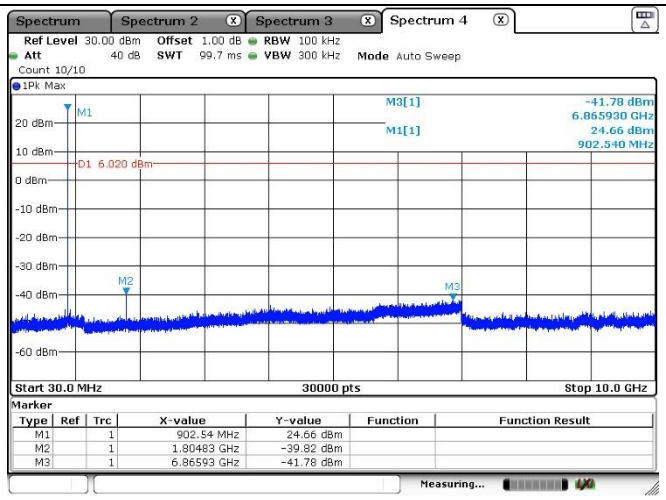
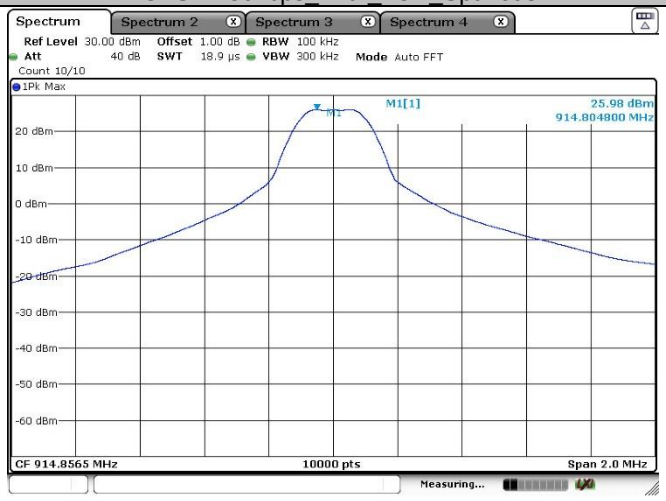
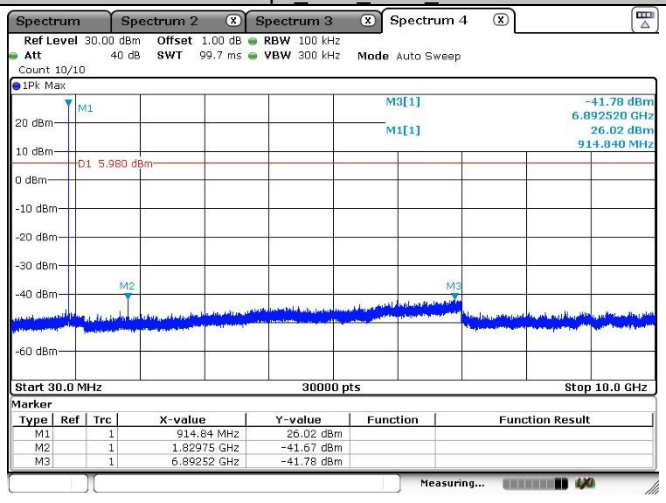


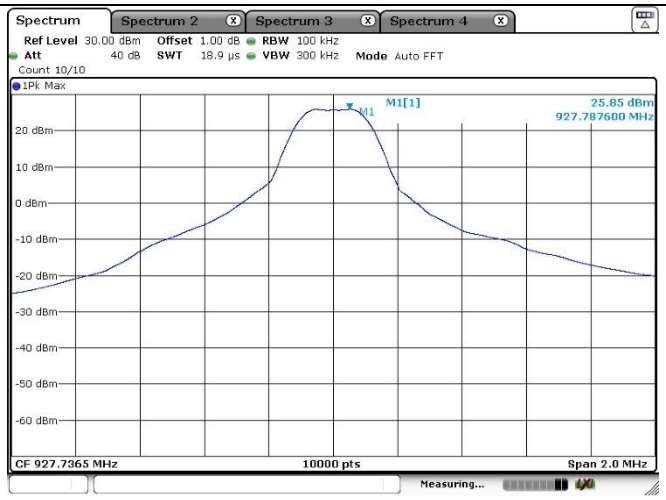
2GFSK-150kbps_Ant1_LCH_Spurious



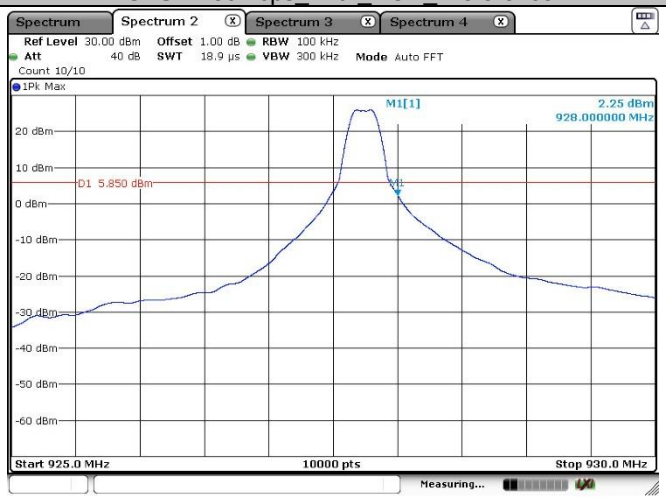
2GFSK-150 kbps_Ant1_MCH_ Reference



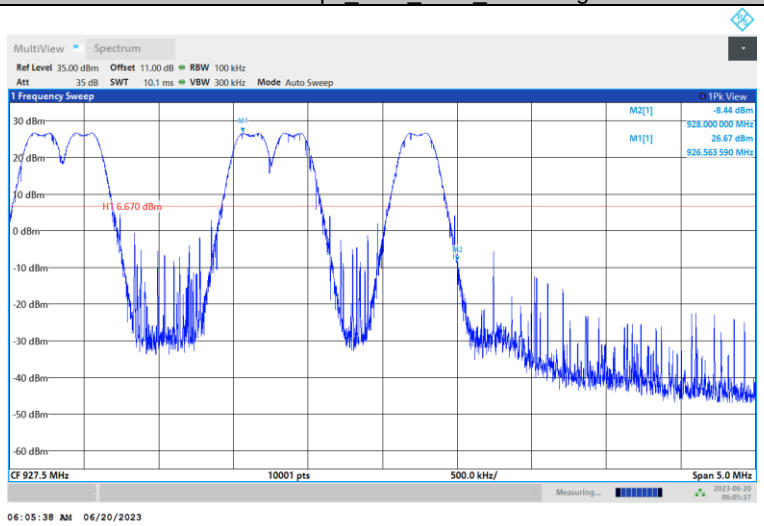
2GFSK-150 kbps_Ant1_MCH_Spurious



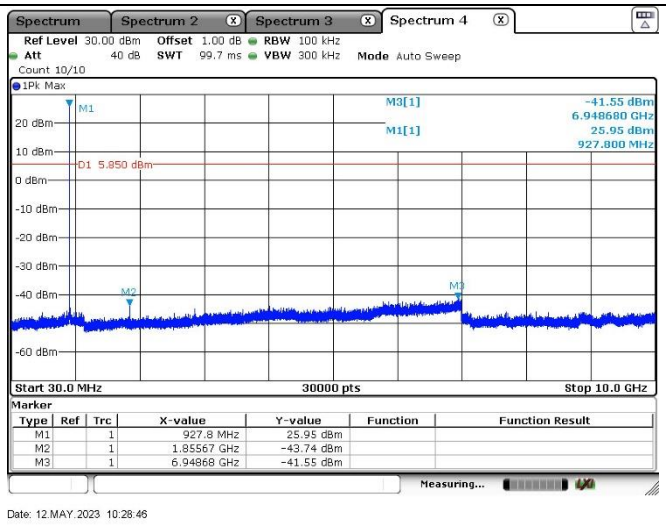
2GFSK-150 kbps_Ant1_HCH_ Reference



2GFSK-150 kbps_Ant1_HCH_ Bandedge



2GFSK-150 kbps_Ant1_HCH_Bandedge Hopping on



2GFSK-150 kbps_Ant1_HCH_Spurious

16. FCC.SubG.2GFSK.250kbps

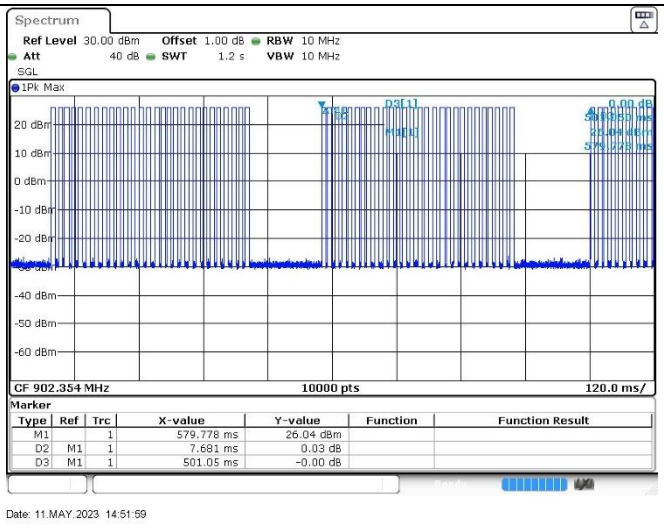
16.1. Appendix A6: DUTY CYCLE

16.1.1. Test Result

Test Mode	On Time (msec)	Period (msec)	Duty Cycle x (Linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/T Minimum VBW (kHz)	Final setting For VBW (kHz)
2GFSK-250 kbps	215.068	501.05	0.4292	42.92%	3.67	0.0046	1

Note:
Duty Cycle Correction Factor=10log (1/x).
Where: x is Duty Cycle (Linear)
Where: T is On Time
If that calculated VBW is not available on the analyzer then the next higher value should be used.

Test Graphs



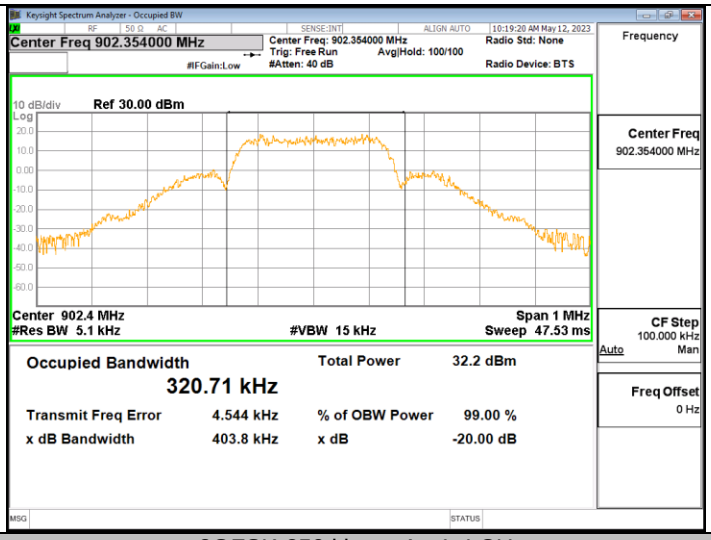
2GFSK-250 kbps_Ant1

16.2. Appendix B6: 20DB BANDWIDTH & OCCUPIED CHANNEL BANDWIDTH

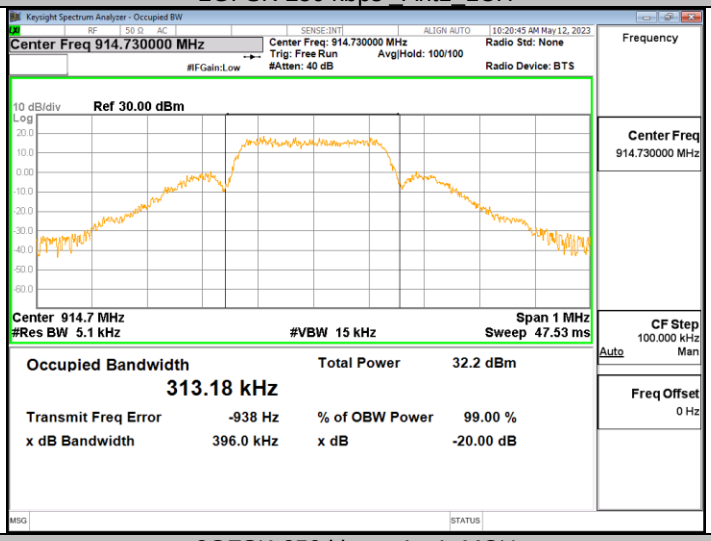
16.2.1. Test Result

Test Mode	Antenna	Channel	20db EBW[MHz]	OCB [MHz]	Verdict
2GFSK-250 kbps	Ant1	LCH	0.4038	0.32071	PASS
		MCH	0.3960	0.31318	PASS
		HCH	0.4030	0.32086	PASS

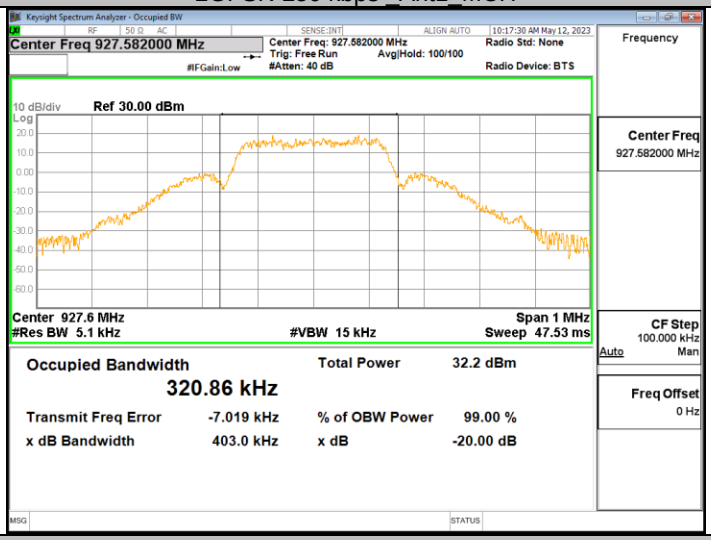
16.2.2. Test Graphs



2GFSK-250 kbps _Ant1_LCH



2GFSK-250 kbps _Ant1_MCH



2GFSK-250 kbps _Ant1_HCH

16.3. Appendix C6: CONDUCTED OUTPUT POWER

16.3.1. Test Result

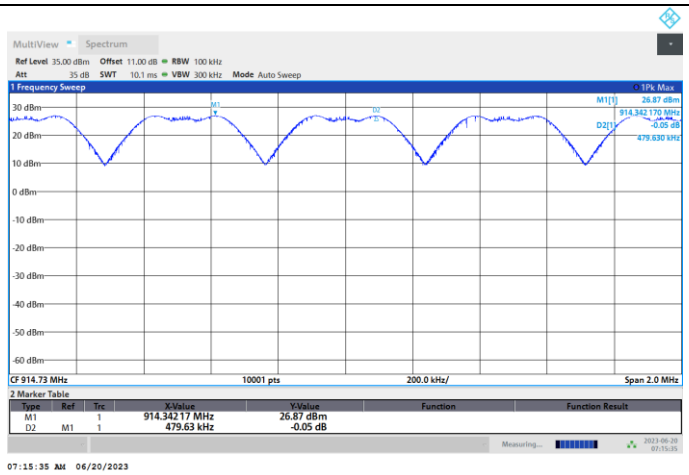
Test Mode	Antenna	Channel	PEAK Result[dBm]	AVG Result[dBm]	Limit[dBm]	Verdict
2GFSK-250 kbps	Ant1	Low	26.63	26.51	≤30	PASS
		Mid	26.60	26.48	≤30	PASS
		High	26.34	26.22	≤30	PASS

16.4. Appendix D6: CARRIER FREQUENCY SEPARATION

16.4.1. Test Result

Test Mode	Antenna	Channel	Result [MHz]	Limit[MHz]	Verdict
2GFSK-250 kbps	Ant1	Hop	0.480	0.4038	PASS

16.4.2. Test Graphs



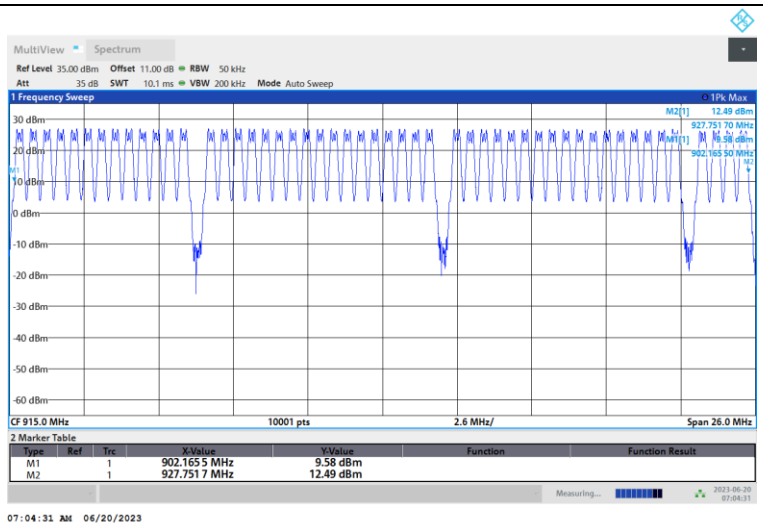
2GFSK-250 kbps _Ant1_Hop

16.5. Appendix E6: NUMBER OF HOPPING FREQUENCIES

16.5.1. Test Result

Test Mode	Antenna	Channel	Result[Num]	Limit[Num]	Verdict
2GFSK-250 kbps	Ant1	Hop	51	≥25	PASS

16.5.2. Test Graphs



2GFSK-250 kbps_Ant1_Hop

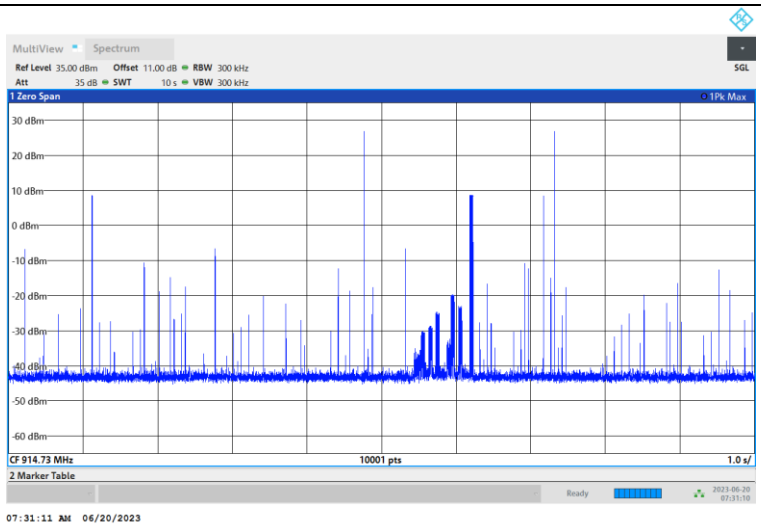
16.6. Appendix F6: TIME OF OCCUPANCY (DWELL TIME)

16.6.1. Test Result

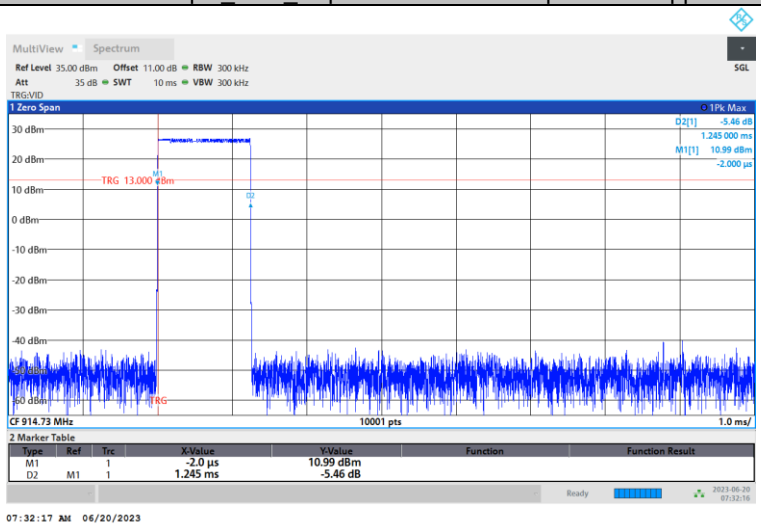
Test Mode	Antenna	Channel	Time of single slot [ms]	number of single slot	Burst Width [ms/hop/ch]	The number of hop channel appear	Dwell Time [ms]	Limit [ms]	Results
2GFSK-250 kbps	Ant1	Hop	1.245	1	1.245	3	3.735	400	PASS

Note:
2GFSK-250 kbps: The dwell time = Time of single slot * The number of hop channel appear within 10s
BurstWidth =Time of single slot*number of single slot

16.6.2. Test Graphs



2GFSK-250 kbps _Ant1_Hop- The number of hop channel appear



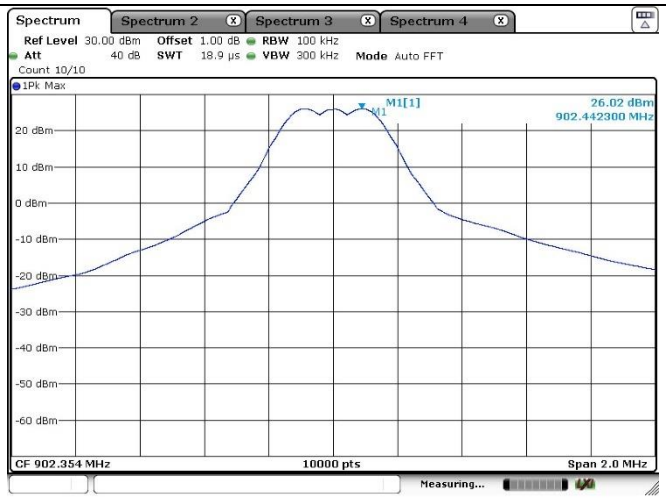
2GFSK-250 kbps _Ant1_Hop- BurstWidth 1

16.7. Appendix G6: CONDUCTED SPURIOUS EMISSION

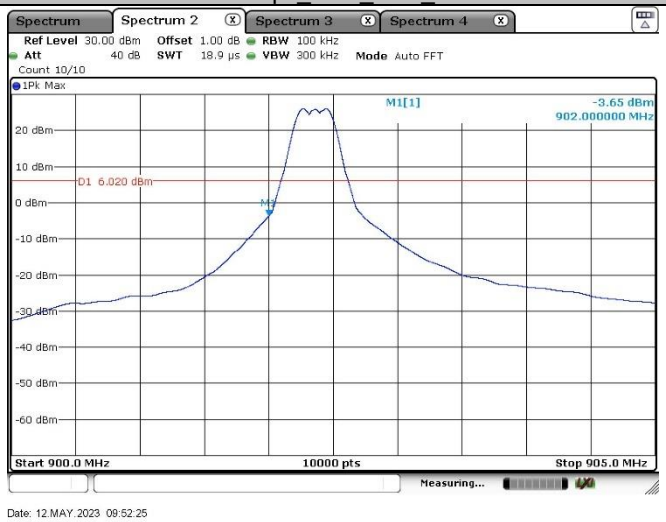
16.7.1. Test Result

Test Mode	Antenna	ChName	Result [dBm]	Verdict
2GFSK-250 kbps	Ant1	LCH	See the below graphs	PASS
		MCH		PASS
		HCH		PASS
		Hop_ Low		PASS
		Hop_ High		PASS

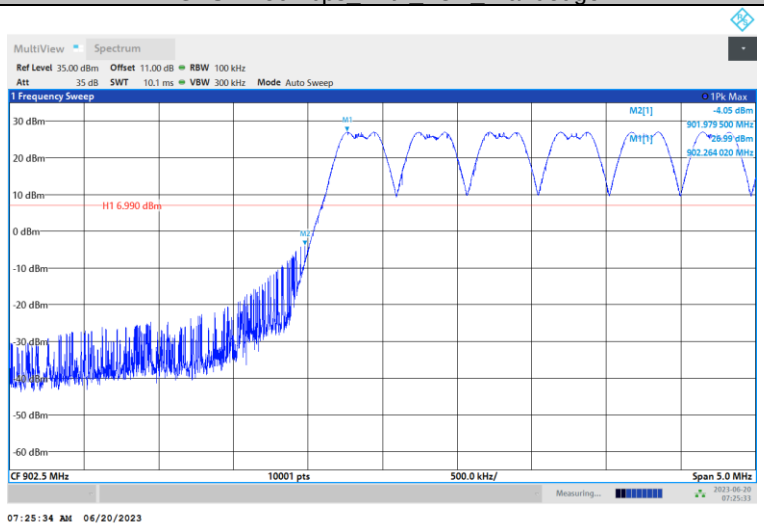
16.7.2. Test Graphs



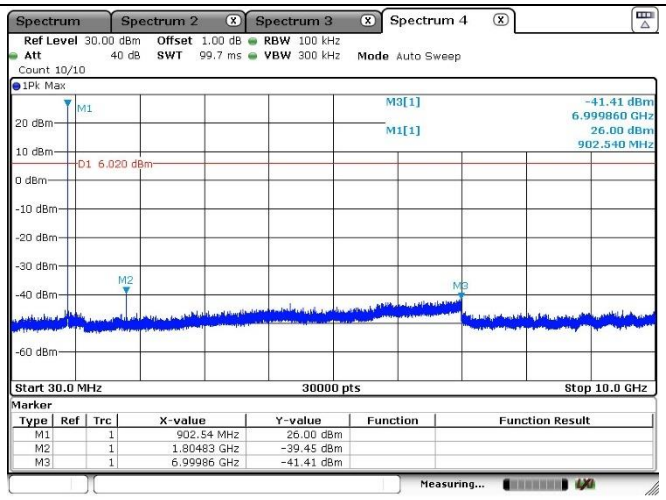
2GFSK-250 kbps_Ant1_LCH_ Reference



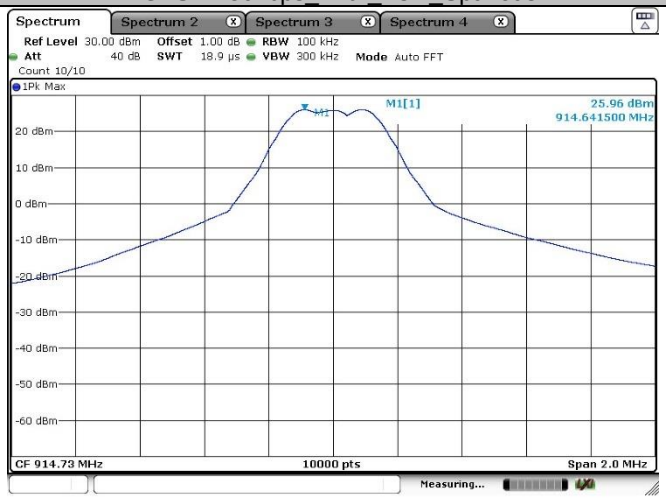
2GFSK-250 kbps_Ant1_LCH_ Bandedge



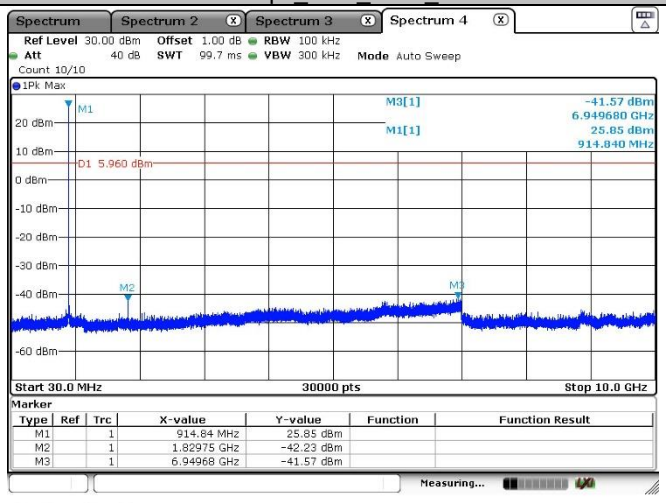
2GFSK-250 kbps_Ant1_LCH_Bandedge Hopping on



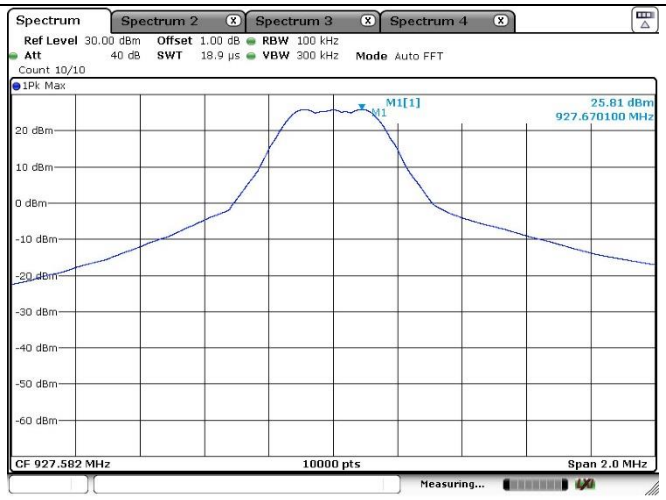
2GFSK-250kbps_Ant1_LCH_Spurious



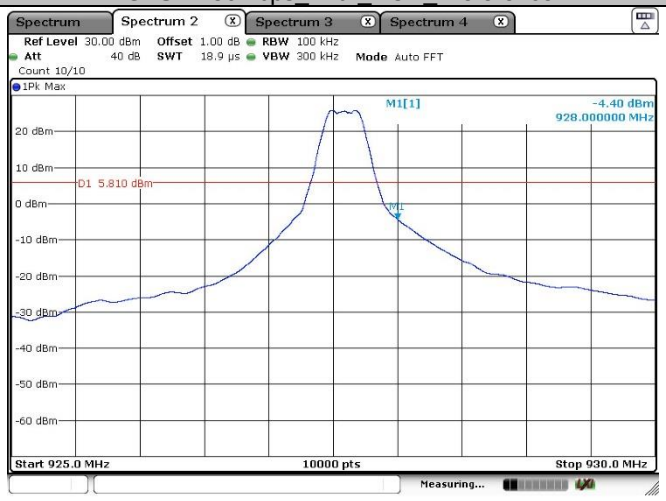
2GFSK-250 kbps_Ant1_MCH_ Reference



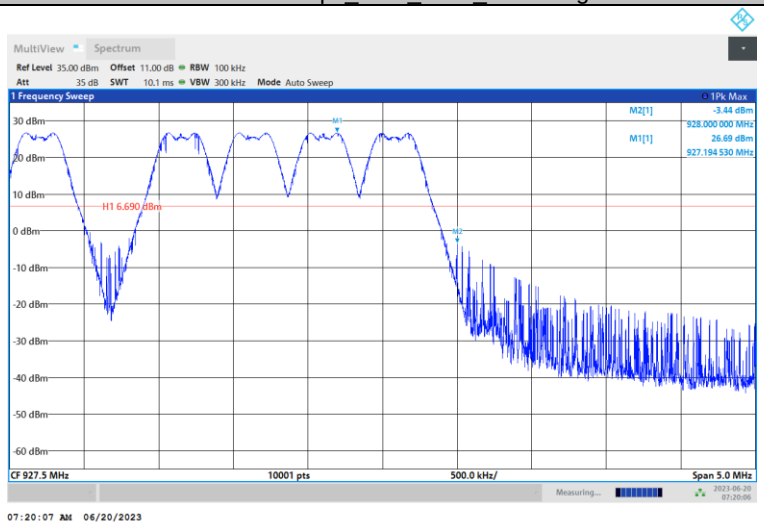
2GFSK-250 kbps_Ant1_MCH_Spurious



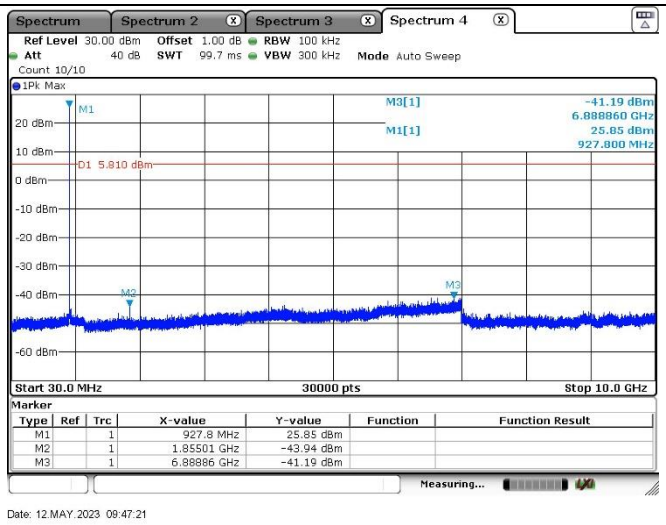
2GFSK-250 kbps_Ant1_HCH_ Reference



2GFSK-250 kbps_Ant1_HCH_ Bandedge



2GFSK-250 kbps_Ant1_HCH_Bandedge Hopping on



2GFSK-250 kbps_Ant1_HCH_Spurious

17. FCC.SubG.4GFSK.200kbps

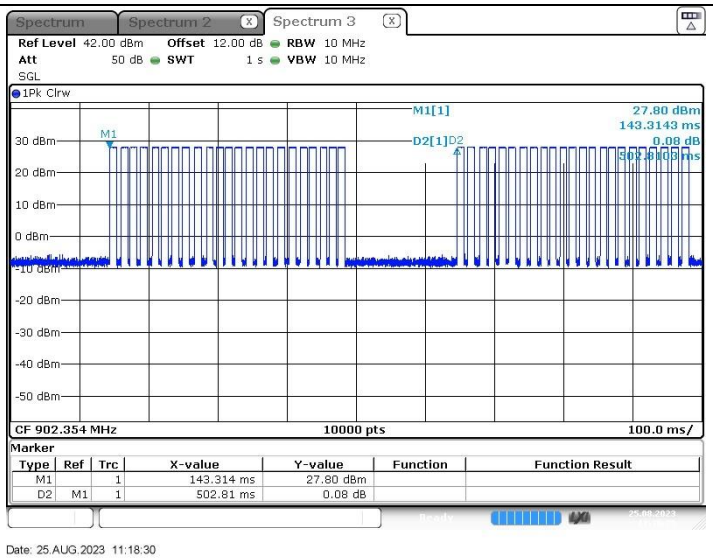
17.1. Appendix A7: DUTY CYCLE

17.1.1. Test Result

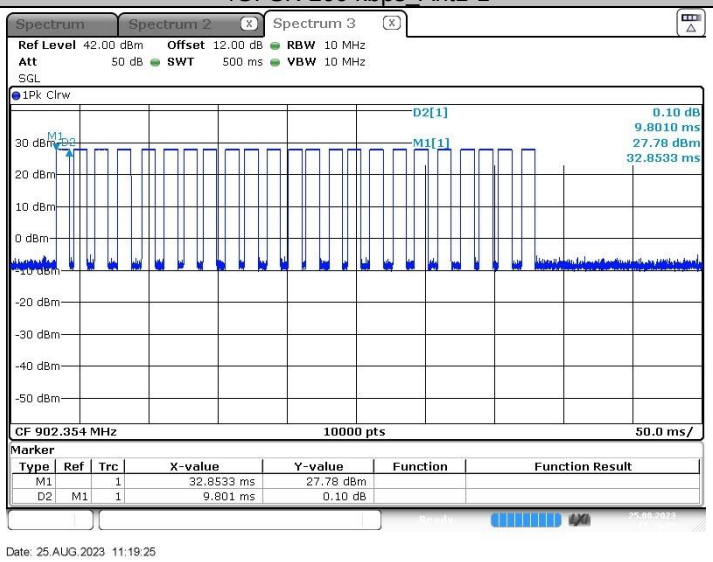
Test Mode	On Time (msec)	Period (msec)	Duty Cycle x (Linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/T Minimum VBW (kHz)	Final setting For VBW (kHz)
4GFSK-200 kbps	225.423	502.81	0.4483	44.83	3.48	0.0044	1

Note:
Duty Cycle Correction Factor=10log (1/x).
Where: x is Duty Cycle (Linear)
Where: T is On Time
On Time=D2-2*2=9.801*23=225.423 ms
If that calculated VBW is not available on the analyzer then the next higher value should be used.

Test Graphs



4GFSK-200 kbps_Ant1-1



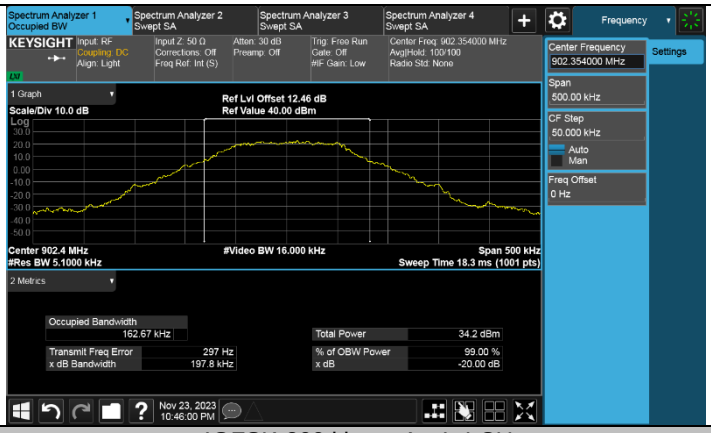
4GFSK-200 kbps_Ant1-2

17.2. Appendix B7: 20DB BANDWIDTH & OCCUPIED CHANNEL BANDWIDTH

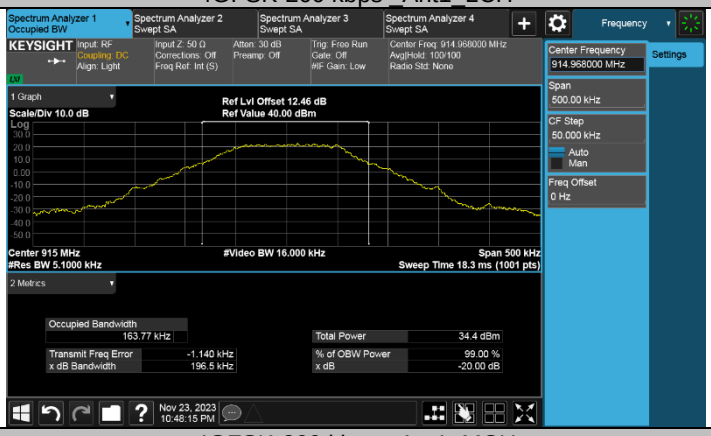
17.2.1. Test Result

Test Mode	Antenna	Channel	20db EBW[MHz]	OCB [MHz]	Verdict
4GFSK-200 kbps	Ant1	LCH	0.1978	0.16267	PASS
		MCH	0.1965	0.16377	PASS
		HCH	0.2018	0.16148	PASS

17.2.2. Test Graphs



4GFSK-200 kbps _Ant1_LCH



4GFSK-200 kbps _Ant1_MCH

4GFSK-200 kbps _Ant1_HCH

17.3. Appendix C7: CONDUCTED OUTPUT POWER

17.3.1. Test Result

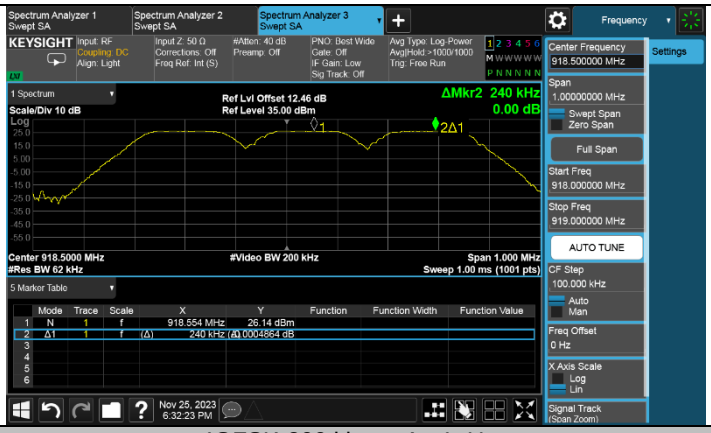
Test Mode	Antenna	Channel	PEAK Result[dBm]	AVG Result[dBm]	Limit[dBm]	Verdict
4GFSK-200 kbps	Ant1	LCH	26.03	25.98	≤30	PASS
		MCH	26.23	26.19	≤30	PASS
		HCH	26.09	26.02	≤30	PASS

17.4. Appendix D7: CARRIER FREQUENCY SEPARATION

17.4.1. Test Result

Test Mode	Antenna	Channel	Result [MHz]	Limit[MHz]	Verdict
4GFSK-200 kbps	Ant1	Hop	0.240	≥0.2018	PASS

17.4.2. Test Graphs



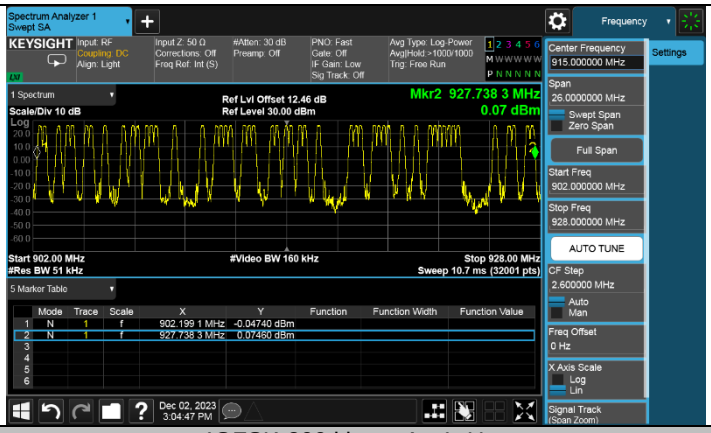
4GFSK-200 kbps _Ant1_Hop

17.5. Appendix E7: NUMBER OF HOPPING FREQUENCIES

17.5.1. Test Result

Test Mode	Antenna	Channel	Result[Num]	Limit[Num]	Verdict
4GFSK-200 kbps	Ant1	Hop	51	≥50	PASS

17.5.2. Test Graphs



4GFSK-200 kbps _Ant1_Hop

17.6. Appendix F7: TIME OF OCCUPANCY (DWELL TIME)

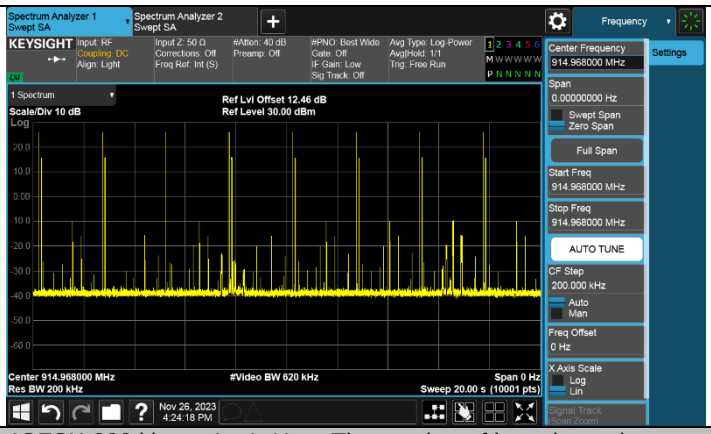
17.6.1. Test Result

Test Mode	Antenna	Channel	Time of single slot 1 [ms]	number of single slot 1	Burst Width 1 [ms/hop/ch]	The number of hop channel appear
4GFSK-200 kbps	Ant1	Hop	3.200	10	32.00	8

Test Mode	Antenna	Channel	Dwell Time [ms]	Limit [ms]	Results
4GFSK-200 kbps	Ant1	Hop	256.00	400	PASS

Note:
4GFSK-200 kbps: The dwell time = Time of single slot * The number of hop channel appear within 20s
BurstWidth =Time of single slot*number of single slot

17.6.2. Test Graphs



4GFSK-200 kbps _Ant1_Hop- The number of hop channel appear

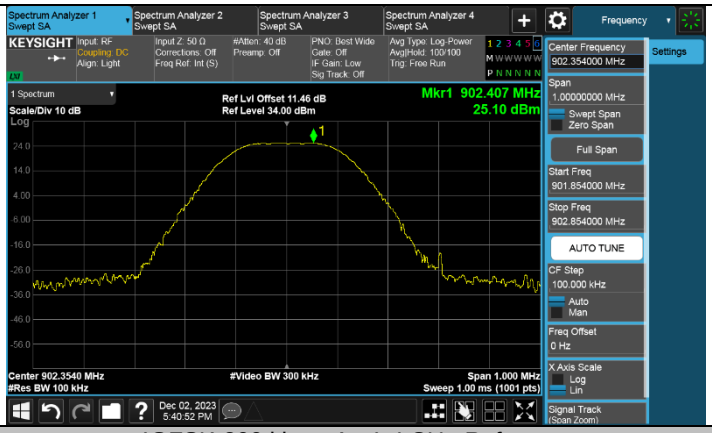
4GFSK-200 kbps _Ant1_Hop- BurstWidth 1

17.7. Appendix G7:CONDUCTED BAND EDGE AND SPURIOUS EMISSION

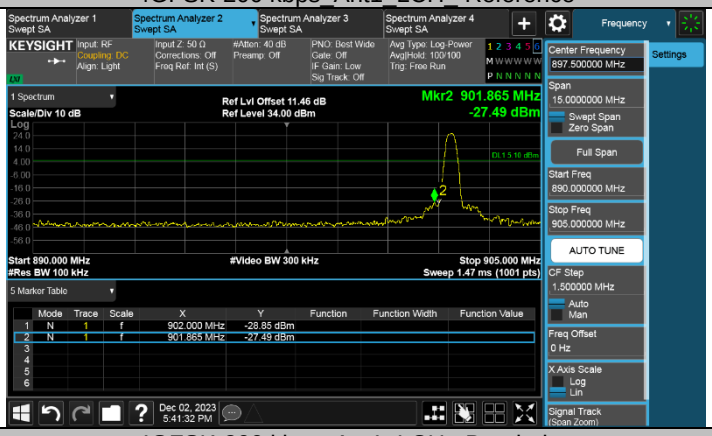
17.7.1. Test Result

Test Mode	Antenna	ChName	Result [dBm]	Verdict
4GFSK-200 kbps	Ant1	LCH	See the below graphs	PASS
		MCH		PASS
		HCH		PASS
		Hop_ LCH		PASS
		Hop_ HCH		PASS

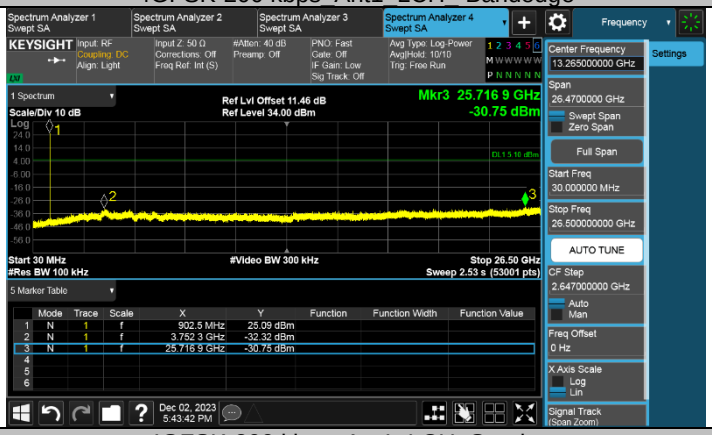
17.7.2. Test Graphs



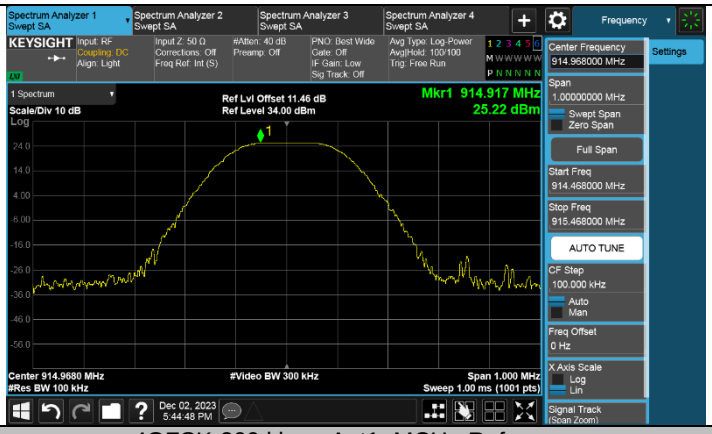
4GFSK-200 kbps_Ant1_LCH_Reference



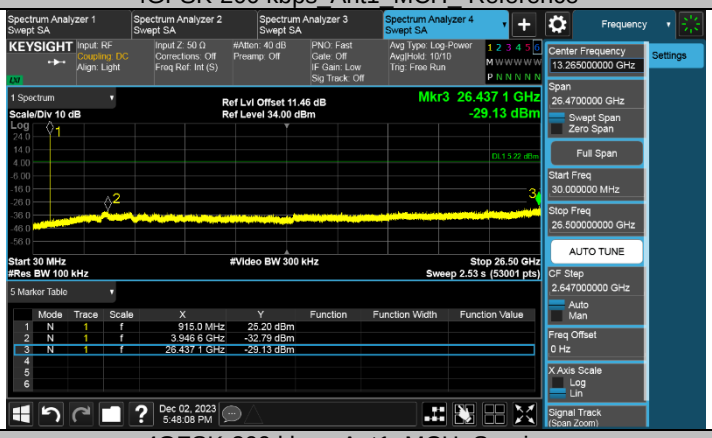
4GFSK-200 kbps_Ant1_LCH_Bandedge



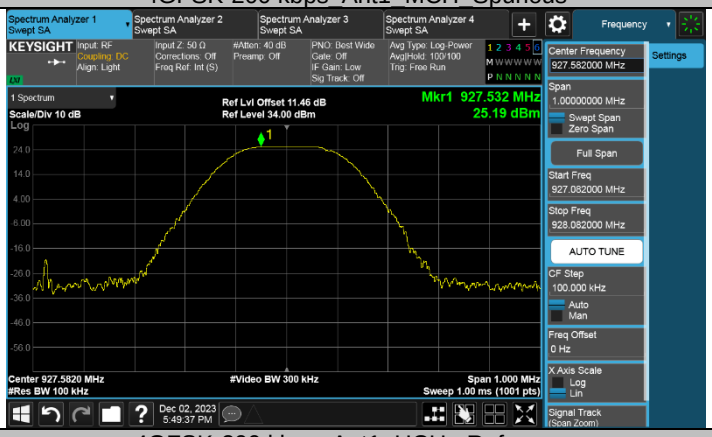
4GFSK-200 kbps_Ant1_LCH_Spurious



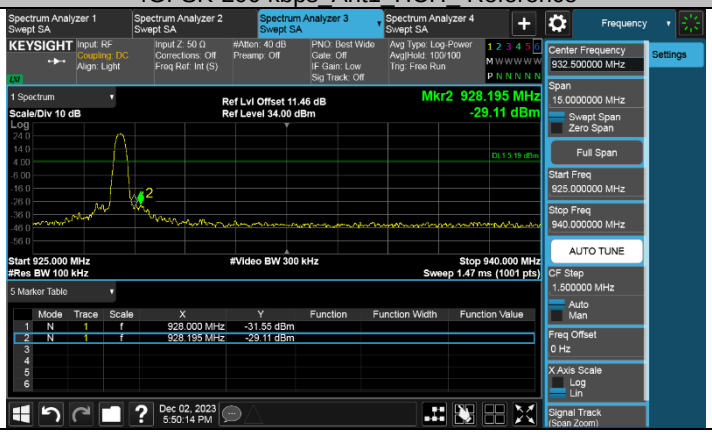
4GFSK-200 kbps_Ant1_MCH_ Reference

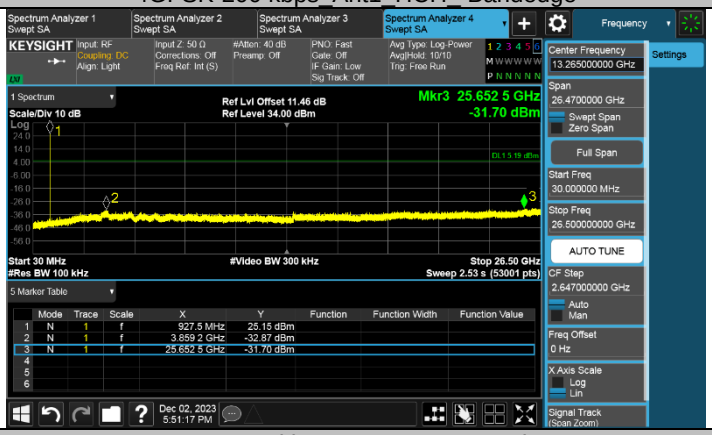


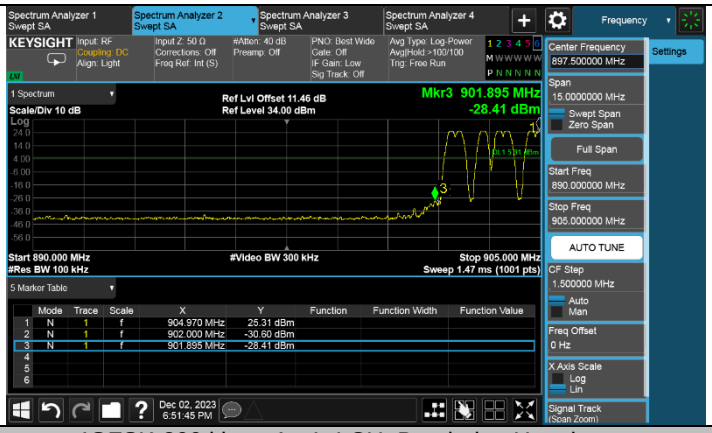
4GFSK-200 kbps_Ant1_MCH_Spurious



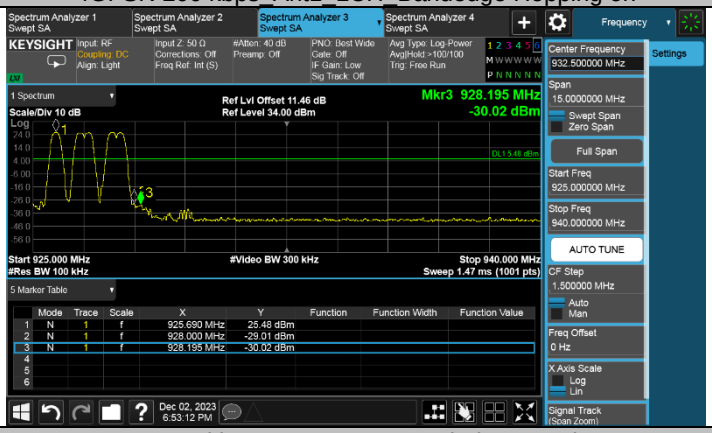
4GFSK-200 kbps_Ant1_HCH_ Reference



4GFSK-200 kbps_Ant1_HCH_ Bandedge

4GFSK-200 kbps_Ant1_HCH_Spurious



4GFSK-200 kbps_Ant1_LCH_Bandedge Hopping on



4GFSK-200 kbps_Ant1_HCH_Bandedge Hopping on

18. FCC.SubG.4GFSK.250kbps

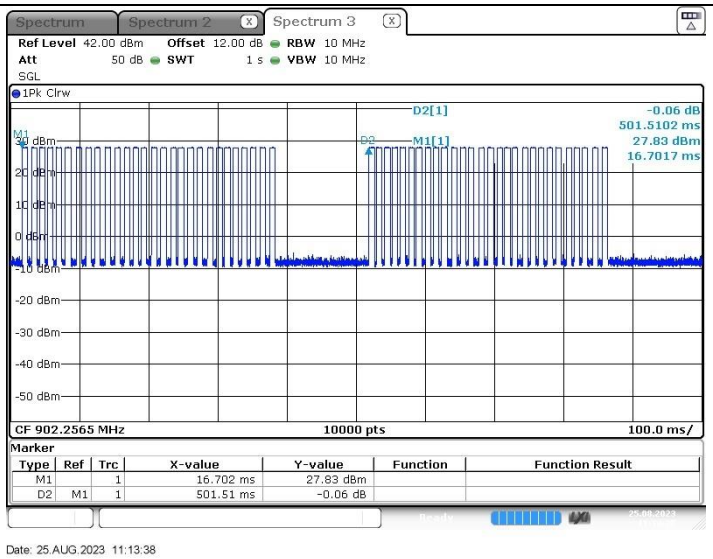
18.1. Appendix A8: DUTY CYCLE

18.1.1. Test Result

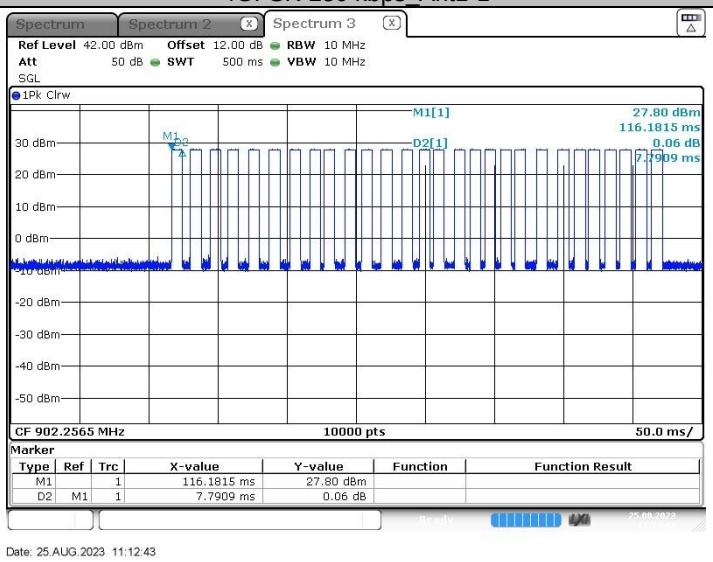
Test Mode	On Time (msec)	Period (msec)	Duty Cycle x (Linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/T Minimum VBW (kHz)	Final setting For VBW (kHz)
4GFSK-250 kbps	218.1452	501.51	0.4350	43.50	3.62	0.0046	1

Note:
Duty Cycle Correction Factor=10log (1/x).
Where: x is Duty Cycle (Linear)
Where: T is On Time
On Time=D2-2*2=7.7909*28=218.1452 ms
If that calculated VBW is not available on the analyzer then the next higher value should be used.

Test Graphs



4GFSK-250 kbps_Ant1-1



4GFSK-250 kbps_Ant1-2

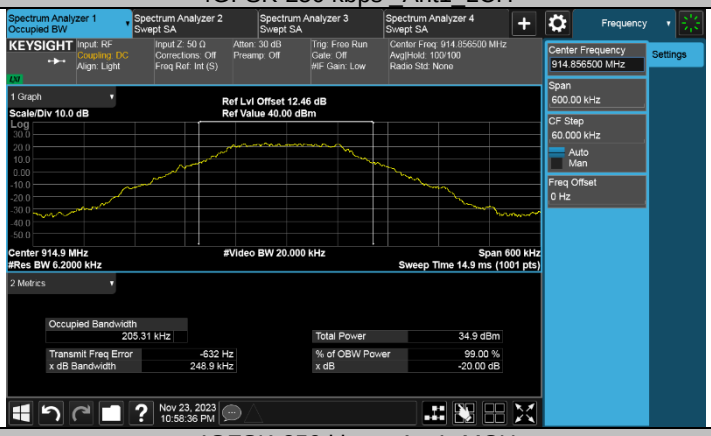
18.2. Appendix B8: 20DB BANDWIDTH & OCCUPIED CHANNEL BANDWIDTH

18.2.1. Test Result

Test Mode	Antenna	Channel	20db EBW[MHz]	OCB [MHz]	Verdict
4GFSK-250 kbps	Ant1	LCH	0.2451	0.20656	PASS
		MCH	0.2489	0.20531	PASS
		HCH	0.2404	0.20580	PASS

18.2.2. Test Graphs

4GFSK-250 kbps _Ant1_LCH



4GFSK-250 kbps _Ant1_MCH

4GFSK-250 kbps _Ant1_HCH

18.3. Appendix C8: CONDUCTED OUTPUT POWER

18.3.1. Test Result

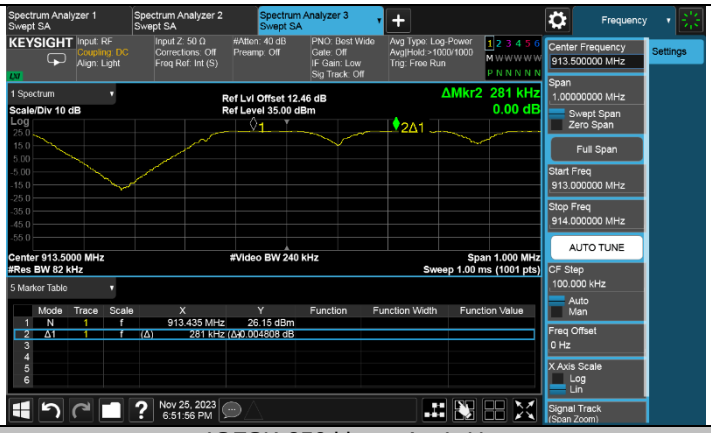
Test Mode	Antenna	Channel	PEAK Result[dBm]	AVG Result[dBm]	Limit[dBm]	Verdict
4GFSK-200 kbps	Ant1	LCH	26.04	25.99	≤30	PASS
		MCH	26.11	26.08	≤30	PASS
		HCH	26.14	26.10	≤30	PASS

18.4. Appendix D8: CARRIER FREQUENCY SEPARATION

18.4.1. Test Result

Test Mode	Antenna	Channel	Result [MHz]	Limit[MHz]	Verdict
4GFSK-250 kbps	Ant1	Hop	0.281	≥0.2489	PASS

18.4.2. Test Graphs



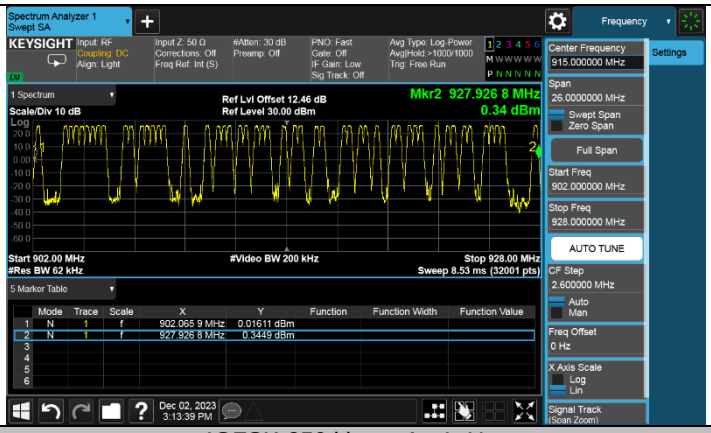
4GFSK-250 kbps _Ant1_Hop

18.5. Appendix E8: NUMBER OF HOPPING FREQUENCIES

18.5.1. Test Result

Test Mode	Antenna	Channel	Result[Num]	Limit[Num]	Verdict
4GFSK-250 kbps	Ant1	Hop	51	≥50	PASS

18.5.2. Test Graphs



4GFSK-250 kbps _Ant1_Hop

18.6. Appendix F8: TIME OF OCCUPANCY (DWELL TIME)

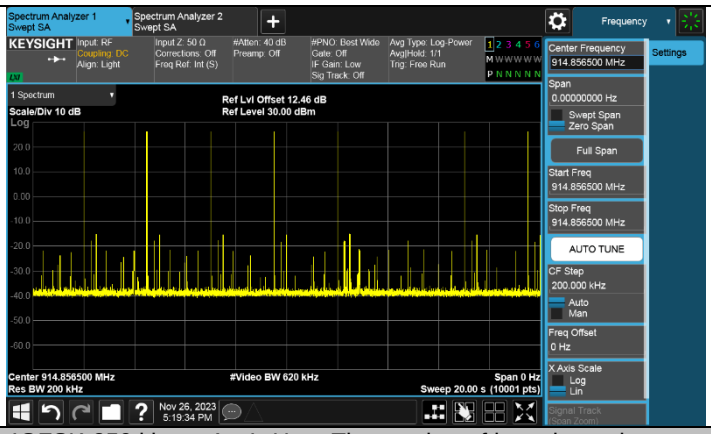
18.6.1. Test Result

Test Mode	Antenna	Channel	Time of single slot 1 [ms]	number of single slot 1	Burst Width 1 [ms/hop/ch]	The number of hop channel appear
4GFSK-250 kbps	Ant1	Hop	2.800	10	28.00	7

Test Mode	Antenna	Channel	Dwell Time [ms]	Limit [ms]	Results
4GFSK-250 kbps	Ant1	Hop	196.00	400	PASS

Note:
4GFSK-250 kbps: The dwell time = Time of single slot * The number of hop channel appear within 20s
BurstWidth =Time of single slot*number of single slot

18.6.2. Test Graphs



4GFSK-250 kbps _Ant1_Hop- The number of hop channel appear

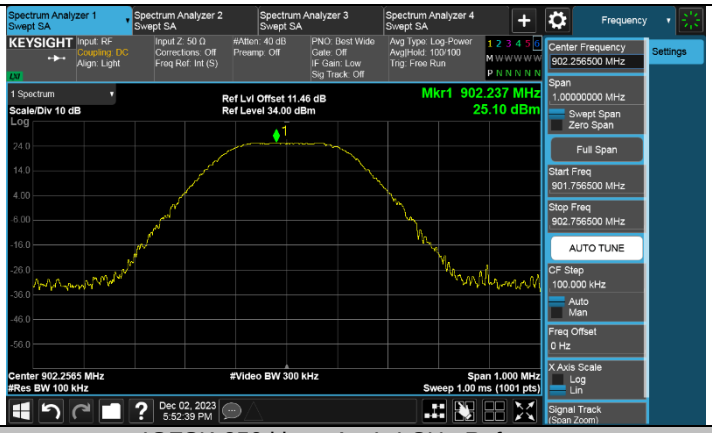
4GFSK-250 kbps _Ant1_Hop- BurstWidth 1

18.7. Appendix G8: CONDUCTED BAND EDGE AND SPURIOUS EMISSION

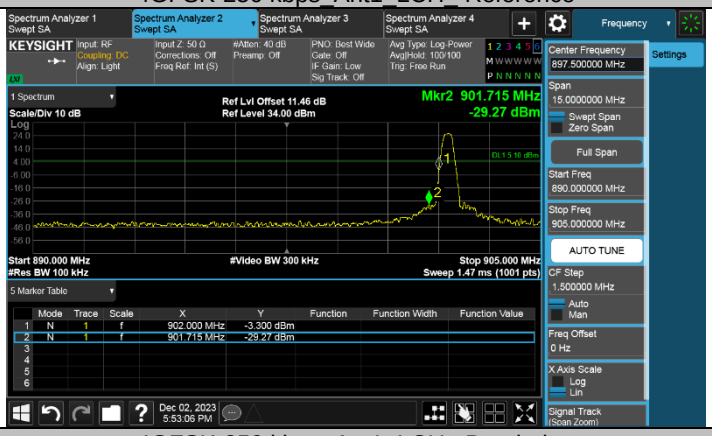
18.7.1. Test Result

Test Mode	Antenna	ChName	Result [dBm]	Verdict
4GFSK-250 kbps	Ant1	LCH	See the below graphs	PASS
		MCH		PASS
		HCH		PASS
		Hop_ LCH		PASS
		Hop_ HCH		PASS

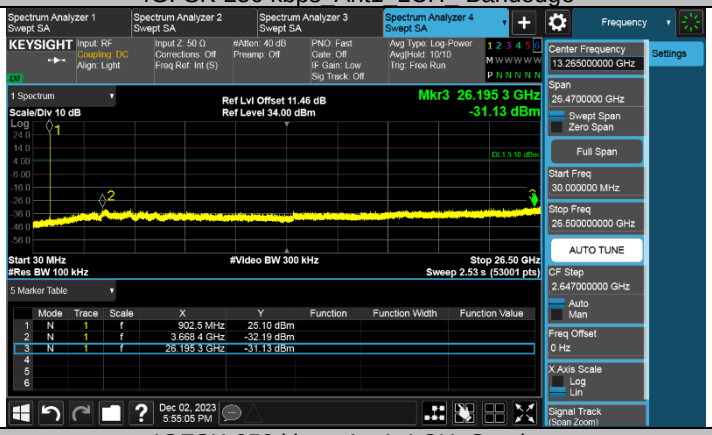
18.7.2. Test Graphs



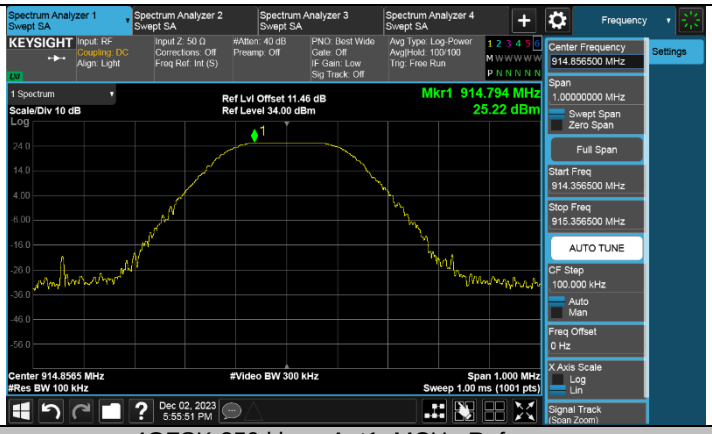
4GFSK-250 kbps_Ant1_LCH_Reference



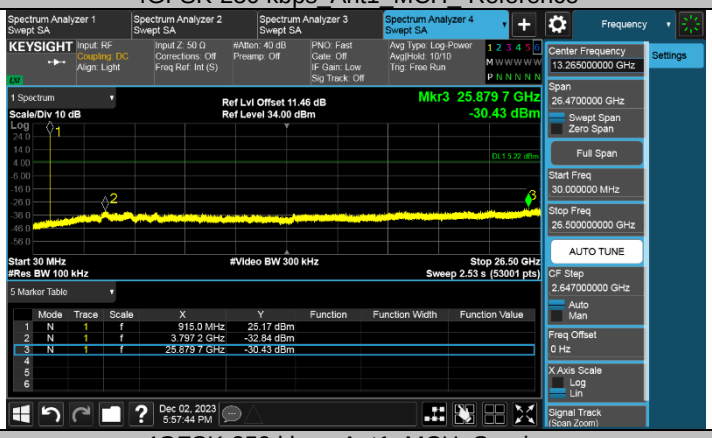
4GFSK-250 kbps_Ant1_LCH_Bandedge



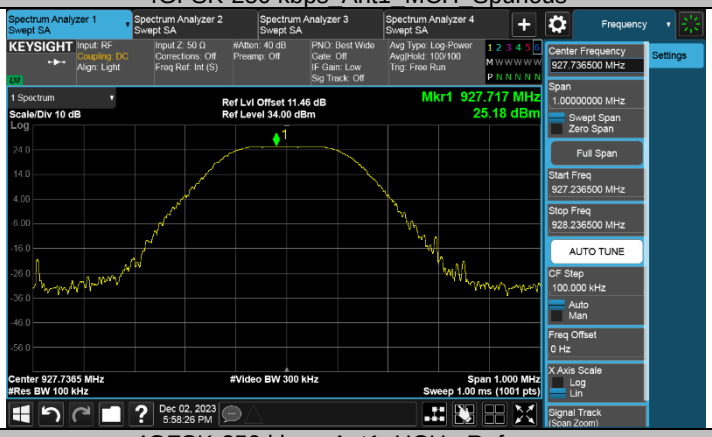
4GFSK-250 kbps_Ant1_LCH_Spurious



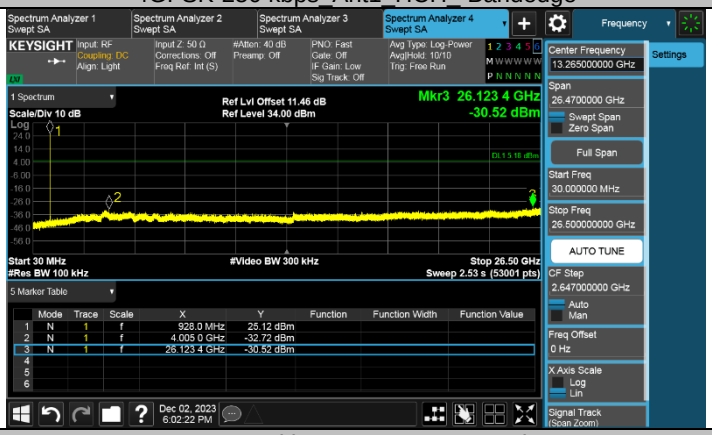
4GFSK-250 kbps_Ant1_MCH_ Reference

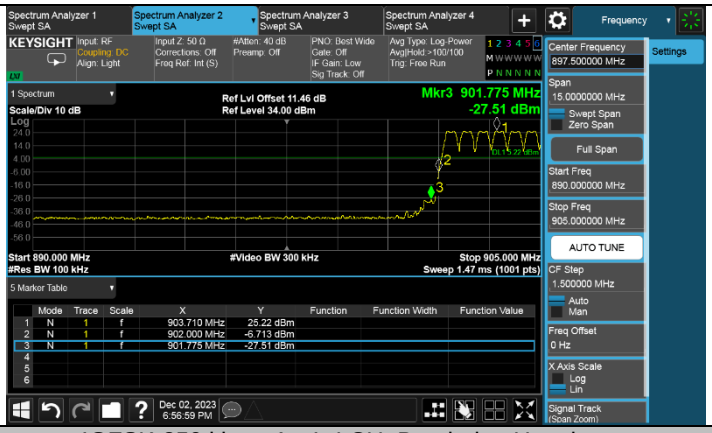


4GFSK-250 kbps_Ant1_MCH_Spurious

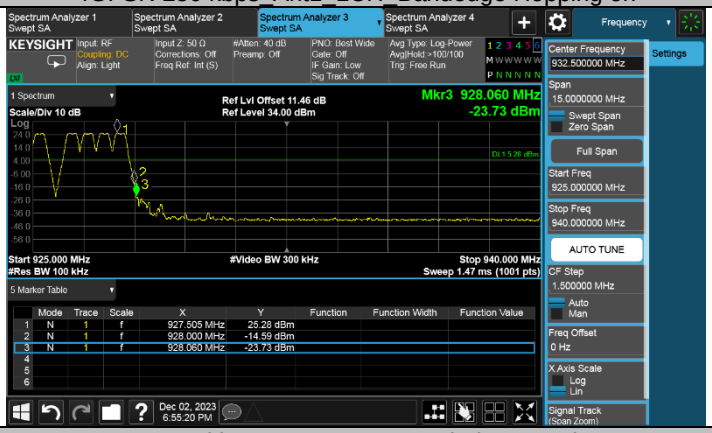


4GFSK-250 kbps_Ant1_HCH_ Reference

4GFSK-250 kbps_Ant1_HCH_ Bandedge

4GFSK-250 kbps_Ant1_HCH_Spurious



4GFSK-250 kbps_Ant1_LCH_Bandedge Hopping on



4GFSK-250 kbps_Ant1_HCH_Bandedge Hopping on

19. FCC.SubG.4GFSK.350kbps

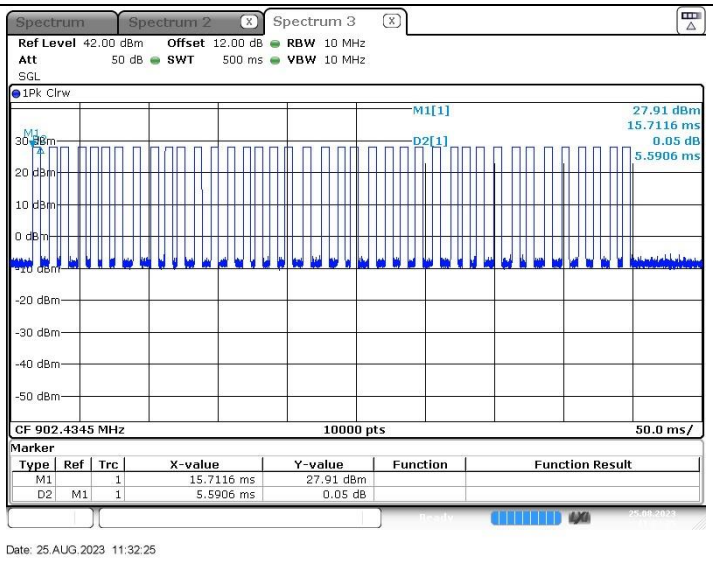
19.1. Appendix A9: DUTY CYCLE

19.1.1. Test Result

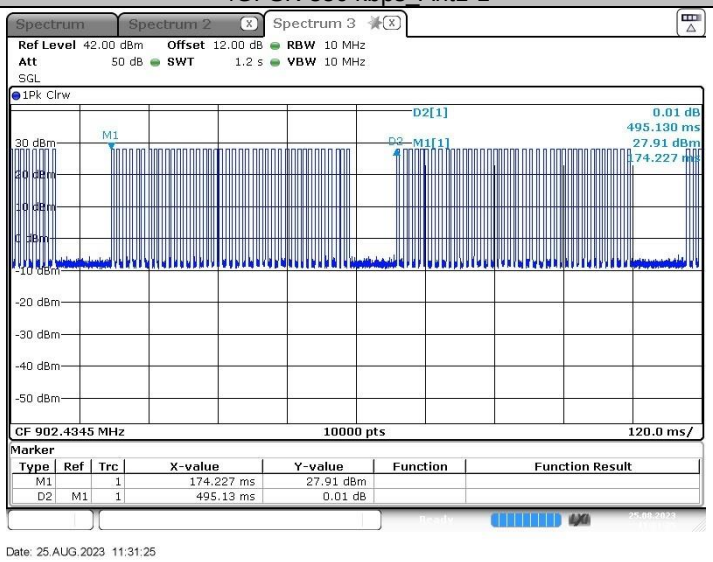
Test Mode	On Time (msec)	Period (msec)	Duty Cycle x (Linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/T Minimum VBW (kHz)	Final setting For VBW (kHz)
4GFSK-350 kbps	218.033	495.13	0.4404	44.04	3.56	0.0046	1

Note:
Duty Cycle Correction Factor=10log (1/x).
Where: x is Duty Cycle (Linear)
Where: T is On Time
If that calculated VBW is not available on the analyzer then the next higher value should be used.

Test Graphs



4GFSK-350 kbps_Ant1-1



4GFSK-350 kbps_Ant1-2

19.2. Appendix B9: 20DB BANDWIDTH & OCCUPIED CHANNEL BANDWIDTH

19.2.1. Test Result

Test Mode	Antenna	Channel	20db EBW[MHz]	OCB [MHz]	Verdict
4GFSK-350 kbps	Ant1	LCH	0.3505	0.28471	PASS
		MCH	0.3424	0.28084	PASS
		HCH	0.3487	0.28394	PASS