

ULCA 5B												
Ch.	PCC					SCC					Power	
	BW [MHz]	Freq. [MHz]	Ch.	RB	RB Offset	BW [MHz]	Freq. [MHz]	Ch.	RB	RB Offset	(dB m)	(W)
Low	3	825.6	20416	15	0	5	825.6	20455	25	0	<u>23.78</u>	<u>0.239</u>
	5	826.5	20425	25	0	3	830.4	20464	15	0	23.45	0.221
	5	826.8	20428	25	0	10	834.0	20500	50	0	23.17	0.208
	10	829.0	20450	50	0	5	836.2	20522	25	0	22.73	0.188
	10	829.0	20450	50	0	10	838.9	20549	50	0	22.74	0.188
Middle	3	834.1	20501	15	0	5	838.0	20540	25	0	<u>23.33</u>	<u>0.215</u>
	5	835.0	20510	25	0	3	838.9	20549	15	0	23.26	0.212
	5	831.8	20478	25	0	10	839.0	20550	50	0	22.74	0.188
	10	834.0	20500	50	0	5	841.2	20572	25	0	22.95	0.197
	10	831.6	20476	50	0	10	841.5	20575	50	0	22.72	0.187
High	3	842.6	20586	15	0	5	846.5	20625	25	0	<u>22.98</u>	<u>0.198</u>
	5	843.5	20595	25	0	3	847.4	20634	15	0	22.67	0.185
	5	836.8	20528	25	0	10	844.0	20600	50	0	22.74	0.188
	10	839.0	20550	50	0	5	846.2	20622	25	0	22.52	0.179
	10	834.1	20501	50	0	10	844.0	20600	50	0	22.65	0.184

Note;

QPSK Modulation with Full RB

ULCA 5B												
Ch.	PCC					SCC					Power	
	BW [MHz]	Freq. [MHz]	Ch.	RB	RB Offset	BW [MHz]	Freq. [MHz]	Ch.	RB	RB Offset	(dB m)	(W)
Low	3	825.6	20416	15	0	5	825.6	20455	25	0	<u>23.25</u>	0.211
	5	826.5	20425	25	0	3	830.4	20464	15	0	22.89	0.195
	5	826.8	20428	25	0	10	834.0	20500	50	0	21.95	0.157
	10	829.0	20450	50	0	5	836.2	20522	25	0	21.87	0.154
	10	829.0	20450	50	0	10	838.9	20549	50	0	21.85	0.153
Middle	3	834.1	20501	15	0	5	838.0	20540	25	0	<u>22.59</u>	0.181
	5	835.0	20510	25	0	3	838.9	20549	15	0	22.52	0.178
	5	831.8	20478	25	0	10	839.0	20550	50	0	21.94	0.156
	10	834.0	20500	50	0	5	841.2	20572	25	0	21.92	0.156
	10	831.6	20476	50	0	10	841.5	20575	50	0	21.83	0.152
High	3	842.6	20586	15	0	5	846.5	20625	25	0	<u>21.91</u>	0.155
	5	843.5	20595	25	0	3	847.4	20634	15	0	21.85	0.153
	5	836.8	20528	25	0	10	844.0	20600	50	0	21.90	0.155
	10	839.0	20550	50	0	5	846.2	20622	25	0	21.91	0.155
	10	834.1	20501	50	0	10	844.0	20600	50	0	21.88	0.154

Note;

16QAM Modulation with Full RB

ULCA 7C												
Ch.	PCC					SCC					Power	
	BW [MHz]	Freq. [MHz]	Ch.	RB	RB Offset	BW [MHz]	Freq. [MHz]	Ch.	RB	RB Offset	(dB m)	(W)
Low	10	2 505.5	20805	1	49	20	2 519.9	20949	1	0	<u>23.27</u>	<u>0.212</u>
	20	2 510.0	20850	1	99	10	2 524.4	20994	1	0	23.00	0.199
	15	2 507.5	20825	1	74	10	2 519.5	20945	1	0	23.14	0.206
	15	2 507.5	20825	1	74	15	2 522.5	20975	1	0	23.15	0.206
	15	2 507.8	20828	1	74	20	2 524.9	20999	1	0	23.13	0.206
	20	2 510.0	20850	1	99	15	2 527.1	21021	1	0	22.79	0.190
	20	2 510.0	20850	1	99	20	2 529.8	21048	1	0	22.87	0.193
Middle	10	2 525.6	21006	1	49	20	2 540.0	21150	1	0	<u>22.88</u>	<u>0.194</u>
	20	2 530.1	21051	1	99	10	2 544.5	21195	1	0	22.78	0.190
	15	2 530.1	21051	1	74	10	2 542.1	21171	1	0	22.40	0.174
	15	2 527.5	21025	1	74	15	2 542.5	21175	1	0	22.55	0.180
	15	2 525.3	21003	1	74	20	2 542.4	21174	1	0	22.66	0.184
	20	2 527.6	21026	1	99	15	2 544.7	21197	1	0	22.50	0.178
	20	2 525.1	21001	1	99	20	2 544.9	21199	1	0	22.63	0.183
High	10	2 545.6	21206	1	49	20	2 560.0	21350	1	0	<u>22.99</u>	<u>0.199</u>
	20	2 550.1	21251	1	99	10	2 564.5	21395	1	0	22.40	0.174
	15	2 552.7	21277	1	74	10	2 564.7	21397	1	0	22.57	0.181
	15	2 547.5	21225	1	74	15	2 562.5	21375	1	0	22.20	0.166
	15	2 542.9	21179	1	74	20	2 560.0	21350	1	0	22.95	0.197
	20	2 545.1	21201	1	99	15	2 562.2	21372	1	0	22.79	0.190
	20	2 540.2	21152	1	99	20	2 560.0	21350	1	0	22.75	0.188

Note;

QPSK Modulation with 1 RB

ULCA 7C												
Ch.	PCC					SCC					Power	
	BW [MHz]	Freq. [MHz]	Ch.	RB	RB Offset	BW [MHz]	Freq. [MHz]	Ch.	RB	RB Offset	(dB m)	(W)
Low	10	2 505.5	20805	1	49	20	2 519.9	20949	1	0	22.39	0.173
	20	2 510.0	20850	1	99	10	2 524.4	20994	1	0	21.17	0.131
	15	2 507.5	20825	1	74	10	2 519.5	20945	1	0	22.30	0.170
	15	2 507.5	20825	1	74	15	2 522.5	20975	1	0	22.11	0.163
	15	2 507.8	20828	1	74	20	2 524.9	20999	1	0	22.00	0.158
	20	2 510.0	20850	1	99	15	2 527.1	21021	1	0	21.49	0.141
	20	2 510.0	20850	1	99	20	2 529.8	21048	1	0	20.97	0.125
Middle	10	2 525.6	21006	1	49	20	2 540.0	21150	1	0	21.49	0.141
	20	2 530.1	21051	1	99	10	2 544.5	21195	1	0	21.48	0.141
	15	2 530.1	21051	1	74	10	2 542.1	21171	1	0	21.39	0.138
	15	2 527.5	21025	1	74	15	2 542.5	21175	1	0	21.31	0.135
	15	2 525.3	21003	1	74	20	2 542.4	21174	1	0	21.36	0.137
	20	2 527.6	21026	1	99	15	2 544.7	21197	1	0	21.40	0.138
	20	2 525.1	21001	1	99	20	2 544.9	21199	1	0	21.40	0.138
High	10	2 545.6	21206	1	49	20	2 560.0	21350	1	0	22.24	0.168
	20	2 550.1	21251	1	99	10	2 564.5	21395	1	0	21.53	0.142
	15	2 552.7	21277	1	74	10	2 564.7	21397	1	0	21.58	0.144
	15	2 547.5	21225	1	74	15	2 562.5	21375	1	0	21.83	0.152
	15	2 542.9	21179	1	74	20	2 560.0	21350	1	0	22.18	0.165
	20	2 545.1	21201	1	99	15	2 562.2	21372	1	0	21.49	0.141
	20	2 540.2	21152	1	99	20	2 560.0	21350	1	0	21.53	0.142

Note;

16QAM Modulation with 1 RB

ULCA 7C												
Ch.	PCC					SCC					Power	
	BW [MHz]	Freq. [MHz]	Ch.	RB	RB Offset	BW [MHz]	Freq. [MHz]	Ch.	RB	RB Offset	(dB m)	(W)
Low	10	2 505.5	20805	50	0	20	2 519.9	20949	100	0	<u>21.53</u>	<u>0.142</u>
	20	2 510.0	20850	100	0	10	2 524.4	20994	50	0	21.44	0.139
	15	2 507.5	20825	75	0	10	2 519.5	20945	50	0	21.37	0.137
	15	2 507.5	20825	75	0	15	2 522.5	20975	75	0	21.50	0.141
	15	2 507.8	20828	75	0	20	2 524.9	20999	100	0	21.36	0.137
	20	2 510.0	20850	100	0	15	2 527.1	21021	75	0	21.25	0.133
	20	2 510.0	20850	100	0	20	2 529.8	21048	100	0	21.03	0.127
Middle	10	2 525.6	21006	50	0	20	2 540.0	21150	100	0	<u>21.30</u>	<u>0.135</u>
	20	2 530.1	21051	100	0	10	2 544.5	21195	50	0	21.15	0.130
	15	2 530.1	21051	75	0	10	2 542.1	21171	50	0	21.19	0.132
	15	2 527.5	21025	75	0	15	2 542.5	21175	75	0	21.06	0.128
	15	2 525.3	21003	75	0	20	2 542.4	21174	100	0	20.88	0.123
	20	2 527.6	21026	100	0	15	2 544.7	21197	75	0	21.03	0.127
	20	2 525.1	21001	100	0	20	2 544.9	21199	100	0	20.88	0.123
High	10	2 545.6	21206	50	0	20	2 560.0	21350	100	0	<u>21.51</u>	<u>0.142</u>
	20	2 550.1	21251	100	0	10	2 564.5	21395	50	0	21.43	0.139
	15	2 552.7	21277	75	0	10	2 564.7	21397	50	0	21.19	0.131
	15	2 547.5	21225	75	0	15	2 562.5	21375	75	0	21.31	0.135
	15	2 542.9	21179	75	0	20	2 560.0	21350	100	0	21.47	0.140
	20	2 545.1	21201	100	0	15	2 562.2	21372	75	0	21.37	0.137
	20	2 540.2	21152	100	0	20	2 560.0	21350	100	0	21.37	0.137

Note;

QPSK Modulation with Full RB

ULCA 7C												
Ch.	PCC					SCC					Power	
	BW [MHz]	Freq. [MHz]	Ch.	RB	RB Offset	BW [MHz]	Freq. [MHz]	Ch.	RB	RB Offset	(dB m)	(W)
Low	10	2 505.5	20805	50	0	20	2 519.9	20949	100	0	20.22	0.105
	20	2 510.0	20850	100	0	10	2 524.4	20994	50	0	20.06	0.101
	15	2 507.5	20825	75	0	10	2 519.5	20945	50	0	19.81	0.096
	15	2 507.5	20825	75	0	15	2 522.5	20975	75	0	20.02	0.101
	15	2 507.8	20828	75	0	20	2 524.9	20999	100	0	19.96	0.099
	20	2 510.0	20850	100	0	15	2 527.1	21021	75	0	19.59	0.091
	20	2 510.0	20850	100	0	20	2 529.8	21048	100	0	20.16	0.104
Middle	10	2 525.6	21006	50	0	20	2 540.0	21150	100	0	19.95	0.099
	20	2 530.1	21051	100	0	10	2 544.5	21195	50	0	19.86	0.097
	15	2 530.1	21051	75	0	10	2 542.1	21171	50	0	19.75	0.094
	15	2 527.5	21025	75	0	15	2 542.5	21175	75	0	19.73	0.094
	15	2 525.3	21003	75	0	20	2 542.4	21174	100	0	19.71	0.094
	20	2 527.6	21026	100	0	15	2 544.7	21197	75	0	19.76	0.095
	20	2 525.1	21001	100	0	20	2 544.9	21199	100	0	19.47	0.089
High	10	2 545.6	21206	50	0	20	2 560.0	21350	100	0	20.01	0.100
	20	2 550.1	21251	100	0	10	2 564.5	21395	50	0	19.51	0.089
	15	2 552.7	21277	75	0	10	2 564.7	21397	50	0	19.53	0.090
	15	2 547.5	21225	75	0	15	2 562.5	21375	75	0	19.73	0.094
	15	2 542.9	21179	75	0	20	2 560.0	21350	100	0	19.81	0.096
	20	2 545.1	21201	100	0	15	2 562.2	21372	75	0	19.39	0.087
	20	2 540.2	21152	100	0	20	2 560.0	21350	100	0	19.41	0.087

Note;

16QAM Modulation with Full RB

ULCA 66B												
Ch.	PCC					SCC					Power	
	BW [MHz]	Freq. [MHz]	Ch.	RB	RB Offset	BW [MHz]	Freq. [MHz]	Ch.	RB	RB Offset	(dB m)	(W)
Low	5	1 712.5	131997	1	24	5	1 717.3	132045	1	0	22.63	0.183
	5	1 712.8	132000	1	24	10	1 720.0	132072	1	0	22.59	0.182
	10	1 715.0	132022	1	49	5	1 722.2	132094	1	0	22.49	0.177
	5	1 713.0	132002	1	24	15	1 722.3	132095	1	0	22.62	0.183
	15	1 717.5	132047	1	74	5	1 726.8	132140	1	0	22.72	0.187
	10	1 715.0	132022	1	49	10	1 724.9	132121	1	0	22.54	0.180
Middle	5	1 752.6	132398	1	24	5	1 757.4	132446	1	0	22.55	0.180
	5	1 750.3	132375	1	24	10	1 757.5	132447	1	0	22.51	0.178
	10	1 752.5	132397	1	49	5	1 759.7	132469	1	0	22.53	0.179
	5	1 748.1	132353	1	24	15	1 757.4	132446	1	0	22.57	0.181
	15	1 752.6	132398	1	74	5	1 761.9	132491	1	0	22.65	0.184
	10	1 750.1	132373	1	49	10	1 760.0	132472	1	0	22.65	0.184
High	5	1 772.7	132599	1	24	5	1 777.5	132647	1	0	22.60	0.182
	5	1 767.8	132550	1	24	10	1 775.0	132622	1	0	22.71	0.186
	10	1 770.0	132572	1	49	5	1 777.2	132644	1	0	22.58	0.181
	5	1 763.2	132504	1	24	15	1 772.5	132597	1	0	22.68	0.185
	15	1 767.7	132549	1	74	5	1 777.0	132642	1	0	22.75	0.189
	10	1 765.1	132523	1	49	10	1 775.0	132622	1	0	22.66	0.185

Note;

QPSK Modulation with 1 RB

ULCA 66B												
Ch.	PCC					SCC					Power	
	BW [MHz]	Freq. [MHz]	Ch.	RB	RB Offset	BW [MHz]	Freq. [MHz]	Ch.	RB	RB Offset	(dB m)	(W)
Low	5	1 712.5	131997	1	24	5	1 717.3	132045	1	0	21.08	0.128
	5	1 712.8	132000	1	24	10	1 720.0	132072	1	0	21.20	0.132
	10	1 715.0	132022	1	49	5	1 722.2	132094	1	0	21.16	0.130
	5	1 713.0	132002	1	24	15	1 722.3	132095	1	0	21.28	0.134
	15	1 717.5	132047	1	74	5	1 726.8	132140	1	0	21.30	0.135
	10	1 715.0	132022	1	49	10	1 724.9	132121	1	0	21.22	0.132
Middle	5	1 752.6	132398	1	24	5	1 757.4	132446	1	0	21.27	0.134
	5	1 750.3	132375	1	24	10	1 757.5	132447	1	0	21.19	0.131
	10	1 752.5	132397	1	49	5	1 759.7	132469	1	0	21.23	0.133
	5	1 748.1	132353	1	24	15	1 757.4	132446	1	0	20.98	0.125
	15	1 752.6	132398	1	74	5	1 761.9	132491	1	0	21.44	0.139
	10	1 750.1	132373	1	49	10	1 760.0	132472	1	0	21.22	0.132
High	5	1 772.7	132599	1	24	5	1 777.5	132647	1	0	21.34	0.136
	5	1 767.8	132550	1	24	10	1 775.0	132622	1	0	21.32	0.136
	10	1 770.0	132572	1	49	5	1 777.2	132644	1	0	21.35	0.137
	5	1 763.2	132504	1	24	15	1 772.5	132597	1	0	21.34	0.136
	15	1 767.7	132549	1	74	5	1 777.0	132642	1	0	21.48	0.141
	10	1 765.1	132523	1	49	10	1 775.0	132622	1	0	21.25	0.133

Note;

16QAM Modulation with 1 RB

ULCA 66B												
Ch.	PCC					SCC					Power	
	BW [MHz]	Freq. [MHz]	Ch.	RB	RB Offset	BW [MHz]	Freq. [MHz]	Ch.	RB	RB Offset	(dB m)	(W)
Low	5	1 712.5	131997	25	0	5	1 717.3	132045	25	0	20.85	0.122
	5	1 712.8	132000	25	0	10	1 720.0	132072	50	0	20.73	0.118
	10	1 715.0	132022	50	0	5	1 722.2	132094	25	0	20.72	0.118
	5	1 713.0	132002	25	0	15	1 722.3	132095	75	0	20.85	0.122
	15	1 717.5	132047	75	0	5	1 726.8	132140	25	0	20.95	0.124
	10	1 715.0	132022	50	0	10	1 724.9	132121	50	0	20.91	0.123
Middle	5	1 752.6	132398	25	0	5	1 757.4	132446	25	0	20.74	0.119
	5	1 750.3	132375	25	0	10	1 757.5	132447	50	0	20.79	0.120
	10	1 752.5	132397	50	0	5	1 759.7	132469	25	0	20.74	0.119
	5	1 748.1	132353	25	0	15	1 757.4	132446	75	0	20.80	0.120
	15	1 752.6	132398	75	0	5	1 761.9	132491	25	0	20.87	0.122
	10	1 750.1	132373	50	0	10	1 760.0	132472	50	0	20.86	0.122
High	5	1 772.7	132599	25	0	5	1 777.5	132647	25	0	20.84	0.121
	5	1 767.8	132550	25	0	10	1 775.0	132622	50	0	20.85	0.121
	10	1 770.0	132572	50	0	5	1 777.2	132644	25	0	20.86	0.122
	5	1 763.2	132504	25	0	15	1 772.5	132597	75	0	20.87	0.122
	15	1 767.7	132549	75	0	5	1 777.0	132642	25	0	20.93	0.124
	10	1 765.1	132523	50	0	10	1 775.0	132622	50	0	20.90	0.123

Note;

QPSK Modulation with Full RB

ULCA 66B												
Ch.	PCC					SCC					Power	
	BW [MHz]	Freq. [MHz]	Ch.	RB	RB Offset	BW [MHz]	Freq. [MHz]	Ch.	RB	RB Offset	(dB m)	(W)
Low	5	1 712.5	131997	25	0	5	1 717.3	132045	25	0	19.04	0.080
	5	1 712.8	132000	25	0	10	1 720.0	132072	50	0	19.04	0.080
	10	1 715.0	132022	50	0	5	1 722.2	132094	25	0	19.02	0.080
	5	1 713.0	132002	25	0	15	1 722.3	132095	75	0	19.05	0.080
	15	1 717.5	132047	75	0	5	1 726.8	132140	25	0	19.07	0.081
	10	1 715.0	132022	50	0	10	1 724.9	132121	50	0	18.99	0.079
Middle	5	1 752.6	132398	25	0	5	1 757.4	132446	25	0	19.20	0.083
	5	1 750.3	132375	25	0	10	1 757.5	132447	50	0	19.19	0.083
	10	1 752.5	132397	50	0	5	1 759.7	132469	25	0	19.17	0.083
	5	1 748.1	132353	25	0	15	1 757.4	132446	75	0	19.12	0.082
	15	1 752.6	132398	75	0	5	1 761.9	132491	25	0	19.20	0.083
	10	1 750.1	132373	50	0	10	1 760.0	132472	50	0	19.13	0.082
High	5	1 772.7	132599	25	0	5	1 777.5	132647	25	0	19.30	0.085
	5	1 767.8	132550	25	0	10	1 775.0	132622	50	0	19.31	0.085
	10	1 770.0	132572	50	0	5	1 777.2	132644	25	0	19.30	0.085
	5	1 763.2	132504	25	0	15	1 772.5	132597	75	0	19.27	0.084
	15	1 767.7	132549	75	0	5	1 777.0	132642	25	0	19.34	0.086
	10	1 765.1	132523	50	0	10	1 775.0	132622	50	0	19.26	0.084

Note;

16QAM Modulation with Full RB

ULCA 66C												
Ch.	PCC					SCC					Power	
	BW [MHz]	Freq. [MHz]	Ch.	RB	RB Offset	BW [MHz]	Freq. [MHz]	Ch.	RB	RB Offset	(dB m)	(W)
Low	10	1 715.3	132025	1	49	15	1 727.3	132145	1	0	22.72	0.187
	15	1 717.5	132047	1	74	10	1 729.5	132167	1	0	22.71	0.186
	10	1 715.5	132027	1	49	20	1 729.9	132171	1	0	22.77	0.189
	20	1 720.0	132072	1	99	10	1 734.4	132216	1	0	22.73	0.187
	15	1 717.5	132047	1	74	15	1 732.5	132197	1	0	22.66	0.184
	15	1 717.8	132050	1	74	20	1 734.9	132221	1	0	22.58	0.181
	20	1 720.0	132072	1	99	15	1 737.1	132243	1	0	22.68	0.185
	20	1 720.0	132072	1	99	5	1 731.7	132189	1	0	22.74	0.188
	5	1 713.3	132005	1	24	20	1 725.0	132122	1	0	22.71	0.187
	20	1 720.0	132072	1	99	20	1 739.8	132270	1	0	22.62	0.183
Middle	10	1 747.9	132351	1	49	15	1 759.9	132471	1	0	22.51	0.178
	15	1 750.1	132373	1	74	10	1 762.1	132493	1	0	22.53	0.179
	10	1 745.6	132328	1	49	20	1 760.0	132472	1	0	22.75	0.188
	20	1 750.1	132373	1	99	10	1 764.5	132517	1	0	22.50	0.178
	15	1 747.5	132347	1	74	15	1 762.5	132497	1	0	22.74	0.188
	15	1 745.3	132325	1	74	20	1 762.4	132496	1	0	22.71	0.187
	20	1 747.6	132348	1	99	15	1 764.7	132519	1	0	22.71	0.187
	20	1 752.5	132397	1	99	5	1 764.2	132514	1	0	22.63	0.183
	5	1 745.8	132330	1	24	20	1 757.5	132447	1	0	22.69	0.186
	20	1 745.1	132323	1	99	20	1 764.9	132521	1	0	22.50	0.178
High	10	1 760.5	132477	1	49	15	1 772.5	132597	1	0	22.45	0.176
	15	1 762.7	132499	1	74	10	1 774.7	132619	1	0	22.38	0.173
	10	1 755.6	132428	1	49	20	1 770.0	132572	1	0	22.65	0.184
	20	1 760.1	132473	1	99	10	1 774.5	132617	1	0	22.55	0.180
	15	1 757.5	132447	1	74	15	1 772.5	132597	1	0	22.44	0.175
	15	1 752.9	132401	1	74	20	1 770.0	132572	1	0	22.43	0.175
	20	1 755.1	132423	1	99	15	1 772.2	132594	1	0	22.22	0.167
	20	1 765.0	132522	1	99	5	1 776.7	132639	1	0	22.65	0.184
	20	1 758.3	132455	1	24	20	1 770.0	132572	1	0	22.72	0.187
	20	1 750.2	132374	1	99	20	1 770.0	132572	1	0	22.59	0.181

Note;

QPSK Modulation with 1 RB

ULCA 66C												
Ch.	PCC					SCC					Power	
	BW [MHz]	Freq. [MHz]	Ch.	RB	RB Offset	BW [MHz]	Freq. [MHz]	Ch.	RB	RB Offset	(dB m)	(W)
Low	10	1 715.3	132025	1	49	15	1 727.3	132145	1	0	21.63	0.146
	15	1 717.5	132047	1	74	10	1 729.5	132167	1	0	21.26	0.134
	10	1 715.5	132027	1	49	20	1 729.9	132171	1	0	21.64	0.146
	20	1 720.0	132072	1	99	10	1 734.4	132216	1	0	21.05	0.127
	15	1 717.5	132047	1	74	15	1 732.5	132197	1	0	21.33	0.136
	15	1 717.8	132050	1	74	20	1 734.9	132221	1	0	21.25	0.133
	20	1 720.0	132072	1	99	15	1 737.1	132243	1	0	21.01	0.126
	20	1 720.0	132072	1	99	5	1 731.7	132189	1	0	21.11	0.129
	5	1 713.3	132005	1	24	20	1 725.0	132122	1	0	21.51	0.142
	20	1 720.0	132072	1	99	20	1 739.8	132270	1	0	21.39	0.138
Middle	10	1 747.9	132351	1	49	15	1 759.9	132471	1	0	21.63	0.145
	15	1 750.1	132373	1	74	10	1 762.1	132493	1	0	21.32	0.136
	10	1 745.6	132328	1	49	20	1 760.0	132472	1	0	21.63	0.146
	20	1 750.1	132373	1	99	10	1 764.5	132517	1	0	21.18	0.131
	15	1 747.5	132347	1	74	15	1 762.5	132497	1	0	21.36	0.137
	15	1 745.3	132325	1	74	20	1 762.4	132496	1	0	21.43	0.139
	20	1 747.6	132348	1	99	15	1 764.7	132519	1	0	21.32	0.136
	20	1 752.5	132397	1	99	5	1 764.2	132514	1	0	20.75	0.119
	5	1 745.8	132330	1	24	20	1 757.5	132447	1	0	21.48	0.140
	20	1 745.1	132323	1	99	20	1 764.9	132521	1	0	21.56	0.143
High	10	1 760.5	132477	1	49	15	1 772.5	132597	1	0	20.68	0.117
	15	1 762.7	132499	1	74	10	1 774.7	132619	1	0	20.76	0.119
	10	1 755.6	132428	1	49	20	1 770.0	132572	1	0	21.12	0.129
	20	1 760.1	132473	1	99	10	1 774.5	132617	1	0	20.95	0.124
	15	1 757.5	132447	1	74	15	1 772.5	132597	1	0	20.65	0.116
	15	1 752.9	132401	1	74	20	1 770.0	132572	1	0	21.01	0.126
	20	1 755.1	132423	1	99	15	1 772.2	132594	1	0	20.82	0.121
	20	1 765.0	132522	1	99	5	1 776.7	132639	1	0	21.12	0.129
	20	1 758.3	132455	1	24	20	1 770.0	132572	1	0	20.98	0.125
	20	1 750.2	132374	1	99	20	1 770.0	132572	1	0	21.18	0.131

Note;

16QAM Modulation with 1 RB

ULCA 66C												
Ch.	PCC					SCC					Power	
	BW [MHz]	Freq. [MHz]	Ch.	RB	RB Offset	BW [MHz]	Freq. [MHz]	Ch.	RB	RB Offset	(dB m)	(W)
Low	10	1 715.3	132025	50	0	15	1 727.3	132145	75	0	21.02	0.127
	15	1 717.5	132047	75	0	10	1 729.5	132167	50	0	21.07	0.128
	10	1 715.5	132027	50	0	20	1 729.9	132171	100	0	21.05	0.127
	20	1 720.0	132072	100	0	10	1 734.4	132216	50	0	20.99	0.126
	15	1 717.5	132047	75	0	15	1 732.5	132197	75	0	20.99	0.126
	15	1 717.8	132050	75	0	20	1 734.9	132221	100	0	20.96	0.125
	20	1 720.0	132072	100	0	15	1 737.1	132243	75	0	21.82	0.152
	20	1 720.0	132072	100	0	5	1 731.7	132189	25	0	20.92	0.124
	5	1 713.3	132005	25	0	20	1 725.0	132122	100	0	20.95	0.124
	20	1 720.0	132072	100	0	20	1 739.8	132270	100	0	20.93	0.124
Middle	10	1 747.9	132351	50	0	15	1 759.9	132471	75	0	20.84	0.121
	15	1 750.1	132373	75	0	10	1 762.1	132493	50	0	20.87	0.122
	10	1 745.6	132328	50	0	20	1 760.0	132472	100	0	20.91	0.123
	20	1 750.1	132373	100	0	10	1 764.5	132517	50	0	20.91	0.123
	15	1 747.5	132347	75	0	15	1 762.5	132497	75	0	21.00	0.126
	15	1 745.3	132325	75	0	20	1 762.4	132496	100	0	21.01	0.126
	20	1 747.6	132348	100	0	15	1 764.7	132519	75	0	21.12	0.129
	20	1 752.5	132397	100	0	5	1 764.2	132514	25	0	20.83	0.121
	5	1 745.8	132330	25	0	20	1 757.5	132447	100	0	20.89	0.123
	20	1 745.1	132323	100	0	20	1 764.9	132521	100	0	20.80	0.120
High	10	1 760.5	132477	50	0	15	1 772.5	132597	75	0	20.84	0.121
	15	1 762.7	132499	75	0	10	1 774.7	132619	50	0	20.84	0.121
	10	1 755.6	132428	50	0	20	1 770.0	132572	100	0	20.82	0.121
	20	1 760.1	132473	100	0	10	1 774.5	132617	50	0	20.85	0.122
	15	1 757.5	132447	75	0	15	1 772.5	132597	75	0	20.81	0.120
	15	1 752.9	132401	75	0	20	1 770.0	132572	100	0	20.30	0.107
	20	1 755.1	132423	100	0	15	1 772.2	132594	75	0	20.94	0.124
	20	1 765.0	132522	100	0	5	1 776.7	132639	25	0	20.82	0.121
	20	1 758.3	132455	25	0	20	1 770.0	132572	100	0	20.94	0.124
	20	1 750.2	132374	100	0	20	1 770.0	132572	100	0	20.84	0.121

Note;

QPSK Modulation with Full RB

ULCA 66C												
Ch.	PCC					SCC					Power	
	BW [MHz]	Freq. [MHz]	Ch.	RB	RB Offset	BW [MHz]	Freq. [MHz]	Ch.	RB	RB Offset	(dB m)	(W)
Low	10	1 715.3	132025	50	0	15	1 727.3	132145	75	0	19.33	0.086
	15	1 717.5	132047	75	0	10	1 729.5	132167	50	0	19.36	0.086
	10	1 715.5	132027	50	0	20	1 729.9	132171	100	0	19.36	0.086
	20	1 720.0	132072	100	0	10	1 734.4	132216	50	0	19.27	0.084
	15	1 717.5	132047	75	0	15	1 732.5	132197	75	0	19.47	0.088
	15	1 717.8	132050	75	0	20	1 734.9	132221	100	0	19.40	0.087
	20	1 720.0	132072	100	0	15	1 737.1	132243	75	0	19.60	0.091
	20	1 720.0	132072	100	0	5	1 731.7	132189	25	0	19.26	0.084
	5	1 713.3	132005	25	0	20	1 725.0	132122	100	0	19.35	0.086
	20	1 720.0	132072	100	0	20	1 739.8	132270	100	0	19.34	0.086
Middle	10	1 747.9	132351	50	0	15	1 759.9	132471	75	0	19.43	0.088
	15	1 750.1	132373	75	0	10	1 762.1	132493	50	0	19.40	0.087
	10	1 745.6	132328	50	0	20	1 760.0	132472	100	0	19.39	0.087
	20	1 750.1	132373	100	0	10	1 764.5	132517	50	0	19.40	0.087
	15	1 747.5	132347	75	0	15	1 762.5	132497	75	0	19.39	0.087
	15	1 745.3	132325	75	0	20	1 762.4	132496	100	0	19.40	0.087
	20	1 747.6	132348	100	0	15	1 764.7	132519	75	0	19.68	0.093
	20	1 752.5	132397	100	0	5	1 764.2	132514	25	0	19.34	0.086
	5	1 745.8	132330	25	0	20	1 757.5	132447	100	0	19.32	0.086
	20	1 745.1	132323	100	0	20	1 764.9	132521	100	0	19.41	0.087
High	10	1 760.5	132477	50	0	15	1 772.5	132597	75	0	19.30	0.085
	15	1 762.7	132499	75	0	10	1 774.7	132619	50	0	19.14	0.082
	10	1 755.6	132428	50	0	20	1 770.0	132572	100	0	19.35	0.086
	20	1 760.1	132473	100	0	10	1 774.5	132617	50	0	19.18	0.083
	15	1 757.5	132447	75	0	15	1 772.5	132597	75	0	19.29	0.085
	15	1 752.9	132401	75	0	20	1 770.0	132572	100	0	19.28	0.085
	20	1 755.1	132423	100	0	15	1 772.2	132594	75	0	19.37	0.086
	20	1 765.0	132522	100	0	5	1 776.7	132639	25	0	19.19	0.083
	20	1 758.3	132455	25	0	20	1 770.0	132572	100	0	19.18	0.083
	20	1 750.2	132374	100	0	20	1 770.0	132572	100	0	19.42	0.088

Note;

16QAM Modulation with Full RB

4. Occupied Bandwidth

4.1. Limit

CFR 47, Section FCC §2.1049 and IC RSS-Gen Issue 5 6.7.

4.2. Test Procedure

FCC

The test follows section 5.4.4 of ANSI C63.26-2015.

- a. The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be set wide enough to capture all modulation. products including the emission skirts (typically a span of $1.5 \times \text{OBW}$ is sufficient).
- b. The nominal IF filter 3 dB bandwidth (RBW) shall be in the range of 1 % to 5 % of the anticipated OBW, and the VBW shall be set $\geq 3 \times \text{RBW}$.
- c. Set the reference level of the instrument as required to prevent the signal amplitude from exceeding the maximum spectrum analyzer input mixer level for linear operation. See guidance provided in 4.2.3.
- d. Set the detection mode to peak, and the trace mode to max-hold.
- e. If the instrument does not have a 99 % OBW function, recover the trace data points and sum directly in linear power terms. Place the recovered amplitude data points, beginning at the lowest frequency, in a running sum until 0.5 % of the total is reached. Record that frequency as the lower OBW frequency. Repeat the process until 99.5 % of the total is reached and record that frequency as the upper OBW frequency. The 99 % power OBW can be determined by computing the difference these two frequencies.
- f. The OBW shall be reported and plot(s) of the measuring instrument display shall be provided with the test report. The frequency and amplitude axis and scale shall be clearly labeled. Tabular data can be reported in addition to the plot(s).

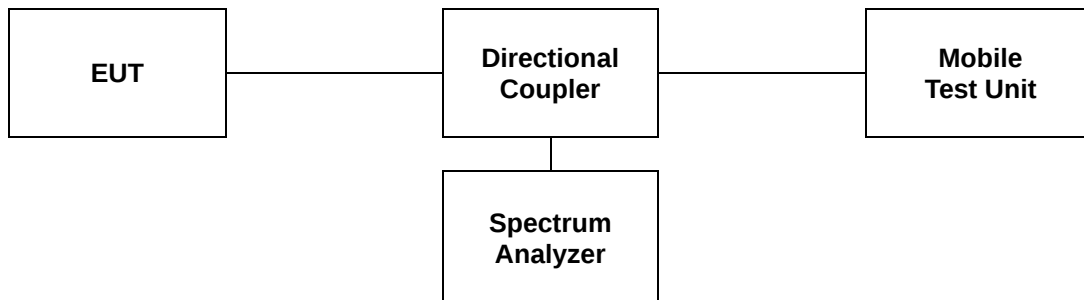
IC

The following conditions shall be observed for measuring the occupied bandwidth and x dB bandwidth:

- The transmitter shall be operated at its maximum carrier power measured under normal test conditions.
- The span of the spectrum analyzer shall be set large enough to capture all products of the modulation process, including the emission skirts, around the carrier frequency, but small enough to avoid having other emissions (e.g. on adjacent channels) within the span.
- The detector of the spectrum analyzer shall be set to "Sample". However, a peak, or peak hold, may be used in place of the sampling detector since this usually produces a wider bandwidth than the actual bandwidth (worst-case measurement). Use of a peak hold (or "Max Hold") may be necessary to determine the occupied / x dB bandwidth if the device is not transmitting continuously.
- The resolution bandwidth (RBW) shall be in the range of 1 % to 5 % of the actual occupied / x dB bandwidth and the video bandwidth (VBW) shall not be smaller than three times the RBW value. Video averaging is not permitted.

Note: It may be necessary to repeat the measurement a few times until the RBW and VBW are in compliance with the above requirement.

For the 99 % emission bandwidth, the trace data points are recovered and directly summed in linear power level terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5 % of the total is reached, and that frequency recorded. The process is repeated for the highest frequency data points (starting at the highest frequency, at the right side of the span, and going down in frequency). This frequency is then recorded. The difference between the two recorded frequencies is the occupied bandwidth (or the 99 % emission bandwidth).



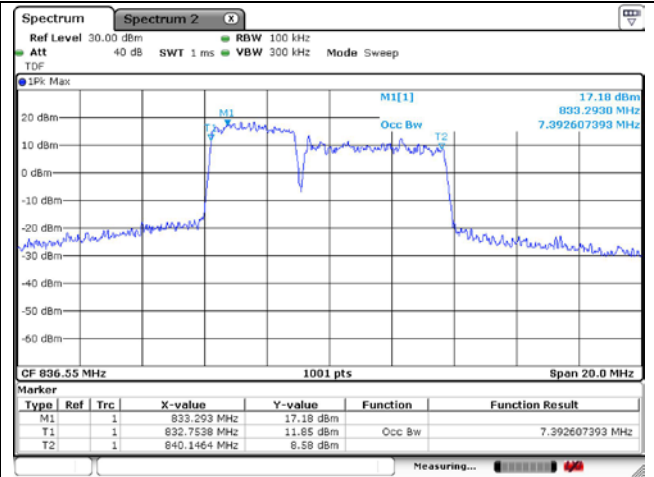
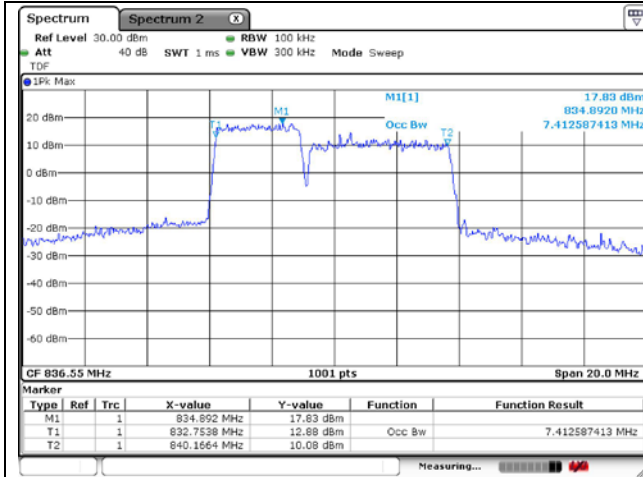
4.3 Test Results

Ambient temperature : (23 ± 1) °C
 Relative humidity : 47 % R.H.

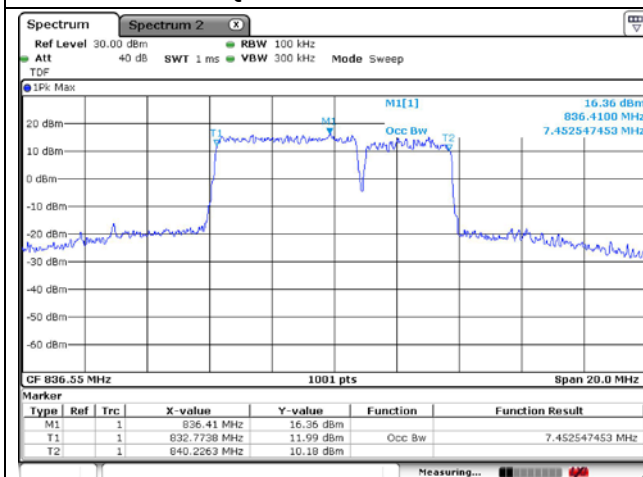
Band	PCC			SCC			Occupied Bandwidth (MHz)	
	BW (MHz)	Frequency (MHz)	Channel	BW (MHz)	Frequency (MHz)	Channel	QPSK	16QAM
5B	3	834.1	20501	5	838.0	20540	7.413	7.393
	5	835.0	20510	3	838.9	20549	7.453	7.453
	5	831.8	20478	10	839.0	20550	13.846	13.876
	10	834.0	20500	5	841.2	20572	13.966	13.936
	10	831.6	20476	10	841.5	20575	18.741	18.701
7C	10	2 525.6	21006	20	2 540.0	21150	28.112	28.052
	20	2 530.1	21051	10	2 544.5	21195	28.172	28.112
	15	2 530.1	21051	15	2 542.1	21171	28.172	28.232
	15	2 530.1	21051	10	2 542.1	21171	23.077	23.077
	15	2 525.3	21003	20	2 542.4	21174	32.867	32.937
	20	2 527.6	21026	15	2 544.7	21197	32.937	32.797
	20	2 525.1	21001	20	2 544.9	21199	37.722	37.642
66B	5	1 752.6	132398	5	1 757.4	132446	9.171	9.251
	5	1 750.3	132375	10	1 757.5	132447	13.906	13.876
	10	1 752.5	132397	5	1 759.7	132469	13.936	13.876
	5	1 748.1	132353	15	1 757.4	132446	18.182	18.182
	15	1 752.6	132398	5	1 761.9	132491	18.182	18.182
	10	1 750.1	132373	10	1 760.0	132472	18.821	18.741
66C	10	1 747.9	132351	15	1 759.9	132471	23.027	22.977
	15	1 750.1	132373	10	1 762.1	132493	23.027	23.027
	10	1 745.6	132328	20	1 760.0	132472	28.112	27.932
	20	1 750.1	132373	10	1 764.5	132517	28.052	27.932
	15	1 747.5	132347	15	1 762.5	132497	28.172	28.172
	15	1 745.3	132325	20	1 762.4	132496	32.727	32.727
	20	1 747.6	132348	15	1 764.7	132519	32.937	32.727
	20	1 752.5	132397	5	1 764.2	132514	22.777	22.777
	5	1 745.8	132330	20	1 757.5	132447	22.677	22.677
	20	1 745.1	132323	20	1 764.9	132521	37.642	37.562

- Test plots

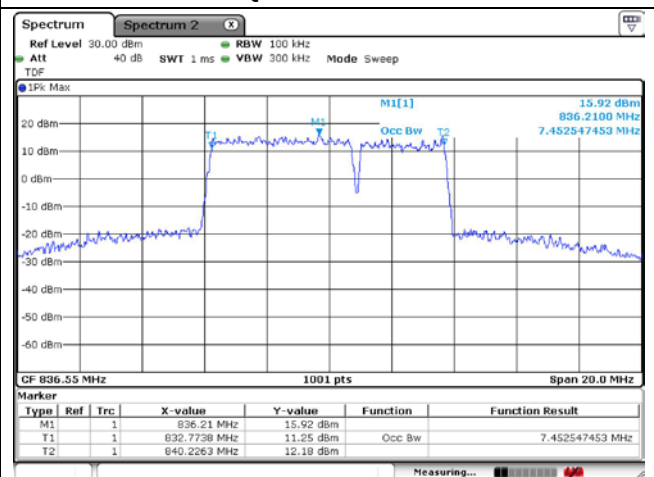
ULCA 5B



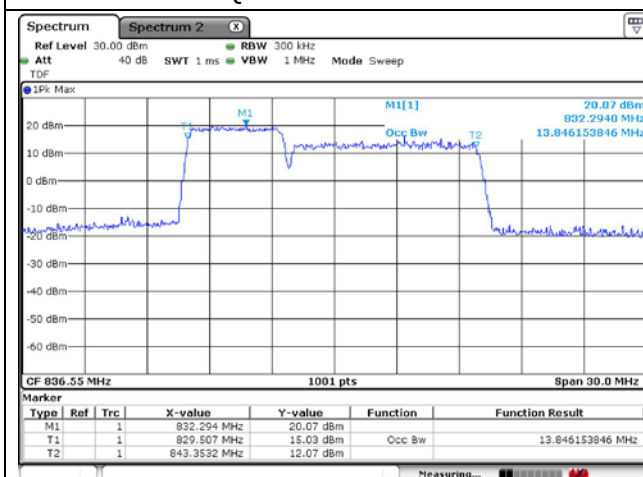
3 MHz + 5 MHz QPSK Middle Channel - Full RB



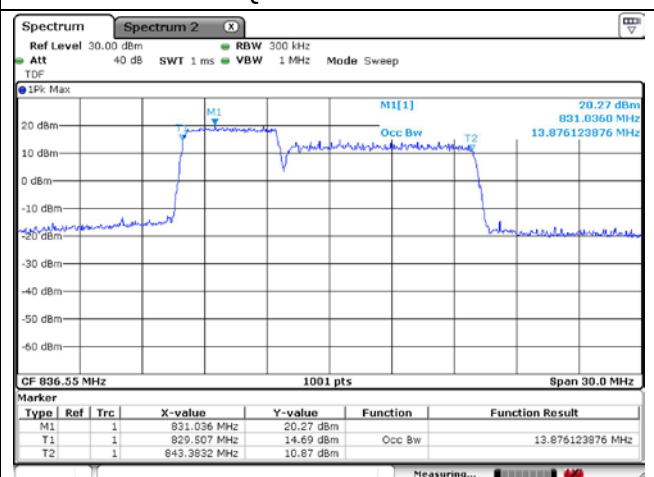
3 MHz + 5 MHz 16QAM Middle Channel - Full RB



5 MHz + 3 MHz QPSK Middle Channel - Full RB



5 MHz + 3 MHz 16QAM Middle Channel - Full RB



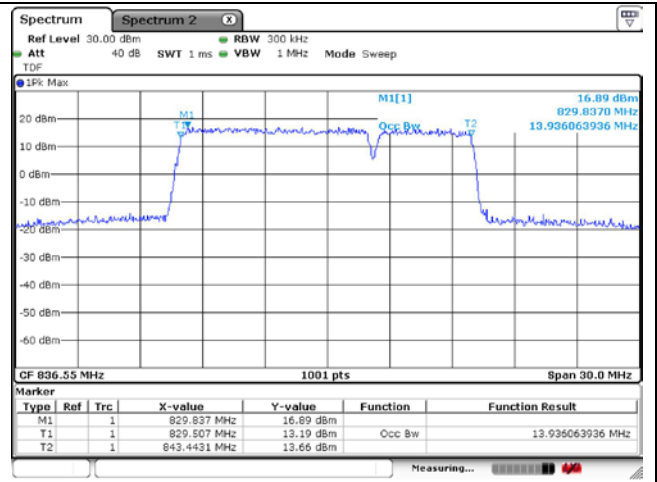
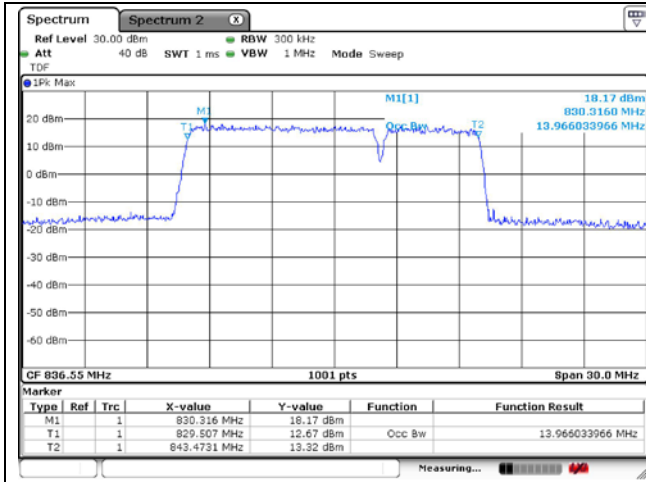
5 MHz + 10 MHz QPSK Middle Channel - Full RB



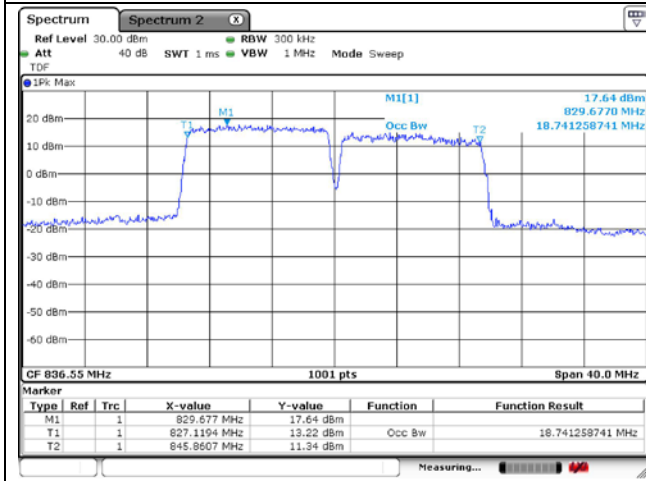
5 MHz + 10 MHz 16QAM Middle Channel - Full RB



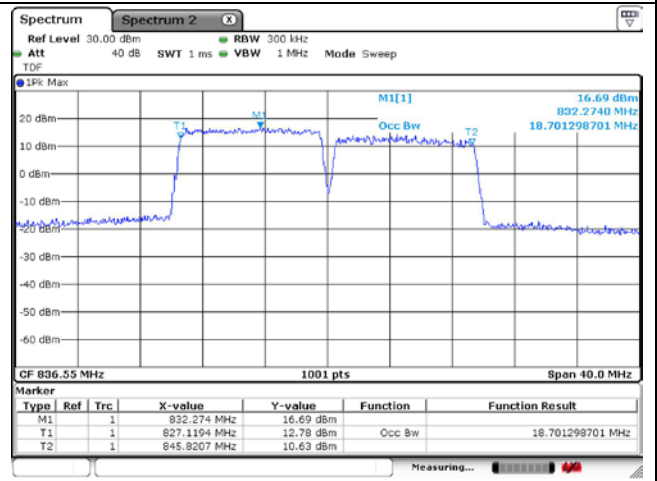
ULCA 5B



10 MHz + 5 MHz QPSK Middle Channel - Full RB



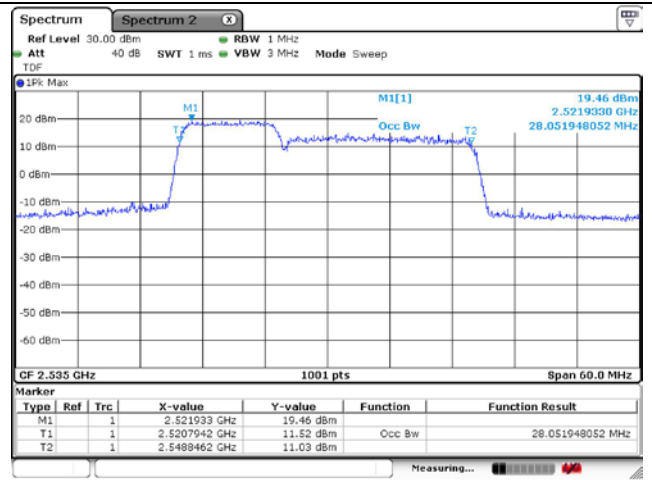
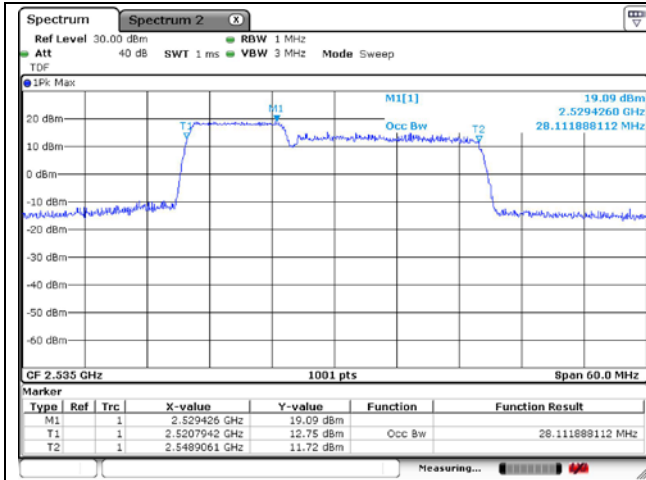
10 MHz + 5 MHz 16QAM Middle Channel - Full RB



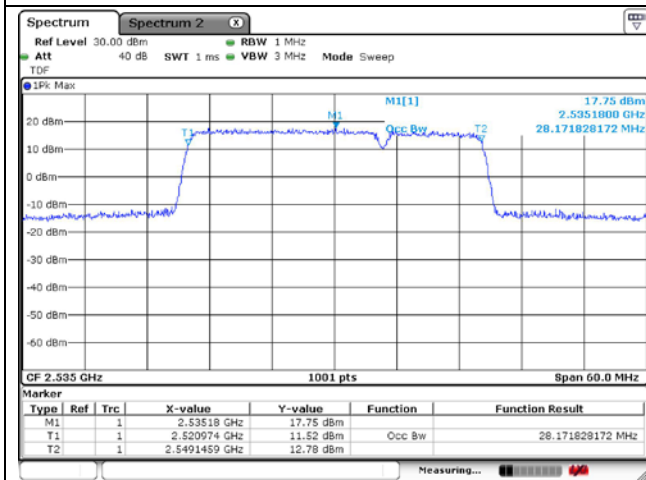
10 MHz + 10 MHz QPSK Middle Channel - Full RB

10 MHz + 10 MHz 16QAM Middle Channel - Full RB

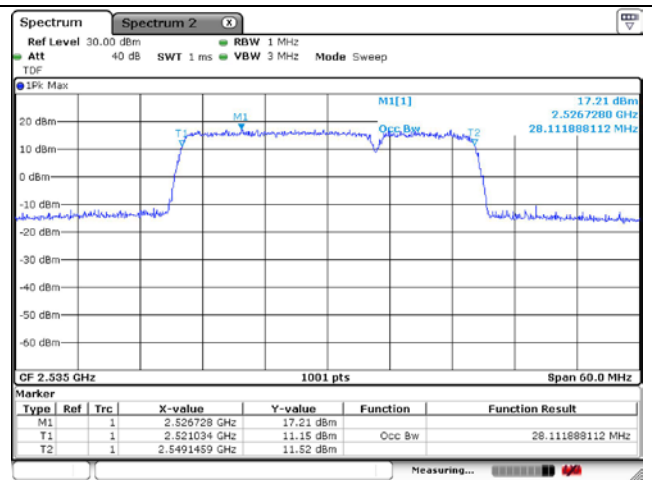
ULCA 7C



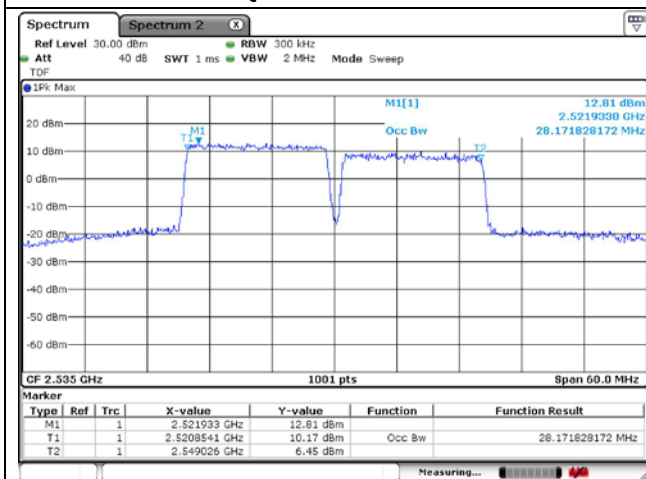
10 MHz + 20 MHz QPSK Middle Channel - Full RB



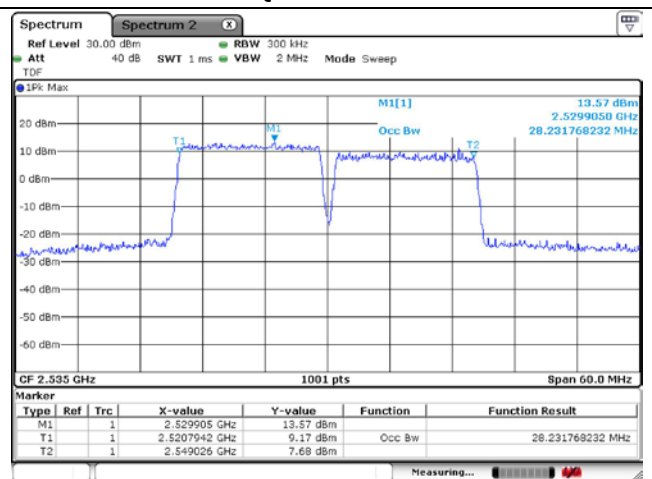
10 MHz + 20 MHz 16QAM Middle Channel - Full RB



20 MHz + 10 MHz QPSK Middle Channel - Full RB



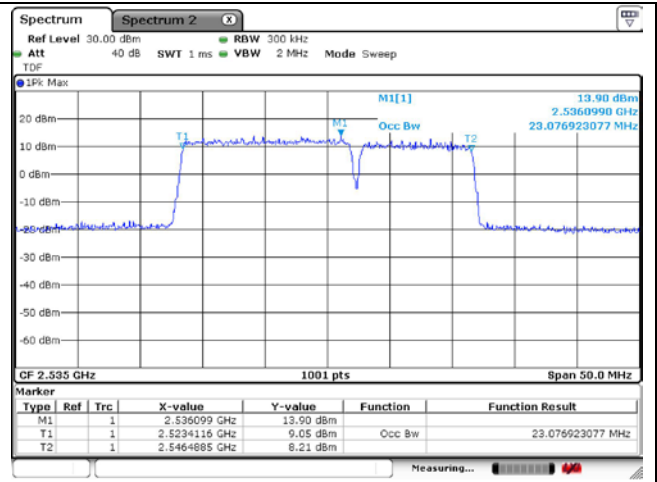
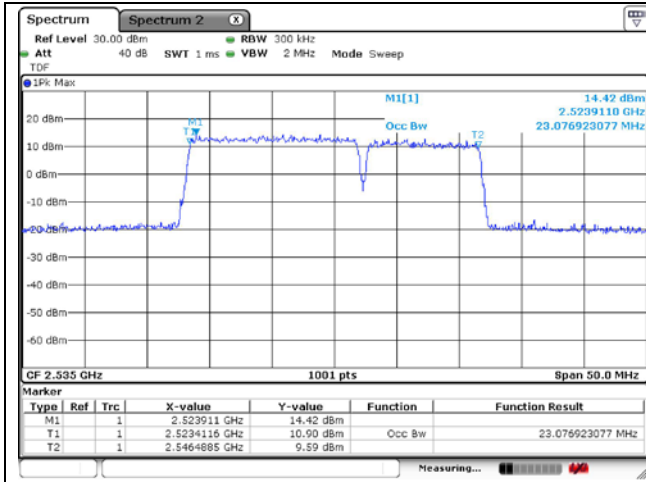
20 MHz + 10 MHz 16QAM Middle Channel - Full RB



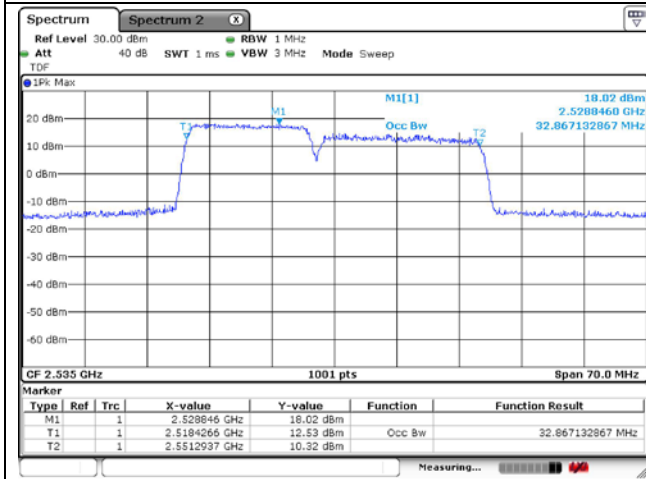
15 MHz + 15 MHz QPSK Middle Channel - Full RB

15 MHz + 15 MHz 16QAM Middle Channel - Full RB

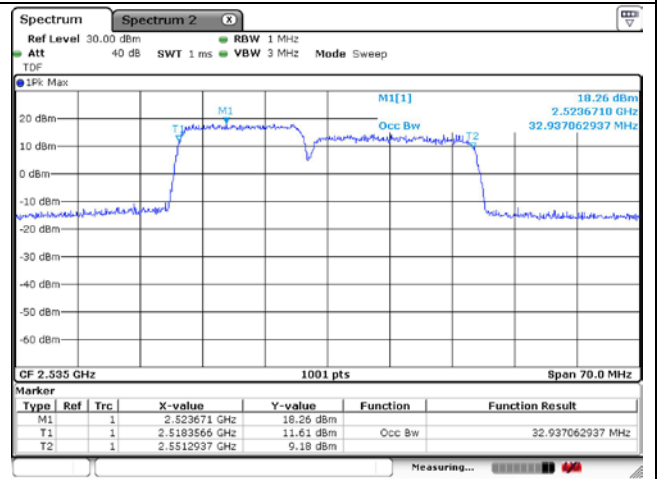
ULCA 7C



15 MHz + 10 MHz QPSK Middle Channel - Full RB



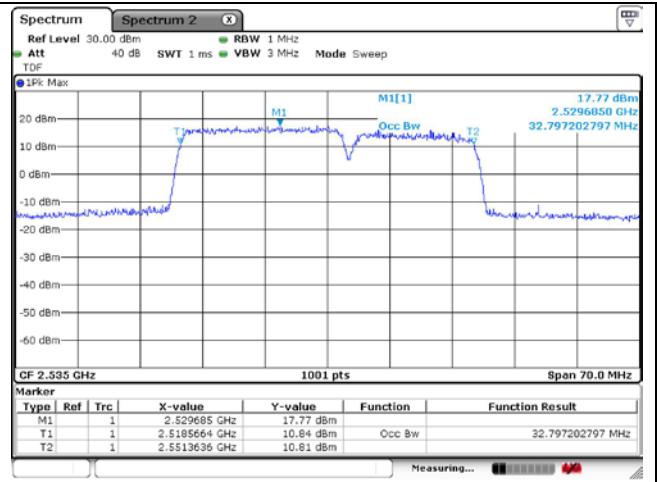
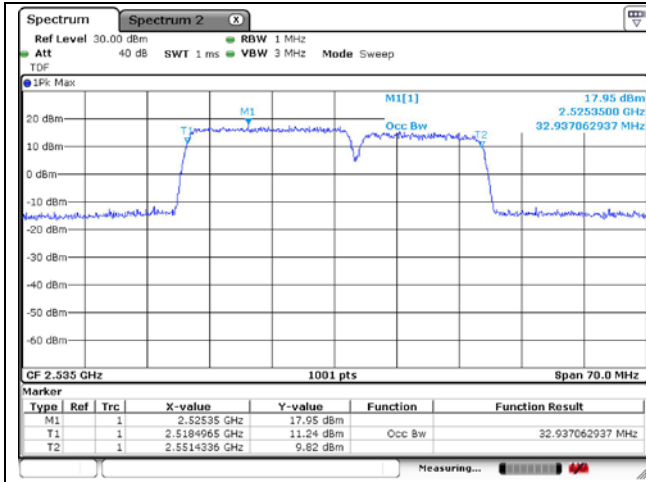
15 MHz + 10 MHz 16QAM Middle Channel - Full RB



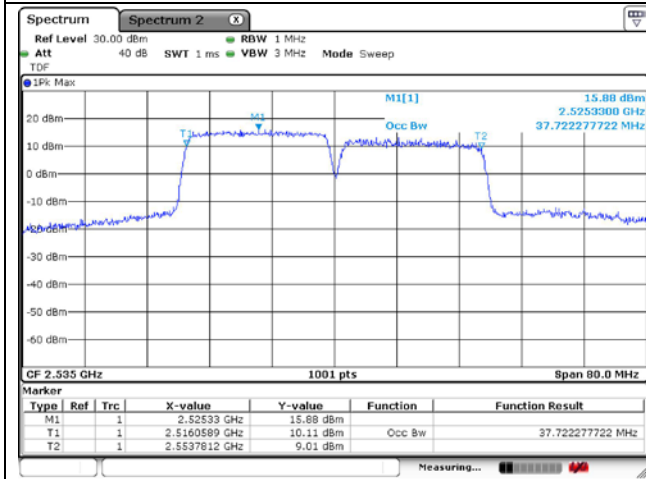
15 MHz + 20 MHz QPSK Middle Channel - Full RB

15 MHz + 20 MHz 16QAM Middle Channel - Full RB

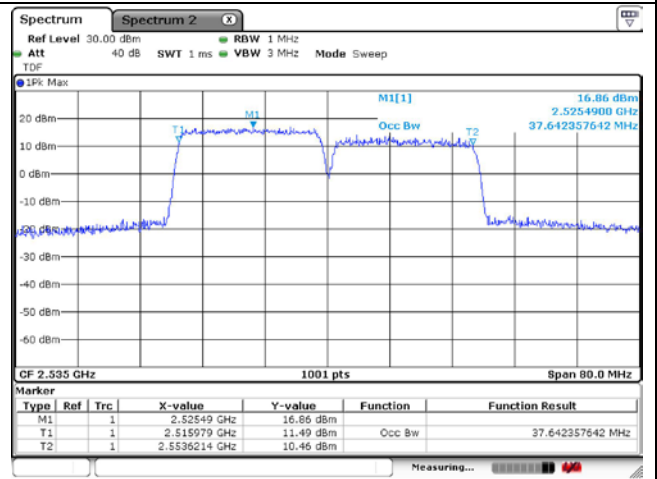
ULCA 7C



20 MHz + 15 MHz QPSK Middle Channel - Full RB



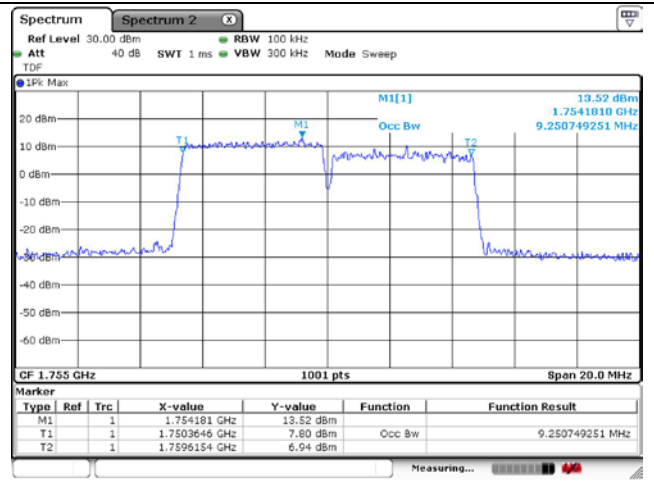
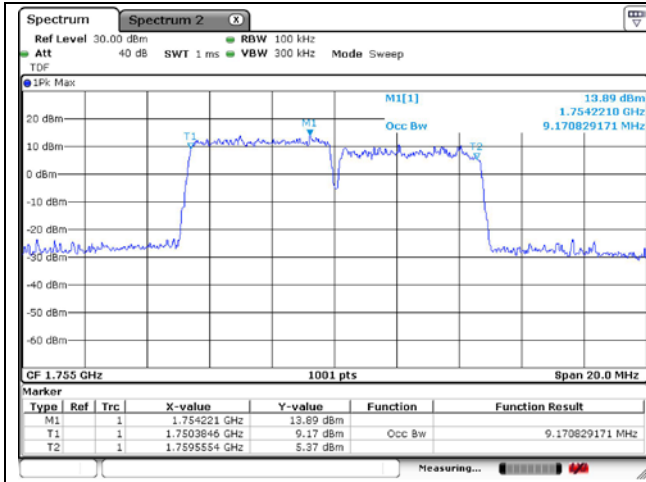
20 MHz + 15 MHz 16QAM Middle Channel - Full RB



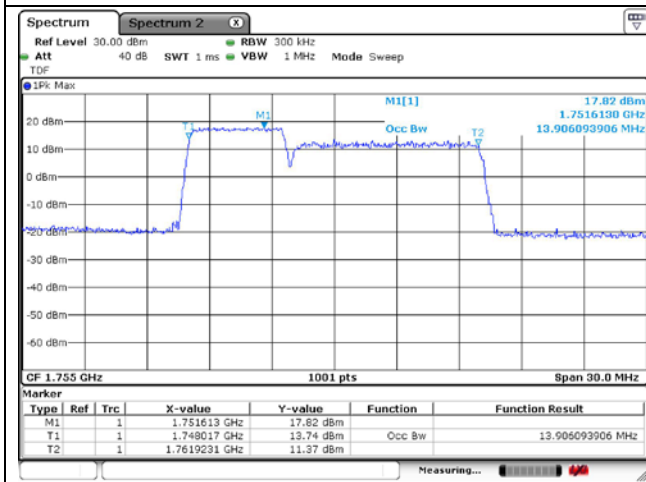
20 MHz + 20 MHz QPSK Middle Channel - Full RB

20 MHz + 20 MHz 16QAM Middle Channel - Full RB

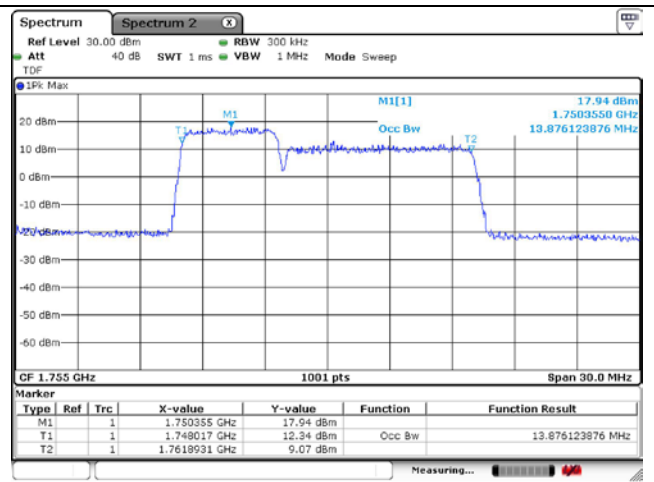
ULCA 66B



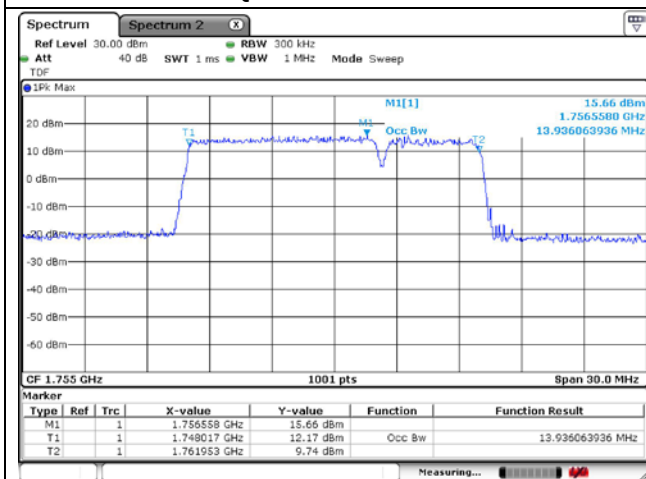
5 MHz + 5 MHz QPSK Middle Channel - Full RB



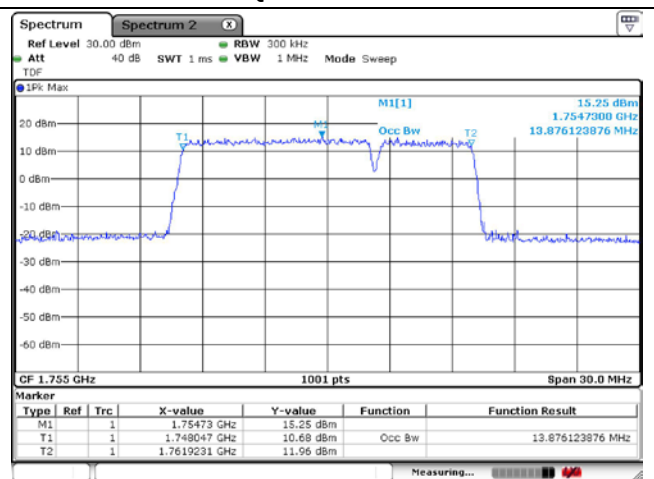
5 MHz + 5 MHz 16QAM Middle Channel - Full RB



5 MHz + 10 MHz QPSK Middle Channel - Full RB



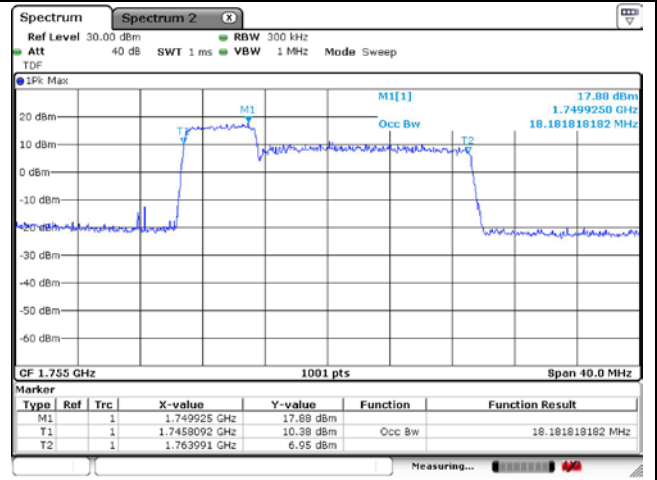
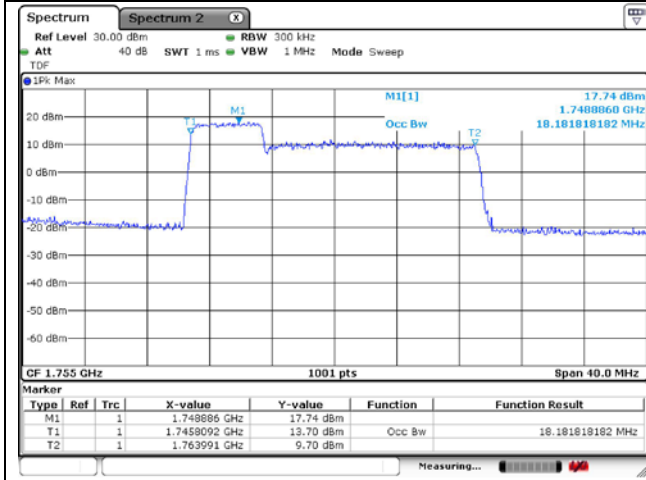
5 MHz + 10 MHz 16QAM Middle Channel - Full RB



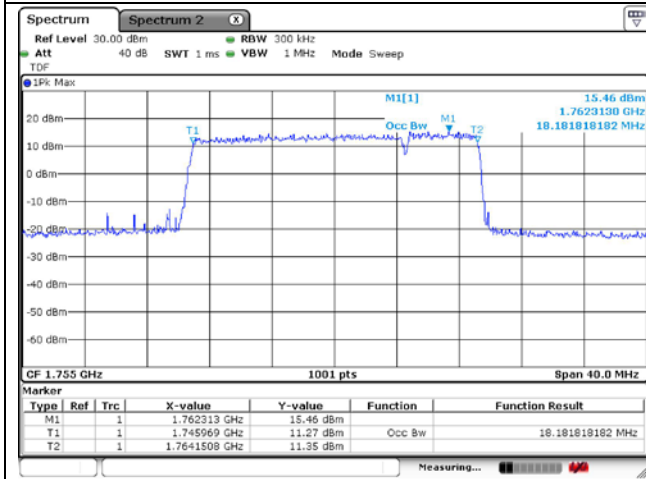
10 MHz + 5 MHz QPSK Middle Channel - Full RB

10 MHz + 5 MHz 16QAM Middle Channel - Full RB

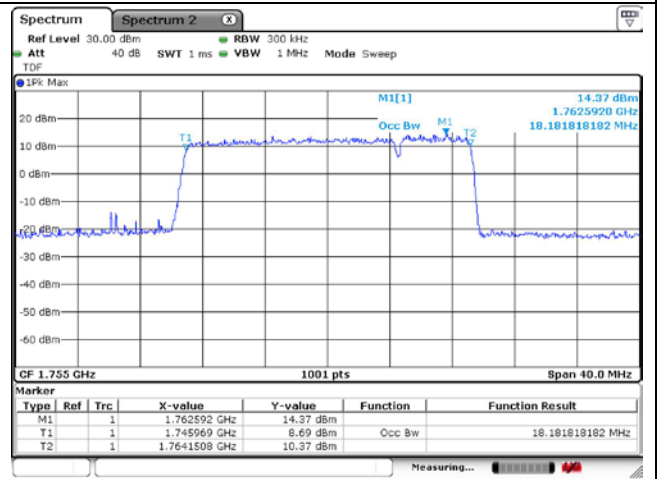
ULCA 66B



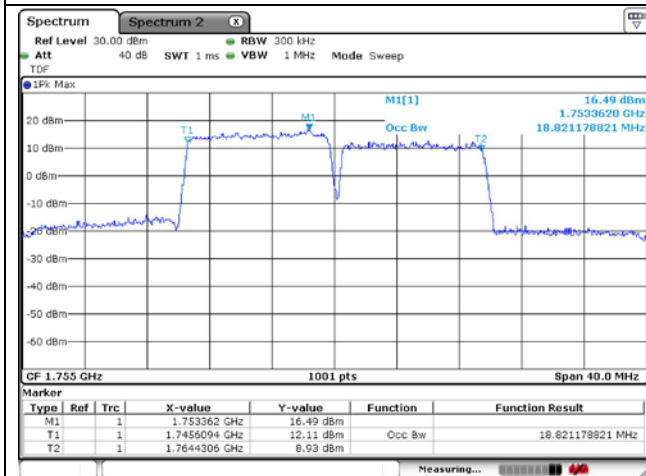
5 MHz + 15 MHz QPSK Middle Channel - Full RB



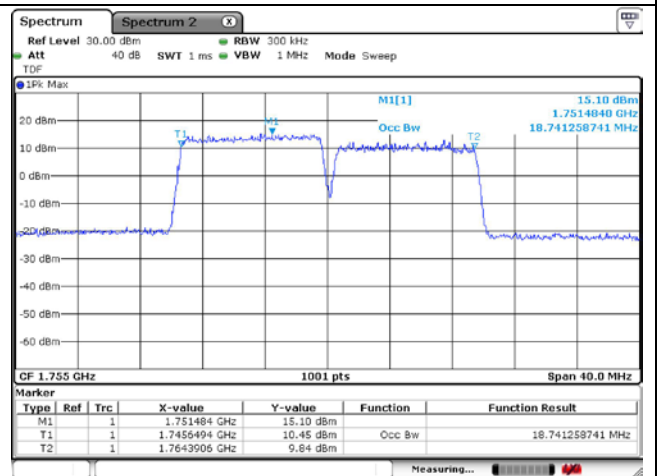
5 MHz + 15 MHz 16QAM Middle Channel - Full RB



15 MHz + 5 MHz QPSK Middle Channel - Full RB



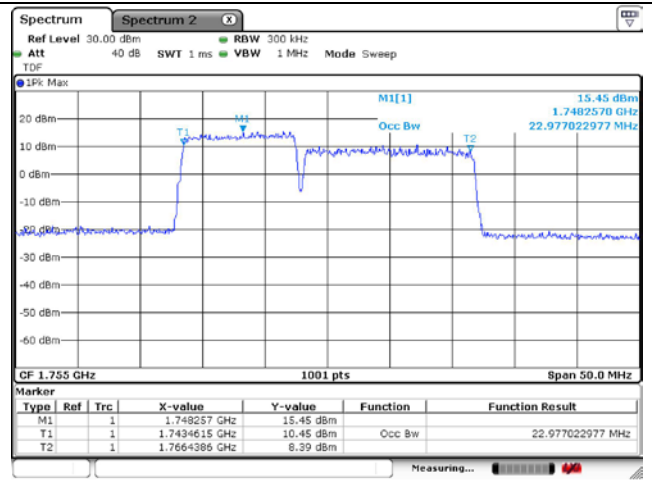
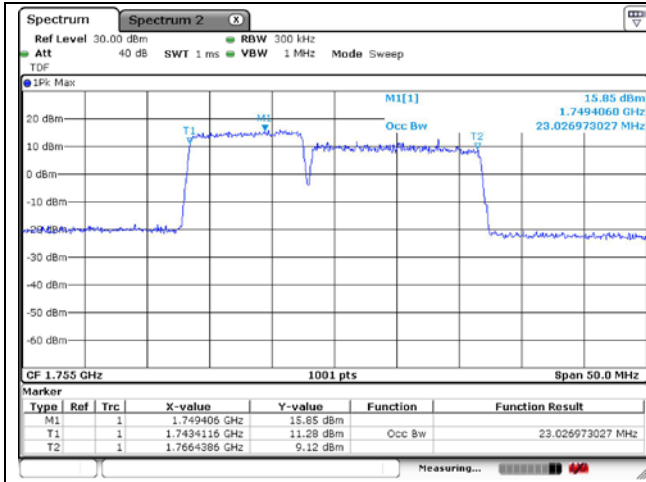
15 MHz + 5 MHz 16QAM Middle Channel - Full RB



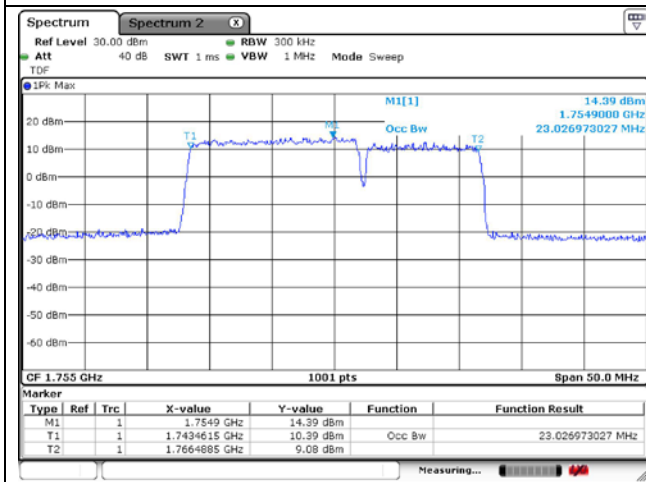
10 MHz + 10 MHz QPSK Middle Channel - Full RB

10 MHz + 10 MHz 16QAM Middle Channel - Full RB

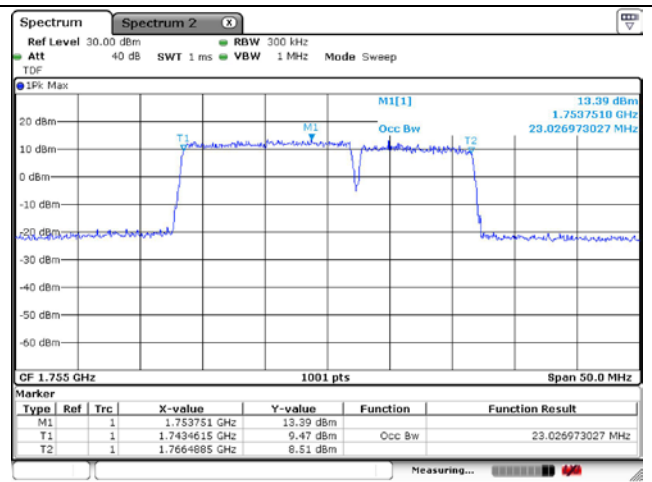
ULCA 66C



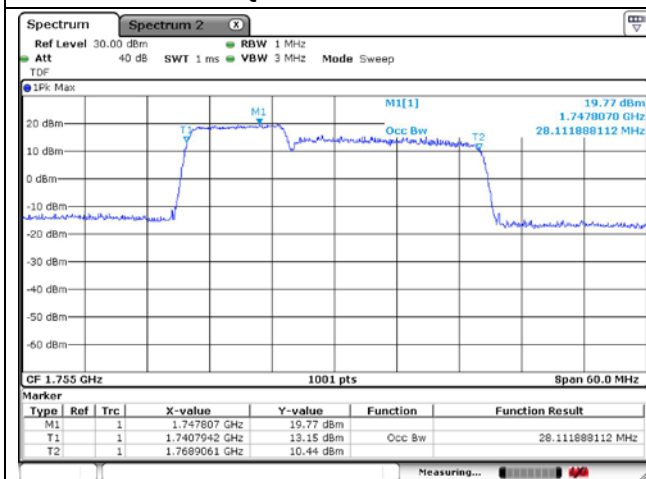
10 MHz + 15 MHz QPSK Middle Channel - Full RB



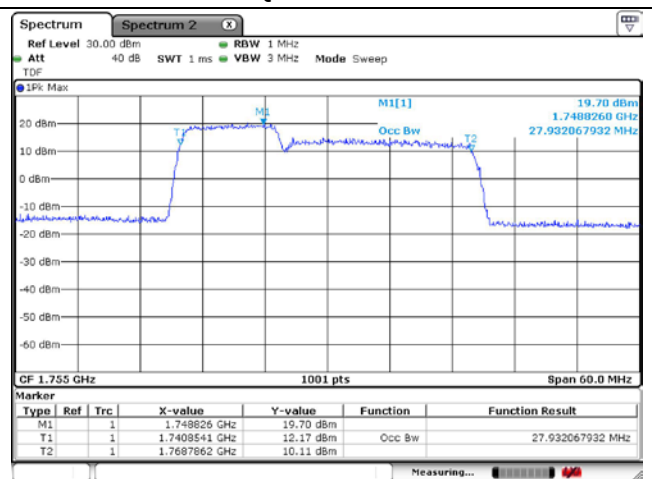
10 MHz + 15 MHz 16QAM Middle Channel - Full RB



15 MHz + 10 MHz QPSK Middle Channel - Full RB



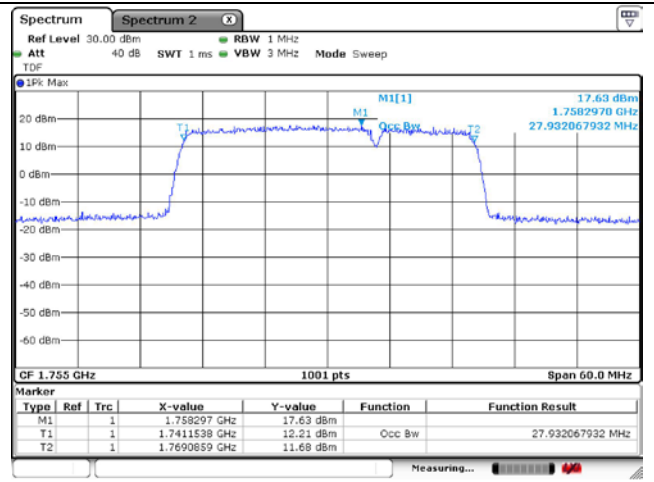
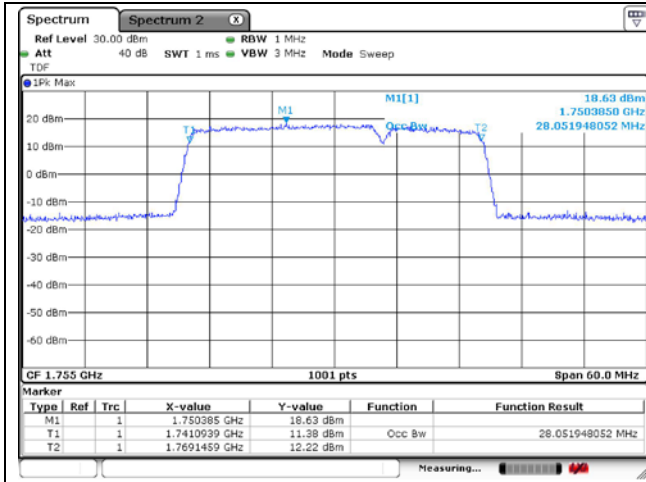
15 MHz + 10 MHz 16QAM Middle Channel - Full RB



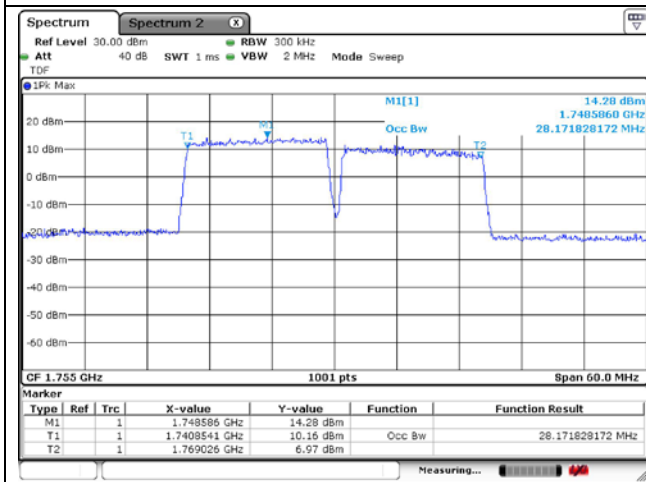
10 MHz + 20 MHz QPSK Middle Channel - Full RB

10 MHz + 20 MHz 16QAM Middle Channel - Full RB

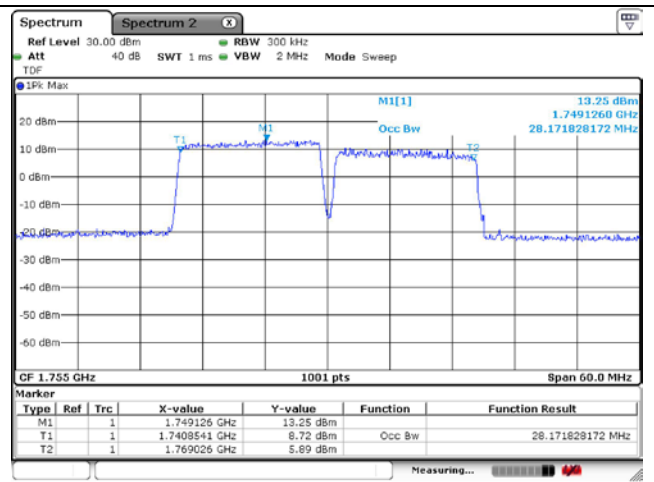
ULCA 66C



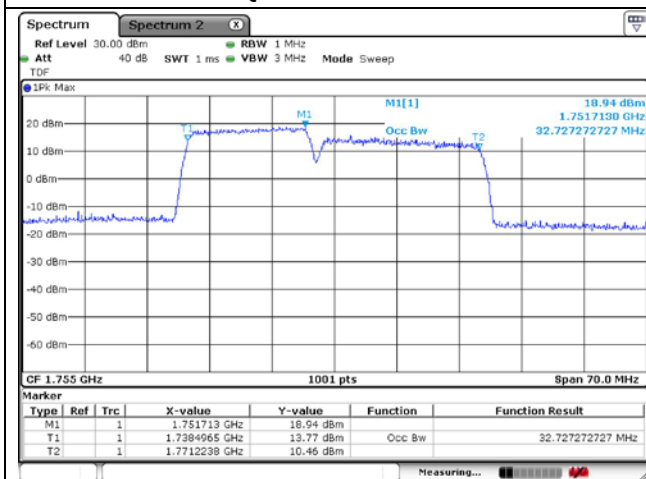
20 MHz + 10 MHz QPSK Middle Channel - Full RB



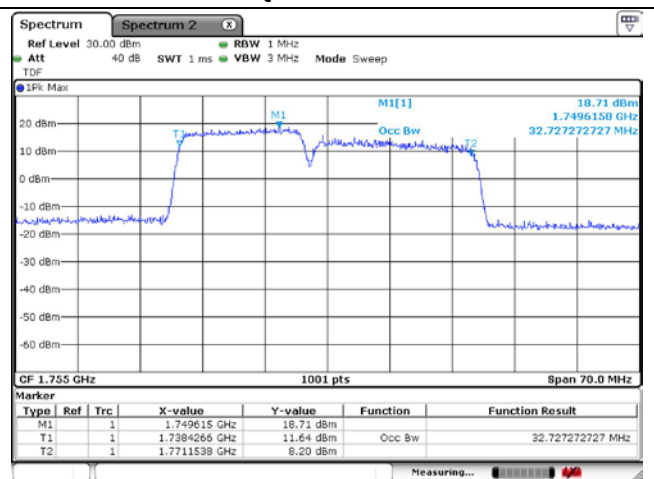
20 MHz + 10 MHz 16QAM Middle Channel - Full RB



15 MHz + 15 MHz QPSK Middle Channel - Full RB



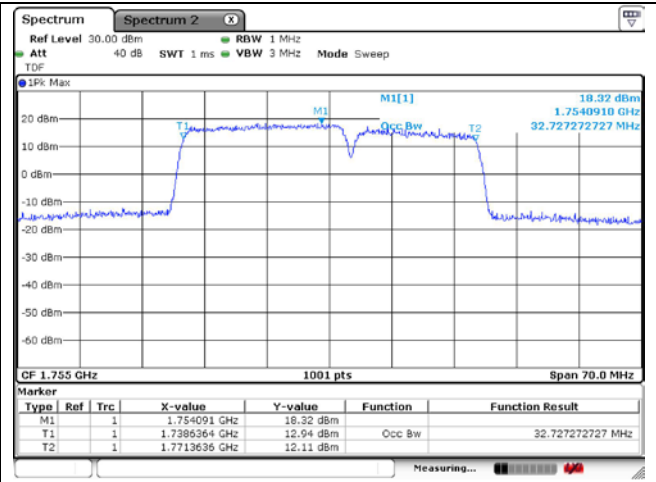
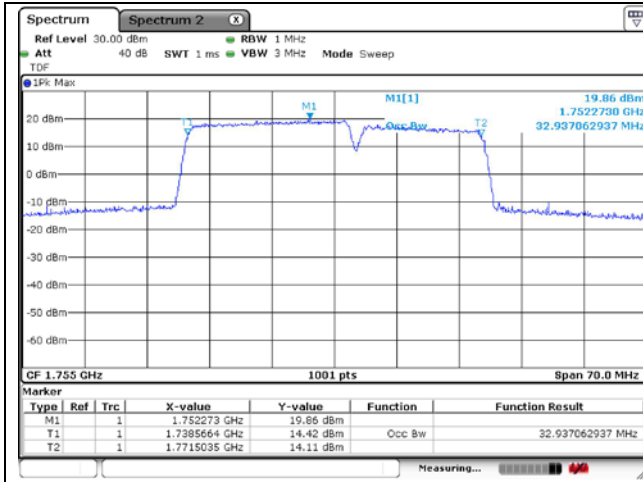
15 MHz + 15 MHz 16QAM Middle Channel - Full RB



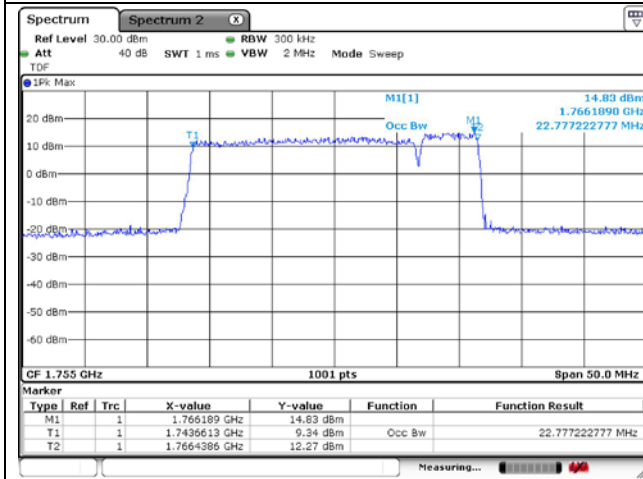
15 MHz + 20 MHz QPSK Middle Channel - Full RB

15 MHz + 20 MHz 16QAM Middle Channel - Full RB

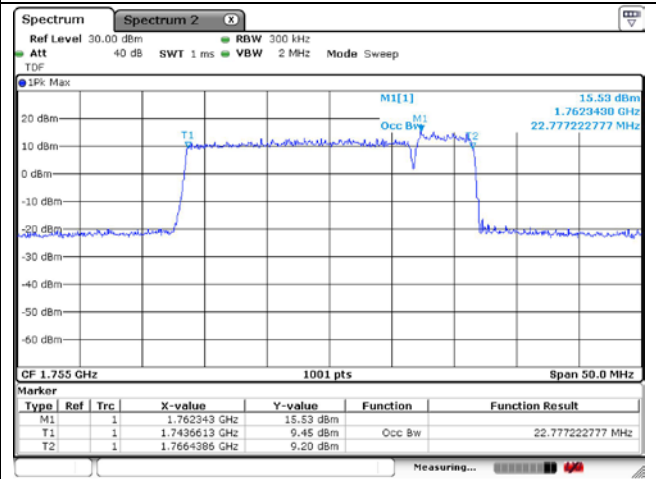
ULCA 66C



20 MHz + 15 MHz QPSK Middle Channel - Full RB



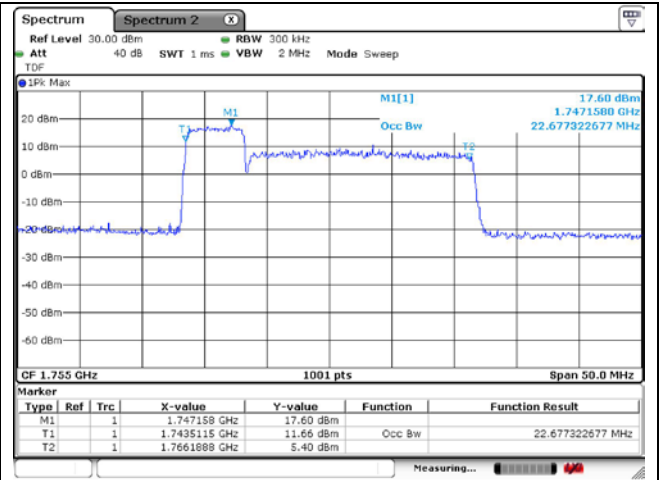
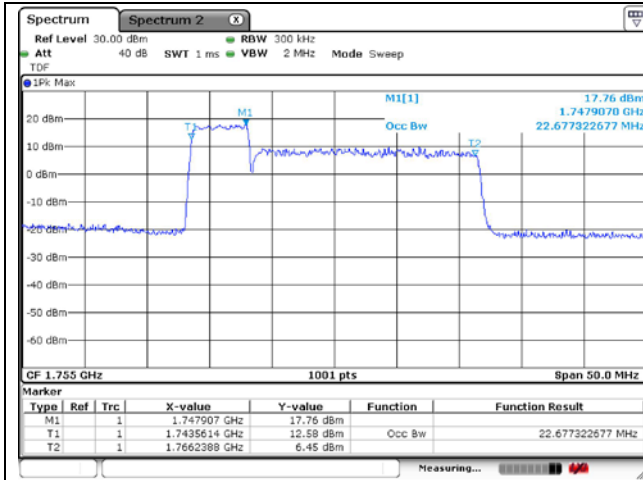
20 MHz + 15 MHz 16QAM Middle Channel - Full RB



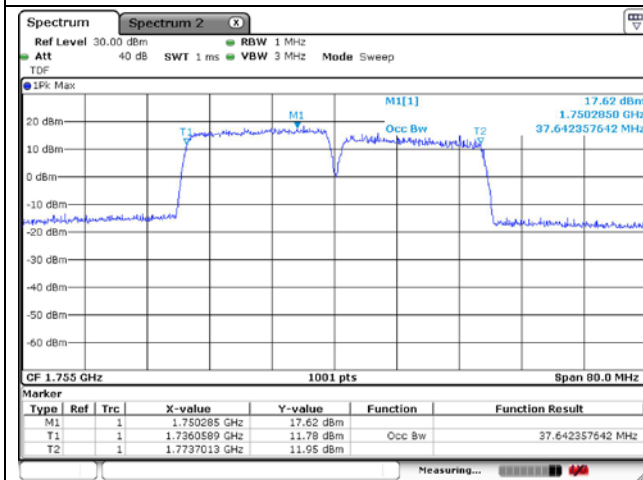
20 MHz + 5 MHz QPSK Middle Channel - Full RB

20 MHz + 5 MHz 16QAM Middle Channel - Full RB

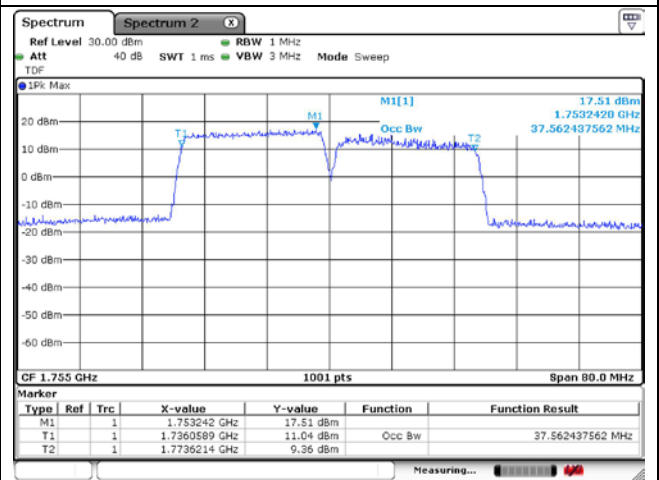
ULCA 66C



5 MHz + 20 MHz QPSK Middle Channel - Full RB



5 MHz + 20 MHz 16QAM Middle Channel - Full RB



20 MHz + 20 MHz QPSK Middle Channel - Full RB

20 MHz + 20 MHz 16QAM Middle Channel - Full RB

