

10.2. BAND EDGE EMISSIONS

RULE PART(S)

FCC: §22.359, §24.238 and §27.53

LIMITS

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log (P)$ dB.

TEST PROCEDURE

Per KDB 971168 D01 Power Meas License Digital Systems v02r02

The transmitter output was connected to a CMW500 Test Set and configured to operate at maximum power. The band edge emissions were measured at the required operating frequencies in each band on the Spectrum Analyzer.

RESULTS

GSM

Band	Mode	Side	f [MHz]	Level [dBm]	Limit [dBm]
GSM850	GPRS	Lower	823.995	-24.91	-13.00
		Upper	849.021	-24.04	
	EGPRS	Lower	823.966	-30.79	
		Upper	849.023	-30.06	
GSM1900	GPRS	Lower	1849.968	-27.87	
		Upper	1910.005	-26.98	
	EGPRS	Lower	1849.967	-32.94	
		Upper	1910.014	-31.54	

WCDMA

Band	Mode	Side	f [MHz]	Level [dBm]	Limit [dBm]
Band 5	REL99	Lower	824.000	-27.46	-13.00
		Upper	849.000	-29.44	
	HSDPA	Lower	824.000	-27.58	
		Upper	849.000	-28.93	
Band 4	REL99	Lower	1710.000	-25.31	
		Upper	1755.000	-25.86	
	HSDPA	Lower	1710.000	-28.34	
		Upper	1755.000	-27.46	
Band 2	REL99	Lower	1850.000	-21.27	
		Upper	1910.000	-22.45	
	HSDPA	Lower	1850.000	-24.52	
		Upper	1910.000	-25.76	

LTE 17

Bandwidth	Mode	Side	RB Status	f [MHz]	Level [dBm]	Limit [dBm]
10 MHz	QPSK	Lower	1RB	704.000	-24.14	-13.00
			FRB	704.000	-28.12	
		Upper	1RB	716.000	-22.89	
			FRB	716.000	-25.46	
	16QAM	Lower	1RB	704.000	-24.21	
			FRB	704.000	-28.15	
		Upper	1RB	716.000	-24.96	
			FRB	716.000	-28.51	
5 MHz	QPSK	Lower	1RB	704.000	-19.48	-13.00
			FRB	704.000	-21.98	
		Upper	1RB	716.000	-17.55	
			FRB	716.000	-23.87	
	16QAM	Lower	1RB	704.000	-18.81	
			FRB	704.000	-24.11	
		Upper	1RB	716.000	-22.01	
			FRB	716.000	-23.35	

LTE 5

Bandwidth	Mode	Side	RB Status	f [MHz]	Level [dBm]	Limit [dBm]
10 MHz	QPSK	Lower	1RB	824.000	-22.39	-13.00
			FRB	824.000	-25.17	
		Upper	1RB	849.000	-23.06	
			FRB	849.000	-29.10	
	16QAM	Lower	1RB	824.000	-23.84	
			FRB	824.000	-28.79	
		Upper	1RB	849.000	-24.08	
			FRB	849.000	-30.12	
5 MHz	QPSK	Lower	1RB	824.000	-17.35	
			FRB	824.000	-22.91	
		Upper	1RB	849.000	-18.04	
			FRB	849.000	-22.60	
	16QAM	Lower	1RB	824.000	-19.68	
			FRB	824.000	-23.17	
		Upper	1RB	849.000	-21.16	
			FRB	849.000	-24.54	
3 MHz	QPSK	Lower	1RB	824.000	-17.17	
			FRB	824.000	-20.76	
		Upper	1RB	849.000	-17.07	
			FRB	849.000	-23.74	
	16QAM	Lower	1RB	824.000	-20.28	
			FRB	824.000	-22.51	
		Upper	1RB	849.000	-17.12	
			FRB	849.000	-22.86	
1.4 MHz	QPSK	Lower	1RB	824.000	-21.12	
			FRB	824.000	-20.47	
		Upper	1RB	849.000	-22.27	
			FRB	849.000	-22.32	
	16QAM	Lower	1RB	824.000	-23.52	
			FRB	824.000	-23.65	
		Upper	1RB	849.000	-22.72	
			FRB	849.000	-23.89	

LTE 4

Bandwidth	Mode	Side	RB Status	f [MHz]	Level [dBm]	Limit [dBm]
20 MHz	QPSK	Lower	1RB	1710.000	-29.50	-13.00
			FRB	1710.000	-31.66	
		Upper	1RB	1755.000	-30.24	
			FRB	1755.000	-27.35	
	16QAM	Lower	1RB	1710.000	-34.77	
			FRB	1710.000	-32.44	
		Upper	1RB	1755.000	-31.21	
			FRB	1755.000	-31.06	
15 MHz	QPSK	Lower	1RB	1710.000	-24.01	
			FRB	1710.000	-29.76	
		Upper	1RB	1755.000	-22.68	
			FRB	1755.000	-33.11	
	16QAM	Lower	1RB	1710.000	-21.09	
			FRB	1710.000	-29.22	
		Upper	1RB	1755.000	-20.66	
			FRB	1755.000	-33.71	
10 MHz	QPSK	Lower	1RB	1710.000	-24.20	
			FRB	1710.000	-29.86	
		Upper	1RB	1755.000	-23.78	
			FRB	1755.000	-26.58	
	16QAM	Lower	1RB	1710.000	-25.22	
			FRB	1710.000	-31.36	
		Upper	1RB	1755.000	-24.38	
			FRB	1755.000	-28.84	
5 MHz	QPSK	Lower	1RB	1710.000	-20.44	
			FRB	1710.000	-24.55	
		Upper	1RB	1755.000	-17.02	
			FRB	1755.000	-27.83	
	16QAM	Lower	1RB	1710.000	-20.70	
			FRB	1710.000	-22.90	
		Upper	1RB	1755.000	-18.41	
			FRB	1755.000	-25.51	

Bandwidth	Mode	Side	RB Status	f [MHz]	Level [dBm]	Limit [dBm]
3 MHz	QPSK	Lower	1RB	1710.000	-17.23	-13.00
			FRB	1710.000	-22.68	
		Upper	1RB	1755.000	-15.76	
			FRB	1755.000	-23.42	
	16QAM	Lower	1RB	1710.000	-20.01	
			FRB	1710.000	-23.61	
		Upper	1RB	1755.000	-18.81	
			FRB	1755.000	-22.29	
1.4 MHz	QPSK	Lower	1RB	1710.000	-21.25	-13.00
			FRB	1710.000	-22.33	
		Upper	1RB	1755.000	-21.00	
			FRB	1755.000	-22.86	
	16QAM	Lower	1RB	1710.000	-23.42	
			FRB	1710.000	-22.75	
		Upper	1RB	1755.000	-22.50	
			FRB	1755.000	-23.72	

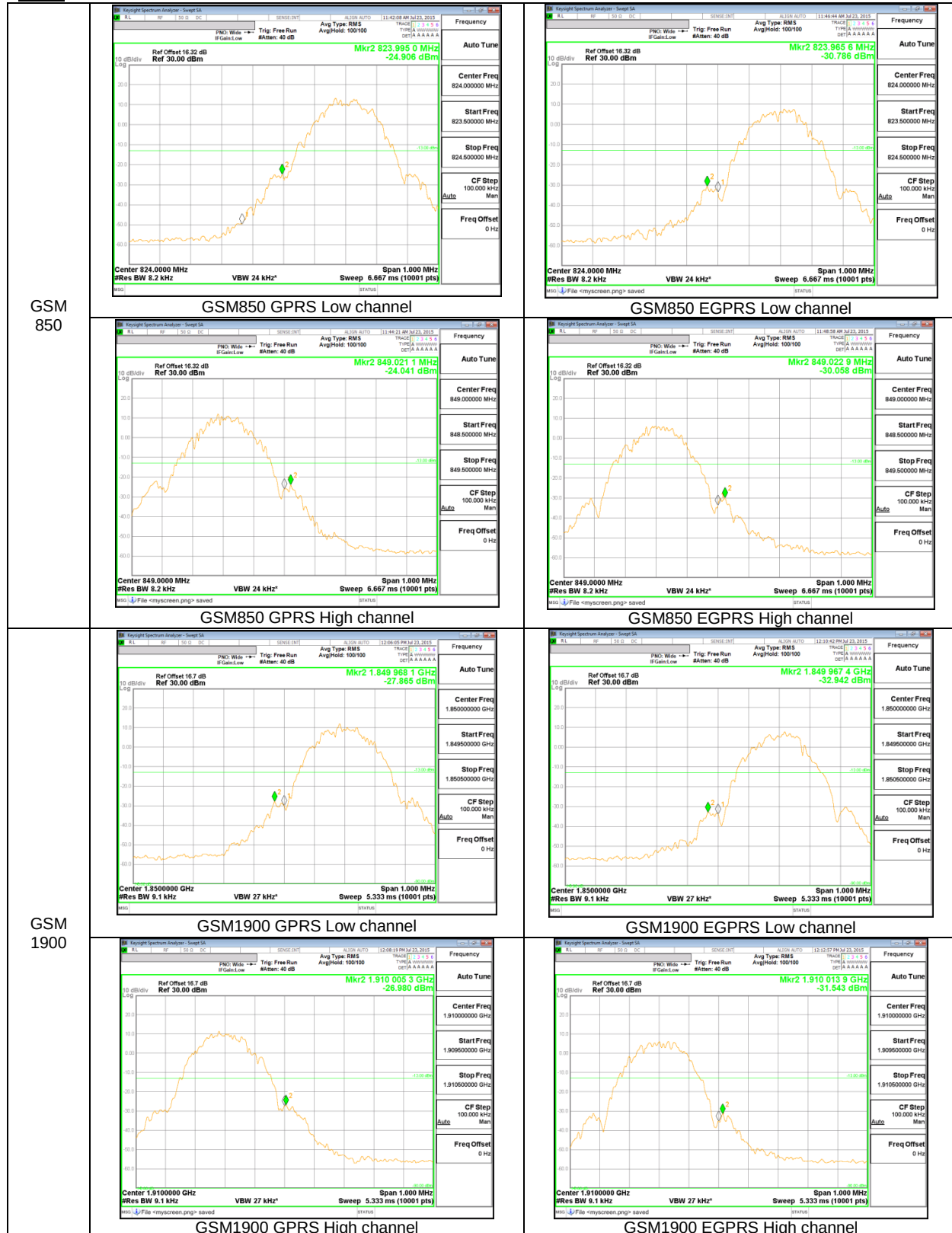
LTE 2

Bandwidth	Mode	Side	RB Status	f [MHz]	Level [dBm]	Limit [dBm]
20 MHz	QPSK	Lower	1RB	1850.000	-30.98	-13.00
			FRB	1850.000	-30.26	
		Upper	1RB	1910.000	-24.77	
			FRB	1910.000	-27.36	
	16QAM	Lower	1RB	1850.000	-29.41	
			FRB	1850.000	-31.75	
		Upper	1RB	1910.000	-30.82	
			FRB	1910.000	-32.11	
15 MHz	QPSK	Lower	1RB	1850.000	-21.14	-13.00
			FRB	1850.000	-28.01	
		Upper	1RB	1910.000	-21.54	
			FRB	1910.000	-26.72	
	16QAM	Lower	1RB	1850.000	-21.94	
			FRB	1850.000	-29.28	
		Upper	1RB	1910.000	-22.34	
			FRB	1910.000	-30.74	

Bandwidth	Mode	Side	RB Status	f [MHz]	Level [dBm]	Limit [dBm]
10 MHz	QPSK	Lower	1RB	1850.000	-23.64	-13.00
			FRB	1850.000	-31.56	
		Upper	1RB	1910.000	-22.46	
			FRB	1910.000	-33.22	
	16QAM	Lower	1RB	1850.000	-22.77	
			FRB	1850.000	-32.67	
		Upper	1RB	1910.000	-22.37	
			FRB	1910.000	-32.39	
5 MHz	QPSK	Lower	1RB	1850.000	-18.99	
			FRB	1850.000	-21.93	
		Upper	1RB	1910.000	-18.57	
			FRB	1910.000	-23.56	
	16QAM	Lower	1RB	1850.000	-19.36	
			FRB	1850.000	-23.13	
		Upper	1RB	1910.000	-17.82	
			FRB	1910.000	-22.69	
3 MHz	QPSK	Lower	1RB	1850.000	-15.44	
			FRB	1850.000	-21.21	
		Upper	1RB	1910.000	-14.09	
			FRB	1910.000	-23.74	
	16QAM	Lower	1RB	1850.000	-16.61	
			FRB	1850.000	-22.55	
		Upper	1RB	1910.000	-15.12	
			FRB	1910.000	-22.47	
1.4 MHz	QPSK	Lower	1RB	1850.000	-19.08	
			FRB	1850.000	-20.42	
		Upper	1RB	1910.000	-18.39	
			FRB	1910.000	-21.73	
	16QAM	Lower	1RB	1850.000	-21.29	
			FRB	1850.000	-22.19	
		Upper	1RB	1910.000	-20.55	
			FRB	1910.000	-23.52	

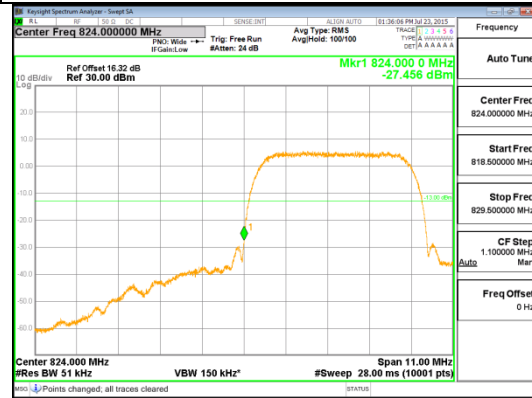
10.2.1. BAND EDGE PLOTS

GSM

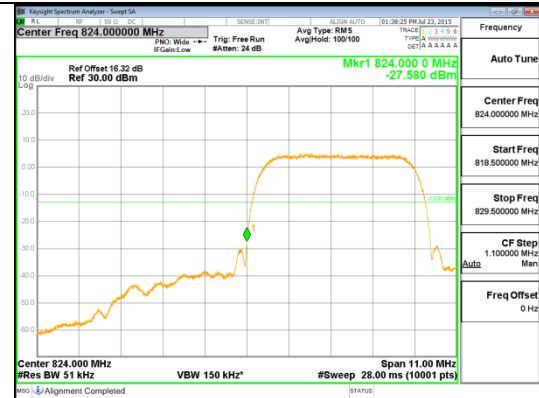


WCDMA

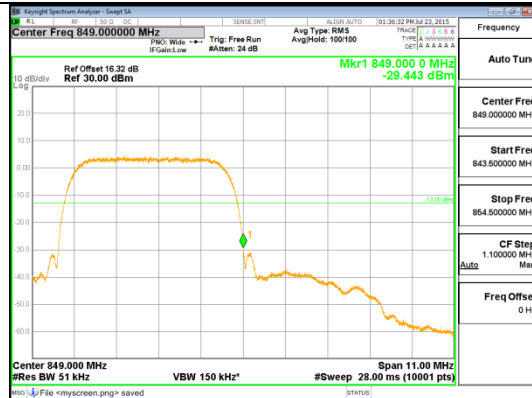
Band 5



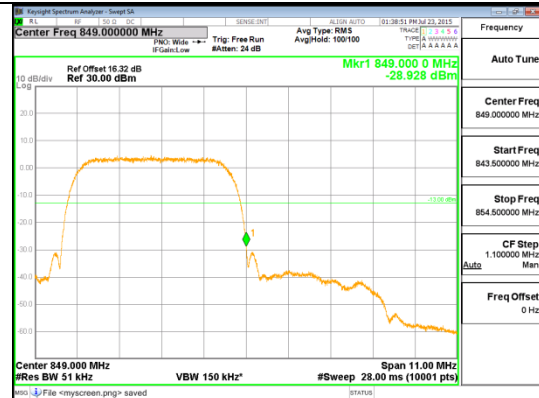
REL99 Low channel



HSDPA Low channel

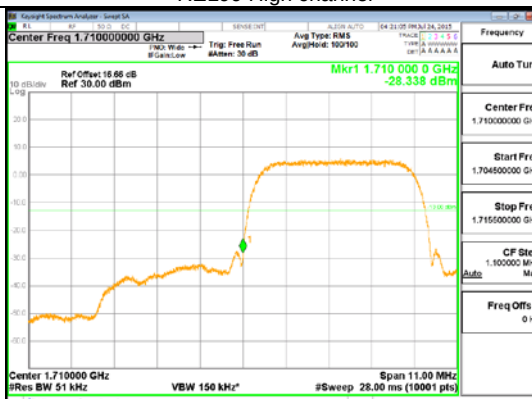


REL99 High channel

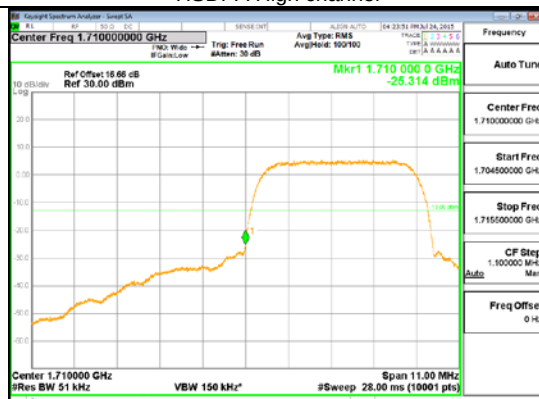


HSDPA High channel

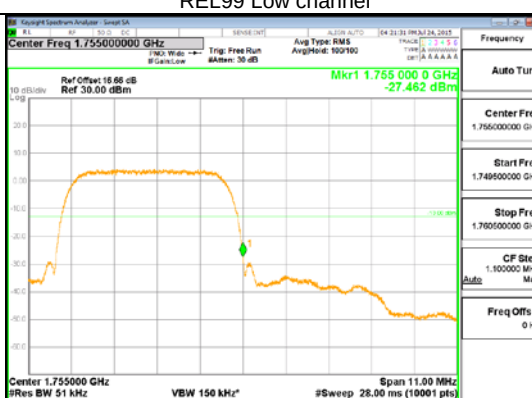
Band 4



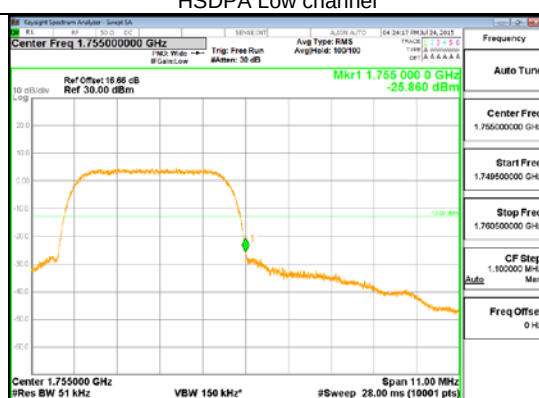
REL99 Low channel



HSDPA Low channel

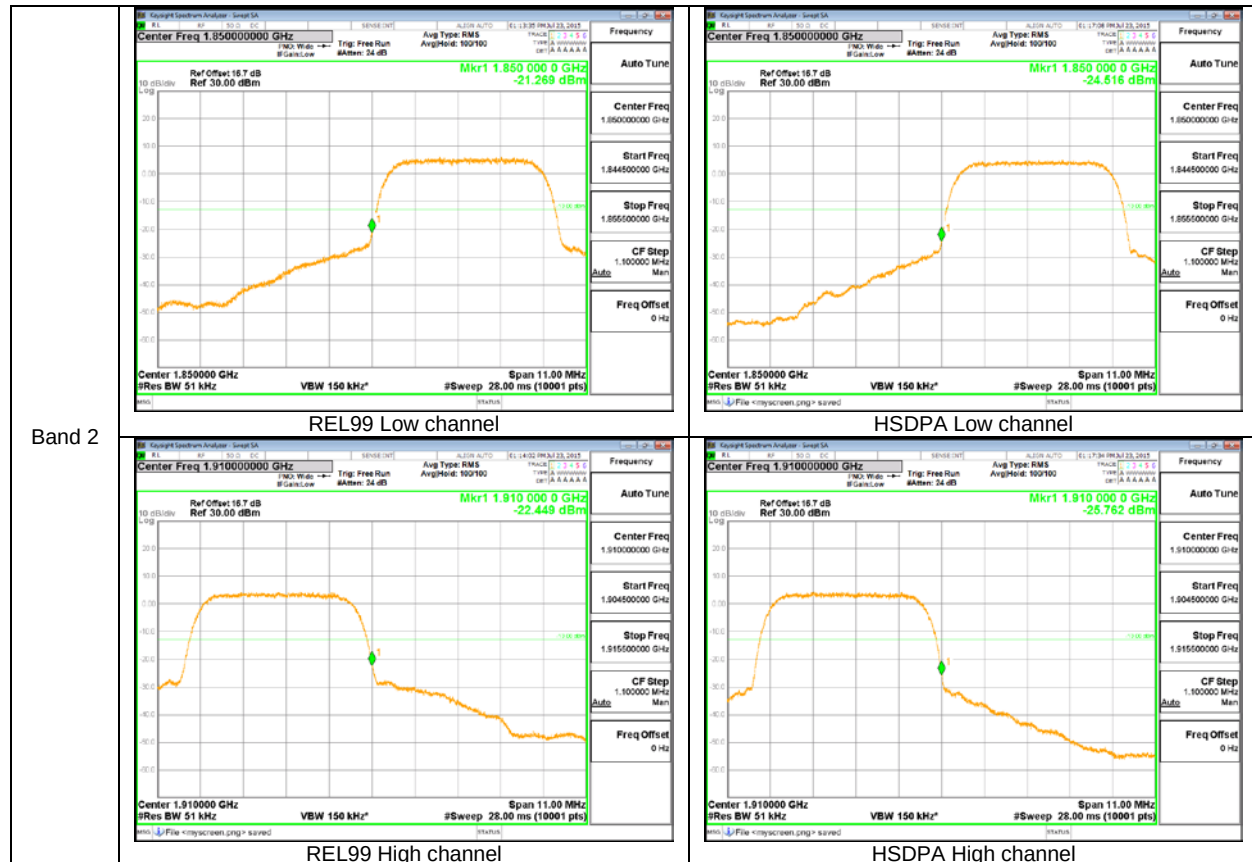


REL99 High channel

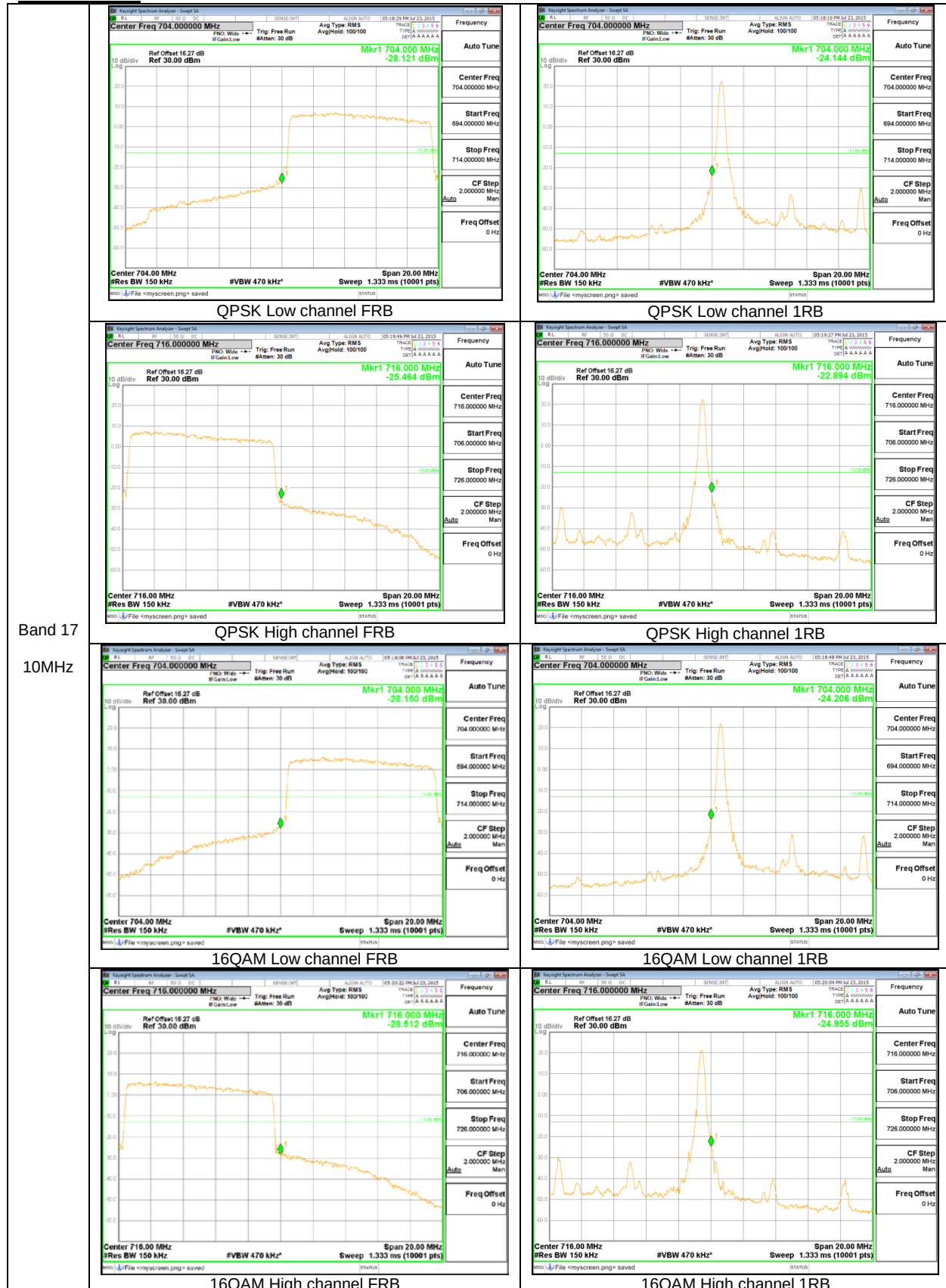


HSDPA High channel

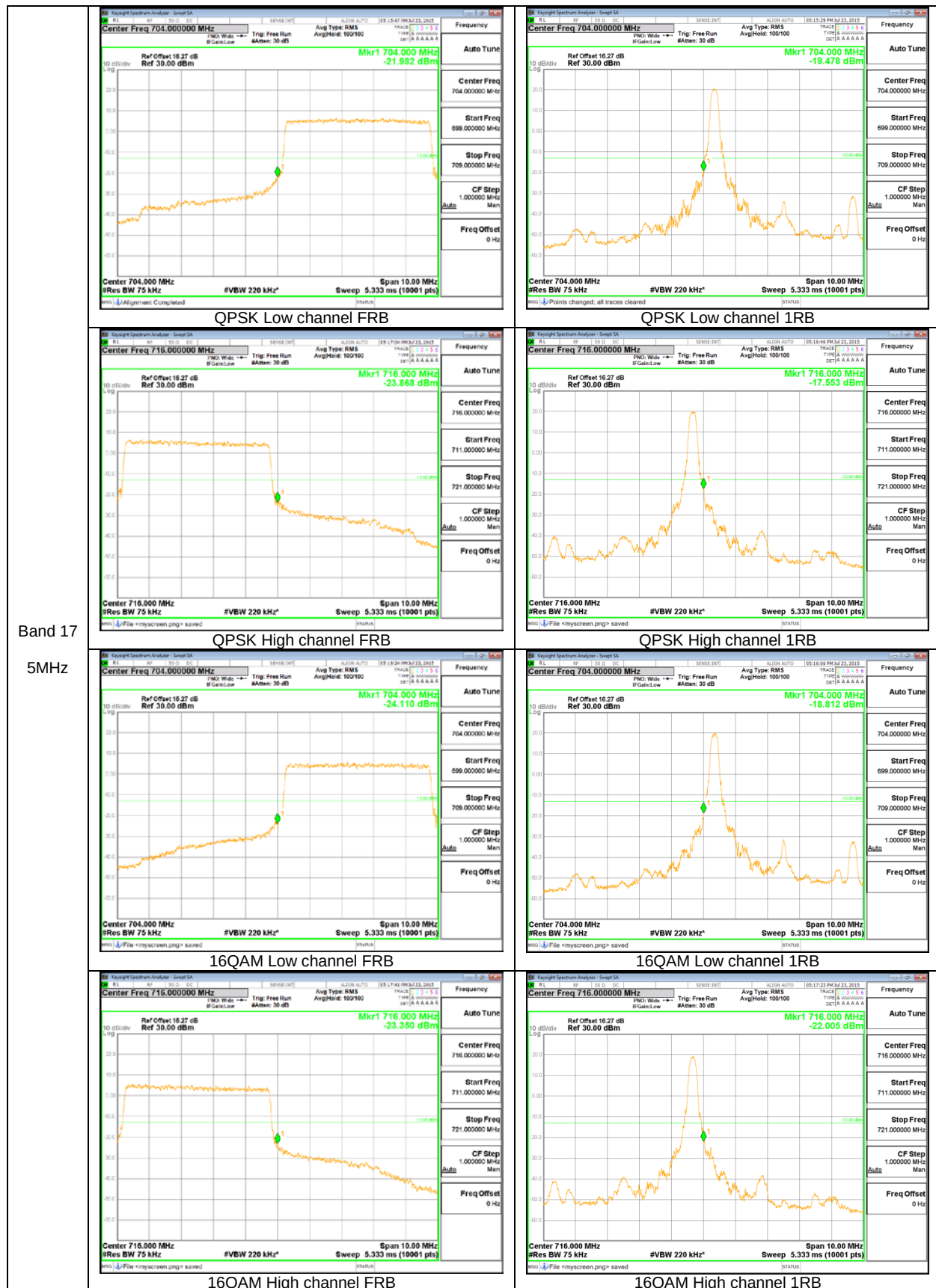
WCDMA



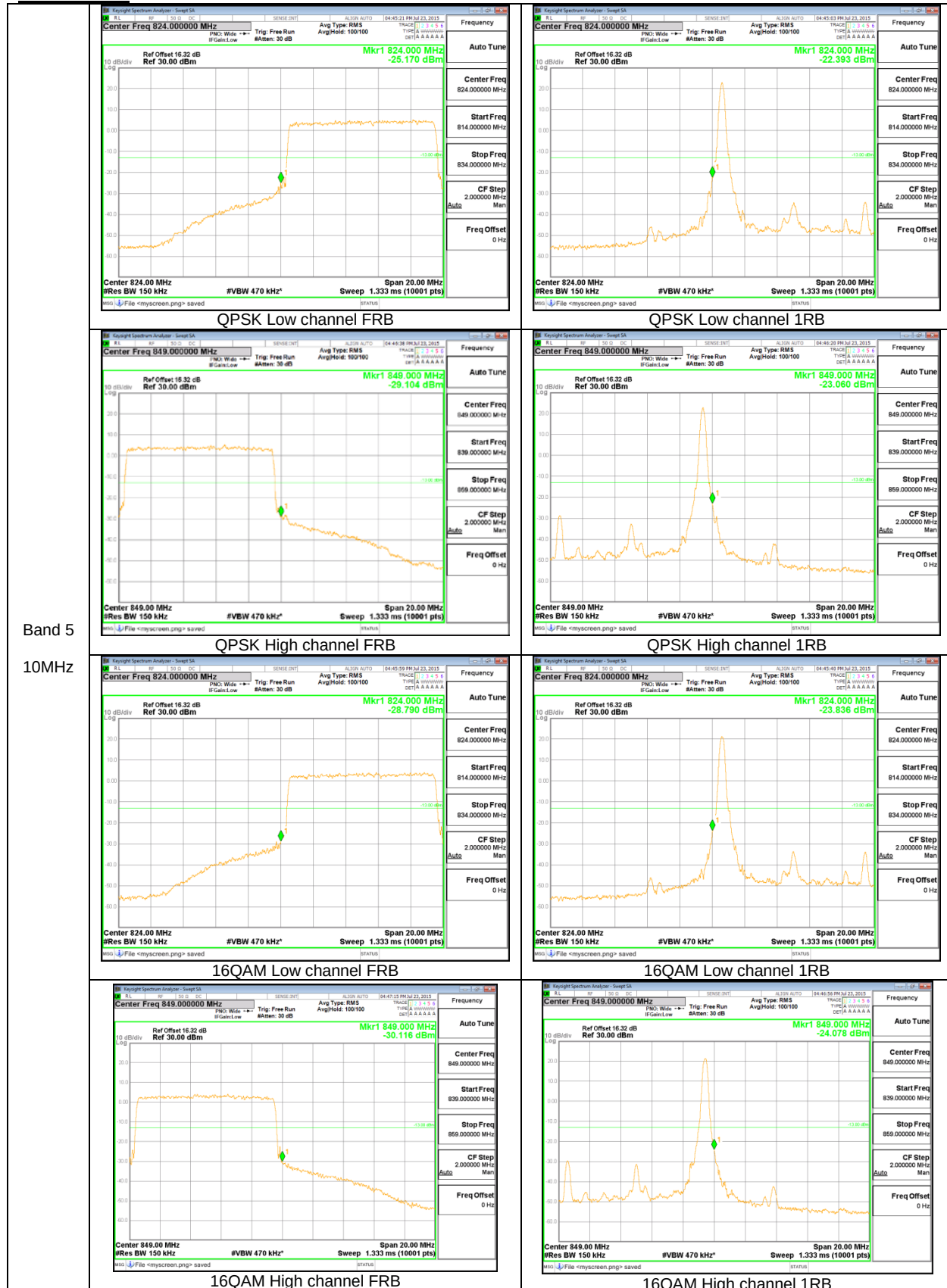
LTE Band 17

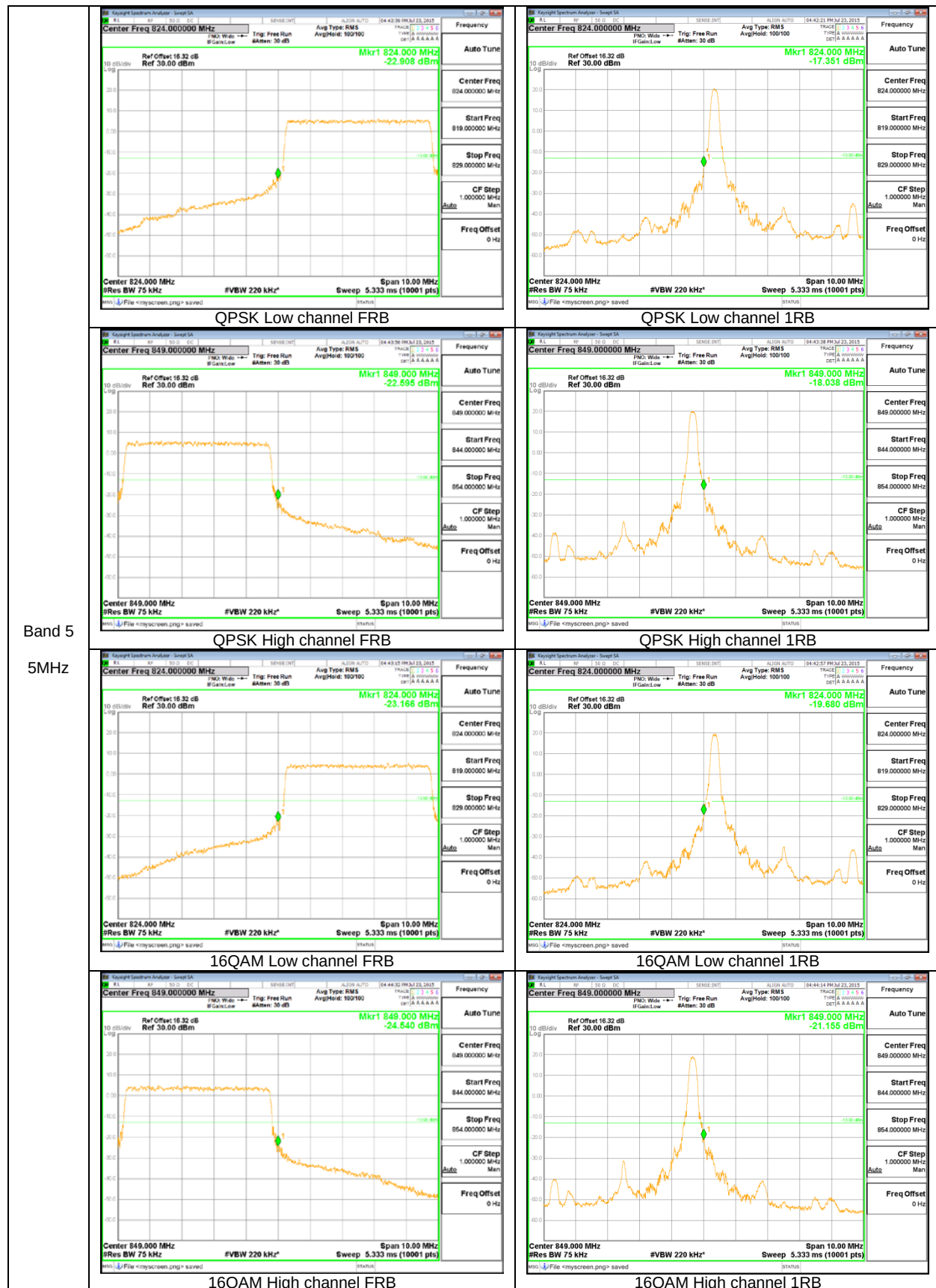


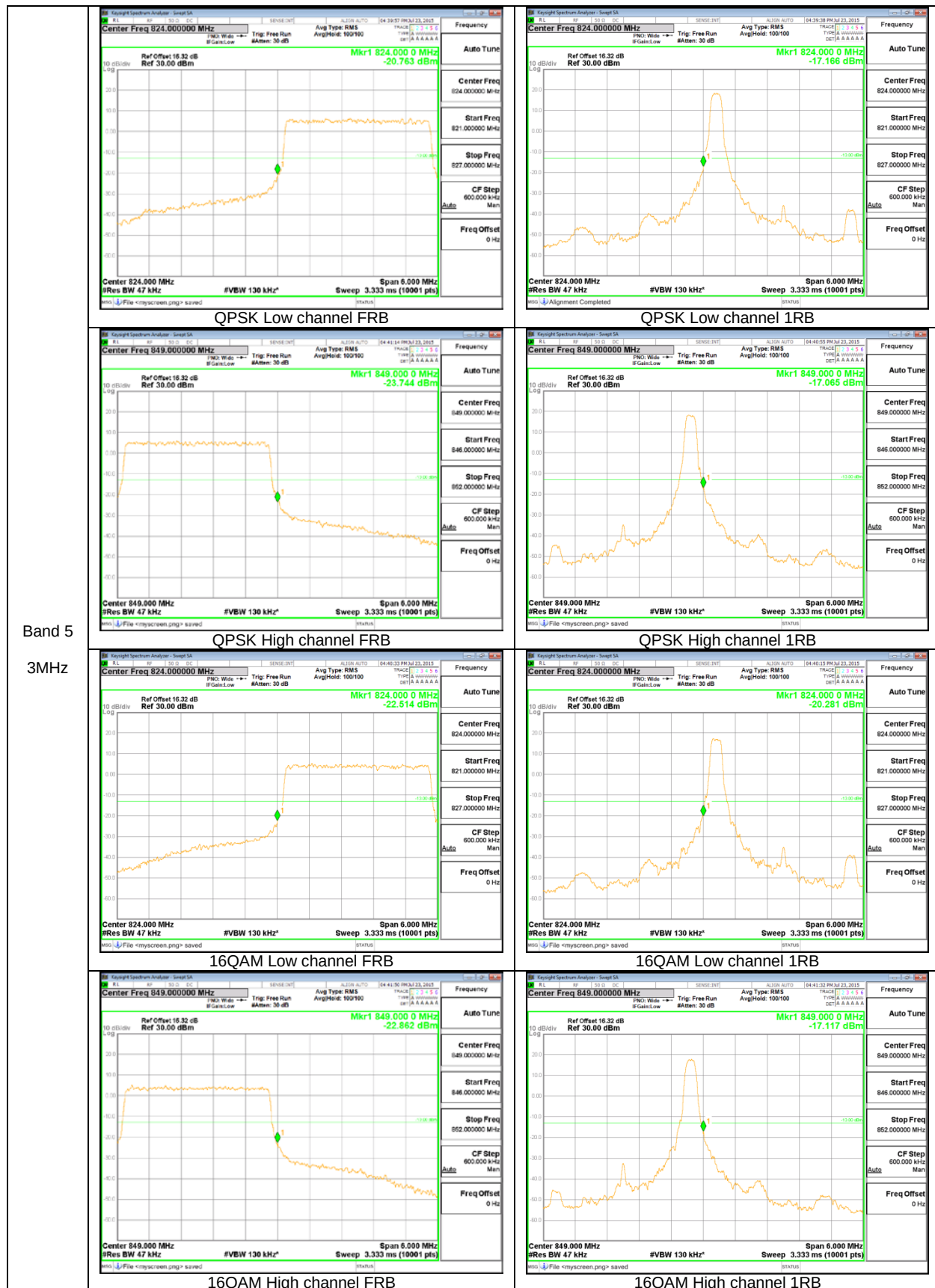
Band 17
10MHz

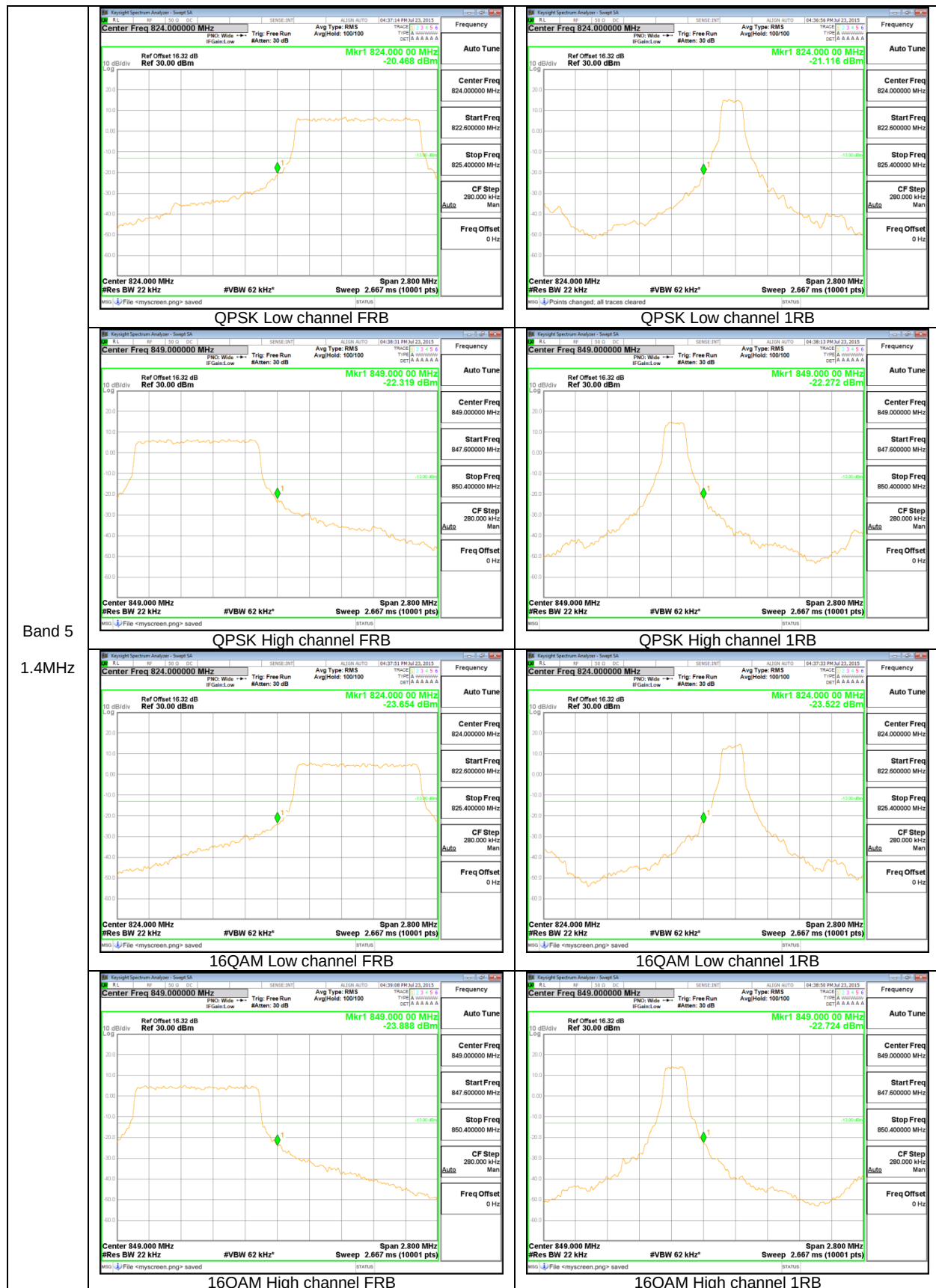


LTE Band 5









LTE Band 4

