Appendix for DC_7A_n5A (824-849)

Catalogue

1. Effective Radiated Power

1.1. Test Results @ Ant4 (Antenna Gain=-5.70dBi)

SCS	Bandwidth	Channel	Modulation	Conducted Result (dBm)			Max ERP (dBm)	Limit (dBm)	Verdict
				Inner_1RB_Left	Inner_1RB_Right	Inner_Full			
15KHz	5MHz	LCH	DFT-Pi2BPSK	23.23	23.00	23.04	15.38	38.45	Pass
15KHz	5MHz	LCH	DFT-QPSK	23.05	22.96	23.11	15.26	38.45	Pass
15KHz	5MHz	LCH	DFT-16QAM	21.71	21.59	22.10	14.25	38.45	Pass
15KHz	5MHz	LCH	DFT-64QAM	20.86	20.79	20.71	13.01	38.45	Pass
15KHz	5MHz	LCH	DFT-256QAM	18.47	18.32	18.62	10.77	38.45	Pass
15KHz	5MHz	LCH	CP-QPSK	21.61	21.62	21.56	13.77	38.45	Pass
15KHz	5MHz	MCH	DFT-Pi2BPSK	22.89	22.97	23.01	15.16	38.45	Pass
15KHz	5MHz	MCH	DFT-QPSK	22.82	22.88	23.00	15.15	38.45	Pass
15KHz	5MHz	MCH	DFT-16QAM	21.96	21.90	22.04	14.19	38.45	Pass
15KHz	5MHz	MCH	DFT-64QAM	20.60	20.64	20.59	12.79	38.45	Pass
15KHz	5MHz	MCH	DFT-256QAM	18.18	18.21	18.43	10.58	38.45	Pass
15KHz	5MHz	MCH	CP-QPSK	21.39	21.54	21.47	13.69	38.45	Pass
15KHz	5MHz	HCH	DFT-Pi2BPSK	22.84	22.79	22.81	14.99	38.45	Pass
15KHz	5MHz	HCH	DFT-QPSK	22.76	22.70	22.82	14.97	38.45	Pass
15KHz	5MHz	HCH	DFT-16QAM	21.82	21.78	21.88	14.03	38.45	Pass
15KHz	5MHz	HCH	DFT-64QAM	20.74	20.71	20.45	12.89	38.45	Pass
15KHz	5MHz	HCH	DFT-256QAM	18.12	18.10	18.29	10.44	38.45	Pass
15KHz	5MHz	HCH	CP-QPSK	21.36	21.40	21.26	13.55	38.45	Pass
15KHz	10MHz	LCH	DFT-Pi2BPSK	23.11	22.90	23.09	15.26	38.45	Pass
15KHz	10MHz	LCH	DFT-QPSK	23.04	22.81	23.08	15.23	38.45	Pass
15KHz	10MHz	LCH	DFT-16QAM	21.71	21.58	22.16	14.31	38.45	Pass
15KHz	10MHz	LCH	DFT-64QAM	20.82	20.63	20.62	12.97	38.45	Pass
15KHz	10MHz	LCH	DFT-256QAM	18.37	18.19	18.54	10.69	38.45	Pass
15KHz	10MHz	LCH	CP-QPSK	21.57	21.42	21.52	13.72	38.45	Pass
15KHz	10MHz	MCH	DFT-Pi2BPSK	22.86	22.86	23.02	15.17	38.45	Pass
15KHz	10MHz	MCH	DFT-QPSK	22.84	22.80	23.05	15.20	38.45	Pass
15KHz	10MHz	MCH	DFT-16QAM	21.94	21.81	22.05	14.20	38.45	Pass
15KHz	10MHz	MCH	DFT-64QAM	20.81	20.81	20.53	12.96	38.45	Pass
15KHz	10MHz	MCH	DFT-256QAM	18.08	18.04	18.42	10.57	38.45	Pass
15KHz	10MHz	MCH	CP-QPSK	21.35	21.42	21.48	13.63	38.45	Pass
15KHz	10MHz	HCH	DFT-Pi2BPSK	22.86	22.74	22.92	15.07	38.45	Pass
15KHz	10MHz	HCH	DFT-QPSK	22.85	22.68	22.89	15.04	38.45	Pass
15KHz	10MHz	HCH	DFT-16QAM	21.50	21.38	21.92	14.07	38.45	Pass
15KHz	10MHz	HCH	DFT-64QAM	20.55	20.43	20.43	12.70	38.45	Pass
15KHz	10MHz	HCH	DFT-256QAM	18.15	18.08	18.31	10.46	38.45	Pass
15KHz	10MHz	HCH	CP-QPSK	21.37	21.25	21.32	13.52	38.45	Pass
15KHz	15MHz	LCH	DFT-Pi2BPSK	23.28	22.96	23.24	15.43	38.45	Pass
15KHz	15MHz	LCH	DFT-QPSK	23.21	22.90	23.14	15.36	38.45	Pass
15KHz	15MHz	LCH	DFT-16QAM	21.76	21.48	22.13	14.28	38.45	Pass
15KHz	15MHz	LCH	DFT-64QAM	21.12	20.86	20.67	13.27	38.45	Pass
15KHz	15MHz	LCH	DFT-256QAM	18.40	18.12	18.58	10.73	38.45	Pass
15KHz	15MHz	LCH	CP-QPSK	21.81	21.59	21.59	13.96	38.45	Pass
15KHz	15MHz	MCH	DFT-Pi2BPSK	23.17	22.93	23.13	15.32	38.45	Pass
15KHz	15MHz	MCH	DFT-QPSK	23.11	22.83	23.18	15.33	38.45	Pass
15KHz	15MHz	MCH	DFT-16QAM	21.88	21.52	22.19	14.34	38.45	Pass
15KHz	15MHz	MCH	DFT-64QAM	20.85	20.62	20.70	13.00	38.45	Pass
15KHz	15MHz	MCH	DFT-256QAM	18.55	18.19	18.57	10.72	38.45	Pass
15KHz	15MHz	MCH	CP-QPSK	21.70	21.69	21.65	13.85	38.45	Pass
15KHz	15MHz	HCH	DFT-Pi2BPSK	23.04	22.80	23.09	15.24	38.45	Pass
15KHz	15MHz	HCH	DFT-QPSK	22.97	22.78	23.05	15.20	38.45	Pass
15KHz	15MHz	HCH	DFT-16QAM	21.60	21.40	22.09	14.24	38.45	Pass
15KHz	15MHz	HCH	DFT-64QAM	21.00	20.73	20.54	13.15	38.45	Pass
15KHz	15MHz	HCH	DFT-256QAM	18.38	18.05	18.47	10.62	38.45	Pass
15KHz	15MHz	HCH	CP-QPSK	21.58	21.43	21.54	13.73	38.45	Pass
15KHz	20MHz	LCH	DFT-Pi2BPSK	23.25	22.87	23.17	15.40	38.45	Pass
15KHz	20MHz	LCH	DFT-QPSK	23.12	22.83	23.18	15.33	38.45	Pass
15KHz	20MHz	LCH	DFT-16QAM	21.82	21.49	22.09	14.24	38.45	Pass
15KHz	20MHz	LCH	DFT-64QAM	20.51	20.19	20.62	12.77	38.45	Pass

15KHz	20MHz	LCH	DFT-256QAM	18.40	18.20	18.59	10.74	38.45	Pass
15KHz	20MHz	LCH	CP-QPSK	21.82	21.47	21.62	13.97	38.45	Pass
15KHz	20MHz	MCH	DFT-Pi2BPSK	23.23	22.89	23.15	15.38	38.45	Pass
15KHz	20MHz	MCH	DFT-QPSK	23.10	22.85	23.19	15.34	38.45	Pass
15KHz	20MHz	MCH	DFT-16QAM	22.26	21.84	22.12	14.41	38.45	Pass
15KHz	20MHz	MCH	DFT-64QAM	21.12	20.80	20.73	13.27	38.45	Pass
15KHz	20MHz	MCH	DFT-256QAM	18.44	18.12	18.61	10.76	38.45	Pass
15KHz	20MHz	MCH	CP-QPSK	21.75	21.43	21.63	13.90	38.45	Pass
15KHz	20MHz	HCH	DFT-Pi2BPSK	23.11	22.82	23.10	15.26	38.45	Pass
15KHz	20MHz	HCH	DFT-QPSK	22.97	22.78	23.12	15.27	38.45	Pass
15KHz	20MHz	HCH	DFT-16QAM	21.59	21.40	22.11	14.26	38.45	Pass
15KHz	20MHz	HCH	DFT-64QAM	20.99	20.74	20.63	13.14	38.45	Pass
15KHz	20MHz	HCH	DFT-256QAM	18.37	18.08	18.60	10.75	38.45	Pass
15KHz	20MHz	HCH	CP-QPSK	21.63	21.40	21.61	13.78	38.45	Pass

2. Peak-to-Average Ratio

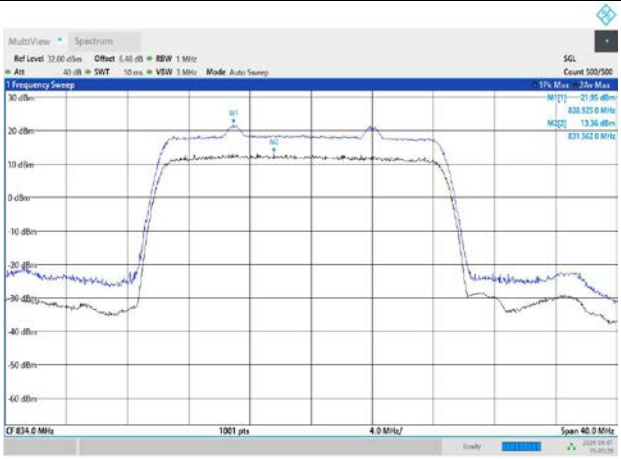
2.1. Test Results

SCS	Bandwidth	Channel	RB	Result (dB)		Limit (dB)	Verdict
				DFT-Pi2BPSK	DFT-QPSK		
15KHz	20MHz	LCH	Outer_Full	8.59	7.05	13.00	Pass
15KHz	20MHz	MCH	Outer_Full	8.17	7.80	13.00	Pass
15KHz	20MHz	HCH	Outer_Full	8.38	6.83	13.00	Pass

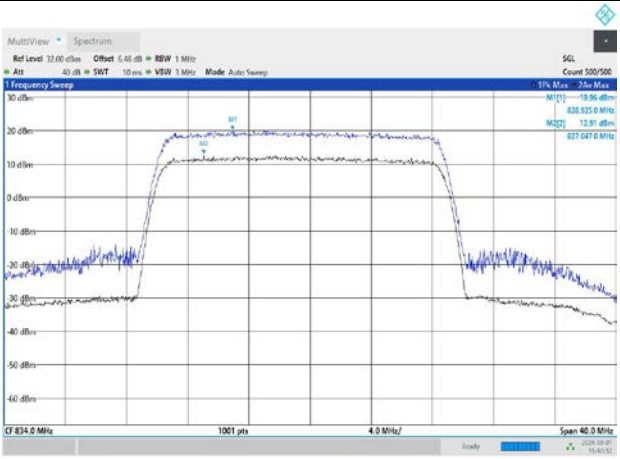
2.2. Test Plots

DC_7A_n5A / 15KHz / 20MHz

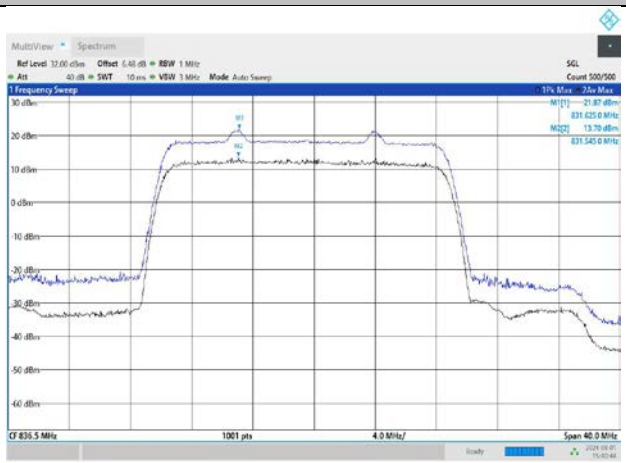
LCH / DFT-Pi2BPSK / Outer_Full



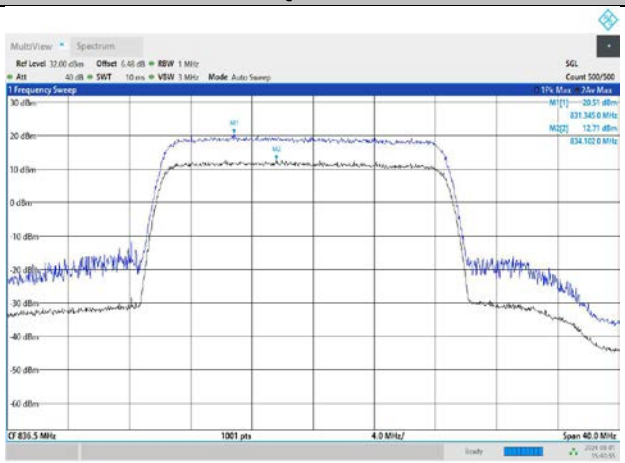
LCH / DFT-QPSK / Outer_Full



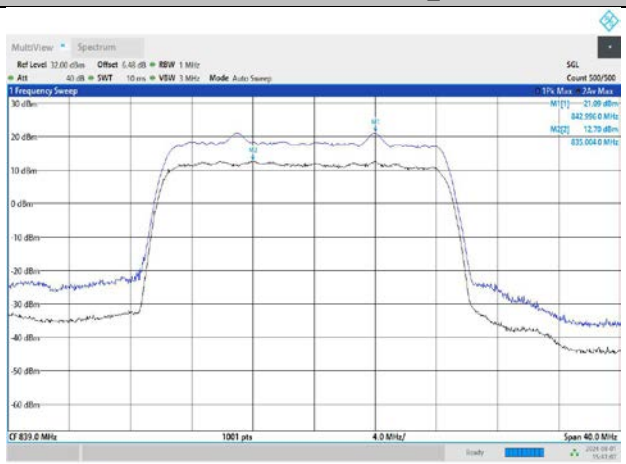
MCH / DFT-Pi2BPSK / Outer_Full



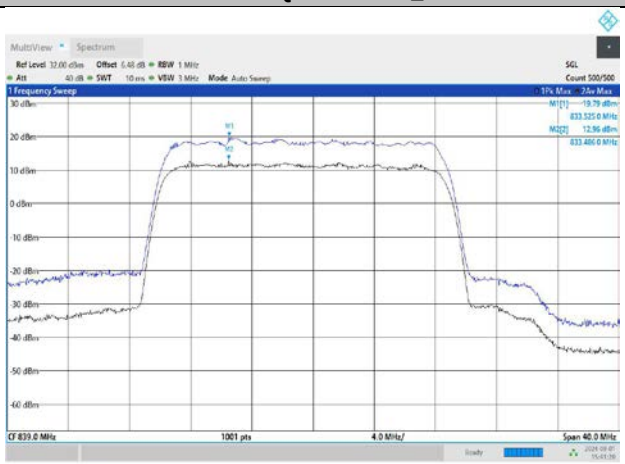
MCH / DFT-QPSK / Outer_Full



HCH / DFT-Pi2BPSK / Outer_Full

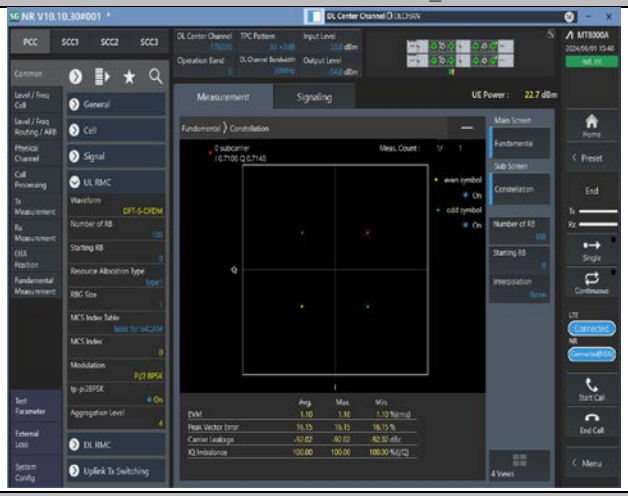
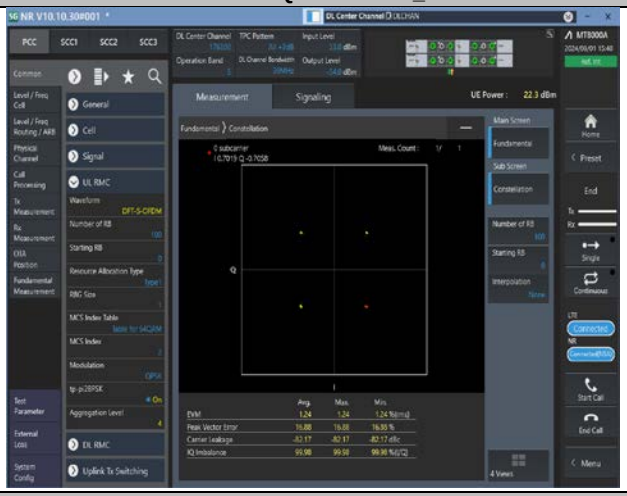
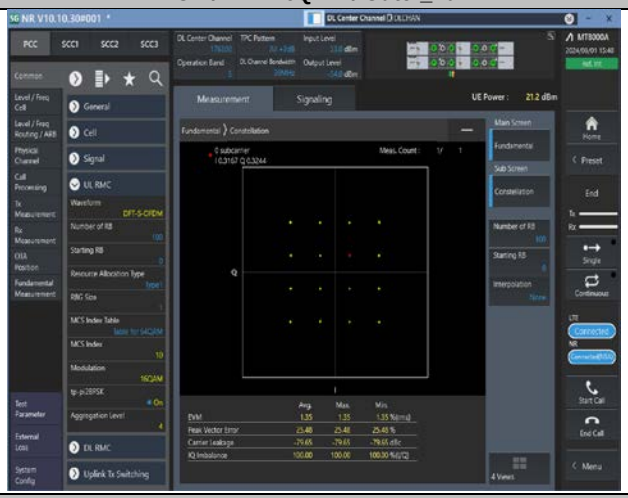
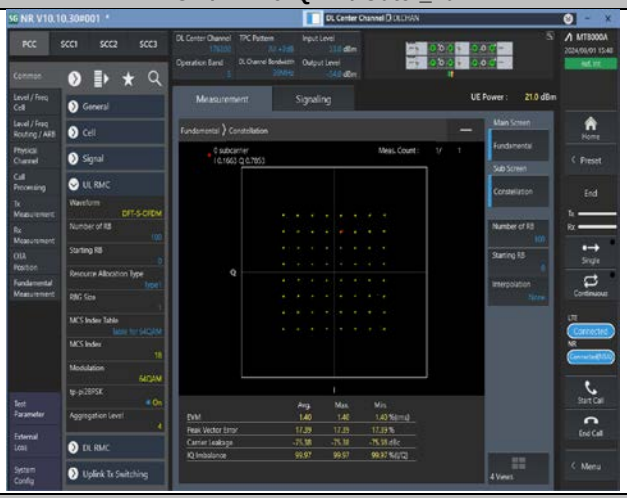
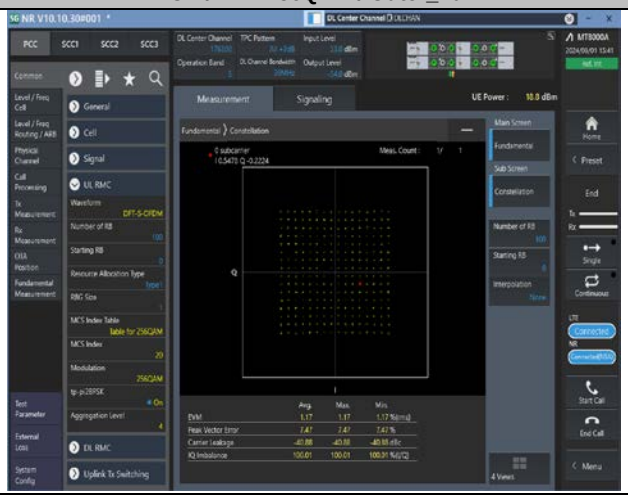
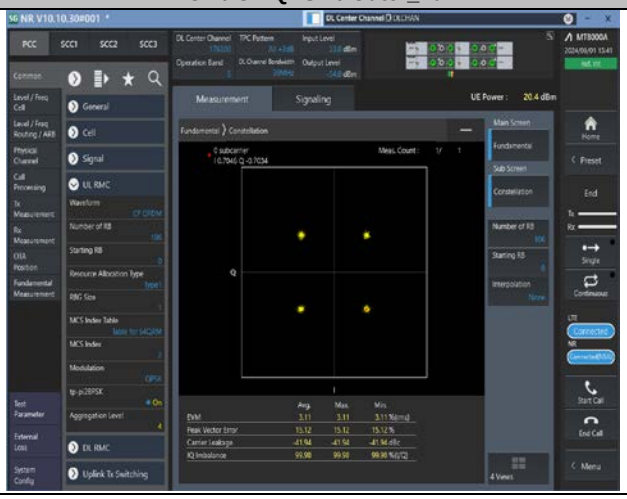


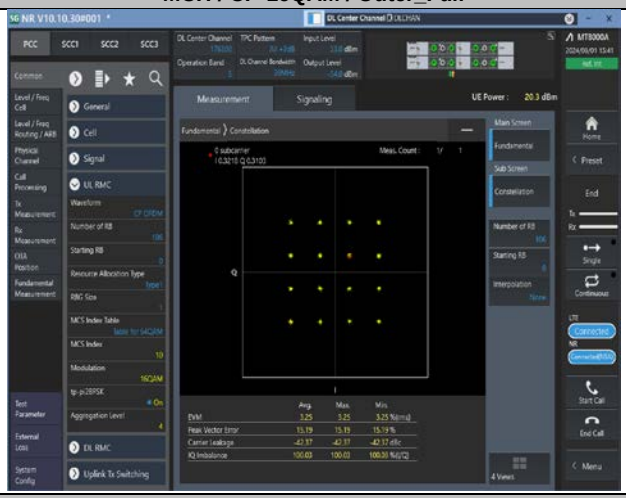
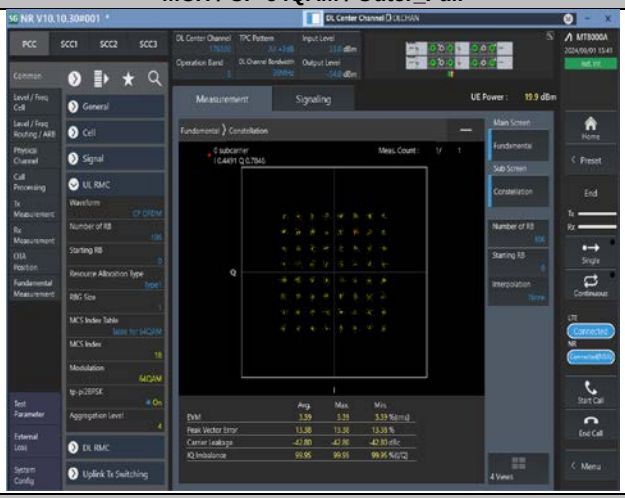
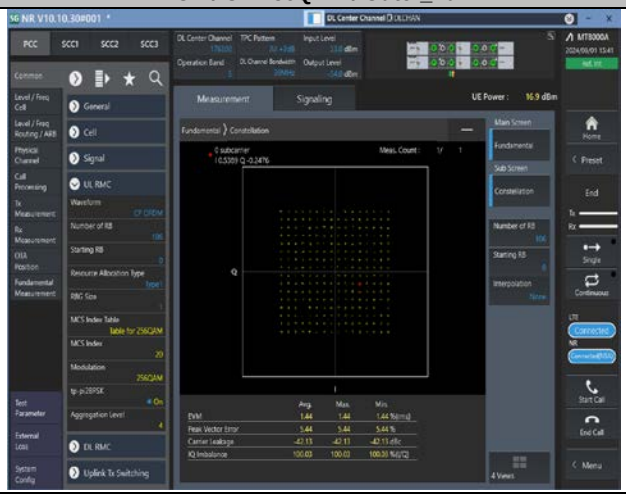
HCH / DFT-QPSK / Outer_Full



3. Modulation Characteristics

3.1. Test Plots

DC_7A_n5A / 15KHz / 20MHz	
MCH / DFT-Pi2BPSK / Outer_Full	MCH / DFT-QPSK / Outer_Full
	
MCH / DFT-16QAM / Outer_Full	MCH / DFT-64QAM / Outer_Full
	
MCH / DFT-256QAM / Outer_Full	MCH / CP-QPSK / Outer_Full
	

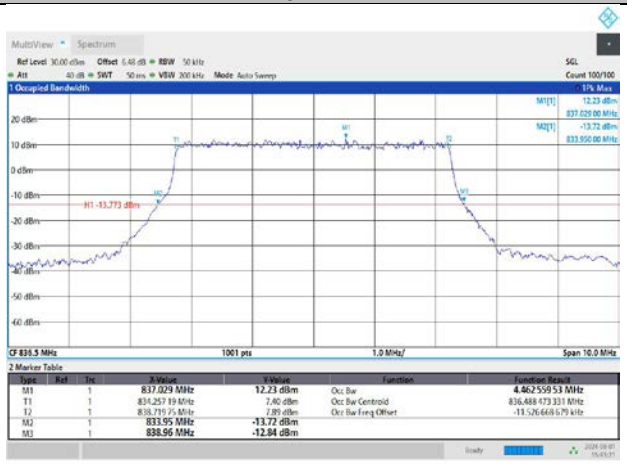
MCH / CP-16QAM / Outer_Full	MCH / CP-64QAM / Outer_Full
	
MCH / CP-256QAM / Outer_Full	
	***Intentionally Blank***

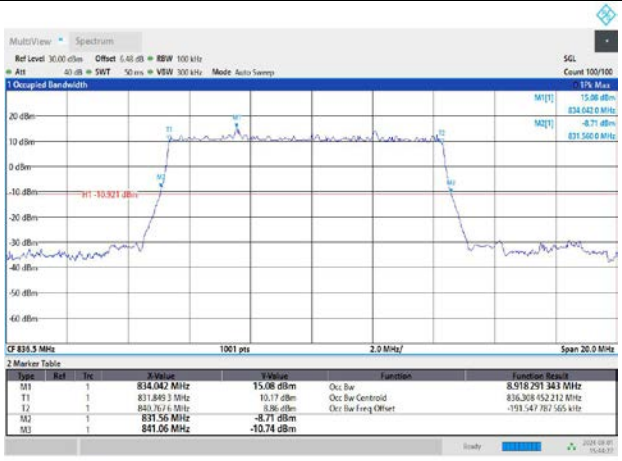
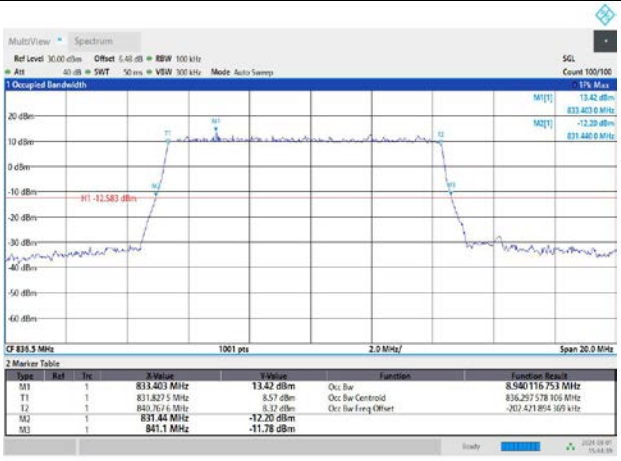
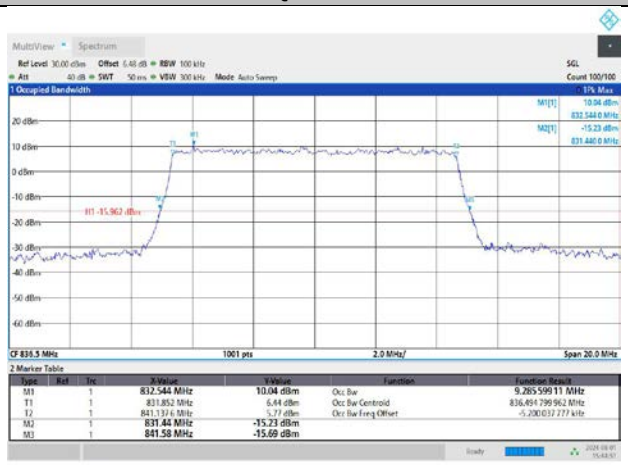
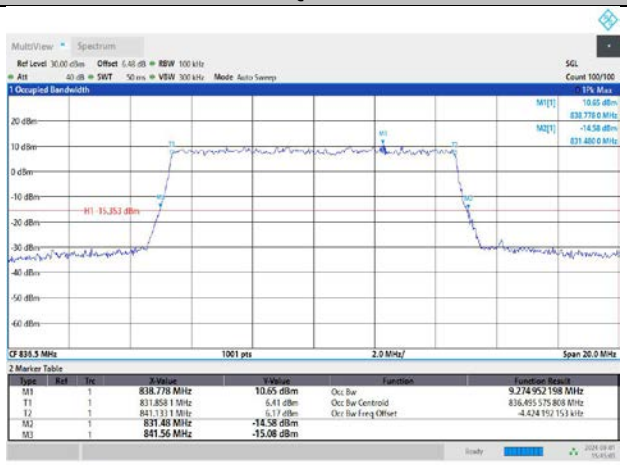
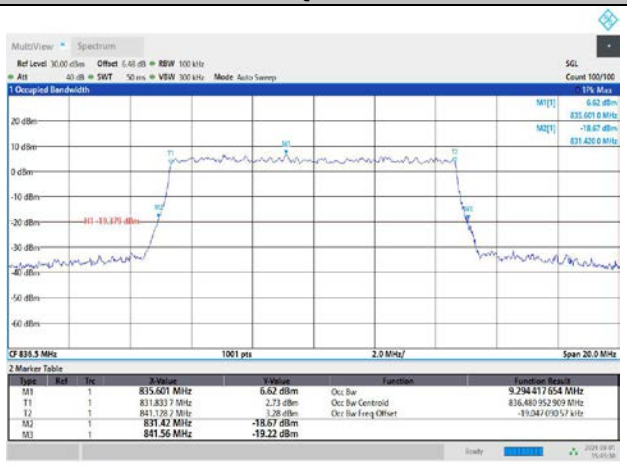
4. 99% Occupied Bandwidth & 26dB Emission Bandwidth

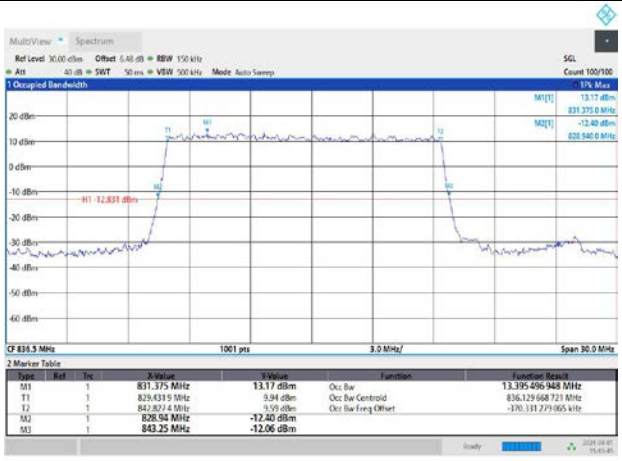
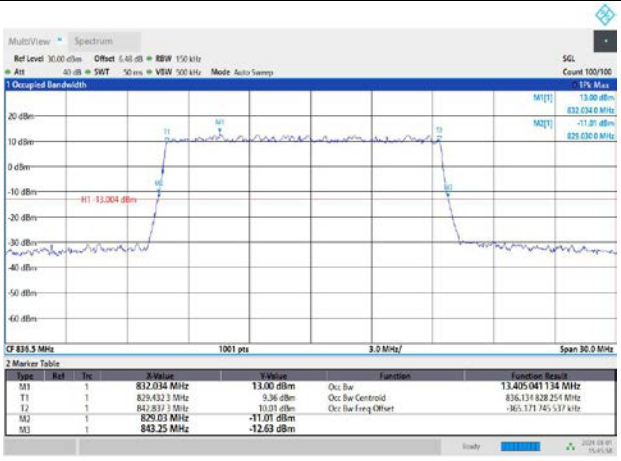
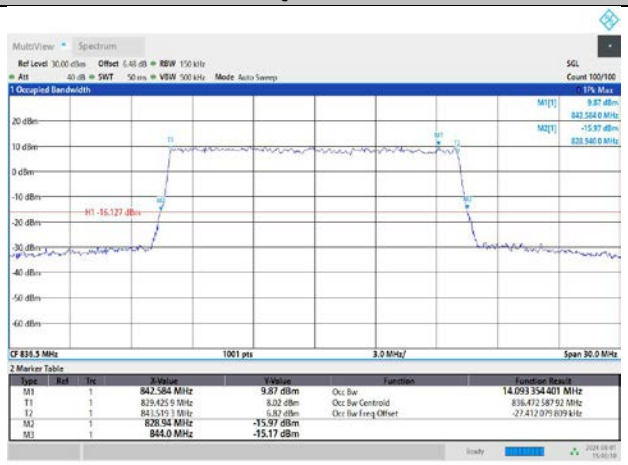
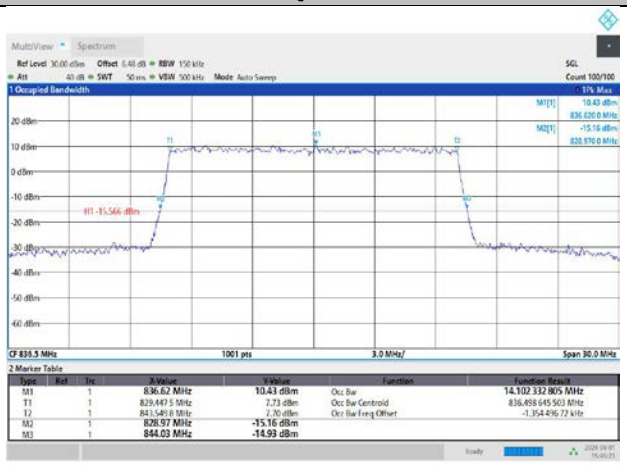
4.1. Test Results

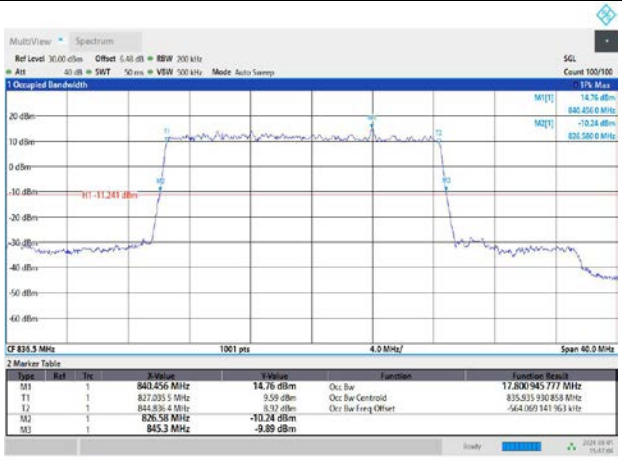
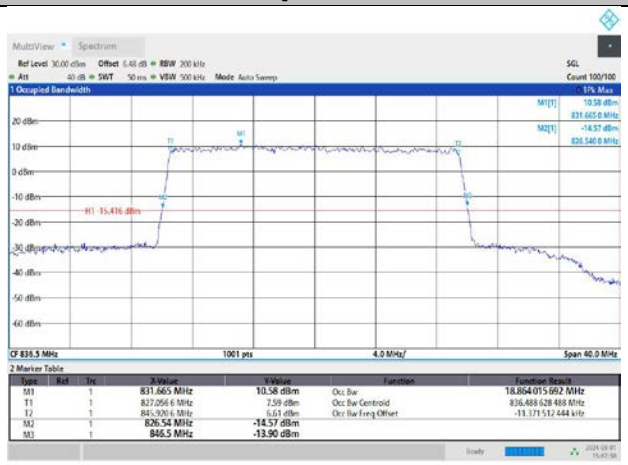
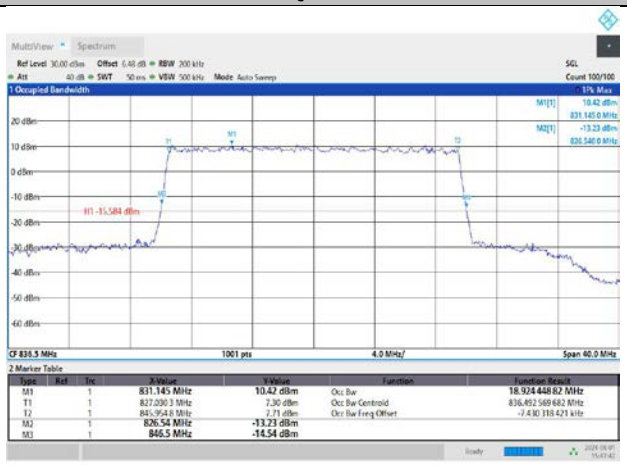
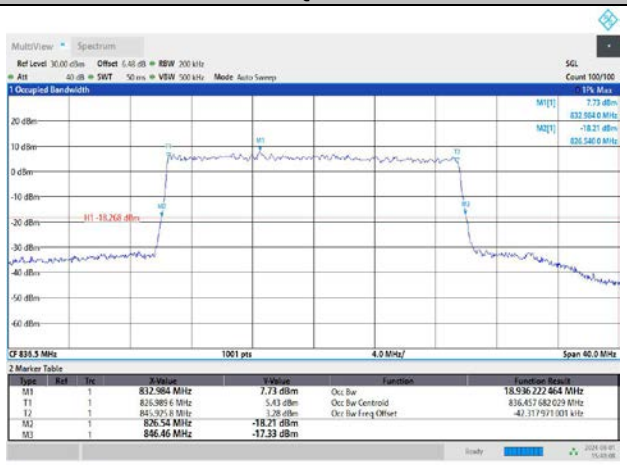
SCS	Bandwidth	Modulation	RB	99% Occupied Bandwidth (MHz)	26dB Emission Bandwidth (MHz)	Verdict
15KHz	5MHz	DFT-Pi2BPSK	Outer_Full	4.48	5.07	Pass
15KHz	5MHz	DFT-QPSK	Outer_Full	4.46	5.01	Pass
15KHz	5MHz	CP-QPSK	Outer_Full	4.49	5.15	Pass
15KHz	5MHz	CP-16QAM	Outer_Full	4.50	5.17	Pass
15KHz	5MHz	CP-64QAM	Outer_Full	4.48	5.09	Pass
15KHz	5MHz	CP-256QAM	Outer_Full	4.48	5.14	Pass
15KHz	10MHz	DFT-Pi2BPSK	Outer_Full	8.92	9.50	Pass
15KHz	10MHz	DFT-QPSK	Outer_Full	8.94	9.66	Pass
15KHz	10MHz	CP-QPSK	Outer_Full	9.29	10.14	Pass
15KHz	10MHz	CP-16QAM	Outer_Full	9.27	10.08	Pass
15KHz	10MHz	CP-64QAM	Outer_Full	9.27	9.96	Pass
15KHz	10MHz	CP-256QAM	Outer_Full	9.29	10.14	Pass
15KHz	15MHz	DFT-Pi2BPSK	Outer_Full	13.40	14.31	Pass
15KHz	15MHz	DFT-QPSK	Outer_Full	13.41	14.22	Pass
15KHz	15MHz	CP-QPSK	Outer_Full	14.09	15.06	Pass
15KHz	15MHz	CP-16QAM	Outer_Full	14.10	15.06	Pass
15KHz	15MHz	CP-64QAM	Outer_Full	14.12	15.09	Pass
15KHz	15MHz	CP-256QAM	Outer_Full	14.08	15.00	Pass
15KHz	20MHz	DFT-Pi2BPSK	Outer_Full	17.80	18.72	Pass
15KHz	20MHz	DFT-QPSK	Outer_Full	17.82	18.76	Pass
15KHz	20MHz	CP-QPSK	Outer_Full	18.86	19.96	Pass
15KHz	20MHz	CP-16QAM	Outer_Full	18.92	19.96	Pass
15KHz	20MHz	CP-64QAM	Outer_Full	18.89	19.88	Pass
15KHz	20MHz	CP-256QAM	Outer_Full	18.94	19.92	Pass

4.2. Test Plots

DC_7A_n5A / 15KHz / 5MHz	
MCH / DFT-Pi2BPSK / Outer_Full	MCH / DFT-QPSK / Outer_Full
	
MCH / CP-QPSK / Outer_Full	MCH / CP-16QAM / Outer_Full
	
MCH / CP-64QAM / Outer_Full	MCH / CP-256QAM / Outer_Full
	

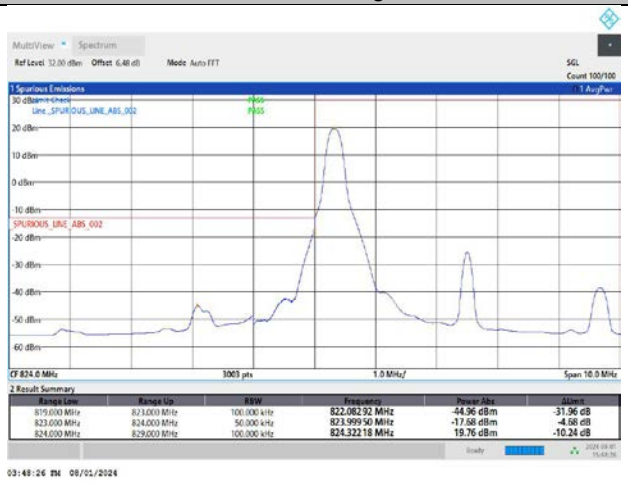
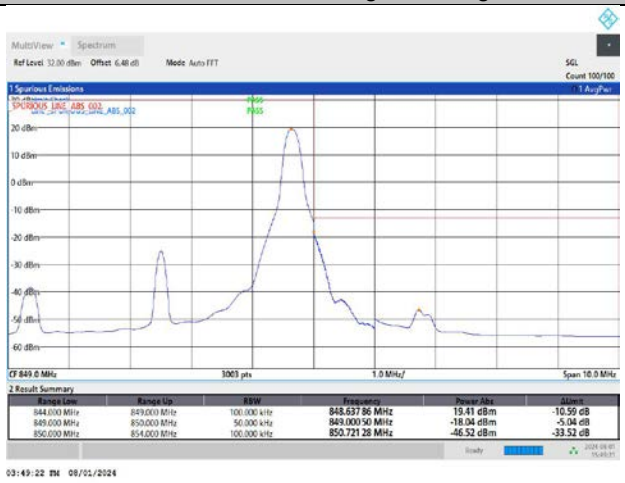
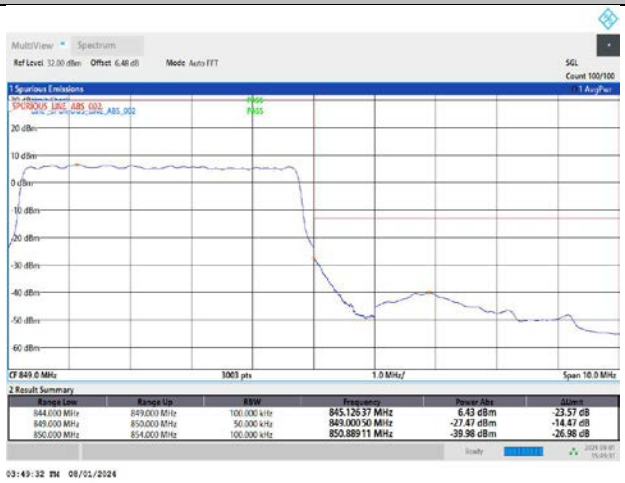
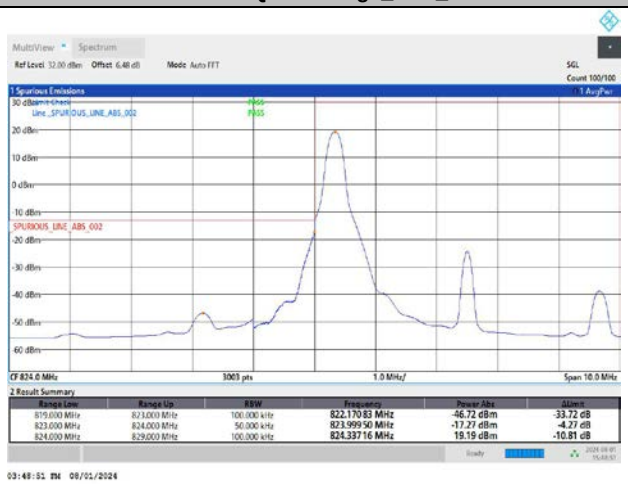
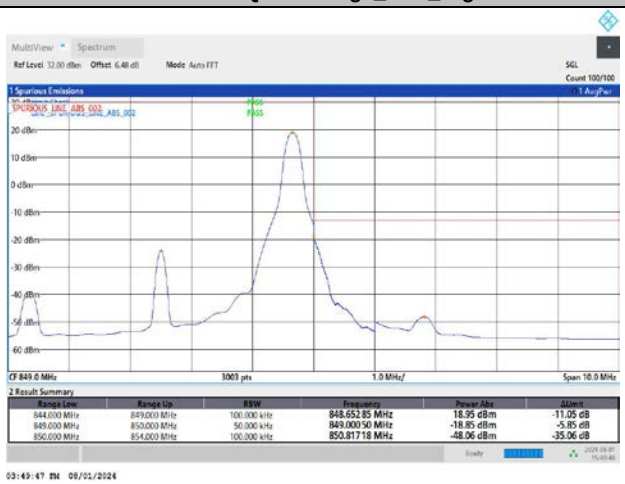
DC_7A_n5A / 15KHz / 10MHz	
MCH / DFT-Pi2BPSK / Outer_Full	MCH / DFT-QPSK / Outer_Full
	
MCH / CP-QPSK / Outer_Full	MCH / CP-16QAM / Outer_Full
	
MCH / CP-64QAM / Outer_Full	MCH / CP-256QAM / Outer_Full
	

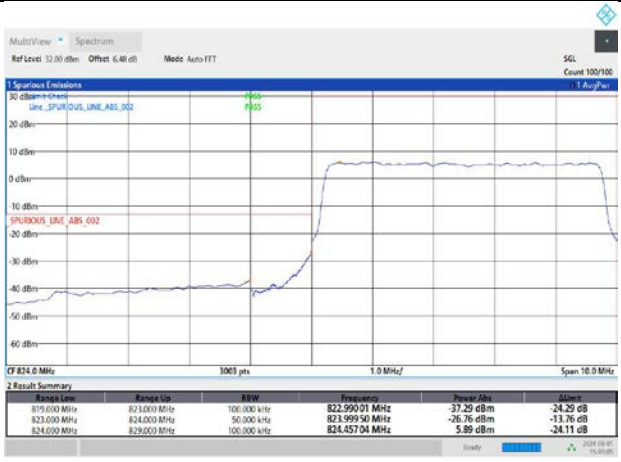
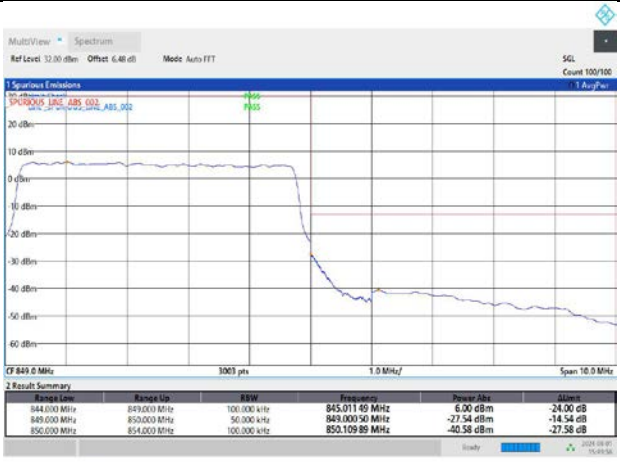
DC_7A_n5A / 15KHz / 15MHz	
MCH / DFT-Pi2BPSK / Outer_Full	MCH / DFT-QPSK / Outer_Full
	
MCH / CP-QPSK / Outer_Full	MCH / CP-16QAM / Outer_Full
	
MCH / CP-64QAM / Outer_Full	MCH / CP-256QAM / Outer_Full
	

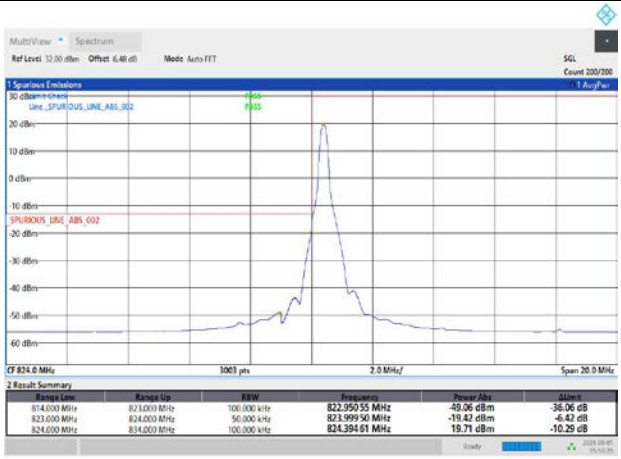
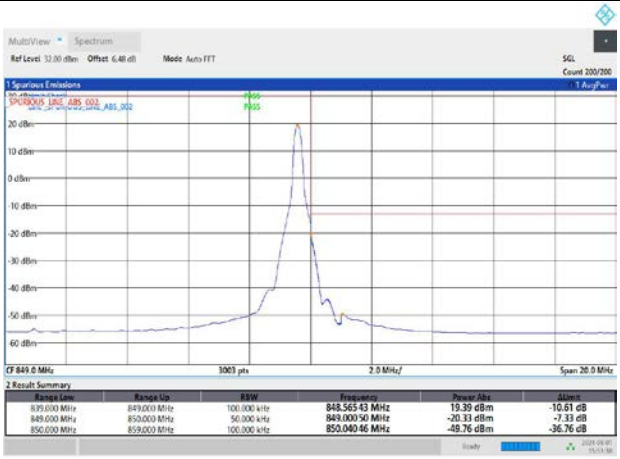
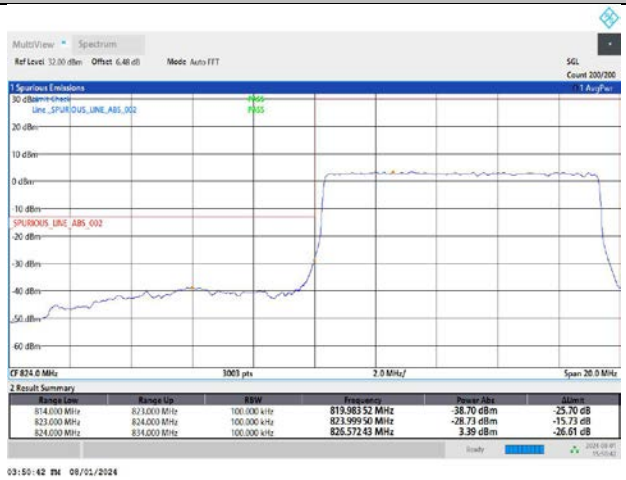
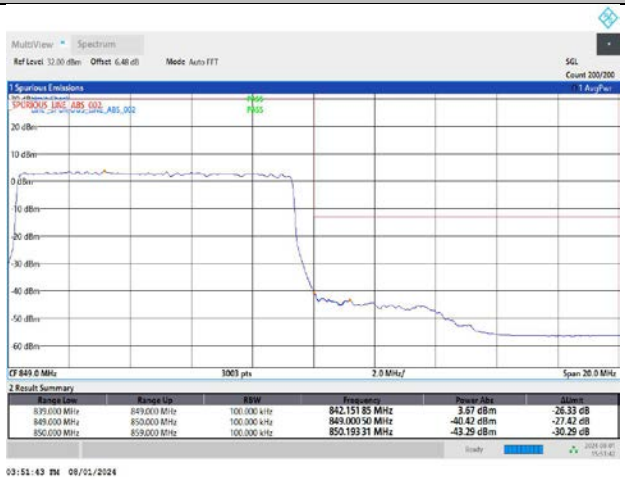
DC_7A_n5A / 15KHz / 20MHz	
MCH / DFT-Pi2BPSK / Outer_Full	MCH / DFT-QPSK / Outer_Full
	
MCH / CP-QPSK / Outer_Full	MCH / CP-16QAM / Outer_Full
	
MCH / CP-64QAM / Outer_Full	MCH / CP-256QAM / Outer_Full
	

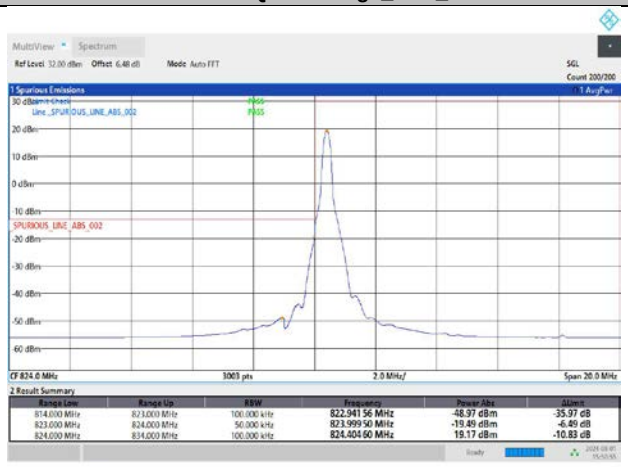
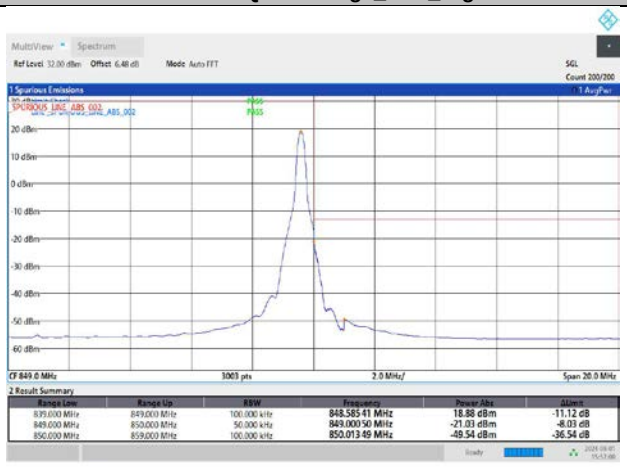
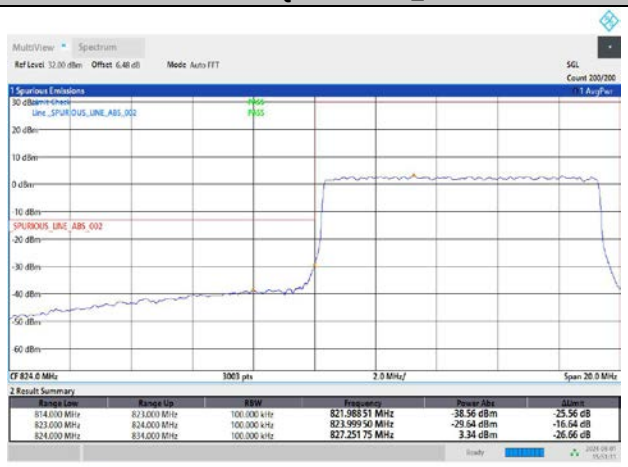
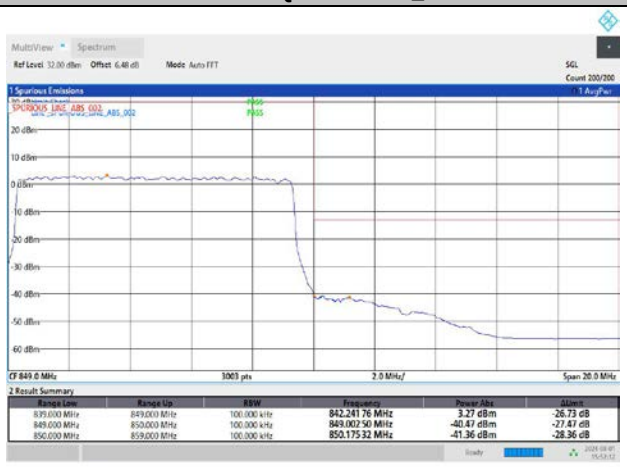
5. Conducted Band Edges

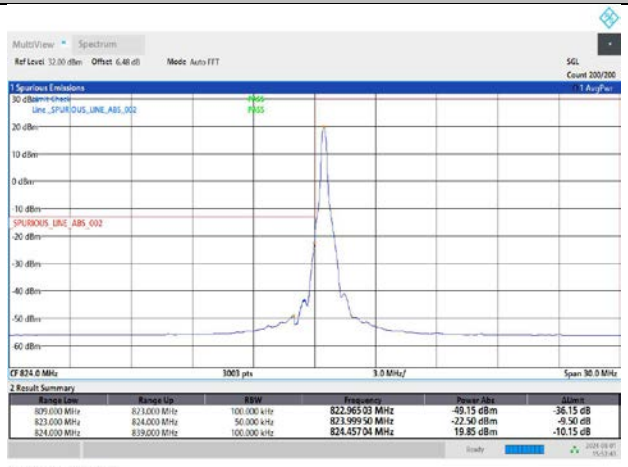
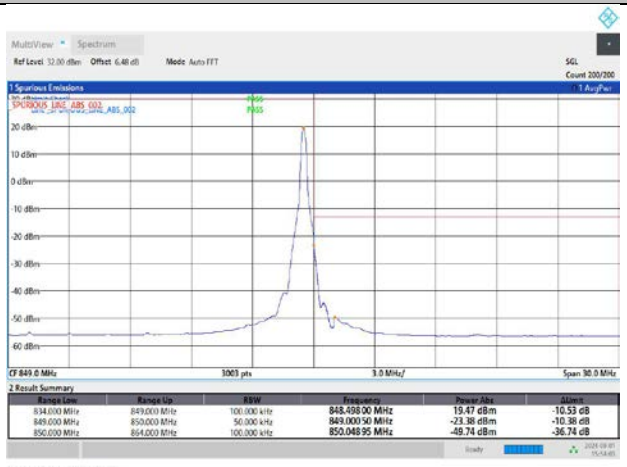
5.1. Test Plots

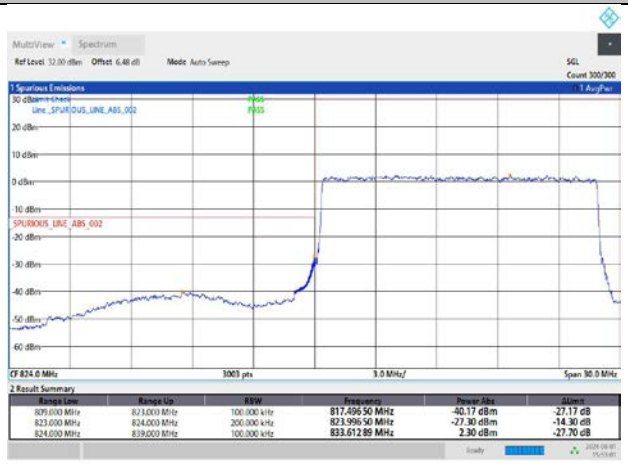
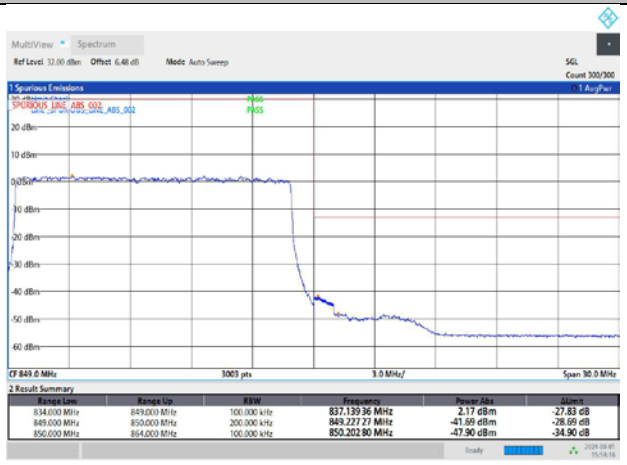
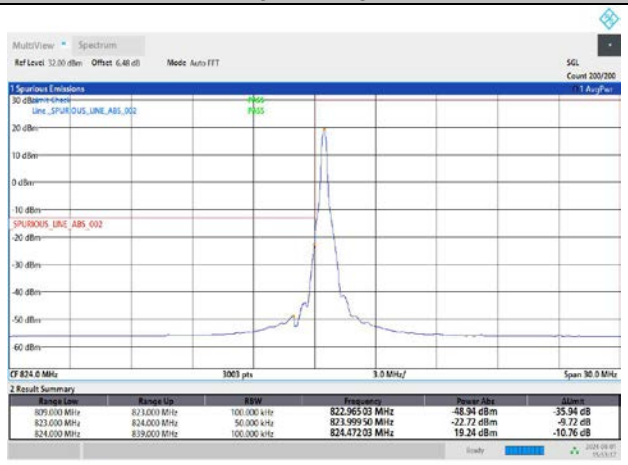
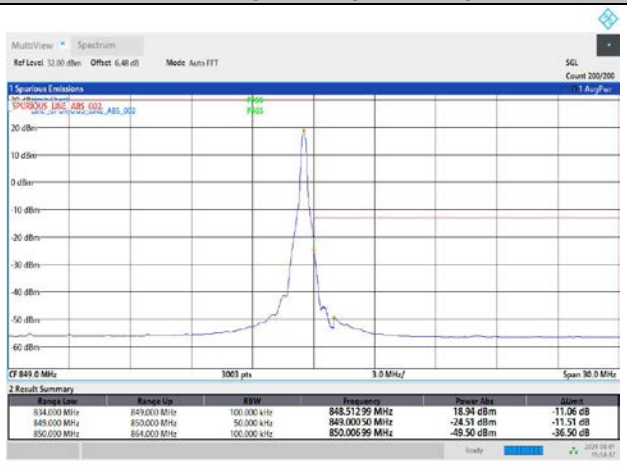
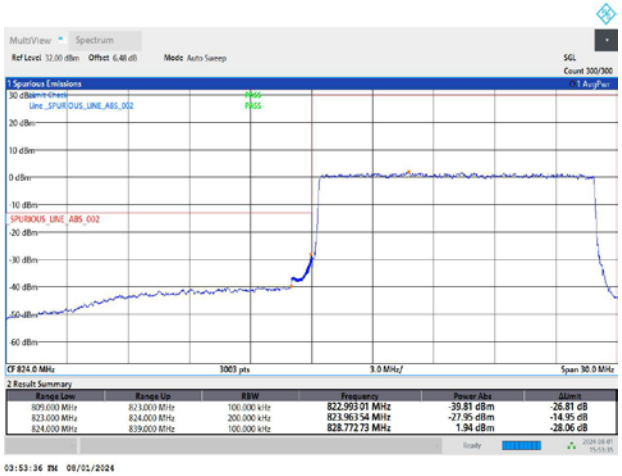
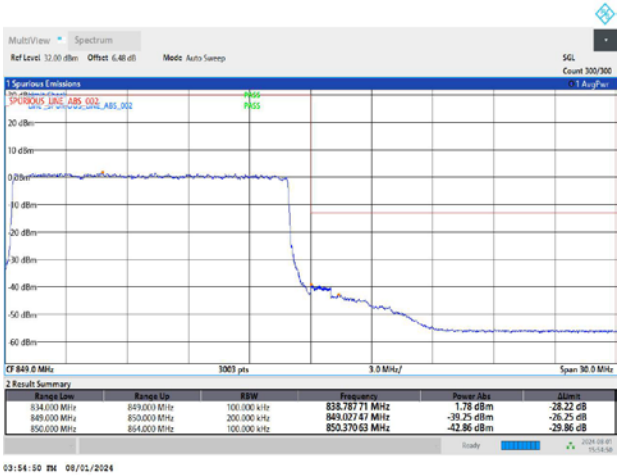
DC_7A_n5A / 15KHz / 5MHz	
LCH / DFT-Pi2BPSK / Edge_1RB_Left	HCH / DFT-Pi2BPSK / Edge_1RB_Right
	
LCH / DFT-Pi2BPSK / Outer_Full	HCH / DFT-Pi2BPSK / Outer_Full
	
LCH / DFT-QPSK / Edge_1RB_Left	HCH / DFT-QPSK / Edge_1RB_Right
	

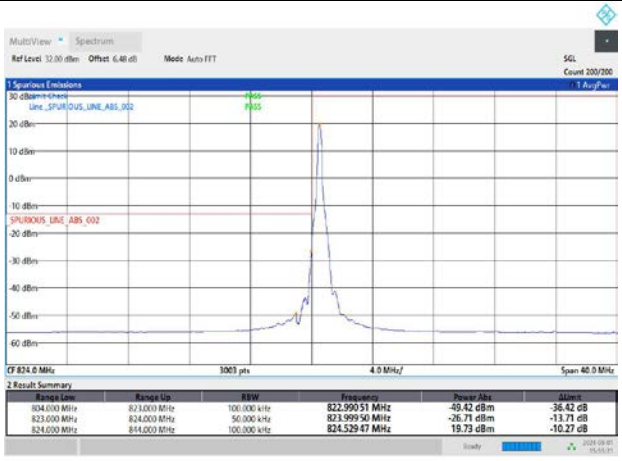
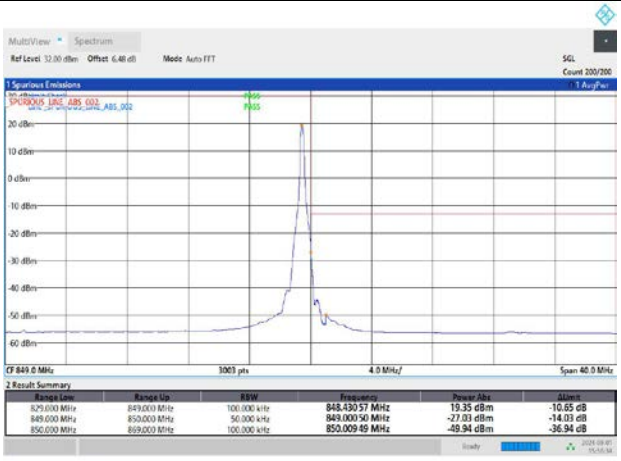
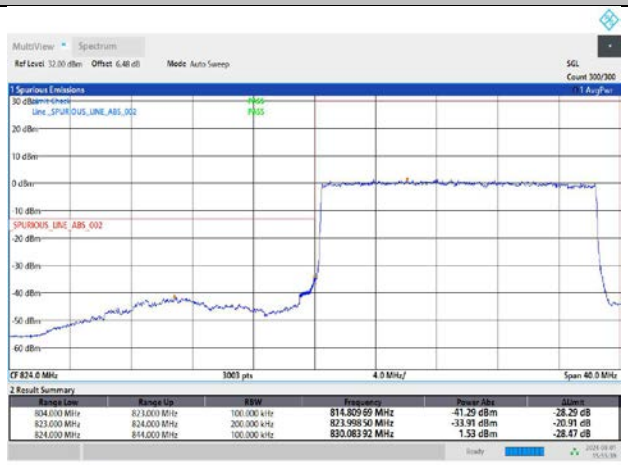
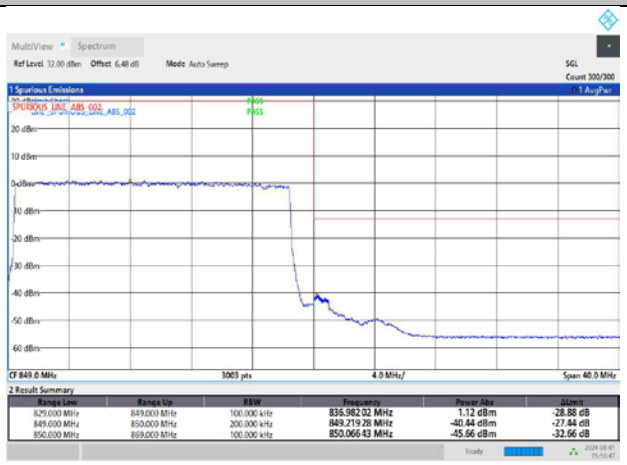
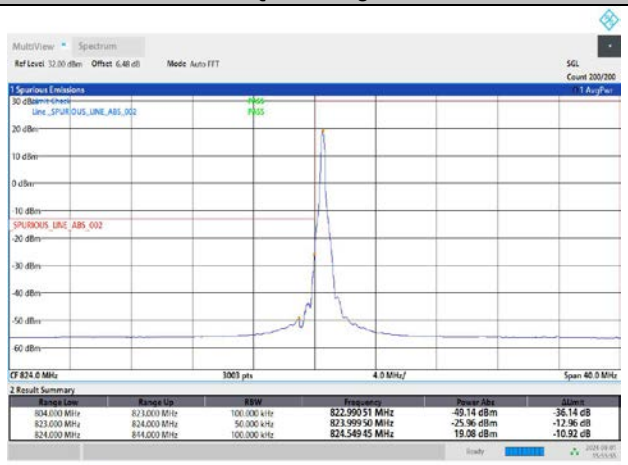
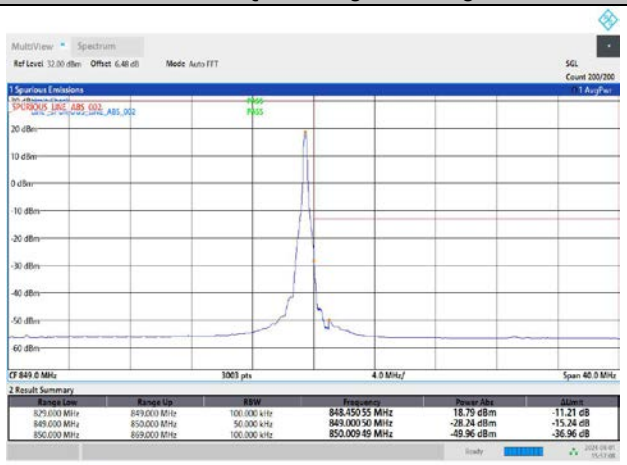
LCH / DFT-QPSK / Outer_Full	HCH / DFT-QPSK / Outer_Full
	

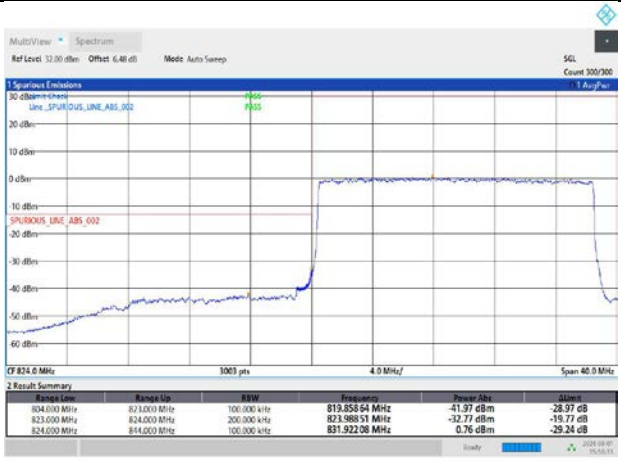
DC_7A_n5A / 15KHz / 10MHz	
LCH / DFT-Pi2BPSK / Edge_1RB_Left	HCH / DFT-Pi2BPSK / Edge_1RB_Right
	
LCH / DFT-Pi2BPSK / Outer_Full	HCH / DFT-Pi2BPSK / Outer_Full
	

LCH / DFT-QPSK / Edge_1RB_Left	HCH / DFT-QPSK / Edge_1RB_Right
	
LCH / DFT-QPSK / Outer_Full	**HCH / DFT-QPSK / Outer_Full**
	

DC_7A_n5A / 15KHz / 15MHz	
LCH / DFT-Pi2BPSK / Edge_1RB_Left	**HCH / DFT-Pi2BPSK / Edge_1RB_Right**
	

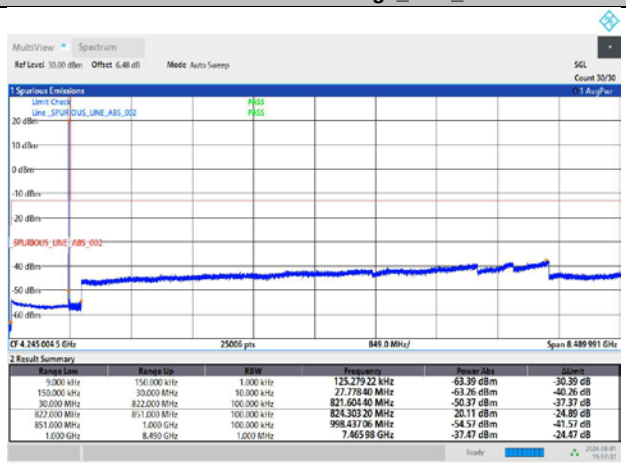
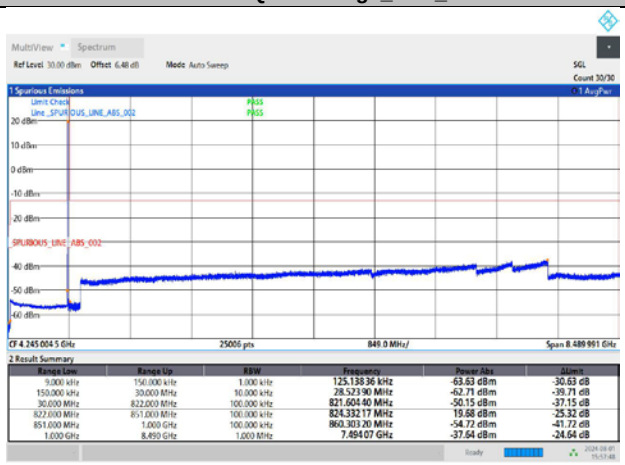
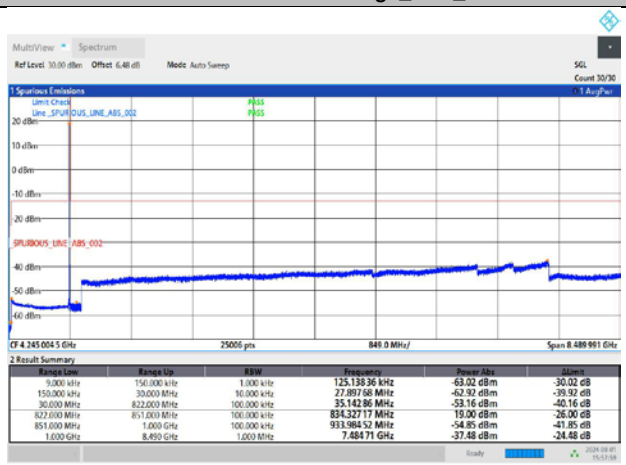
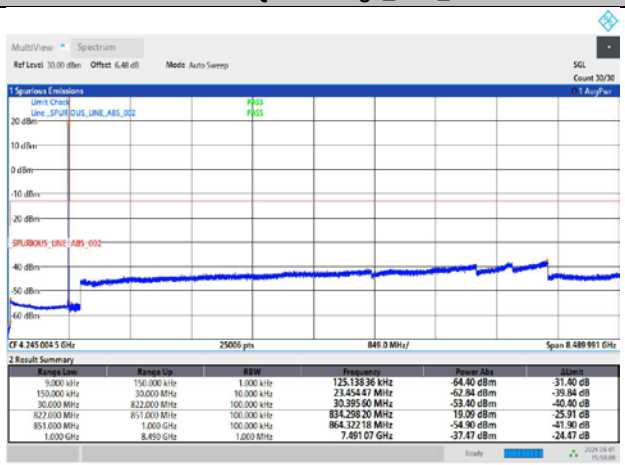
LCH / DFT-Pi2BPSK / Outer_Full	HCH / DFT-Pi2BPSK / Outer_Full
	
LCH / DFT-QPSK / Edge_1RB_Left	**HCH / DFT-QPSK / Edge_1RB_Right**
	
LCH / DFT-QPSK / Outer_Full	**HCH / DFT-QPSK / Outer_Full**
	

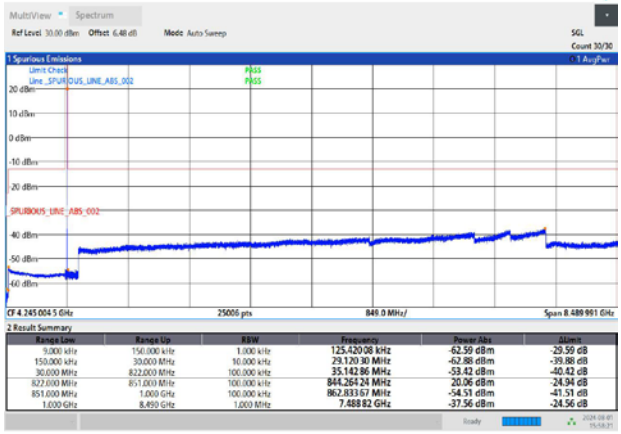
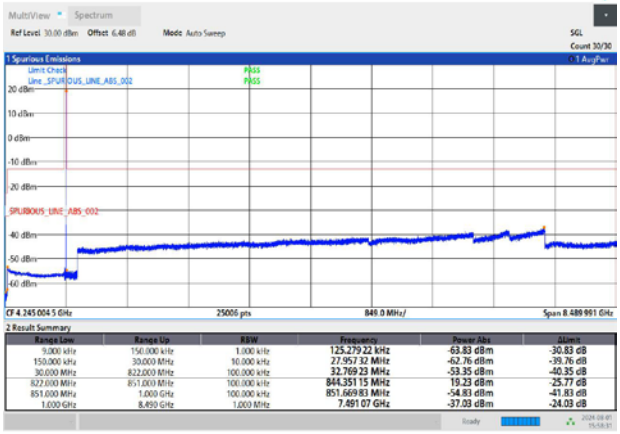
DC_7A_n5A / 15KHz / 20MHz	
LCH / DFT-Pi2BPSK / Edge_1RB_Left	HCH / DFT-Pi2BPSK / Edge_1RB_Right
	
LCH / DFT-Pi2BPSK / Outer_Full	HCH / DFT-Pi2BPSK / Outer_Full
	
LCH / DFT-QPSK / Edge_1RB_Left	HCH / DFT-QPSK / Edge_1RB_Right
	

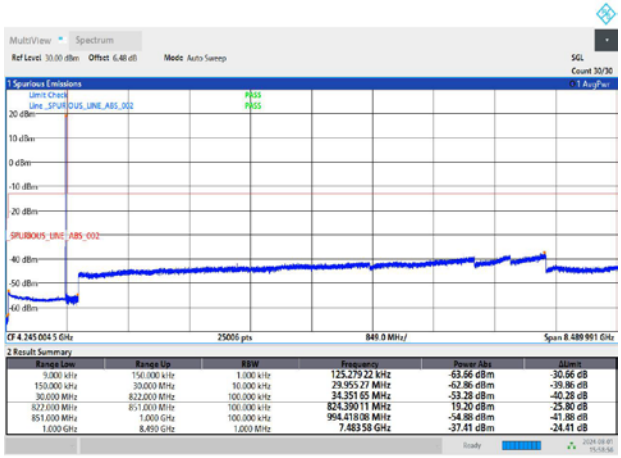
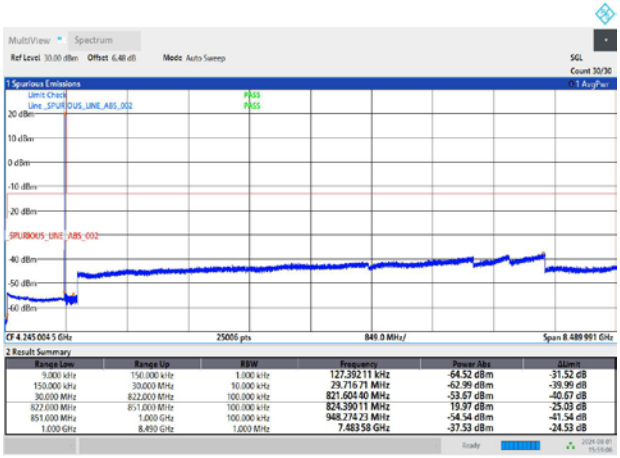
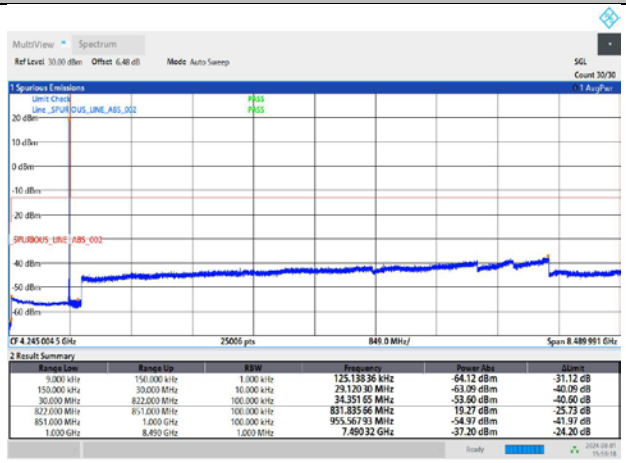
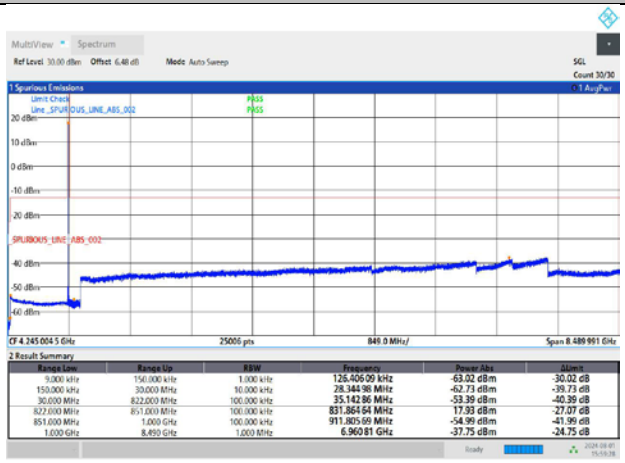
LCH / DFT-QPSK / Outer_Full	HCH / DFT-QPSK / Outer_Full
	

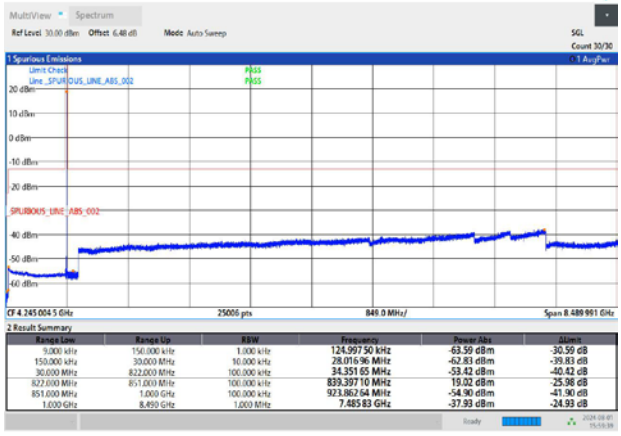
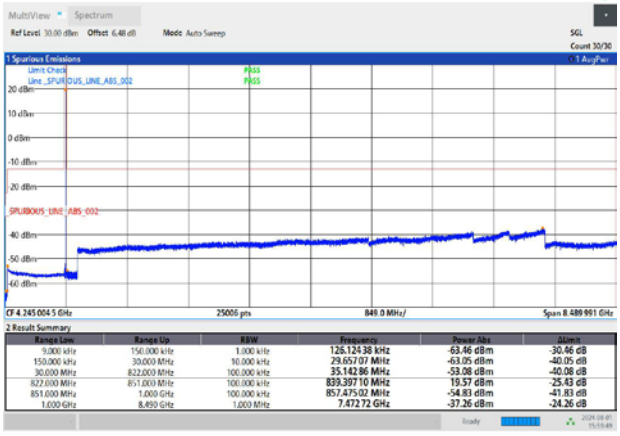
6. Conducted Spurious Emission

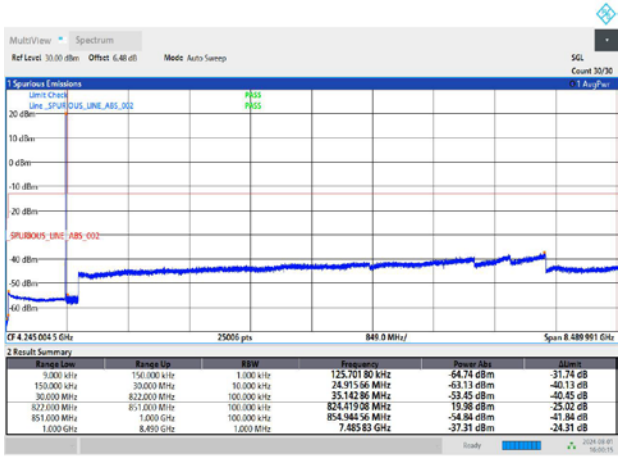
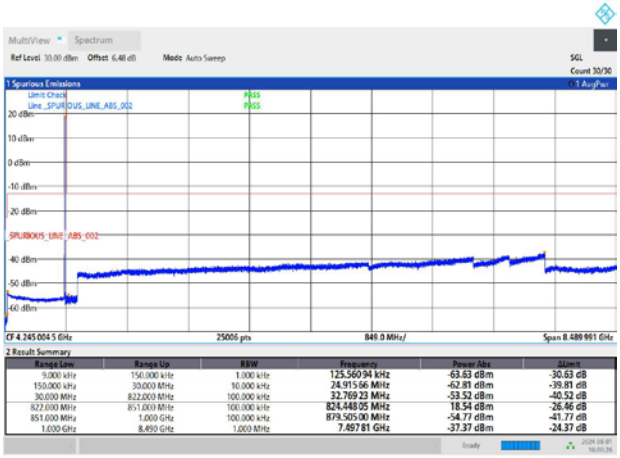
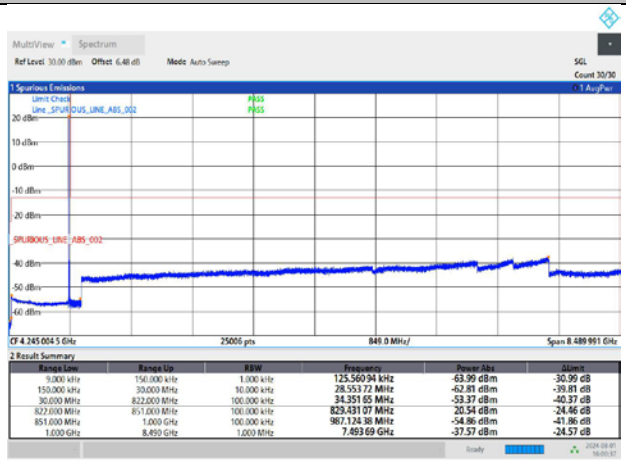
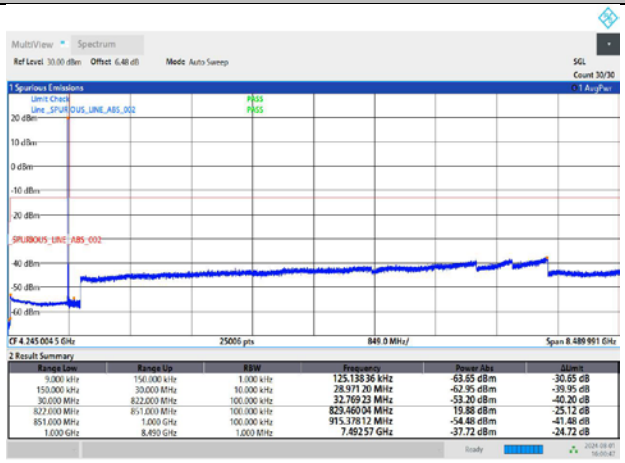
6.1. Test Plots

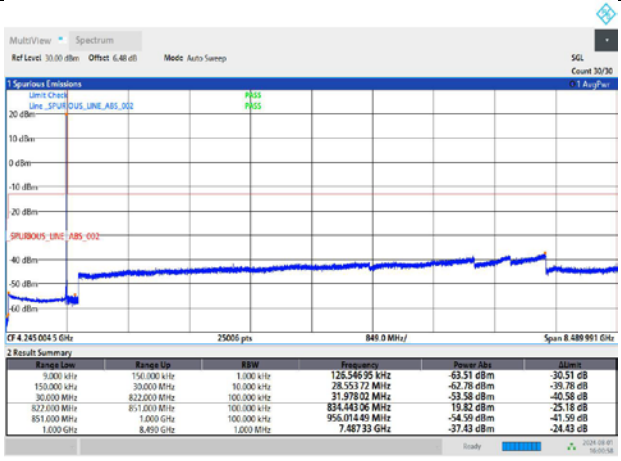
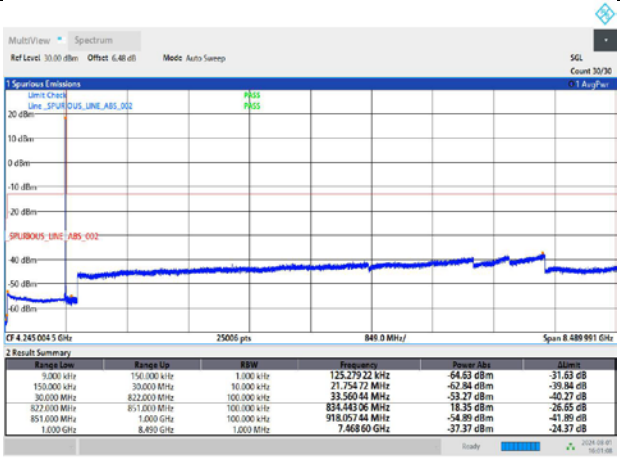
DC_7A_n5A / 15KHz / 5MHz	
LCH / DFT-Pi2BPSK / Edge_1RB_Left	LCH / DFT-QPSK / Edge_1RB_Left
	
MCH / DFT-Pi2BPSK / Edge_1RB_Left	MCH / DFT-QPSK / Edge_1RB_Left
	

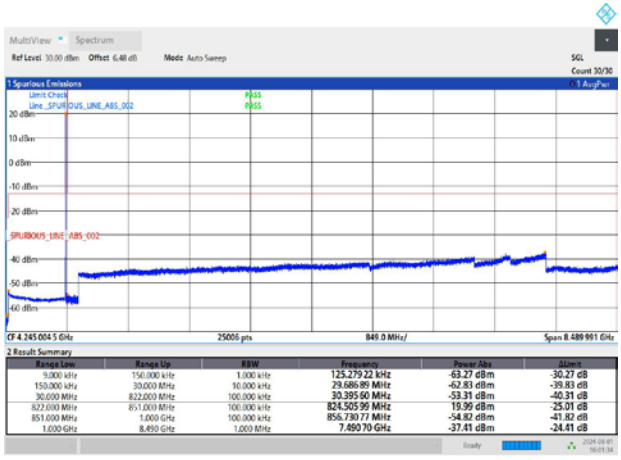
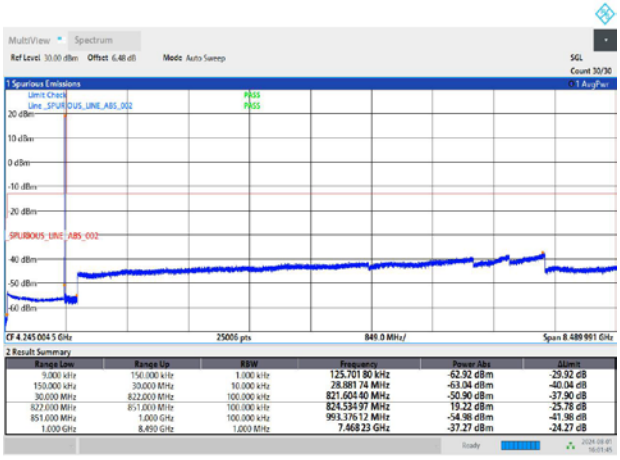
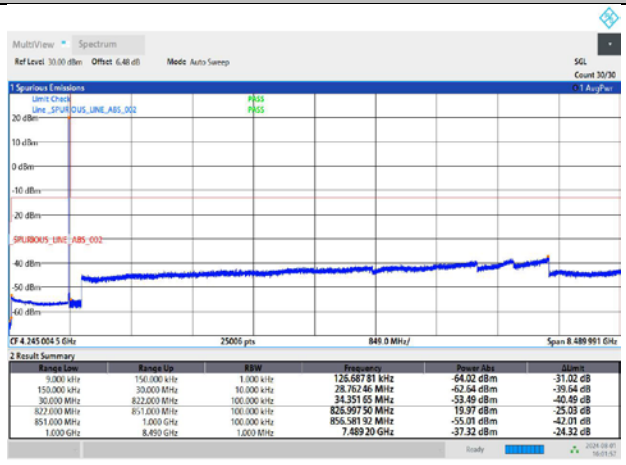
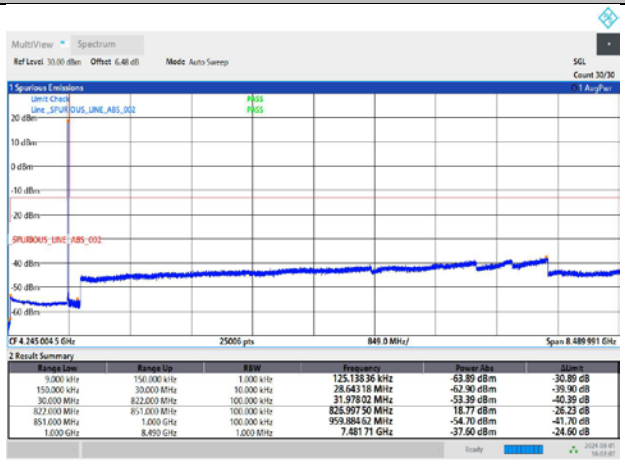
HCH / DFT-Pi2BPSK / Edge_1RB_Left	HCH / DFT-QPSK / Edge_1RB_Left
	

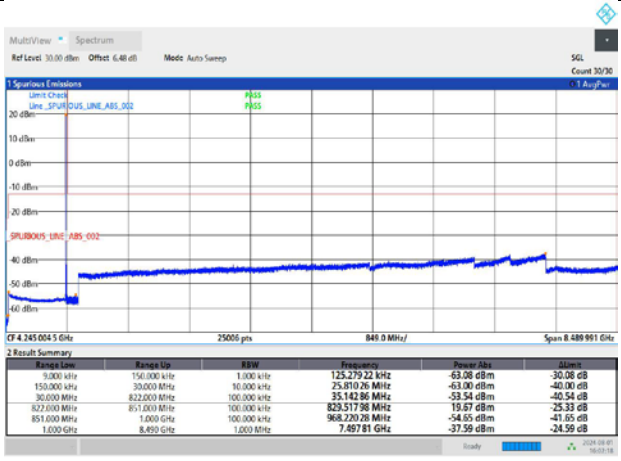
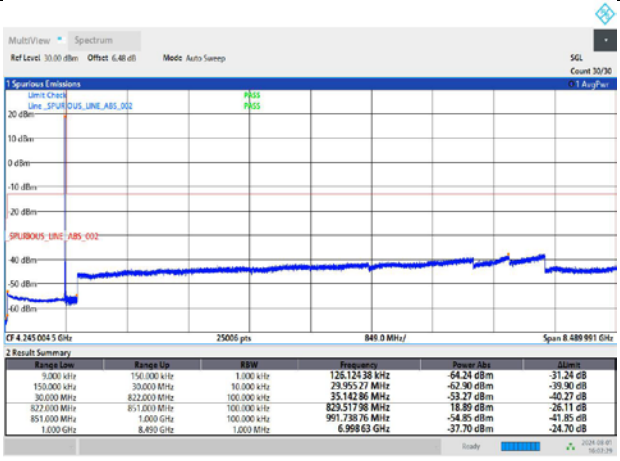
DC_7A_n5A / 15KHz / 10MHz	
LCH / DFT-Pi2BPSK / Edge_1RB_Left	LCH / DFT-QPSK / Edge_1RB_Left
	
MCH / DFT-Pi2BPSK / Edge_1RB_Left	MCH / DFT-QPSK / Edge_1RB_Left
	

HCH / DFT-Pi2BPSK / Edge_1RB_Left	HCH / DFT-QPSK / Edge_1RB_Left
	

DC_7A_n5A / 15KHz / 15MHz	
LCH / DFT-Pi2BPSK / Edge_1RB_Left	LCH / DFT-QPSK / Edge_1RB_Left
	
MCH / DFT-Pi2BPSK / Edge_1RB_Left	MCH / DFT-QPSK / Edge_1RB_Left
	

HCH / DFT-Pi2BPSK / Edge_1RB_Left	HCH / DFT-QPSK / Edge_1RB_Left
	

DC_7A_n5A / 15KHz / 20MHz	
LCH / DFT-Pi2BPSK / Edge_1RB_Left	LCH / DFT-QPSK / Edge_1RB_Left
	
MCH / DFT-Pi2BPSK / Edge_1RB_Left	MCH / DFT-QPSK / Edge_1RB_Left
	

HCH / DFT-Pi2BPSK / Edge_1RB_Left	HCH / DFT-QPSK / Edge_1RB_Left
	

7. Frequency Stability

7.1. Test Results

7.1.1. Frequency Error Vs Voltage

SCS	Bandwidth	Channel	RB Config	Modulation	Temperature	Voltage	Deviation Result		Verdict
							(Hz)	(ppm)	
15KHz	20MHz	MCH	Outer_Full	DFT-QPSK	NT	LV	-7.40	-0.008846	Pass
15KHz	20MHz	MCH	Outer_Full	DFT-QPSK	NT	NV	-12.20	-0.014585	Pass
15KHz	20MHz	MCH	Outer_Full	DFT-QPSK	NT	HV	-9.10	-0.010879	Pass

7.1.2. Frequency Error Vs Temperature

SCS	Bandwidth	Channel	RB Config	Modulation	Temperature	Voltage	Deviation Result		Verdict
							(Hz)	(ppm)	
15KHz	20MHz	MCH	Outer_Full	DFT-QPSK	-30℃	NV	-5.50	-0.006575	Pass
15KHz	20MHz	MCH	Outer_Full	DFT-QPSK	-20℃	NV	-8.90	-0.010640	Pass
15KHz	20MHz	MCH	Outer_Full	DFT-QPSK	-10℃	NV	-8.70	-0.010400	Pass
15KHz	20MHz	MCH	Outer_Full	DFT-QPSK	0℃	NV	-8.20	-0.009803	Pass
15KHz	20MHz	MCH	Outer_Full	DFT-QPSK	10℃	NV	-8.40	-0.010042	Pass
15KHz	20MHz	MCH	Outer_Full	DFT-QPSK	20℃	NV	-10.60	-0.012672	Pass
15KHz	20MHz	MCH	Outer_Full	DFT-QPSK	30℃	NV	-7.10	-0.008488	Pass
15KHz	20MHz	MCH	Outer_Full	DFT-QPSK	40℃	NV	-10.70	-0.012791	Pass
15KHz	20MHz	MCH	Outer_Full	DFT-QPSK	50℃	NV	-4.40	-0.005260	Pass

The End