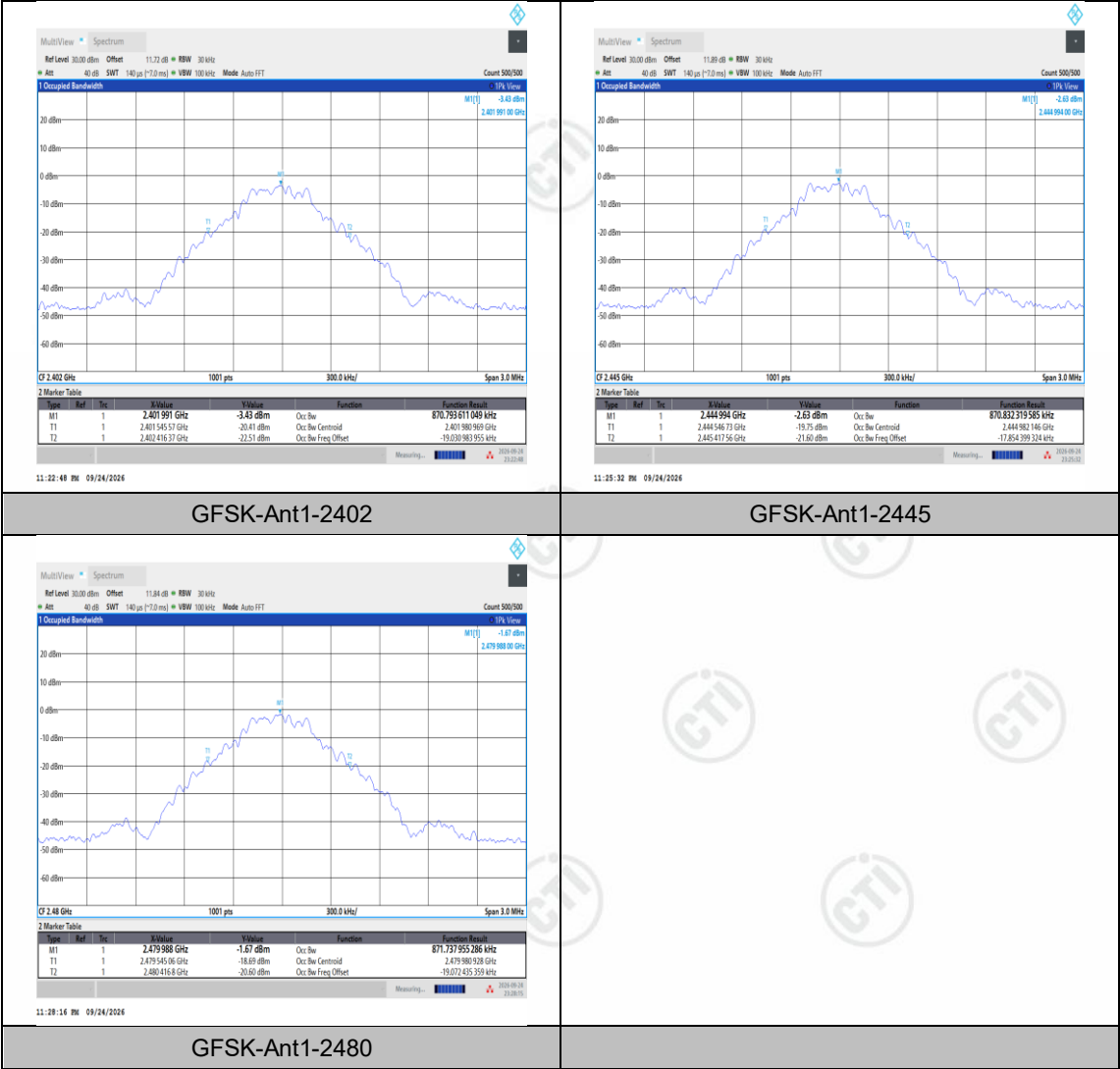


Appendix B: Occupied Channel Bandwidth

Test Result

TestMode	Antenna	Frequenc y[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
GFSK	Ant1	2402	0.87079	2401.5456	2402.4164	---	---
GFSK	Ant1	2445	0.87083	2444.5467	2445.4176	---	---
GFSK	Ant1	2480	0.87174	2479.5451	2480.4168	---	---

Test Graphs

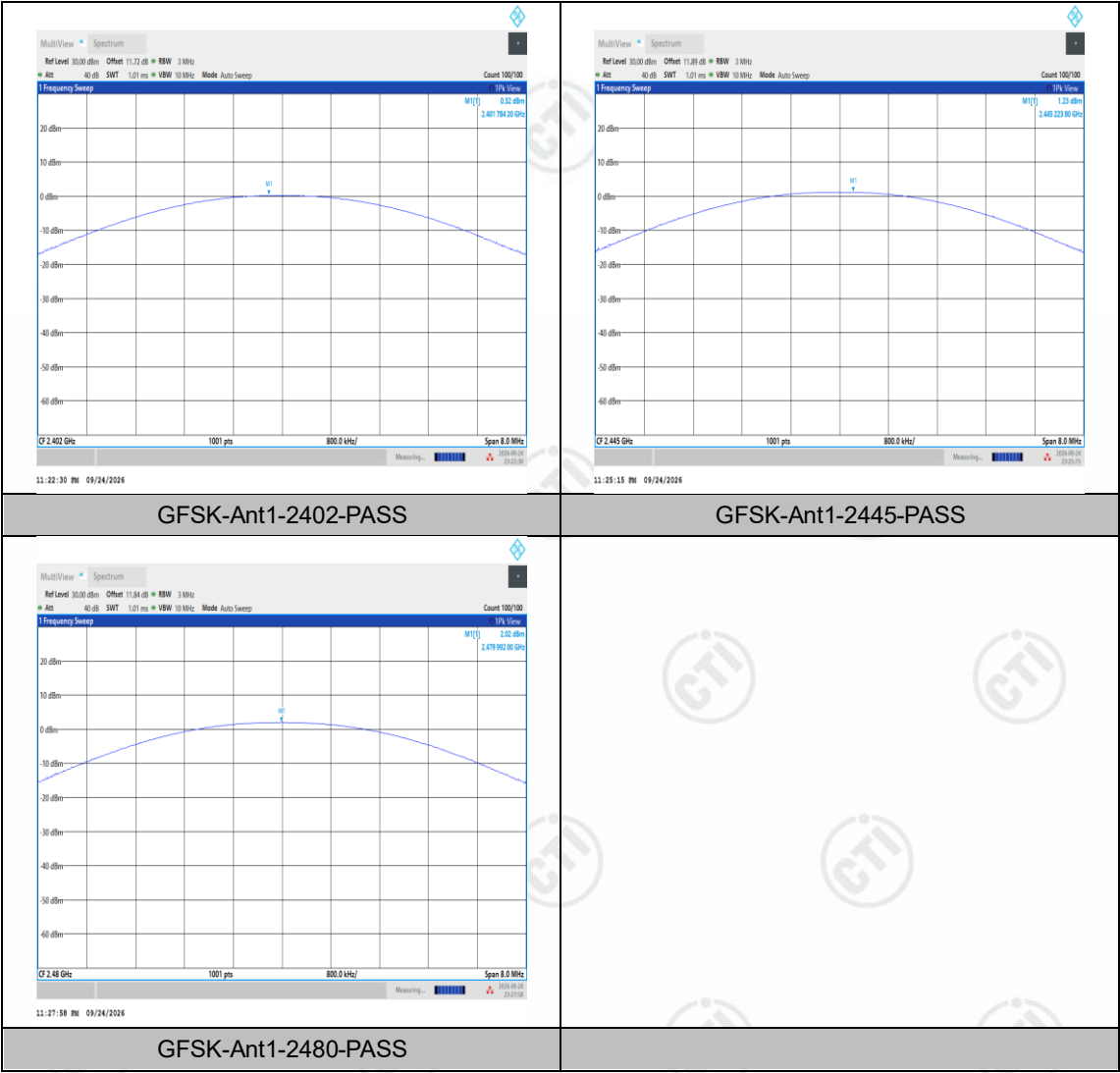


Appendix C: Maximum conducted output power

Test Result Peak

Test Mode	Antenna	Frequency[MHz]	Conducted Peak Power[dBm]	Conducted Limit[dBm]	EIRP[dBm]	Verdict
GFSK	Ant1	2402	0.32	≤30	2.96	PASS
GFSK	Ant1	2445	1.23	≤20.97	3.87	PASS
GFSK	Ant1	2480	2.02	≤20.97	4.66	PASS

Test Graphs

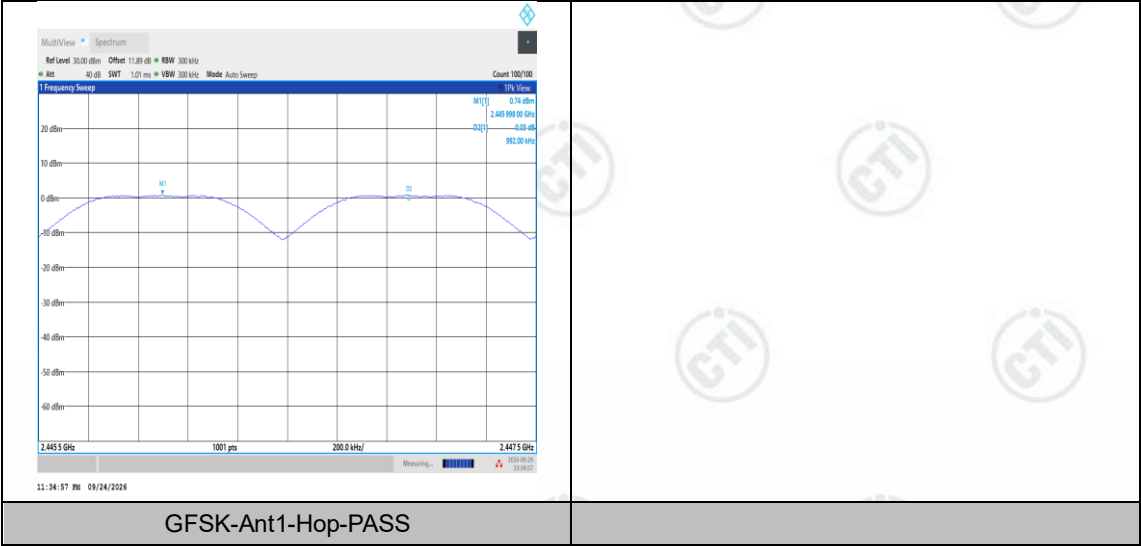


Appendix D: Carrier frequency separation

Test Result

TestMode	Antenna	Frequency[MHz]	Result[MHz]	Limit[MHz]	Verdict
GFSK	Ant1	Hop	0.992	≥0.960	PASS

Test Graphs

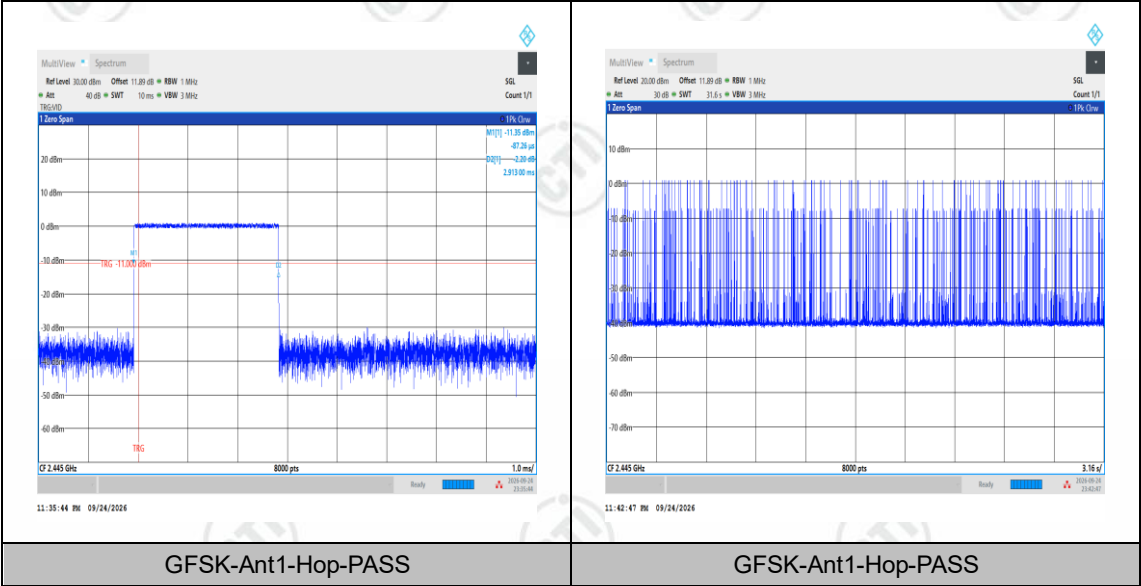


Appendix E: Time of occupancy

Test Result

TestMode	Antenna	Frequency[MHz]	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
GFSK	Ant1	Hop	2.913	106.67	0.311	≤0.4	PASS

Test Graphs

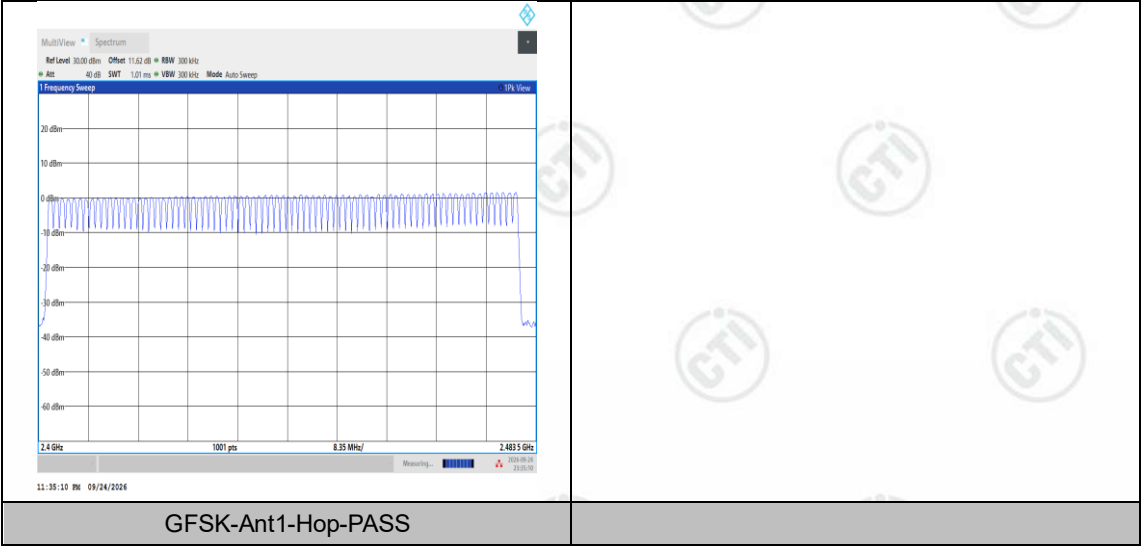


Appendix F: Number of hopping channels

Test Result

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

Test Graphs

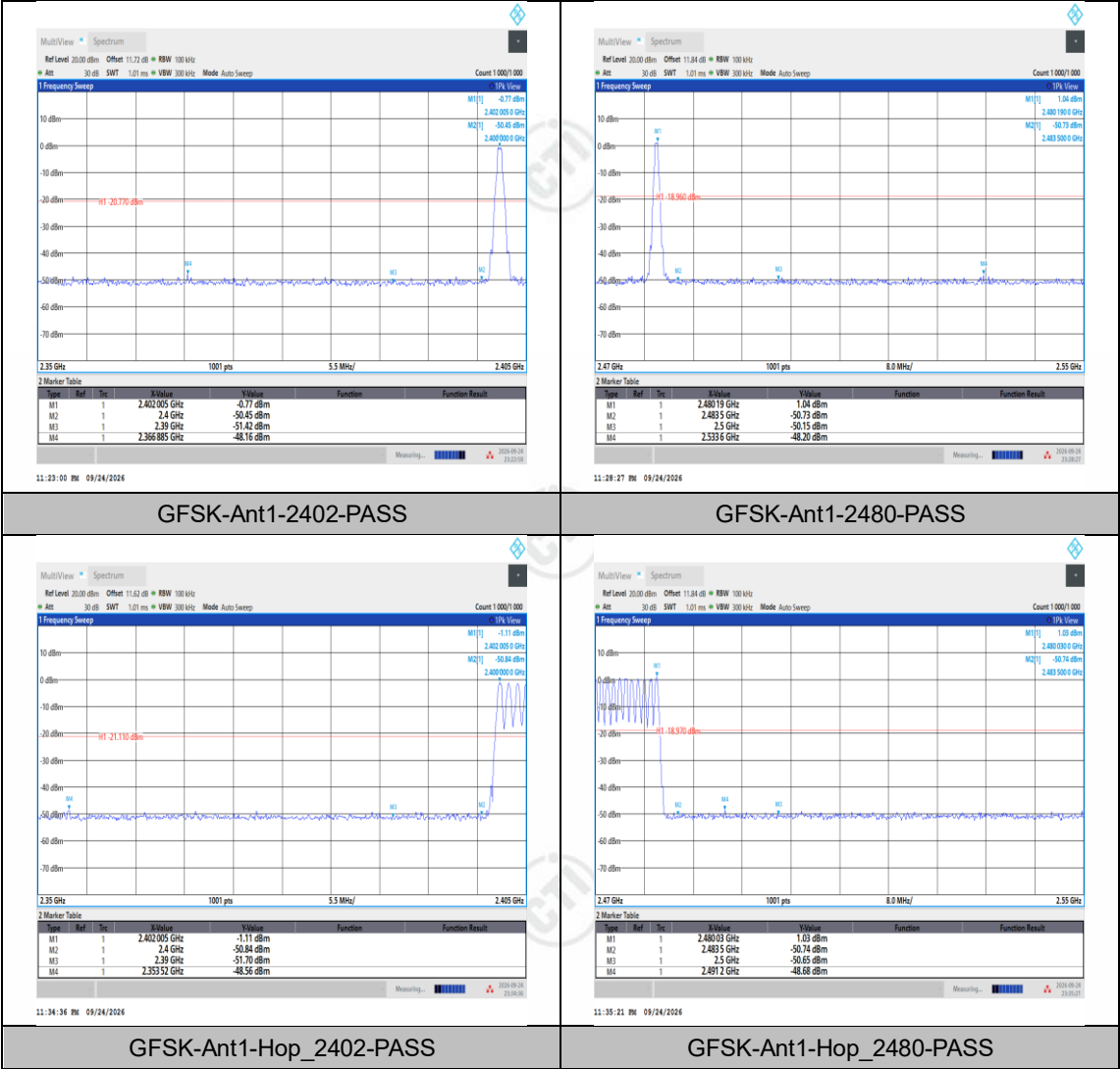


Appendix G: Band edge measurements

Test Result

TestMode	Antenna	ChName	Frequency[MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
GFSK	Ant1	Low	2402	-0.77	-48.16	≤-20.77	PASS
GFSK	Ant1	High	2480	1.04	-48.2	≤-18.96	PASS
GFSK	Ant1	Low	Hop_2402	-1.11	-48.56	≤-21.11	PASS
GFSK	Ant1	High	Hop_2480	1.03	-48.68	≤-18.97	PASS

Test Graphs

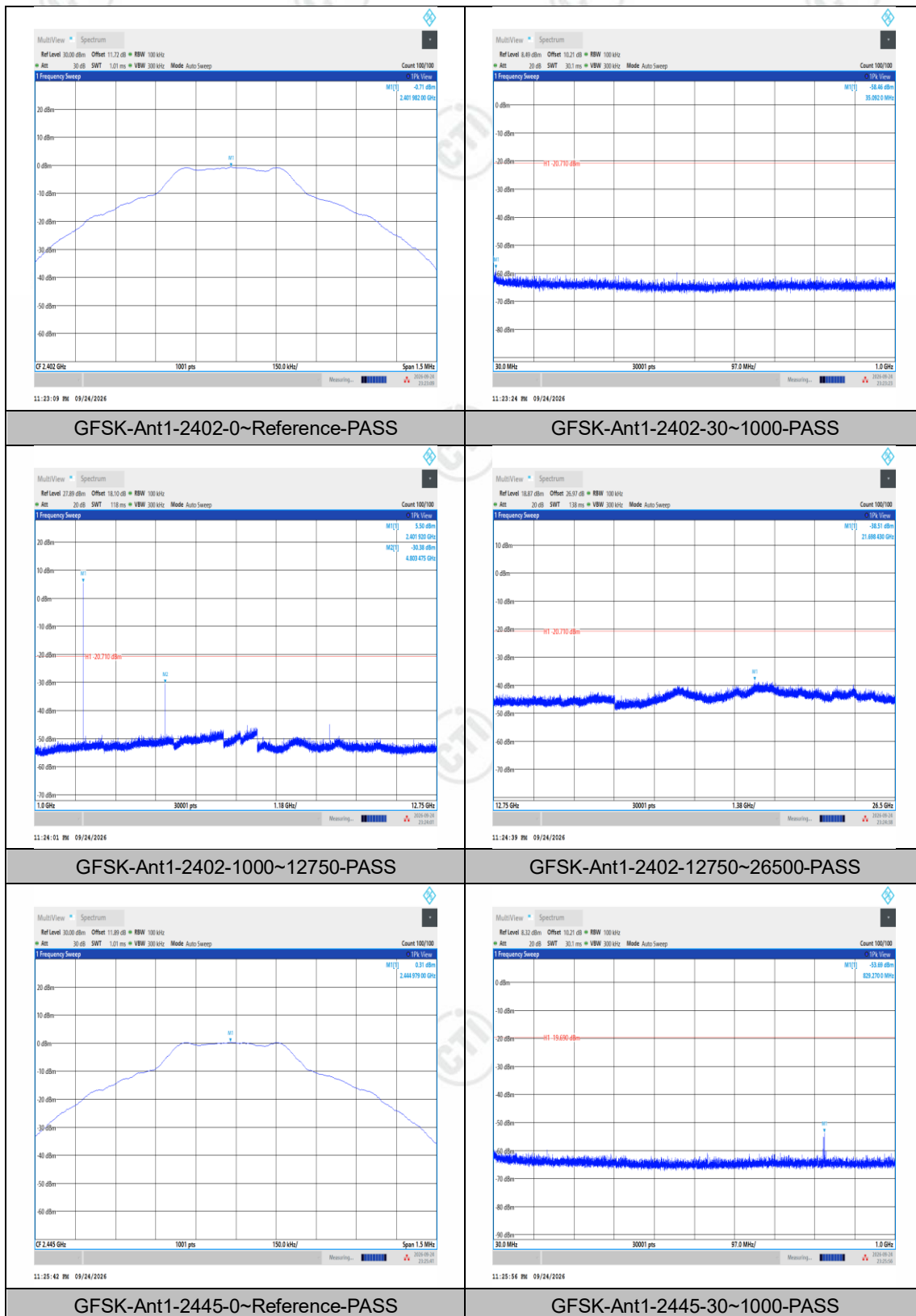


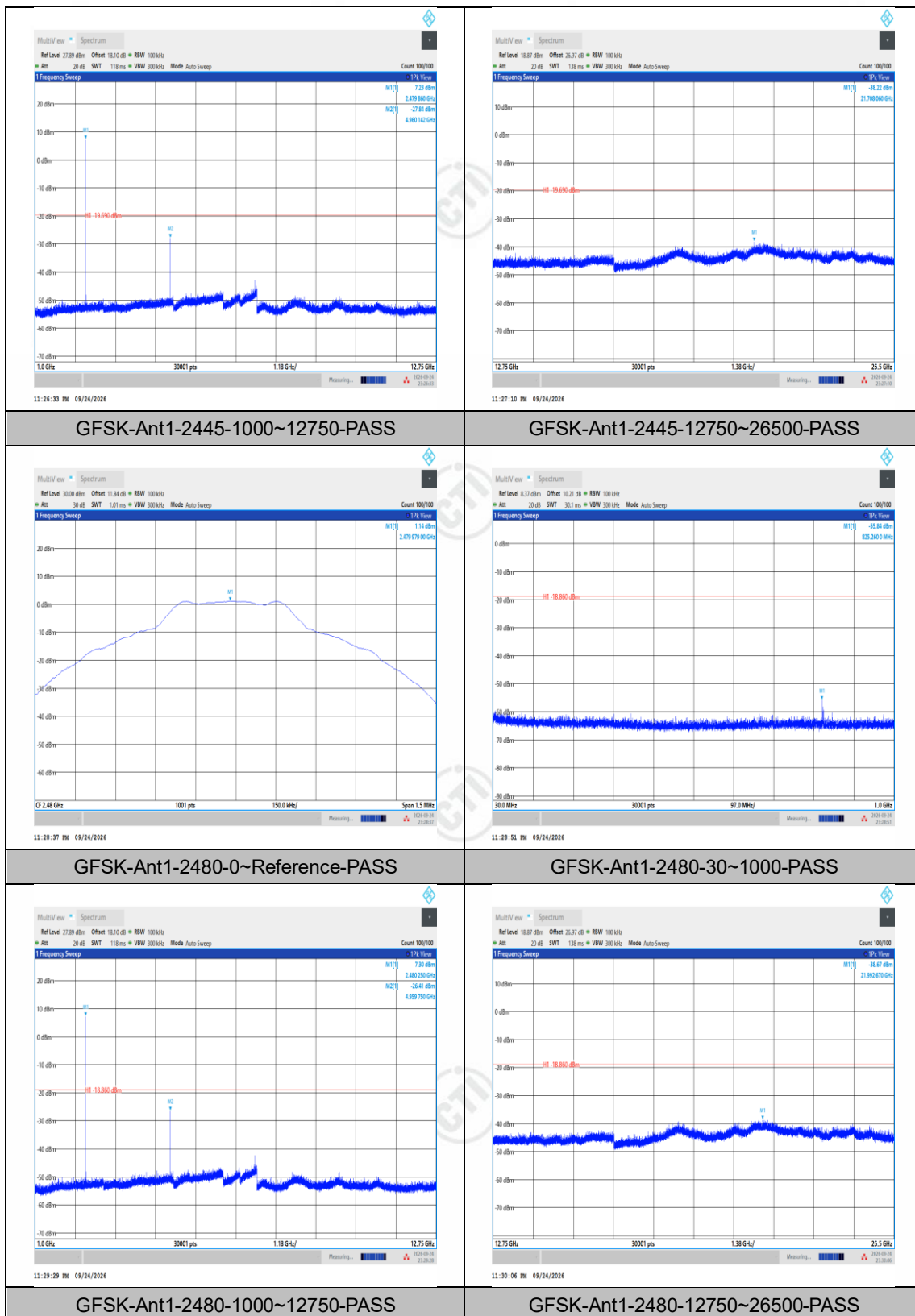
Appendix H: Conducted Spurious Emission

Test Result

TestMode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
GFSK	Ant1	2402	0~Reference	-0.71	-0.71	---	PASS
GFSK	Ant1	2402	30~1000	-0.71	-58.46	≤-20.71	PASS
GFSK	Ant1	2402	1000~12750	-0.71	-30.38	≤-20.71	PASS
GFSK	Ant1	2402	12750~26500	-0.71	-38.51	≤-20.71	PASS
GFSK	Ant1	2445	0~Reference	0.31	0.31	---	PASS
GFSK	Ant1	2445	30~1000	0.31	-53.69	≤-19.69	PASS
GFSK	Ant1	2445	1000~12750	0.31	-27.84	≤-19.69	PASS
GFSK	Ant1	2445	12750~26500	0.31	-38.22	≤-19.69	PASS
GFSK	Ant1	2480	0~Reference	1.14	1.14	---	PASS
GFSK	Ant1	2480	30~1000	1.14	-55.84	≤-18.86	PASS
GFSK	Ant1	2480	1000~12750	1.14	-26.41	≤-18.86	PASS
GFSK	Ant1	2480	12750~26500	1.14	-38.67	≤-18.86	PASS

Test Graphs





Appendix I: Duty Cycle

Test Result

TestMode	Antenna	Frequency[MHz]	ON Time[ms]	Period[ms]	Duty Cycle[%]	Duty Cycle Factor[dB]
GFSK	Ant1	2402	2.90	3.74	77.54	1.10
GFSK	Ant1	2445	2.90	3.74	77.54	1.10
GFSK	Ant1	2480	2.90	3.74	77.54	1.10

Appendix J: Emissions in Restricted Bands

Test Result

TestMode	Antenna	ChName	Frequenc y[MHz]	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
TestMode	Antenna	ChName	Channel	Detector	Freq	Result	Limit	E	Limit1	Verdict

Note:

- 1. The Antenna Gain is compensated in the graph.
- 2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

*** End of Report ***