QPSK	699.7	6	0	3.88	<13	PASS
	707.5	6	0	4.40	<13	PASS
	715.3	6	0	3.79	<13	PASS
16QAM	699.7	6	0	4.86	<13	PASS
	707.5	6	0	5.36	<13	PASS
	715.3	6	0	4.74	<13	PASS

Channel Bandwidth: 3MHz						
Modulation	Test Channel	RB Configuration		Peak-to-Average Ratio (dB)	Limit (dB)	Verdict
		Size	Offset			
QPSK	700.5	15	0	3.87	<13	PASS
	707.5	15	0	4.30	<13	PASS
	714.5	15	0	3.83	<13	PASS
16QAM	700.5	15	0	4.91	<13	PASS
	707.5	15	0	5.18	<13	PASS
	714.5	15	0	4.66	<13	PASS

Channel Bandwidth: 5MHz						
Modulation	Test Channel	RB Configuration		Peak-to-Average Ratio (dB)	Limit (dB)	Verdict
		Size	Offset			
QPSK	701.5	25	0	3.98	<13	PASS
	707.5	25	0	4.36	<13	PASS
	713.5	25	0	4.15	<13	PASS
16QAM	701.5	25	0	4.94	<13	PASS
	707.5	25	0	5.32	<13	PASS
	713.5	25	0	4.95	<13	PASS

Channel Bandwidth: 10MHz						
Modulation	Test Channel	RB Configuration		Peak-to-Average Ratio (dB)	Limit (dB)	Verdict
		Size	Offset			
QPSK	704	50	0	3.82	<13	PASS
	707.5	50	0	4.05	<13	PASS
	711	50	0	4.44	<13	PASS
16QAM	704	50	0	4.79	<13	PASS
	707.5	50	0	5.05	<13	PASS
	711	50	0	5.35	<13	PASS

LTE Band 13:

Channel Bandwidth: 5MHz						
Modulation	Test Channel	RB Configuration		Peak-to-Average Ratio (dB)	Limit (dB)	Verdict
		Size	Offset			

QPSK	799.5	25	0	3.55	<13	PASS
	782	25	0	3.99	<13	PASS
	784.5	25	0	3.81	<13	PASS
16QAM	799.5	25	0	4.31	<13	PASS
	782	25	0	4.69	<13	PASS
	784.5	25	0	4.77	<13	PASS

Channel Bandwidth: 10MHz						
Modulation	Test Channel	RB Configuration		Peak-to-Average Ratio (dB)	Limit (dB)	Verdict
		Size	Offset			
QPSK	782	50	0	4.84	<13	PASS
16QAM	782	50	0	5.65	<13	PASS

LTE Band 17:

Channel Bandwidth: 5MHz						
Modulation	Test Channel	RB Configuration		Peak-to-Average Ratio (dB)	Limit (dB)	Verdict
		Size	Offset			
QPSK	706.5	25	0	4.57	<13	PASS
	710	25	0	4.68	<13	PASS
	713.5	25	0	4.11	<13	PASS
16QAM	706.5	25	0	5.31	<13	PASS
	710	25	0	5.41	<13	PASS
	713.5	25	0	5.09	<13	PASS

Channel Bandwidth: 10MHz						
Modulation	Test Channel	RB Configuration		Peak-to-Average Ratio (dB)	Limit (dB)	Verdict
		Size	Offset			
QPSK	709	50	0	4.23	<13	PASS
	710	50	0	4.45	<13	PASS
	711	50	0	4.36	<13	PASS
16QAM	709	50	0	5.18	<13	PASS
	710	50	0	5.39	<13	PASS
	711	50	0	5.30	<13	PASS

5.3. Occupied Bandwidth/Emission Bandwidth

5.3.1. Test Standard

FCC: CFR Part 2.1049, CFR Part 22.917, CFR Part 24.238, CRF Part 27

5.3.2. Test Limit

The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission shall be measured under the following conditions as applicable.
(h) Transmitters employing digital modulation techniques-when modulated by an input signal such that its amplitude and symbol rate represent the maximum rated conditions under which the equipment will be operated.

5.3.3. Test Procedure

1. Connect the equipment as shown in the above diagram.
2. Adjust the settings of the Universal Radio Communication Tester (CMU/CMW) to set the EUT to its maximum power at the required channel.
3. Set the spectrum analyzer to measure the 99% occupied bandwidth. Record the value.
4. Set the spectrum analyzer to measure the -26 dB emission bandwidth. Record the value.
5. Measurements are to be performed with the EUT set to the low, middle and high channel of each frequency band.

Spectrum analyzer settings: Measurement bandwidth of at least 1% of the occupied bandwidth.

5.3.4.Test Data

Occupied Bandwidth Test Data

Test Band	Test Mode	Test Channel	99% OBW (kHz)	26dBc BANDWIDTH (kHz)	Verdict
GSM850	GPRS/TM1	LCH	248.06	319.07	PASS
		MCH	**248.59**	317.30	PASS
		HCH	245.99	315.53	PASS
	EDGE/TM2	LCH	**267.87**	355.21	PASS
		MCH	265.30	342.44	PASS
		HCH	263.88	332.60	PASS
GSM1900	GPRS/TM1	LCH	**245.98**	312.76	PASS
		MCH	244.73	311.05	PASS
		HCH	242.71	309.15	PASS
	EDGE/TM2	LCH	247.20	315.64	PASS
		MCH	**255.80**	318.73	PASS
		HCH	255.80	323.55	PASS

Occupied Bandwidth Test Data

Test Band	Test Mode	Test Channel	99% OBW (kHz)	26dBc BANDWIDTH (kHz)	Verdict
WCDMA850	UMTS/TM3	LCH	4156.5	4719	PASS
		MCH	**4172.1**	4697	PASS
		HCH	4166.0	4717	PASS
WCDMA1900	UMTS/TM3	LCH	4174.8	4729	PASS
		MCH	4175.5	4723	PASS
		HCH	**4181.8**	4734	PASS

LTE Band 2:

Channel Bandwidth: 1.4 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	6	0	1.1058	1.280	PASS
	MCH	6	0	1.1031	1.278	PASS
	HCH	6	0	**1.1070**	1.281	PASS
16QAM	LCH	6	0	1.1085	1.299	PASS
	MCH	6	0	1.1092	1.280	PASS
	HCH	6	0	**1.1104**	1.290	PASS

Channel Bandwidth: 3 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	15	0	2.6882	2.863	PASS
	MCH	15	0	2.6855	2.851	PASS
	HCH	15	0	**2.6915**	2.861	PASS
16QAM	LCH	15	0	**2.6940**	2.858	PASS
	MCH	15	0	2.6869	2.864	PASS
	HCH	15	0	2.6871	2.861	PASS

Channel Bandwidth: 5 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	25	0	4.4786	4.847	PASS
	MCH	25	0	4.4773	4.908	PASS
	HCH	25	0	**4.4794**	4.888	PASS
16QAM	LCH	25	0	4.4785	4.786	PASS
	MCH	25	0	4.4733	4.848	PASS
	HCH	25	0	**4.4805**	4.850	PASS

Channel Bandwidth: 10 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	50	0	8.9247	9.473	PASS
	MCH	50	0	**8.9549**	9.489	PASS
	HCH	50	0	8.9421	9.657	PASS
16QAM	LCH	50	0	8.9412	9.463	PASS
	MCH	50	0	8.9267	9.468	PASS
	HCH	50	0	**8.9518**	9.492	PASS

Channel Bandwidth: 15 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	75	0	13.381	14.03	PASS
	MCH	75	0	13.413	14.07	PASS
	HCH	75	0	**13.422**	14.29	PASS
16QAM	LCH	75	0	13.382	14.02	PASS
	MCH	75	0	13.412	14.10	PASS
	HCH	75	0	**13.416**	14.08	PASS

Channel Bandwidth: 20 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	100	0	17.829	18.62	PASS
	MCH	100	0	**17.879**	18.71	PASS
	HCH	100	0	17.866	18.66	PASS
16QAM	LCH	100	0	17.842	18.64	PASS
	MCH	100	0	**17.882**	18.66	PASS
	HCH	100	0	17.874	18.61	PASS

LTE Band 4:

Channel Bandwidth: 1.4 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	6	0	**1.1085**	1.289	PASS
	MCH	6	0	1.1084	1.279	PASS
	HCH	6	0	1.1023	1.276	PASS
16QAM	LCH	6	0	1.1102	1.269	PASS
	MCH	6	0	**1.1118**	1.287	PASS
	HCH	6	0	1.1104	1.296	PASS

Channel Bandwidth: 3 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	15	0	2.6876	2.863	PASS
	MCH	15	0	**2.6904**	2.850	PASS
	HCH	15	0	2.6896	2.857	PASS
16QAM	LCH	15	0	**2.6926**	2.860	PASS
	MCH	15	0	2.6919	2.867	PASS
	HCH	15	0	2.6868	2.873	PASS

Channel Bandwidth: 5 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	25	0	4.4762	4.885	PASS
	MCH	25	0	4.4771	4.898	PASS
	HCH	25	0	**4.4804**	4.917	PASS
16QAM	LCH	25	0	4.4793	4.812	PASS
	MCH	25	0	4.4706	4.878	PASS
	HCH	25	0	**4.4840**	4.885	PASS

Channel Bandwidth: 10 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	50	0	8.9382	9.448	PASS
	MCH	50	0	**8.9436**	9.471	PASS
	HCH	50	0	8.9433	9.623	PASS
16QAM	LCH	50	0	**8.9422**	9.469	PASS
	MCH	50	0	8.9283	9.494	PASS
	HCH	50	0	8.9377	9.564	PASS

Channel Bandwidth: 15 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	75	0	13.406	14.09	PASS
	MCH	75	0	13.399	14.17	PASS
	HCH	75	0	**13.434**	15.53	PASS
16QAM	LCH	75	0	13.399	14.08	PASS
	MCH	75	0	13.407	14.17	PASS
	HCH	75	0	**13.414**	14.12	PASS

Channel Bandwidth: 20 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	100	0	17.870	18.70	PASS
	MCH	100	0	**17.877**	18.71	PASS
	HCH	100	0	17.871	18.63	PASS
16QAM	LCH	100	0	17.859	18.64	PASS
	MCH	100	0	17.861	18.64	PASS
	HCH	100	0	**17.870**	18.63	PASS

LTE Band 5:

Channel Bandwidth: 1.4 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	6	0	1.1071	1.277	PASS
	MCH	6	0	1.1071	1.277	PASS
	HCH	6	0	**1.1079**	1.280	PASS
16QAM	LCH	6	0	1.1054	1.274	PASS
	MCH	6	0	1.1089	1.295	PASS
	HCH	6	0	**1.1113**	1.284	PASS

Channel Bandwidth: 3 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	15	0	2.6870	2.859	PASS
	MCH	15	0	**2.6915**	2.866	PASS
	HCH	15	0	2.6875	2.869	PASS
16QAM	LCH	15	0	**2.6953**	2.859	PASS
	MCH	15	0	2.6862	2.857	PASS
	HCH	15	0	2.6879	2.856	PASS

Channel Bandwidth: 5 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	25	0	**4.4751**	4.886	PASS
	MCH	25	0	4.4734	4.893	PASS
	HCH	25	0	4.4749	4.894	PASS
16QAM	LCH	25	0	4.4777	4.826	PASS
	MCH	25	0	**4.4840**	4.888	PASS
	HCH	25	0	4.4824	4.864	PASS

Channel Bandwidth: 10 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	50	0	8.9389	9.487	PASS
	MCH	50	0	8.9411	9.476	PASS
	HCH	50	0	**8.9575**	9.535	PASS
16QAM	LCH	50	0	8.9278	9.506	PASS
	MCH	50	0	8.9311	9.525	PASS
	HCH	50	0	**8.9404**	9.473	PASS

LTE Band 7:

Channel Bandwidth: 5 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	25	0	4.4761	4.900	PASS
	MCH	25	0	4.4759	4.895	PASS
	HCH	25	0	**4.4857**	4.871	PASS
16QAM	LCH	25	0	**4.4819**	4.896	PASS
	MCH	25	0	4.4781	4.810	PASS
	HCH	25	0	4.4750	4.853	PASS

Channel Bandwidth: 10 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	50	0	**8.9510**	9.484	PASS
	MCH	50	0	8.9337	9.480	PASS
	HCH	50	0	8.9403	9.491	PASS
16QAM	LCH	50	0	**8.9394**	9.496	PASS
	MCH	50	0	8.9344	9.479	PASS
	HCH	50	0	8.9226	9.423	PASS

Channel Bandwidth: 15 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	75	0	13.401	14.09	PASS
	MCH	75	0	**13.403**	14.04	PASS
	HCH	75	0	13.402	14.03	PASS
16QAM	LCH	75	0	13.387	14.08	PASS
	MCH	75	0	13.398	14.08	PASS
	HCH	75	0	**13.402**	14.06	PASS

Channel Bandwidth: 20 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	100	0	17.864	18.63	PASS
	MCH	100	0	**17.884**	18.65	PASS
	HCH	100	0	17.852	18.62	PASS
16QAM	LCH	100	0	**17.858**	18.62	PASS
	MCH	100	0	17.857	18.64	PASS
	HCH	100	0	17.851	18.62	PASS

LTE Band 12:

Channel Bandwidth: 1.4 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	6	0	**1.1071**	1.275	PASS
	MCH	6	0	1.1064	1.286	PASS
	HCH	6	0	1.1061	1.273	PASS
16QAM	LCH	6	0	1.1102	1.290	PASS
	MCH	6	0	1.1102	1.286	PASS
	HCH	6	0	**1.1104**	1.297	PASS

Channel Bandwidth: 3 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	15	0	2.6867	2.847	PASS
	MCH	15	0	**2.6904**	2.864	PASS
	HCH	15	0	2.6881	2.857	PASS
16QAM	LCH	15	0	2.6880	2.857	PASS
	MCH	15	0	**2.6945**	2.861	PASS
	HCH	15	0	2.6887	2.865	PASS

Channel Bandwidth: 5 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	25	0	4.4772	4.874	PASS
	MCH	25	0	**4.4785**	4.876	PASS
	HCH	25	0	4.4742	4.860	PASS
16QAM	LCH	25	0	4.4781	4.761	PASS
	MCH	25	0	4.4758	4.891	PASS
	HCH	25	0	**4.4820**	4.837	PASS

Channel Bandwidth: 10 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	50	0	**8.9465**	9.470	PASS
	MCH	50	0	8.9443	9.508	PASS
	HCH	50	0	8.9246	9.482	PASS
16QAM	LCH	50	0	**8.9450**	9.549	PASS
	MCH	50	0	8.9317	9.458	PASS
	HCH	50	0	8.9384	9.403	PASS

LTE Band 13:

Channel Bandwidth: 5 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	25	0	4.4765	4.895	PASS
	MCH	25	0	**4.4825**	4.901	PASS
	HCH	25	0	4.4758	4.865	PASS
16QAM	LCH	25	0	4.4790	4.824	PASS
	MCH	25	0	**4.4834**	4.888	PASS
	HCH	25	0	4.4764	4.793	PASS

Channel Bandwidth: 10 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	---	50	0	**8.9250**	9.433	PASS
16QAM	---	50	0	**8.9431**	9.485	PASS

LTE Band 17:

Channel Bandwidth: 5 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	25	0	**4.4754**	4.926	PASS
	MCH	25	0	4.4746	4.907	PASS
	HCH	25	0	4.4737	4.867	PASS
16QAM	LCH	25	0	**4.4857**	4.858	PASS
	MCH	25	0	4.4819	4.835	PASS
	HCH	25	0	4.4745	4.771	PASS

Channel Bandwidth: 10 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	50	0	**8.9370**	9.473	PASS
	MCH	50	0	8.9305	9.450	PASS
	HCH	50	0	8.9331	9.420	PASS
16QAM	LCH	50	0	**8.9267**	9.437	PASS
	MCH	50	0	8.9255	9.482	PASS
	HCH	50	0	8.9199	9.455	PASS

TE Band 38:

Channel Bandwidth: 5 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	25	0	**4.4804**	4.871	PASS
	MCH	25	0	4.4757	4.776	PASS
	HCH	25	0	4.4758	4.882	PASS
16QAM	LCH	25	0	4.4652	4.840	PASS
	MCH	25	0	**4.4760**	4.892	PASS
	HCH	25	0	4.4664	4.801	PASS

Channel Bandwidth: 10 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	50	0	**8.9446**	9.402	PASS
	MCH	50	0	8.9284	9.465	PASS
	HCH	50	0	8.9278	9.450	PASS
16QAM	LCH	50	0	8.9171	9.405	PASS
	MCH	50	0	8.9326	9.429	PASS
	HCH	50	0	**8.9355**	9.427	PASS

Channel Bandwidth: 15 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	75	0	**13.409**	14.08	PASS
	MCH	75	0	13.390	14.08	PASS
	HCH	75	0	13.399	14.06	PASS
16QAM	LCH	75	0	**13.408**	14.09	PASS
	MCH	75	0	13.390	14.04	PASS
	HCH	75	0	13.399	14.01	PASS

Channel Bandwidth: 20 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	100	0	**17.873**	18.58	PASS
	MCH	100	0	17.864	18.61	PASS
	HCH	100	0	17.861	18.61	PASS
16QAM	LCH	100	0	17.844	18.66	PASS
	MCH	100	0	17.846	18.58	PASS
	HCH	100	0	**17.852**	18.64	PASS

TE Band 41:

Channel Bandwidth: 5 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	25	0	**4.4885**	4.767	PASS
	MCH	25	0	4.4762	4.867	PASS
	HCH	25	0	4.4778	4.786	PASS
16QAM	LCH	25	0	4.4625	4.788	PASS
	MCH	25	0	4.4688	4.843	PASS
	HCH	25	0	**4.4776**	4.859	PASS

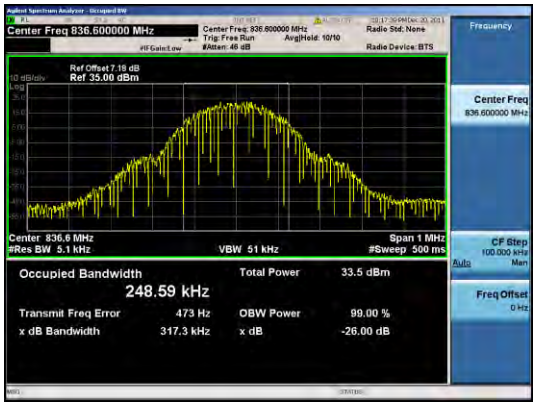
Channel Bandwidth: 10 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	50	0	8.9337	9.448	PASS
	MCH	50	0	**8.9378**	9.380	PASS
	HCH	50	0	8.9283	9.430	PASS
16QAM	LCH	50	0	8.9314	9.342	PASS
	MCH	50	0	**8.9371**	9.385	PASS
	HCH	50	0	8.9332	9.380	PASS

Channel Bandwidth: 15 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	75	0	13.387	13.98	PASS
	MCH	75	0	13.390	14.00	PASS
	HCH	75	0	**13.399**	14.02	PASS
16QAM	LCH	75	0	**13.404**	14.05	PASS
	MCH	75	0	13.393	13.98	PASS
	HCH	75	0	13.388	14.10	PASS

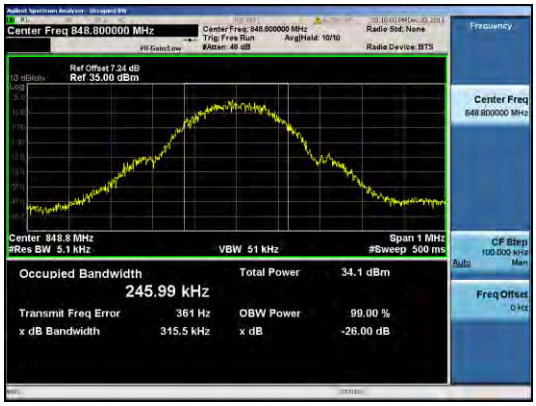
Channel Bandwidth: 20 MHz						
Modulation	Channel	RB Configuration		Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
		Size	Offset			
QPSK	LCH	100	0	**17.873**	18.57	PASS
	MCH	100	0	17.849	18.58	PASS
	HCH	100	0	17.847	18.63	PASS
16QAM	LCH	100	0	**17.858**	18.60	PASS
	MCH	100	0	17.856	18.60	PASS
	HCH	100	0	17.846	18.57	PASS

Test Band = GSM850
Test Mode = GSM/TM1
Test Channel = LCH

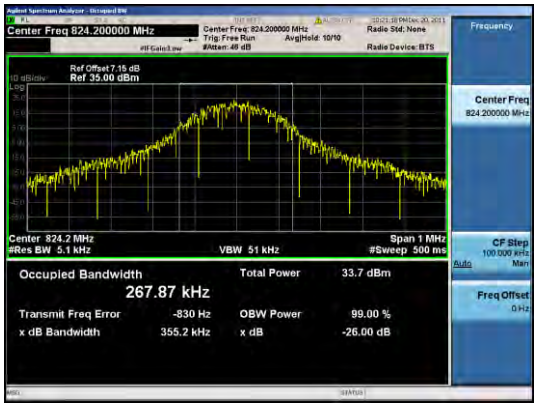
Test Band = GSM850
Test Mode = GSM /TM1
Test Channel = MCH



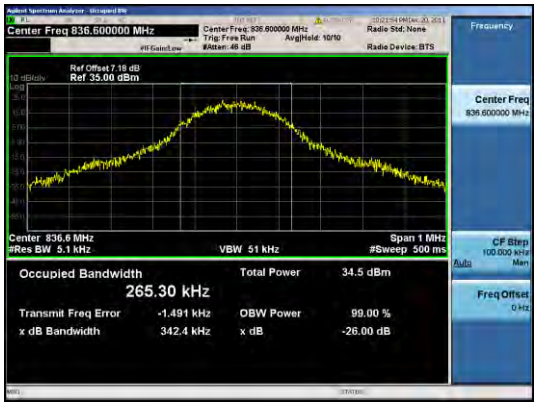
Test Band = GSM850
Test Mode = GSM /TM1
Test Channel = HCH



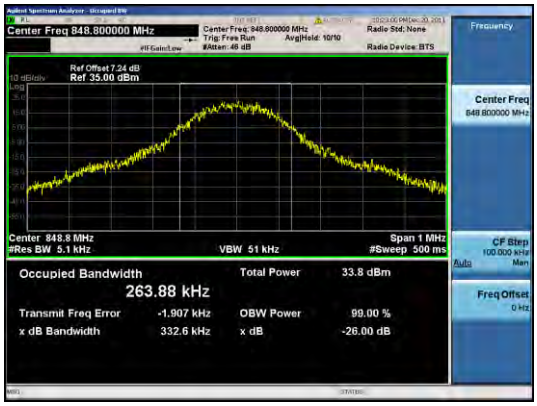
Test Band = GSM850
Test Mode = EDGE/TM2
Test Channel = LCH



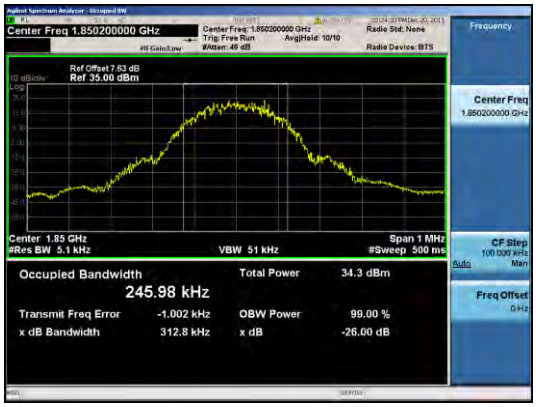
Test Band = GSM850
Test Mode = EDGE/TM2
Test Channel = MCH



Test Band = GSM850
Test Mode = EDGE/TM2
Test Channel = HCH

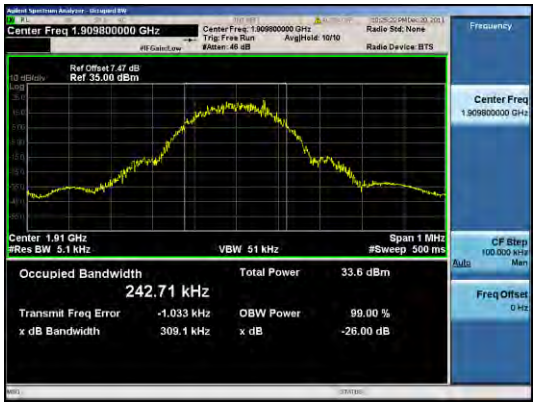


Test Band = GSM1900
Test Mode = GSM/TM1
Test Channel = LCH

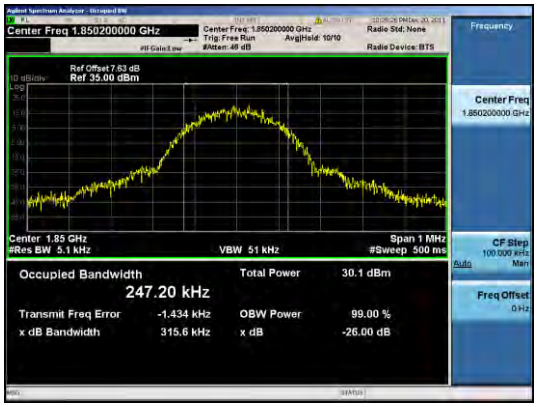


Test Band = GSM1900
Test Mode = GSM/TM1
Test Channel = MCH

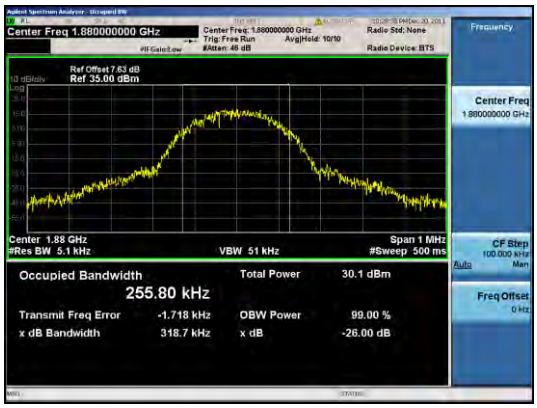
Test Band = GSM1900
Test Mode = GSM/TM1
Test Channel = HCH



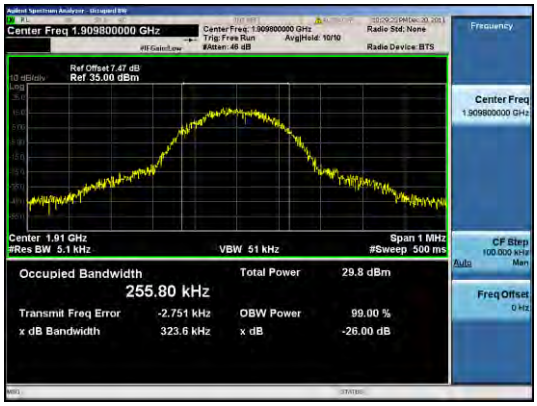
Test Band = GSM1900
Test Mode = EDGE /TM2
Test Channel = LCH



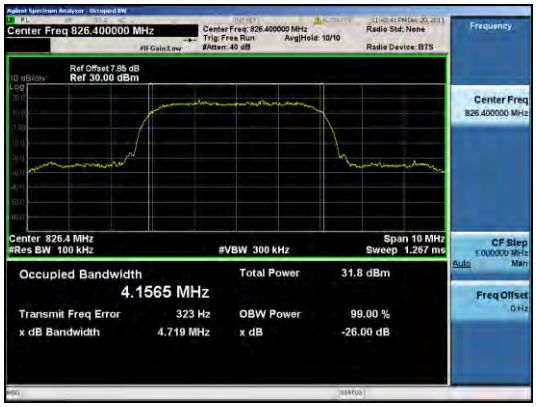
Test Band = GSM1900
Test Mode = EDGE /TM2
Test Channel = MCH



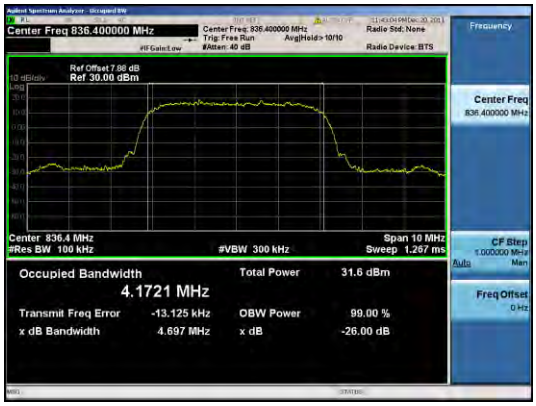
Test Band = GSM1900
Test Mode = EDGE /TM2
Test Channel = HCH



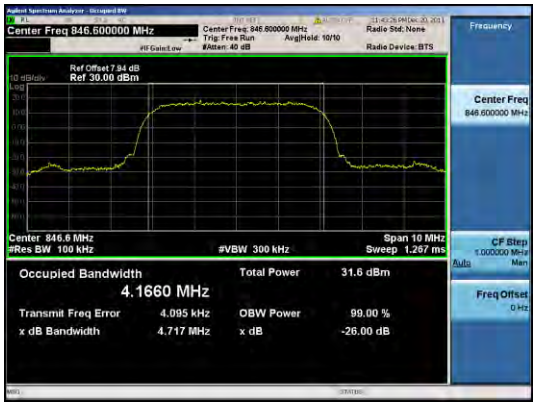
Test Band=WCDMA850
Test Mode=UMTS/TM3
Test Channel=LCH



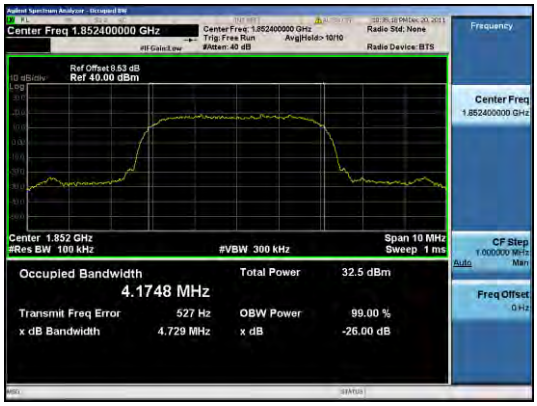
Test Band=WCDMA850
Test Mode=UMTS/TM3
Test Channel=MCH



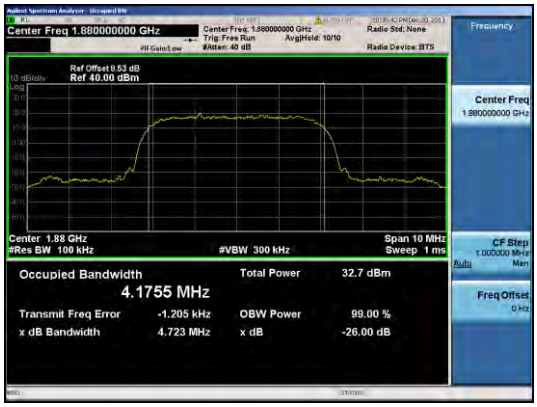
Test Band=WCDMA850
Test Mode=UMTS/TM3
Test Channel=HCH



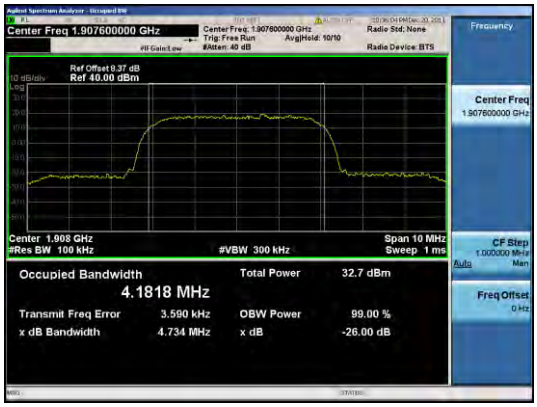
Test Band=WCDMA1900
Test Mode=UMTS/TM3
Test Channel=LCH



Test Band=WCDMA1900
Test Mode=UMTS/TM3
Test Channel=MCH



Test Band=WCDMA1900
Test Mode=UMTS/TM3
Test Channel=HCH



LTE:

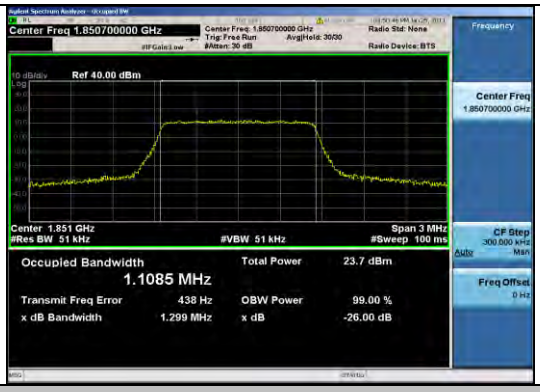
Band2_1.4MHz_QPSK_18607_6RB#0

Band2_1.4MHz_QPSK_18900_6RB#0

Band2_1.4MHz_QPSK_19193_6RB#0

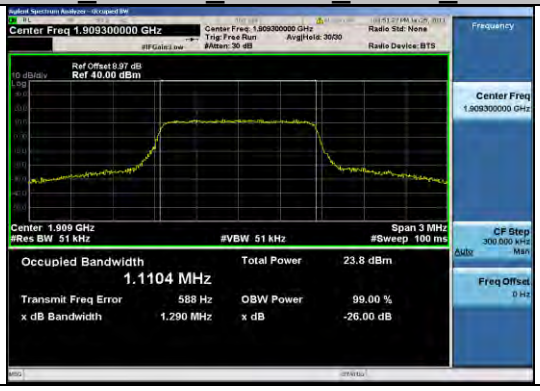
Band2_1.4MHz_16QAM_18607_6RB#0

Band2_1.4MHz_16QAM_18900_6RB#0

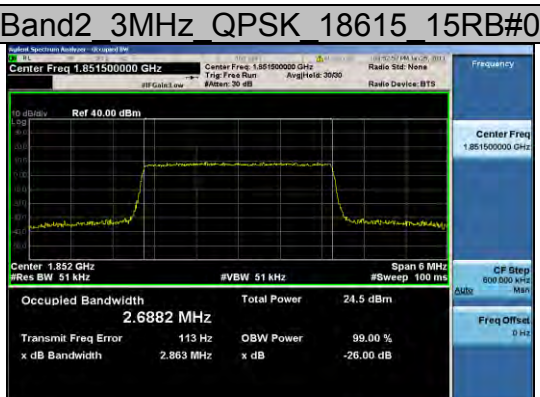


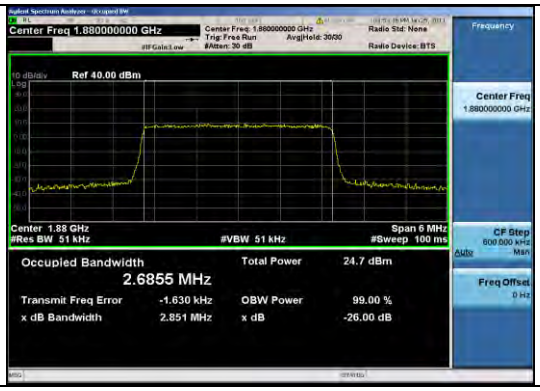
Band2_1.4MHz_16QAM_19193_6RB#0

Band2_3MHz_QPSK_18615_15RB#0



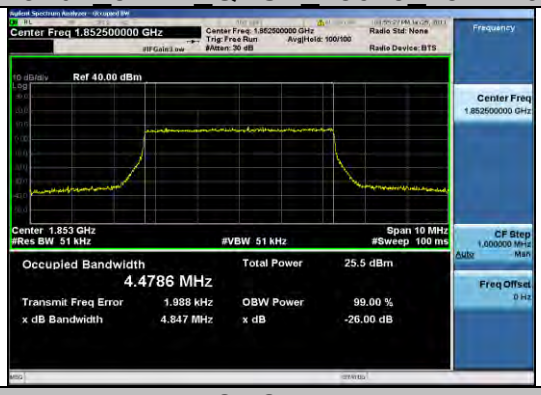
Band2_3MHz_QPSK_18900_15RB#0




Center Freq 1.880000000 GHz
Center Freq: 1.880000000 GHz
Trig: Free Run
Avg|Hold: 30/30
#Atten: 30 dB
Radio Std: None
Radio Device: BTS
Frequency
Ref 40.00 dBm
10 dB/div
Log
Center Freq
1.880000000 GHz
Center 1.88 GHz
#Res BW 51 kHz
#VBW 51 kHz
Span 6 MHz
#Sweep 100 ms
CF Step
600.000 kHz
Auto
Man
Freq Offset
0 Hz
Occupied Bandwidth
2.6855 MHz
Total Power
24.7 dBm
Transmit Freq Error
-1.630 kHz
OBW Power
99.00 %
x dB Bandwidth
2.851 MHz
x dB
-26.00 dB

Band2_3MHz_QPSK_19185_15RB#0

Band2_5MHz_QPSK_18625_25RB#0



Band2_3MHz_16QAM_18615_15RB#0

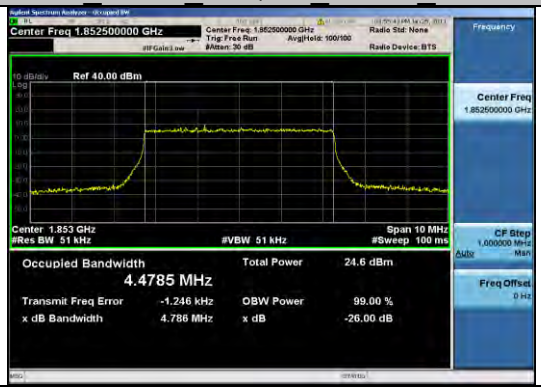
Band2_5MHz_QPSK_18900_25RB#0

Band2_3MHz_16QAM_18900_15RB#0

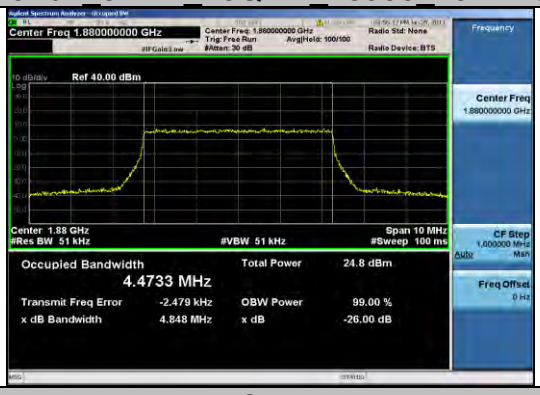
Band2_5MHz_QPSK_19175_25RB#0

Band2_3MHz_16QAM_19185_15RB#0

Band2_5MHz_16QAM_18625_25RB#0



Band2_5MHz_16QAM_18900_25RB#0

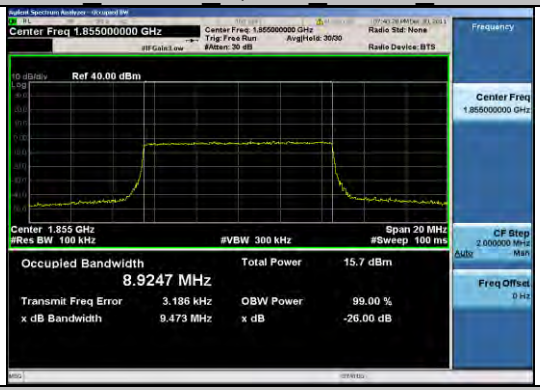


Band2_10MHz_QPSK_19150_50RB#0

Band2_5MHz_16QAM_19175_25RB#0

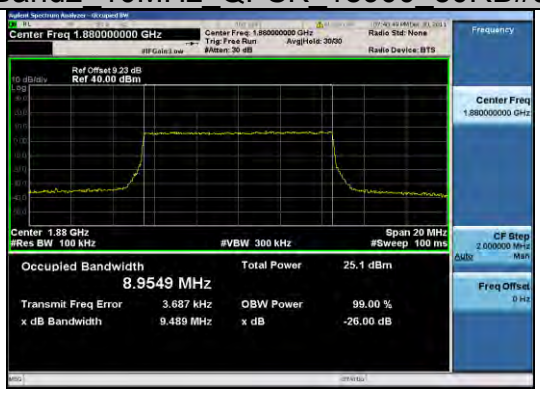
Band2_10MHz_16QAM_18650_50RB#0

Band2_10MHz_QPSK_18650_50RB#0



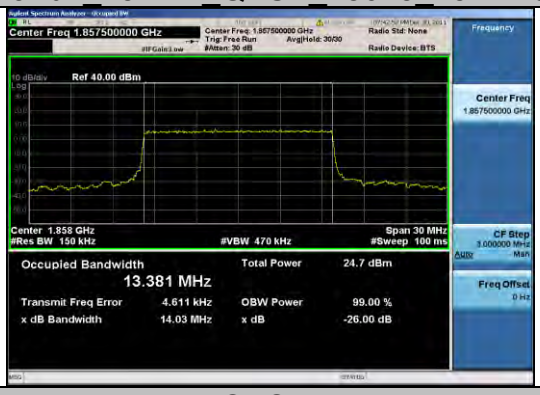
Band2_10MHz_16QAM_18900_50RB#0

Band2_10MHz_QPSK_18900_50RB#0



Band2_10MHz_16QAM_19150_50RB#0

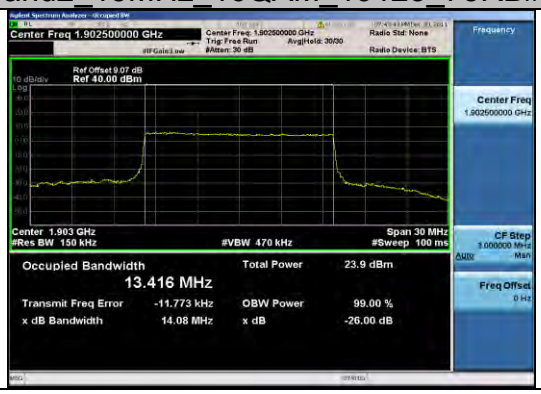
Band2_15MHz_QPSK_18675_75RB#0



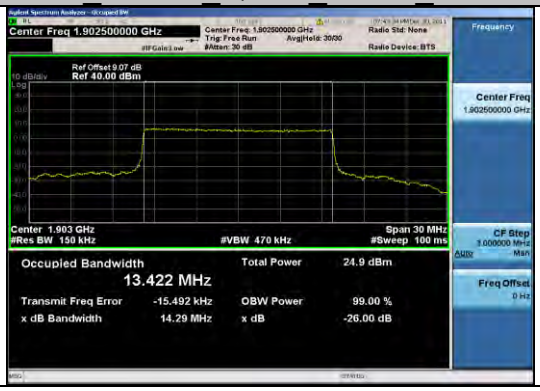
Band2_15MHz_16QAM_18900_75RB#0

Band2_15MHz_QPSK_18900_75RB#0

Band2_15MHz_16QAM_19125_75RB#0

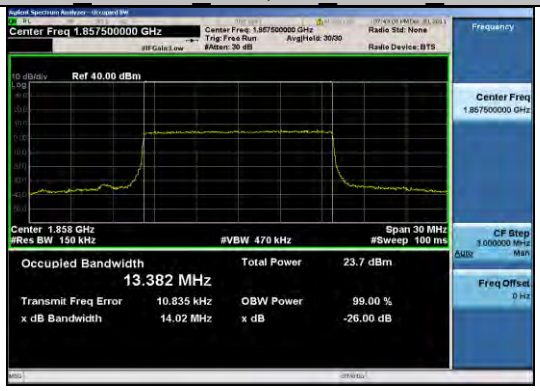


Band2_15MHz_QPSK_19125_75RB#0



Band2_20MHz_QPSK_18700_100RB#0

Band2_15MHz_16QAM_18675_75RB#0



Band2_20MHz_QPSK_18900_100RB#0

Band2_20MHz_QPSK_19100_100RB#0

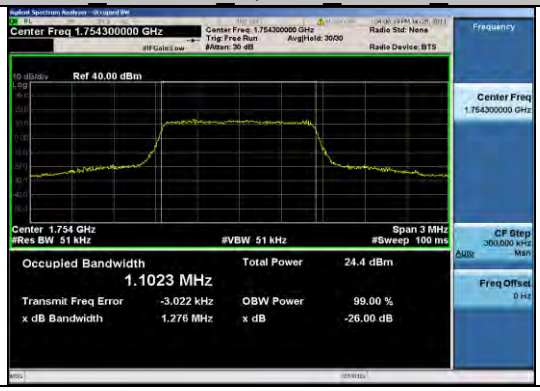
Band4_1.4MHz_QPSK_19957_6RB#0

Band2_20MHz_16QAM_18700_100RB#0

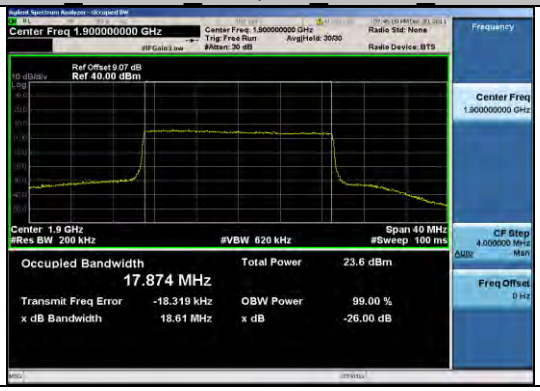
Band4_1.4MHz_QPSK_20175_6RB#0

Band2_20MHz_16QAM_18900_100RB#0

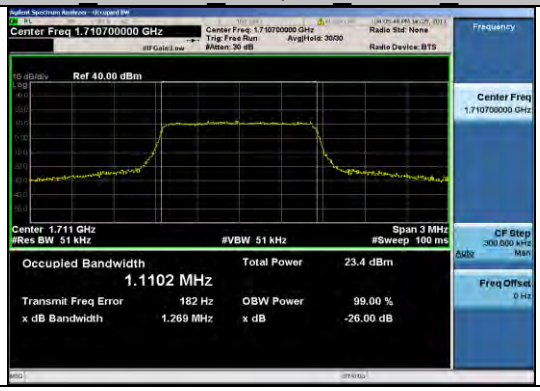
Band4_1.4MHz_QPSK_20393_6RB#0



Band2_20MHz_16QAM_19100_100RB#0



Band4_1.4MHz_16QAM_19957_6RB#0



Band4_1.4MHz_16QAM_20175_6RB#0

Band4_3MHz_QPSK_20385_15RB#0

Band4_1.4MHz_16QAM_20393_6RB#0

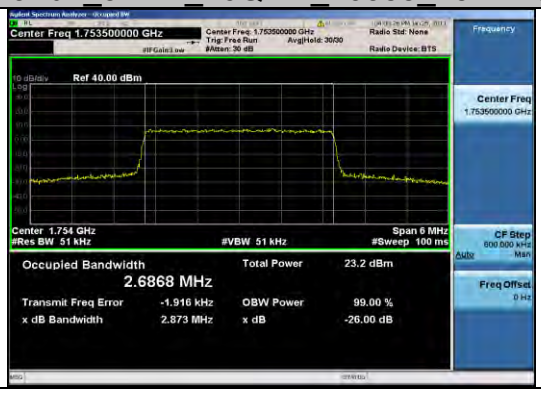
Band4_3MHz_16QAM_19965_15RB#0

Band4_3MHz_QPSK_19965_15RB#0

Band4_3MHz_16QAM_20175_15RB#0

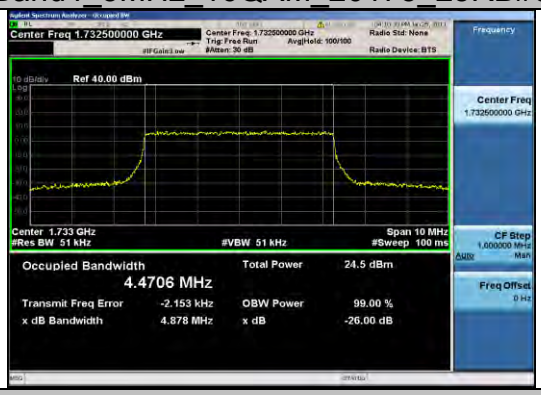
Band4_3MHz_QPSK_20175_15RB#0

Band4_3MHz_16QAM_20385_15RB#0



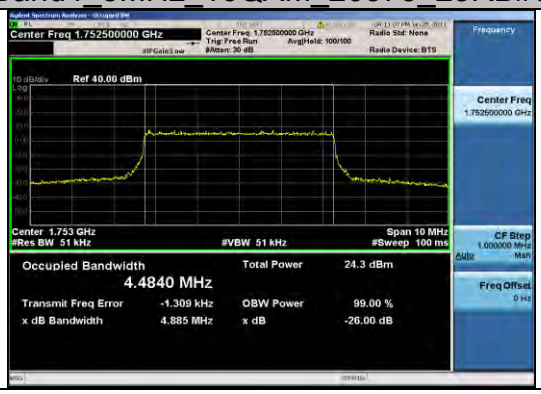
Band4_5MHz_QPSK_19975_25RB#0

Band4_5MHz_16QAM_20175_25RB#0



Band4_5MHz_QPSK_20175_25RB#0

Band4_5MHz_16QAM_20375_25RB#0

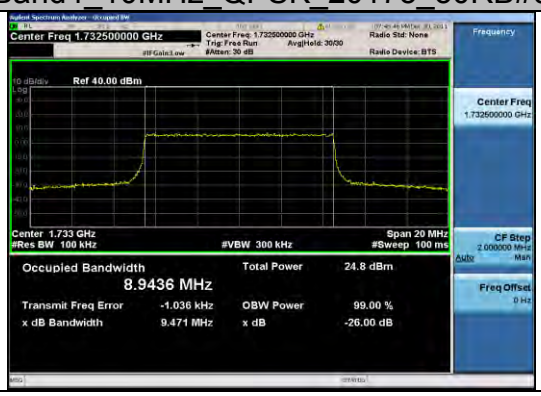


Band4_5MHz_QPSK_20375_25RB#0

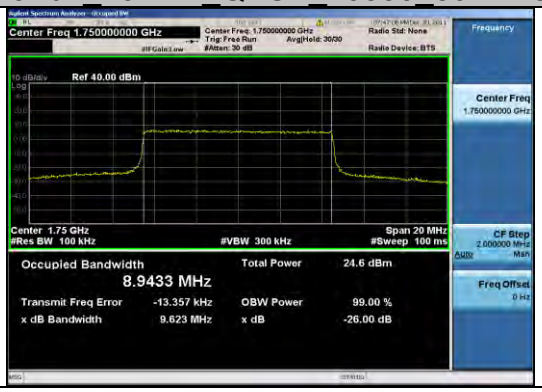
Band4_10MHz_QPSK_20000_50RB#0

Band4_5MHz_16QAM_19975_25RB#0

Band4_10MHz_QPSK_20175_50RB#0

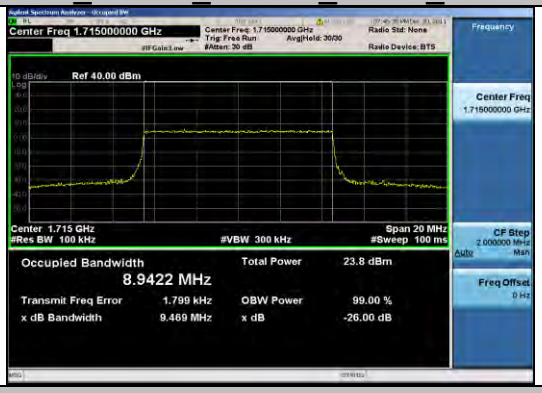


Band4_10MHz_QPSK_20350_50RB#0



Band4_15MHz_QPSK_20025_75RB#0

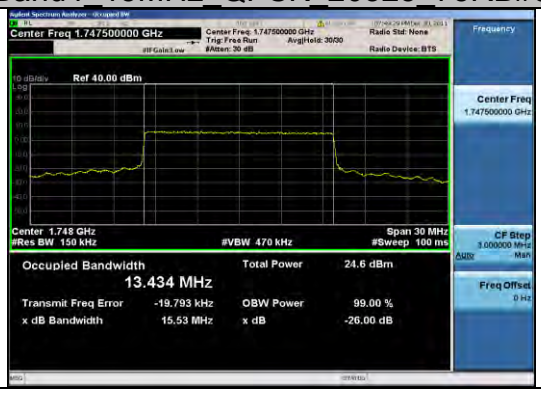
Band4_10MHz_16QAM_20000_50RB#0



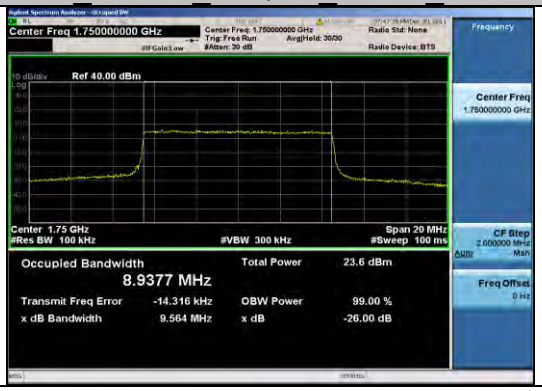
Band4_15MHz_QPSK_20175_75RB#0

Band4_10MHz_16QAM_20175_50RB#0

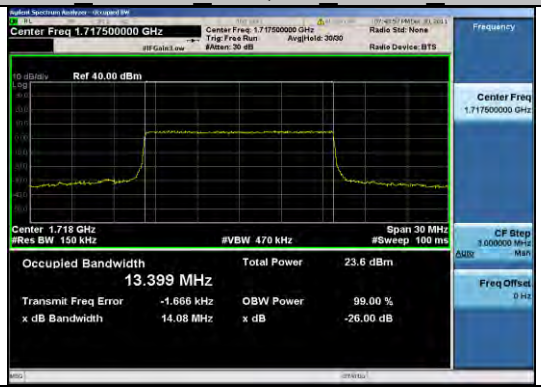
Band4_15MHz_QPSK_20325_75RB#0



Band4_10MHz_16QAM_20350_50RB#0



Band4_15MHz_16QAM_20025_75RB#0



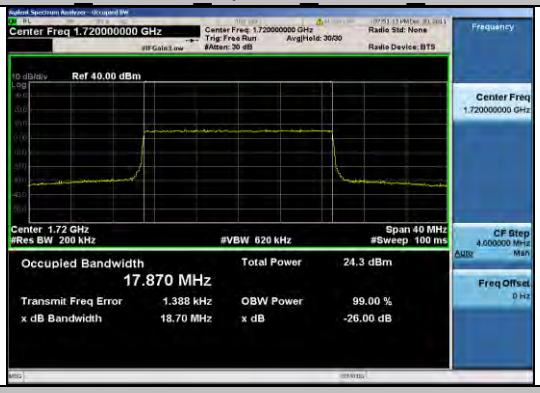
Band4_15MHz_16QAM_20175_75RB#0

Band4_20MHz_QPSK_20300_100RB#0

Band4_15MHz_16QAM_20325_75RB#0

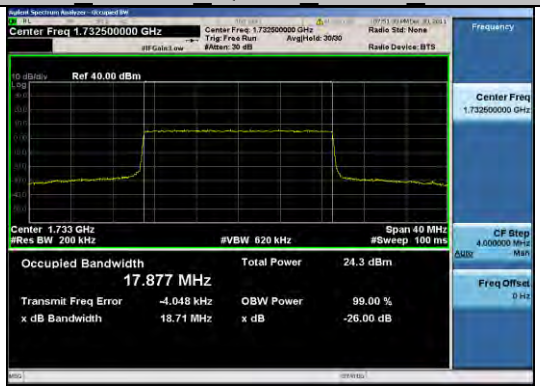
Band4_20MHz_16QAM_20050_100RB#0

Band4_20MHz_QPSK_20050_100RB#0

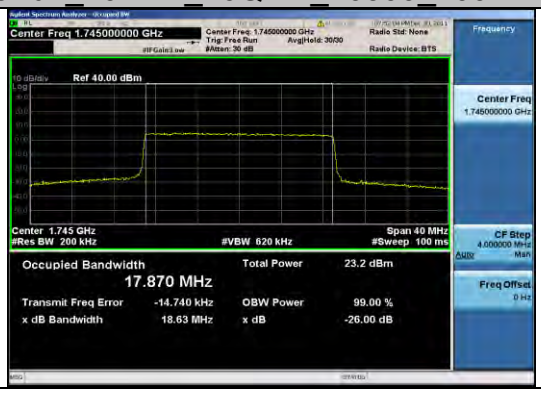


Band4_20MHz_16QAM_20175_100RB#0

Band4_20MHz_QPSK_20175_100RB#0



Band4_20MHz_16QAM_20300_100RB#0



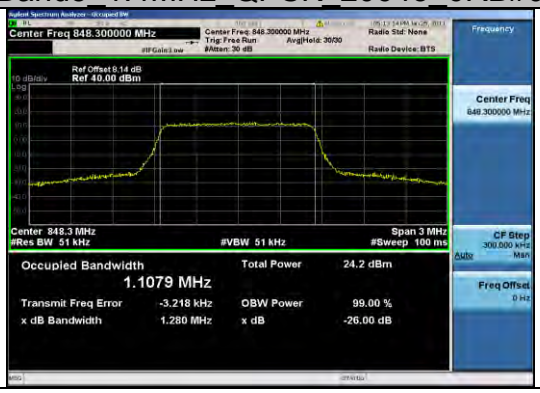
Band5_1.4MHz_QPSK_20407_6RB#0

Band5_1.4MHz_16QAM_20525_6RB#0

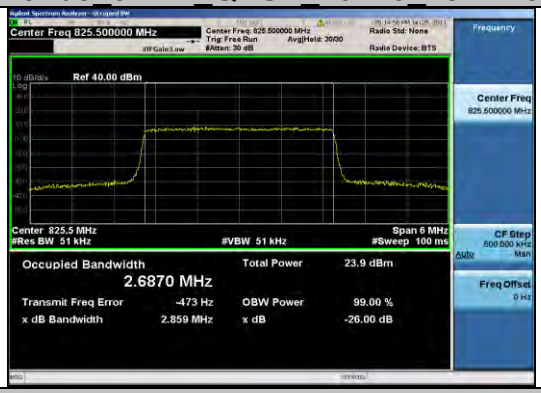
Band5_1.4MHz_QPSK_20525_6RB#0

Band5_1.4MHz_16QAM_20643_6RB#0

Band5_1.4MHz_QPSK_20643_6RB#0



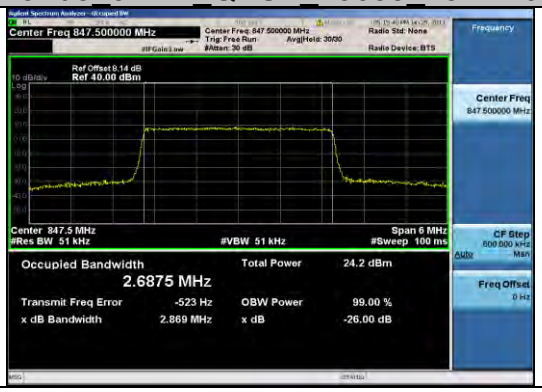
Band5_3MHz_QPSK_20415_15RB#0



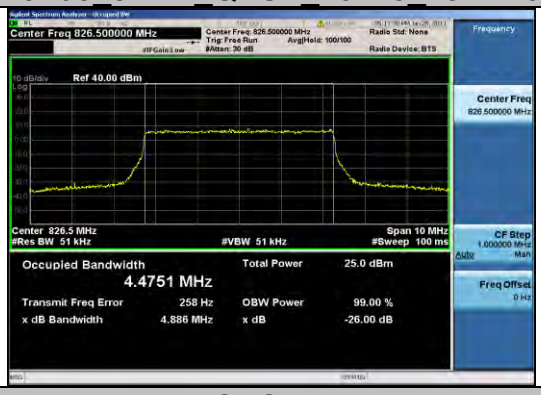
Band5_1.4MHz_16QAM_20407_6RB#0

Band5_3MHz_QPSK_20525_15RB#0

Band5_3MHz_QPSK_20635_15RB#0



Band5_5MHz_QPSK_20425_25RB#0

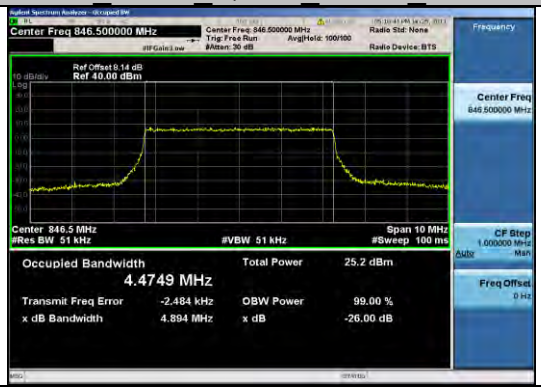


Band5_3MHz_16QAM_20415_15RB#0

Band5_5MHz_QPSK_20525_25RB#0

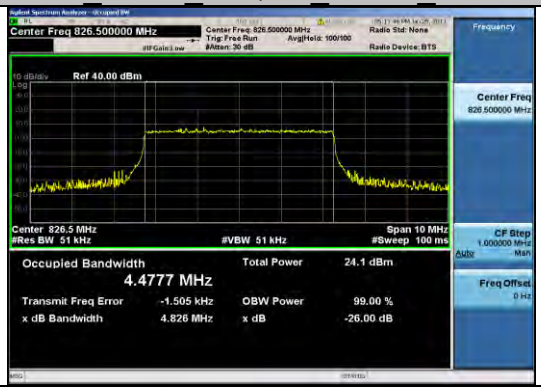
Band5_3MHz_16QAM_20525_15RB#0

Band5_5MHz_QPSK_20625_25RB#0

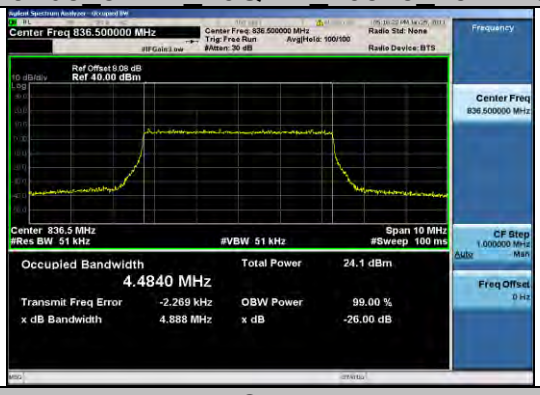


Band5_3MHz_16QAM_20635_15RB#0

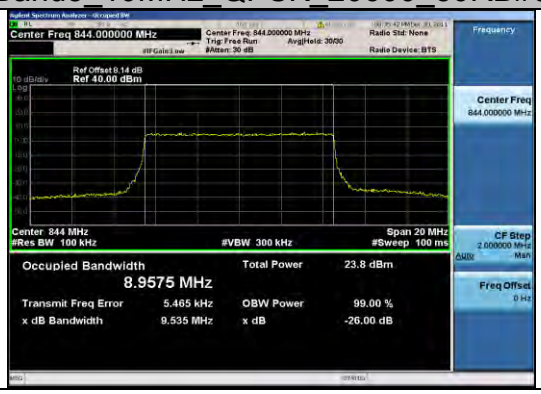
Band5_5MHz_16QAM_20425_25RB#0



Band5_5MHz_16QAM_20525_25RB#0

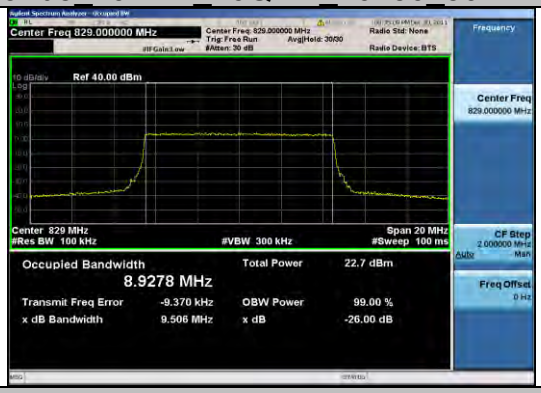


Band5_10MHz_QPSK_20600_50RB#0

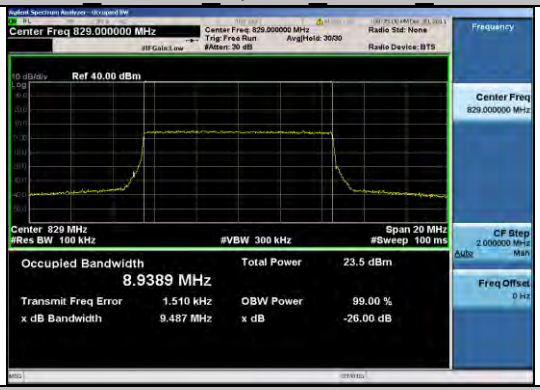


Band5_5MHz_16QAM_20625_25RB#0

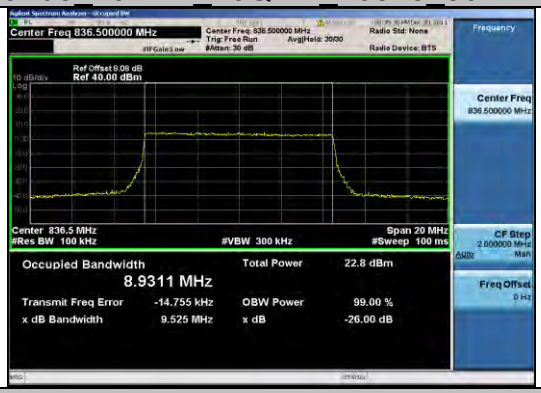
Band5_10MHz_16QAM_20450_50RB#0



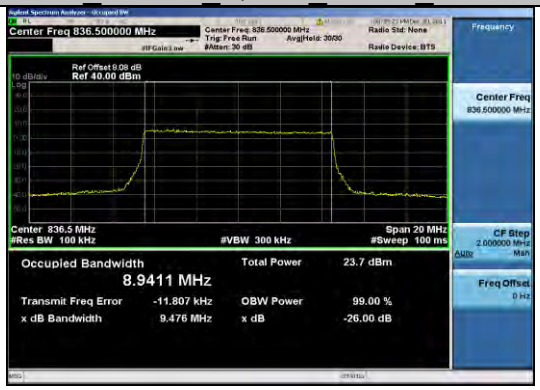
Band5_10MHz_QPSK_20450_50RB#0



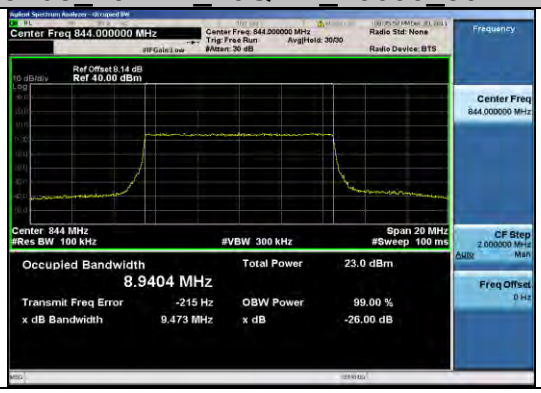
Band5_10MHz_16QAM_20525_50RB#0



Band5_10MHz_QPSK_20525_50RB#0

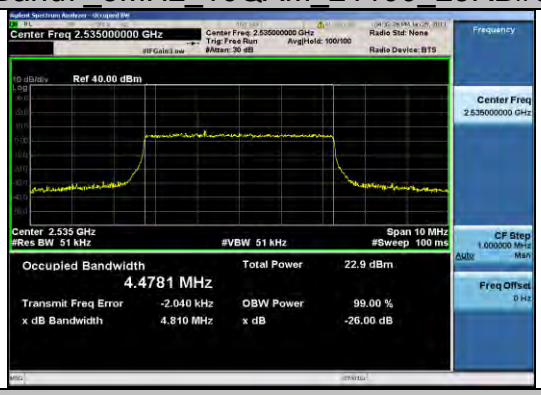


Band5_10MHz_16QAM_20600_50RB#0



Band7_5MHz_QPSK_20775_25RB#0

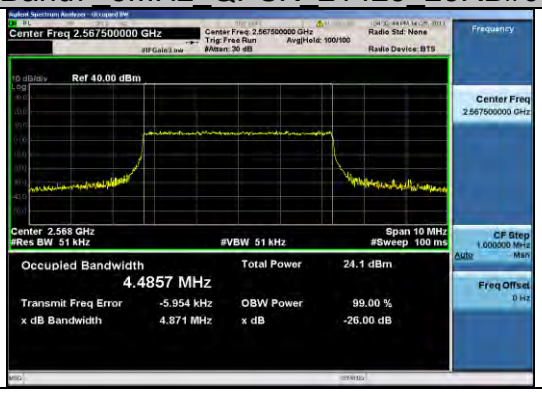
Band7_5MHz_16QAM_21100_25RB#0



Band7_5MHz_QPSK_21100_25RB#0

Band7_5MHz_16QAM_21425_25RB#0

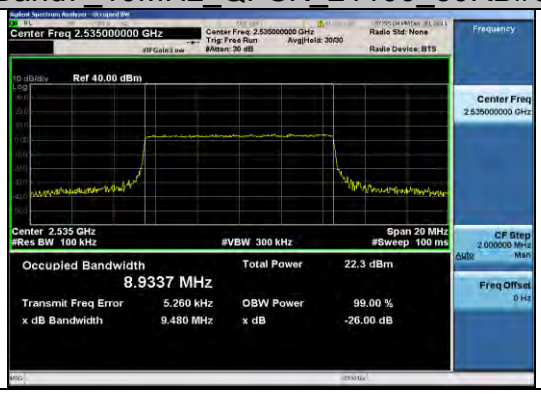
Band7_5MHz_QPSK_21425_25RB#0



Band7_10MHz_QPSK_20800_50RB#0

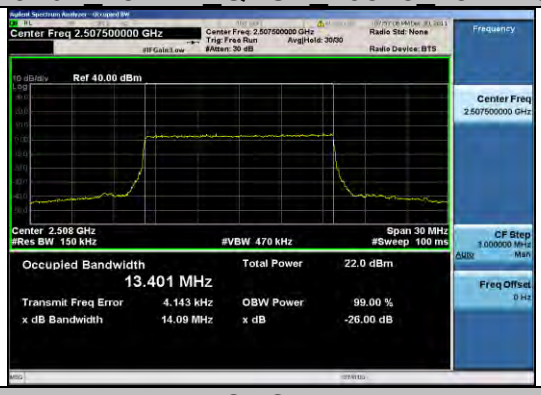
Band7_5MHz_16QAM_20775_25RB#0

Band7_10MHz_QPSK_21100_50RB#0



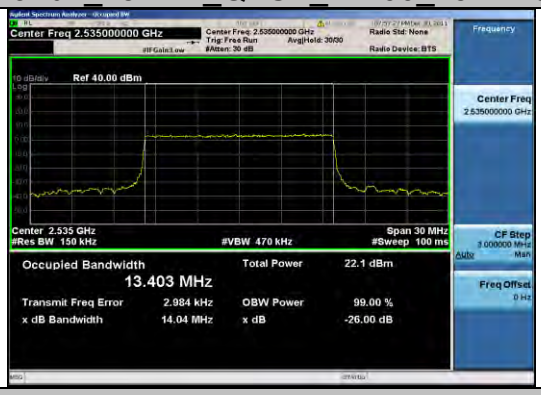
Band7_10MHz_QPSK_21400_50RB#0

Band7_15MHz_QPSK_20825_75RB#0

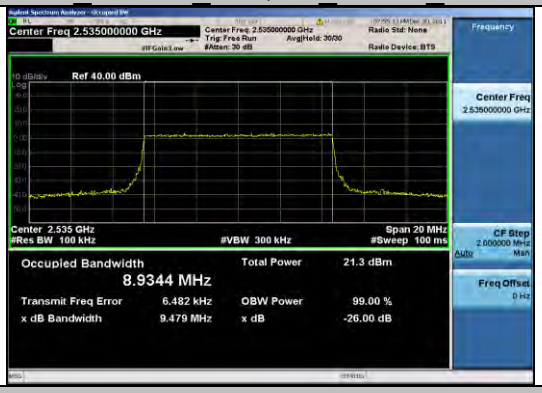


Band7_10MHz_16QAM_20800_50RB#0

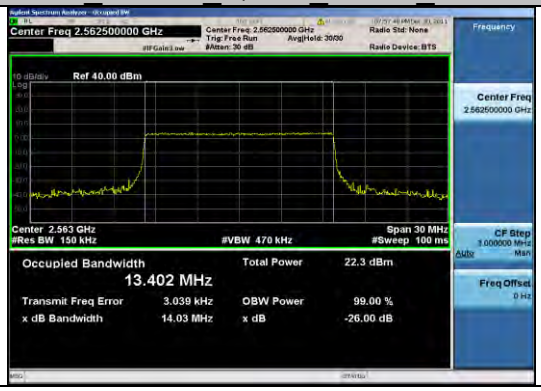
Band7_15MHz_QPSK_21100_75RB#0



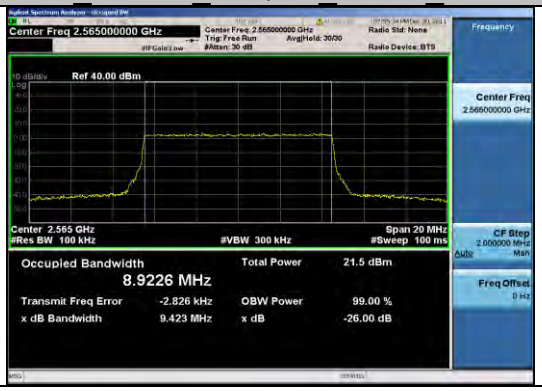
Band7_10MHz_16QAM_21100_50RB#0



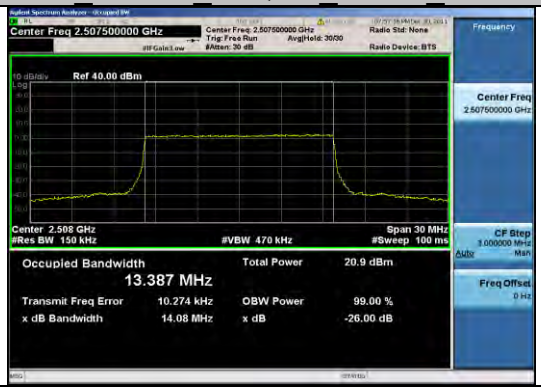
Band7_15MHz_QPSK_21375_75RB#0



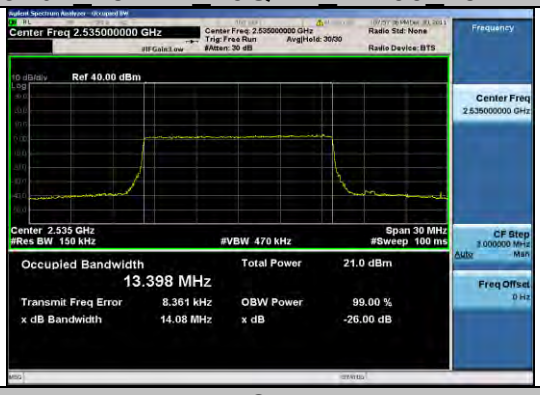
Band7_10MHz_16QAM_21400_50RB#0



Band7_15MHz_16QAM_20825_75RB#0



Band7_15MHz_16QAM_21100_75RB#0

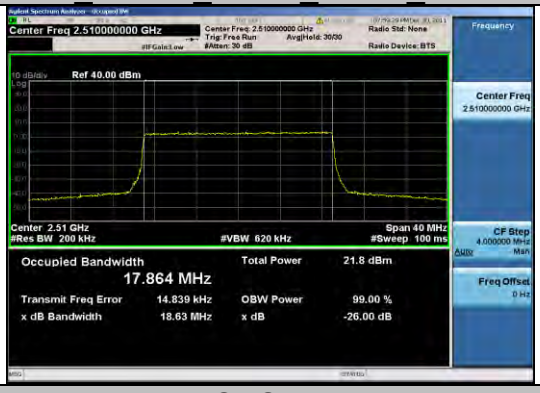


Band7_20MHz_QPSK_21350_100RB#0

Band7_15MHz_16QAM_21375_75RB#0

Band7_20MHz_16QAM_20850_100RB#0

Band7_20MHz_QPSK_20850_100RB#0



Band7_20MHz_16QAM_21100_100RB#0

Band7_20MHz_QPSK_21100_100RB#0

Band7_20MHz_16QAM_21350_100RB#0

Band12_1.4MHz_QPSK_23017_6RB#0

Band12_1.4MHz_16QAM_23095_6RB#0

Band12_1.4MHz_QPSK_23095_6RB#0

Band12_1.4MHz_16QAM_23173_6RB#0

Band12_1.4MHz_QPSK_23173_6RB#0

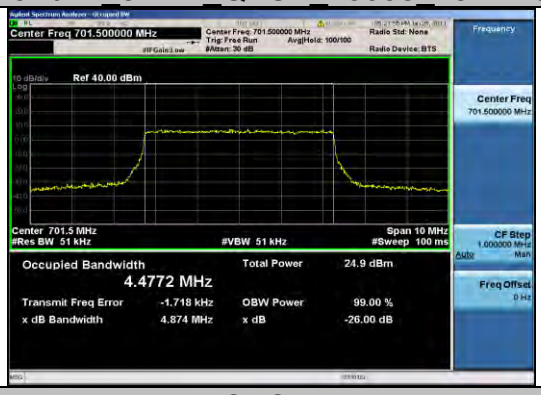
Band12_3MHz_QPSK_23025_15RB#0

Band12_1.4MHz_16QAM_23017_6RB#0

Band12_3MHz_QPSK_23095_15RB#0

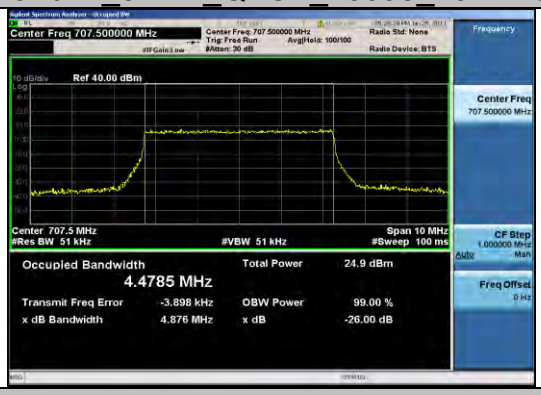
Band12_3MHz_QPSK_23165_15RB#0

Band12_5MHz_QPSK_23035_25RB#0



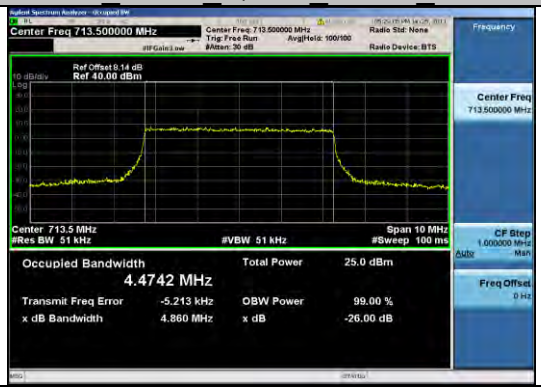
Band12_3MHz_16QAM_23025_15RB#0

Band12_5MHz_QPSK_23095_25RB#0



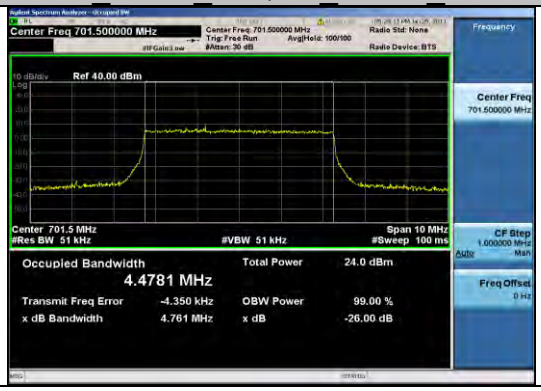
Band12_3MHz_16QAM_23095_15RB#0

Band12_5MHz_QPSK_23155_25RB#0

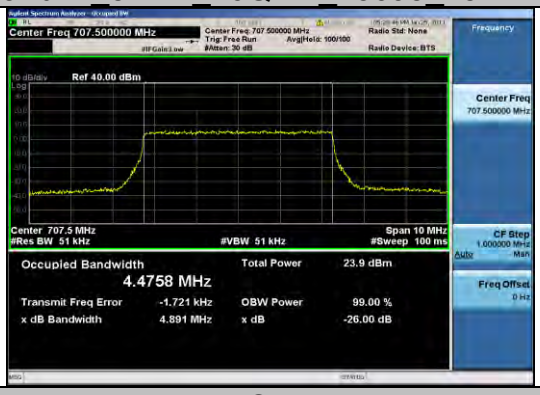


Band12_3MHz_16QAM_23165_15RB#0

Band12_5MHz_16QAM_23035_25RB#0



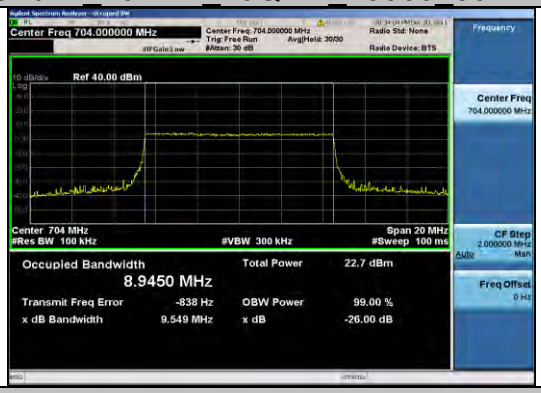
Band12_5MHz_16QAM_23095_25RB#0



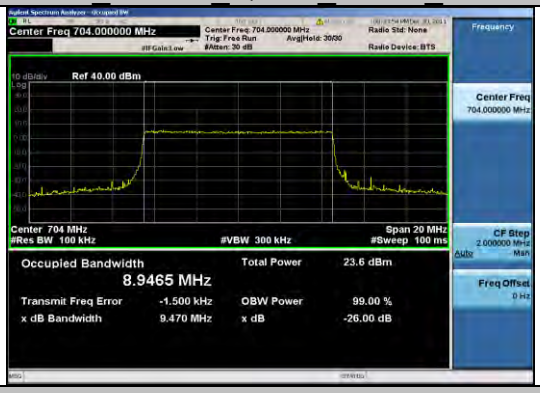
Band12_10MHz_QPSK_23130_50RB#0

Band12_5MHz_16QAM_23155_25RB#0

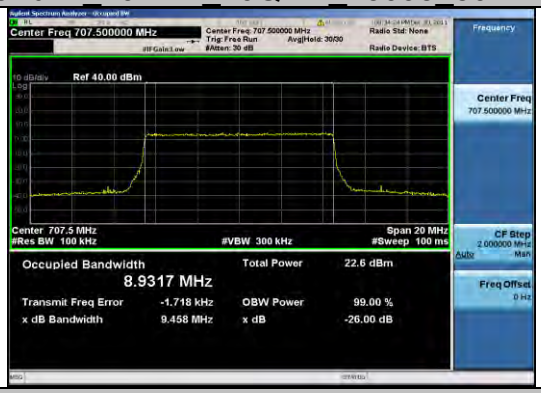
Band12_10MHz_16QAM_23060_50RB#0



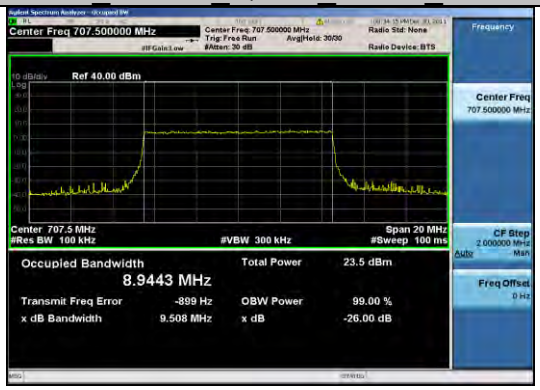
Band12_10MHz_QPSK_23060_50RB#0



Band12_10MHz_16QAM_23095_50RB#0

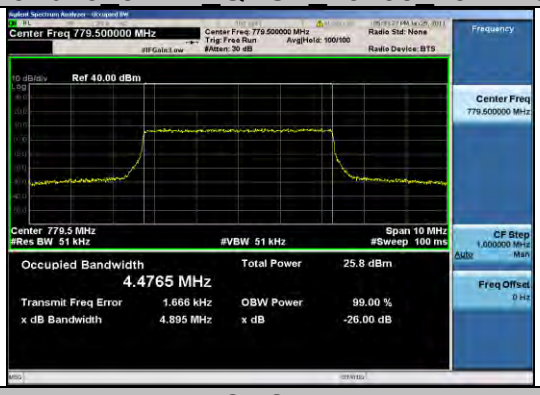


Band12_10MHz_QPSK_23095_50RB#0



Band12_10MHz_16QAM_23130_50RB#0

Band13_5MHz_QPSK_23205_25RB#0



Band13_5MHz_16QAM_23230_25RB#0

Band13_5MHz_QPSK_23230_25RB#0

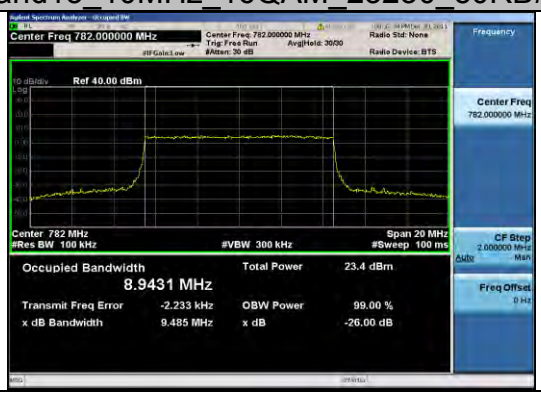
Band13_5MHz_16QAM_23255_25RB#0

Band13_5MHz_QPSK_23255_25RB#0

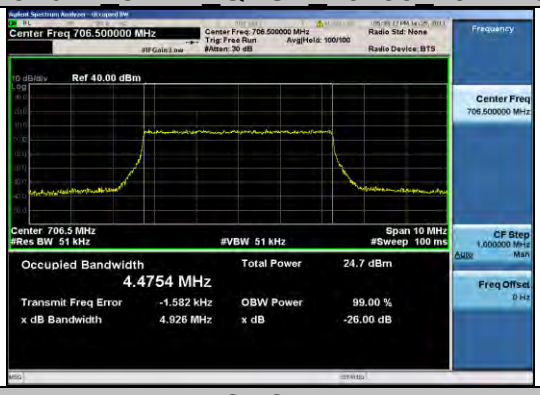
Band13_10MHz_QPSK_23230_50RB#0

Band13_5MHz_16QAM_23205_25RB#0

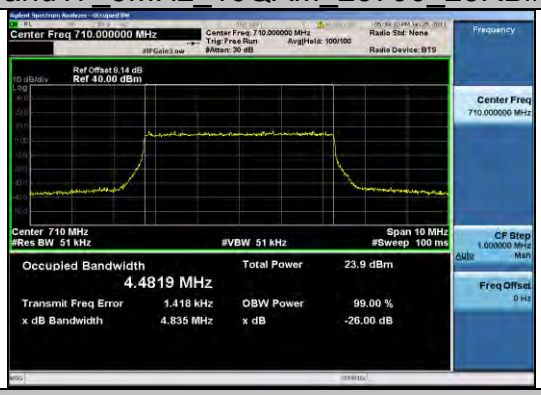
Band13_10MHz_16QAM_23230_50RB#0



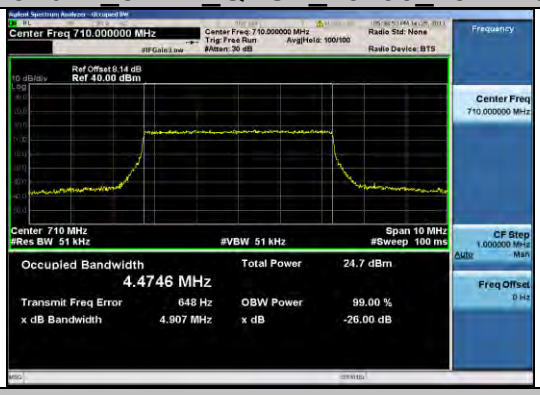
Band17_5MHz_QPSK_23755_25RB#0



Band17_5MHz_16QAM_23790_25RB#0

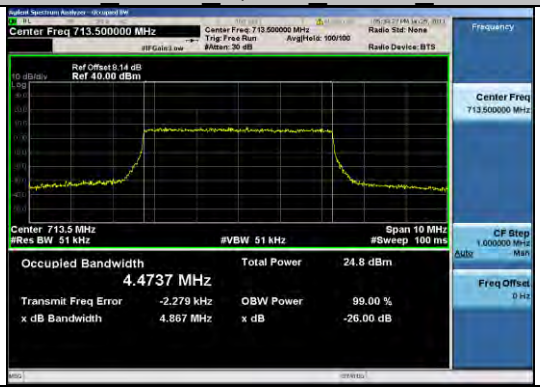


Band17_5MHz_QPSK_23790_25RB#0



Band17_5MHz_16QAM_23825_25RB#0

Band17_5MHz_QPSK_23825_25RB#0

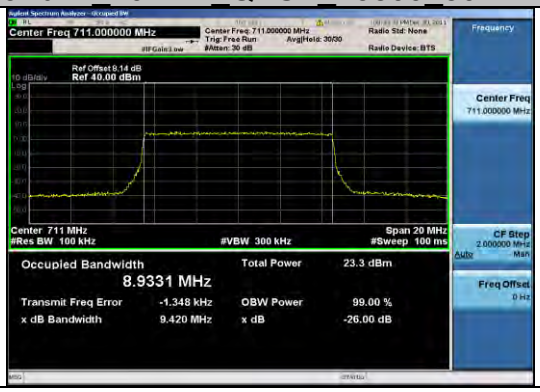


Band17_10MHz_QPSK_23780_50RB#0

Band17_5MHz_16QAM_23755_25RB#0

Band17_10MHz_QPSK_23790_50RB#0

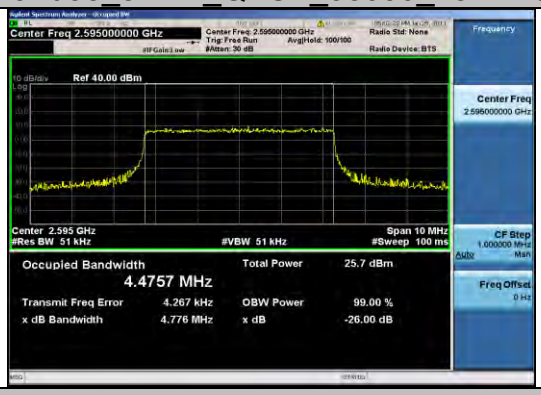
Band17_10MHz_QPSK_23800_50RB#0



Band38_5MHz_QPSK_37775_25RB#0

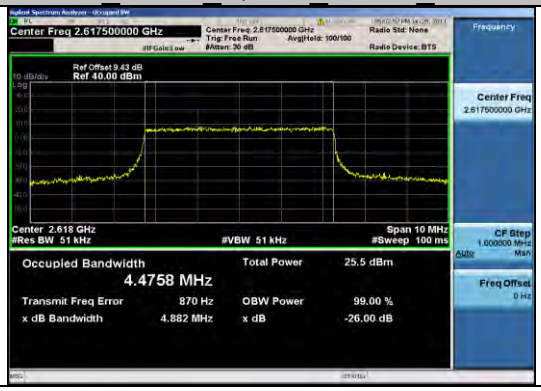
Band17_10MHz_16QAM_23780_50RB#0

Band38_5MHz_QPSK_38000_25RB#0

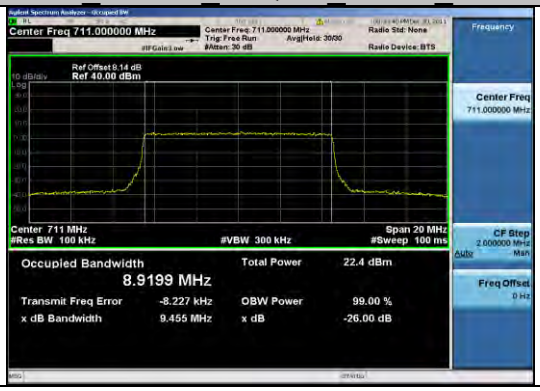


Band17_10MHz_16QAM_23790_50RB#0

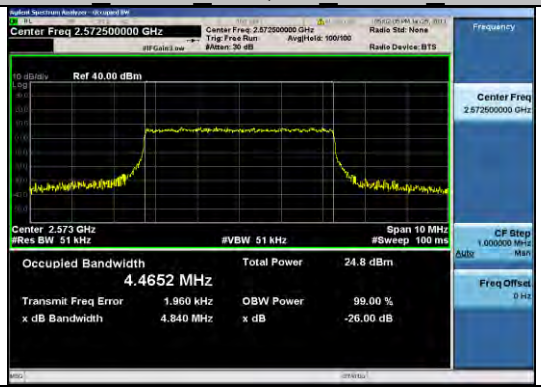
Band38_5MHz_QPSK_38225_25RB#0



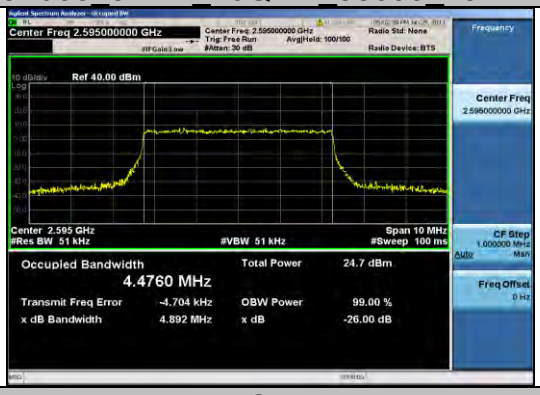
Band17_10MHz_16QAM_23800_50RB#0



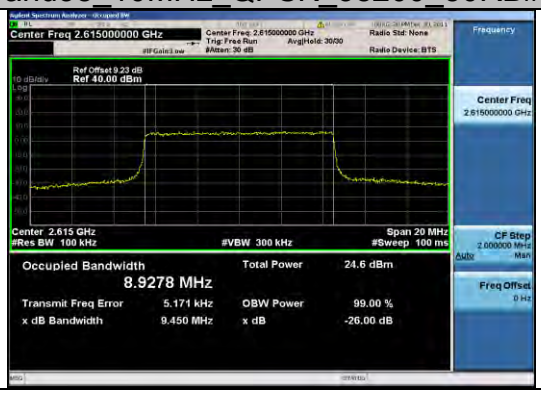
Band38_5MHz_16QAM_37775_25RB#0



Band38_5MHz_16QAM_38000_25RB#0



Band38_10MHz_QPSK_38200_50RB#0

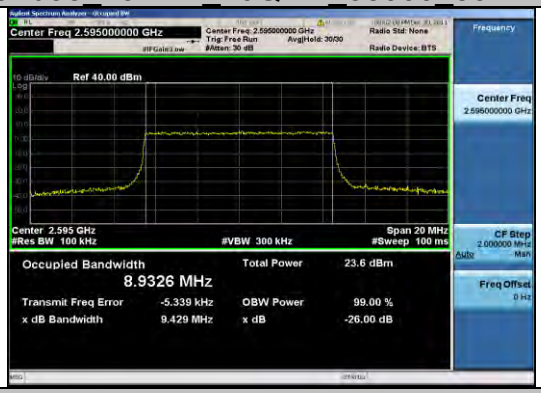


Band38_5MHz_16QAM_38225_25RB#0

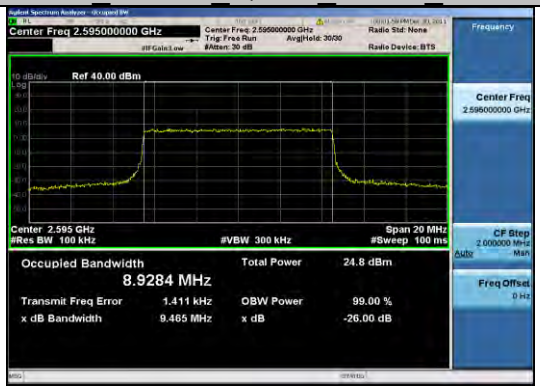
Band38_10MHz_16QAM_37800_50RB#0

Band38_10MHz_QPSK_37800_50RB#0

Band38_10MHz_16QAM_38000_50RB#0

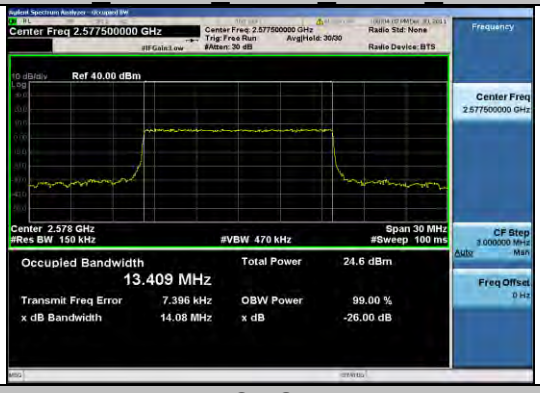


Band38_10MHz_QPSK_38000_50RB#0



Band38_10MHz_16QAM_38200_50RB#0

Band38_15MHz_QPSK_37825_75RB#0



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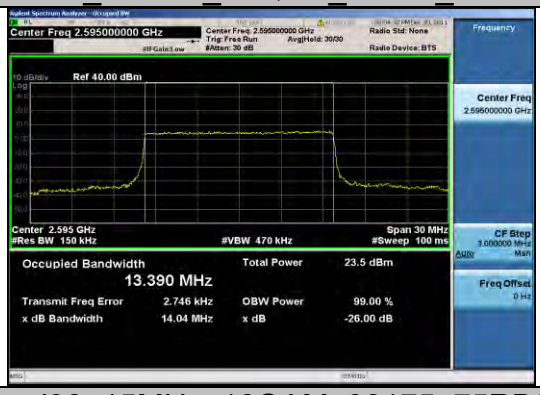

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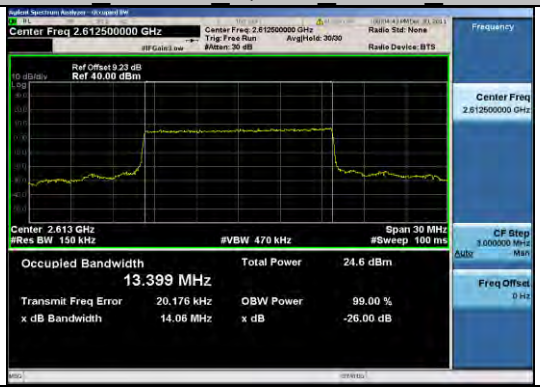

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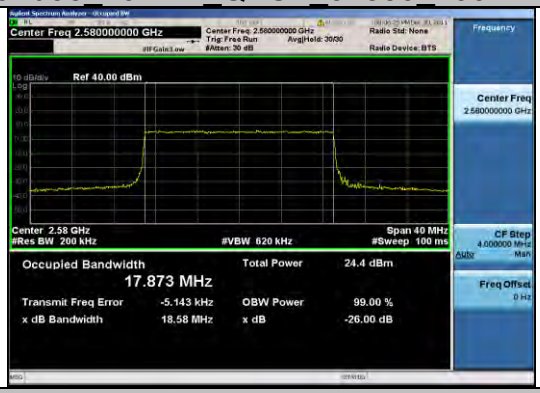


Band38_15MHz_16QAM_37825_75RB#0

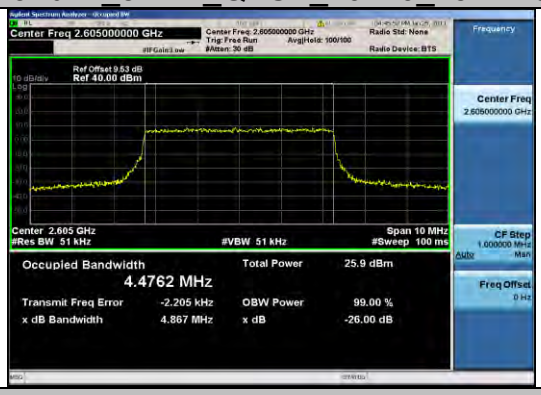
Band38_20MHz_QPSK_38000_100RB#0

Band38_20MHz_QPSK_38150_100RB#0

Band41_5MHz_QPSK_40265_25RB#0

Band38_20MHz_16QAM_37850_100RB#0

Band41_5MHz_QPSK_40740_25RB#0



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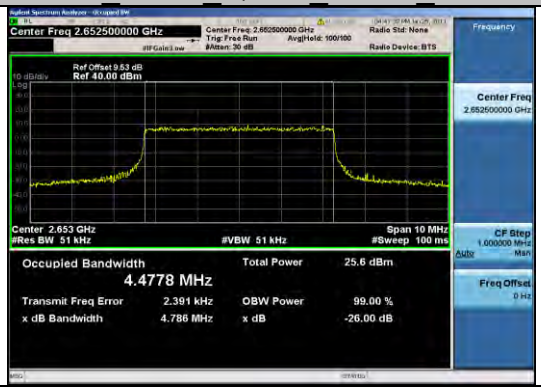

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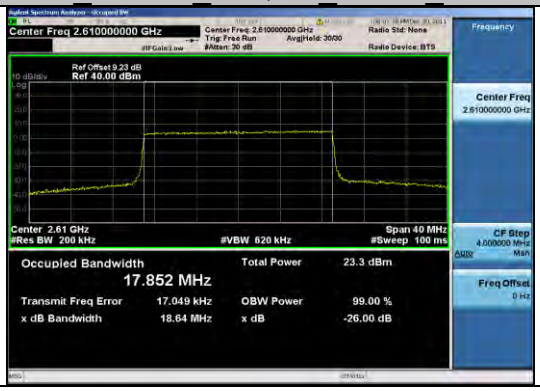

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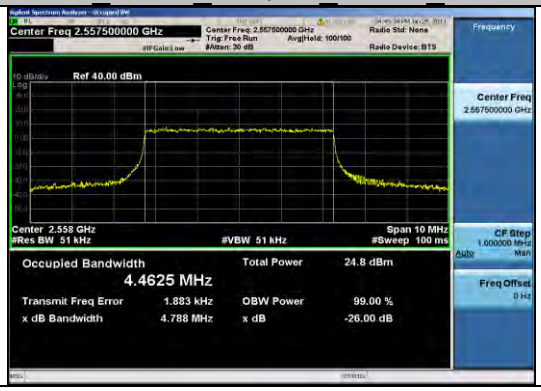

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Band41_10MHz_QPSK_41190_50RB#0

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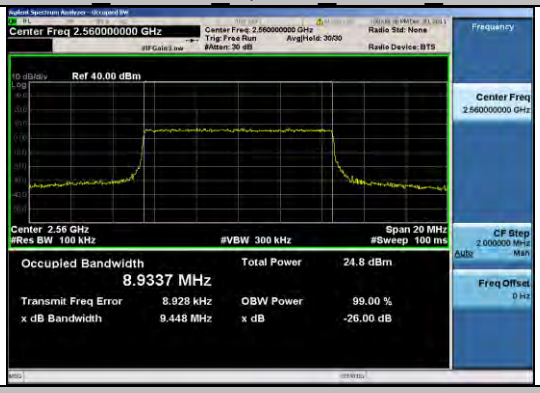
Band41_10MHz_QPSK_40290_50RB#0



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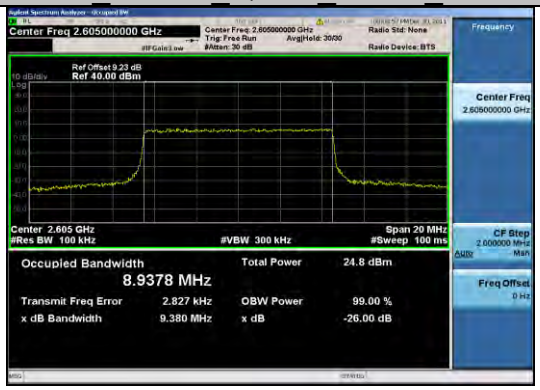

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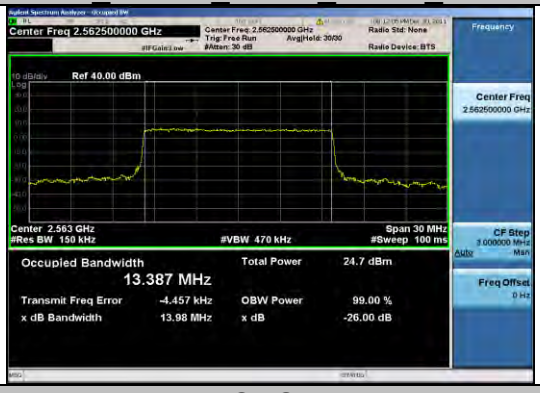

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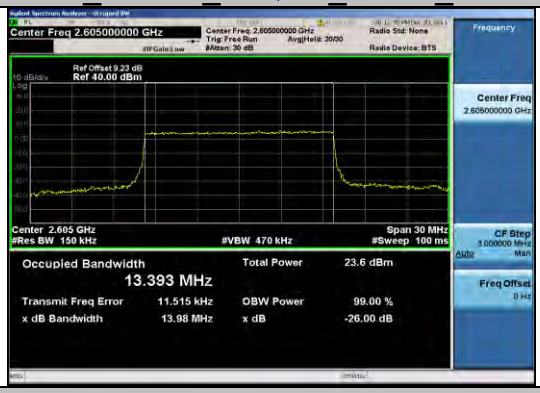

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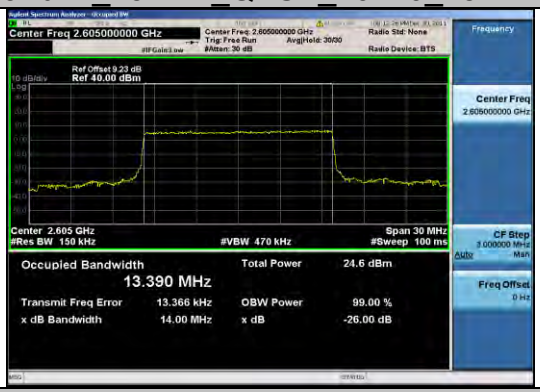

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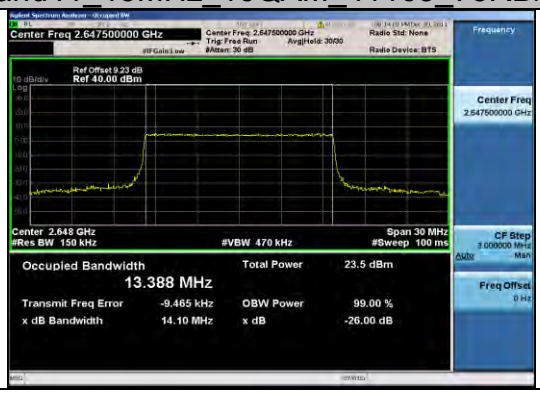

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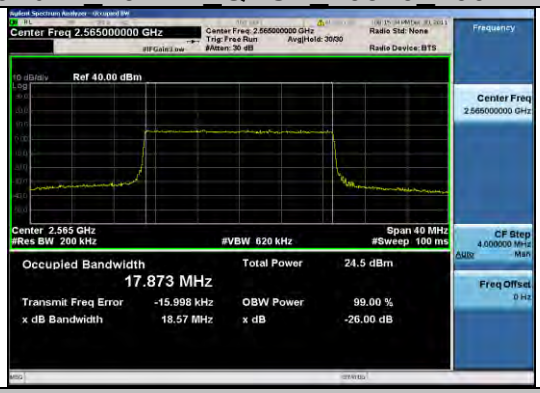
Band41_20MHz_QPSK_40340_100RB#0



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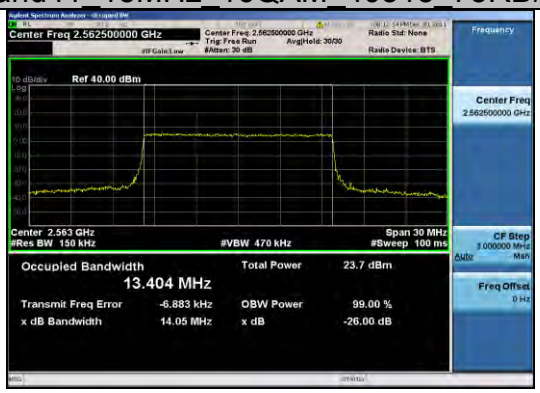

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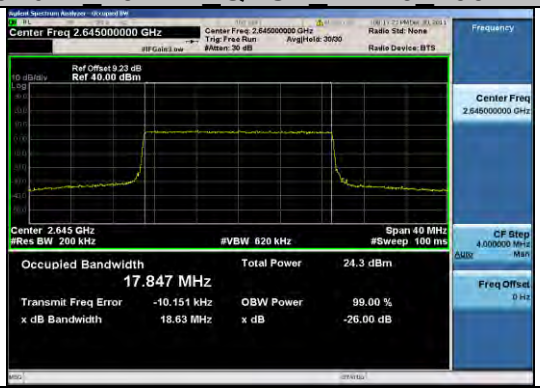

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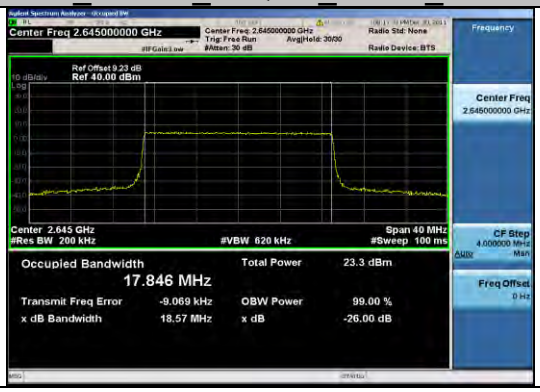

5.4. Spurious Emission at Antenna Terminal

5.4.1. Test Standard

FCC: CFR Part 2.1051, CFR Part 22.917, CFR Part 24.238, CFR Part 27.53

5.4.2. Test Limit

The radio frequency voltage or power generated within the equipment and appearing on a spurious frequency shall be checked at the equipment output terminals when properly loaded with a suitable artificial antenna. Curves or equivalent data shall show the magnitude of each harmonic and other spurious emission that can be detected when the equipment is operated under the conditions specified in FCC 2.1049 as appropriate. The magnitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be specified.

(a) Out of band emissions. 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. For all power levels +30dBm to 0dBm, this becomes a constant specification of -13dBm.

FCC 22.917 Emission limitations for cellular equipment.

The rules in this section govern the spectral characteristics of emissions in the Cellular Radio telephone Service.

(b) Measurement procedure. Compliance with these provisions is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. In the 1MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 100 kHz of 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

FCC 24.238 Emission limitations for Broadband PCS equipment.

The rules in this section govern the spectral characteristics of emissions in the Broadband Personal Communications Service.

(b) Measurement procedure. Compliance with these provisions is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 100 kHz of 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

FCC: §27.53

(c) For operations in the 746-758 MHz band and the 776-788 MHz band, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

(1) On any frequency outside the 746-758 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;

(2) On any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;

(3) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than 76 + 10 log (P) dB in a 6.25 kHz band segment, for base and fixed stations;

(4) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations;

(g) For operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

(h) *AWS* emission limits—(1) General protection levels. Except as otherwise specified below, for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least 43 + 10 $\log_{10}$ (P) dB.

(m)(4) For mobile digital stations, the attenuation factor shall be not less than 43 + 10 log (P)dB at the channel edge and 55 + 10 log (P) dB at 5.5 megahertz from the channel edges.(Channel edges are defined under §27.5 (i) Frequency assignment for the BRS/EBS band)

(m)(6) Measurement procedure. Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 100 kHz of 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.