Appendix A

RF Test Data for BT V4.2 (BDR/EDR) (Conducted Measurement)

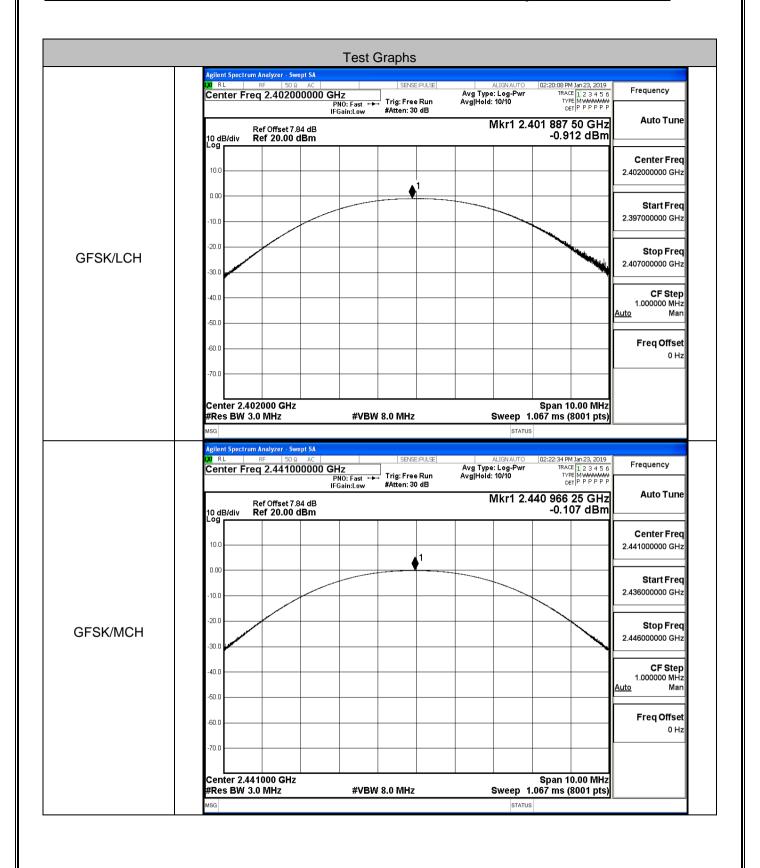
Product Name: Bluetooth Speaker
Trade Mark: Aitkenson
Test Model: B122

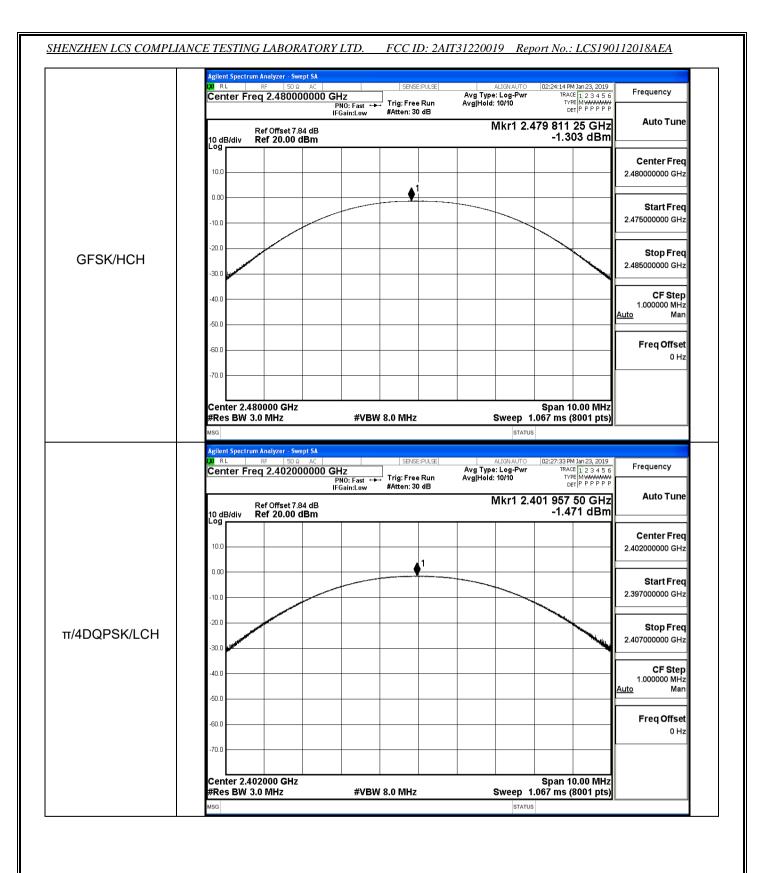
Environmental Conditions

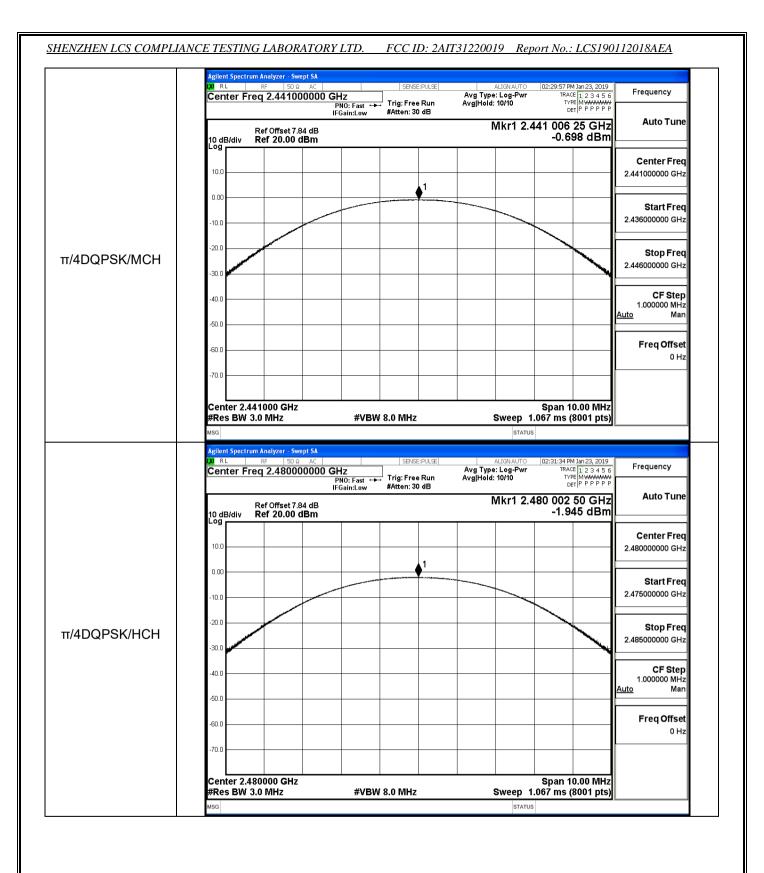
Temperature:	23.1 ° C
Relative Humidity:	53.6%
ATM Pressure:	100.0 kPa
Test Engineer:	WANGCHUANG
Supervised by:	Jayden.Zhuo

A.1 Maximum Conducted Peak Output Power

Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
	LCH	-0.912	21	PASS
GFSK	MCH	-0.107	21	PASS
	НСН	-1.303	21	PASS
	LCH	-1.471	21	PASS
π/4DQPSK	MCH	-0.698	21	PASS
	HCH	-1.945	21	PASS

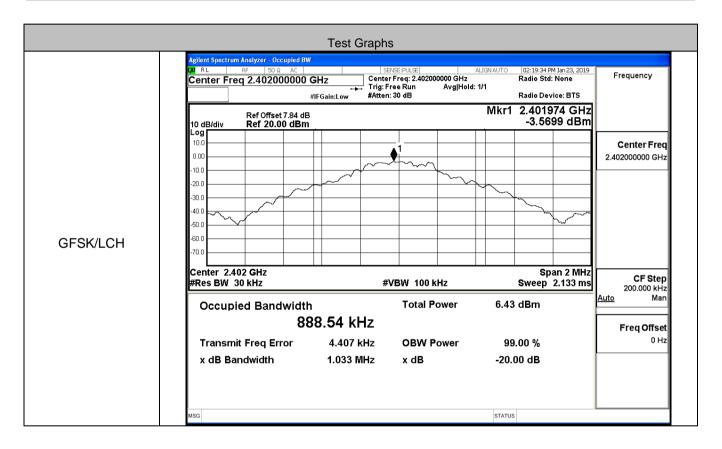






A.2 99% and 20dB Bandwidth

Mode	Channel.	99% Bandwidth [MHz]	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
	LCH	0.88854	1.033	Not Specified	PASS
GFSK	MCH	0.89212	1.024	Not Specified	PASS
	НСН	0.89435	0.9709	Not Specified	PASS
	LCH	1.1794	1.295	Not Specified	PASS
π/4DQPSK	MCH	1.1774	1.315	Not Specified	PASS
	НСН	1.1735	1.311	Not Specified	PASS



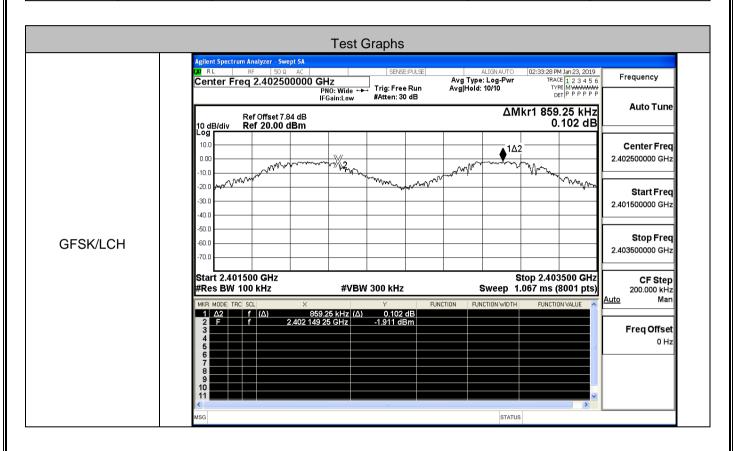
SHENZHEN LCS COMPLIANCE TESTING LABORATORY LTD. FCC ID: 2AIT31220019 Report No.: LCS190112018AEA gilent Spectrum Analyzer - Occupied BW Center Freq: 2.441000000 GHz Trig: Free Run Avg|Hold #Atten: 30 dB 02:21:58 PM Jan 23, 2019 Radio Std: None Frequency Center Freq 2.441000000 GHz Avg|Hold: 1/1 Radio Device: BTS Mkr1 2.44116 GHz Ref Offset 7.84 dB Ref 20.00 dBm -2.4668 dBm 10 dB/div 10.0 Center Freq 0.00 2.441000000 GHz -10.0 -20.0 -30.0 -40 C -50.0 -60.0 GFSK/MCH Center 2.441 GHz Span 2 MHz CF Step #Res BW 30 kHz #VBW 100 kHz Sweep 2.133 ms 200.000 kHz <u>Auto</u> Occupied Bandwidth **Total Power** 7.30 dBm 892.12 kHz Freq Offset 0 Hz Transmit Freq Error 4.464 kHz **OBW Power** 99.00 % 1.024 MHz x dB Bandwidth x dB -20.00 dB STATUS Agilent Spectrum Analyzer - Occupied BW SENSE:PULSE Center Freq: 2.480000000 GHz Trig: Free Run Avg|Hold#Atten: 30 dB 02:23:40 PM Jan 23, 2019 Radio Std: None Frequency Center Freq 2.480000000 GHz Avg|Hold: 1/1 #IFGain:Low Radio Device: BTS Mkr1 2.480164 GHz Ref Offset 7.84 dB Ref 20.00 dBm -3.6711 dBm 10 dB/div Center Freq 0.00 2.480000000 GHz 10.0 -20.0 -30.0 40.0 -50.0 -60.0 GFSK/HCH Center 2.48 GHz Span 2 MHz CF Step 200.000 kHz #Res BW 30 kHz **#VBW 100 kHz** Sweep 2.133 ms <u>Auto</u> Occupied Bandwidth **Total Power** 6.07 dBm 894.35 kHz Freq Offset 0 Hz Transmit Freq Error 4.756 kHz **OBW Power** 99.00 % 970.9 kHz x dB Bandwidth x dB -20.00 dB STATUS

SHENZHEN LCS COMPLIANCE TESTING LABORATORY LTD. FCC ID: 2AIT31220019 Report No.: LCS190112018AEA Agilent Spectrum Analyzer - Occupied BW Center Freq: 2.402000000 GHz Trig: Free Run Avg|Hold #Atten: 30 dB 02:26:59 PM Jan 23, 2019 Radio Std: None Frequency Center Freq 2.402000000 GHz Avg|Hold:>1/1 Radio Device: BTS Mkr1 2.402164 GHz Ref Offset 7.84 dB Ref 20.00 dBm -5.0767 dBm 10 dB/div 10.0 Center Freq 0.00 2.402000000 GHz -10.0 -20.0 -30.0 -40 f -50.0 -60.0 π/4DQPSK/LCH Center 2.402 GHz Span 2 MHz CF Step #Res BW 30 kHz #VBW 100 kHz Sweep 2.133 ms 200.000 kHz <u>Auto</u> Occupied Bandwidth **Total Power** 5.05 dBm 1.1794 MHz Freq Offset 0 Hz Transmit Freq Error 35 Hz **OBW Power** 99.00 % 1.295 MHz x dB Bandwidth x dB -20.00 dB STATUS Agilent Spectrum Analyzer - Occupied BW SENSE:PULSE Center Freq: 2.441000000 GHz Trig: Free Run Avg|Holo #Atten: 30 dB 02:29:23 PM Jan 23, 2019 Radio Std: None Frequency Center Freq 2.441000000 GHz Avg|Hold:>1/1 #IFGain:Low Radio Device: BTS Mkr1 2.441164 GHz Ref Offset 7.84 dB Ref 20.00 dBm -4.5254 dBm 10 dB/div 10.0 Center Freq 0.00 2.441000000 GHz 10.0 -20.0 -30.0 -**4**n r -50.0 -60.0 π/4DQPSK/MCH Center 2.441 GHz Span 2 MHz CF Step 200.000 kHz #Res BW 30 kHz **#VBW 100 kHz** Sweep 2.133 ms <u>Auto</u> Occupied Bandwidth **Total Power** 5.79 dBm 1.1774 MHz Freq Offset 0 Hz Transmit Freq Error -1.298 kHz **OBW Power** 99.00 % 1.315 MHz -20.00 dB x dB Bandwidth x dB STATUS

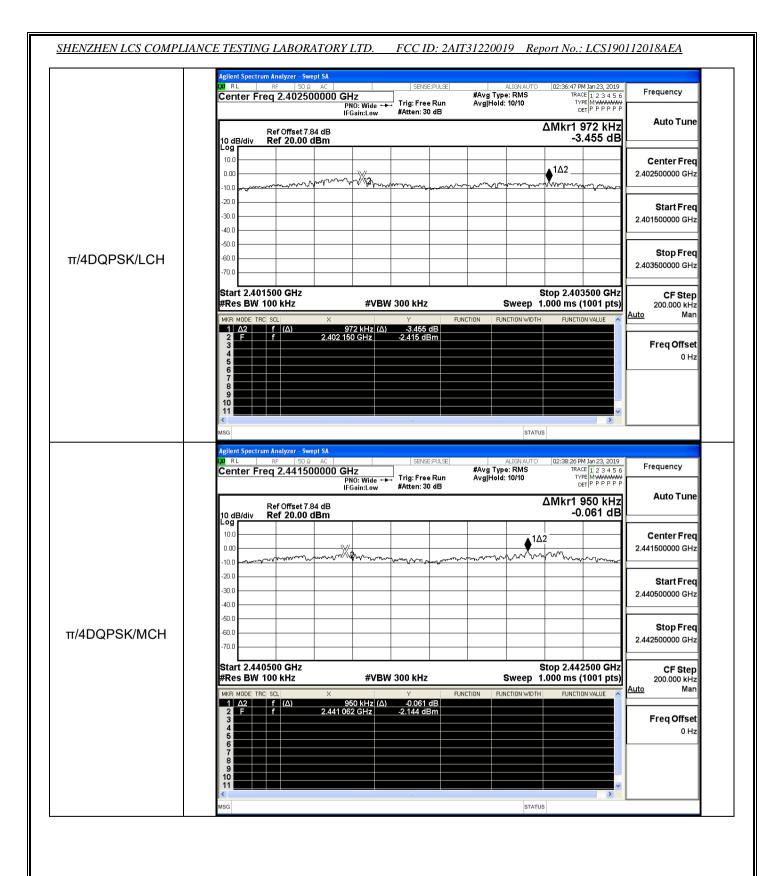
SHENZHEN LCS COMPLIANCE TESTING LABORATORY LTD. FCC ID: 2AIT31220019 Report No.: LCS190112018AEA SENSE:PULSE ALIGN AUTO Center Freq: 2.480000000 GHz Trig: Free Run Avg|Hold: 1/1 #Atten: 30 dB 02:31:01 PM Jan 23, 2019 Radio Std: None Frequency #IFGain:Low Radio Device: BTS Mkr1 2.480162 GHz Ref Offset 7.84 dB Ref 20.00 dBm -5.5905 dBm 10 dB/div 10.0 Center Freq 0.00 2.480000000 GHz -10.0 -20.0 -30.0 -40.0 -50.0 -60.0 π/4DQPSK/HCH Center 2.48 GHz #Res BW 30 kHz Span 2 MHz CF Step 200.000 kHz #VBW 100 kHz Sweep 2.133 ms <u>Auto</u> Occupied Bandwidth **Total Power** 4.58 dBm 1.1735 MHz Freq Offset 0 Hz Transmit Freq Error -1.843 kHz **OBW Power** 99.00 % x dB Bandwidth 1.311 MHz -20.00 dB x dB STATUS

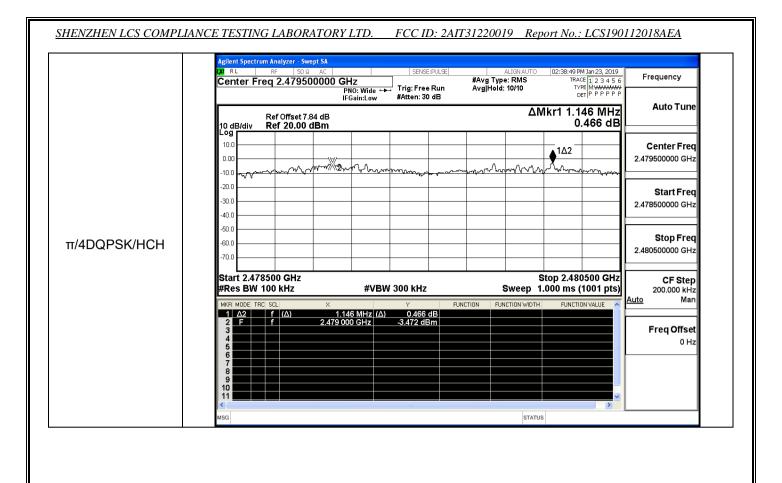
A.3 Carrier Frequency Separation

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
	LCH	0.859	0.689	PASS
GFSK	MCH	0.944	0.689	PASS
	HCH	1.086	0.689	PASS
	LCH	0.972	0.877	PASS
π/4DQPSK	MCH	0.950	0.877	PASS
	НСН	1.146	0.877	PASS



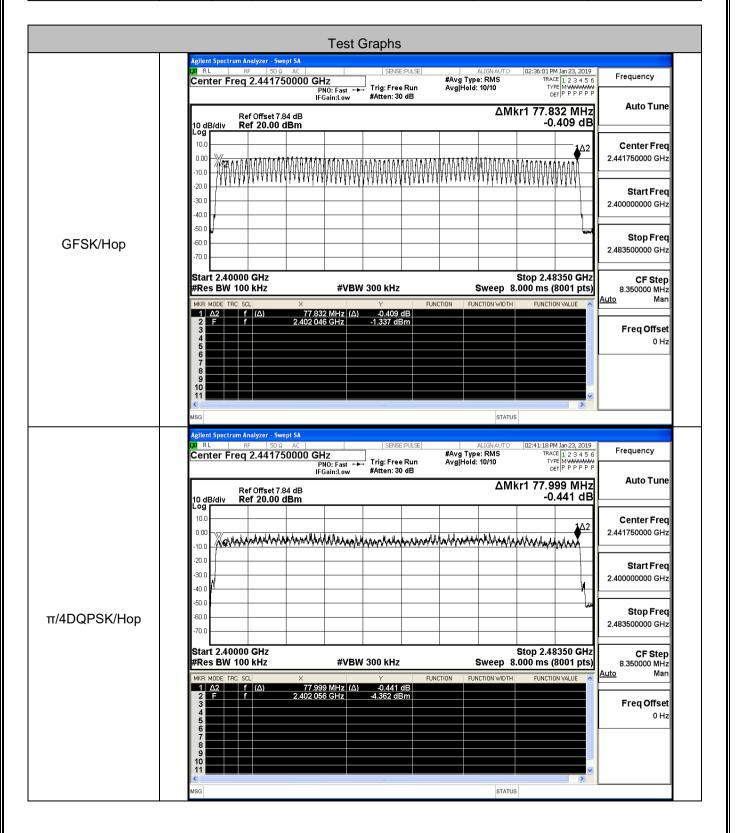






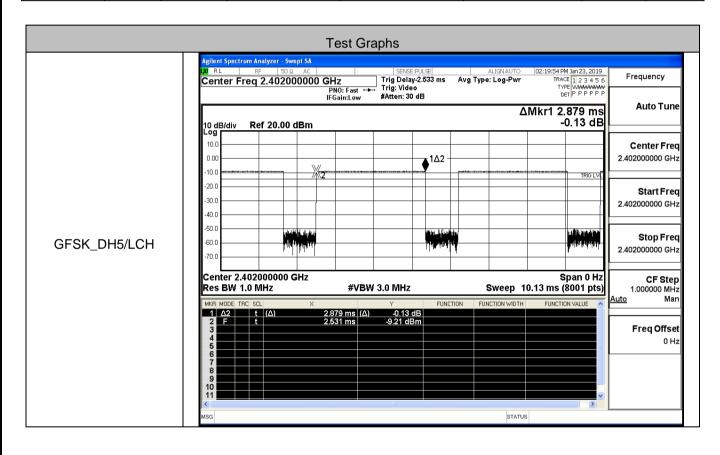
A.4 Hopping Channel Number

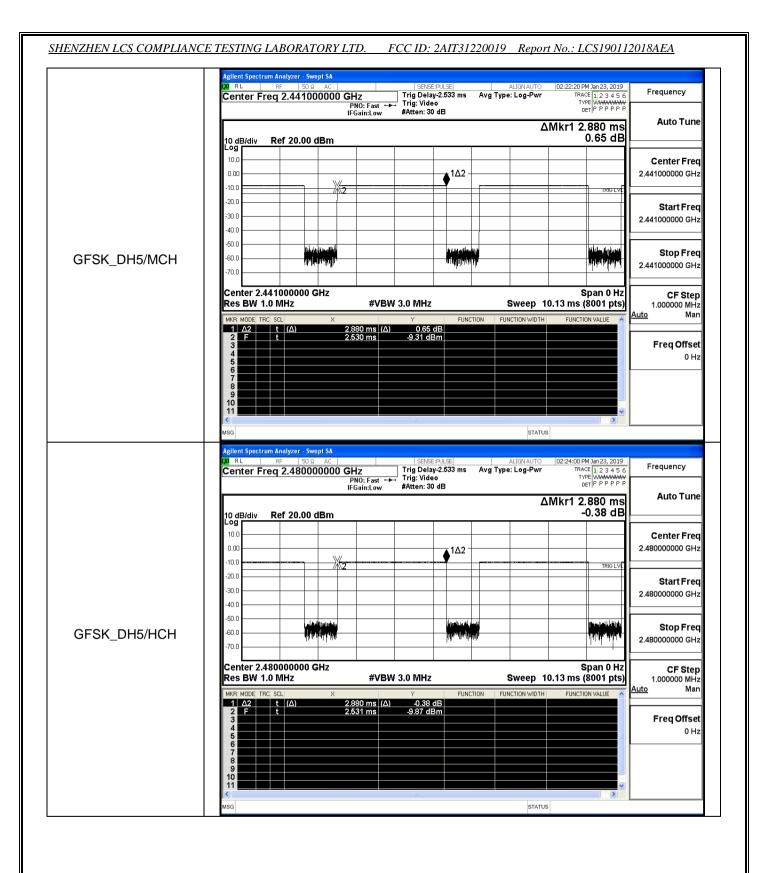
Mode	Channel.	Number of Hopping Channel [N]	Limit [N]	Verdict
GFSK	Нор	79	>=15	PASS
π/4DQPSK	Нор	79	>=15	PASS

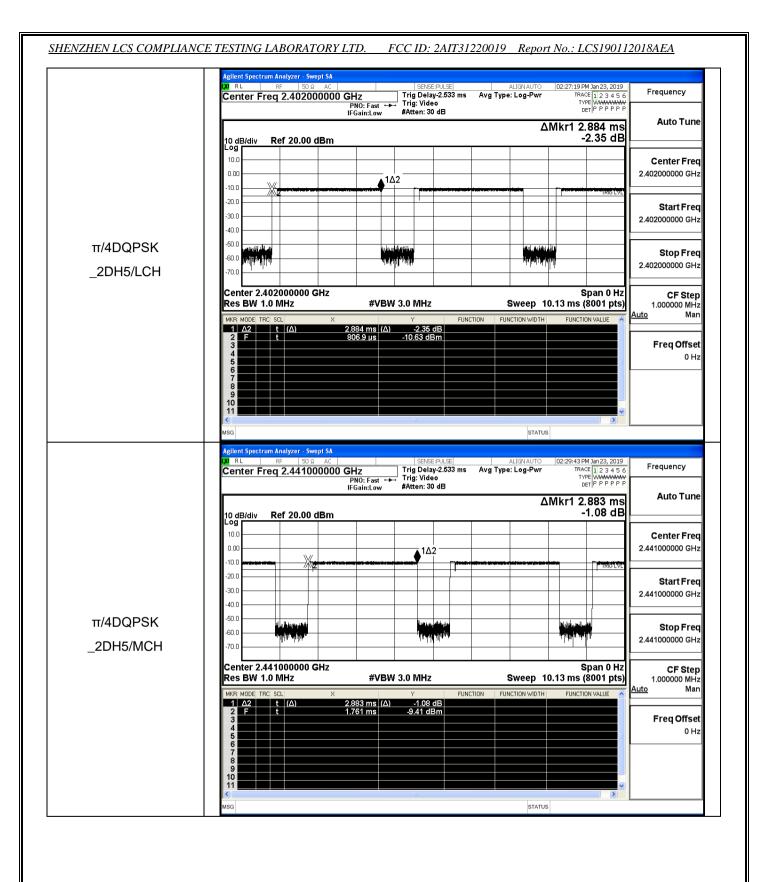


A.5 Dwell Time

Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
	DH5	LCH	2.88	106.7	0.307	0.4	PASS
GFSK	DH5	MCH	2.88	106.7	0.307	0.4	PASS
	DH5	HCH	2.88	106.7	0.307	0.4	PASS
	2DH5	LCH	2.88	106.7	0.307	0.4	PASS
π/4DQPSK	2DH5	MCH	2.88	106.7	0.307	0.4	PASS
	2DH5	HCH	2.88	106.7	0.307	0.4	PASS



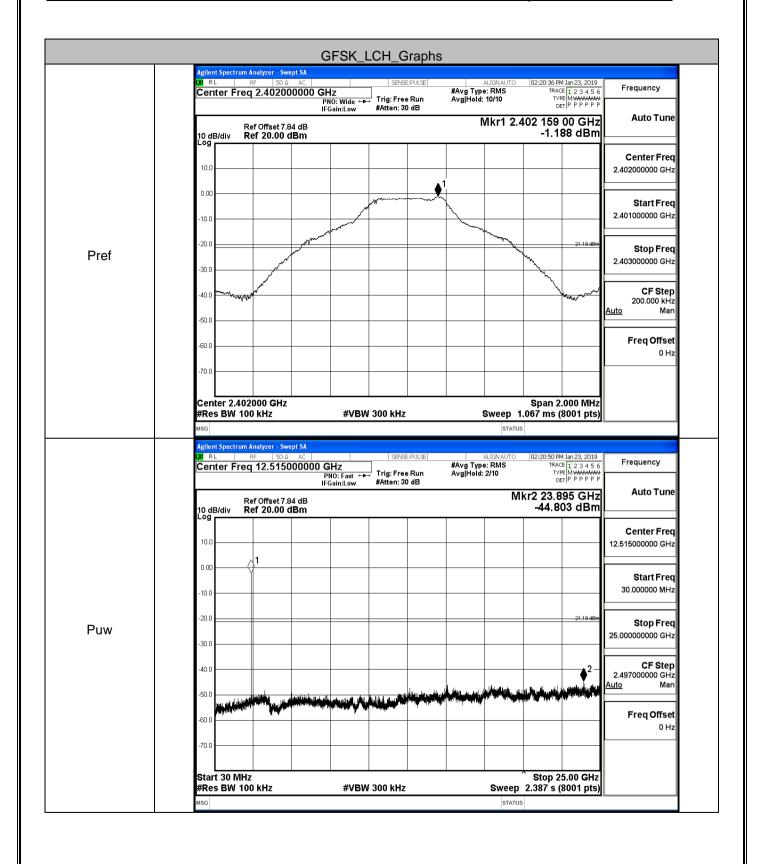


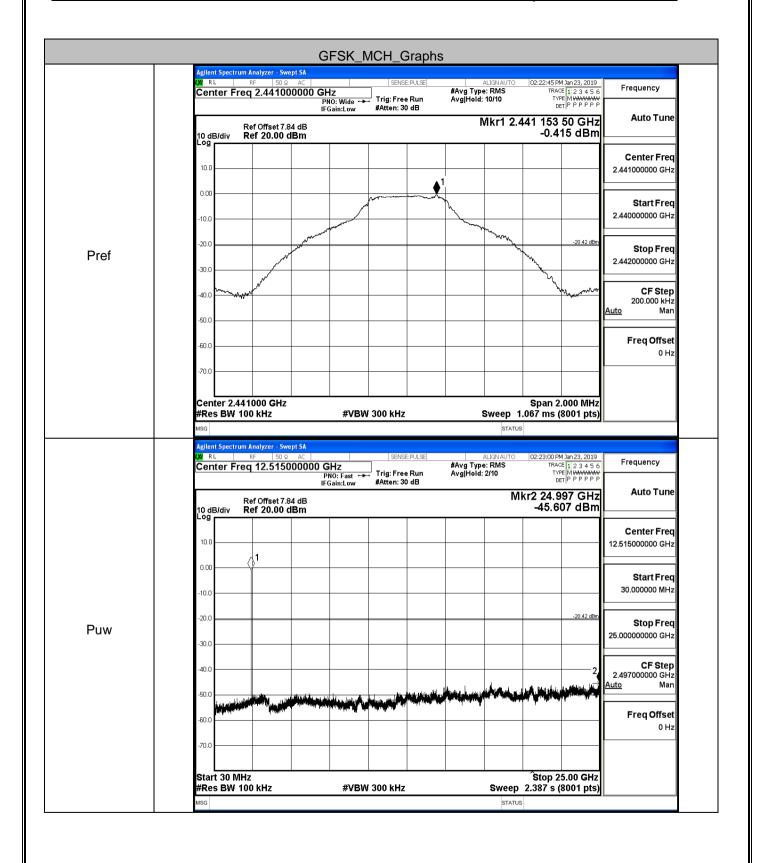


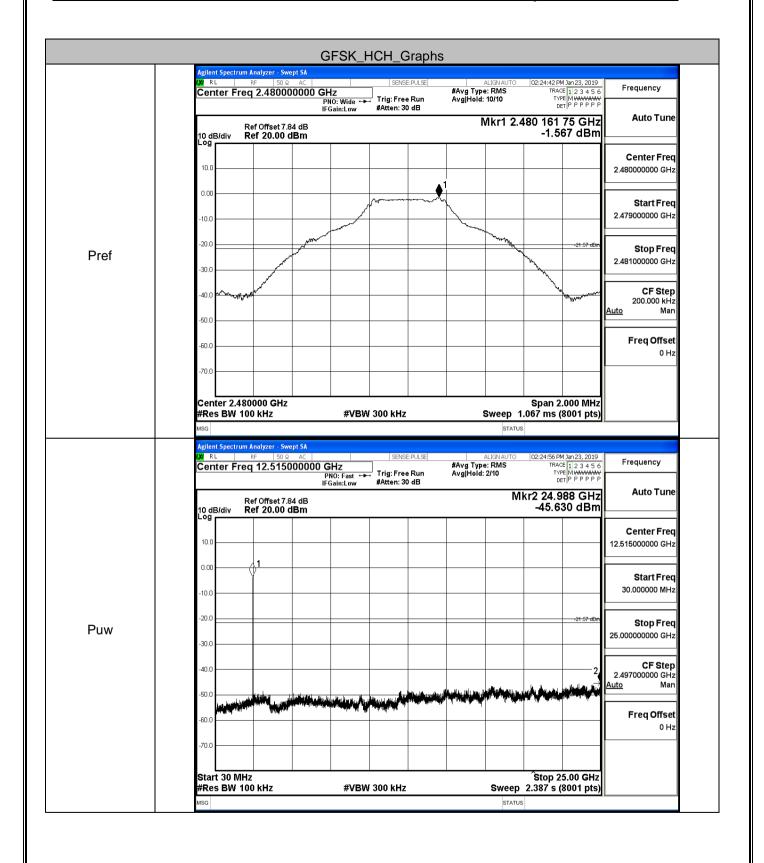
SHENZHEN LCS COMPLIANCE TESTING LABORATORY LTD. FCC ID: 2AIT31220019 Report No.: LCS190112018AEA Frequency **Auto Tune** ΔMkr1 2.883 ms -1.19 dB 10 dB/div Ref 20.00 dBm 10.0 Center Freq 0.00 2.480000000 GHz 1Δ2 -10.0 -20.0 Start Freq -30.0 2.480000000 GHz -40.0 -50.0 π/4DQPSK Stop Freq -60.0 2.480000000 GHz _2DH5/HCH -70.0 Center 2.480000000 GHz Res BW 1.0 MHz Span 0 Hz CF Step 1.000000 MHz Man Sweep 10.13 ms (8001 pts) **#VBW 3.0 MHz** <u>Auto</u> FUNCTION FUNCTION WIDTH FUNCTION VALUE 2.883 ms (Δ) -1.19 dB 1.269 ms -10.68 dBm Freq Offset 0 Hz STATUS

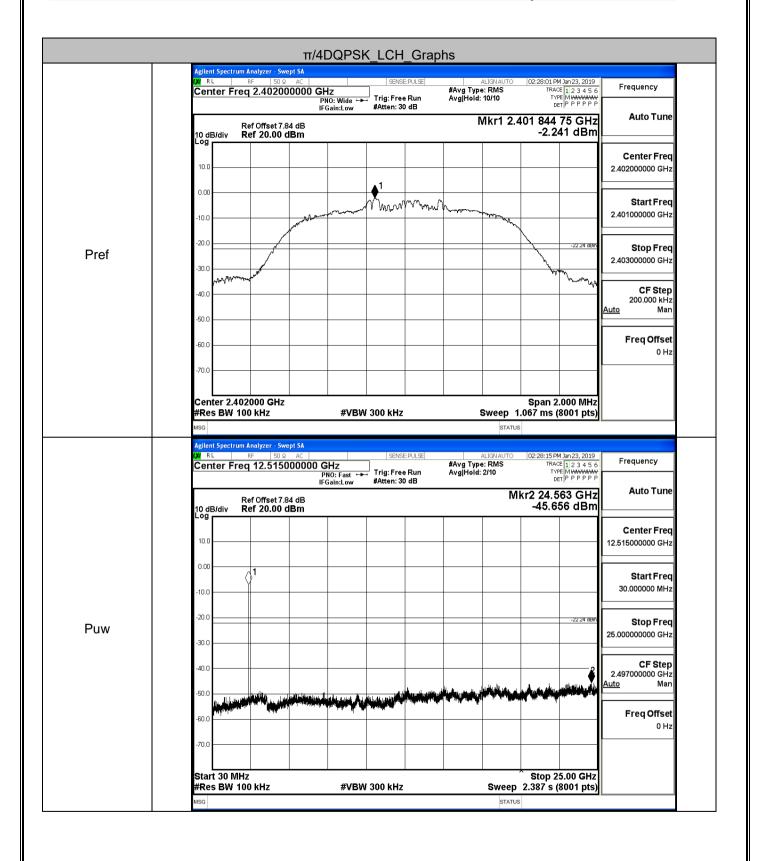
A.6 RF Conducted Spurious Emissions

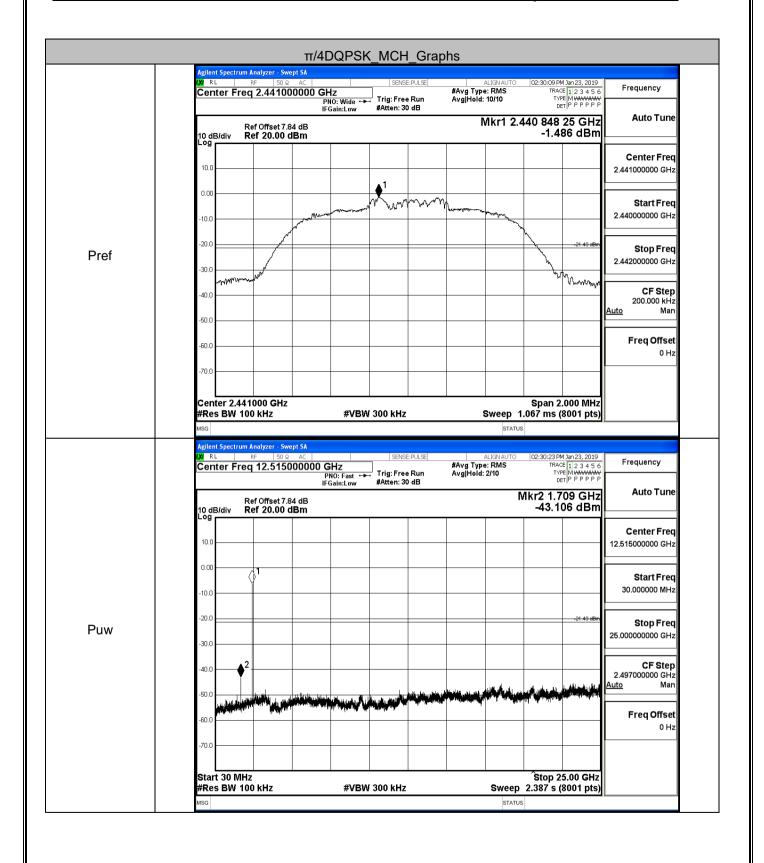
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
	LCH	-1.188	-44.803	-21.188	PASS
GFSK	MCH	-0.415	-45.607	-20.415	PASS
	HCH	-1.567	-45.630	-21.567	PASS
	LCH	-2.241	-45.656	-22.241	PASS
π/4DQPSK	MCH	-1.486	-43.106	-21.486	PASS
	HCH	-2.667	-45.373	-22.667	PASS

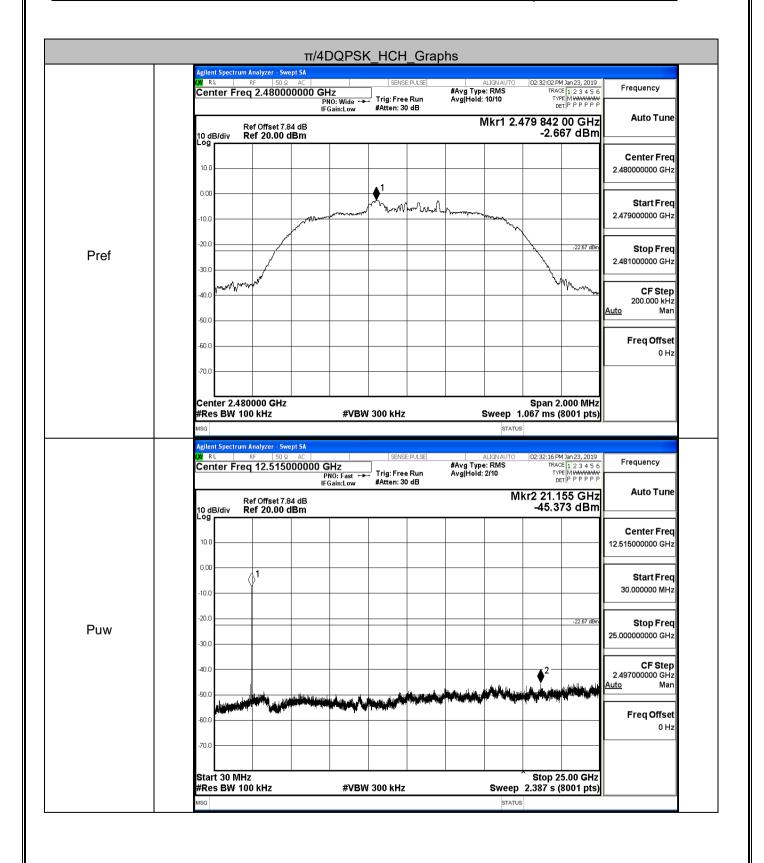






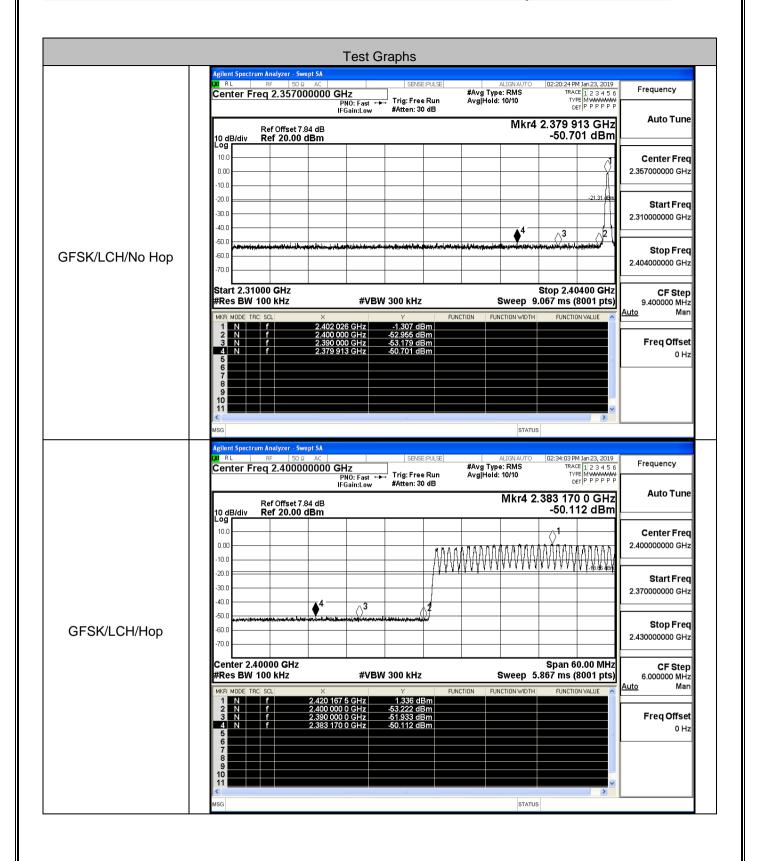


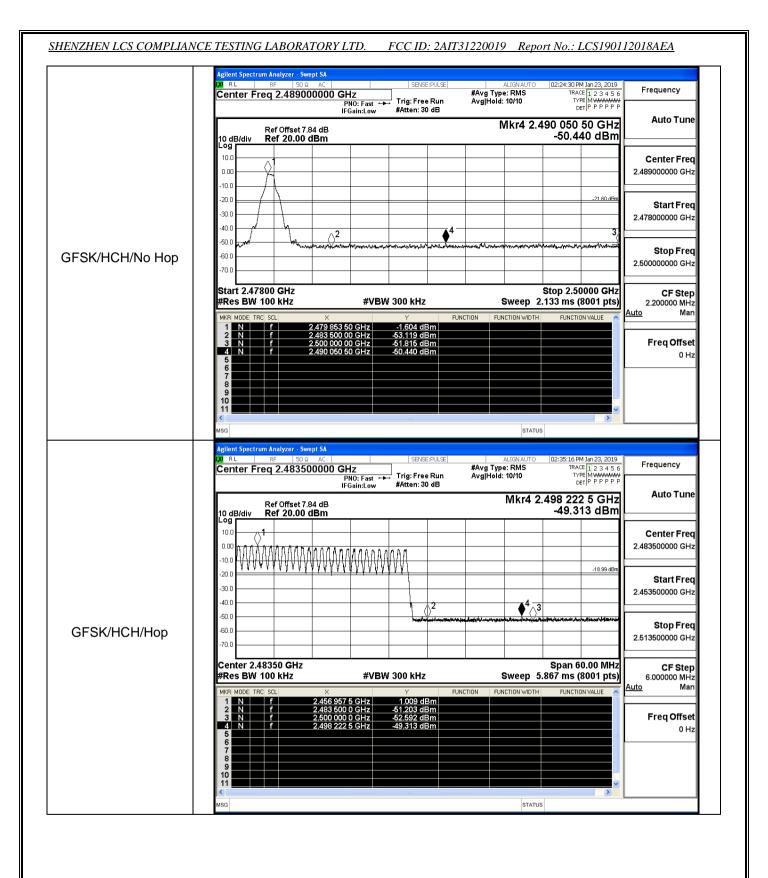


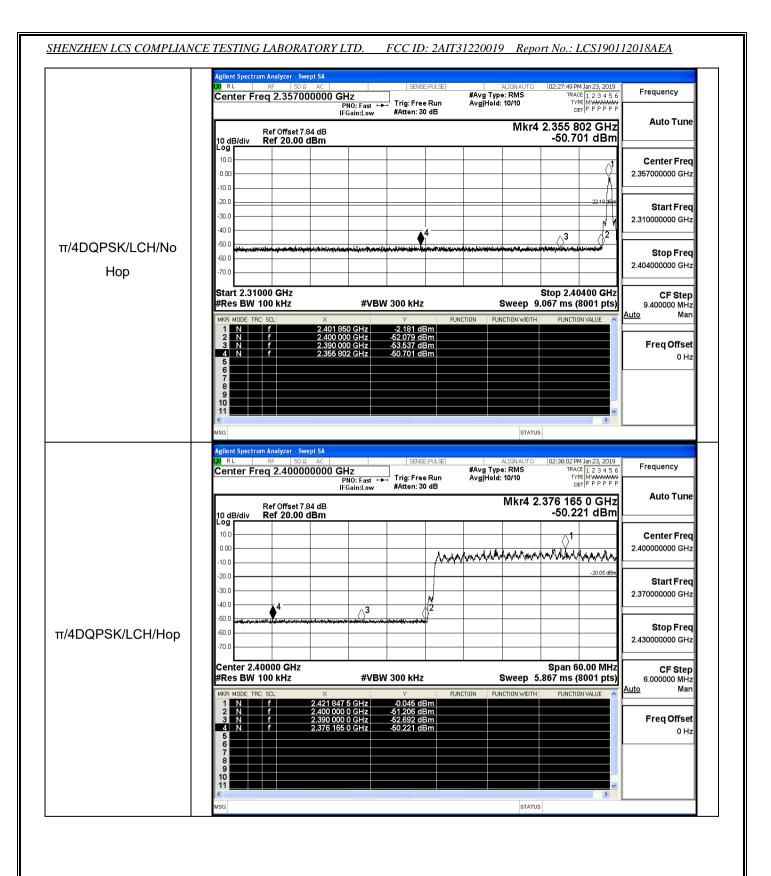


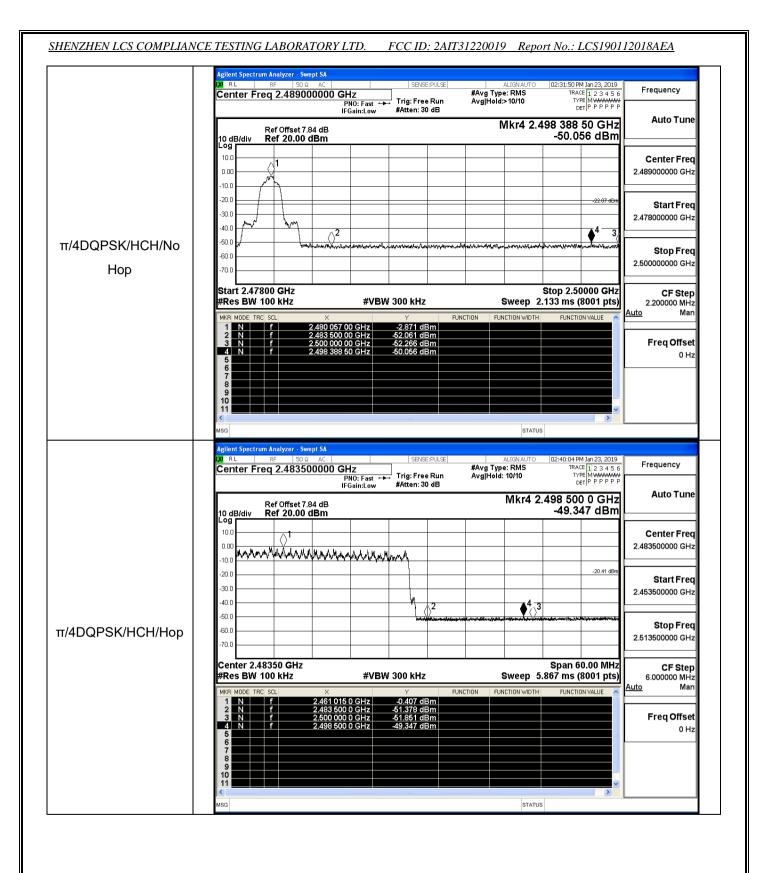
A.7 Band-edge for RF Conducted Emissions

Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict	
	LCH	2402	-1.307	Off	-50.701	-21.31	PASS	
0.5014			1.336	On	-50.112	-18.66	PASS	
GFSK				-1.604	Off	-50.440	-21.6	PASS
HCH	HCH	2480	1.009	On	-49.313	-18.99	PASS	
	LCH 2402	0.400	-2.181	Off	-50.701	-22.18	PASS	
π/4DQPSK		2402	-0.045	On	-50.221	-20.05	PASS	
			-2.871	Off	-50.056	-22.87	PASS	
	HCH	2480	-0.407	On	-49.347	-20.41	PASS	



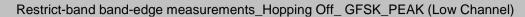


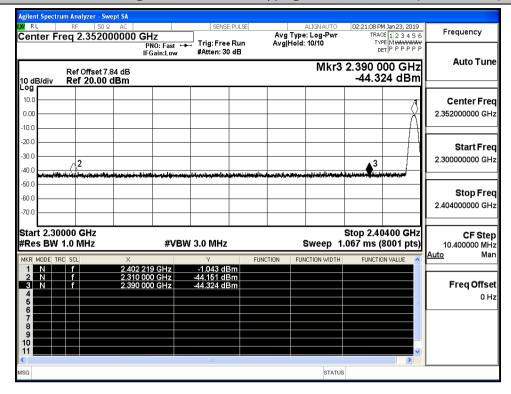




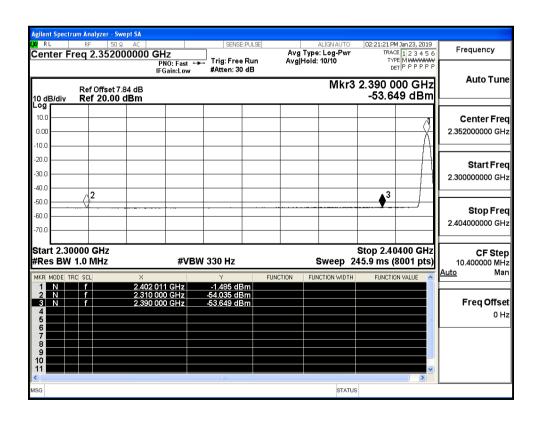
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
	Off	2310.0	-44.15	2.0	0	53.11	PEAK	74	PASS
	Off	2310.0	-54.04	2.0	0	43.22	AV	54	PASS
	Off	2390.0	-44.32	2.0	0	52.93	PEAK	74	PASS
	Off	2390.0	-53.65	2.0	0	43.61	AV	54	PASS
GFSK	Off	2483.5	-44.24	2.0	0	53.02	PEAK	74	PASS
	Off	2483.5	-53.45	2.0	0	43.81	AV	54	PASS
	Off	2500.0	-43.08	2.0	0	54.18	PEAK	74	PASS
	Off	2500.0	-53.38	2.0	0	43.88	AV	54	PASS
	Off	2310.0	-44.45	2.0	0	52.81	PEAK	74	PASS
	Off	2310.0	-54.02	2.0	0	43.24	AV	54	PASS
	Off	2390.0	-43.34	2.0	0	53.92	PEAK	74	PASS
	Off	2390.0	-53.75	2.0	0	43.50	AV	54	PASS
π/4DQPSK	Off	2483.5	-42.40	2.0	0	54.86	PEAK	74	PASS
	Off	2483.5	-53.44	2.0	0	43.82	AV	54	PASS
	Off	2500.0	-42.84	2.0	0	54.41	PEAK	74	PASS
	Off	2500.0	-53.30	2.0	0	43.95	AV	54	PASS

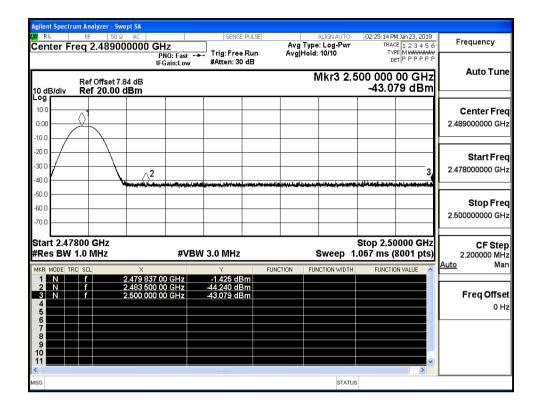




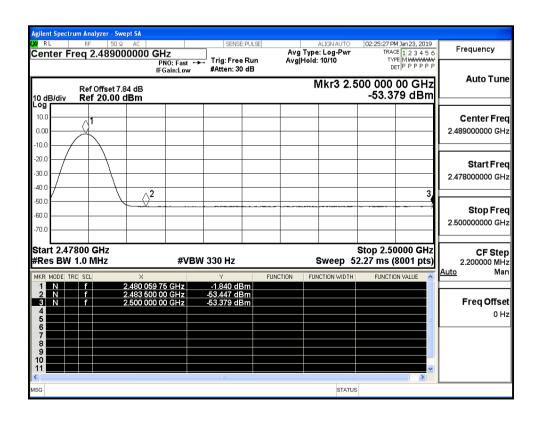
Restrict-band band-edge measurements_Hopping Off_ GFSK_Average (Low Channel)



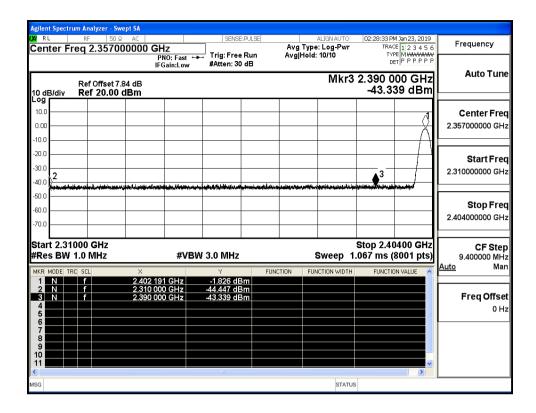
Restrict-band band-edge measurements_Hopping Off_ GFSK_PEAK (High Channel)



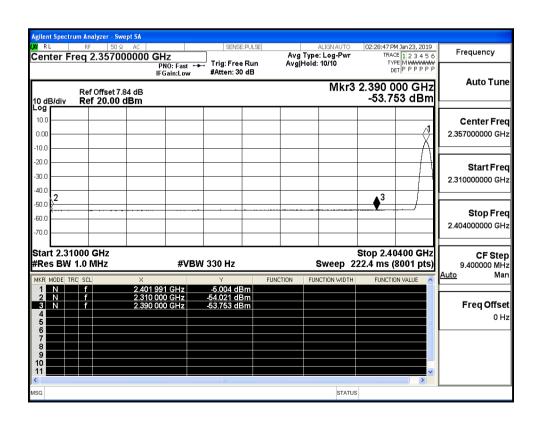
Restrict-band band-edge measurements_Hopping Off_ GFSK_Average (High Channel)



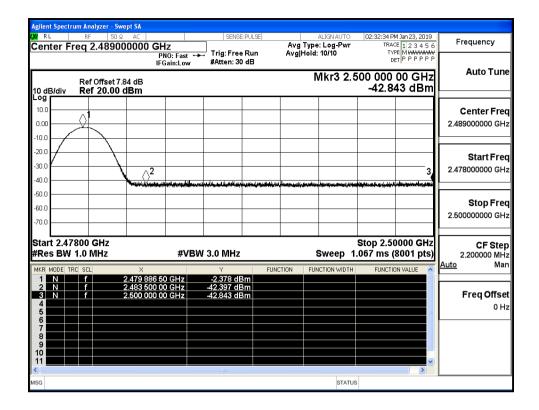
Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (Low Channel)



Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (Low Channel)



Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_PEAK (High Channel)



Restrict-band band-edge measurements_Hopping Off_π/4-DQPSK_Average (High Channel)

