

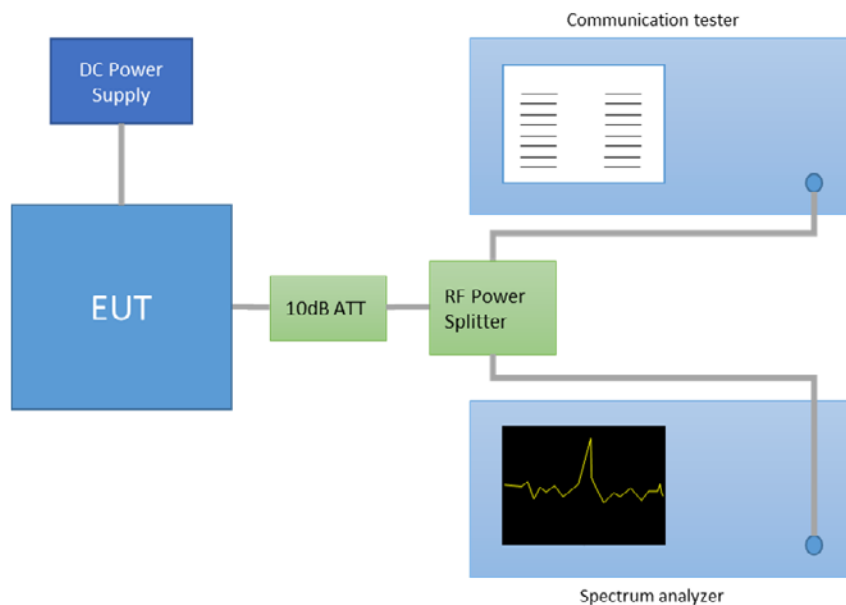
B.2.2 Occupied bandwidth

Standard references

BAND	FCC part	RSS part
LTE 2	2.1049, 24.238	133-ch6.4
LTE 4	2. 1049, 27.53	139-ch.2.3
LTE 5	2. 1049, 22.917	132-ch.5.4
LTE 17	2. 1049, 27.53	-

Test procedure

The setup below was used to measure the transmitted occupied bandwidth. The antenna terminal of the EUT is connected to the spectrum analyzer and the communication tester through an attenuator and a power splitter. This test was performed according to the KDB 971168 D01 § 4. The occupied bandwidth was measured on the worst case configuration selected from the chapter B.2.1 and on the low, middle and high channel.



Results tables

LTE Band 2

Band	Channel	Channel Number	Freq [MHz]	BW [MHz]	Modulation	#RB	RB position	EBW [MHz]	OBW [MHz]			
LTE 2	Low	18607	1850.7	1.4	QPSK	3	0	0.768	0.583			
						6	0	1.331	1.104			
					16QAM	3	0	0.798	0.574			
						6	0	1.351	1.107			
		18615	1851.5	3	QPSK	8	0	1.685	1.444			
						15	0	3.096	2.730			
					16QAM	8	0	1.691	1.443			
						15	0	3.098	2.754			
		18625	1852.5	5	QPSK	12	0	2.474	2.166			
						25	0	5.121	4.516			
						25	0	5.174	4.499			
					16QAM	12	0	2.550	2.162			
						25	0	5.174	4.499			
						25	0	5.174	4.499			
		18650	1855.0	10	QPSK	25	0	5.533	4.523			
						50	0	10.390	8.998			
					16QAM	25	0	5.624	4.532			
						50	0	10.202	9.016			
					18675	1857.5	15	QPSK	36	0	8.908	6.659
									75	0	15.114	13.457
16QAM	36	0	8.271	6.577								
	75	0	15.356	13.498								
18700	1860.0	20	QPSK	50	0	10.966	9.038					
				100	0	20.052	17.844					
			16QAM	50	0	10.956	9.024					
				100	0	19.848	17.848					

Max Values

Band	Channel	Channel Number	Freq [MHz]	BW [MHz]	Modulation	#RB	RB position	EBW [MHz]	OBW [MHz]	
LTE 2	Mid	18900	1880.0	1.4	QPSK	3	2	0.834	0.583	
						6	0	1.344	1.100	
					16QAM	3	2	0.827	0.582	
						6	0	1.350	1.106	
					3	QPSK	8	4	1.692	1.449
							15	0	3.079	2.731
				16QAM		8	4	1.771	1.460	
						15	0	3.105	2.743	
				5	QPSK	12	6	2.623	2.177	
						25	0	5.100	4.504	
					16QAM	12	6	2.623	2.183	
						25	0	5.170	4.512	
				10	QPSK	25	12	5.596	4.547	
						50	0	10.297	9.029	
					16QAM	25	12	5.501	4.556	
						50	0	10.520	9.041	
				15	QPSK	36	19	8.389	6.638	
						75	0	15.334	13.507	
					16QAM	36	19	8.364	6.638	
						75	0	15.716	13.589	
				20	QPSK	50	25	11.130	9.115	
						100	0	20.808	17.918	
					16QAM	50	25	11.349	9.055	
						100	0	20.315	17.913	
LTE 2	High	19193	1909.3	1.4	QPSK	3	3	0.802	0.590	
						6	0	1.384	1.106	
					16QAM	3	3	0.810	0.600	
						6	0	1.370	1.107	
					3	QPSK	8	7	1.725	1.455
							15	0	3.130	2.733
		16QAM	8	7		1.728	1.445			
			15	0		3.053	2.734			
		5	QPSK	12	13	2.669	2.187			
				25	0	5.312	4.520			
			16QAM	12	13	2.659	2.180			
				25	0	5.049	4.517			
		10	QPSK	25	25	5.397	4.588			
				50	0	10.397	9.038			
			16QAM	25	25	5.437	4.613			
				50	0	10.159	9.026			
		15	QPSK	36	39	8.953	6.703			
				75	0	15.609	13.492			
			16QAM	36	39	8.859	6.553			
				75	0	15.221	13.489			
		20	QPSK	50	50	10.764	9.057			
				100	0	19.722	17.852			
			16QAM	50	50	10.768	9.025			
				100	0	19.563	17.897			

Max Values

LTE Band 4

Band	Channel	Channel Number	Freq [MHz]	BW [MHz]	Modulation	#RB	RB position	EBW [MHz]	OBW [MHz]
LTE 4	Low	19957	1710.7	1.4	QPSK	3	0	0.798	0.569
						6	0	1.341	1.097
					16QAM	3	0	0.796	0.569
						6	0	1.360	1.113
		19965	1711.5	3	QPSK	8	0	1.705	1.442
						15	0	3.076	2.728
					16QAM	8	0	1.703	1.452
						15	0	3.069	2.707
		19975	1712.5	5	QPSK	12	0	2.617	2.188
						25	0	5.097	4.503
					16QAM	12	0	2.686	2.190
						25	0	5.150	4.513
		20000	1715.0	10	QPSK	25	0	5.453	4.515
						50	0	10.305	9.035
					16QAM	25	0	5.683	4.538
						50	0	10.266	9.022
		20025	1717.5	15	QPSK	36	0	8.643	6.671
						75	0	15.280	13.476
					16QAM	36	0	8.624	6.544
						75	0	15.313	13.510
20050	1720.0	20	QPSK	50	0	10.772	9.028		
				100	0	20.060	17.844		
			16QAM	50	0	11.153	9.010		
				100	0	20.291	17.883		

Max Values

Band	Channel	Channel Number	Freq [MHz]	BW [MHz]	Modulation	#RB	RB position	EBW [MHz]	OBW [MHz]	
LTE 4	Mid	20175	1732.5	1.4	QPSK	3	2	0.809	0.583	
						6	0	1.344	1.097	
					16QAM	3	2	0.804	0.582	
						6	0	1.370	1.106	
					3	QPSK	8	4	1.725	1.454
							15	0	3.076	2.720
				16QAM		8	4	1.700	1.451	
						15	0	3.113	2.716	
				5	QPSK	12	6	2.604	2.187	
						25	0	5.215	4.501	
					16QAM	12	6	2.705	2.206	
						25	0	5.284	4.501	
					10	QPSK	25	12	5.607	4.566
							50	0	10.579	9.029
				16QAM		25	12	5.457	4.510	
						50	0	10.443	9.011	
				15	QPSK	36	19	8.229	6.611	
						75	0	15.231	13.572	
					16QAM	36	19	8.564	6.596	
						75	0	15.316	13.477	
					20	QPSK	50	25	10.953	9.128
							100	0	20.154	17.868
				16QAM		50	25	11.071	9.043	
						100	0	20.426	17.884	
LTE 4	High	20393	1754.3	1.4	QPSK	3	3	0.755	0.578	
						6	0	1.352	1.107	
				16QAM	3	3	0.760	0.567		
					6	0	1.327	1.100		
				3	QPSK	8	7	1.703	1.445	
						15	0	3.079	2.728	
		16QAM	8		7	1.738	1.451			
			15		0	3.123	2.716			
		5	QPSK	12	13	2.666	2.186			
				25	0	5.105	4.534			
			16QAM	12	13	2.618	2.178			
				25	0	5.067	4.497			
		10	QPSK	25	25	5.545	4.544			
				50	0	10.287	8.991			
			16QAM	25	25	5.750	4.511			
				50	0	10.406	8.982			
		15	QPSK	36	39	7.834	6.713			
				75	0	15.248	13.475			
			16QAM	36	39	8.535	6.634			
				75	0	15.120	13.490			
			20	QPSK	50	50	11.328	9.027		
					100	0	19.871	17.819		
		16QAM		50	50	11.033	9.030			
				100	0	20.263	17.901			

Max Values

LTE Band 5

Band	Channel	Channel Number	Freq [MHz]	BW [MHz]	Modulation	#RB	RB position	EBW [MHz]	OBW [MHz]	
LTE 5	Low	20407	824.7	1.4	QPSK	3	0	0.780	0.569	
						6	0	1.329	1.101	
		16QAM	3	0	0.778	0.570				
			6	0	1.330	1.102				
		20415	825.5	3	QPSK	8	0	1.692	1.440	
						15	0	3.028	2.716	
		16QAM	8	0	1.688	1.443				
			15	0	3.083	2.712				
		20425	826.5	5	QPSK	12	0	2.611	2.187	
						25	0	5.134	4.508	
		16QAM	12	0	2.648	2.169				
			25	0	5.123	4.504				
	20450	829.0	10	QPSK	25	0	5.590	4.528		
					50	0	10.378	8.994		
	16QAM	25	0	5.565	4.558					
		50	0	10.203	8.992					
	Mid	20525	836.5	1.4	QPSK	3	2	0.803	0.578	
						6	0	1.383	1.104	
					16QAM	3	2	0.857	0.580	
						6	0	1.354	1.103	
					3	QPSK	8	4	1.685	1.439
							15	0	3.112	2.732
				16QAM	8	4	1.684	1.447		
					15	0	3.100	2.727		
				5	QPSK	12	6	2.693	2.182	
						25	0	5.095	4.510	
					16QAM	12	6	2.730	2.209	
				25		0	5.084	4.498		
	10	QPSK	25	12	5.565	4.548				
			50	0	10.171	9.035				
		16QAM	25	12	5.580	4.537				
	50		0	10.261	9.026					
	High	20643	848.3	1.4	QPSK	3	3	0.812	0.589	
						6	0	1.393	1.104	
					16QAM	3	3	0.781	0.570	
		20635	847.5	3	3		6	0	1.322	1.105
QPSK						8	7	1.699	1.461	
						15	0	3.058	2.739	
16QAM		8	7	1.745	1.459					
			15	0	3.080	2.724				
		QPSK	12	13	2.629	2.180				
20625		846.5	5	5		25	0	5.098	4.498	
					16QAM	12	13	2.663	2.166	
						25	0	5.049	4.507	
20600	844.0	10	10	QPSK	25	25	5.729	4.518		
					50	0	10.222	8.917		
				16QAM	25	25	5.456	4.504		
	50	0	10.188	8.959						

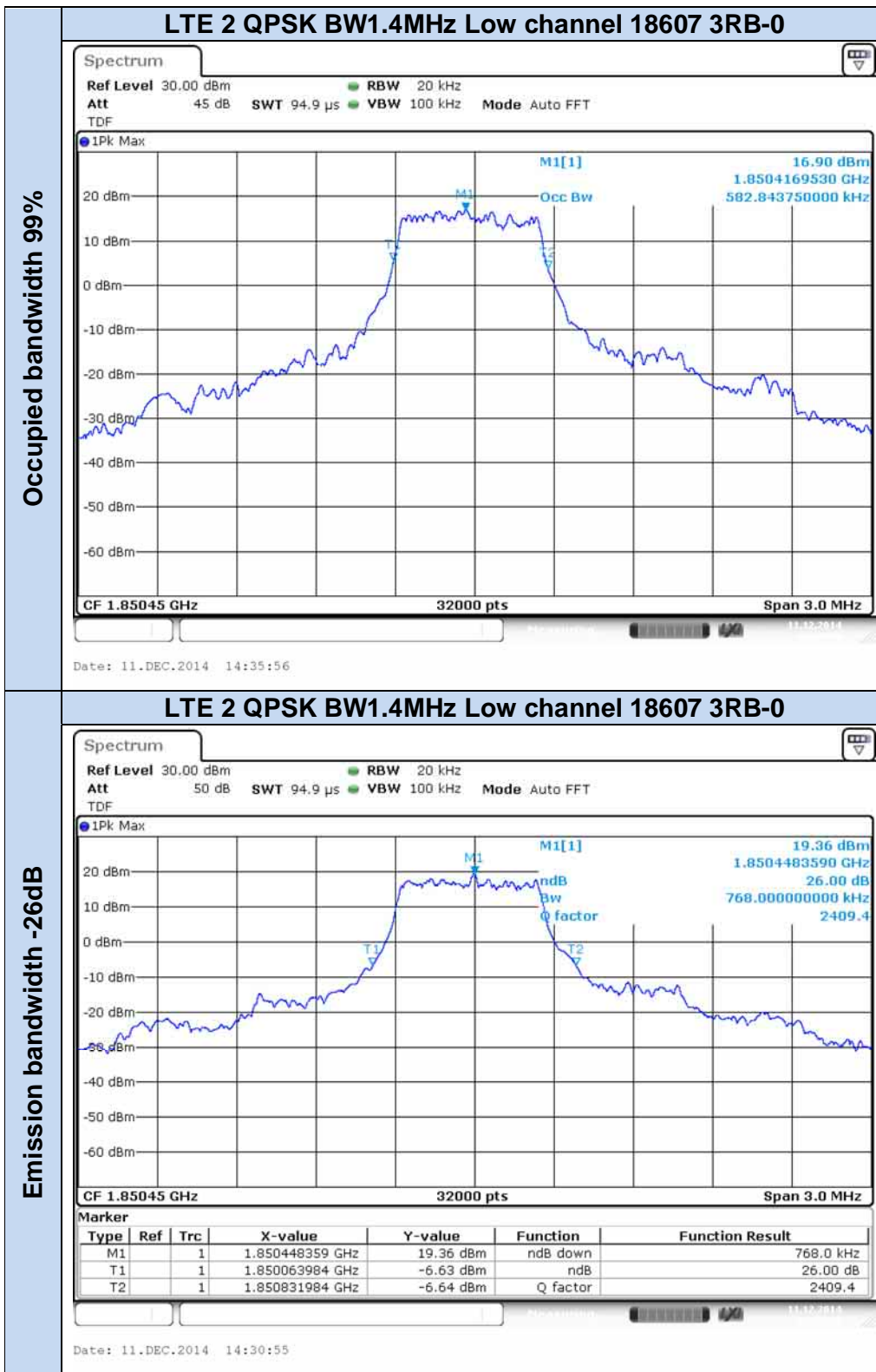
Max Values

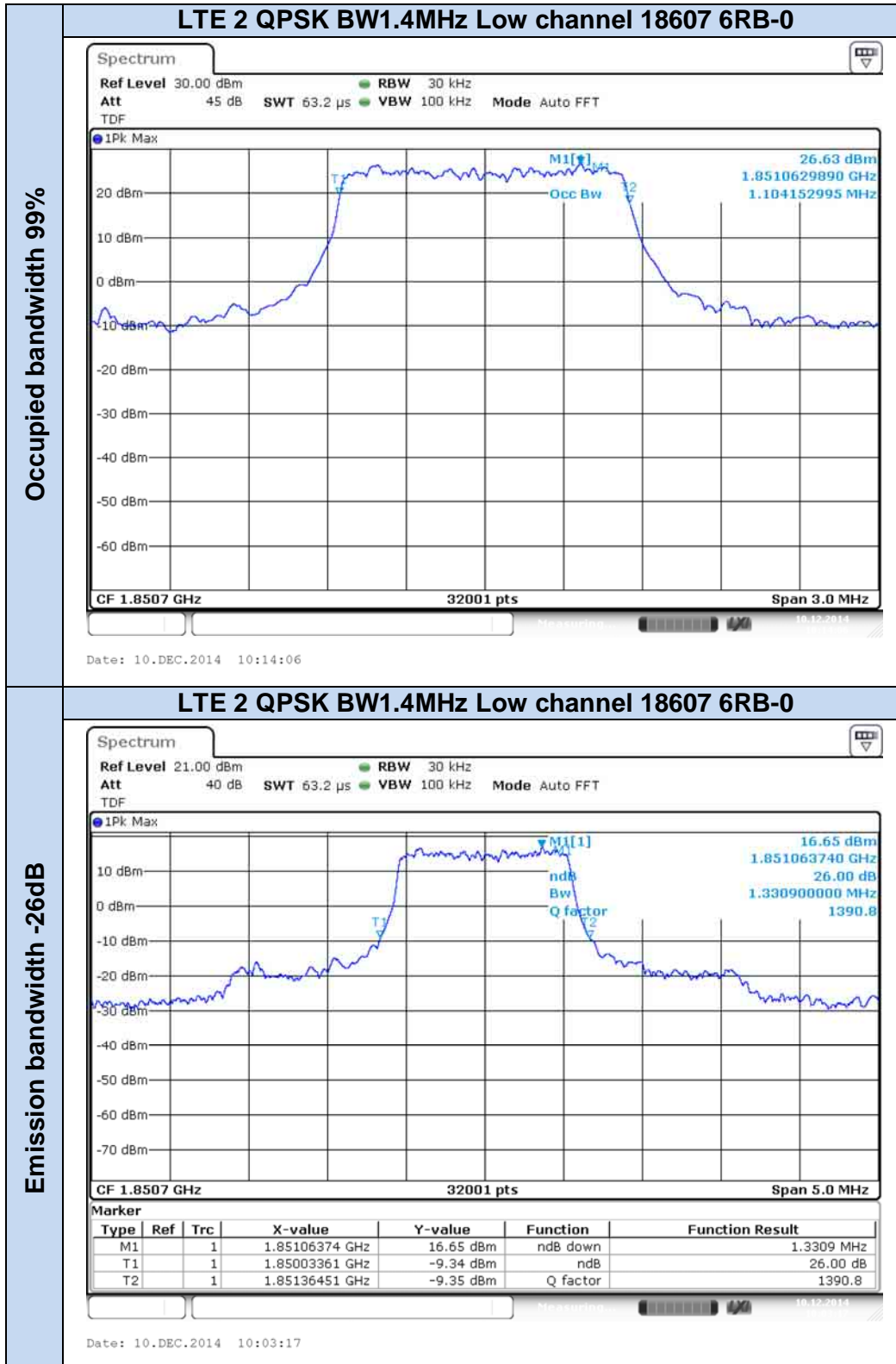
LTE Band 17

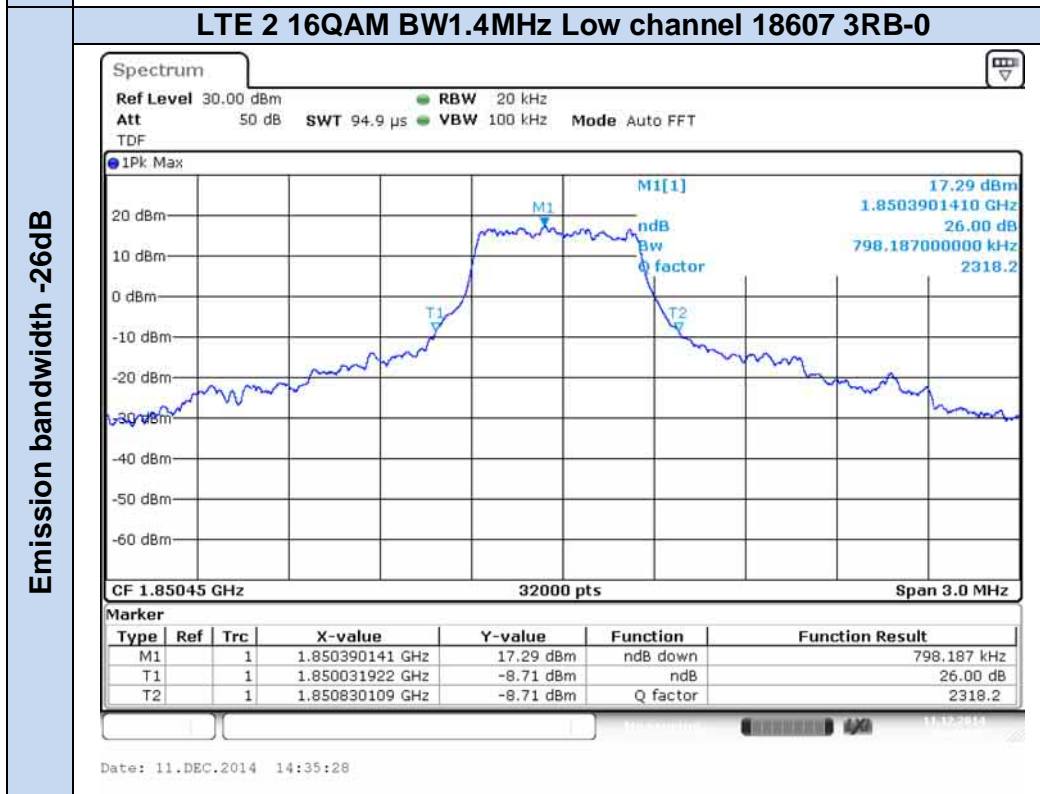
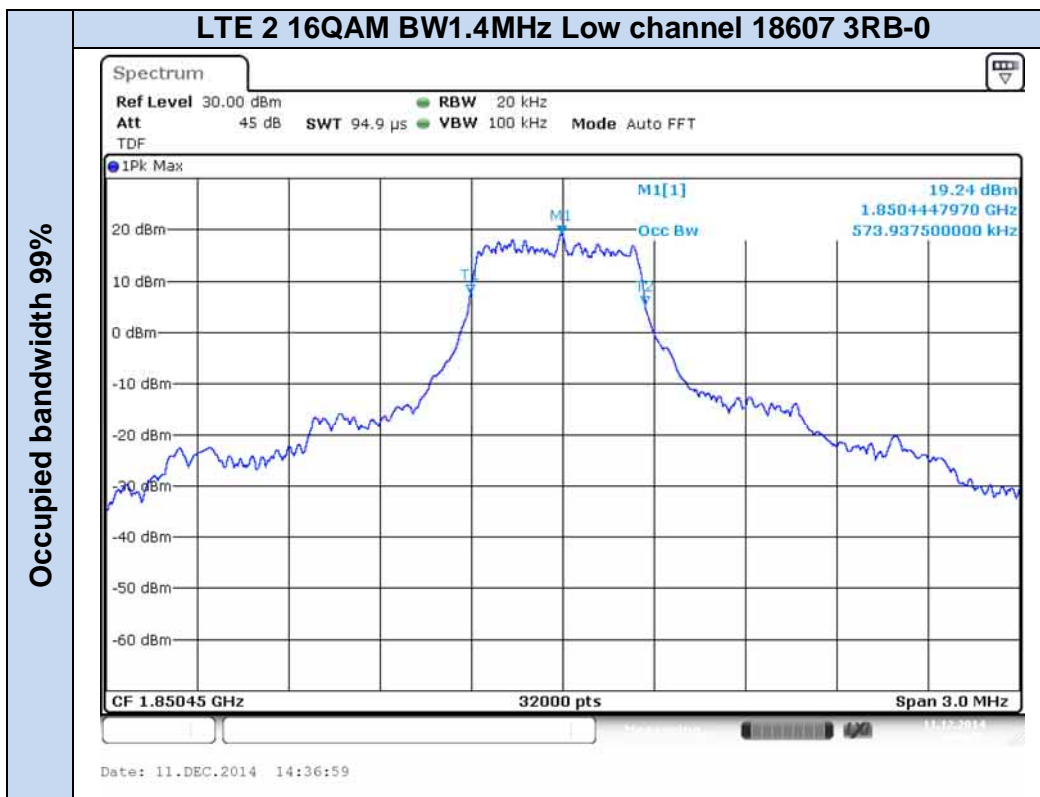
Band	Channel	Channel Number	Freq [MHz]	BW [MHz]	Modulation	#RB	RB position	EBW [MHz]	OBW [MHz]
LTE 17	Low	23755	706.5	5	QPSK	12	0	2.557	2.187
						25	0	5.232	4.522
					16QAM	12	0	2.706	2.190
						25	0	5.147	4.541
		23780	709.0	10	QPSK	25	0	5.640	4.549
						50	0	10.260	9.003
	16QAM	25	0	5.520	4.551				
		50	0	10.216	9.019				
	Mid	23790	710.0	5	QPSK	12	6	2.649	2.187
						25	0	5.145	4.511
					16QAM	12	6	2.709	2.213
						25	0	5.076	4.492
					QPSK	25	12	5.395	4.546
						50	0	10.235	9.054
	16QAM	25	12	5.426	4.529				
		50	0	10.126	8.970				
	High	23825	713.5	5	QPSK	12	13	2.746	2.177
						25	0	5.137	4.510
					16QAM	12	13	2.815	2.175
						25	0	5.027	4.532
23800		711.0	10	QPSK	25	25	5.485	4.535	
					50	0	10.172	8.981	
16QAM	25	25	5.637	4.555					
	50	0	10.111	8.988					

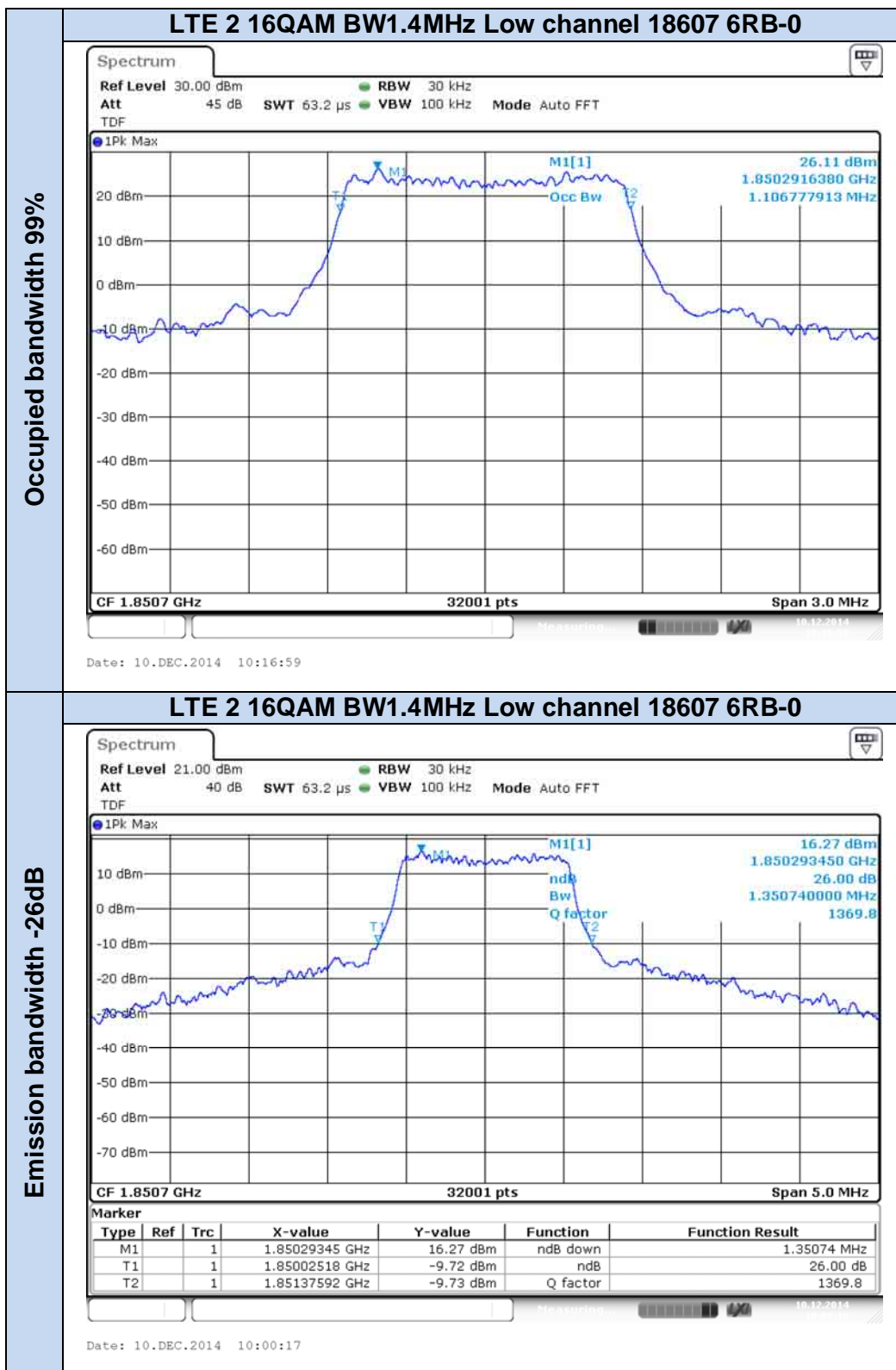
Max values

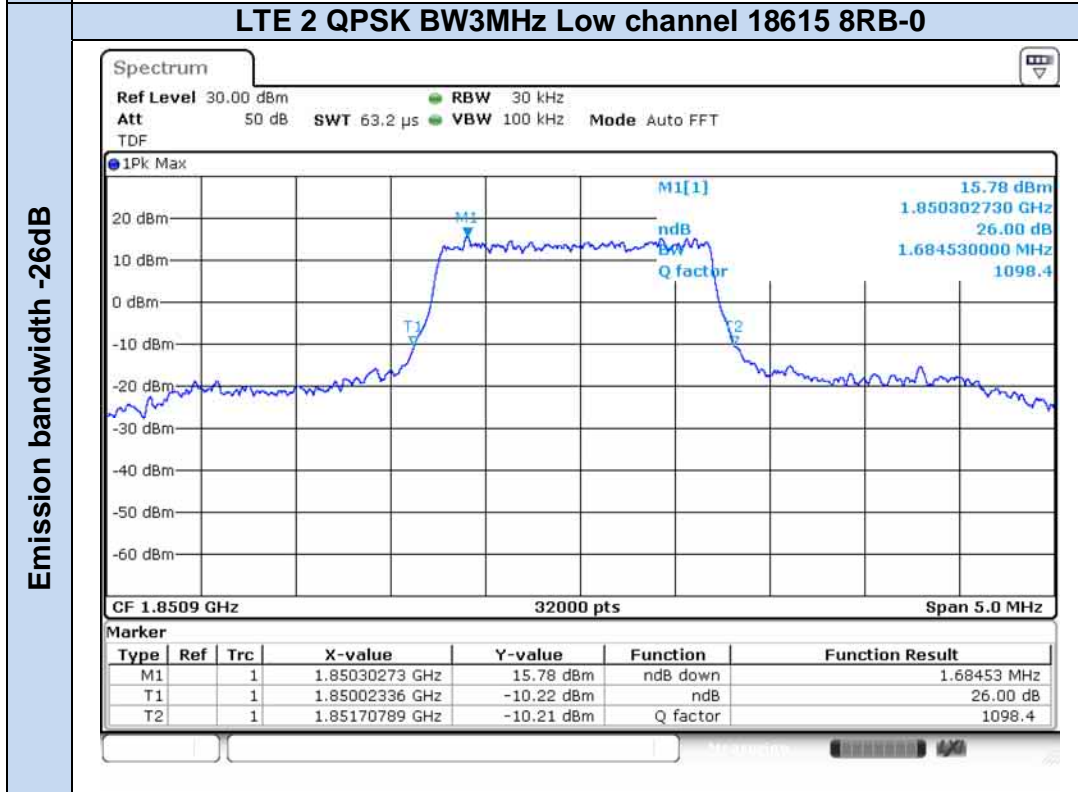
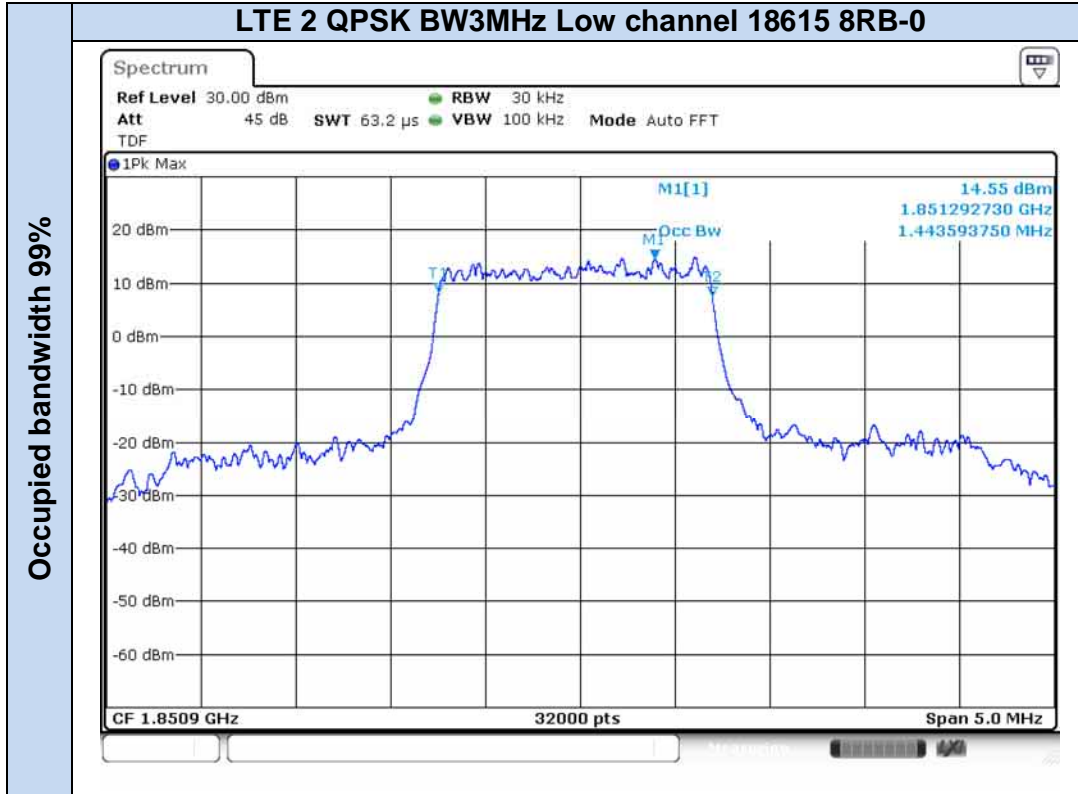
LTE Band 2

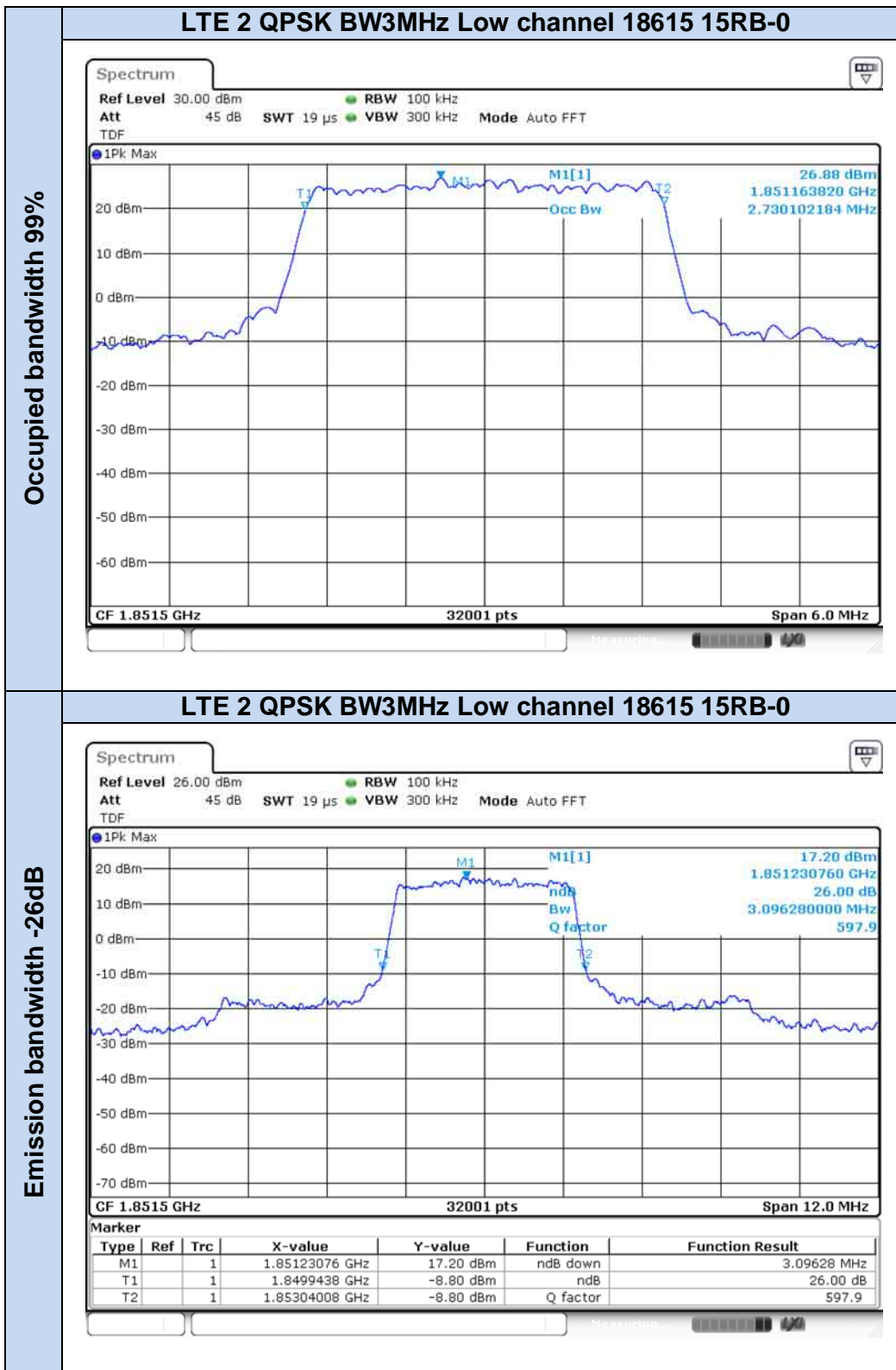


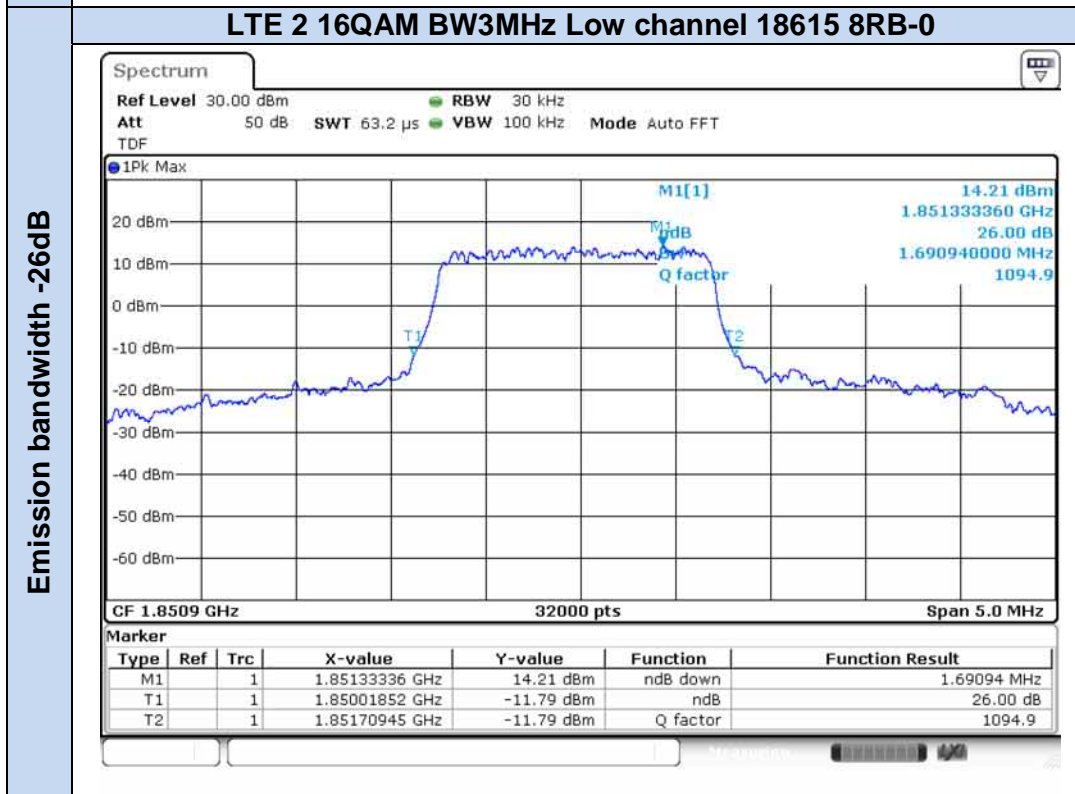
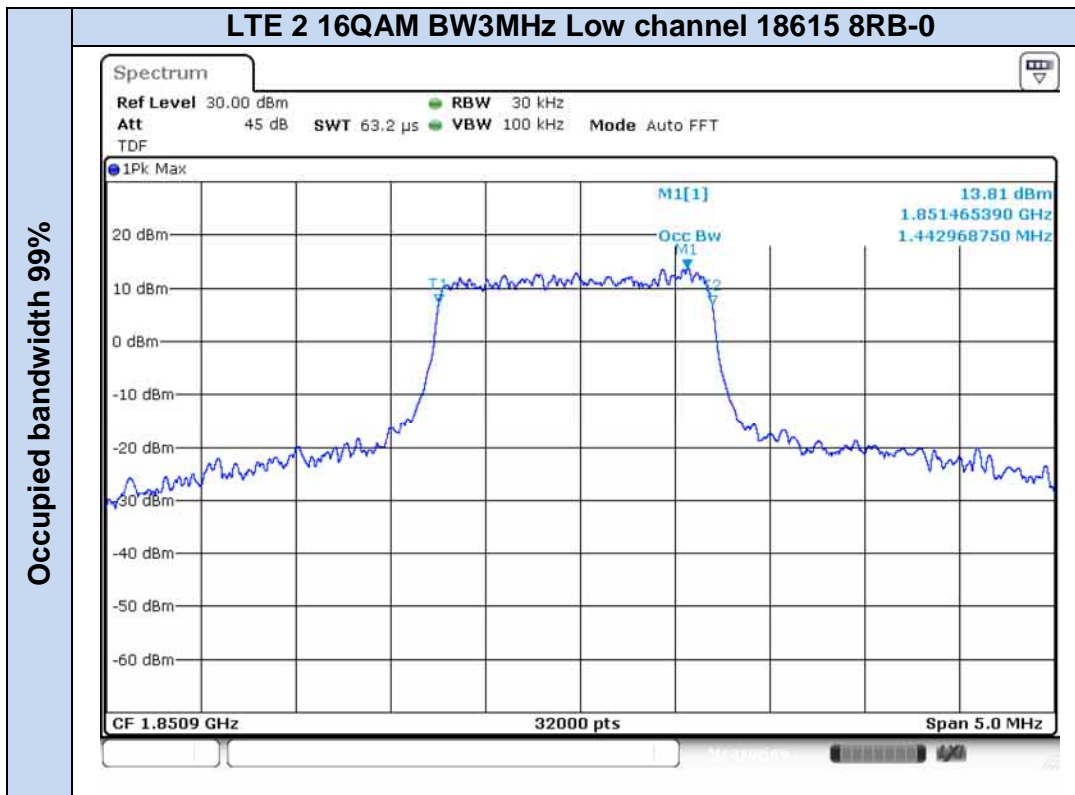


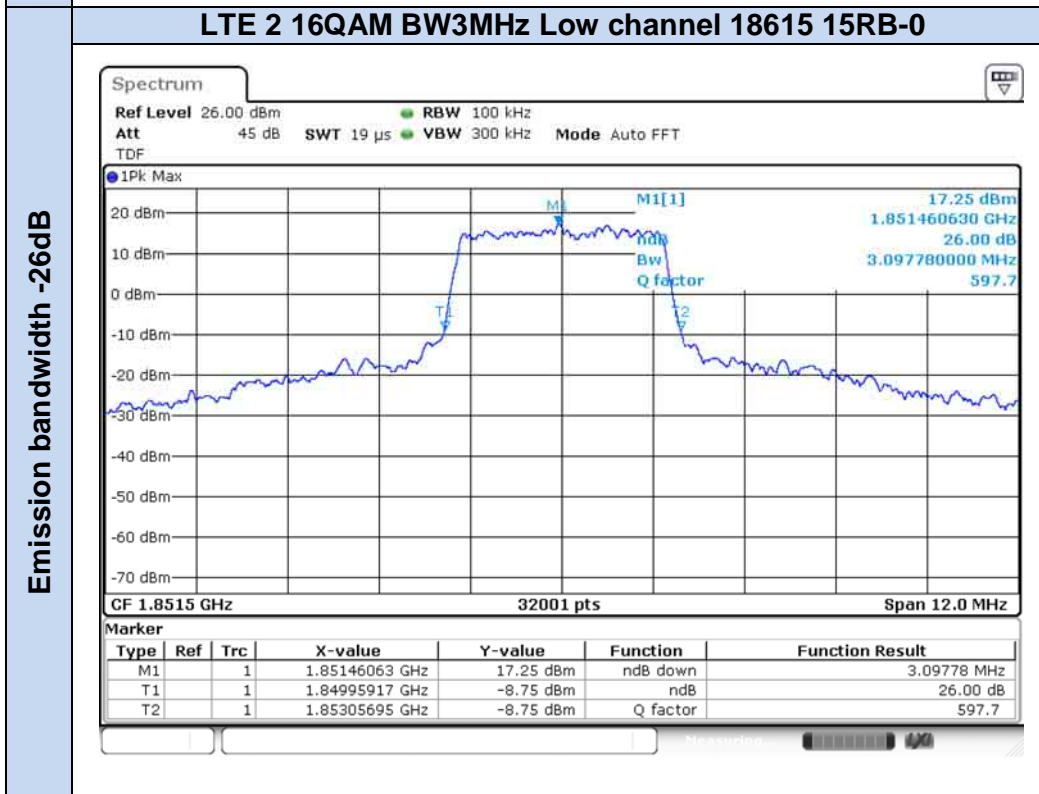
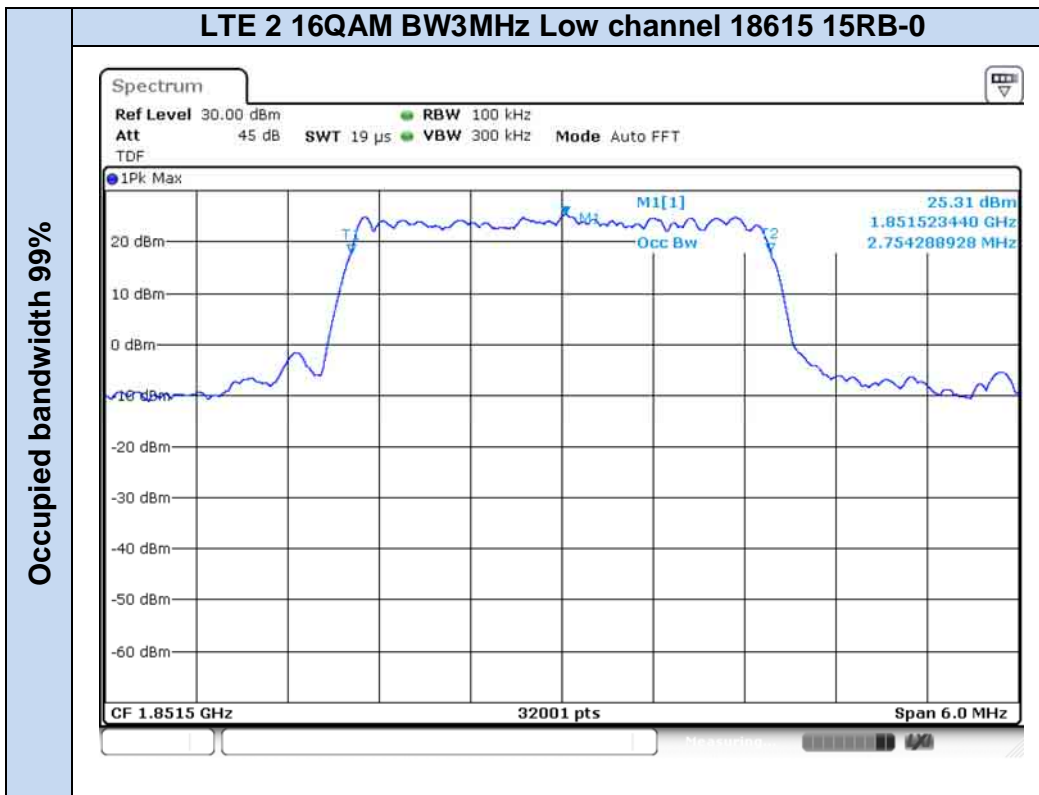


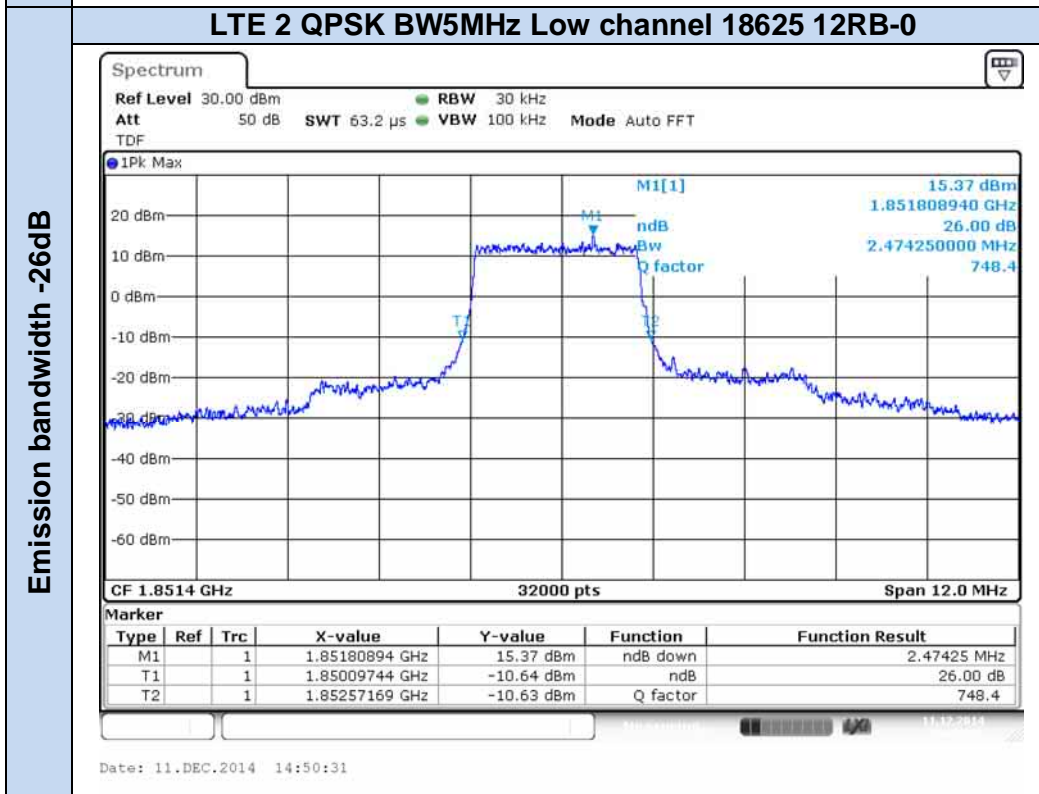
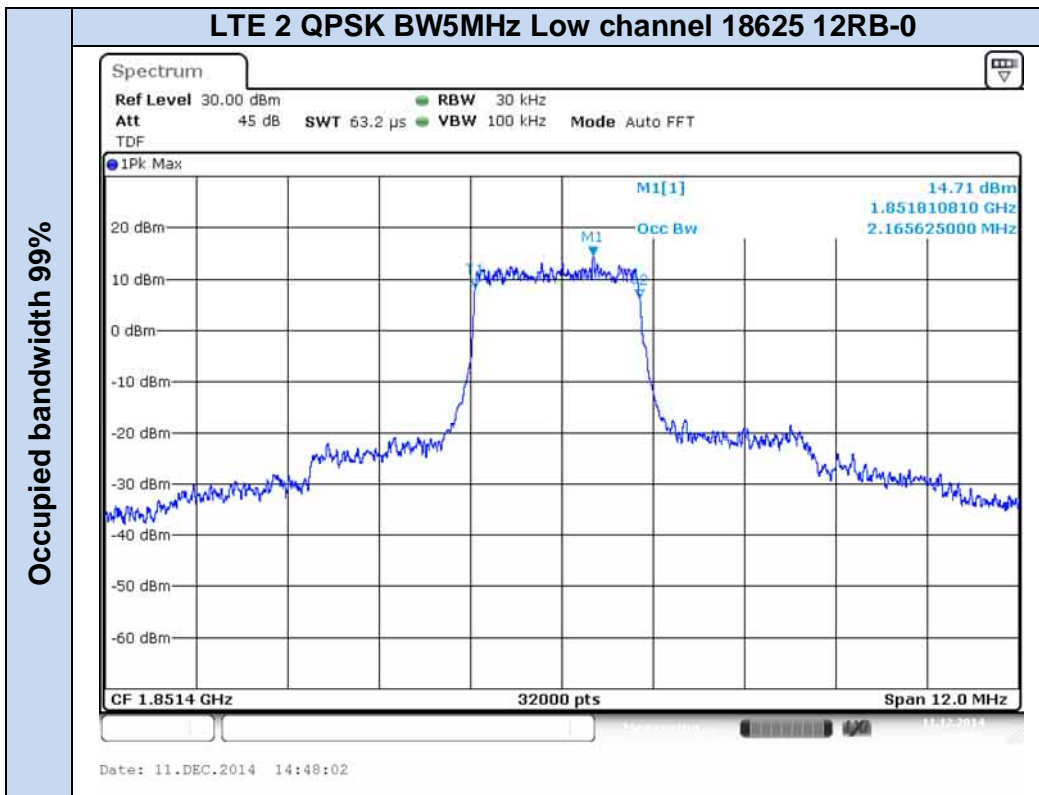


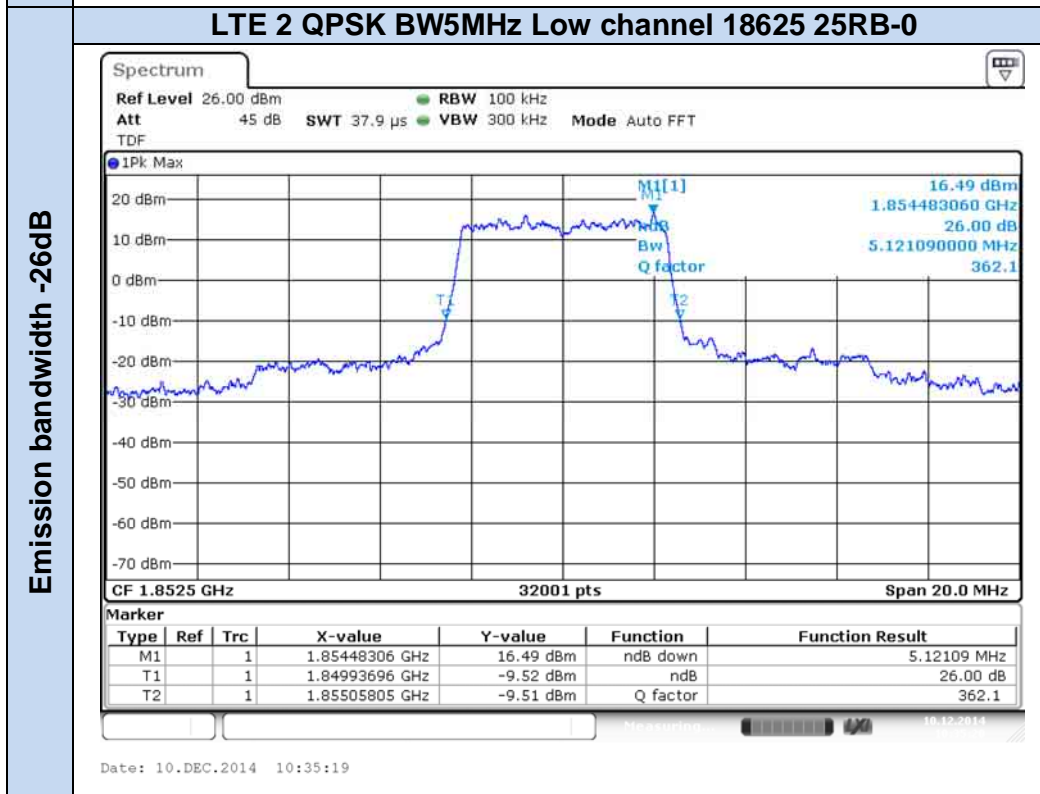
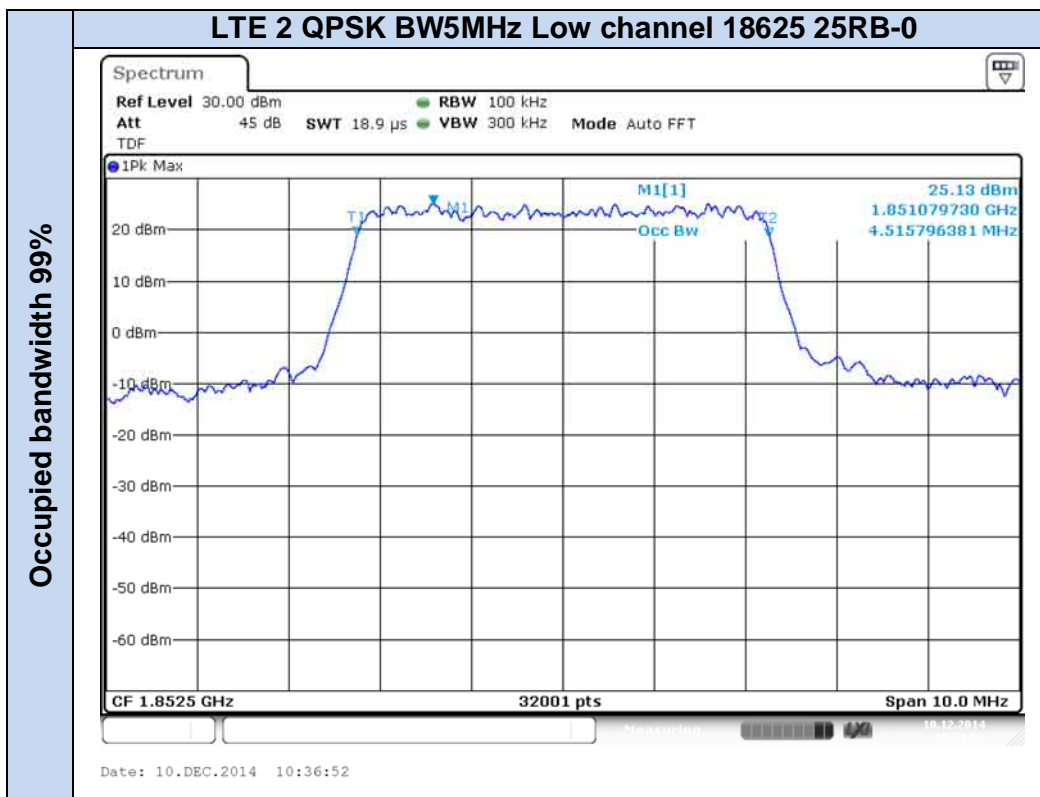


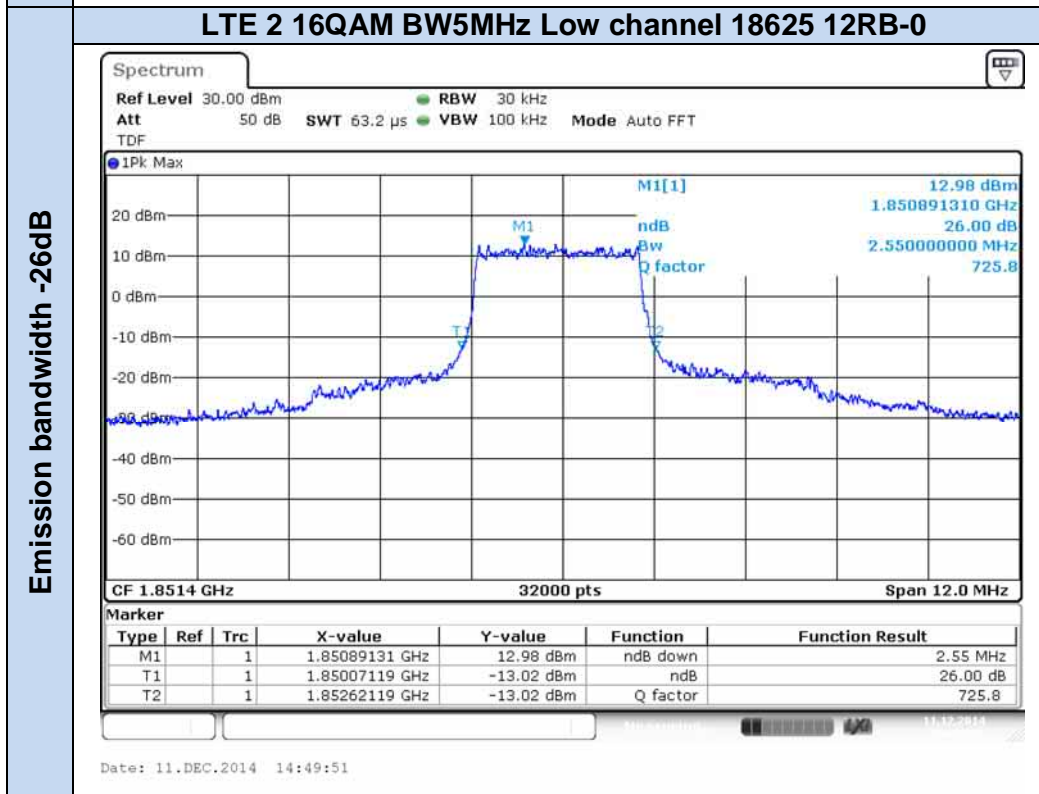
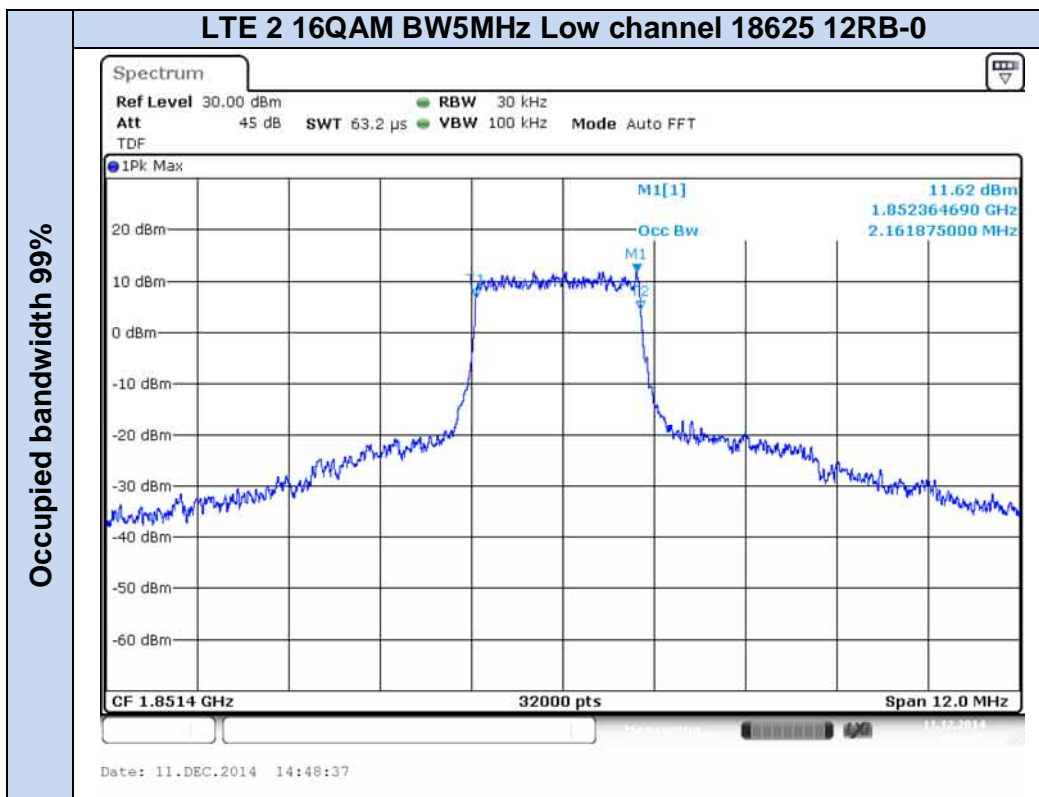


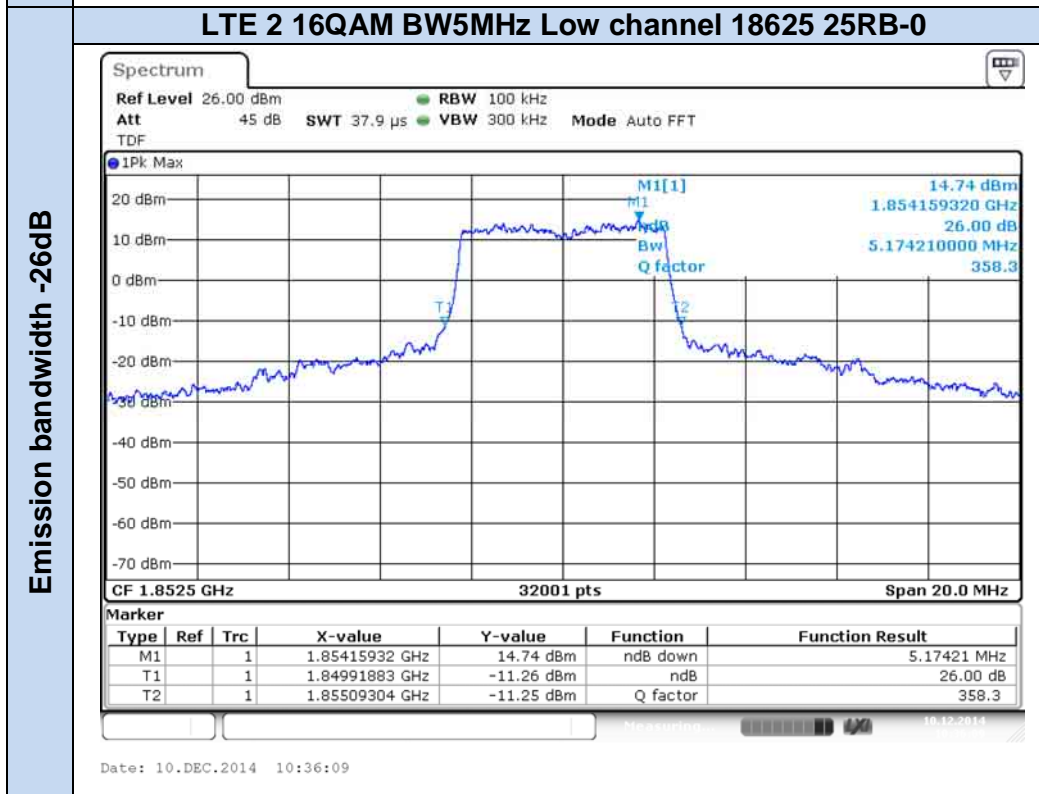
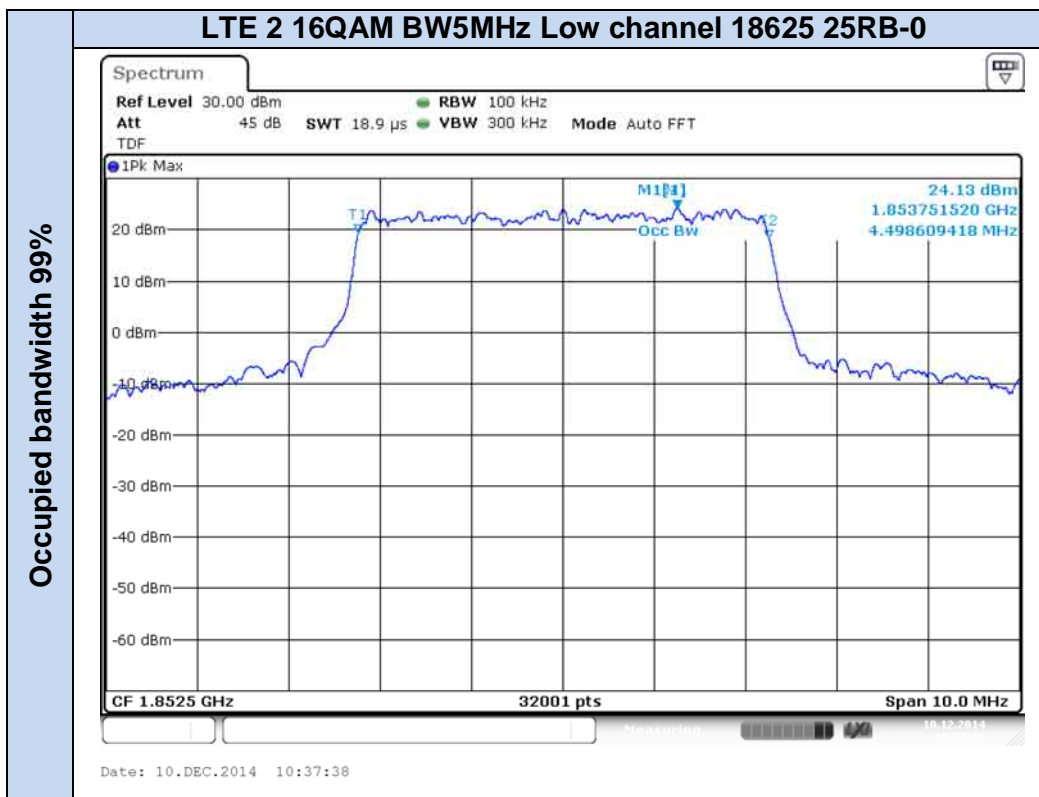


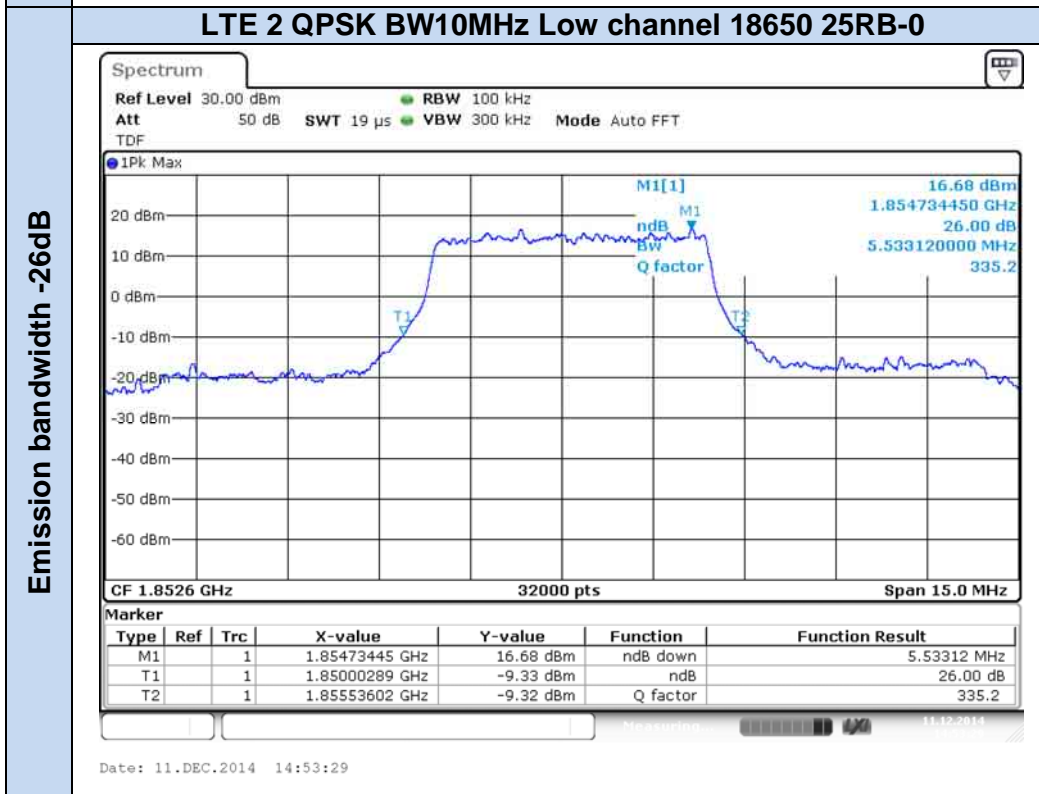
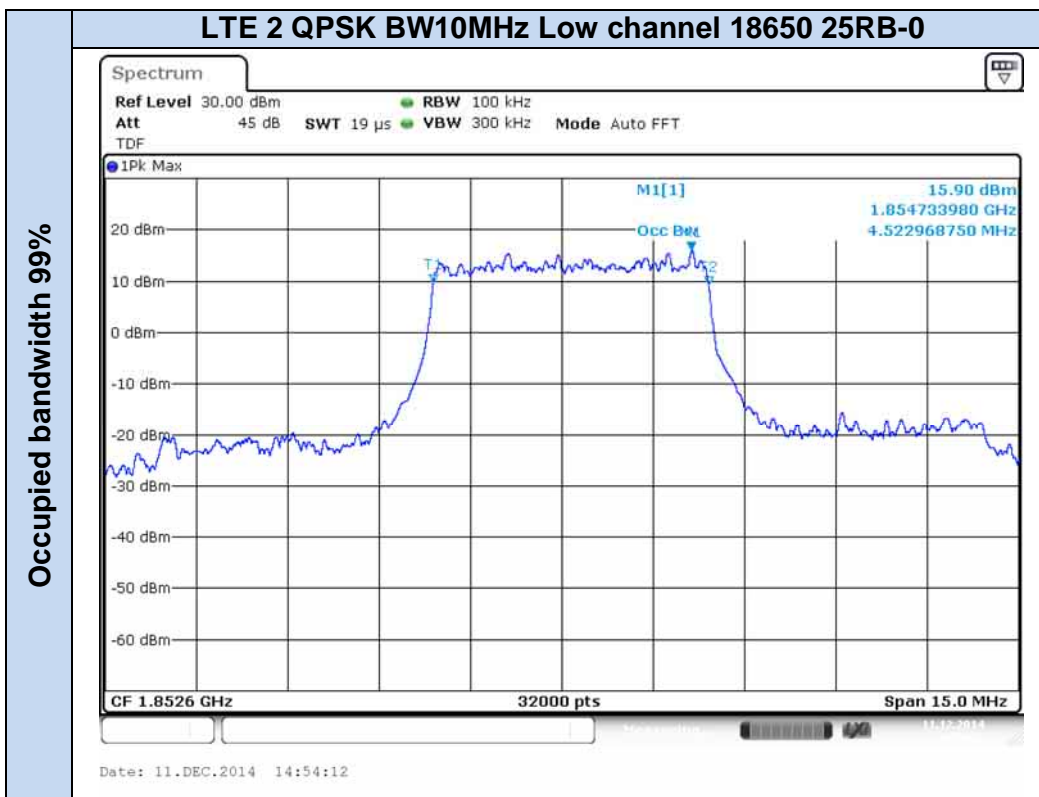


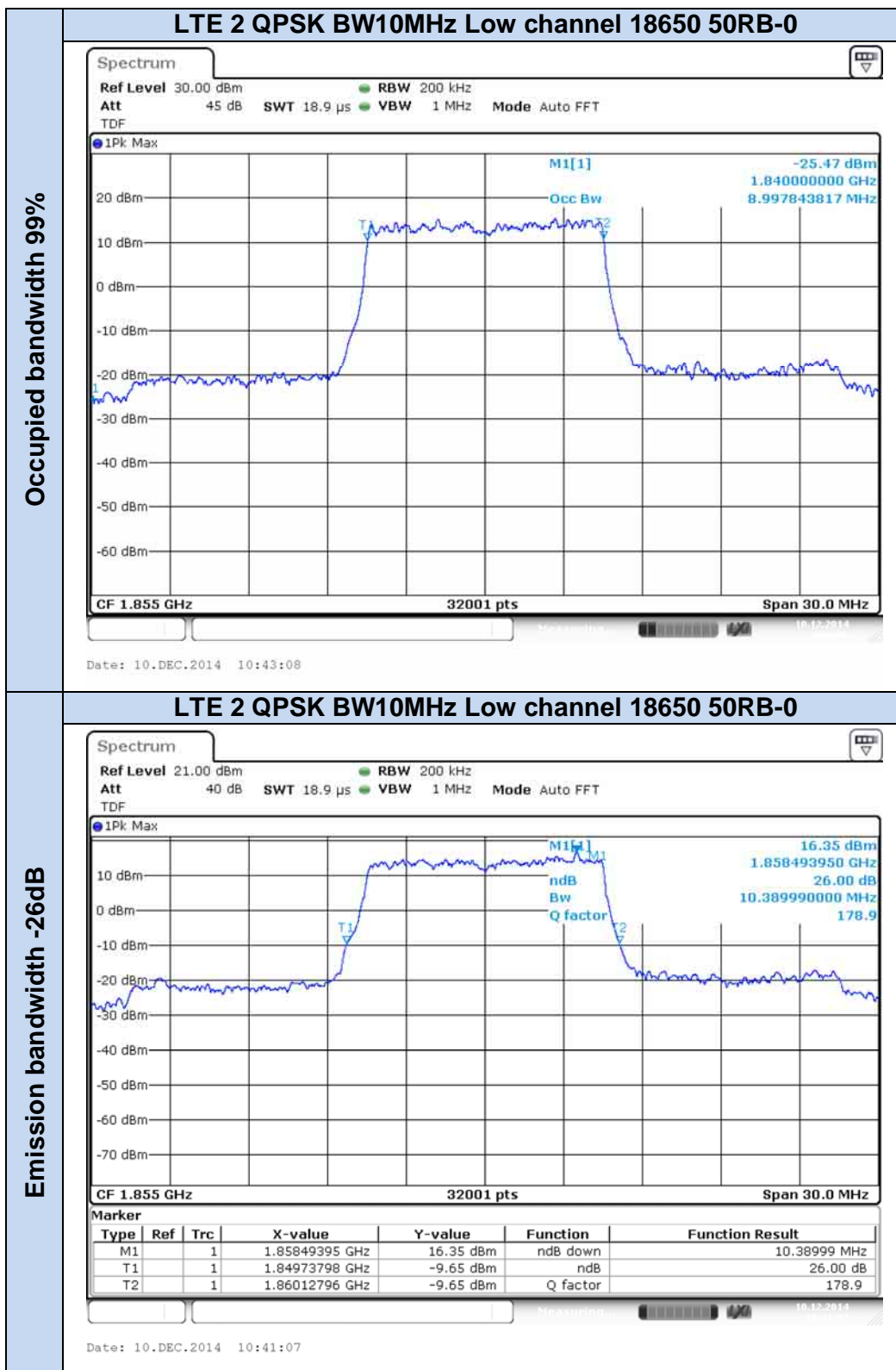


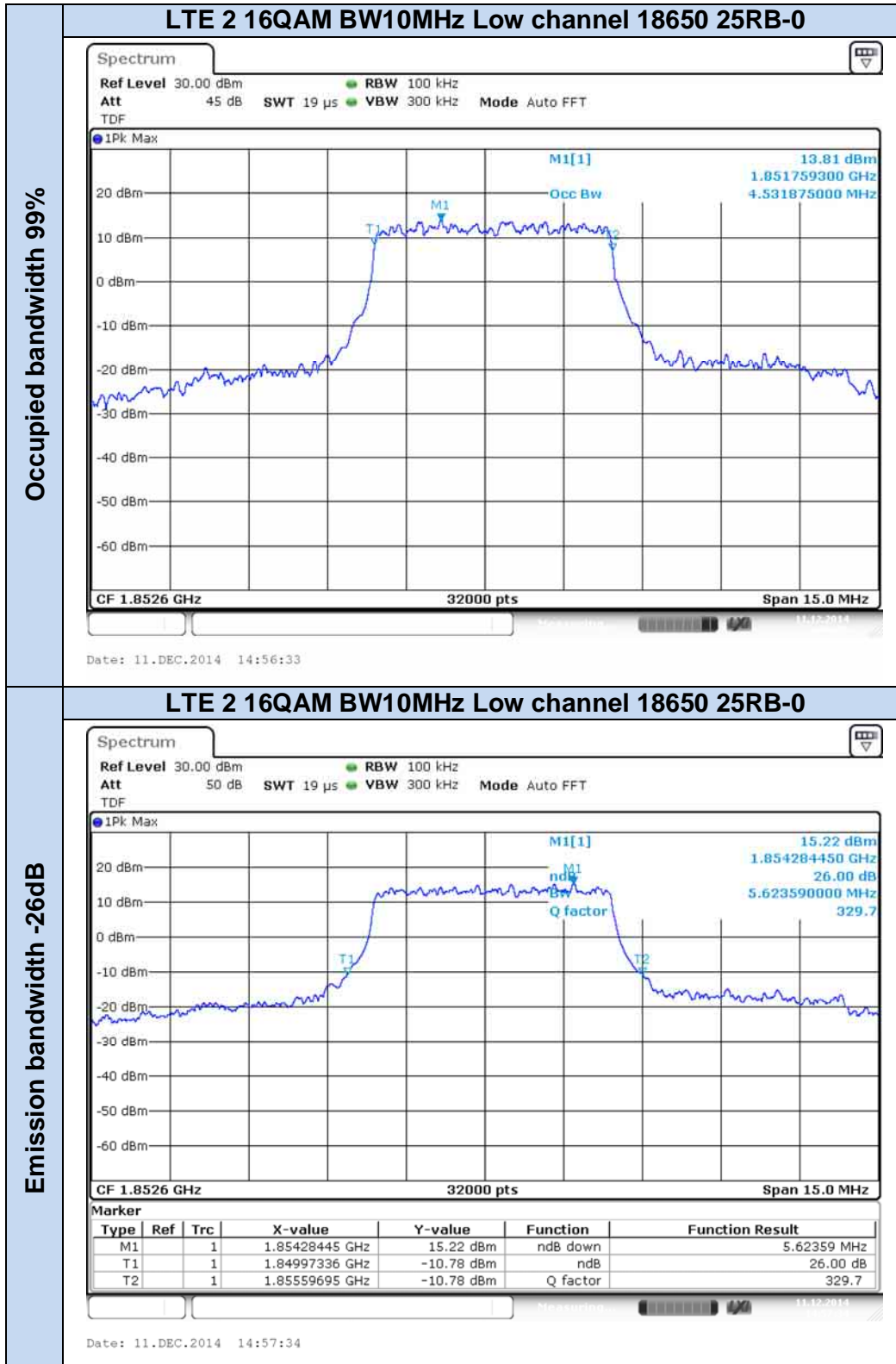


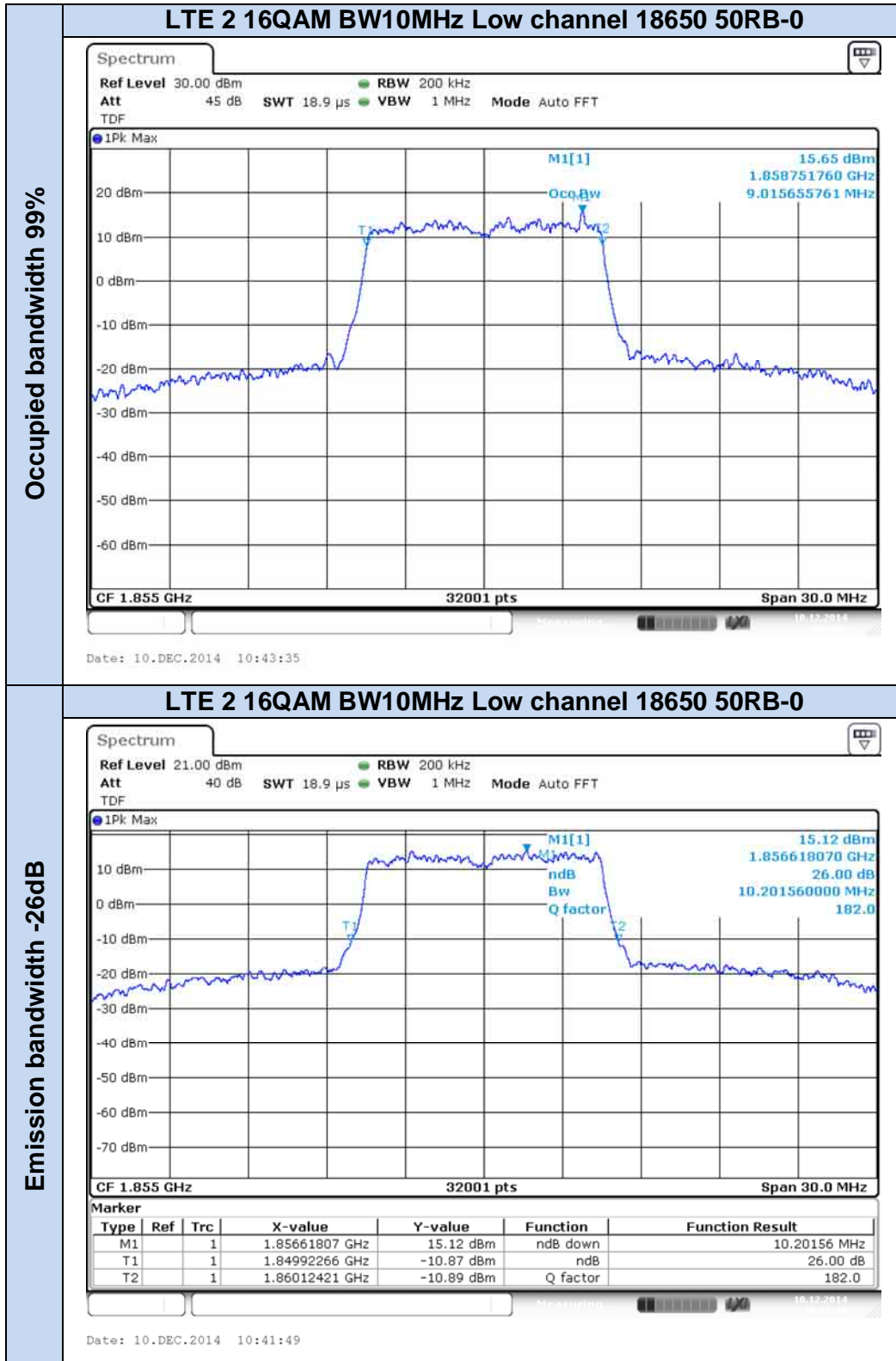


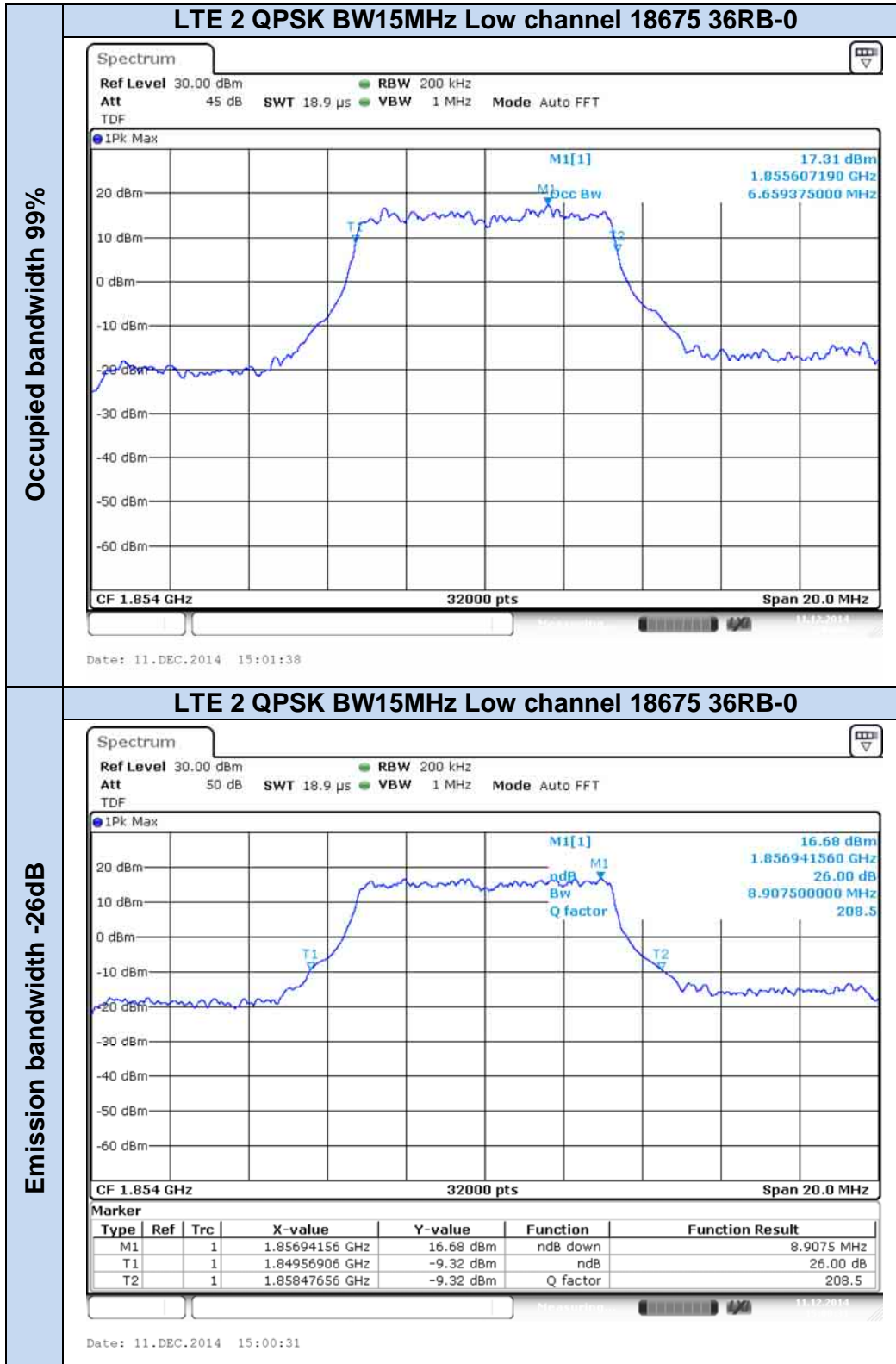












Occupied bandwidth 99%

Emission bandwidth -26dB

