

6 Uncertainty of Evaluation

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.26-2015. All the measurement uncertainty value were shown with a coverage $K=2$ to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

Uncertainty of Conducted Measurement

Test Item	Uncertainty
Conducted Power	± 0.46 dB
Conducted Emissions	± 0.48 dB
Occupied Channel Bandwidth	± 0.1 %

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	2.5dB
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Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	2.1dB
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Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	2.1dB
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Appendix A. Test Results of Conducted Test

Test Engineer :	Simle Wang	Temperature :	22~23°C
		Relative Humidity :	40~42%

Conducted Output Power(Average power) and ERP/EIRP

LTE band 2									
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	EIRP(W)		
Channel				18700	18900	19100			
Frequency (MHz)				1860	1880	1900	L	M	H
20	QPSK	1	0	23.35	23.54	23.42	0.3119	0.3258	0.3170
20	QPSK	1	99	23.32	23.41	23.25	0.3097	0.3162	0.3048
20	QPSK	100	0	22.02	22.06	21.98	0.2296	0.2317	0.2275
20	16QAM	1	0	22.51	22.67	22.64	0.2570	0.2667	0.2649
Channel				18675	18900	19125	EIRP(W)		
Frequency (MHz)				1857.5	1880	1902.5	L	M	H
15	QPSK	1	0	23.41	23.44	23.51	0.3162	0.3184	0.3236
15	16QAM	1	0	22.33	22.39	22.46	0.2466	0.2500	0.2541
Channel				18650	18900	19150	EIRP(W)		
Frequency (MHz)				1855	1880	1905	L	M	H
10	QPSK	1	0	23.39	23.42	23.45	0.3148	0.3170	0.3192
10	16QAM	1	0	22.35	22.54	22.46	0.2477	0.2588	0.2541
Channel				18625	18900	19175	EIRP(W)		
Frequency (MHz)				1852.5	1880	1907.5	L	M	H
5	QPSK	1	0	23.33	23.36	23.30	0.3105	0.3126	0.3083
5	16QAM	1	0	22.58	22.64	22.52	0.2612	0.2649	0.2576
Channel				18615	18900	19185	EIRP(W)		
Frequency (MHz)				1851.5	1880	1908.5	L	M	H
3	QPSK	1	0	23.10	23.16	23.21	0.2944	0.2985	0.3020
3	16QAM	1	0	22.16	22.25	22.34	0.2371	0.2421	0.2472
Channel				18607	18900	19193	EIRP(W)		
Frequency (MHz)				1850.7	1880	1909.3	L	M	H
1.4	QPSK	1	0	23.24	23.18	23.14	0.3041	0.2999	0.2972
1.4	16QAM	1	0	22.51	22.46	22.40	0.2570	0.2541	0.2506



LTE band 4									
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	EIRP(W)		
Channel				20050	20175	20300			
Frequency (MHz)				1720	1732.5	1745	L	M	H
20	QPSK	1	0	23.51	23.04	22.68	0.3556	0.3192	0.2938
20	QPSK	1	99	22.65	21.83	23.25	0.2917	0.2415	0.3350
20	QPSK	100	0	21.44	21.56	21.39	0.2208	0.2270	0.2183
20	16QAM	1	0	22.73	22.57	22.06	0.2972	0.2864	0.2547
Channel				20025	20175	20325	EIRP(W)		
Frequency (MHz)				1717.5	1732.5	1747.5	L	M	H
15	QPSK	1	0	23.41	23.04	22.67	0.3475	0.3192	0.2931
15	16QAM	1	0	22.72	22.61	21.76	0.2965	0.2891	0.2377
Channel				20000	20175	20350	EIRP(W)		
Frequency (MHz)				1715	1732.5	1750	L	M	H
10	QPSK	1	0	23.35	23.17	21.77	0.3428	0.3289	0.2382
10	16QAM	1	0	22.61	22.49	21.36	0.2891	0.2812	0.2168
Channel				19975	20175	20375	EIRP(W)		
Frequency (MHz)				1712.5	1732.5	1752.5	L	M	H
5	QPSK	1	0	23.12	23.21	21.83	0.3251	0.3319	0.2415
5	16QAM	1	0	22.44	22.35	20.93	0.2780	0.2723	0.1963
Channel				19965	20175	20385	EIRP(W)		
Frequency (MHz)				1711.5	1732.5	1753.5	L	M	H
3	QPSK	1	0	22.77	22.95	21.73	0.2999	0.3126	0.2360
3	16QAM	1	0	22.38	22.20	21.71	0.2742	0.2630	0.2350
Channel				19950	20175	20393	EIRP(W)		
Frequency (MHz)				1710	1732.5	1754.3	L	M	H
1.4	QPSK	1	0	22.82	22.92	22.64	0.3034	0.3105	0.2911
1.4	16QAM	1	0	22.27	22.30	21.67	0.2673	0.2692	0.2328



LTE band 5									
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	ERP(W)		
Channel				20450	20525	20600			
Frequency (MHz)				829	836.5	844	L	M	H
10	QPSK	1	0	22.61	23.33	22.11	0.1991	0.2350	0.1774
10	QPSK	1	49	22.04	22.65	22.84	0.1746	0.2009	0.2099
10	QPSK	50	0	21.87	21.97	22.01	0.1679	0.1718	0.1734
10	16QAM	1	0	21.97	22.75	21.37	0.1718	0.2056	0.1496
Channel				20425	20525	20625	ERP(W)		
Frequency (MHz)				826.5	836.5	846.5	L	M	H
5	QPSK	1	0	22.64	23.14	23.31	0.2004	0.2249	0.2339
5	16QAM	1	0	21.71	22.47	22.57	0.1618	0.1928	0.1972
Channel				20415	20525	20635	ERP(W)		
Frequency (MHz)				825.5	836.5	847.5	L	M	H
3	QPSK	1	0	22.47	23.01	23.04	0.1928	0.2183	0.2198
3	16QAM	1	0	21.97	22.71	22.35	0.1718	0.2037	0.1875
Channel				20407	20525	20643	ERP(W)		
Frequency (MHz)				824.7	836.5	848.3	L	M	H
1.4	QPSK	1	0	22.51	22.77	22.46	0.1945	0.2065	0.1923
1.4	16QAM	1	0	21.97	21.96	21.78	0.1718	0.1714	0.1644



LTE band 25									
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	EIRP(W)		
Channel				26140	26340	26590			
Frequency (MHz)				1860	1880	1905	L	M	H
20	QPSK	1	0	23.07	22.70	23.12	0.2924	0.2685	0.2958
20	QPSK	1	99	22.91	23.47	23.09	0.2818	0.3206	0.2938
20	QPSK	100	0	22.04	22.24	22.21	0.2307	0.2415	0.2399
20	16QAM	1	0	22.25	21.95	22.56	0.2421	0.2259	0.2600
Channel				26115	26340	26615	EIRP(W)		
Frequency (MHz)				1857.5	1880	1907.5	L	M	H
15	QPSK	1	0	23.29	22.79	22.91	0.3076	0.2742	0.2818
15	16QAM	1	0	22.45	22.20	22.31	0.2535	0.2393	0.2455
Channel				26090	26340	26640	EIRP(W)		
Frequency (MHz)				1855	1880	1910	L	M	H
10	QPSK	1	0	23.06	22.92	22.94	0.2917	0.2825	0.2838
10	16QAM	1	0	22.38	22.13	22.28	0.2495	0.2355	0.2438
Channel				26065	26340	26665	EIRP(W)		
Frequency (MHz)				1852.5	1880	1912.5	L	M	H
5	QPSK	1	0	23.08	23.07	22.86	0.2931	0.2924	0.2786
5	16QAM	1	0	22.51	22.40	22.21	0.2570	0.2506	0.2399
Channel				26055	26340	26675	EIRP(W)		
Frequency (MHz)				1851.5	1880	1913.5	L	M	H
3	QPSK	1	0	23.21	22.82	22.83	0.3020	0.2761	0.2767
3	16QAM	1	0	22.48	22.08	22.03	0.2553	0.2328	0.2301
Channel				26047	26340	26683	EIRP(W)		
Frequency (MHz)				1850.7	1880	1914.3	L	M	H
1.4	QPSK	1	0	23.01	22.93	22.87	0.2884	0.2831	0.2793
1.4	16QAM	1	0	22.42	22.28	22.27	0.2518	0.2438	0.2432



LTE band 26											
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	ERP(W)			
Channel				26790	26865	26915	26965				
Frequency (MHz)				824	831.5	836.5	841.5	Straddle Ch	L	M	H
15	QPSK	1	0	23.35	22.77	23.27	22.95	0.2360	0.2065	0.2317	0.2153
15	QPSK	1	74	23.21	22.50	22.42	21.84	0.2286	0.1941	0.1905	0.1667
15	QPSK	75	0	21.67	21.19	21.15	21.42	0.1603	0.1435	0.1422	0.1514
15	16QAM	1	0	22.94	22.01	22.71	22.07	0.2148	0.1734	0.2037	0.1758
Channel					26840	26915	26990		ERP(W)		
Frequency (MHz)					829	836.5	844		L	M	H
10	QPSK	1	0		22.90	22.64	22.78		0.2128	0.2004	0.2070
10	16QAM	1	0		22.12	22.55	22.07		0.1778	0.1963	0.1758
Channel					26815	26915	27015		ERP(W)		
Frequency (MHz)					826.5	836.5	846.5		L	M	H
5	QPSK	1	0		22.92	22.65	22.94		0.2138	0.2009	0.2148
5	16QAM	1	0		22.15	22.47	22.15		0.1791	0.1928	0.1791
Channel					26815	26915	27025		ERP(W)		
Frequency (MHz)					825.5	836.5	847.5		L	M	H
3	QPSK	1	0		22.67	23.10	22.81		0.2018	0.2228	0.2084
3	16QAM	1	0		22.10	22.37	22.34		0.1770	0.1884	0.1871
Channel					26797	26915	27033		ERP(W)		
Frequency (MHz)					824.7	836.5	848.3		L	M	H
1.4	QPSK	1	0		22.71	22.87	22.49		0.2037	0.2113	0.1936
1.4	16QAM	1	0		21.94	22.06	21.74		0.1706	0.1754	0.1629



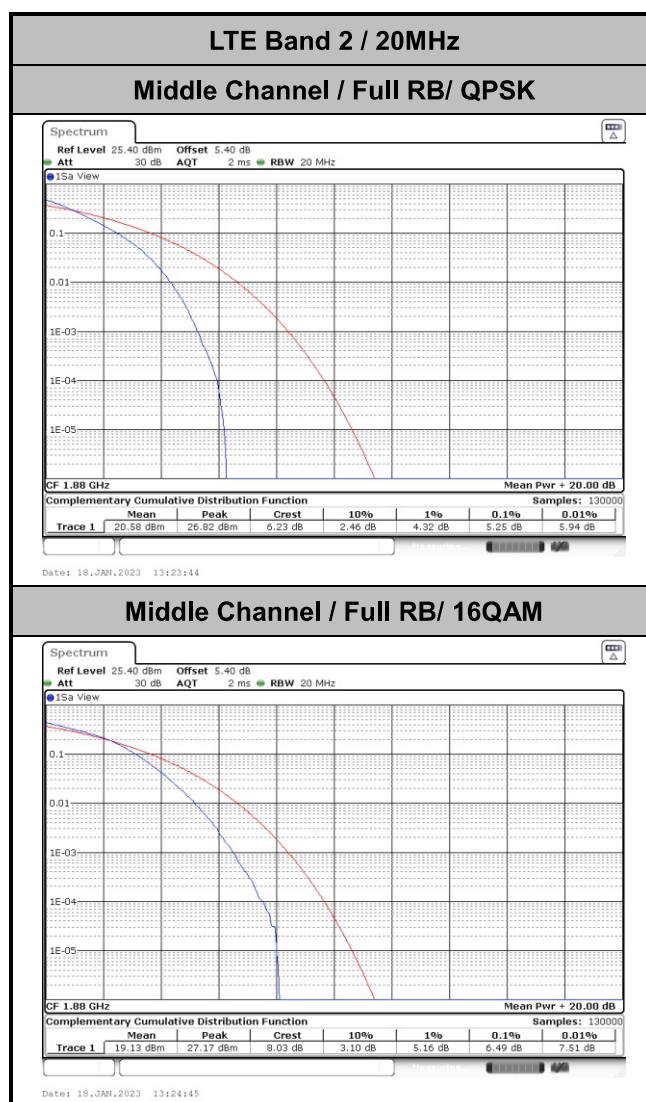
LTE band 66									
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	EIRP(W)		
Channel				132072	132322	132572			
Frequency (MHz)				1720	1745	1770	L	M	H
20	QPSK	1	0	23.23	23.09	23.68	0.3334	0.3228	0.3698
20	QPSK	1	99	22.18	22.28	23.45	0.2618	0.2679	0.3508
20	QPSK	100	0	21.78	21.90	22.27	0.2388	0.2455	0.2673
20	16QAM	1	0	22.81	22.83	23.22	0.3027	0.3041	0.3327
Channel				132047	132322	132597	EIRP(W)		
Frequency (MHz)				1717.5	1745	1772.5	L	M	H
15	QPSK	1	0	23.53	23.33	23.66	0.3573	0.3412	0.3681
15	16QAM	1	0	23.11	22.93	23.12	0.3243	0.3112	0.3251
Channel				132022	132322	132622	EIRP(W)		
Frequency (MHz)				1715	1745	1775	L	M	H
10	QPSK	1	0	23.51	23.50	22.59	0.3556	0.3548	0.2877
10	16QAM	1	0	23.10	22.86	22.16	0.3236	0.3062	0.2606
Channel				131997	132322	132647	EIRP(W)		
Frequency (MHz)				1712.5	1745	1777.5	L	M	H
5	QPSK	1	0	23.61	23.47	22.81	0.3639	0.3524	0.3027
5	16QAM	1	0	23.13	22.96	22.02	0.3258	0.3133	0.2523
Channel				131987	132322	132657	EIRP(W)		
Frequency (MHz)				1711.5	1745	1778.5	L	M	H
3	QPSK	1	0	23.43	23.20	22.31	0.3491	0.3311	0.2698
3	16QAM	1	0	23.20	22.68	22.28	0.3311	0.2938	0.2679
Channel				131979	132322	132665	EIRP(W)		
Frequency (MHz)				1710.7	1745	1779.3	L	M	H
1.4	QPSK	1	0	23.42	23.61	22.87	0.3483	0.3639	0.3069
1.4	16QAM	1	0	23.19	22.97	22.69	0.3304	0.3141	0.2944



LTE Band 2

Peak-to-Average Ratio

Mode	LTE Band 2 / 20MHz		
Mod.	QPSK	16QAM	Limit: 13dB
RB Size	Full RB	Full RB	Result
Middle CH	5.25	6.49	PASS



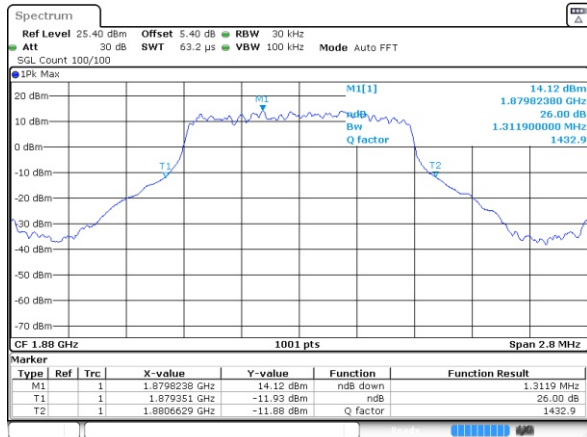
**26dB Bandwidth**

Mode	LTE Band 2 : 26dB BW(MHz)	
BW	1.4MHz	
Mod.	QPSK	16QAM
Middle CH	1.31	1.40
BW	3MHz	
Mod.	QPSK	16QAM
Middle CH	3.22	3.05
BW	5MHz	
Mod.	QPSK	16QAM
Middle CH	4.95	4.93
BW	10MHz	
Mod.	QPSK	16QAM
Middle CH	9.67	6.27
BW	15MHz	
Mod.	QPSK	16QAM
Middle CH	15.85	6.26
BW	20MHz	
Mod.	QPSK	16QAM
Middle CH	20.02	6.91



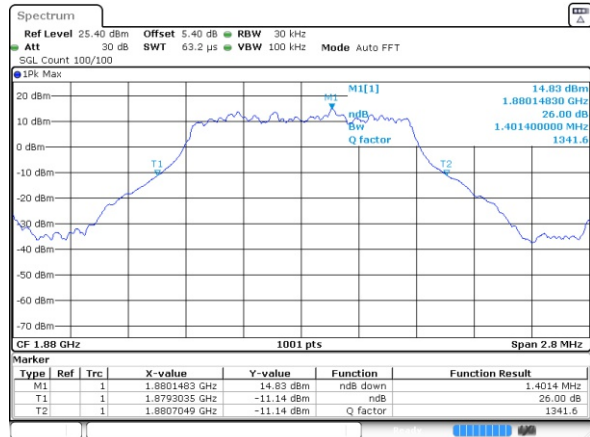
LTE Band 2

Middle Channel / 1.4MHz / QPSK



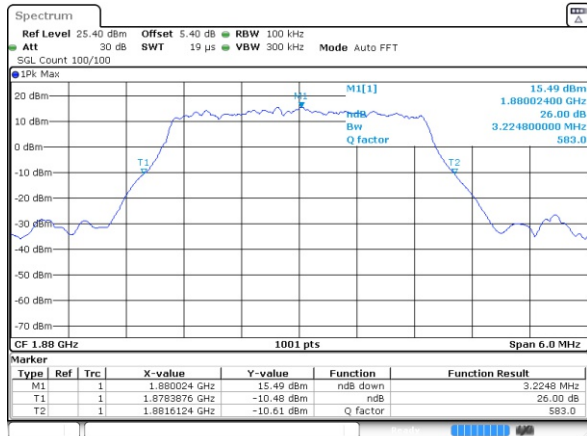
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Middle Channel / 1.4MHz / 16QAM



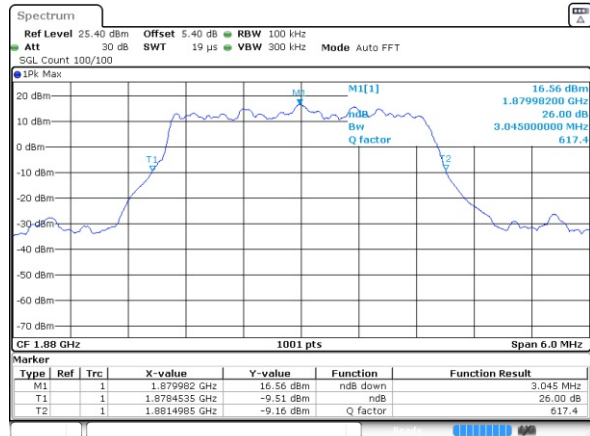
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Middle Channel / 3MHz / QPSK



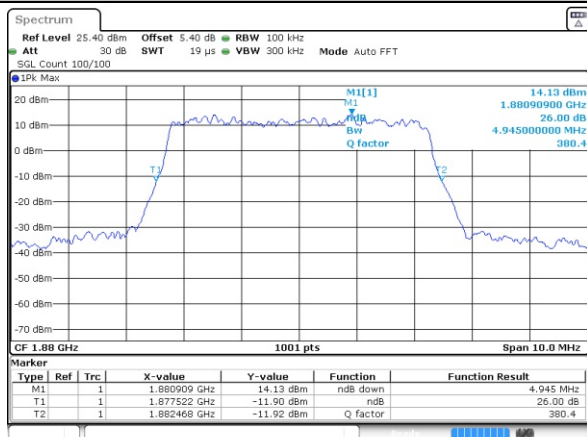
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Middle Channel / 3MHz / 16QAM



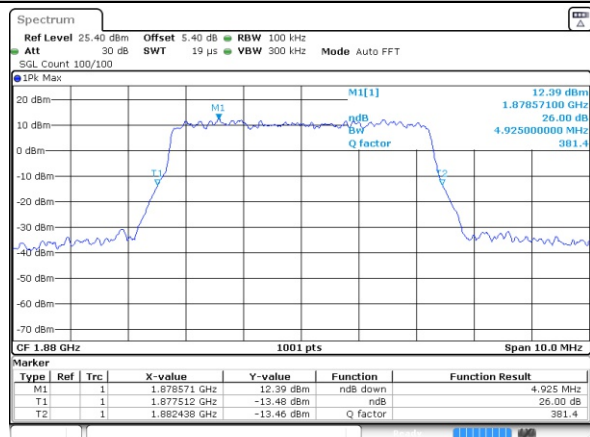
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Middle Channel / 5MHz / QPSK



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Middle Channel / 5MHz / 16QAM

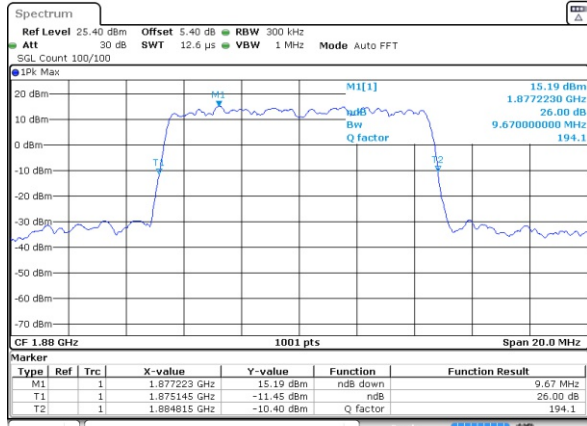


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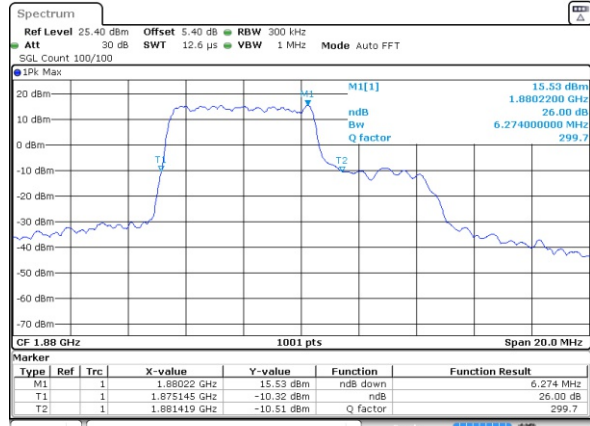
LTE Band 2

Middle Channel / 10MHz / QPSK



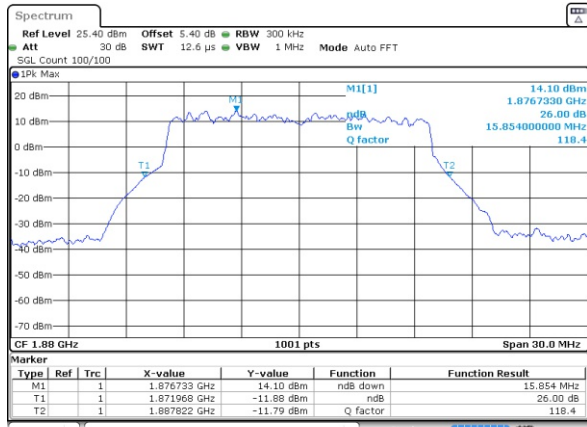
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Middle Channel / 10MHz / 16QAM



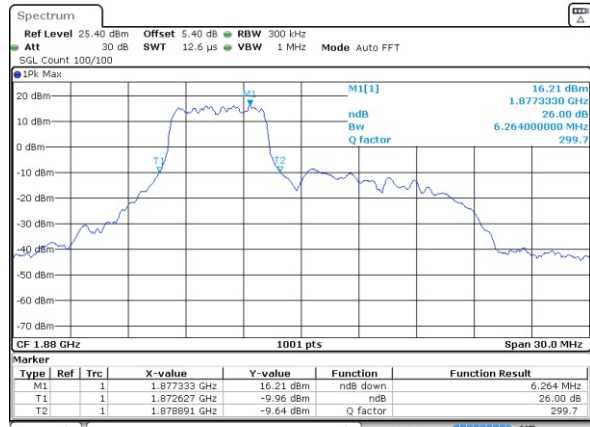
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Middle Channel / 15MHz / QPSK



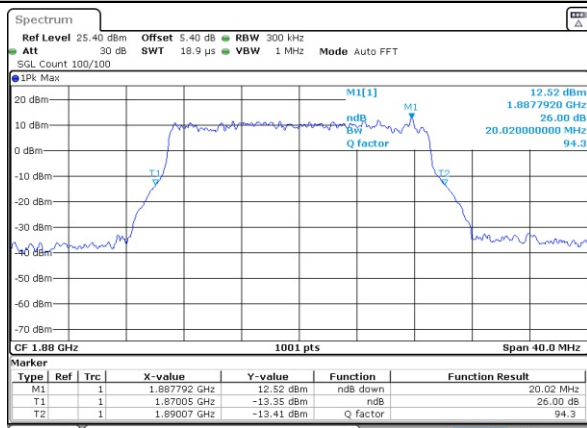
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Middle Channel / 15MHz / 16QAM



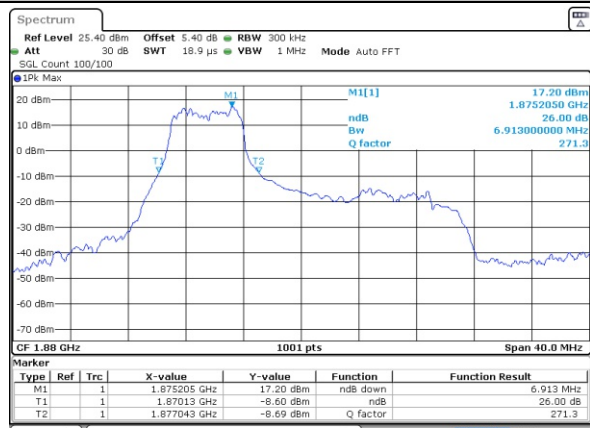
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Middle Channel / 20MHz / QPSK



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Middle Channel / 20MHz / 16QAM



Date: 15 FEB 2023 23:45:32

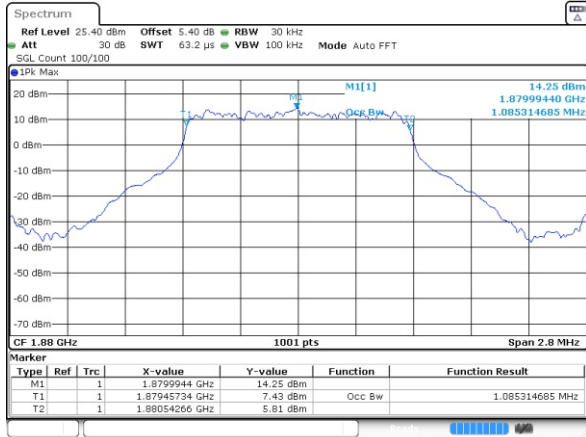
**Occupied Bandwidth**

Mode	LTE Band 2 : 99%OBW(MHz)	
BW	1.4MHz	
Mod.	QPSK	16QAM
Middle CH	1.09	1.09
BW	3MHz	
Mod.	QPSK	16QAM
Middle CH	2.70	2.70
BW	5MHz	
Mod.	QPSK	16QAM
Middle CH	4.46	4.44
BW	10MHz	
Mod.	QPSK	16QAM
Middle CH	8.95	5.07
BW	15MHz	
Mod.	QPSK	16QAM
Middle CH	13.49	5.12
BW	20MHz	
Mod.	QPSK	16QAM
Middle CH	17.74	5.15

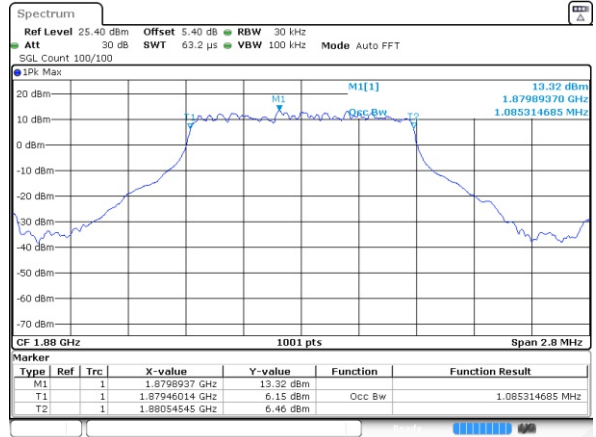


LTE Band 2

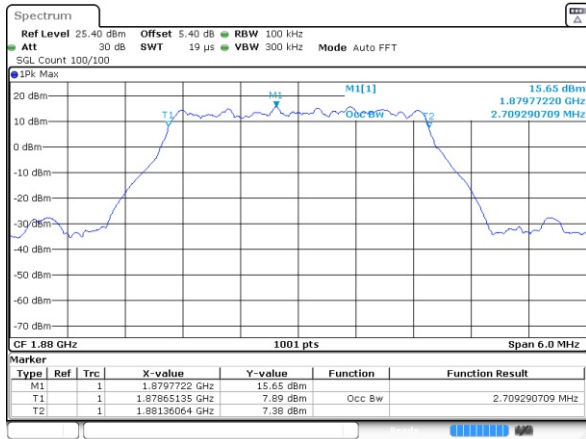
Middle Channel / 1.4MHz / QPSK



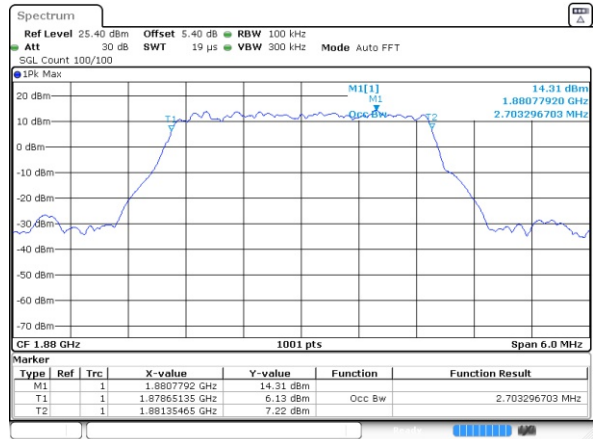
Middle Channel / 1.4MHz / 16QAM



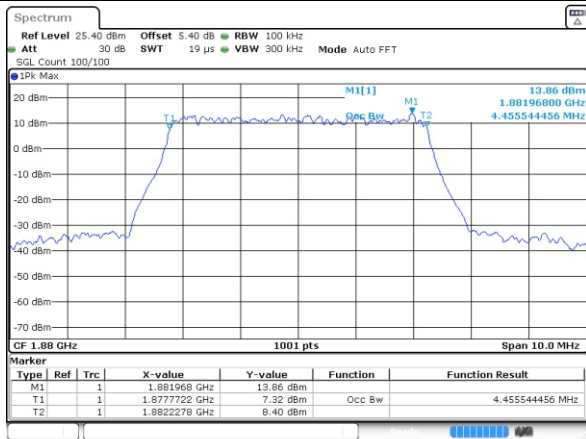
Middle Channel / 3MHz / QPSK



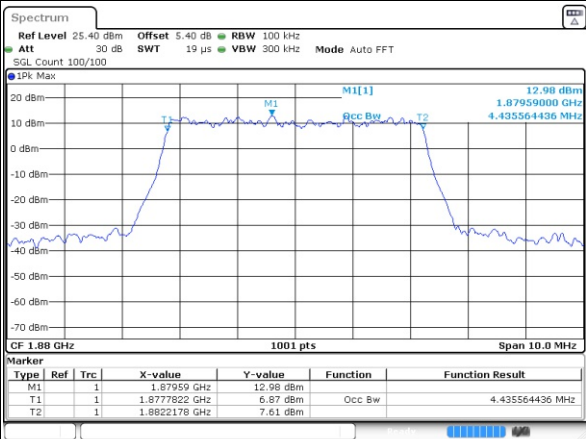
Middle Channel / 3MHz / 16QAM



Middle Channel / 5MHz / QPSK



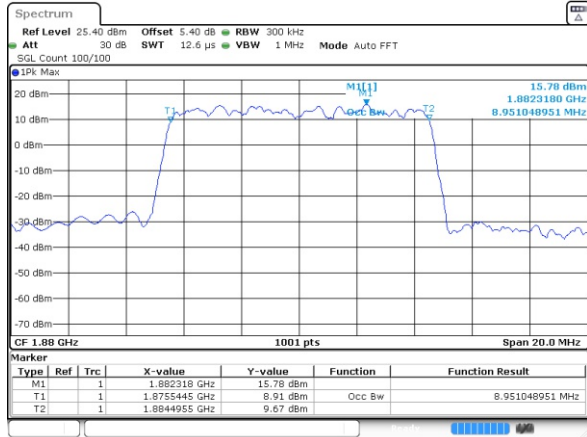
Middle Channel / 5MHz / 16QAM



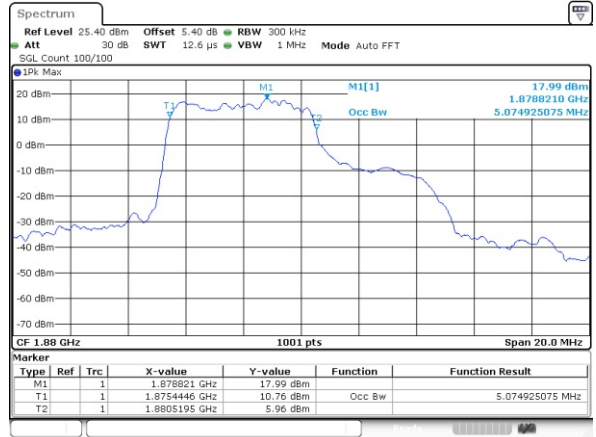


LTE Band 2

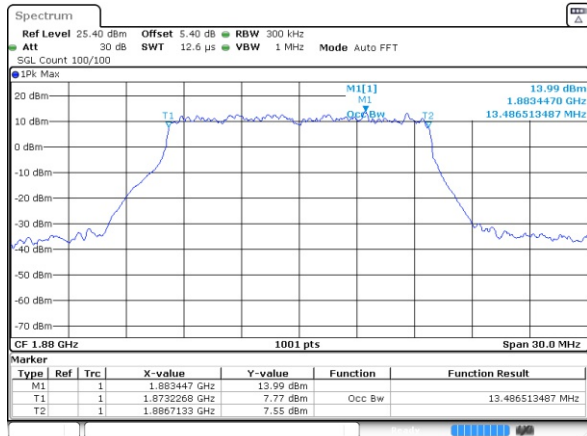
Middle Channel / 10MHz / QPSK



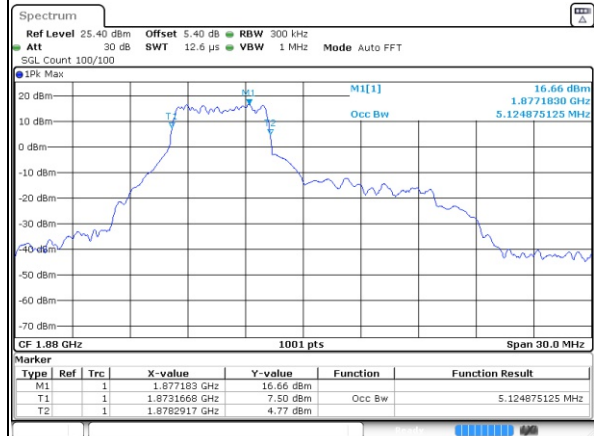
Middle Channel / 10MHz / 16QAM



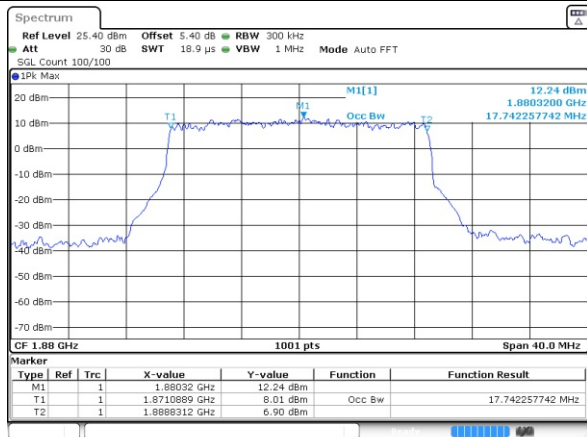
Middle Channel / 15MHz / QPSK



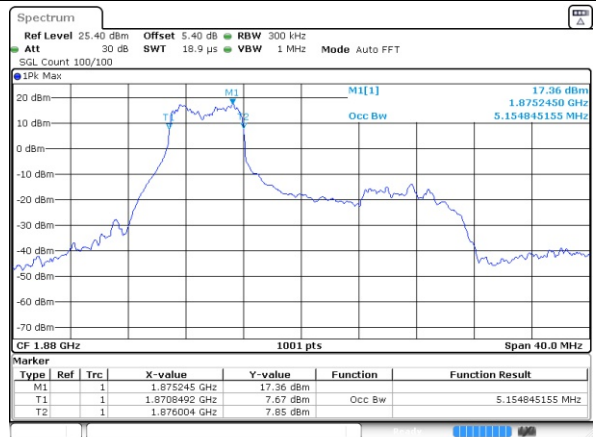
Middle Channel / 15MHz / 16QAM



Middle Channel / 20MHz / QPSK



Middle Channel / 20MHz / 16QAM

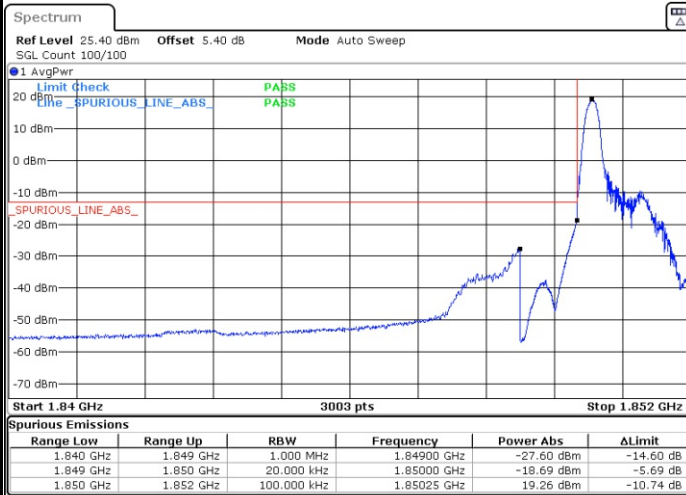




Conducted Band Edge

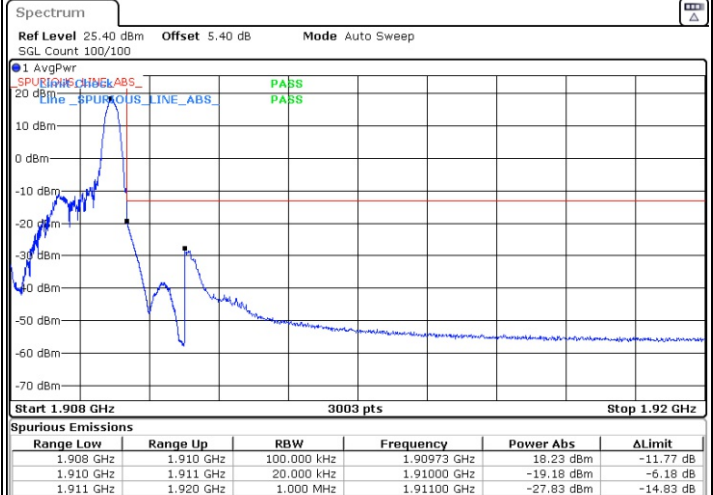
LTE Band 2 / 1.4MHz / QPSK

Lowest Band Edge / 1RB



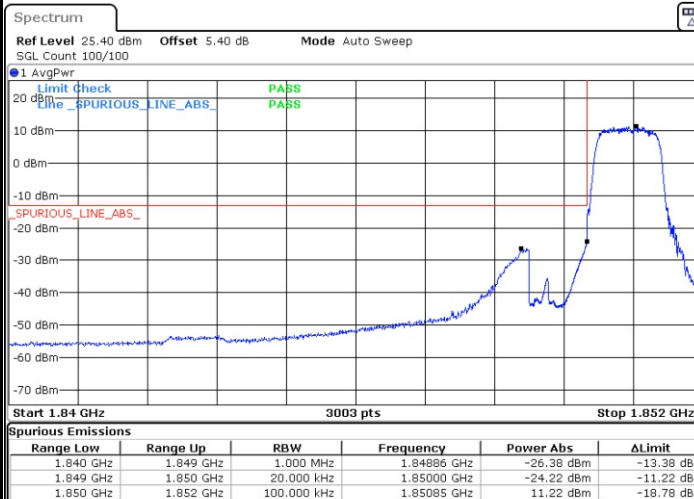
Date: 15.FEB.2023 20:42:54

Highest Band Edge / 1RB



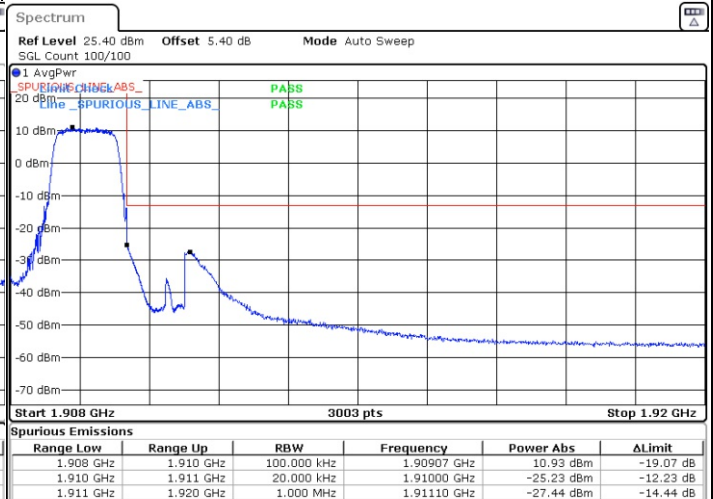
Date: 15.FEB.2023 20:31:33

Lowest Band Edge / Full RB



Date: 15.FEB.2023 20:37:26

Highest Band Edge / Full RB



Date: 15.FEB.2023 20:26:05