

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	823.977	-15.121	-13.00
		Upper	849.023	-15.074	
	EGPRS	Lower	823.987	-23.215	
		Upper	849.003	-20.745	
GSM1900	GPRS	Lower	1849.977	-17.142	
		Upper	1910.023	-16.588	
	EGPRS	Lower	1849.982	-24.106	
		Upper	1910.000	-19.778	

WCDMA

Band	Mode	Side	f [MHz]	Level [dBm]	Limit [dBm]
Band 5	REL99	Lower	824.000	-29.595	-13.00
		Upper	849.000	-31.834	
	HSDPA	Lower	824.000	-31.425	
		Upper	849.000	-32.275	
Band 4	REL99	Lower	1710.000	-26.356	
		Upper	1755.000	-26.275	
	HSDPA	Lower	1710.000	-31.189	
		Upper	1755.000	-32.024	
Band 2	REL99	Lower	1850.000	-29.833	
		Upper	1910.000	-33.126	
	HSDPA	Lower	1850.000	-32.952	
		Upper	1910.000	-33.645	

LTE 17

Bandwidth	Mode	Side	RB Status	f [MHz]	Level [dBm]	Limit [dBm]
10 MHz	QPSK	Lower	1RB	704.000	-23.952	-13.00
			FRB	704.000	-36.194	
		Upper	1RB	716.000	-21.125	
			FRB	716.000	-34.156	
	16QAM	Lower	1RB	704.000	-22.230	
			FRB	704.000	-37.187	
		Upper	1RB	716.000	-23.257	
			FRB	716.000	-32.909	
5 MHz	QPSK	Lower	1RB	704.000	-15.528	
			FRB	704.000	-26.309	
		Upper	1RB	716.000	-14.337	
			FRB	716.000	-27.016	
	16QAM	Lower	1RB	704.000	-15.854	
			FRB	704.000	-27.282	
		Upper	1RB	716.000	-15.890	
			FRB	716.000	-26.703	

LTE 5

Bandwidth	Mode	Side	RB Status	f [MHz]	Level [dBm]	Limit [dBm]
10 MHz	QPSK	Lower	1RB	824.000	-23.753	-13.00
			FRB	824.000	-30.149	
		Upper	1RB	849.000	-22.144	
			FRB	849.000	-27.494	
	16QAM	Lower	1RB	824.000	-24.681	
			FRB	824.000	-30.906	
		Upper	1RB	849.000	-19.977	
			FRB	849.000	-28.978	
5 MHz	QPSK	Lower	1RB	824.000	-14.539	
			FRB	824.000	-25.327	
		Upper	1RB	849.000	-14.872	
			FRB	849.000	-25.269	
	16QAM	Lower	1RB	824.000	-14.901	
			FRB	824.000	-25.085	
		Upper	1RB	849.000	-15.930	
			FRB	849.000	-26.644	
3 MHz	QPSK	Lower	1RB	824.000	-15.043	
			FRB	824.000	-25.608	
		Upper	1RB	849.000	-14.481	
			FRB	849.000	-25.486	
	16QAM	Lower	1RB	824.000	-18.111	
			FRB	824.000	-26.221	
		Upper	1RB	849.000	-17.109	
			FRB	849.000	-25.647	
1.4 MHz	QPSK	Lower	1RB	824.000	-16.309	
			FRB	824.000	-22.644	
		Upper	1RB	849.000	-15.801	
			FRB	849.000	-21.288	
	16QAM	Lower	1RB	824.000	-16.838	
			FRB	824.000	-22.669	
		Upper	1RB	849.000	-16.041	
			FRB	849.000	-22.414	

LTE 4

Bandwidth	Mode	Side	RB Status	f [MHz]	Level [dBm]	Limit [dBm]
20 MHz	QPSK	Lower	1RB	1710.000	-25.681	-13.00
			FRB	1710.000	-31.091	
		Upper	1RB	1755.000	-22.404	
			FRB	1755.000	-29.898	
	16QAM	Lower	1RB	1710.000	-26.609	
			FRB	1710.000	-31.903	
		Upper	1RB	1755.000	-19.365	
			FRB	1755.000	-30.958	
15 MHz	QPSK	Lower	1RB	1710.000	-28.245	-13.00
			FRB	1710.000	-32.745	
		Upper	1RB	1755.000	-22.577	
			FRB	1755.000	-29.591	
	16QAM	Lower	1RB	1710.000	-26.618	
			FRB	1710.000	-32.634	
		Upper	1RB	1755.000	-28.949	
			FRB	1755.000	-32.165	
10 MHz	QPSK	Lower	1RB	1710.000	-24.384	-13.00
			FRB	1710.000	-33.223	
		Upper	1RB	1755.000	-19.084	
			FRB	1755.000	-28.897	
	16QAM	Lower	1RB	1710.000	-19.589	
			FRB	1710.000	-32.841	
		Upper	1RB	1755.000	-22.405	
			FRB	1755.000	-33.535	
5 MHz	QPSK	Lower	1RB	1710.000	-15.348	-13.00
			FRB	1710.000	-24.346	
		Upper	1RB	1755.000	-14.329	
			FRB	1755.000	-26.441	
	16QAM	Lower	1RB	1710.000	-15.622	
			FRB	1710.000	-25.141	
		Upper	1RB	1755.000	-14.424	
			FRB	1755.000	-25.179	

Bandwidth	Mode	Side	RB Status	f [MHz]	Level [dBm]	Limit [dBm]
3 MHz	QPSK	Lower	1RB	1710.000	-14.123	-13.00
			FRB	1710.000	-22.261	
		Upper	1RB	1755.000	-14.326	
			FRB	1755.000	-24.634	
	16QAM	Lower	1RB	1710.000	-14.571	
			FRB	1710.000	-24.847	
		Upper	1RB	1755.000	-14.900	
			FRB	1755.000	-24.331	
1.4 MHz	QPSK	Lower	1RB	1710.000	-14.446	-13.00
			FRB	1710.000	-20.020	
		Upper	1RB	1755.000	-14.199	
			FRB	1755.000	-21.972	
	16QAM	Lower	1RB	1710.000	-14.205	
			FRB	1710.000	-22.294	
		Upper	1RB	1755.000	-14.413	
			FRB	1755.000	-23.132	

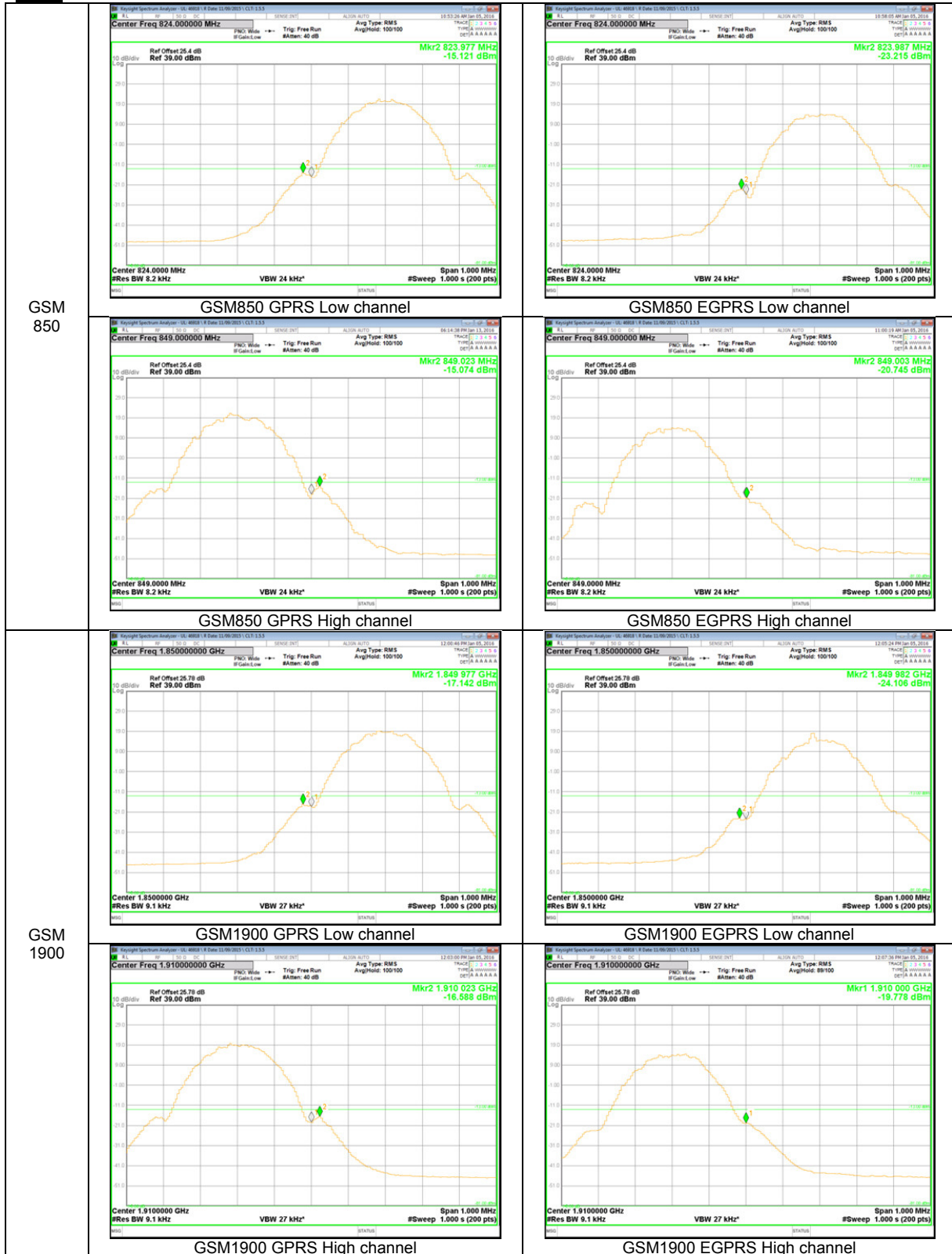
LTE 2

Bandwidth	Mode	Side	RB Status	f [MHz]	Level [dBm]	Limit [dBm]
20 MHz	QPSK	Lower	1RB	1850.000	-20.322	-13.00
			FRB	1850.000	-27.341	
		Upper	1RB	1910.000	-21.614	
			FRB	1910.000	-26.638	
	16QAM	Lower	1RB	1850.000	-21.491	
			FRB	1850.000	-28.763	
		Upper	1RB	1910.000	-24.667	
			FRB	1910.000	-27.597	
15 MHz	QPSK	Lower	1RB	1850.000	-18.453	-13.00
			FRB	1850.000	-28.255	
		Upper	1RB	1910.000	-23.467	
			FRB	1910.000	-26.686	
	16QAM	Lower	1RB	1850.000	-20.017	
			FRB	1850.000	-28.112	
		Upper	1RB	1910.000	-18.759	
			FRB	1910.000	-28.157	

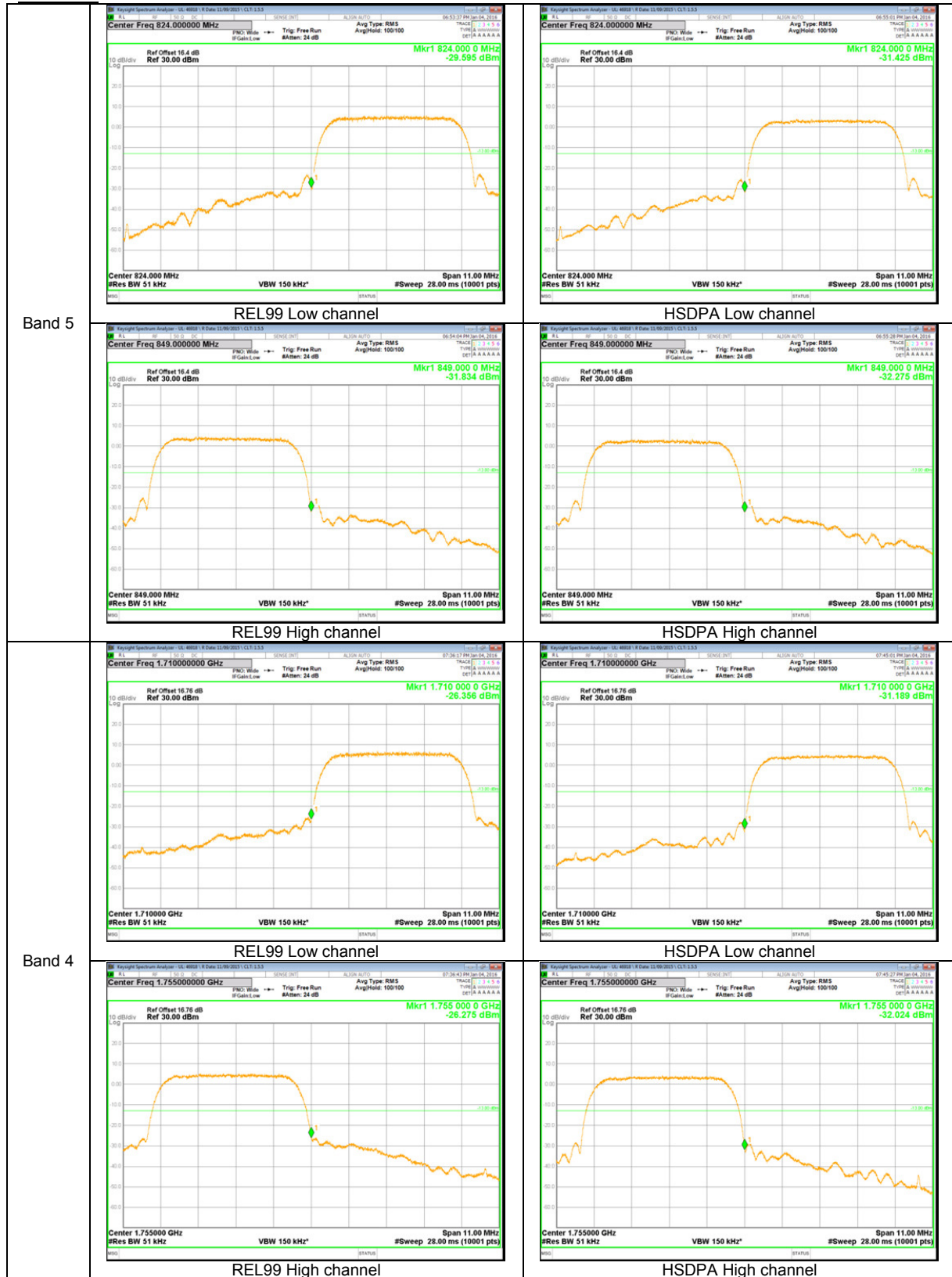
Bandwidth	Mode	Side	RB Status	f [MHz]	Level [dBm]	Limit [dBm]
10 MHz	QPSK	Lower	1RB	1850.000	-22.509	-13.00
			FRB	1850.000	-28.827	
		Upper	1RB	1910.000	-19.823	
			FRB	1910.000	-28.634	
	16QAM	Lower	1RB	1850.000	-24.605	
			FRB	1850.000	-28.959	
		Upper	1RB	1910.000	-24.705	
			FRB	1910.000	-29.100	
5 MHz	QPSK	Lower	1RB	1850.000	-14.320	
			FRB	1850.000	-24.483	
		Upper	1RB	1910.000	-14.141	
			FRB	1910.000	-25.492	
	16QAM	Lower	1RB	1850.000	-16.583	
			FRB	1850.000	-22.541	
		Upper	1RB	1910.000	-14.241	
			FRB	1910.000	-25.622	
3 MHz	QPSK	Lower	1RB	1850.000	-14.320	
			FRB	1850.000	-25.573	
		Upper	1RB	1910.000	-14.145	
			FRB	1910.000	-25.897	
	16QAM	Lower	1RB	1850.000	-16.416	
			FRB	1850.000	-25.768	
		Upper	1RB	1910.000	-16.065	
			FRB	1910.000	-24.965	
1.4 MHz	QPSK	Lower	1RB	1850.000	-14.966	
			FRB	1850.000	-21.386	
		Upper	1RB	1910.000	-14.318	
			FRB	1910.000	-21.257	
	16QAM	Lower	1RB	1850.000	-15.136	
			FRB	1850.000	-21.530	
		Upper	1RB	1910.000	-15.665	
			FRB	1910.000	-20.747	

10.2.1. BAND EDGE PLOTS

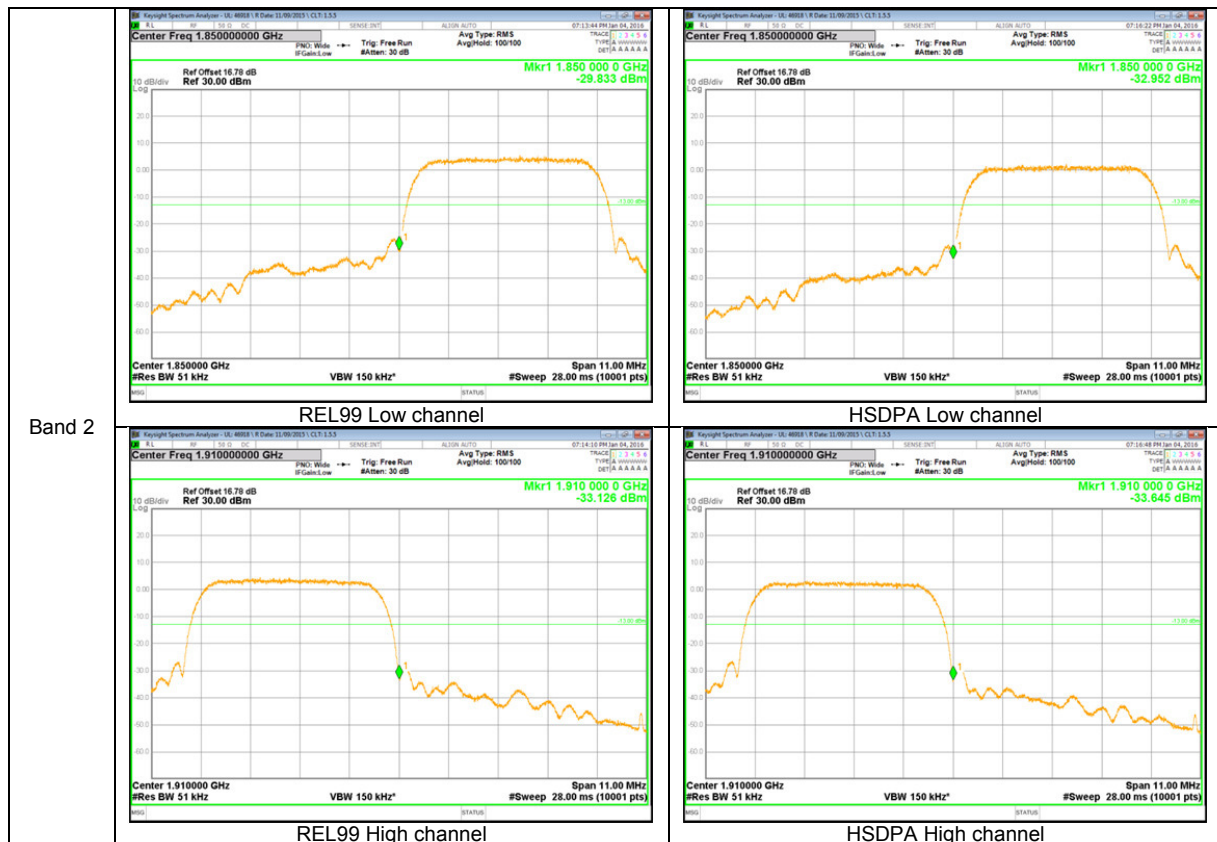
GSM



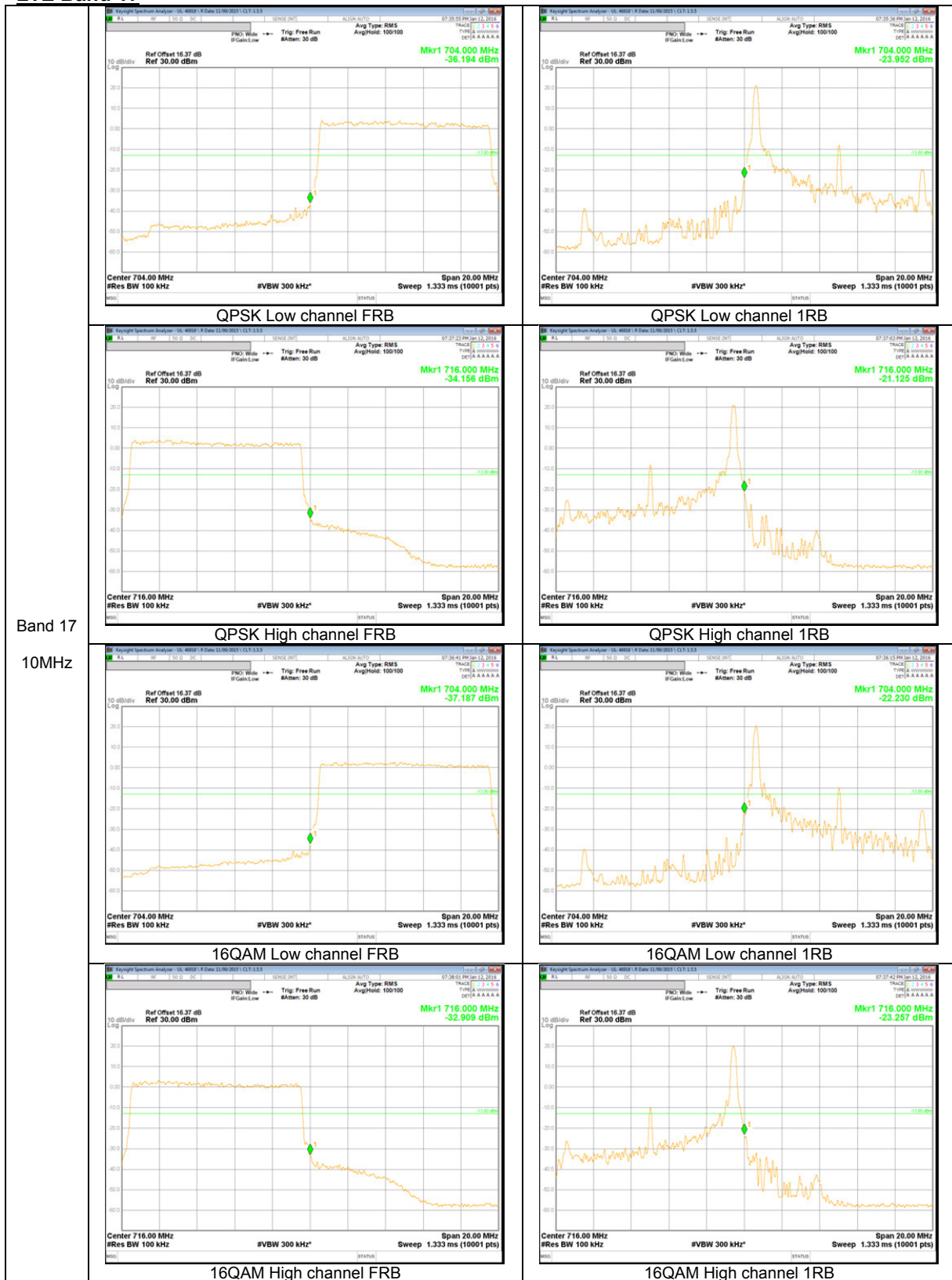
WCDMA



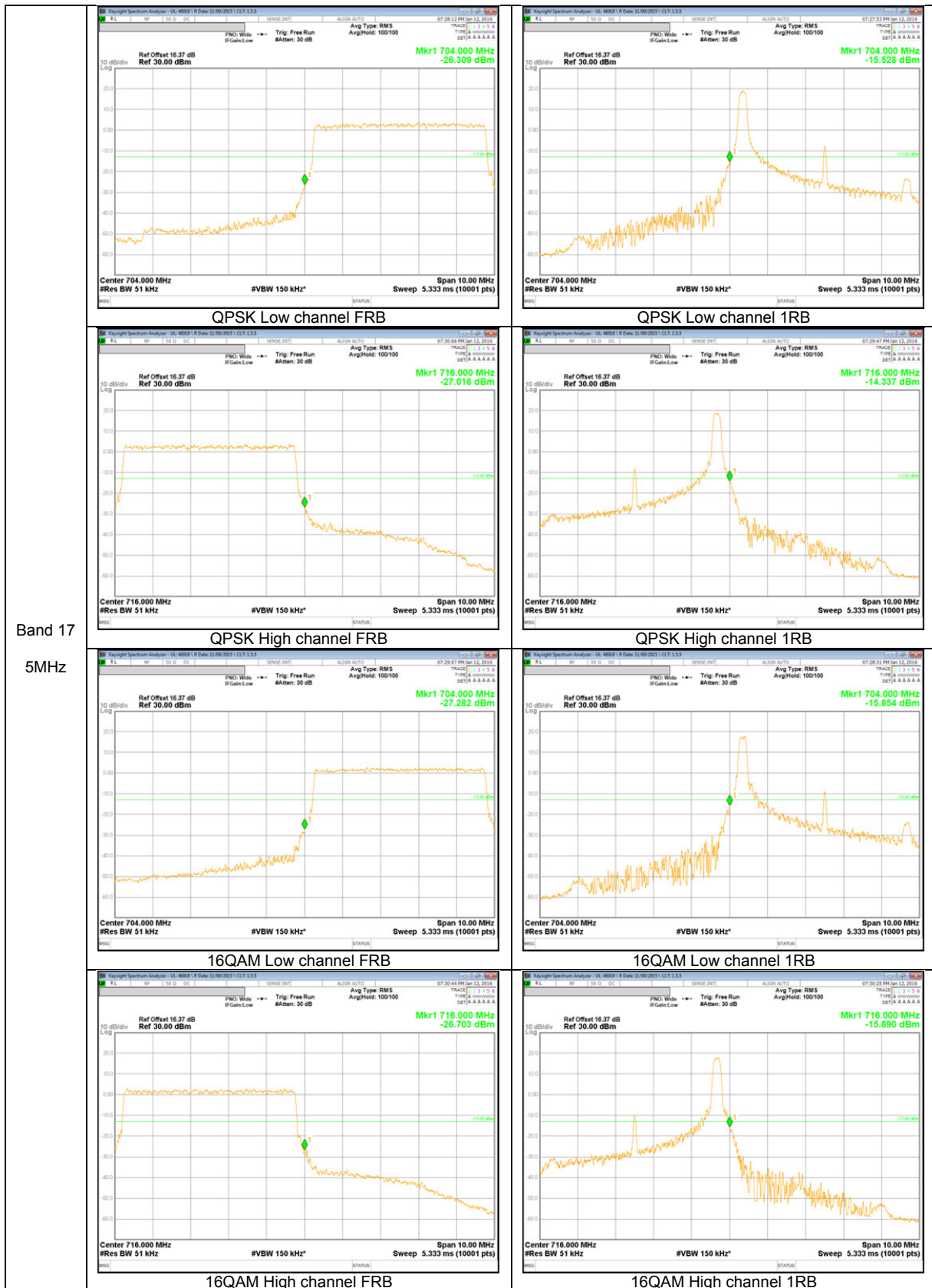
WCDMA



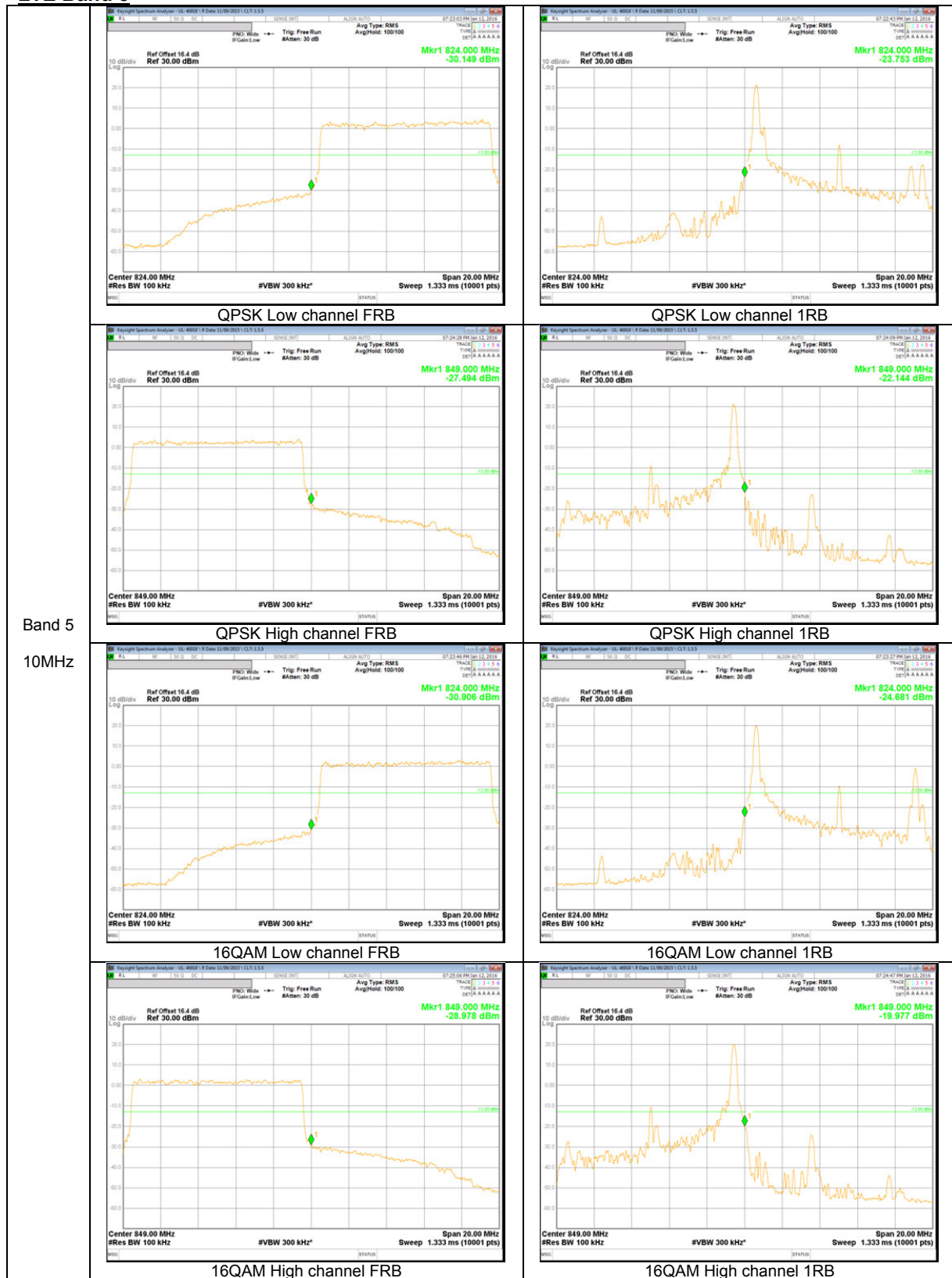
LTE Band 17



Band 17
 10MHz



LTE Band 5



Band 5
 10MHz

