



# Appendix B

## E-UTRA Band 12



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# 1 Effective (Isotropic) Radiated Power Output Data

## Effective Radiated Power of Transmitter (ERP) for LTE BAND 12

### Main Supply:

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND12	LTE/TM1	1.4M	LCH	RB1#0	22.53	21.49	38.45	PASS
				RB1#2	22.60	21.57	38.45	PASS
				RB1#5	22.53	21.52	38.45	PASS
				RB3#0	22.62	21.57	38.45	PASS
				RB3#2	22.57	21.55	38.45	PASS
				RB3#3	22.66	21.64	38.45	PASS
				RB6#0	21.54	20.53	38.45	PASS
			MCH	RB1#0	22.59	21.58	38.45	PASS
				RB1#2	22.69	21.65	38.45	PASS
				RB1#5	22.64	21.62	38.45	PASS
				RB3#0	22.69	21.66	38.45	PASS
				RB3#2	22.66	21.64	38.45	PASS
				RB3#3	22.82	21.78	38.45	PASS
				RB6#0	21.61	20.60	38.45	PASS
			HCH	RB1#0	22.52	21.48	38.45	PASS
				RB1#2	22.56	21.52	38.45	PASS
				RB1#5	22.59	21.59	38.45	PASS
				RB3#0	22.89	21.86	38.45	PASS
				RB3#2	22.48	21.45	38.45	PASS
				RB3#3	22.56	21.51	38.45	PASS
				RB6#0	21.51	20.50	38.45	PASS



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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND12	LTE/TM2	1.4M	LCH	RB1#0	21.72	20.71	38.45	PASS
				RB1#2	21.85	20.84	38.45	PASS
				RB1#5	21.74	20.71	38.45	PASS
				RB3#0	21.56	20.52	38.45	PASS
				RB3#2	21.53	20.51	38.45	PASS
				RB3#3	21.52	20.50	38.45	PASS
				RB6#0	20.62	19.60	38.45	PASS
			MCH	RB1#0	21.80	20.75	38.45	PASS
				RB1#2	21.94	20.93	38.45	PASS
				RB1#5	21.85	20.82	38.45	PASS
				RB3#0	21.64	20.59	38.45	PASS
				RB3#2	21.64	20.59	38.45	PASS
				RB3#3	21.66	20.65	38.45	PASS
				RB6#0	20.70	19.66	38.45	PASS
			HCH	RB1#0	21.67	20.66	38.45	PASS
				RB1#2	21.72	20.71	38.45	PASS
				RB1#5	21.67	20.66	38.45	PASS
				RB3#0	21.51	20.47	38.45	PASS
				RB3#2	21.46	20.44	38.45	PASS
				RB3#3	21.50	20.49	38.45	PASS
				RB6#0	20.58	19.56	38.45	PASS



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BAND12	LTE/TM1	3M	LCH	RB1#0	22.49	21.48	38.45	PASS
				RB1#7	22.56	21.55	38.45	PASS
				RB1#14	22.48	21.47	38.45	PASS
				RB8#0	21.54	20.51	38.45	PASS
				RB8#4	21.54	20.53	38.45	PASS
				RB8#7	21.55	20.53	38.45	PASS
				RB15#0	21.53	20.53	38.45	PASS
			MCH	RB1#0	22.52	21.49	38.45	PASS
				RB1#7	22.63	21.58	38.45	PASS
				RB1#14	22.61	21.57	38.45	PASS
				RB8#0	21.61	20.59	38.45	PASS
				RB8#4	21.64	20.63	38.45	PASS
				RB8#7	21.66	20.64	38.45	PASS
				RB15#0	21.60	20.56	38.45	PASS
			HCH	RB1#0	22.56	21.54	38.45	PASS
				RB1#7	22.55	21.50	38.45	PASS
				RB1#14	22.46	21.41	38.45	PASS
				RB8#0	21.60	20.58	38.45	PASS
				RB8#4	21.58	20.56	38.45	PASS
				RB8#7	21.56	20.54	38.45	PASS
				RB15#0	21.55	20.52	38.45	PASS



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BAND12	LTE/TM2	3M	LCH	RB1#0	21.70	20.67	38.45	PASS
				RB1#7	21.74	20.73	38.45	PASS
				RB1#14	21.66	20.62	38.45	PASS
				RB8#0	20.62	19.58	38.45	PASS
				RB8#4	20.59	19.59	38.45	PASS
				RB8#7	20.62	19.60	38.45	PASS
				RB15#0	20.56	19.55	38.45	PASS
			MCH	RB1#0	21.77	20.74	38.45	PASS
				RB1#7	21.89	20.86	38.45	PASS
				RB1#14	21.86	20.83	38.45	PASS
				RB8#0	20.70	19.69	38.45	PASS
				RB8#4	20.73	19.70	38.45	PASS
				RB8#7	20.73	19.68	38.45	PASS
				RB15#0	20.64	19.60	38.45	PASS
			HCH	RB1#0	21.71	20.66	38.45	PASS
				RB1#7	21.73	20.72	38.45	PASS
				RB1#14	21.69	20.68	38.45	PASS
				RB8#0	20.65	19.64	38.45	PASS
				RB8#4	20.63	19.61	38.45	PASS
				RB8#7	20.62	19.57	38.45	PASS
				RB15#0	20.58	19.54	38.45	PASS



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BAND12	LTE/TM1	5M	LCH	RB1#0	22.57	21.55	38.45	PASS
				RB1#13	22.57	21.57	38.45	PASS
				RB1#24	22.56	21.54	38.45	PASS
				RB12#0	21.59	20.58	38.45	PASS
				RB12#6	21.60	20.56	38.45	PASS
				RB12#13	21.59	20.58	38.45	PASS
				RB25#0	21.54	20.50	38.45	PASS
			MCH	RB1#0	22.60	21.59	38.45	PASS
				RB1#13	22.69	21.65	38.45	PASS
				RB1#24	22.64	21.63	38.45	PASS
				RB12#0	21.71	20.69	38.45	PASS
				RB12#6	21.83	20.80	38.45	PASS
				RB12#13	21.72	20.70	38.45	PASS
				RB25#0	21.84	20.83	38.45	PASS
			HCH	RB1#0	22.66	21.62	38.45	PASS
				RB1#13	22.60	21.55	38.45	PASS
				RB1#24	22.45	21.44	38.45	PASS
				RB12#0	21.64	20.60	38.45	PASS
				RB12#6	21.61	20.60	38.45	PASS
				RB12#13	21.56	20.52	38.45	PASS
				RB25#0	21.57	20.53	38.45	PASS



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BAND12	LTE/TM2	5M	LCH	RB1#0	21.76	20.74	38.45	PASS
				RB1#13	21.74	20.71	38.45	PASS
				RB1#24	21.76	20.73	38.45	PASS
				RB12#0	20.59	19.59	38.45	PASS
				RB12#6	20.59	19.57	38.45	PASS
				RB12#13	20.60	19.60	38.45	PASS
				RB25#0	20.54	19.50	38.45	PASS
			MCH	RB1#0	21.85	20.82	38.45	PASS
				RB1#13	21.88	20.85	38.45	PASS
				RB1#24	21.83	20.80	38.45	PASS
				RB12#0	20.66	19.62	38.45	PASS
				RB12#6	20.69	19.66	38.45	PASS
				RB12#13	20.72	19.72	38.45	PASS
				RB25#0	20.65	19.64	38.45	PASS
			HCH	RB1#0	21.80	20.78	38.45	PASS
				RB1#13	21.75	20.72	38.45	PASS
				RB1#24	21.66	20.62	38.45	PASS
				RB12#0	20.62	19.61	38.45	PASS
				RB12#6	20.58	19.57	38.45	PASS
				RB12#13	20.55	19.51	38.45	PASS
				RB25#0	20.56	19.51	38.45	PASS





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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND12	LTE/TM1	10M	LCH	RB1#0	22.75	21.70	38.45	PASS
				RB1#25	22.61	21.60	38.45	PASS
				RB1#49	22.72	21.72	38.45	PASS
				RB25#0	21.71	20.70	38.45	PASS
				RB25#13	21.61	20.57	38.45	PASS
				RB25#25	21.55	20.54	38.45	PASS
				RB50#0	21.68	20.64	38.45	PASS
			MCH	RB1#0	22.72	21.69	38.45	PASS
				RB1#25	22.58	21.55	38.45	PASS
				RB1#49	22.57	21.52	38.45	PASS
				RB25#0	21.66	20.64	38.45	PASS
				RB25#13	21.65	20.64	38.45	PASS
				RB25#25	21.64	20.62	38.45	PASS
				RB50#0	21.63	20.59	38.45	PASS
			HCH	RB1#0	22.69	21.66	38.45	PASS
				RB1#25	22.61	21.59	38.45	PASS
				RB1#49	22.55	21.50	38.45	PASS
				RB25#0	21.67	20.62	38.45	PASS
				RB25#13	21.64	20.60	38.45	PASS
				RB25#25	21.65	20.63	38.45	PASS
				RB50#0	21.67	20.64	38.45	PASS



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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND12	LTE/TM2	10M	LCH	RB1#0	21.80	20.75	38.45	PASS
				RB1#25	21.86	20.82	38.45	PASS
				RB1#49	21.98	20.95	38.45	PASS
				RB25#0	20.54	19.53	38.45	PASS
				RB25#13	20.60	19.56	38.45	PASS
				RB25#25	20.65	19.61	38.45	PASS
				RB50#0	20.64	19.64	38.45	PASS
			MCH	RB1#0	21.77	20.74	38.45	PASS
				RB1#25	21.95	20.90	38.45	PASS
				RB1#49	21.91	20.87	38.45	PASS
				RB25#0	20.63	19.58	38.45	PASS
				RB25#13	20.66	19.66	38.45	PASS
				RB25#25	20.73	19.70	38.45	PASS
				RB50#0	20.68	19.66	38.45	PASS
			HCH	RB1#0	21.86	20.85	38.45	PASS
				RB1#25	21.89	20.84	38.45	PASS
				RB1#49	21.75	20.70	38.45	PASS
				RB25#0	20.67	19.64	38.45	PASS
				RB25#13	20.67	19.66	38.45	PASS
				RB25#25	20.64	19.61	38.45	PASS
				RB50#0	20.67	19.63	38.45	PASS



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**Secondary Supply:**

Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND12	LTE/TM1	1.4M	LCH	RB1#0	22.05	18.83	38.45	PASS
				RB1#2	22.12	18.87	38.45	PASS
				RB1#5	22.05	18.83	38.45	PASS
				RB3#0	22.27	19.03	38.45	PASS
				RB3#2	22.22	19.00	38.45	PASS
				RB3#3	22.14	18.92	38.45	PASS
				RB6#0	21.13	17.91	38.45	PASS
			MCH	RB1#0	22.14	18.92	38.45	PASS
				RB1#2	22.13	18.92	38.45	PASS
				RB1#5	22.07	18.87	38.45	PASS
				RB3#0	22.23	19.01	38.45	PASS
				RB3#2	21.98	18.76	38.45	PASS
				RB3#3	22.10	18.88	38.45	PASS
				RB6#0	21.18	17.96	38.45	PASS
			HCH	RB1#0	22.13	18.89	38.45	PASS
				RB1#2	22.11	18.86	38.45	PASS
				RB1#5	21.98	18.73	38.45	PASS
				RB3#0	22.18	18.95	38.45	PASS
				RB3#2	22.12	18.90	38.45	PASS
				RB3#3	22.15	18.90	38.45	PASS
				RB6#0	21.02	17.77	38.45	PASS



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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND12	LTE/TM2	1.4M	LCH	RB1#0	21.31	18.08	38.45	PASS
				RB1#2	21.36	18.15	38.45	PASS
				RB1#5	21.28	18.07	38.45	PASS
				RB3#0	21.14	17.93	38.45	PASS
				RB3#2	21.10	17.88	38.45	PASS
				RB3#3	21.10	17.87	38.45	PASS
				RB6#0	20.17	16.92	38.45	PASS
			MCH	RB1#0	21.29	18.05	38.45	PASS
				RB1#2	21.38	18.13	38.45	PASS
				RB1#5	21.31	18.08	38.45	PASS
				RB3#0	21.13	17.91	38.45	PASS
				RB3#2	21.10	17.89	38.45	PASS
				RB3#3	21.12	17.88	38.45	PASS
				RB6#0	20.17	16.92	38.45	PASS
			HCH	RB1#0	21.24	18.00	38.45	PASS
				RB1#2	21.33	18.12	38.45	PASS
				RB1#5	21.27	18.04	38.45	PASS
				RB3#0	21.11	17.89	38.45	PASS
				RB3#2	21.08	17.87	38.45	PASS
				RB3#3	21.12	17.88	38.45	PASS
				RB6#0	20.18	16.97	38.45	PASS



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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND12	LTE/TM1	3M	LCH	RB1#0	22.06	18.84	38.45	PASS
				RB1#7	22.05	18.83	38.45	PASS
				RB1#14	22.03	18.78	38.45	PASS
				RB8#0	21.14	17.93	38.45	PASS
				RB8#4	21.13	17.92	38.45	PASS
				RB8#7	21.12	17.89	38.45	PASS
				RB15#0	21.13	17.89	38.45	PASS
			MCH	RB1#0	21.99	18.78	38.45	PASS
				RB1#7	22.14	18.91	38.45	PASS
				RB1#14	22.07	18.84	38.45	PASS
				RB8#0	21.21	18.01	38.45	PASS
				RB8#4	21.14	17.92	38.45	PASS
				RB8#7	21.18	17.96	38.45	PASS
				RB15#0	21.12	17.90	38.45	PASS
			HCH	RB1#0	22.01	18.80	38.45	PASS
				RB1#7	22.06	18.85	38.45	PASS
				RB1#14	21.98	18.76	38.45	PASS
				RB8#0	21.21	18.01	38.45	PASS
				RB8#4	21.14	17.91	38.45	PASS
				RB8#7	21.18	17.96	38.45	PASS
				RB15#0	21.20	18.00	38.45	PASS



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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND12	LTE/TM2	3M	LCH	RB1#0	21.23	18.01	38.45	PASS
				RB1#7	21.29	18.04	38.45	PASS
				RB1#14	21.18	17.94	38.45	PASS
				RB8#0	20.16	16.94	38.45	PASS
				RB8#4	20.14	16.90	38.45	PASS
				RB8#7	20.12	16.92	38.45	PASS
				RB15#0	20.09	16.87	38.45	PASS
			MCH	RB1#0	21.23	18.00	38.45	PASS
				RB1#7	21.26	18.02	38.45	PASS
				RB1#14	21.27	18.05	38.45	PASS
				RB8#0	20.15	16.92	38.45	PASS
				RB8#4	20.16	16.92	38.45	PASS
				RB8#7	20.16	16.94	38.45	PASS
				RB15#0	20.11	16.88	38.45	PASS
			HCH	RB1#0	21.20	17.97	38.45	PASS
				RB1#7	21.23	18.01	38.45	PASS
				RB1#14	21.18	17.96	38.45	PASS
				RB8#0	20.14	16.91	38.45	PASS
				RB8#4	20.14	16.91	38.45	PASS
				RB8#7	20.14	16.91	38.45	PASS
				RB15#0	20.12	16.88	38.45	PASS



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BAND12	LTE/TM1	5M	LCH	RB1#0	22.03	18.79	38.45	PASS
				RB1#13	22.02	18.80	38.45	PASS
				RB1#24	21.98	18.73	38.45	PASS
				RB12#0	21.09	17.87	38.45	PASS
				RB12#6	21.09	17.88	38.45	PASS
				RB12#13	21.09	17.86	38.45	PASS
				RB25#0	21.06	17.83	38.45	PASS
			MCH	RB1#0	22.01	18.77	38.45	PASS
				RB1#13	22.06	18.85	38.45	PASS
				RB1#24	22.01	18.80	38.45	PASS
				RB12#0	21.12	17.91	38.45	PASS
				RB12#6	21.13	17.90	38.45	PASS
				RB12#13	20.99	17.75	38.45	PASS
				RB25#0	21.06	17.82	38.45	PASS
			HCH	RB1#0	22.09	18.88	38.45	PASS
				RB1#13	22.08	18.84	38.45	PASS
				RB1#24	22.00	18.75	38.45	PASS
				RB12#0	21.18	17.98	38.45	PASS
				RB12#6	21.11	17.87	38.45	PASS
				RB12#13	21.11	17.87	38.45	PASS
				RB25#0	20.91	17.67	38.45	PASS



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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND12	LTE/TM2	5M	LCH	RB1#0	21.29	18.06	38.45	PASS
				RB1#13	21.21	18.00	38.45	PASS
				RB1#24	21.22	18.01	38.45	PASS
				RB12#0	20.06	16.81	38.45	PASS
				RB12#6	20.06	16.81	38.45	PASS
				RB12#13	20.02	16.78	38.45	PASS
				RB25#0	19.88	16.67	38.45	PASS
			MCH	RB1#0	21.23	18.01	38.45	PASS
				RB1#13	21.38	18.17	38.45	PASS
				RB1#24	21.34	18.09	38.45	PASS
				RB12#0	20.15	16.92	38.45	PASS
				RB12#6	20.21	17.00	38.45	PASS
				RB12#13	20.33	17.12	38.45	PASS
				RB25#0	20.27	17.07	38.45	PASS
			HCH	RB1#0	21.33	18.09	38.45	PASS
				RB1#13	21.33	18.10	38.45	PASS
				RB1#24	21.21	17.98	38.45	PASS
				RB12#0	20.22	17.02	38.45	PASS
				RB12#6	20.18	16.96	38.45	PASS
				RB12#13	20.19	16.95	38.45	PASS
				RB25#0	20.16	16.94	38.45	PASS





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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND12	LTE/TM1	10M	LCH	RB1#0	22.03	18.83	38.45	PASS
				RB1#25	22.05	18.80	38.45	PASS
				RB1#49	22.11	18.87	38.45	PASS
				RB25#0	21.07	17.86	38.45	PASS
				RB25#13	21.11	17.88	38.45	PASS
				RB25#25	21.13	17.89	38.45	PASS
				RB50#0	21.12	17.90	38.45	PASS
			MCH	RB1#0	22.01	18.78	38.45	PASS
				RB1#25	22.10	18.89	38.45	PASS
				RB1#49	<b>22.12</b>	18.87	38.45	PASS
				RB25#0	21.11	17.89	38.45	PASS
				RB25#13	21.15	17.93	38.45	PASS
				RB25#25	21.15	17.91	38.45	PASS
				RB50#0	21.15	17.93	38.45	PASS
			HCH	RB1#0	22.06	18.83	38.45	PASS
				RB1#25	22.11	18.90	38.45	PASS
				RB1#49	22.10	18.87	38.45	PASS
				RB25#0	21.13	17.88	38.45	PASS
				RB25#13	21.17	17.95	38.45	PASS
				RB25#25	<b>21.20</b>	17.95	38.45	PASS
				RB50#0	<b>21.18</b>	17.96	38.45	PASS



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Test Band(LTE)	Test Mode	Test Bandwidth	Test channel	Test RB	Measured (dBm)	ERP (dBm)	limit (dBm)	Verdict
BAND12	LTE/TM2	10M	LCH	RB1#0	21.24	18.03	38.45	PASS
				RB1#25	21.21	18.00	38.45	PASS
				RB1#49	21.31	18.07	38.45	PASS
				RB25#0	20.01	16.80	38.45	PASS
				RB25#13	20.00	16.75	38.45	PASS
				RB25#25	20.05	16.84	38.45	PASS
				RB50#0	19.90	16.68	38.45	PASS
			MCH	RB1#0	21.09	17.85	38.45	PASS
				RB1#25	21.36	18.14	38.45	PASS
				RB1#49	21.39	18.17	38.45	PASS
				RB25#0	20.18	16.95	38.45	PASS
				RB25#13	20.18	16.98	38.45	PASS
				RB25#25	20.15	16.94	38.45	PASS
				RB50#0	20.15	16.90	38.45	PASS
			HCH	RB1#0	21.45	18.24	38.45	PASS
				RB1#25	21.37	18.15	38.45	PASS
				RB1#49	21.32	18.08	38.45	PASS
				RB25#0	20.21	17.01	38.45	PASS
				RB25#13	20.14	16.90	38.45	PASS
				RB25#25	20.18	16.94	38.45	PASS
				RB50#0	20.27	17.05	38.45	PASS

**Note:**

a: For getting the ERP (Efficient Radiated Power) in substitution method, the following formula should be taken to calculate it,

$$ERP [dBm] = SGP [dBm] - Cable Loss [dB] + Gain [dBd]$$

b: SGP=Signal Generator Level

c: RBW > emission bandwidth, VBW > 3 x RBW.

Detector: RMS



## 2 Peak-to-Average Ratio

### Part I - Test Results

Test Band	Test Mode	Test Channel	Measured[dB]	Limit [dB]	Verdict
BAND12	TM1/10M	LCH	5.30	13	PASS
		MCH	4.90	13	PASS
		HCH	4.75	13	PASS
	TM2/10M	LCH	5.97	13	PASS
		MCH	5.74	13	PASS
		HCH	5.51	13	PASS



Part II - Test Plots

2.1 For LTE

2.1.1 Test Band = LTE band12

2.1.1.1 Test Mode = LTE/TM1.Bandwidth=10MHz

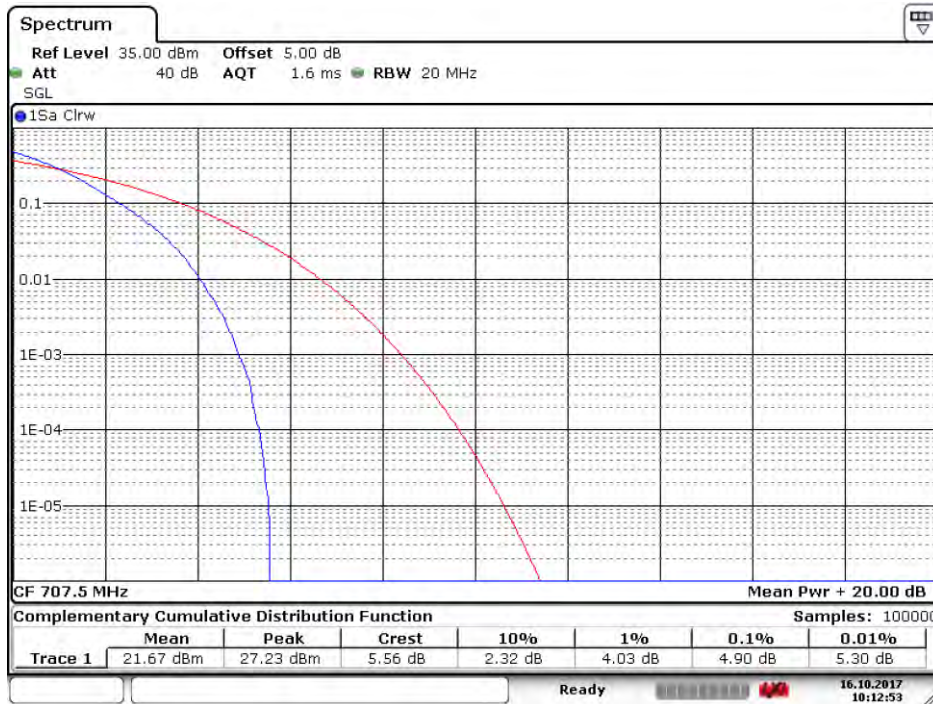
2.1.1.1.1 Test Channel = LCH



Date: 16.OCT.2017 10:09:06



2.1.1.1.2 Test Channel = MCH



Date: 16.OCT.2017 10:12:53

2.1.1.1.3 Test Channel = HCH

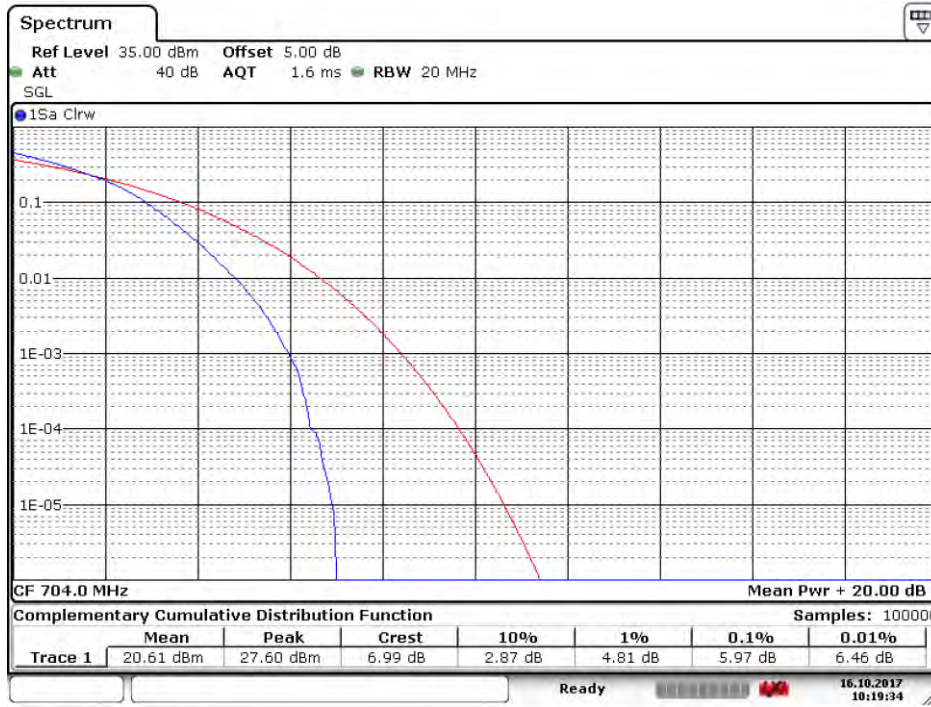


Date: 16.OCT.2017 10:18:26



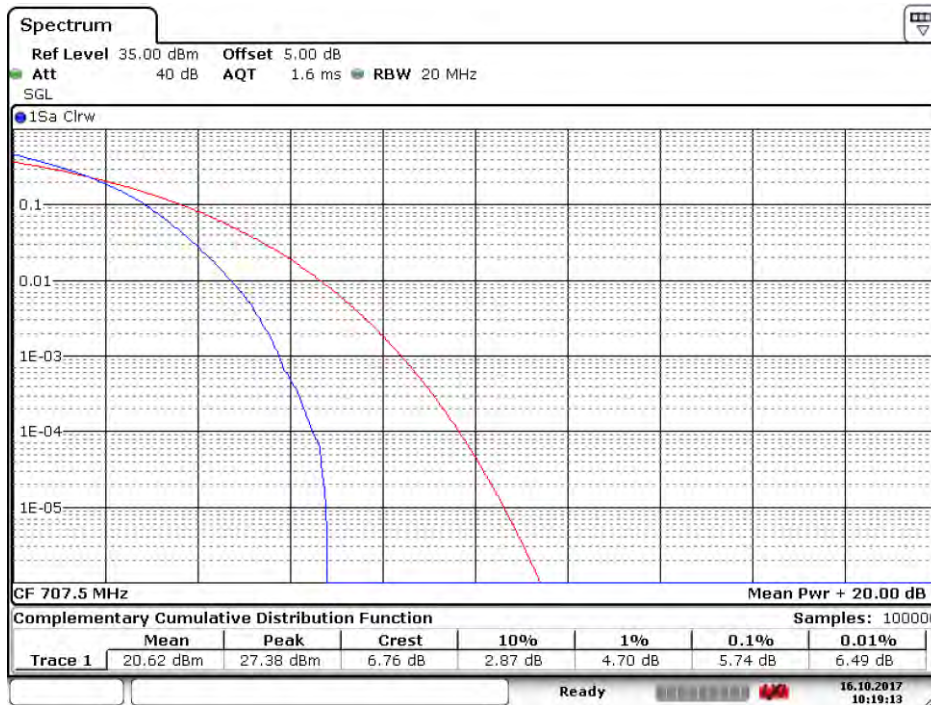
**2.1.1.2 Test Mode = LTE/TM2.Bandwidth=10MHz**

**2.1.1.2.1 Test Channel = LCH**



Date: 16.OCT.2017 10:19:34

**2.1.1.2.2 Test Channel = MCH**



Date: 16.OCT.2017 10:19:14



2.1.1.2.3 Test Channel = HCH



Date: 16.OCT.2017 10:18:46



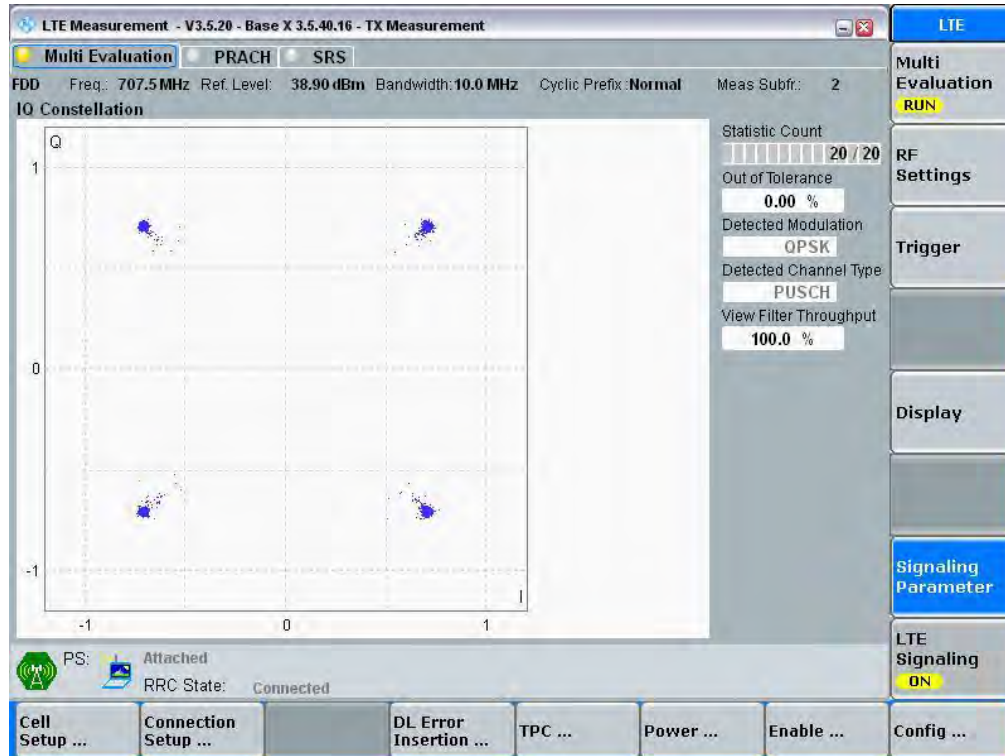
### 3 Modulation Characteristics

#### 3.1 For LTE

##### 3.1.1 Test Band = LTE band12

##### 3.1.1.1 Test Mode = LTE /TM1 10MHz

##### 3.1.1.1.1 Test Channel = MCH

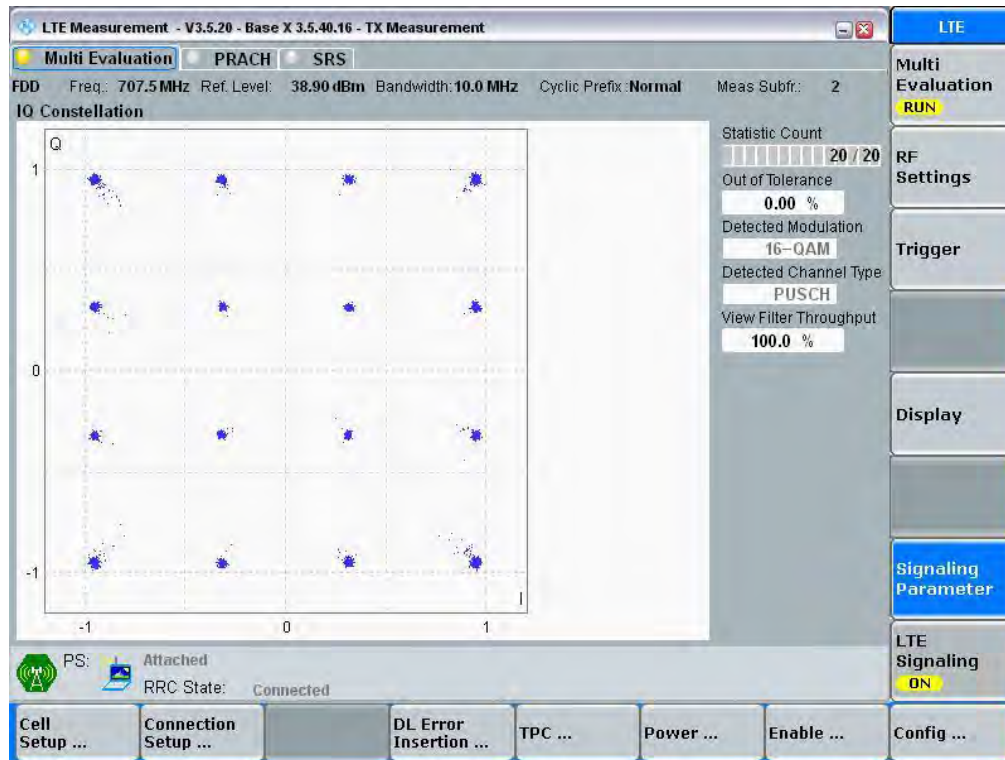






3.1.1.2 Test Mode = LTE /TM2 10MHz

3.1.1.2.1 Test Channel = MCH





## 4 Bandwidth

### Part I - Test Results

Test Band	Test Mode	Test Channel	Occupied Bandwidth [MHz]	Emission Bandwidth [MHz]	Verdict
BAND12	TM1/1.4MHz	LCH	1.10	1.29	PASS
		MCH	1.10	1.26	PASS
		HCH	1.10	1.28	PASS
	TM2/1.4MHz	LCH	1.09	1.26	PASS
		MCH	1.09	1.26	PASS
		HCH	1.10	1.28	PASS
	TM1/ 3MHz	LCH	2.69	2.91	PASS
		MCH	2.68	2.88	PASS
		HCH	2.69	2.94	PASS
	TM2/3MHz	LCH	2.68	2.92	PASS
		MCH	2.69	2.93	PASS
		HCH	2.69	2.93	PASS
	TM1/ 5MHz	LCH	4.50	4.97	PASS
		MCH	4.48	4.93	PASS
		HCH	4.50	4.98	PASS
	TM2/ 5MHz	LCH	4.49	4.94	PASS
		MCH	4.48	4.95	PASS
		HCH	4.49	4.97	PASS
	TM1/10MHz	LCH	8.97	9.69	PASS
		MCH	8.95	9.71	PASS
		HCH	8.93	9.79	PASS
TM2/ 10MHz	LCH	8.99	9.81	PASS	
	MCH	8.95	9.73	PASS	
	HCH	8.89	9.65	PASS	



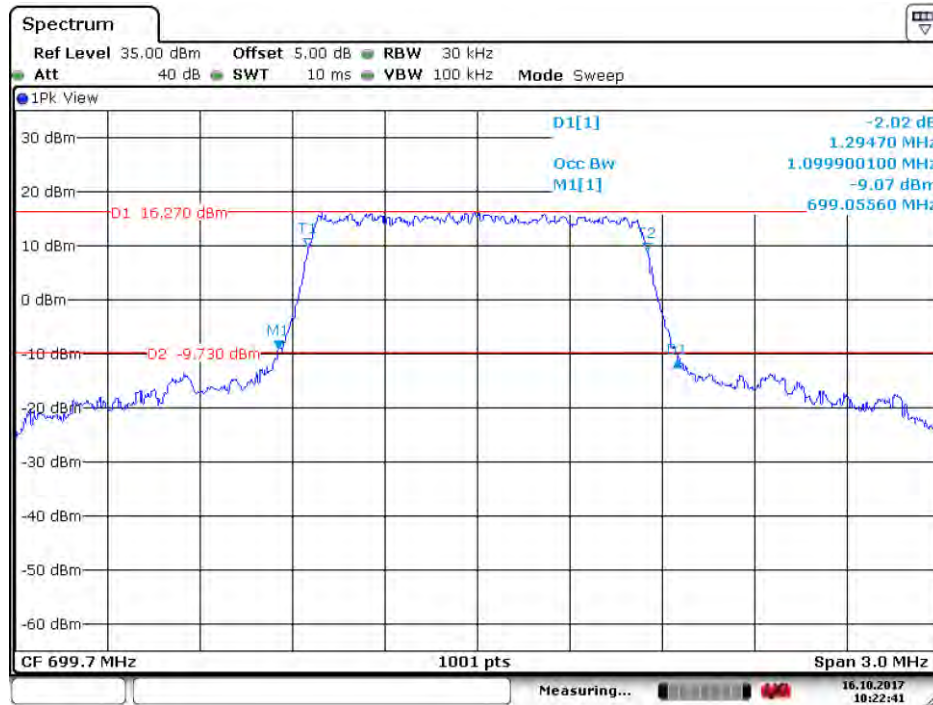
Part II –Test Plots

4.1 For LTE

4.1.1 Test Band = LTE band12

4.1.1.1 Test Mode = LTE/TM1 1.4MHz

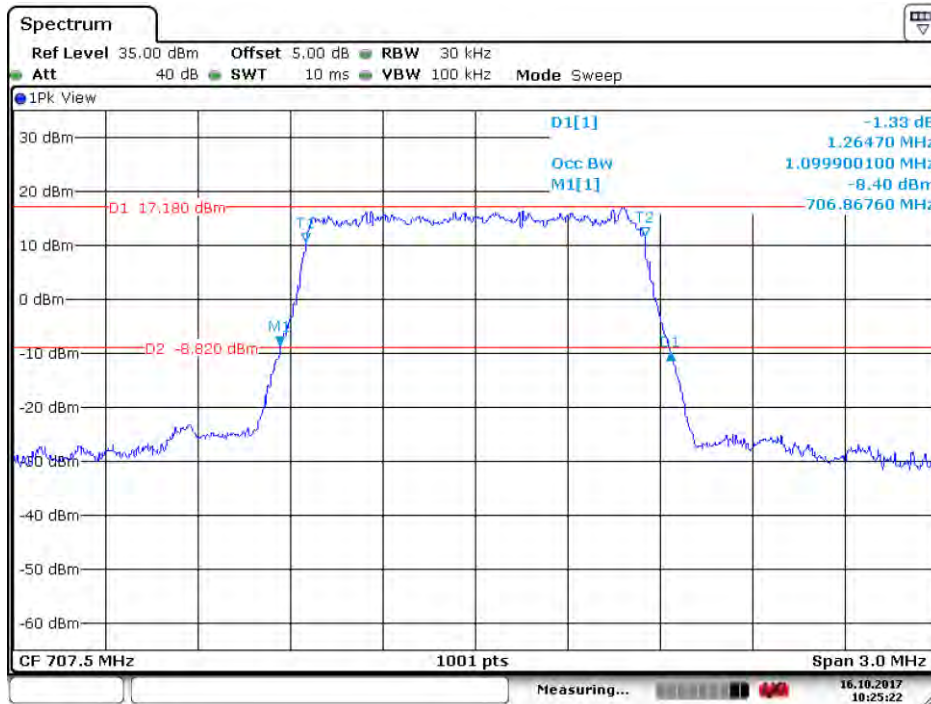
4.1.1.1.1 Test Channel = LCH



Date: 16.OCT.2017 10:22:42

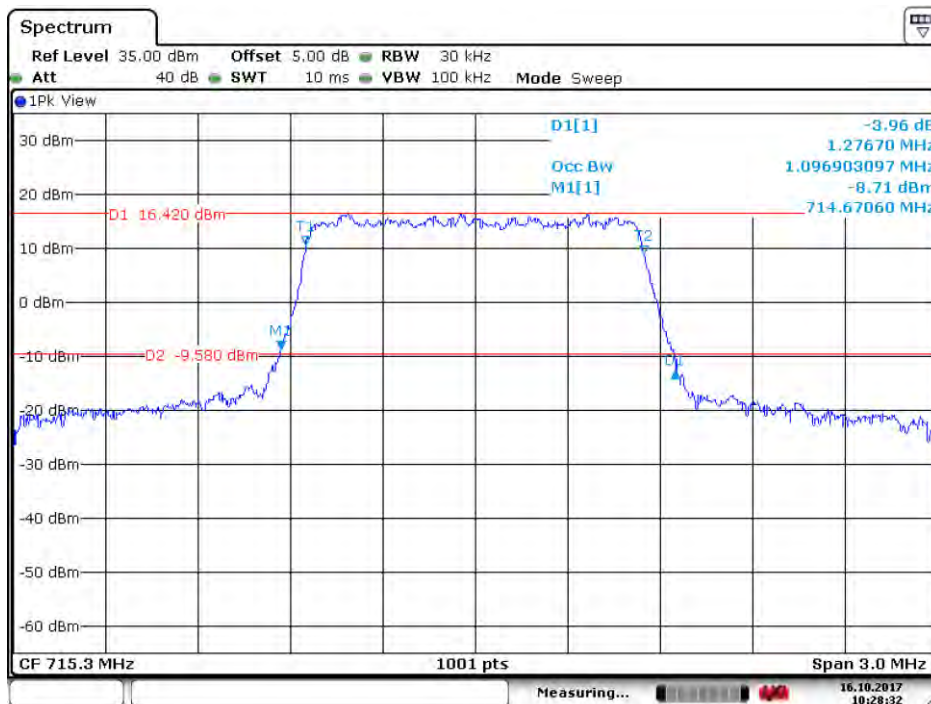


4.1.1.1.2 Test Channel = MCH



Date: 16.OCT.2017 10:25:22

4.1.1.1.3 Test Channel = HCH

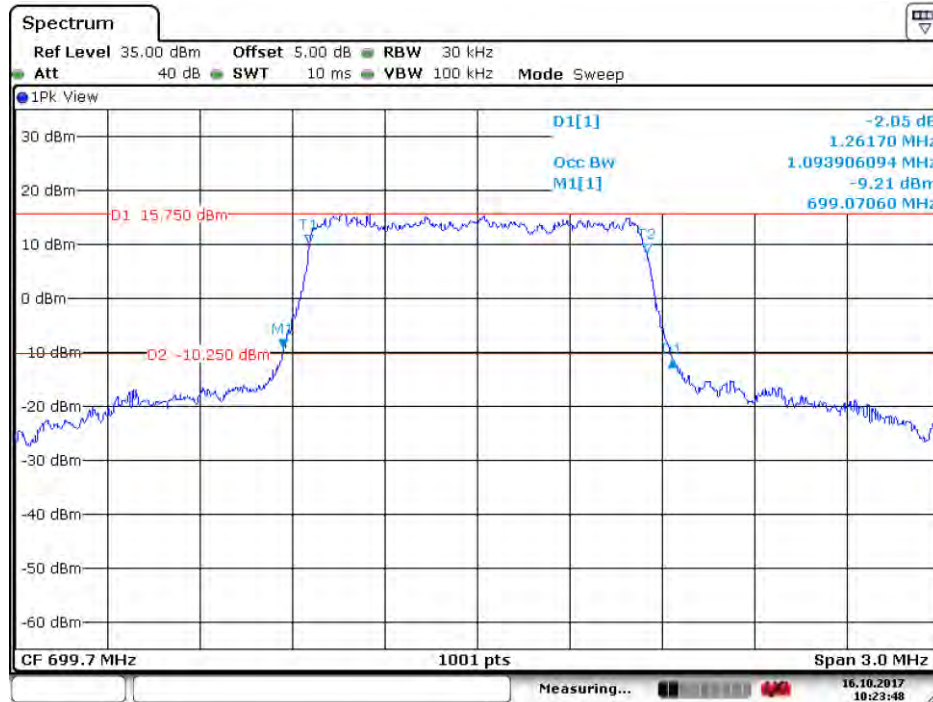


Date: 16.OCT.2017 10:28:33



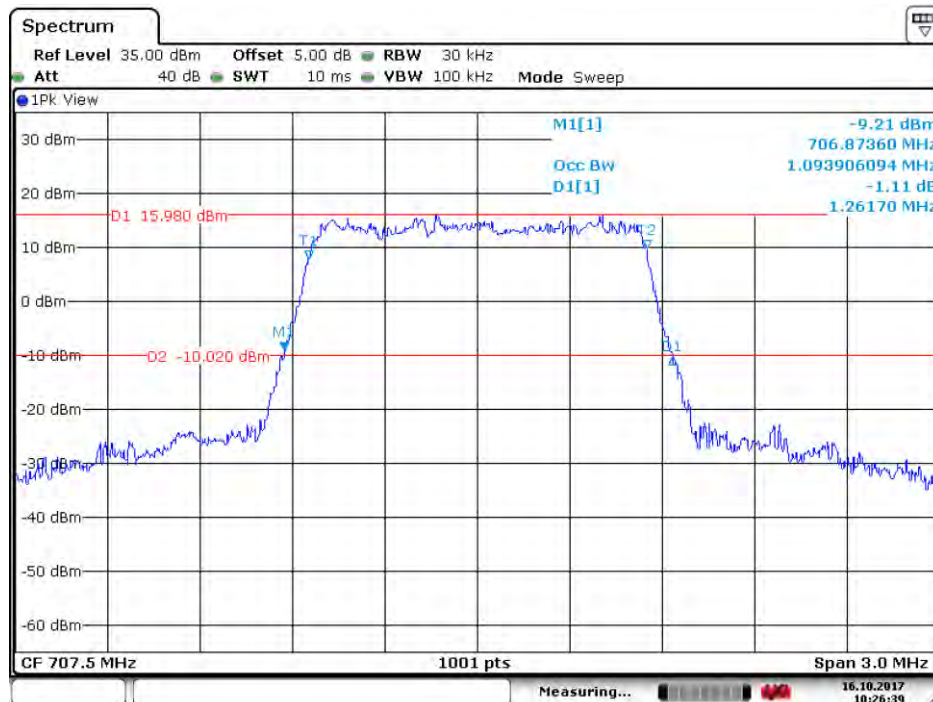
4.1.1.2 Test Mode = LTE/TM2 1.4MHz

4.1.1.2.1 Test Channel = LCH



Date: 16.OCT.2017 10:23:48

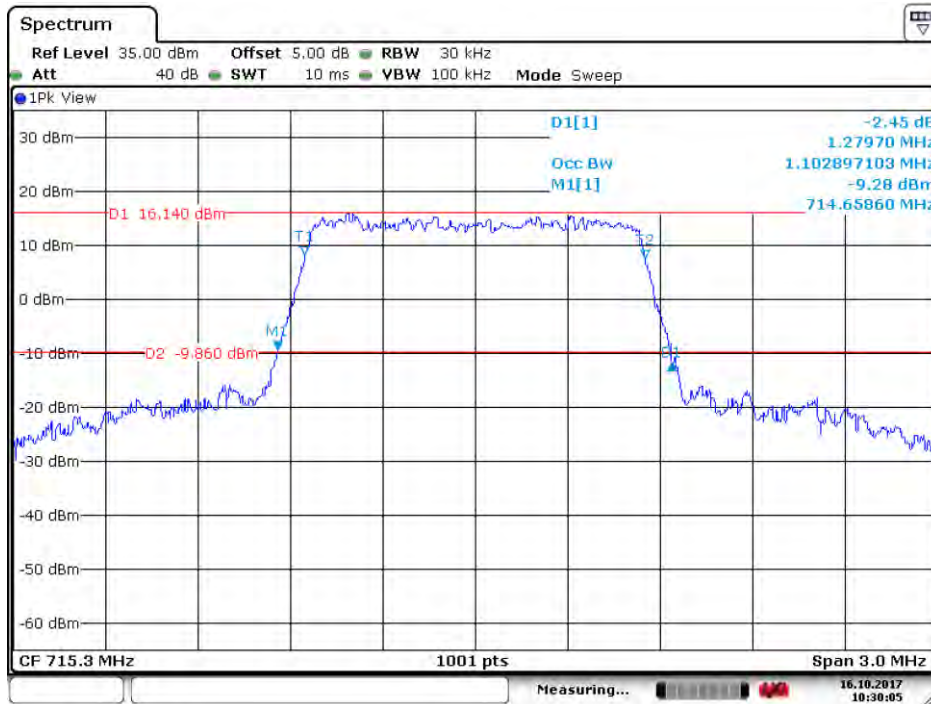
4.1.1.2.2 Test Channel = MCH



Date: 16.OCT.2017 10:26:38



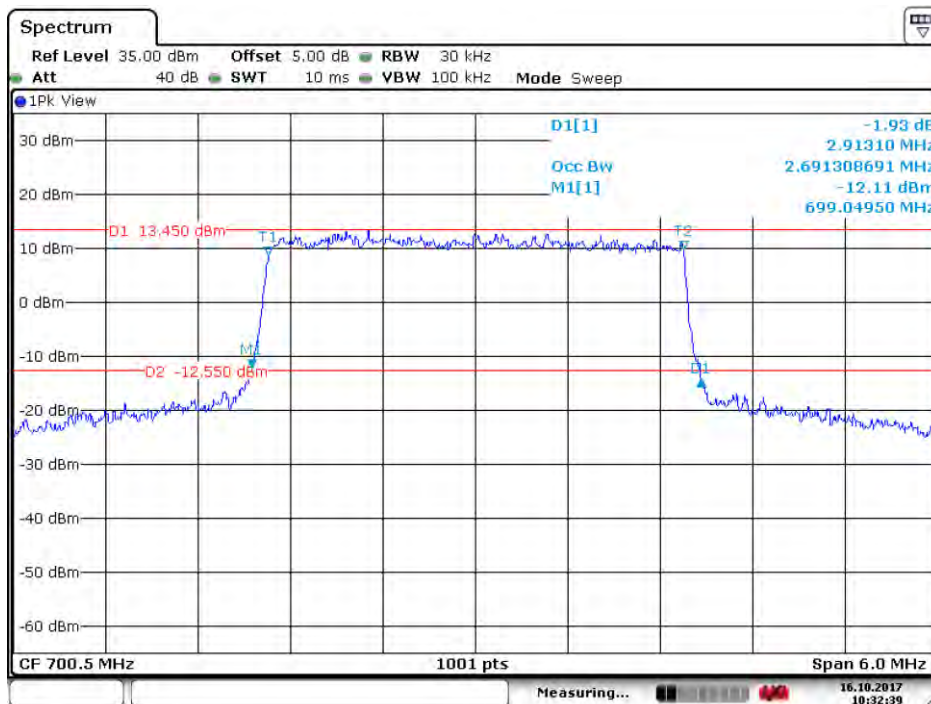
#### 4.1.1.2.3 Test Channel = HCH



Date: 16.OCT.2017 10:30:06

#### 4.1.1.3 Test Mode = LTE/TM1 3MHz

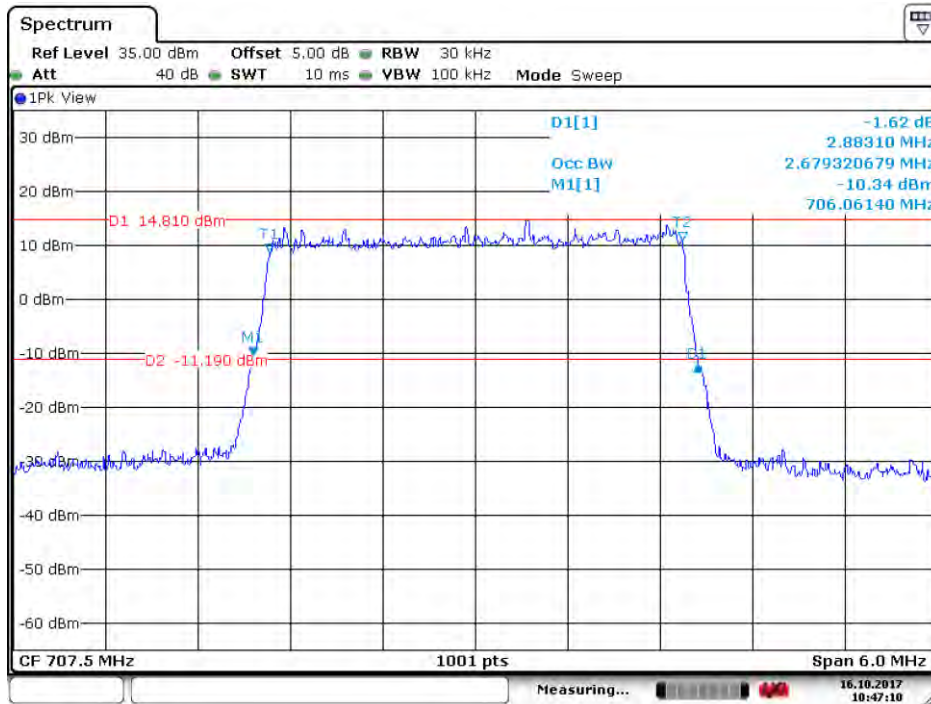
##### 4.1.1.3.1 Test Channel = LCH



Date: 16.OCT.2017 10:32:39

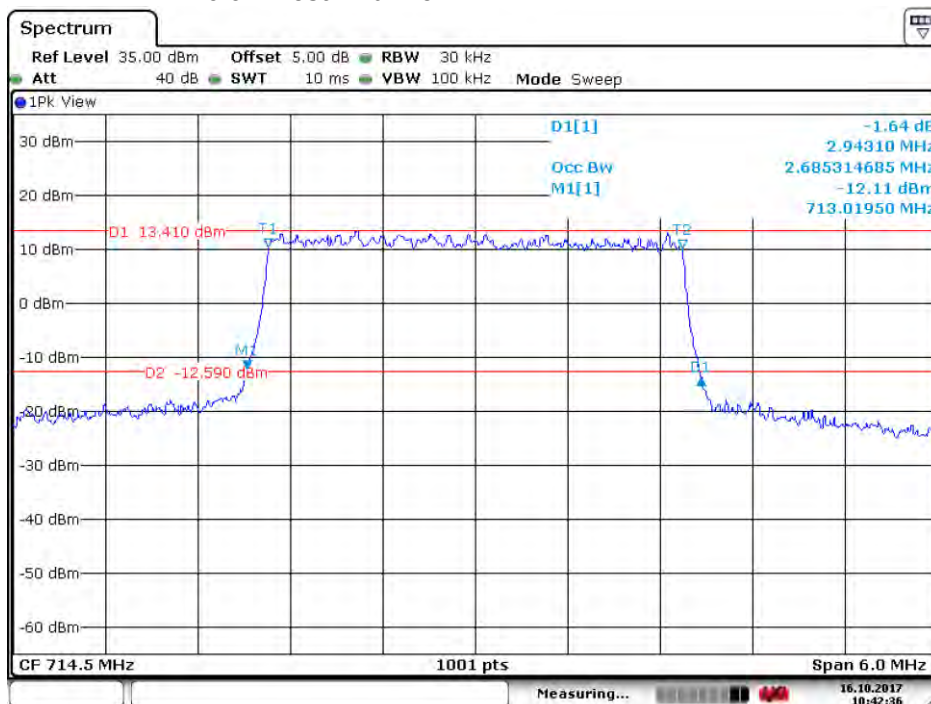


4.1.1.3.2 Test Channel = MCH



Date: 16.OCT.2017 10:47:10

4.1.1.3.3 Test Channel = HCH

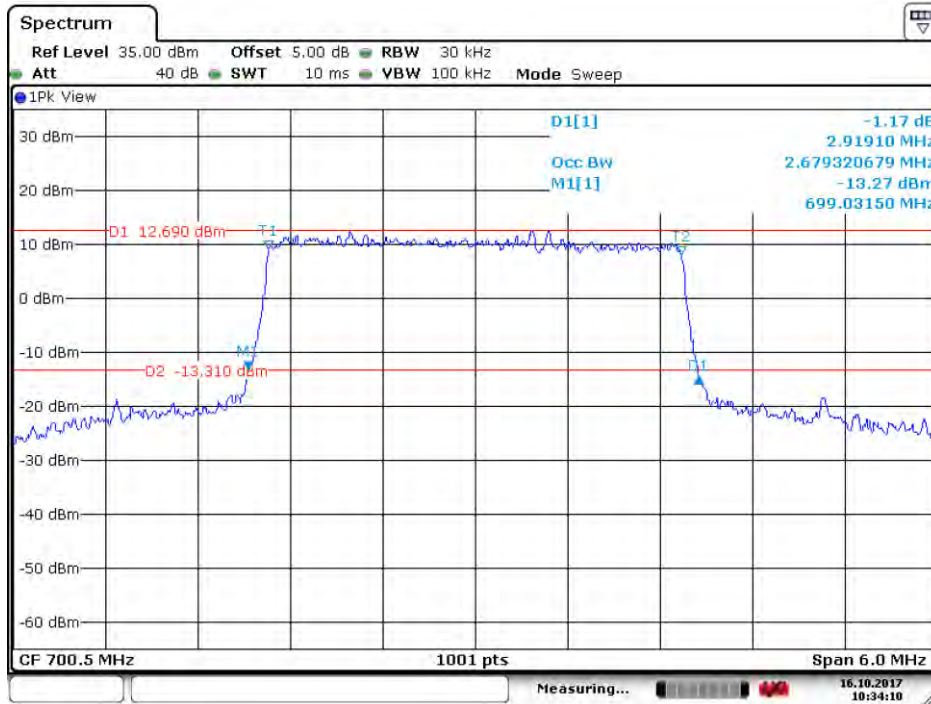


Date: 16.OCT.2017 10:42:37



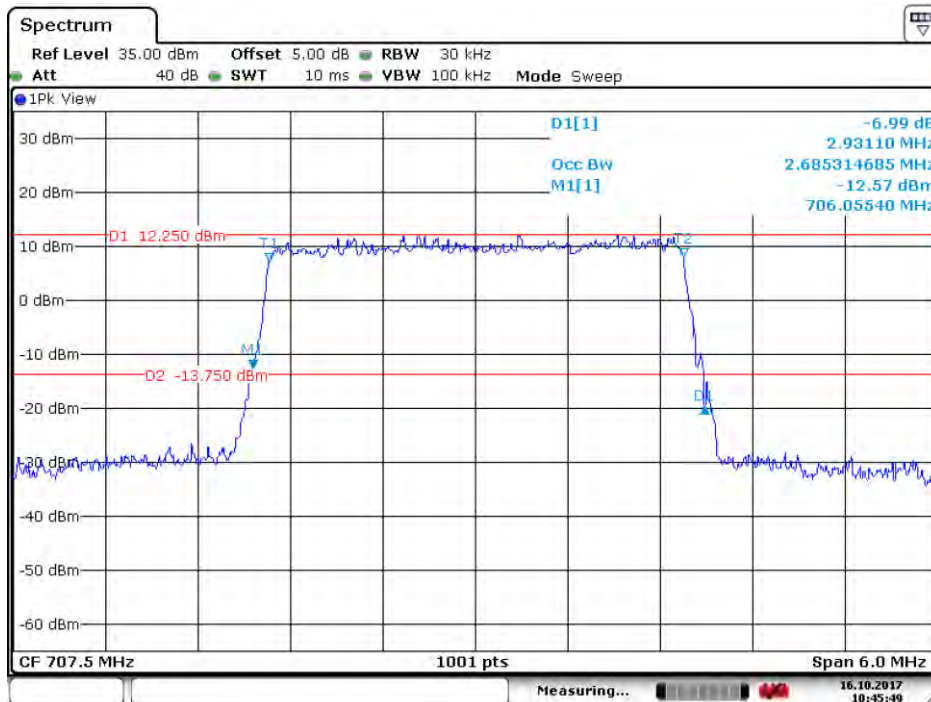
4.1.1.4 Test Mode = LTE/TM2 3MHz

4.1.1.4.1 Test Channel = LCH



Date: 16.OCT.2017 10:34:10

4.1.1.4.2 Test Channel = MCH

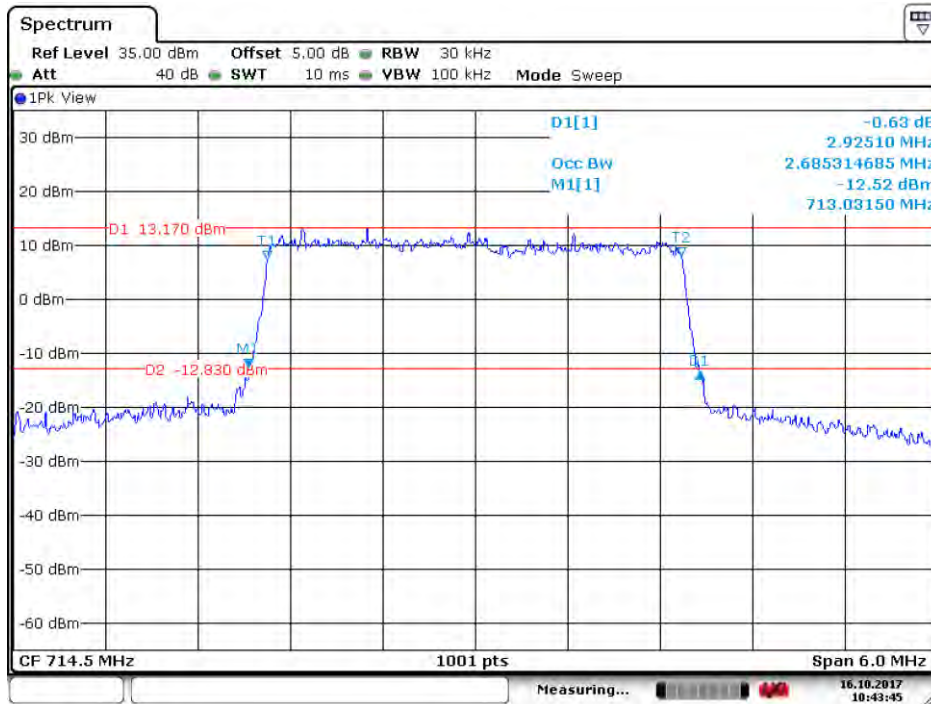


Date: 16.OCT.2017 10:45:50





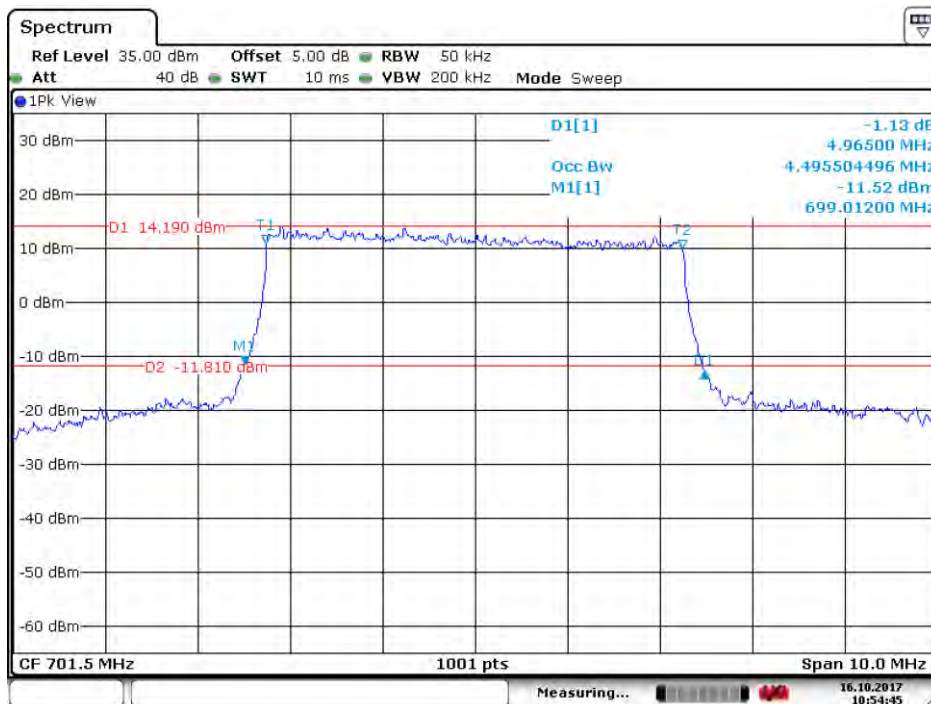
#### 4.1.1.4.3 Test Channel = HCH



Date: 16.OCT.2017 10:43:45

#### 4.1.1.5 Test Mode = LTE/TM1 5MHz

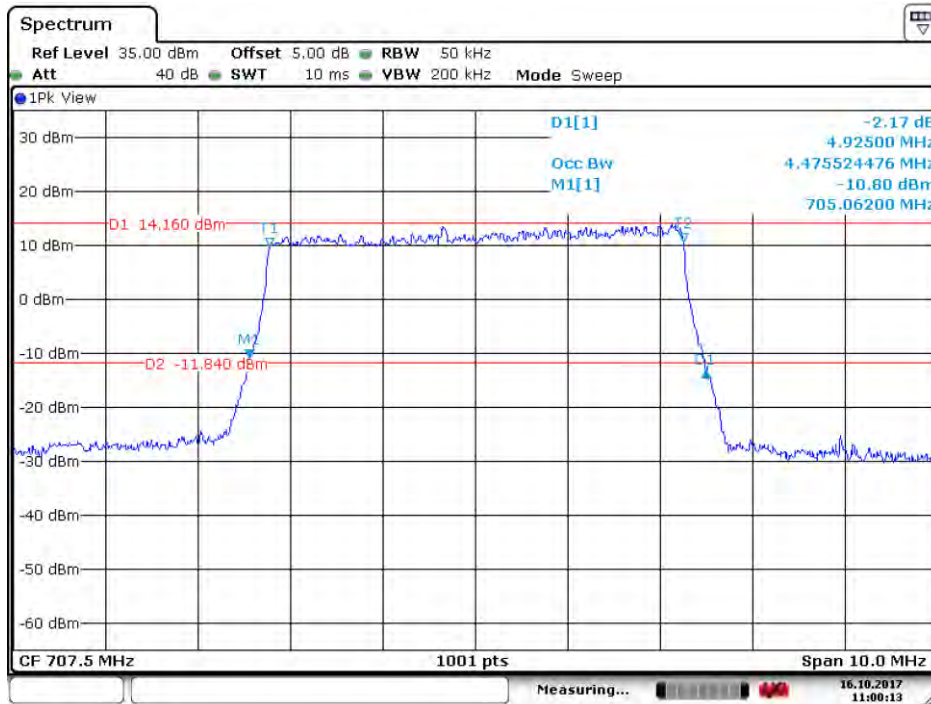
##### 4.1.1.5.1 Test Channel = LCH



Date: 16.OCT.2017 10:54:45

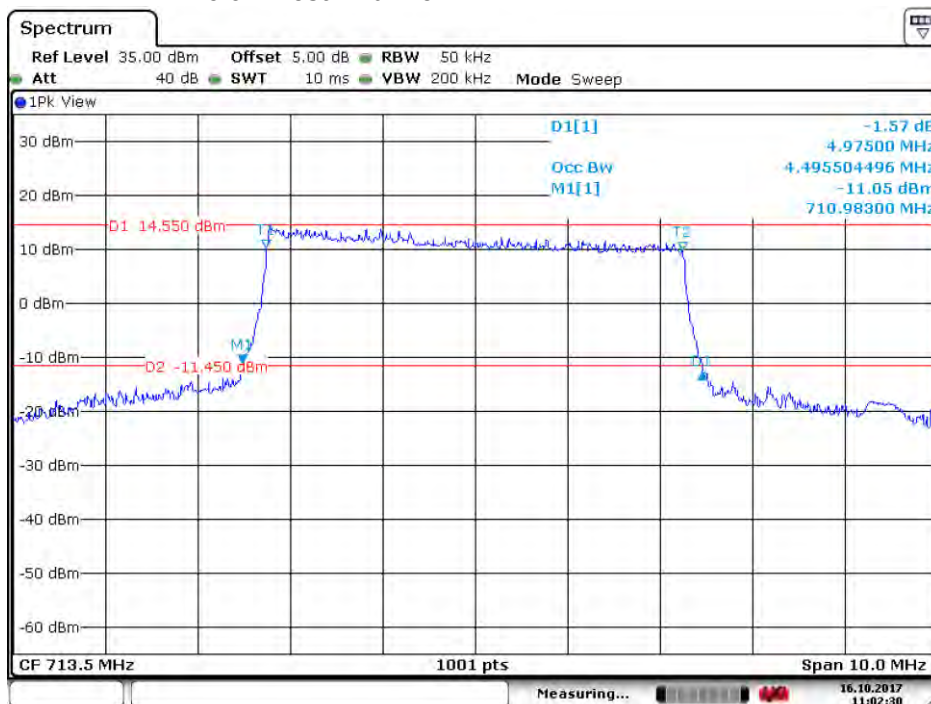


4.1.1.5.2 Test Channel = MCH



Date: 16.OCT.2017 11:00:13

4.1.1.5.3 Test Channel = HCH

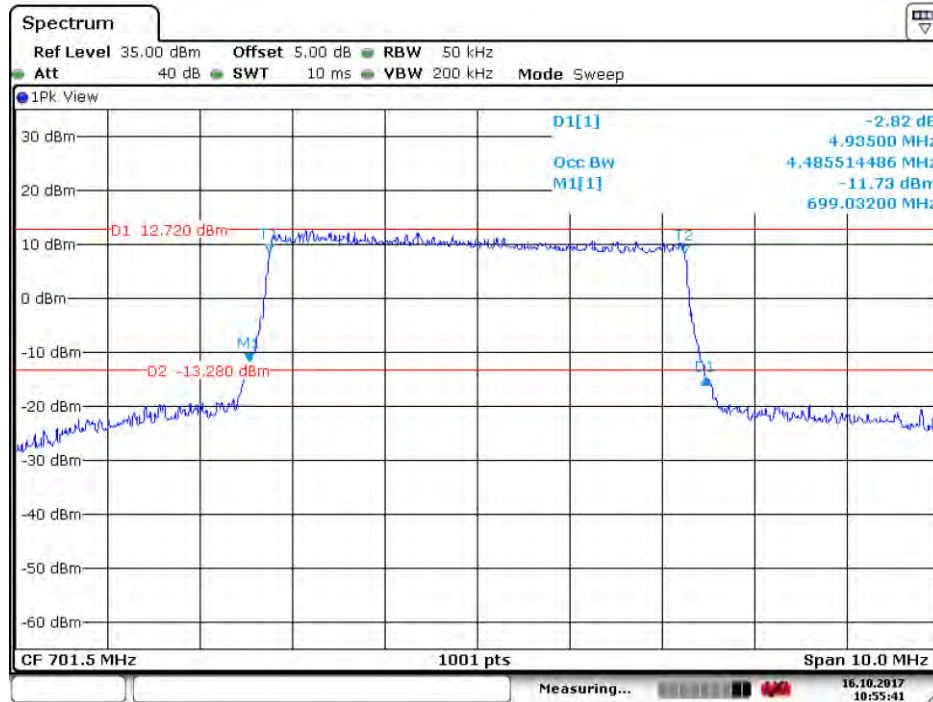


Date: 16.OCT.2017 11:02:30



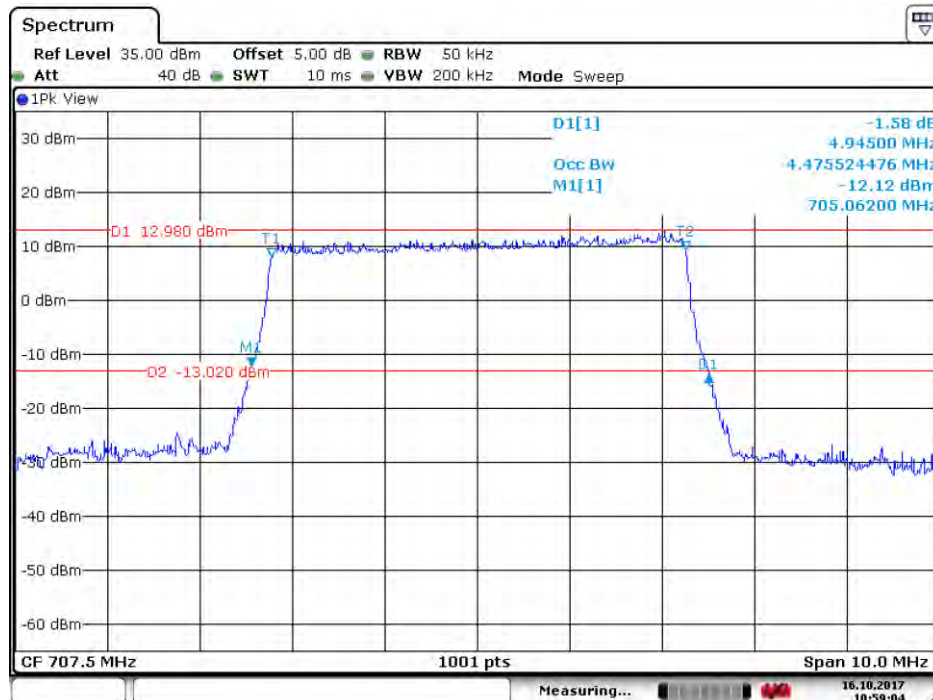
4.1.1.6 Test Mode = LTE/TM2 5MHz

4.1.1.6.1 Test Channel = LCH



Date: 16.OCT.2017 10:55:41

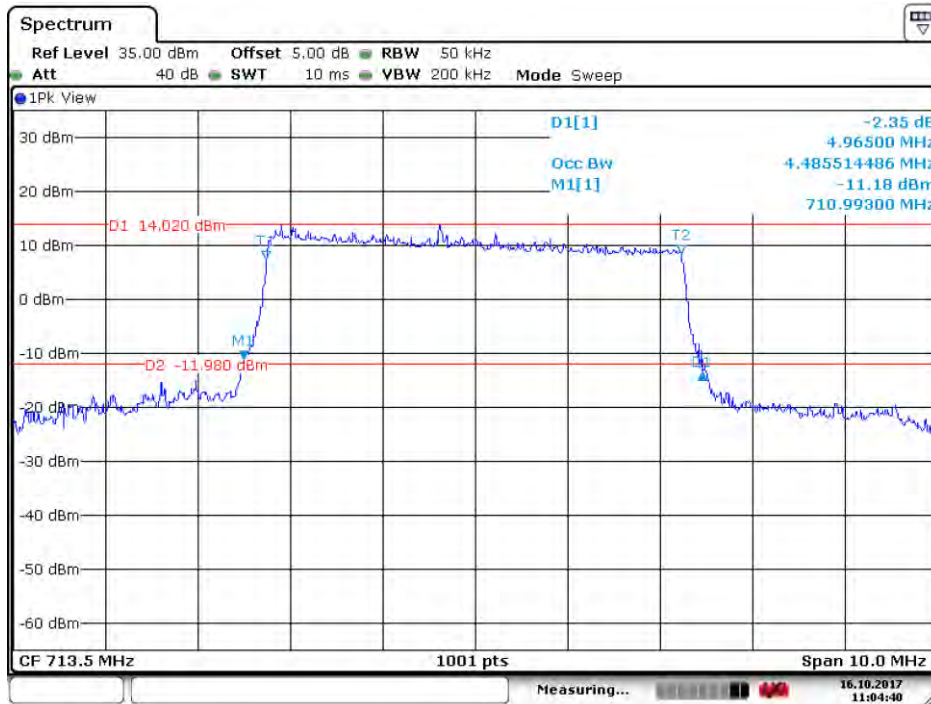
4.1.1.6.2 Test Channel = MCH



Date: 16.OCT.2017 10:59:04



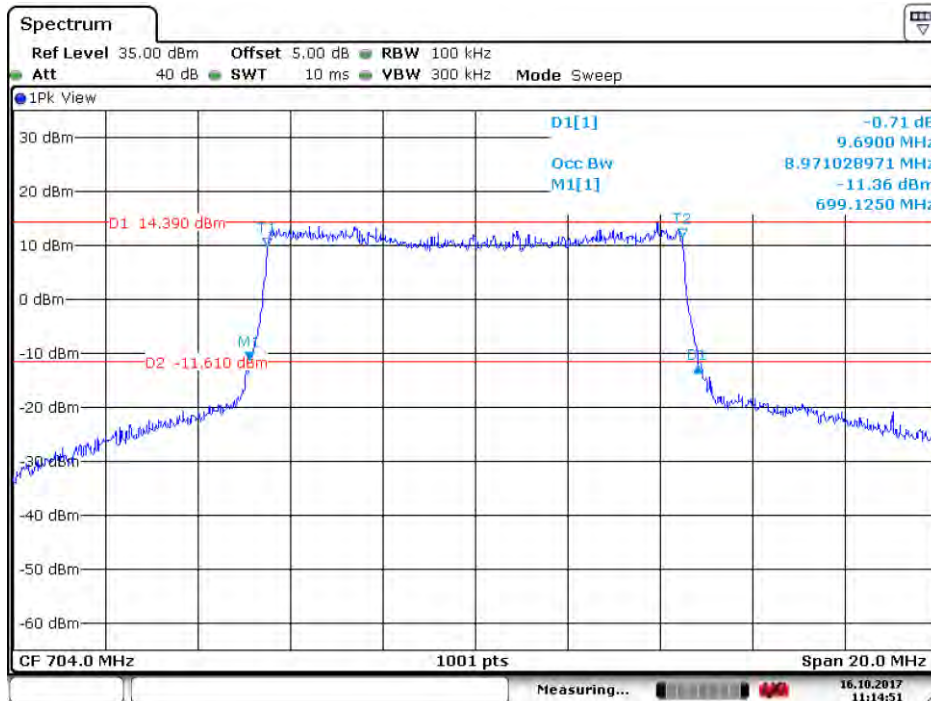
4.1.1.6.3 Test Channel = HCH



Date: 16.OCT.2017 11:04:40

4.1.1.7 Test Mode = LTE/TM1 10MHz

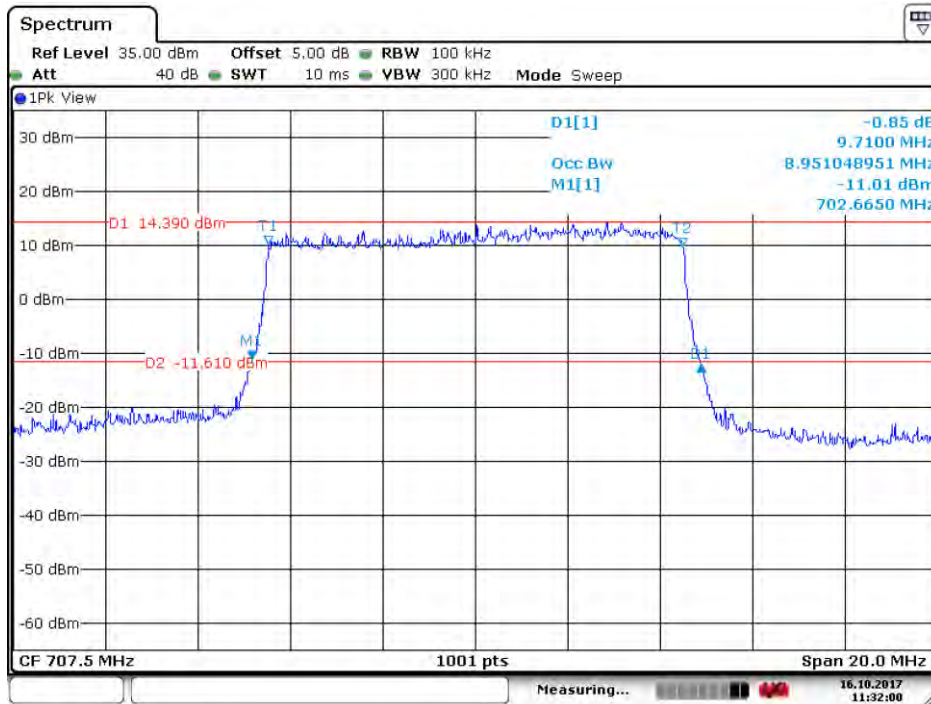
4.1.1.7.1 Test Channel = LCH



Date: 16.OCT.2017 11:14:51

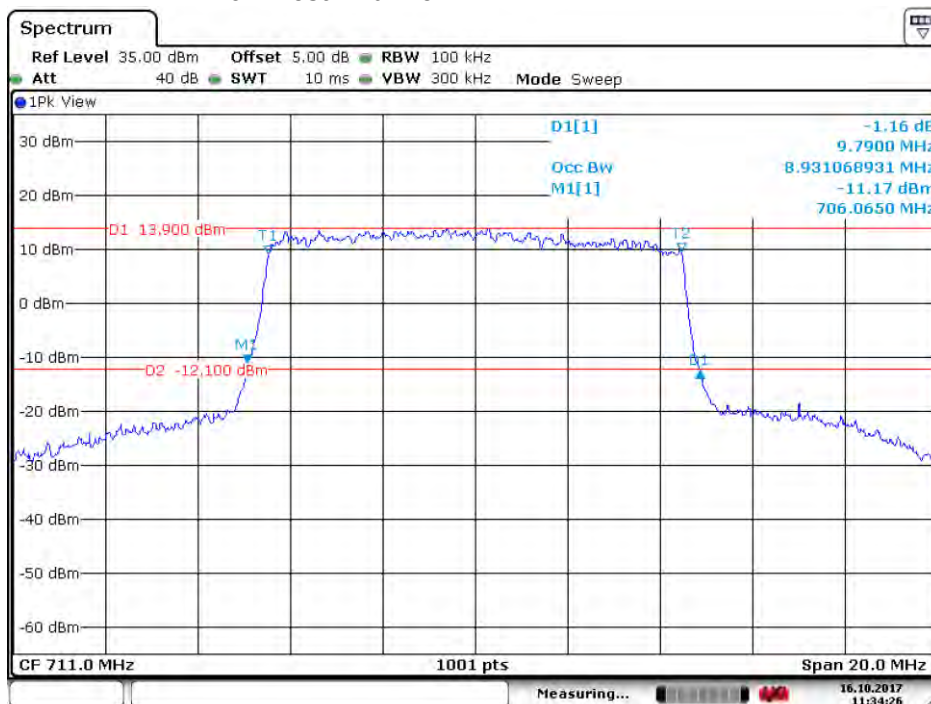


4.1.1.7.2 Test Channel = MCH



Date: 16.OCT.2017 11:32:00

4.1.1.7.3 Test Channel = HCH

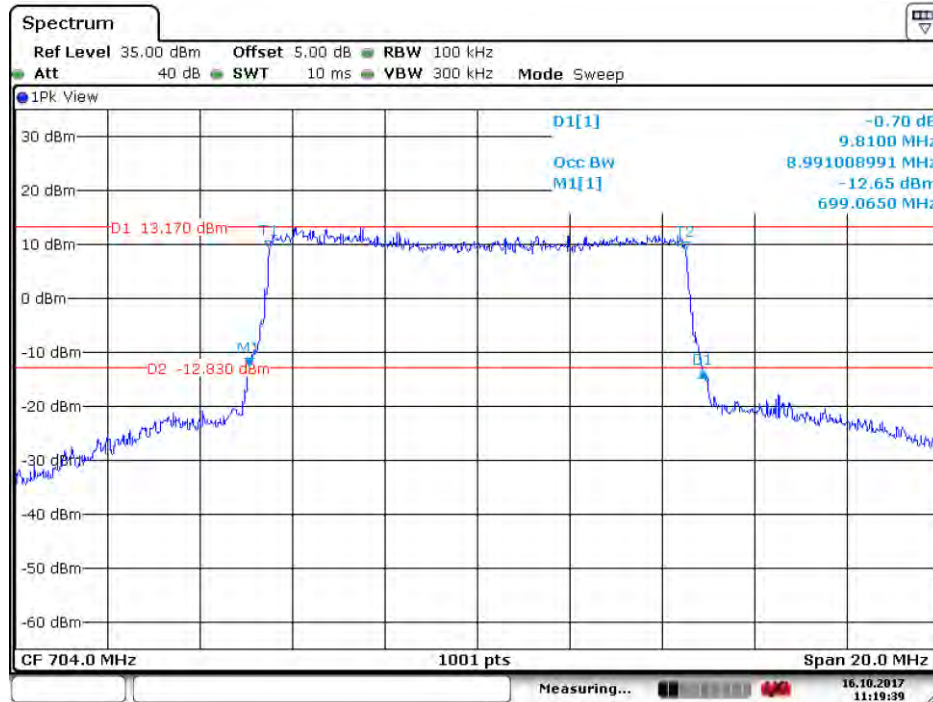


Date: 16.OCT.2017 11:34:26



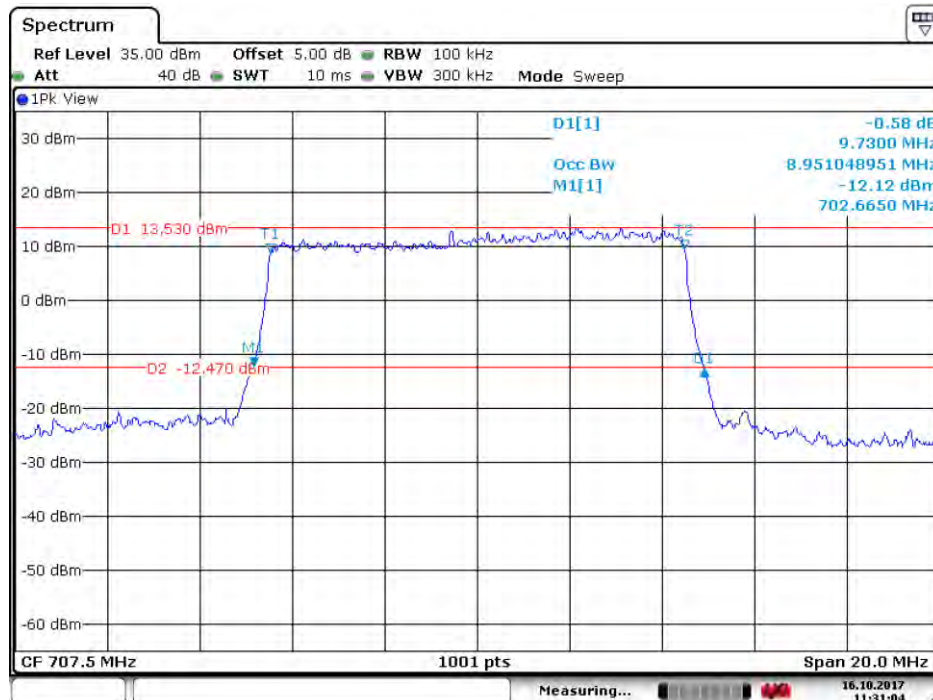
4.1.1.8 Test Mode = LTE/TM2 10MHz

4.1.1.8.1 Test Channel = LCH



Date: 16.OCT.2017 11:19:39

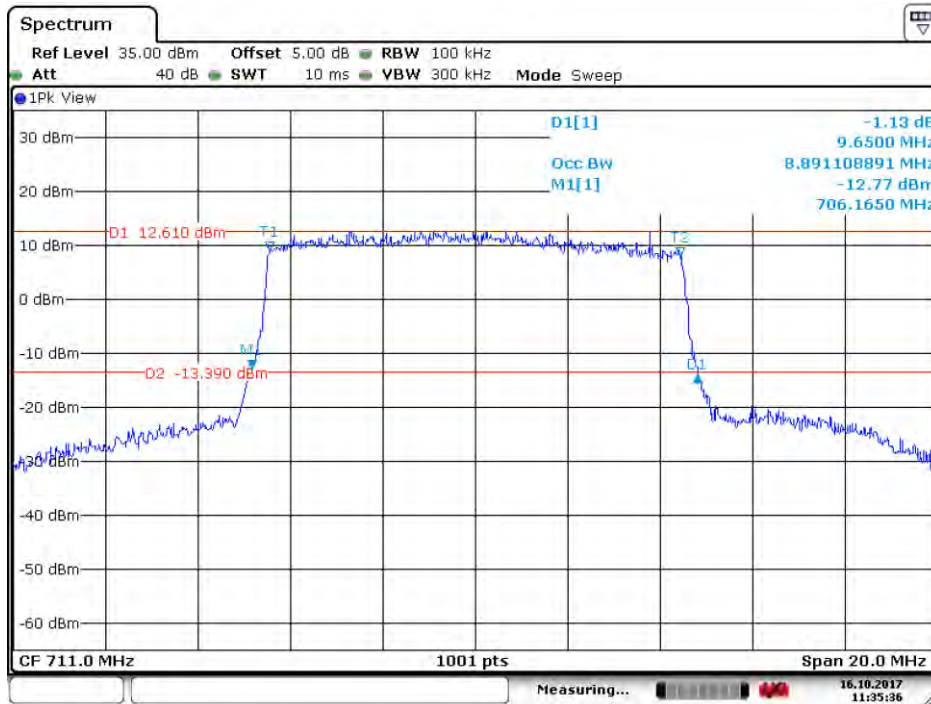
4.1.1.8.2 Test Channel = MCH



Date: 16.OCT.2017 11:31:04



4.1.1.8.3 Test Channel = HCH



Date: 16.OCT.2017 11:35:36



## 5 Band Edges Compliance

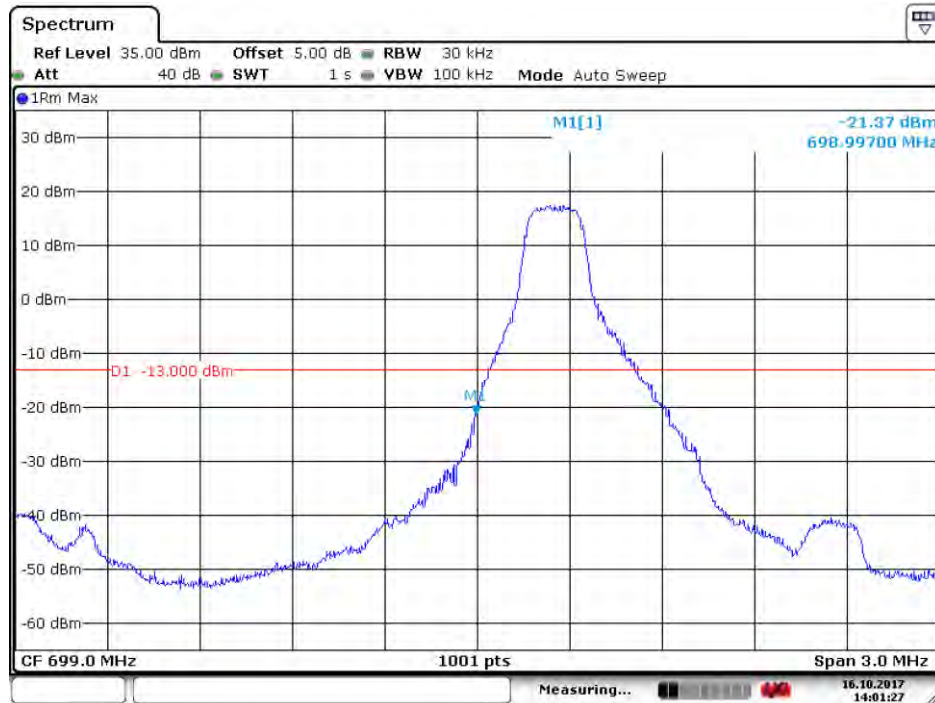
### 5.1 For LTE

#### 5.1.1 Test Band = LTE band12

##### 5.1.1.1 Test Mode = LTE/TM1 1.4MHz

##### 5.1.1.1.1 Test Channel = LCH

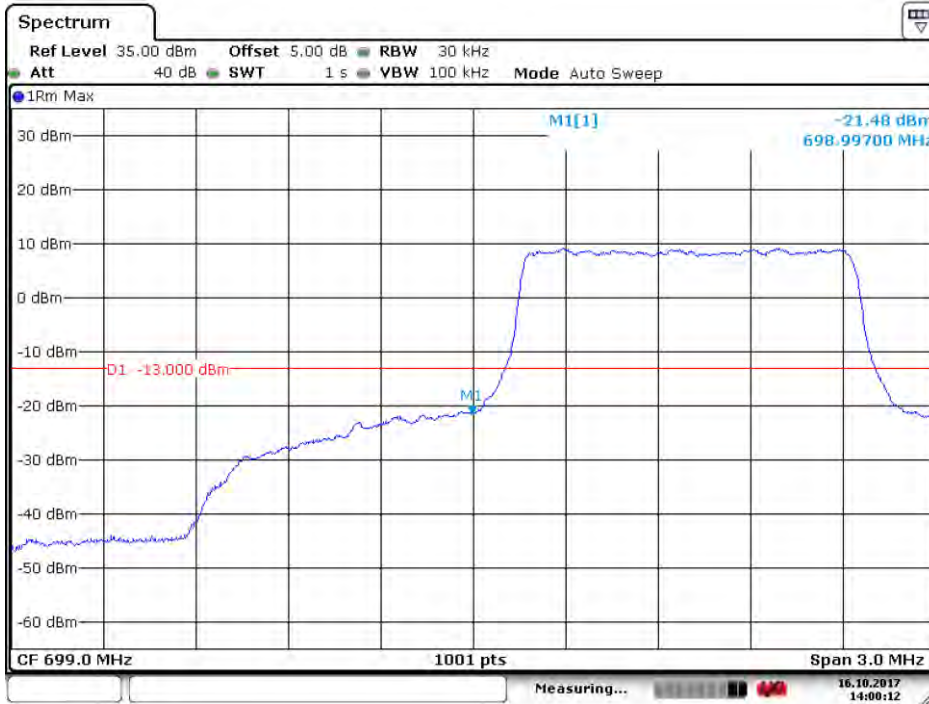
##### 5.1.1.1.1.1 Test RB=1RB



Date: 16.OCT.2017 14:01:28



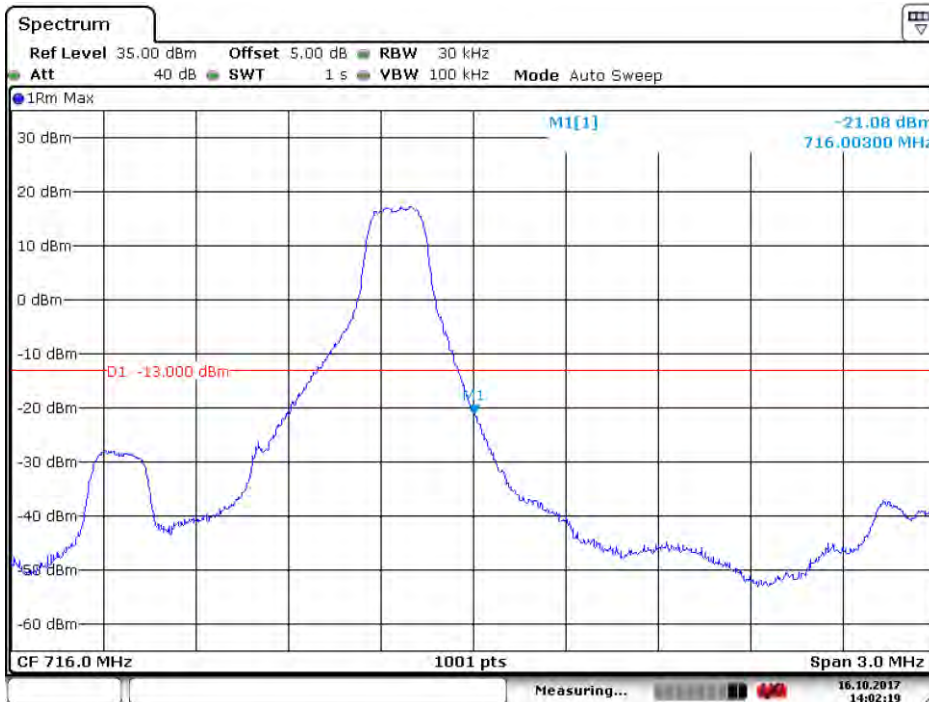
**5.1.1.1.2 Test RB=6RB**



Date: 16.OCT.2017 14:00:12

**5.1.1.1.2 Test Channel = HCH**

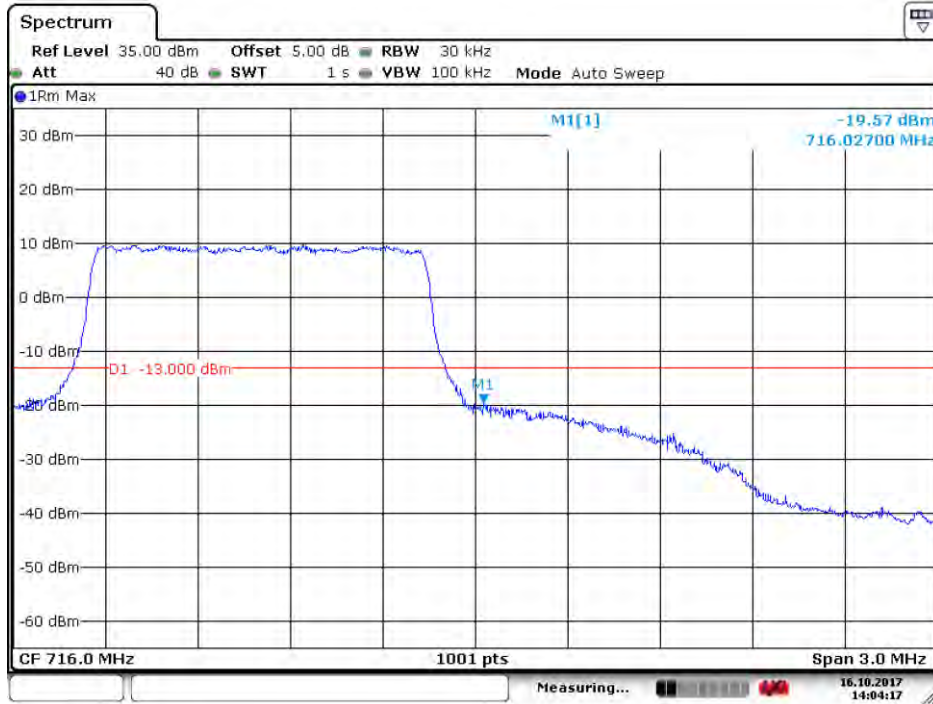
**5.1.1.1.2.1 Test RB=1RB**



Date: 16.OCT.2017 14:02:19



5.1.1.1.2 Test RB=6RB

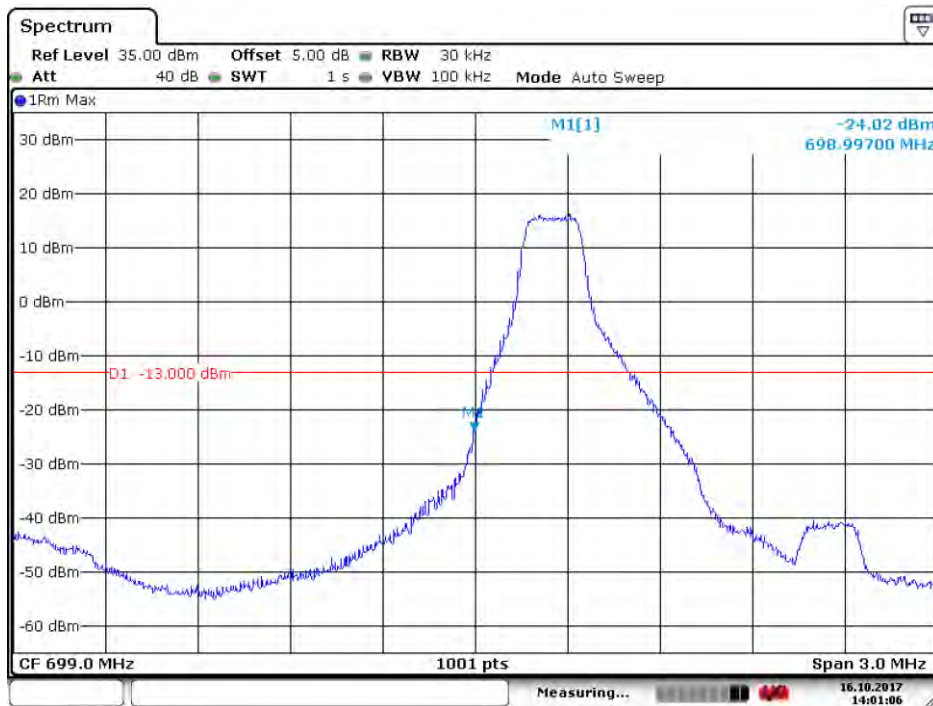


Date: 16.OCT.2017 14:04:18

5.1.1.2 Test Mode = LTE/TM2 1.4MHz

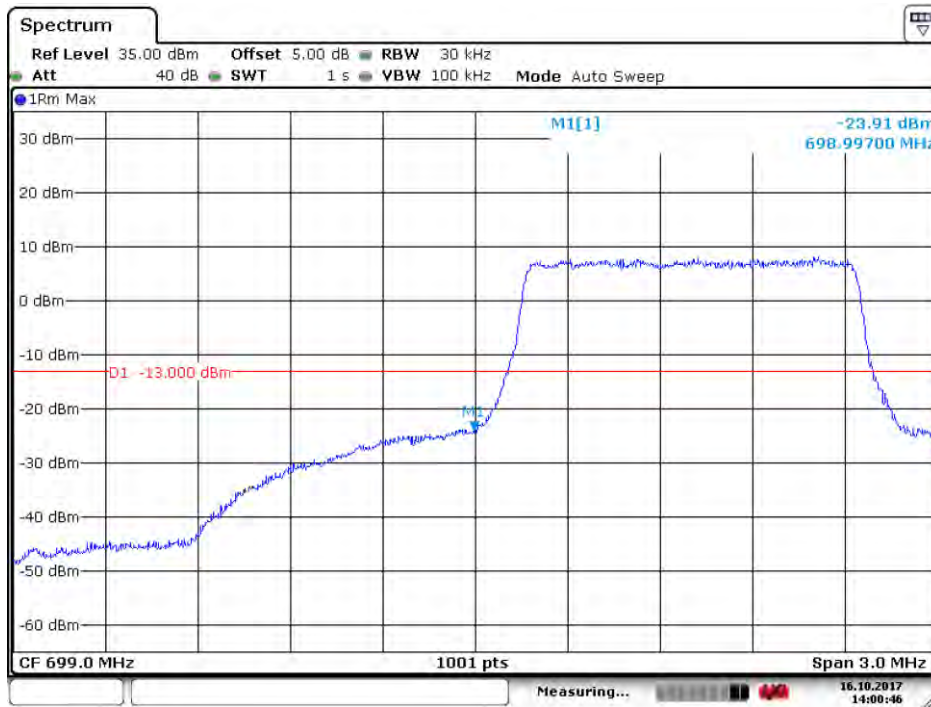
5.1.1.2.1 Test Channel = LCH

5.1.1.2.1.1 Test RB=1RB



Date: 16.OCT.2017 14:01:06

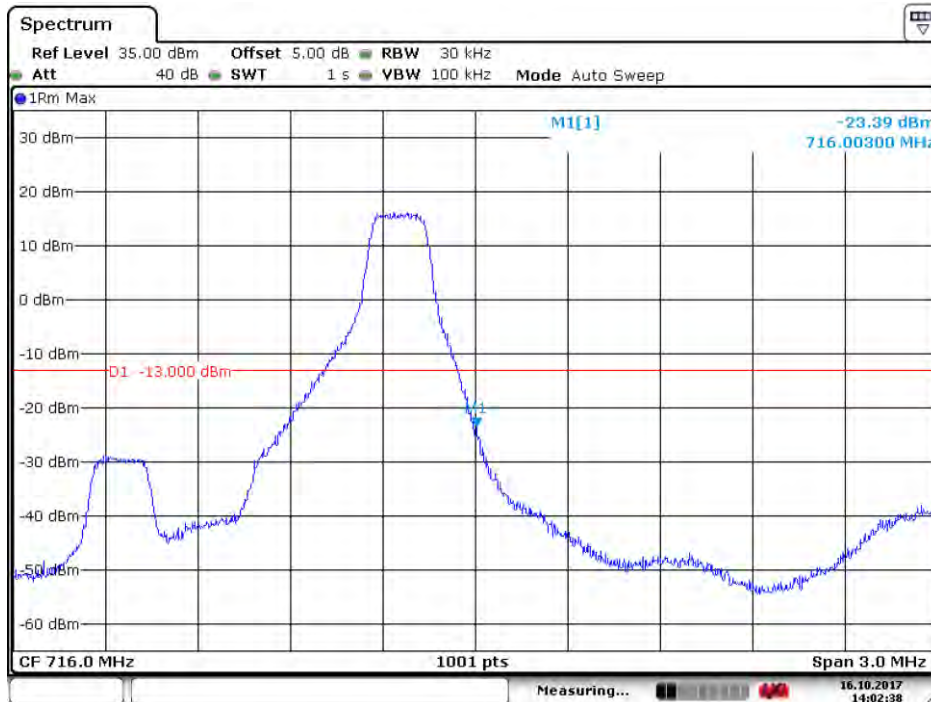
**5.1.1.2.1.2 Test RB=6RB**



Date: 16.OCT.2017 14:00:46

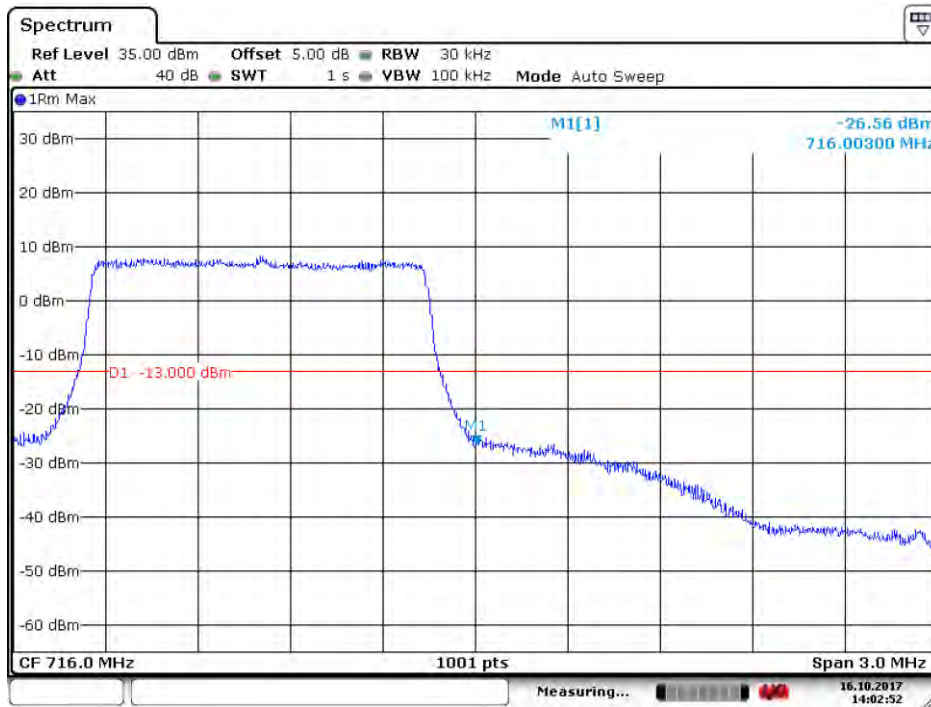
**5.1.1.2.2 Test Channel = HCH**

**5.1.1.2.2.1 Test RB=1RB**



Date: 16.OCT.2017 14:02:38

**5.1.1.2.2 Test RB=6RB**

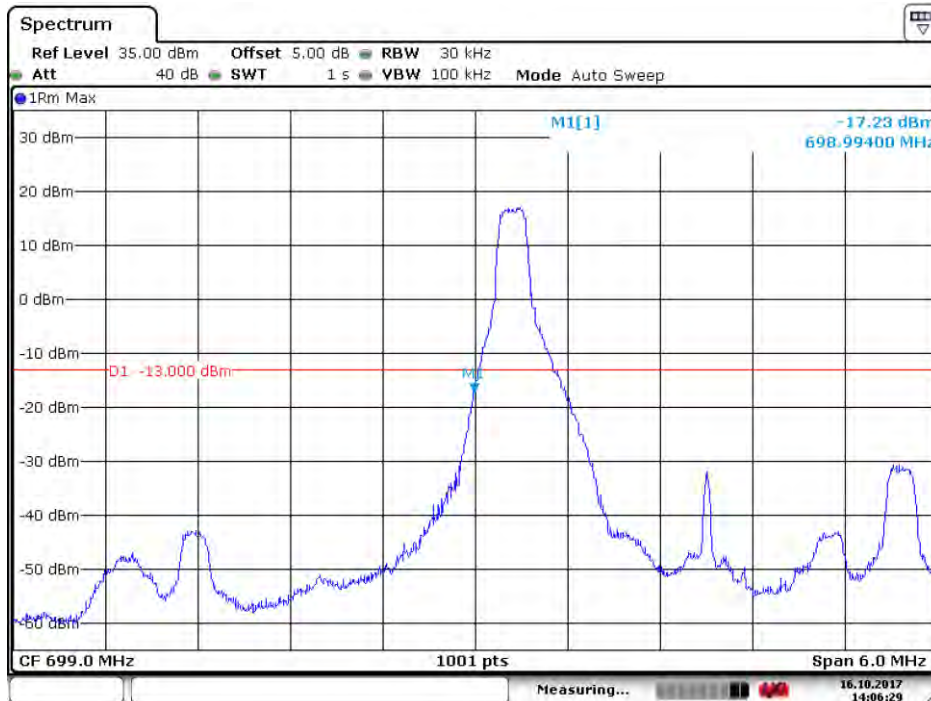


Date: 16.OCT.2017 14:02:53

**5.1.1.3 Test Mode = LTE/TM1 3MHz**

**5.1.1.3.1 Test Channel = LCH**

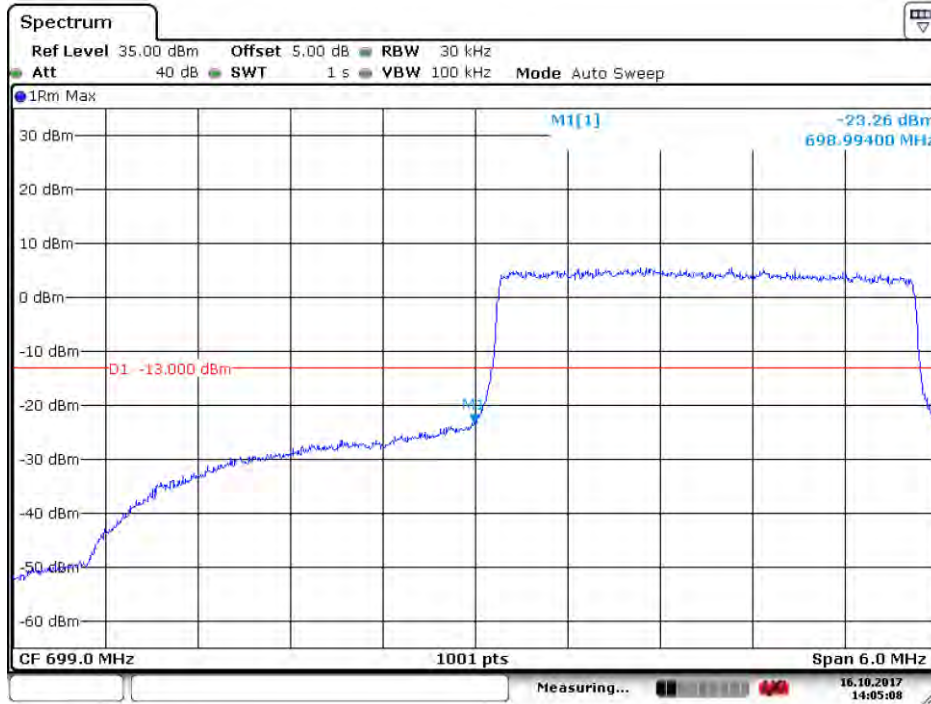
**5.1.1.3.1.1 Test RB=1RB**



Date: 16.OCT.2017 14:06:30



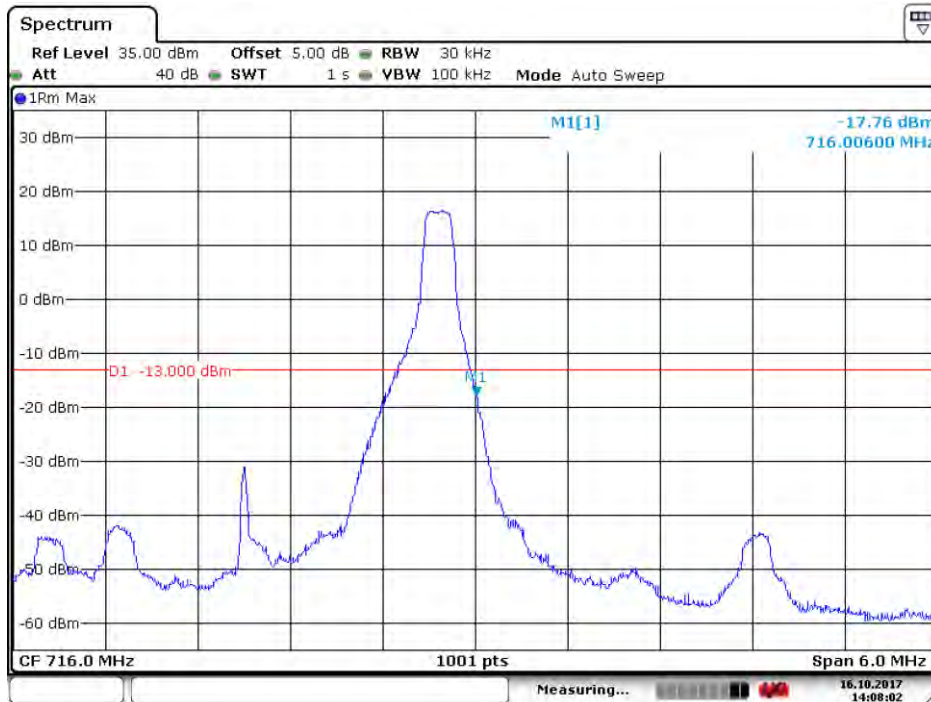
5.1.1.3.1.2 Test RB=15RB



Date: 16.OCT.2017 14:05:08

5.1.1.3.2 Test Channel = HCH

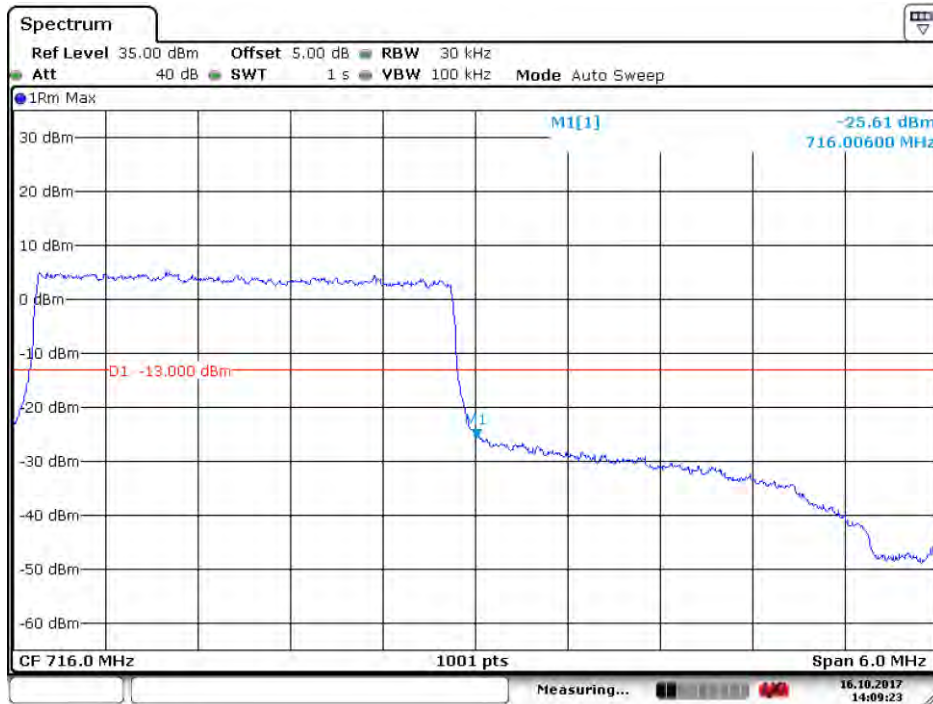
5.1.1.3.2.1 Test RB=1RB



Date: 16.OCT.2017 14:08:02



### 5.1.1.3.2 Test RB=15RB

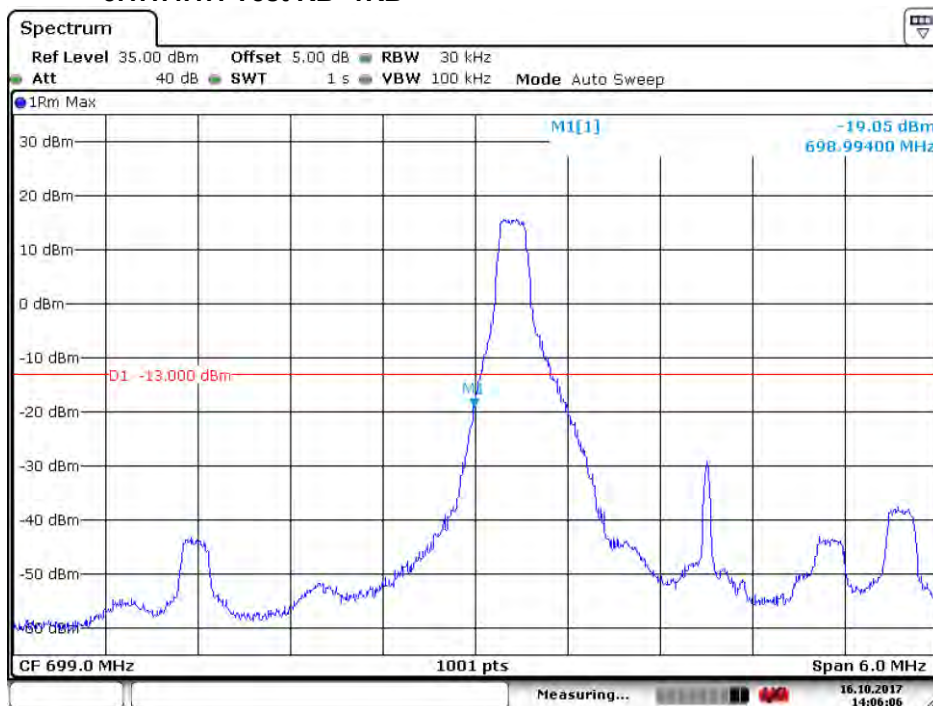


Date: 16.OCT.2017 14:09:23

### 5.1.1.4 Test Mode = LTE/TM2 3MHz

#### 5.1.1.4.1 Test Channel = LCH

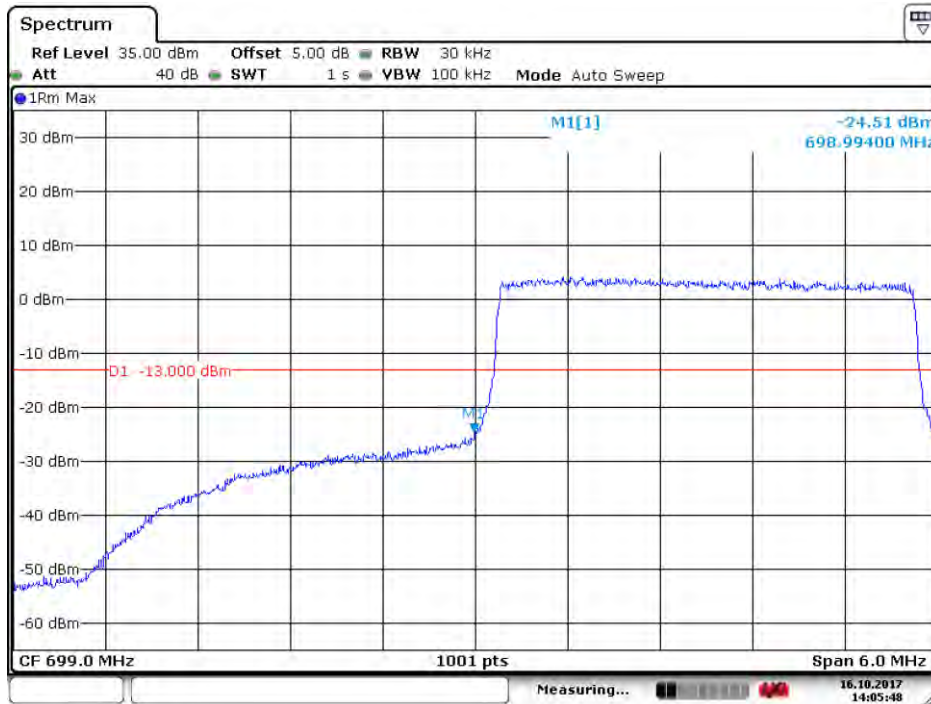
##### 5.1.1.4.1.1 Test RB=1RB



Date: 16.OCT.2017 14:06:07



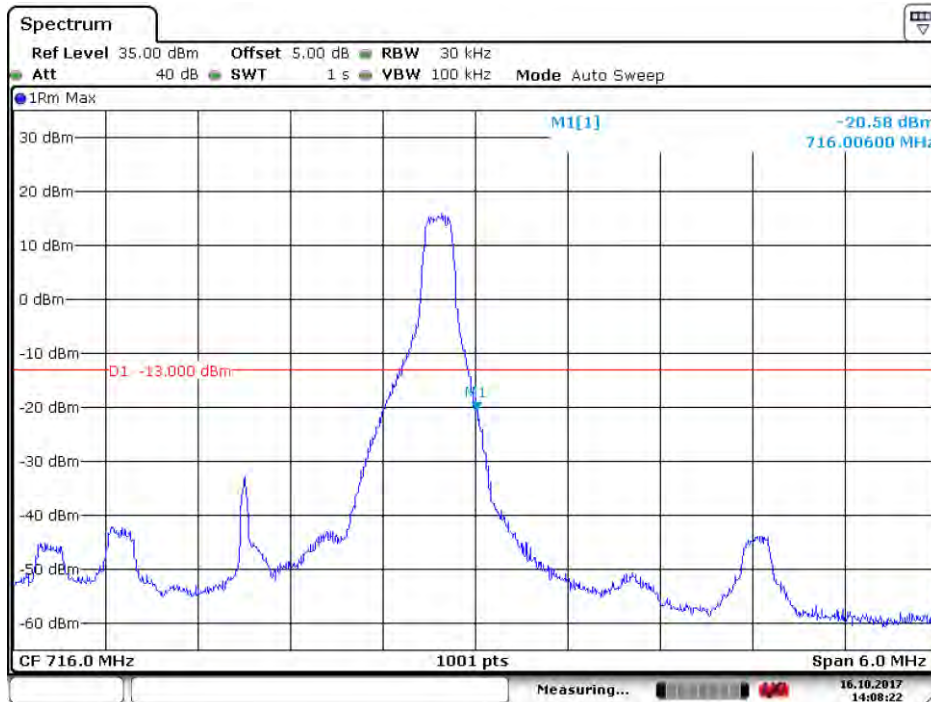
### 5.1.1.4.1.2 Test RB=15RB



Date: 16.OCT.2017 14:05:48

### 5.1.1.4.2 Test Channel = HCH

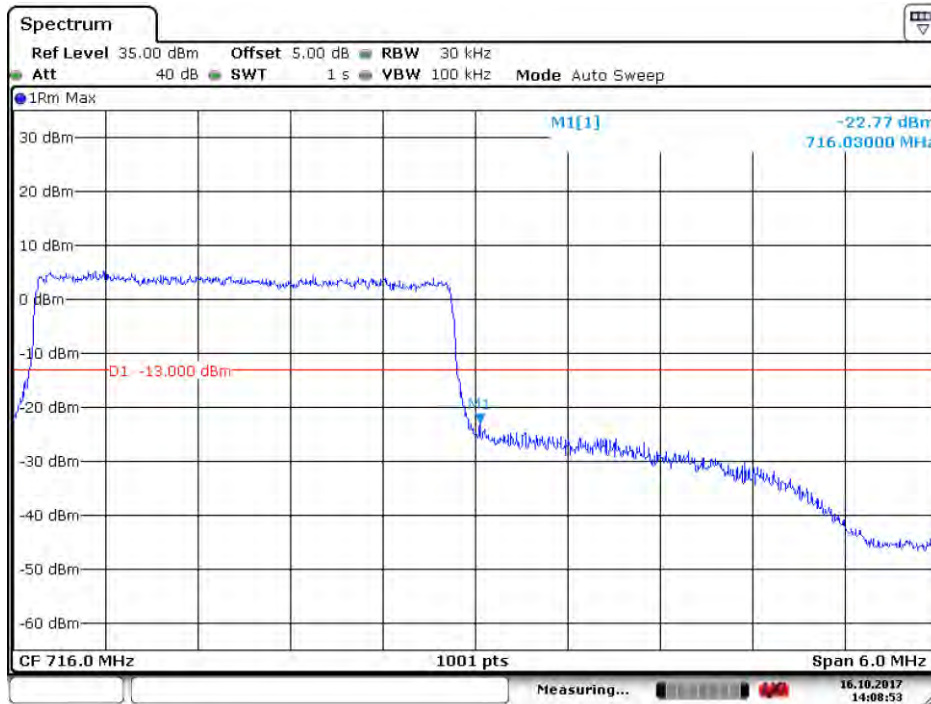
#### 5.1.1.4.2.1 Test RB=1RB



Date: 16.OCT.2017 14:08:23



5.1.1.4.3 Test RB=15RB

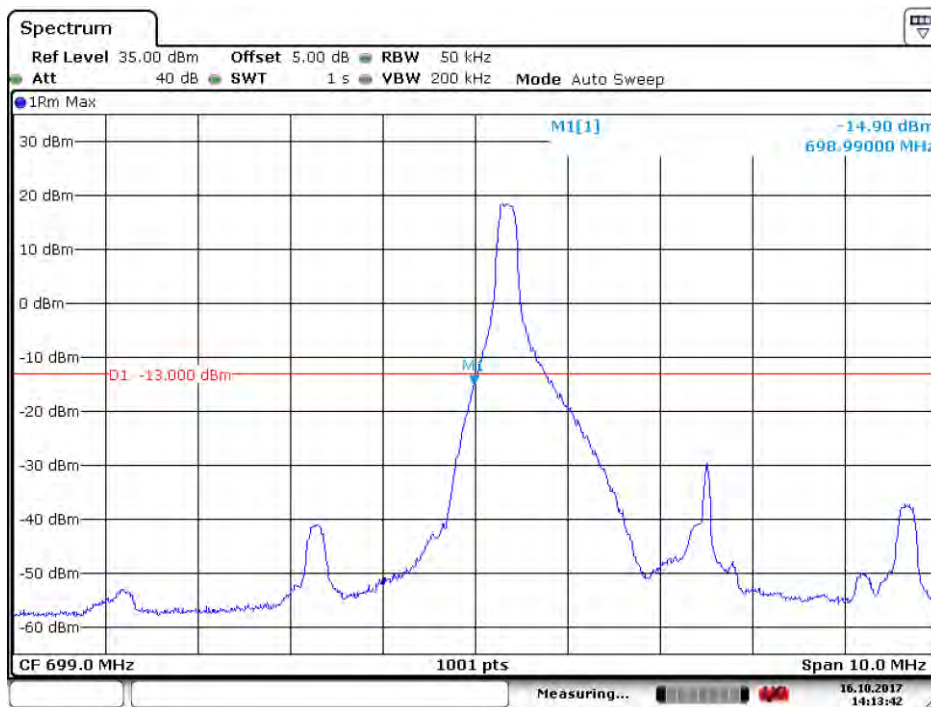


Date: 16.OCT.2017 14:08:54

5.1.1.5 Test Mode = LTE/TM1 5MHz

5.1.1.5.1 Test Channel = LCH

5.1.1.5.1.1 Test RB=1RB

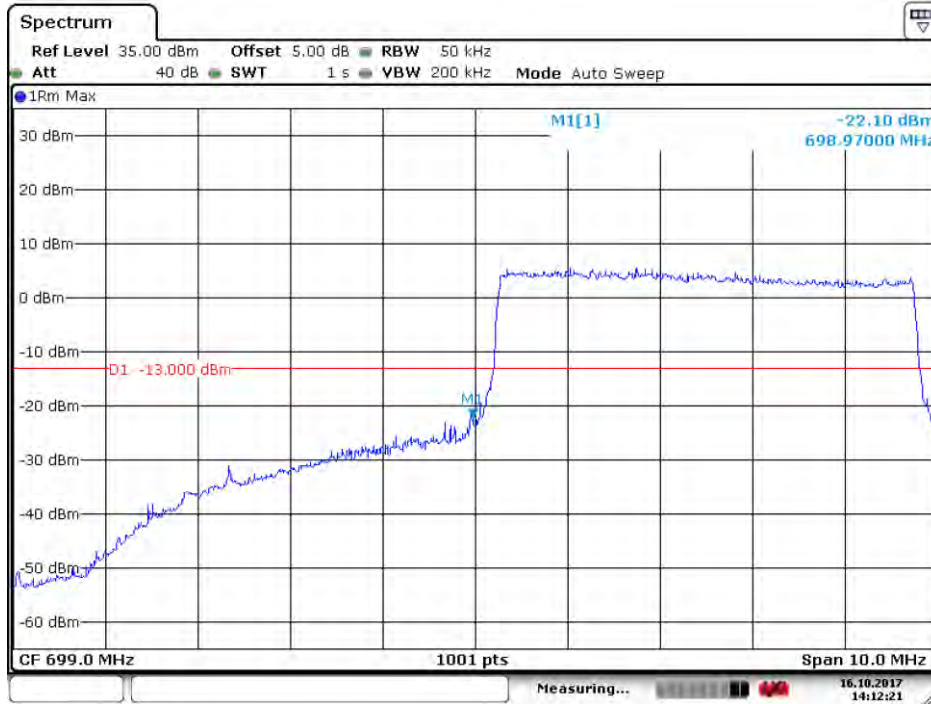


Date: 16.OCT.2017 14:13:42





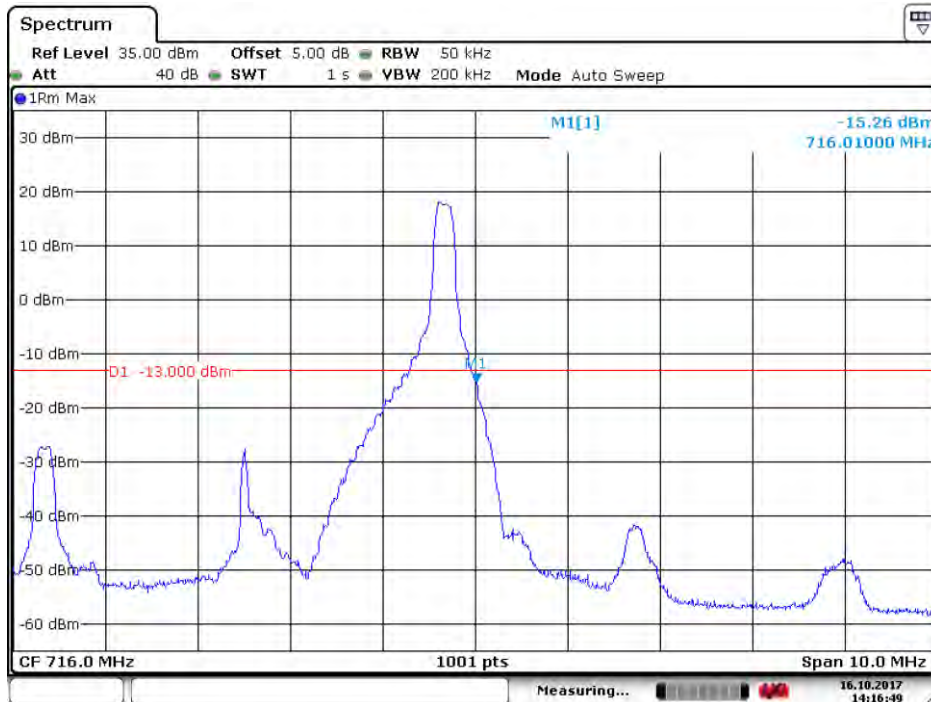
5.1.1.5.1.2 Test RB=25RB



Date: 16.OCT.2017 14:12:21

5.1.1.5.2 Test Channel = HCH

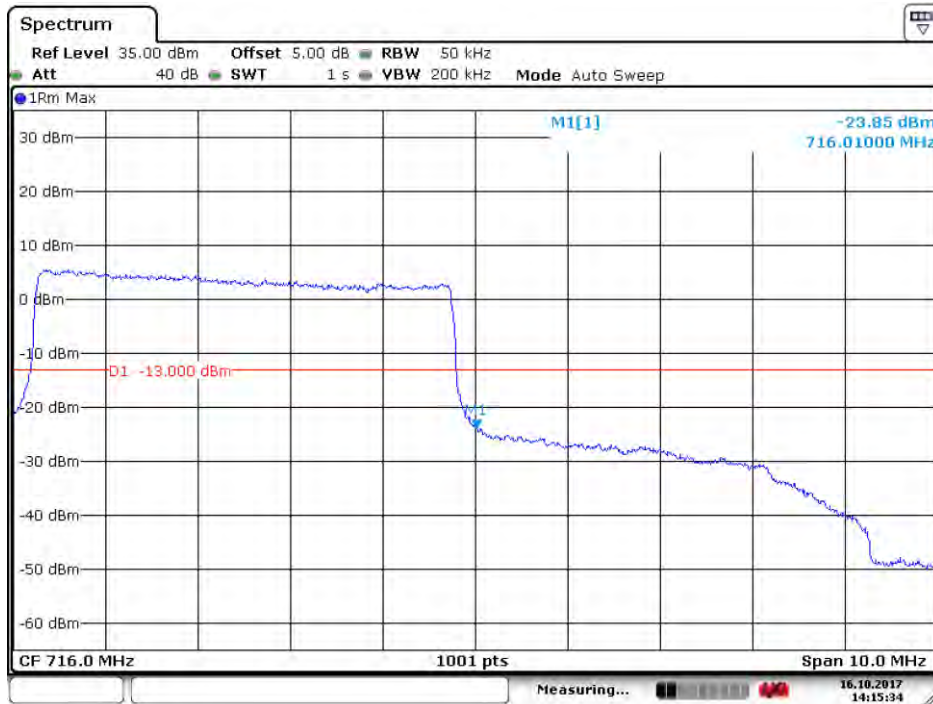
5.1.1.5.2.1 Test RB=1RB



Date: 16.OCT.2017 14:16:50



### 5.1.1.5.2.2 Test RB=25RB

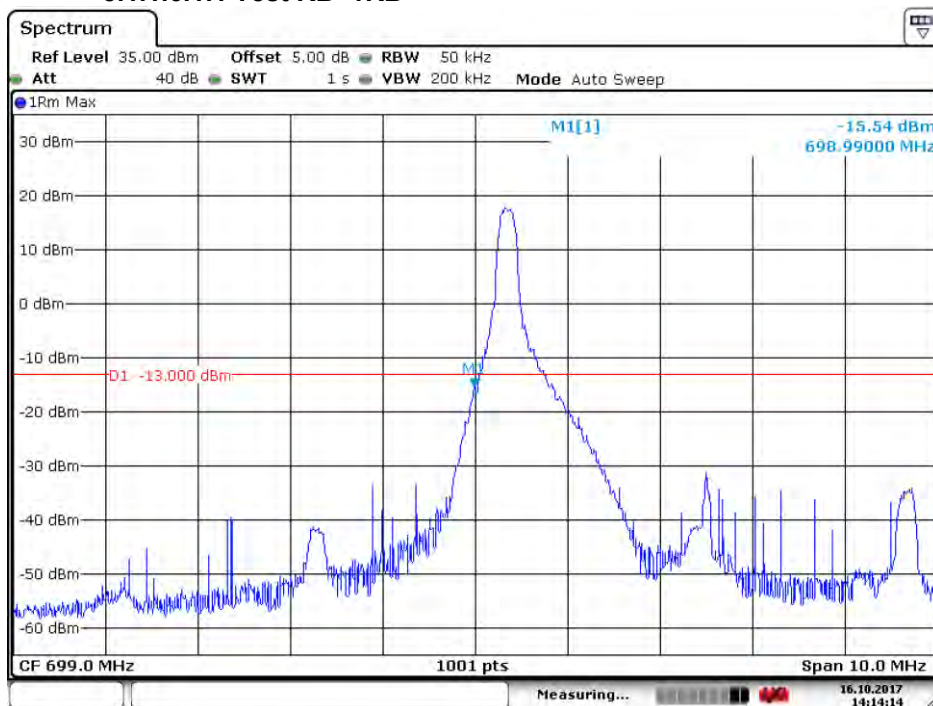


Date: 16.OCT.2017 14:15:34

### 5.1.1.6 Test Mode = LTE/TM2 5MHz

#### 5.1.1.6.1 Test Channel = LCH

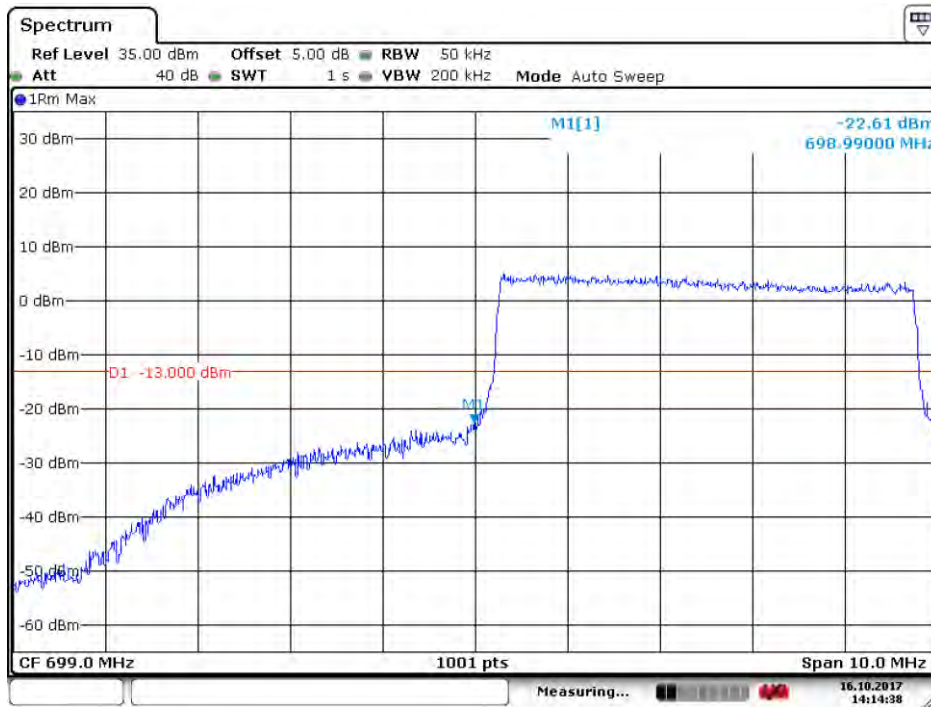
##### 5.1.1.6.1.1 Test RB=1RB



Date: 16.OCT.2017 14:14:14



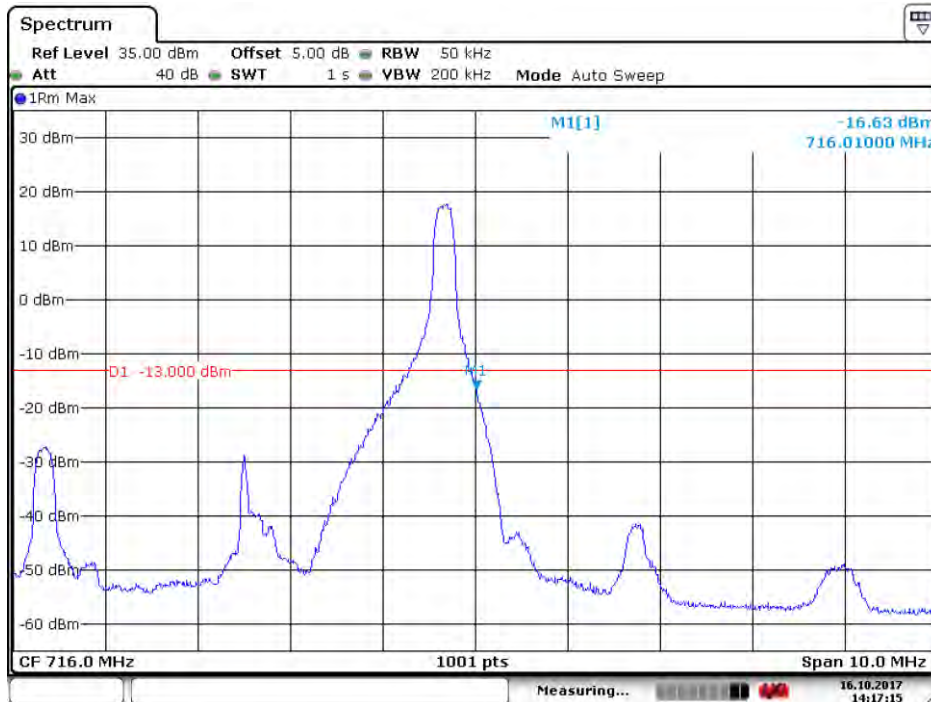
### 5.1.1.6.1.2 Test RB=25RB



Date: 16.OCT.2017 14:14:39

### 5.1.1.6.2 Test Channel = HCH

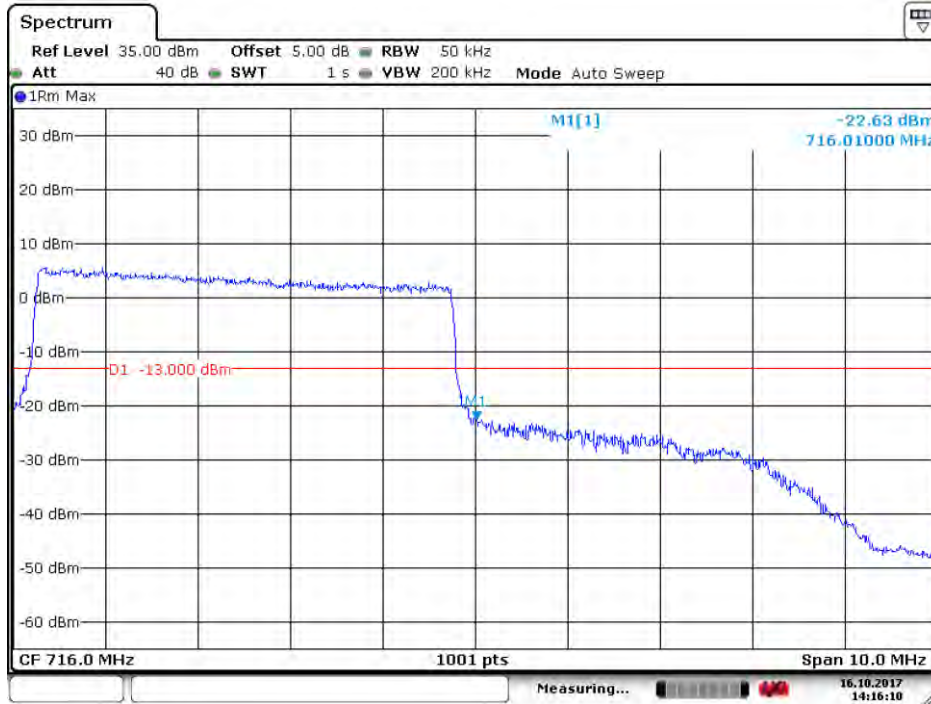
#### 5.1.1.6.2.1 Test RB=1RB



Date: 16.OCT.2017 14:17:16



5.1.1.6.2.2 Test RB=25RB

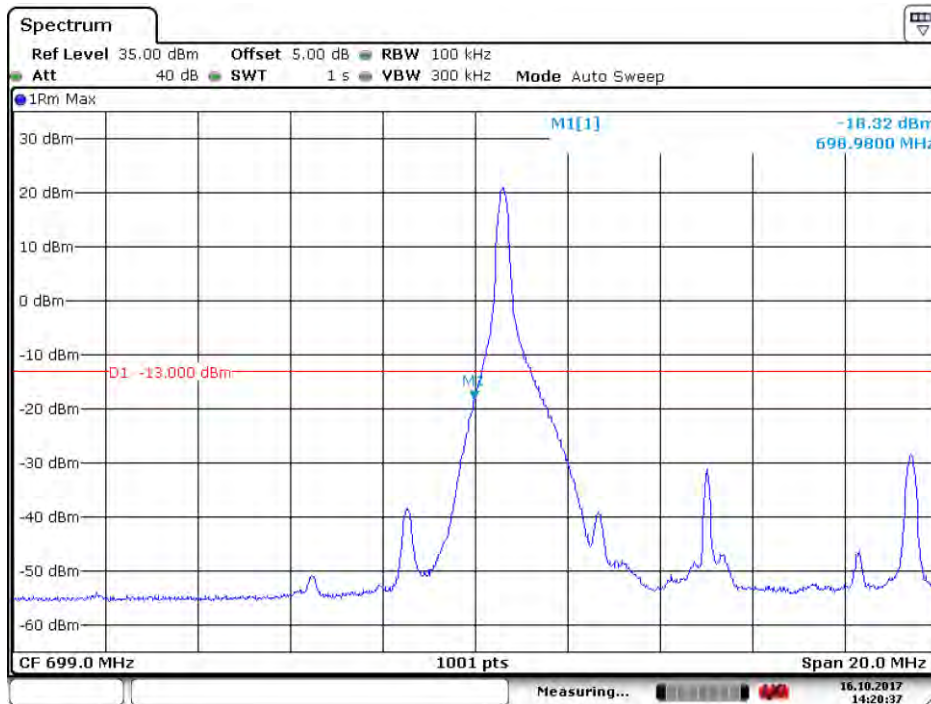


Date: 16.OCT.2017 14:16:10

5.1.1.7 Test Mode = LTE/TM1 10MHz

5.1.1.7.1 Test Channel = LCH

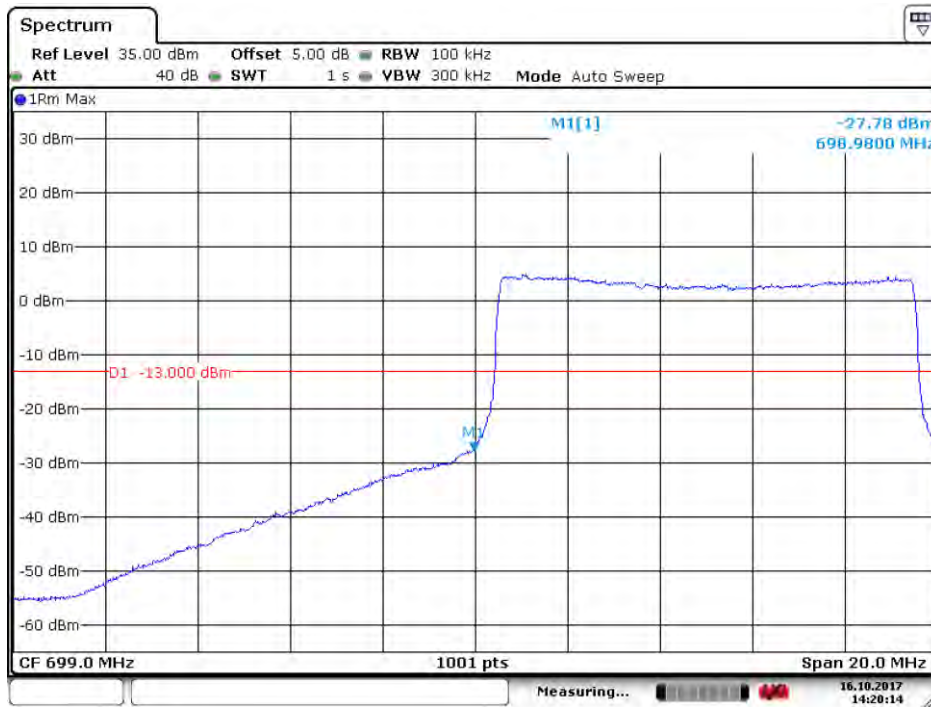
5.1.1.7.1.1 Test RB=1RB



Date: 16.OCT.2017 14:20:37



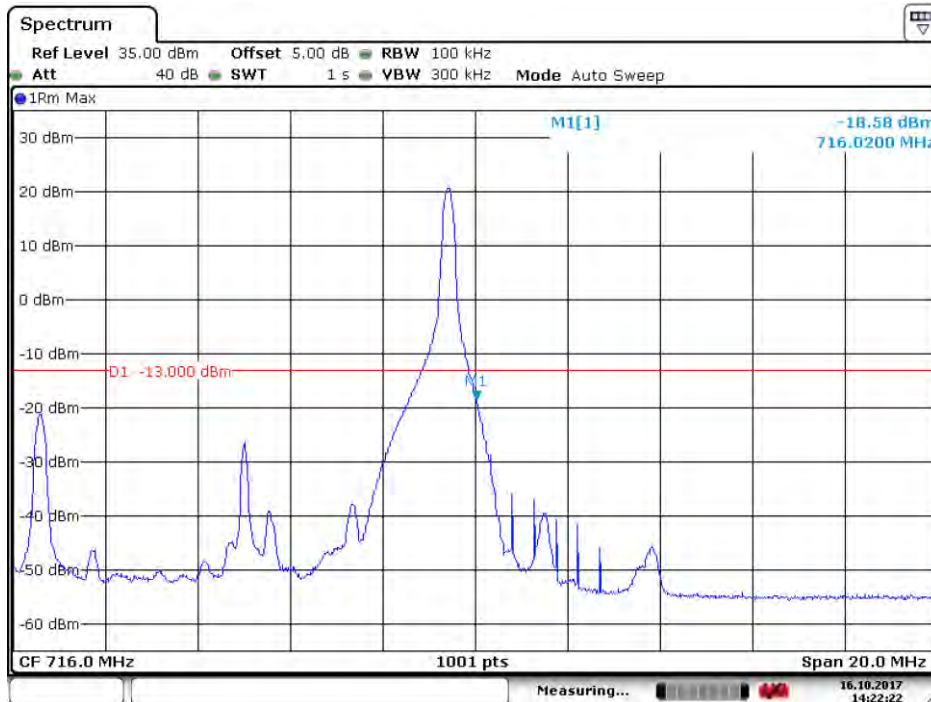
5.1.1.7.1.2 Test RB=50RB



Date: 16.OCT.2017 14:20:14

5.1.1.7.2 Test Channel = HCH

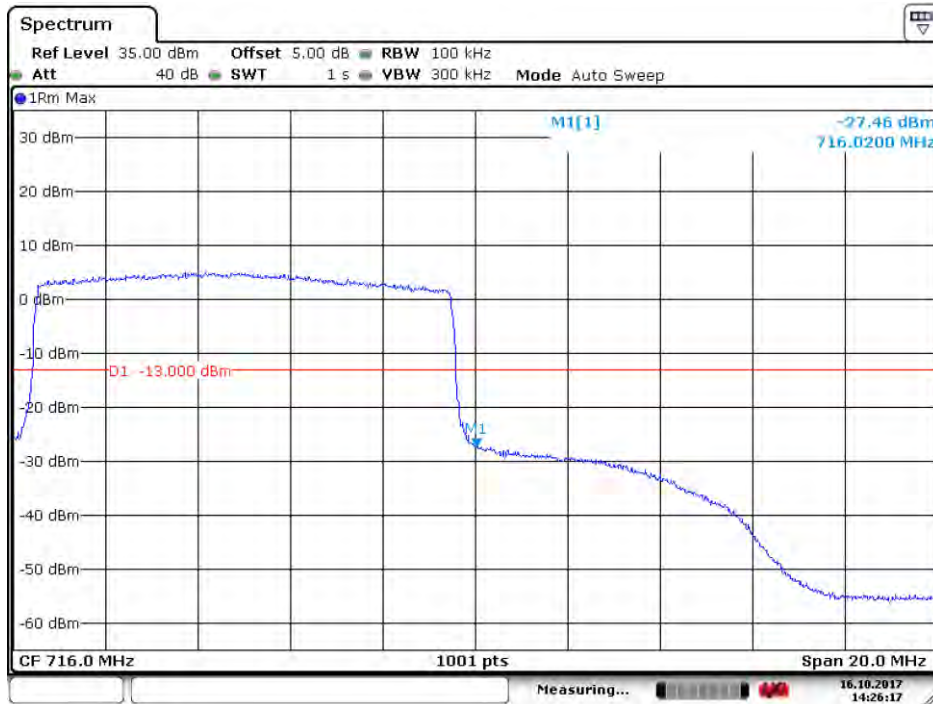
5.1.1.7.2.1 Test RB=1RB



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### 5.1.1.7.2.2 Test RB=50RB

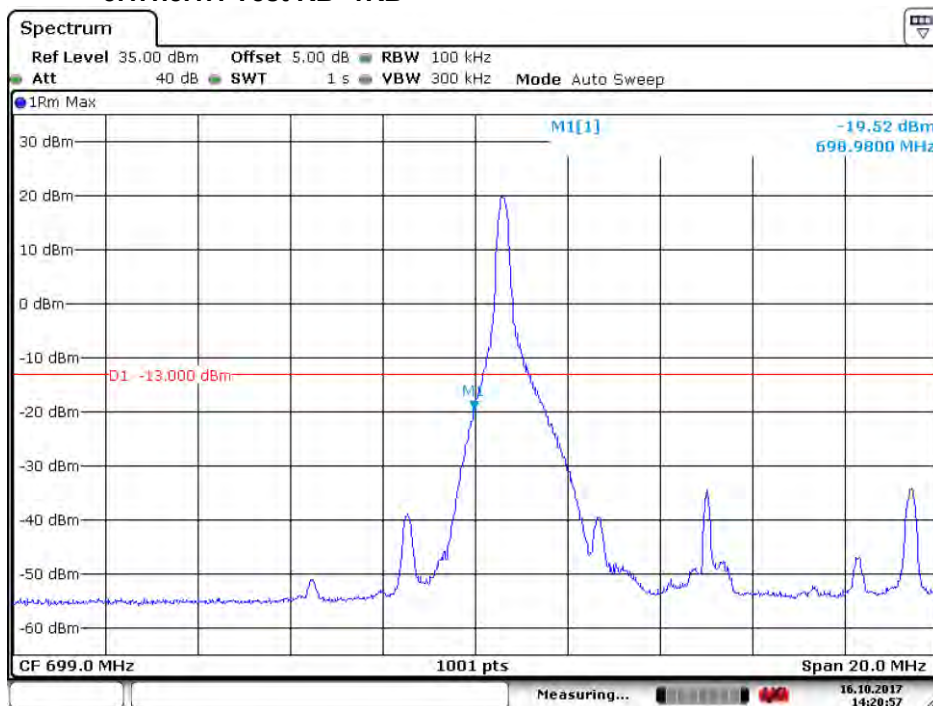


Date: 16.OCT.2017 14:26:17

### 5.1.1.8 Test Mode = LTE/TM2 10MHz

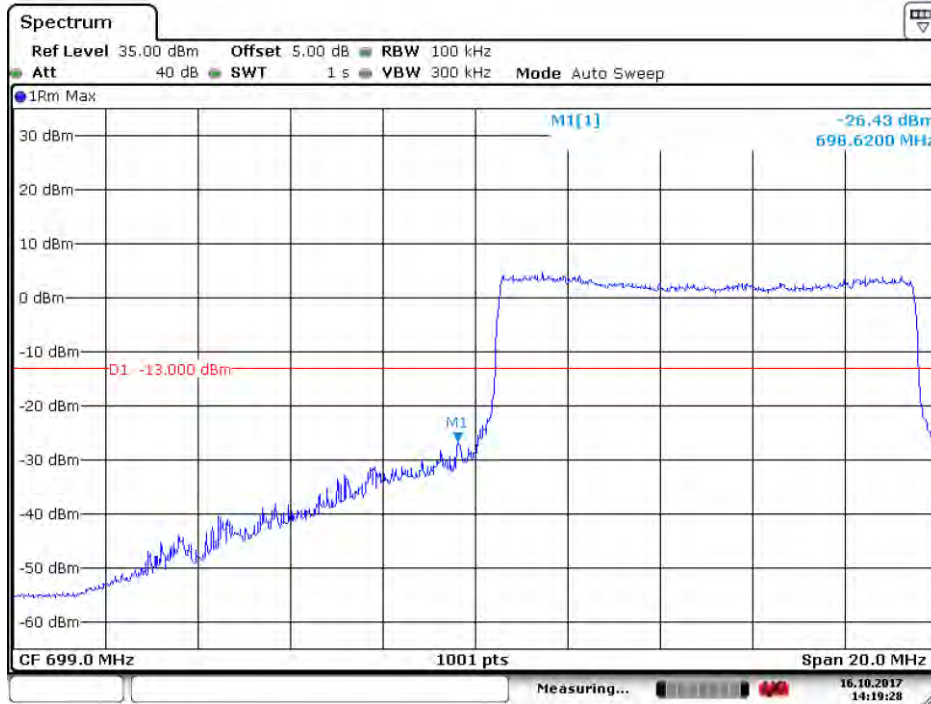
#### 5.1.1.8.1 Test Channel = LCH

##### 5.1.1.8.1.1 Test RB=1RB



Date: 16.OCT.2017 14:20:57

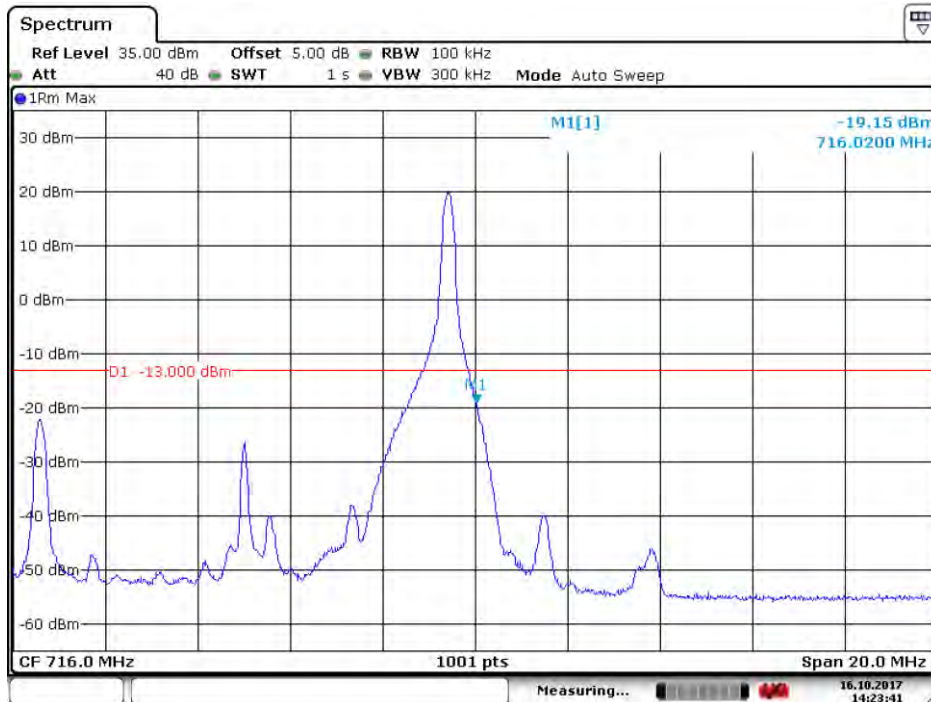
**5.1.1.8.1.2 Test RB=50RB**



Date: 16.OCT.2017 14:19:28

**5.1.1.8.2 Test Channel = HCH**

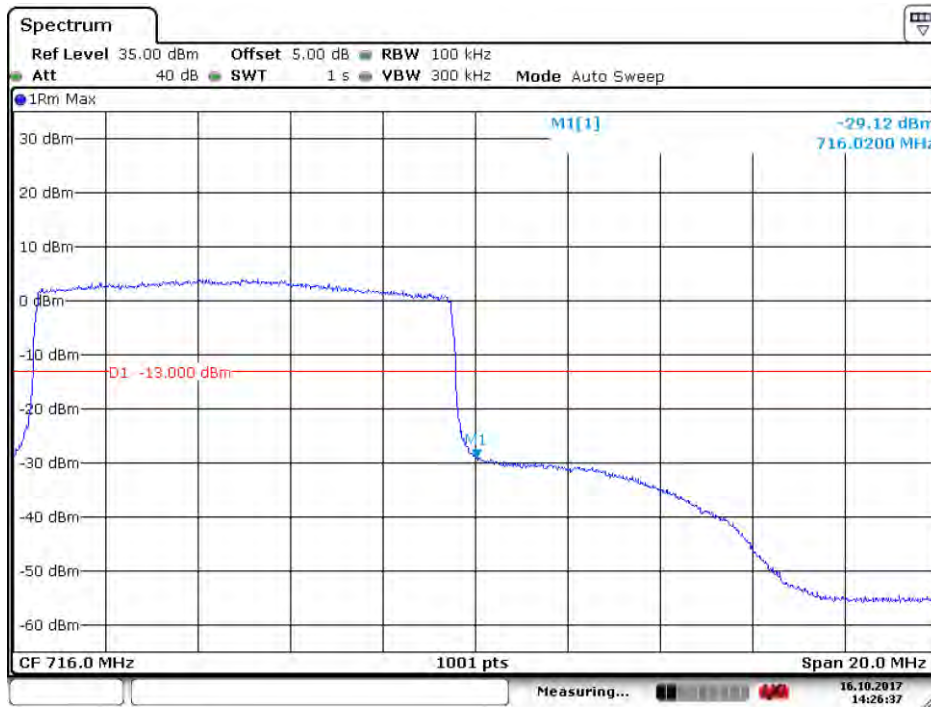
**5.1.1.8.2.1 Test RB=1RB**



Date: 16.OCT.2017 14:23:41



5.1.1.8.2.2 Test RB=50RB



Date: 16.OCT.2017 14:26:37





## 6 Spurious Emission at Antenna Terminal

NOTE: For the averaged unwanted emissions measurements, the measurement points in each sweep is greater than twice the Span/RBW in order to ensure bin-to-bin spacing of  $< RBW/2$  so that narrowband signals are not lost between frequency bins. As to the present test item, the "Measurement Points =  $k * (Span / RBW)$ " with  $k$  between 4 and 5, which results in an acceptable level error of less than 0.5 dB.

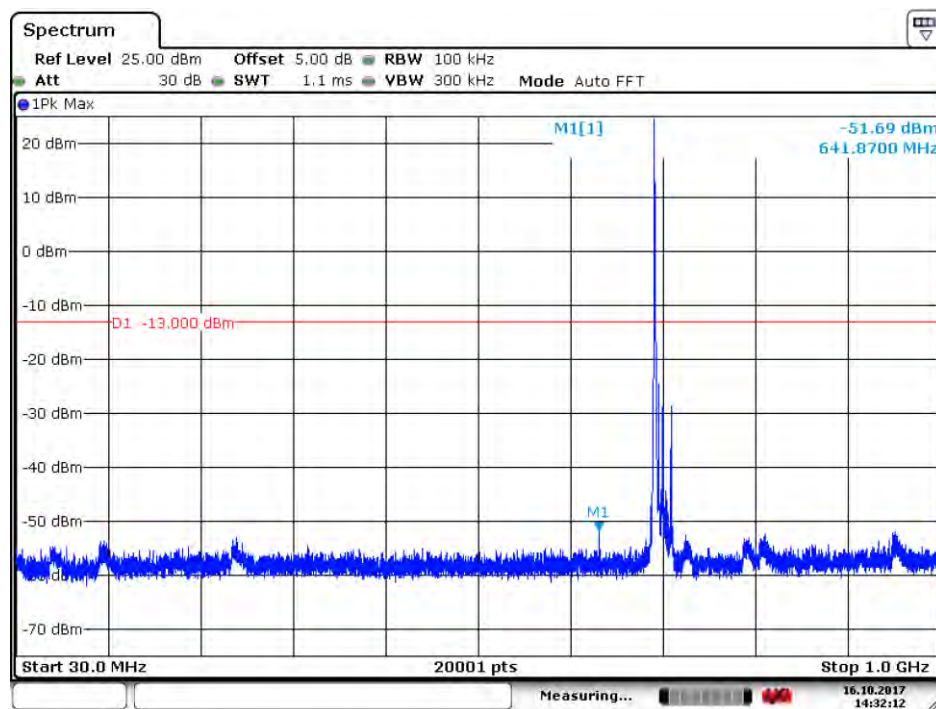
Part I - Test Plots

### 6.1 For LTE

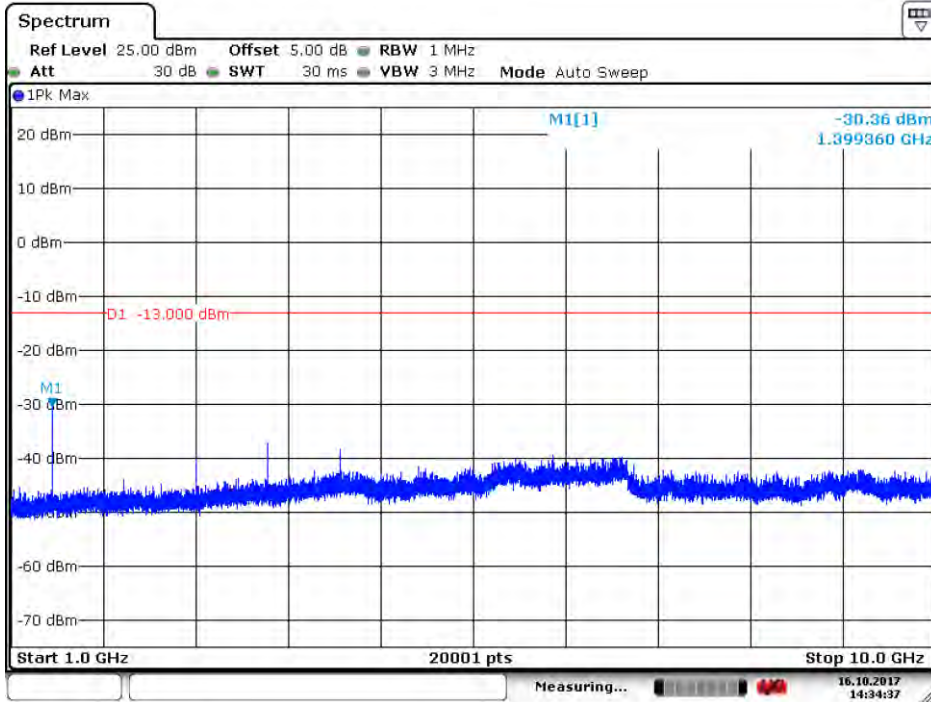
#### 6.1.1 Test Band = LTE band12

##### 6.1.1.1 Test Mode = LTE / TM1 10MHz RB1#0

##### 6.1.1.1.1 Test Channel = LCH

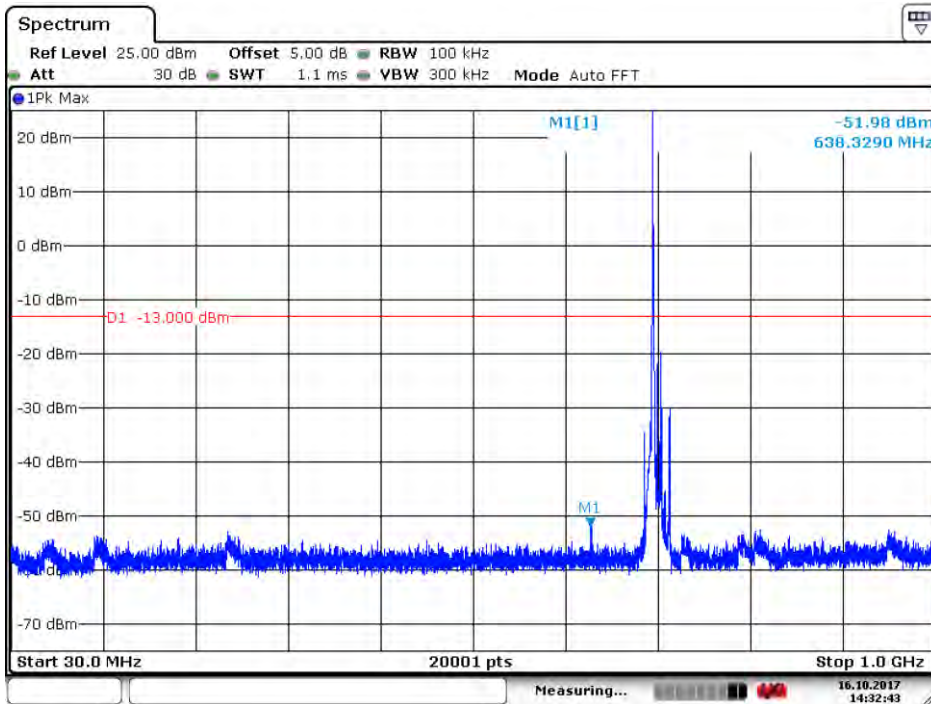


Date: 16.OCT.2017 14:32:12

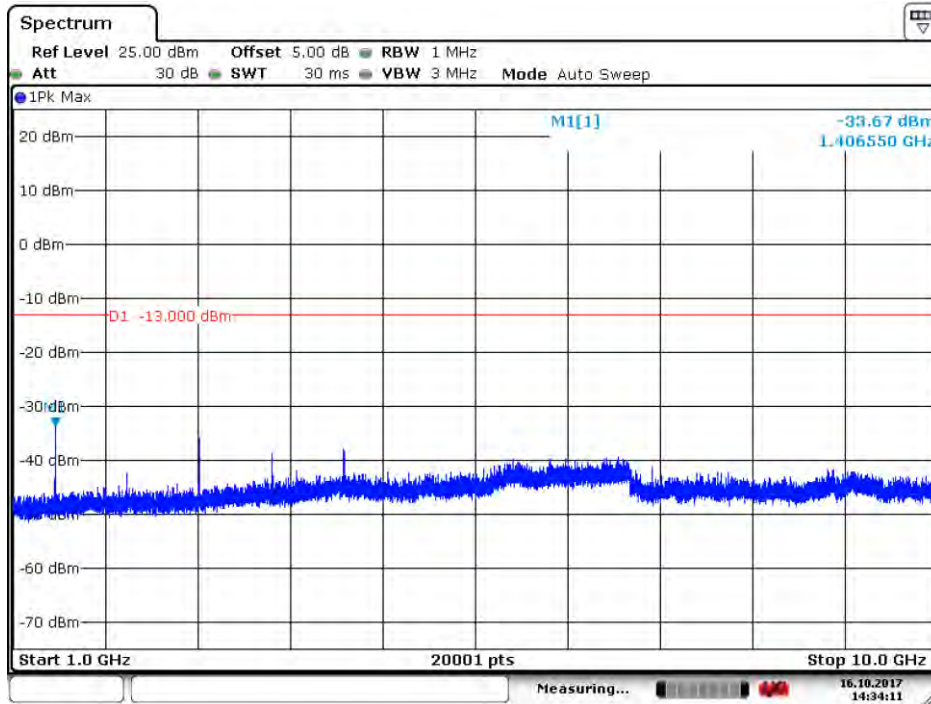


Date: 16.OCT.2017 14:34:37

### 6.1.1.1.2 Test Channel = MCH

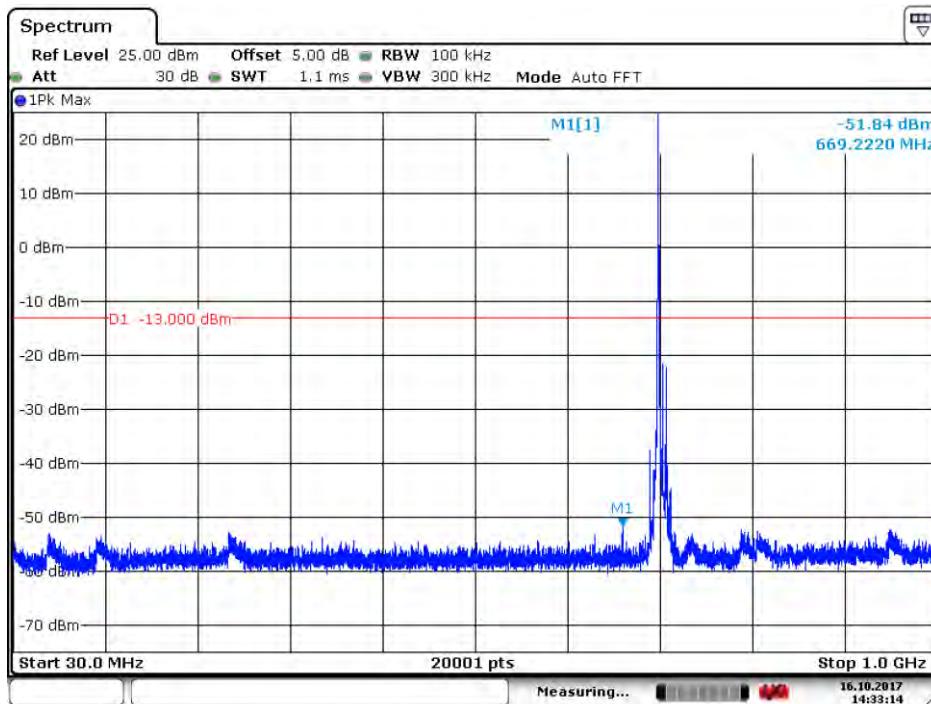


Date: 16.OCT.2017 14:32:43

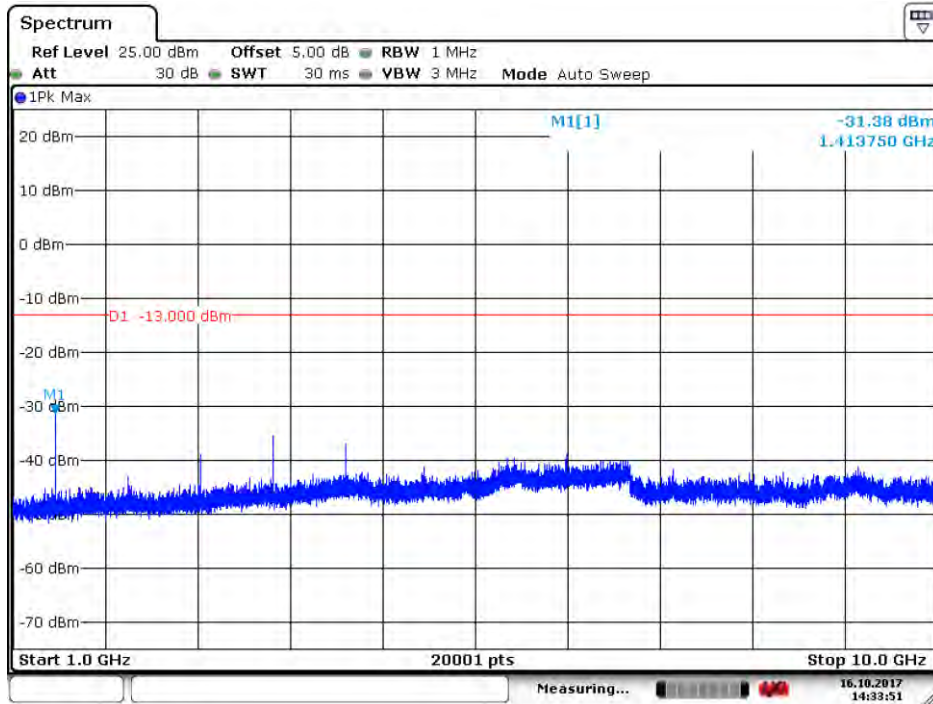


Date: 16.OCT.2017 14:34:12

### 6.1.1.1.3 Test Channel = HCH



Date: 16.OCT.2017 14:33:15



Date: 16.OCT.2017 14:33:52



## 7 Field Strength of Spurious Radiation

### 7.1 For LTE

#### Main Supply:

#### 7.1.1 Test Band = LTE band12

#### 7.1.1.1 Test Mode =LTE/TM1 10MHz RB1#0

##### 7.1.1.1.1 Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
1485.000	-66.29	-13.00	-53.29	Vertical
4462.500	-67.10	-13.00	-54.10	Vertical
6315.000	-65.09	-13.00	-52.09	Vertical
1276.000	-67.05	-13.00	-54.05	Horizontal
4950.000	-66.04	-13.00	-53.04	Horizontal
7972.500	-63.53	-13.00	-50.53	Horizontal

##### 7.1.1.1.2 Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
1650.000	-64.84	-13.00	-51.84	Vertical
4170.000	-66.99	-13.00	-53.99	Vertical
6217.500	-64.75	-13.00	-51.75	Vertical
1364.000	-67.46	-13.00	-54.46	Horizontal
1892.000	-59.03	-13.00	-46.03	Horizontal
6217.500	-65.01	-13.00	-52.01	Horizontal

##### 7.1.1.1.3 Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
1507.000	-66.33	-13.00	-53.33	Vertical
4462.500	-67.06	-13.00	-54.06	Vertical
7972.500	-63.51	-13.00	-50.51	Vertical
1463.000	-65.92	-13.00	-52.92	Horizontal
5145.000	-66.37	-13.00	-53.37	Horizontal
7875.000	-63.48	-13.00	-50.48	Horizontal



**Secondary Supply:**

**7.1.2 Test Band = LTE band12**

**7.1.2.1 Test Mode =LTE/TM1 10MHz RB1#0**

**7.1.2.1.1 Test Channel = MCH**

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
1408.000	-57.67	-13.00	-44.67	Vertical
4170.000	-66.74	-13.00	-53.74	Vertical
7972.500	-63.42	-13.00	-50.42	Vertical
2123.000	-48.17	-13.00	-35.17	Horizontal
4267.500	-66.44	-13.00	-53.44	Horizontal
8655.000	-63.76	-13.00	-50.76	Horizontal

**NOTE:**

- 1) All modes are tested, but the data presented above is the worst case. The disturbance above 13GHz and below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.



## 8 Frequency Stability

### 8.1 Frequency Error VS. Voltage

Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
LTE band12	LTE/TM1 10MHz	LCH	TN	VL	-2.63	-0.00374	PASS
				VN	1.42	0.00202	PASS
				VH	-5.23	-0.00743	PASS
		MCH	TN	VL	-3.56	-0.00503	PASS
				VN	-2.80	-0.00396	PASS
				VH	1.72	0.00243	PASS
		HCH	TN	VL	-5.36	-0.00754	PASS
				VN	-4.20	-0.00591	PASS
				VH	-2.88	-0.00405	PASS
	LTE/TM2 10MHz	LCH	TN	VL	-4.30	-0.00611	PASS
				VN	-3.37	-0.00479	PASS
				VH	-5.13	-0.00729	PASS
		MCH	TN	VL	1.20	0.00170	PASS
				VN	-3.99	-0.00564	PASS
				VH	1.63	0.00230	PASS
		HCH	TN	VL	-2.32	-0.00326	PASS
				VN	-6.10	-0.00858	PASS
				VH	5.18	0.00729	PASS



### 8.2 Frequency Error VS. Temperature

Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
LTE band12	LTE/TM1 10MHz	LCH	VN	-30	-4.45	-0.00632	PASS
				-20	-2.38	-0.00338	PASS
				-10	-2.77	-0.00393	PASS
				0	3.20	0.00455	PASS
				10	1.29	0.00183	PASS
				20	0.59	0.00084	PASS
				30	-2.68	-0.00381	PASS
				40	-2.70	-0.00384	PASS
				50	-6.02	-0.00855	PASS
		MCH	VN	-30	-5.14	-0.00727	PASS
				-20	-5.20	-0.00735	PASS
				-10	-3.32	-0.00469	PASS
				0	-1.57	-0.00222	PASS
				10	-2.27	-0.00321	PASS
				20	-2.89	-0.00408	PASS
				30	-3.09	-0.00437	PASS
				40	-4.88	-0.00690	PASS
				50	-5.22	-0.00738	PASS
		HCH	VN	-30	-6.68	-0.00940	PASS
				-20	-3.24	-0.00456	PASS
				-10	1.69	0.00238	PASS
				0	-2.40	-0.00338	PASS
				10	2.44	0.00343	PASS
				20	-0.39	-0.00055	PASS
30	-2.43			-0.00342	PASS		
40	-4.59			-0.00646	PASS		
50	-3.88			-0.00546	PASS		





**SGS-CSTC Standards Technical Services Co., Ltd.**  
**Shenzhen Branch**

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Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
LTE band12	LTE/TM2 10MHz	LCH	VN	-30	-3.67	-0.00521	PASS
				-20	-2.42	-0.00344	PASS
				-10	1.20	0.00170	PASS
				0	2.21	0.00314	PASS
				10	1.70	0.00241	PASS
				20	-0.83	-0.00118	PASS
				30	-6.03	-0.00857	PASS
				40	2.27	0.00322	PASS
		MCH	VN	-30	-3.32	-0.00469	PASS
				-20	-2.66	-0.00376	PASS
				-10	-5.10	-0.00721	PASS
				0	-1.83	-0.00259	PASS
				10	-2.79	-0.00394	PASS
				20	2.23	0.00315	PASS
				30	-2.29	-0.00324	PASS
				40	-6.08	-0.00859	PASS
		HCH	VN	-30	-3.03	-0.00426	PASS
				-20	-4.60	-0.00647	PASS
				-10	2.39	0.00336	PASS
				0	-3.48	-0.00489	PASS
				10	2.72	0.00383	PASS
				20	-1.99	-0.00280	PASS
				30	-3.39	-0.00477	PASS
				40	-4.30	-0.00605	PASS
				50	-4.80	-0.00675	PASS

The End