Appendix B

WCDMA Band 2&4&5

CONTENT

1 Effective (Isotropic) Radiated Power Output Data

Part I - Test Results

Test Band	Test Mode	Test Channel	Measured[dBm]	EIRP[dBm]	Limit[dBm]	Verdict
WCDMA1900	UMTS/TM1	LCH	22.01	21.11	33	PASS
		MCH	22.03	21.13	33	PASS
		HCH	22.04	21.14	33	PASS
WCDMA1700	UMTS/TM1	LCH	22.19	21.09	30	PASS
		MCH	22.22	21.12	30	PASS
		HCH	22.26	21.16	30	PASS

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

EIRP [dBm] = SGP [dBm] – Cable Loss [dB] + Gain [dBi]

b: SGP=Signal Generator Level
c: RBW > emission bandwidth, VBW > 3 x RBW.
Detector: RMS

Test Band	Test Mode	Test Channel	Measured[dBm]	ERP[dBm]	Limit[dBm]	Verdict
WCDMA850	UMTS/TM1	LCH	22.61	20.81	38.45	PASS
		MCH	22.67	20.87	38.45	PASS
		HCH	22.52	20.72	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
WCDMA1900	UMTS/TM1	LCH	2.99	13	PASS
		MCH	3.04	13	PASS
		HCH	2.96	13	PASS
WCDMA1700	UMTS/TM1	LCH	2.46	13	PASS
		MCH	3.04	13	PASS
		HCH	2.72	13	PASS
WCDMA850	UMTS/TM1	LCH	2.75	13	PASS
		MCH	2.96	13	PASS
		HCH	2.72	13	PASS

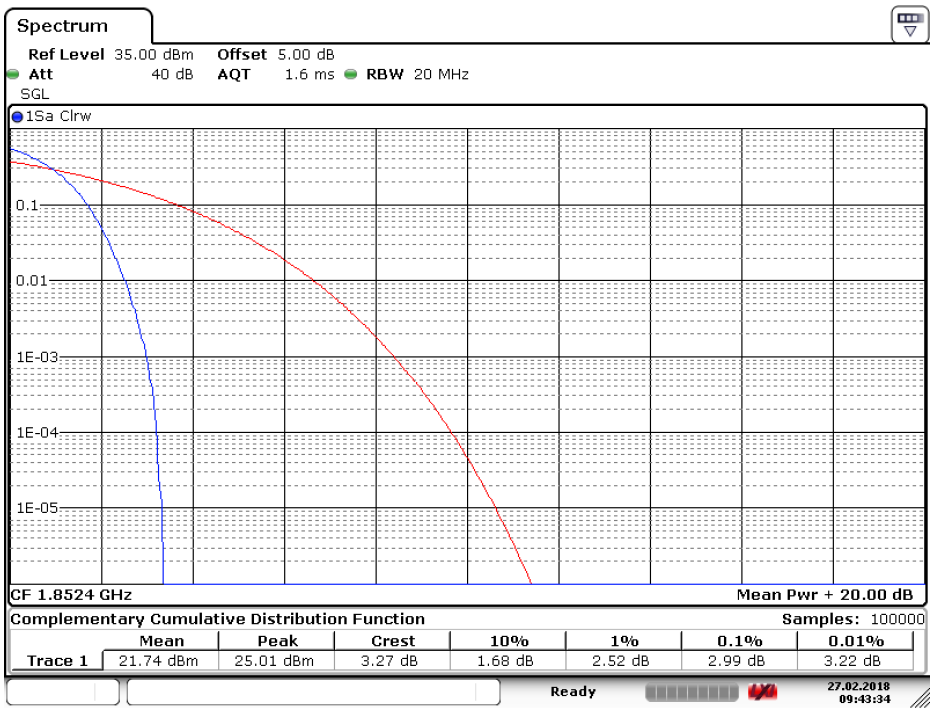
Part II - Test Plots

2.1 For WCDMA

2.1.1 Test Band = WCDMA 1900

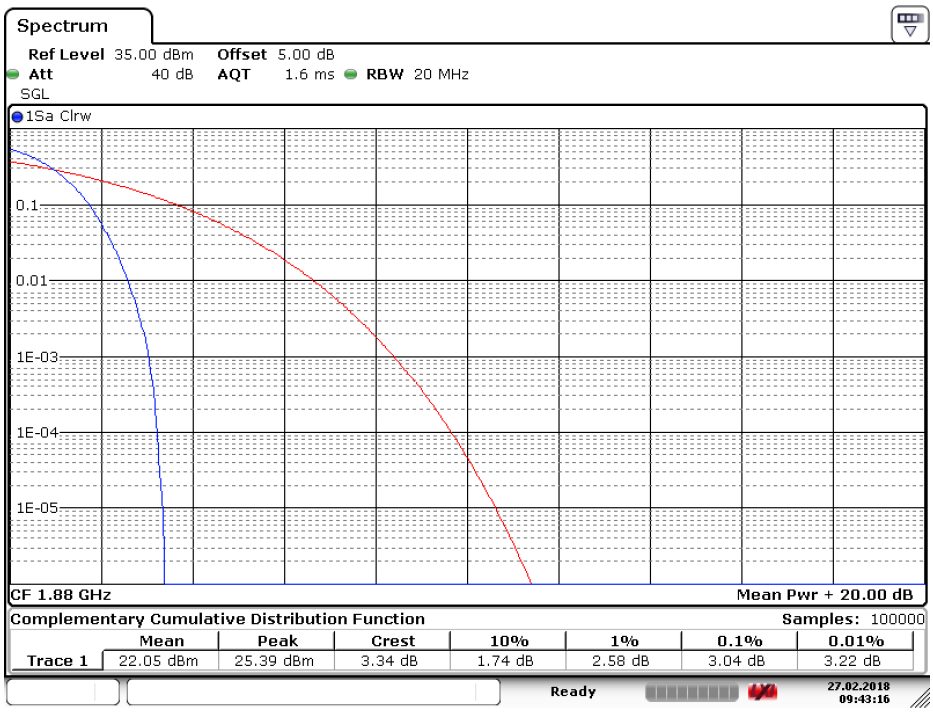
2.1.1.1 Test Mode = UMTS/TM1

2.1.1.1.1 Test Channel = LCH



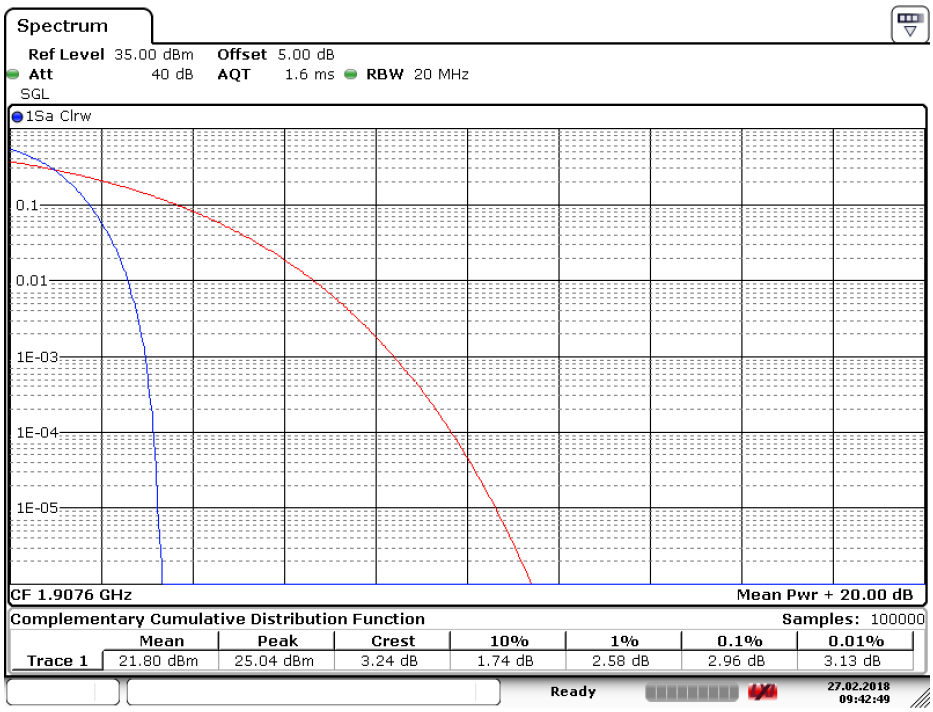
Date: 27.FEB.2018 09:43:35

2.1.1.1.2 Test Channel = MCH



Date: 27.FEB.2018 09:43:16

2.1.1.1.3 Test Channel = HCH

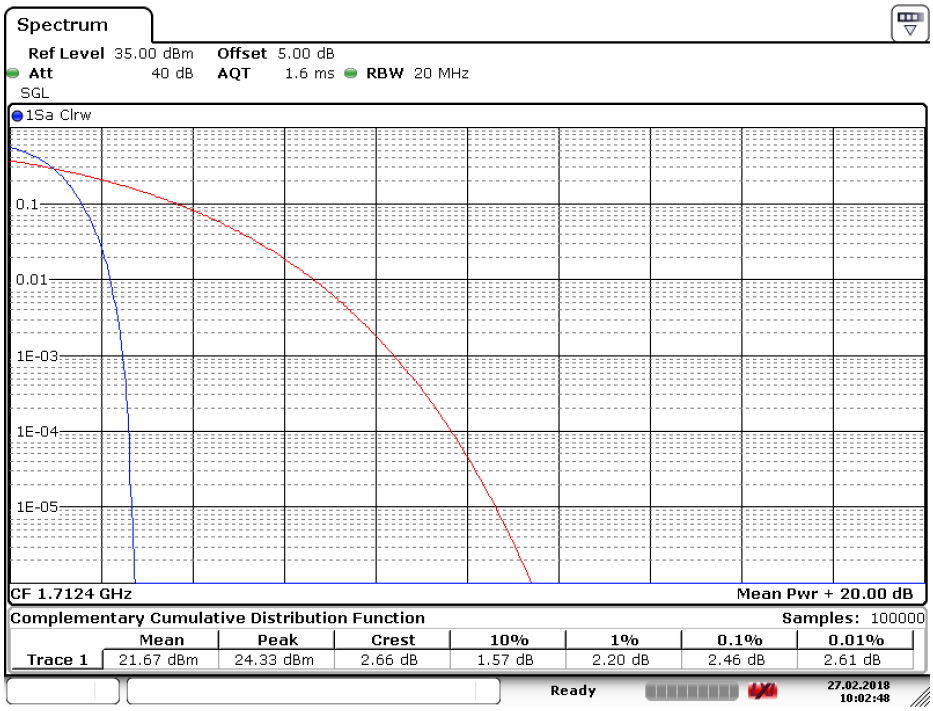


Date: 27.FEB.2018 09:42:50

2.1.2 Test Band = WCDMA 1700

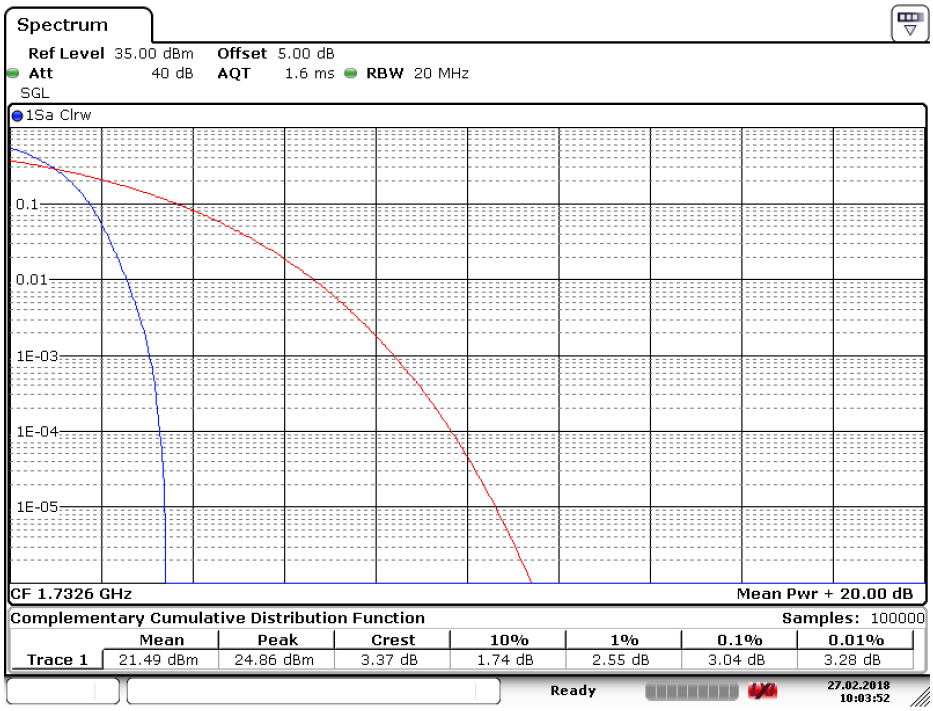
2.1.2.1 Test Mode = UMTS/TM1

2.1.2.1.1 Test Channel = LCH



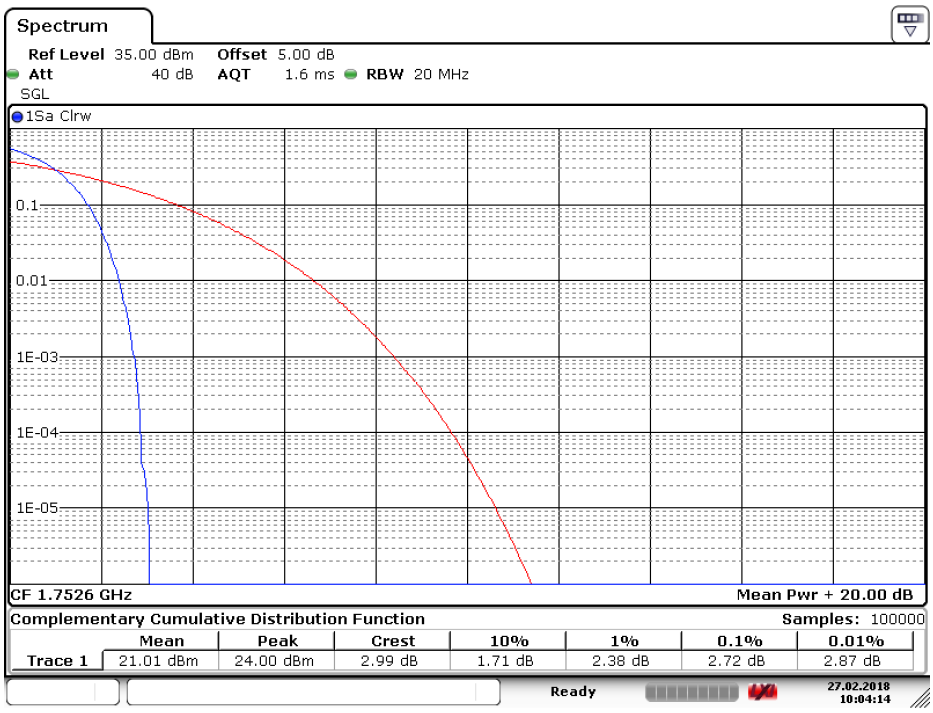
Date: 27.FEB.2018 10:02:48

2.1.2.1.2 Test Channel = MCH



Date: 27.FEB.2018 10:03:52

2.1.2.1.3 Test Channel = HCH

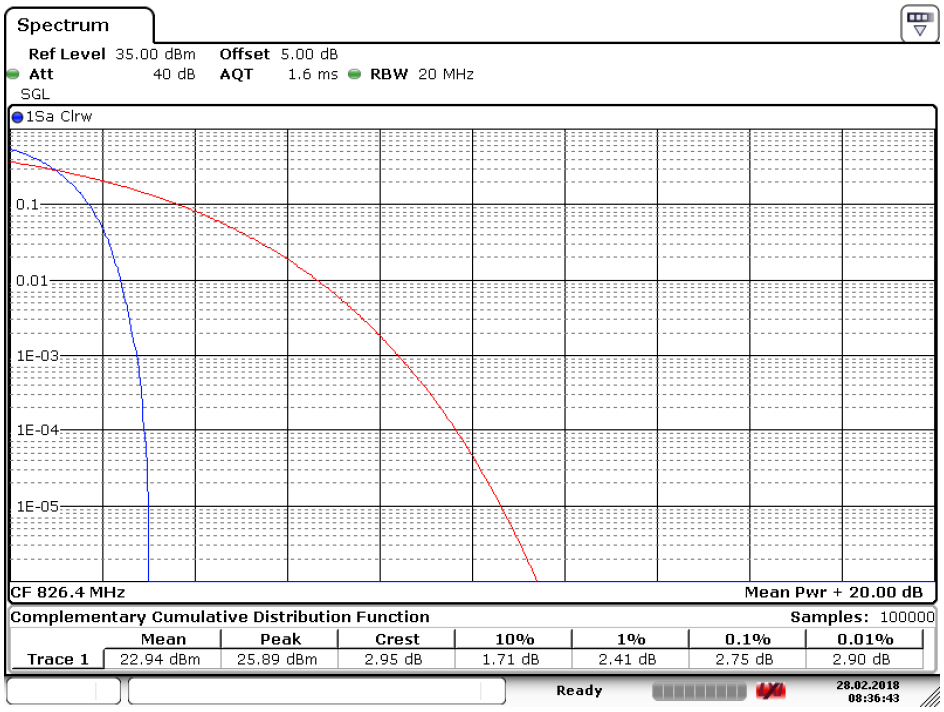


Date: 27.FEB.2018 10:04:14

2.1.3 Test Band = WCDMA 850

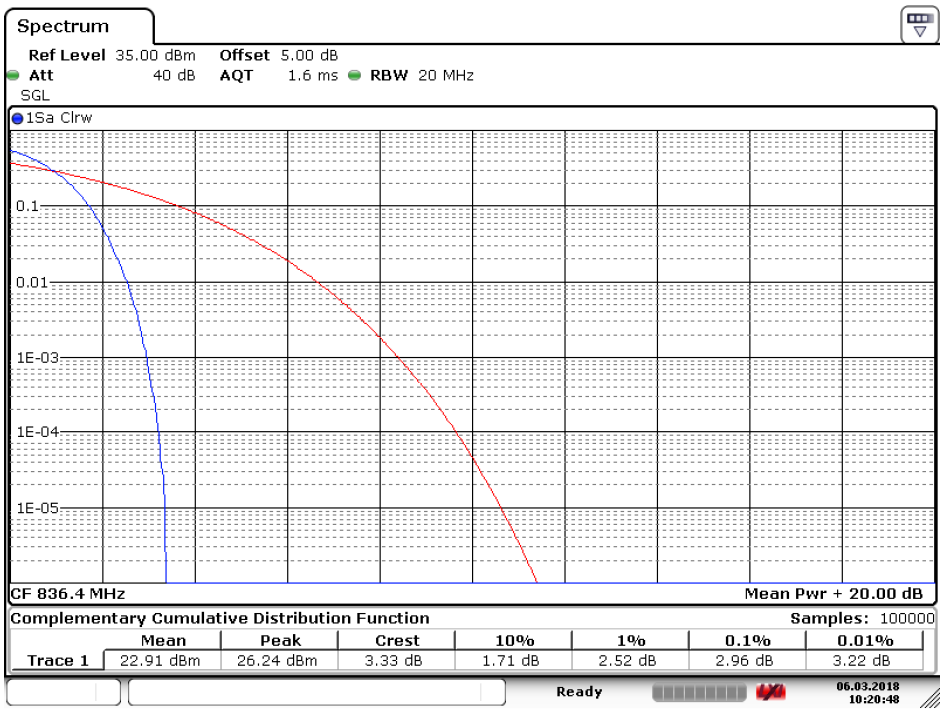
2.1.3.1 Test Mode = UMTS/TM1

2.1.3.1.1 Test Channel = LCH



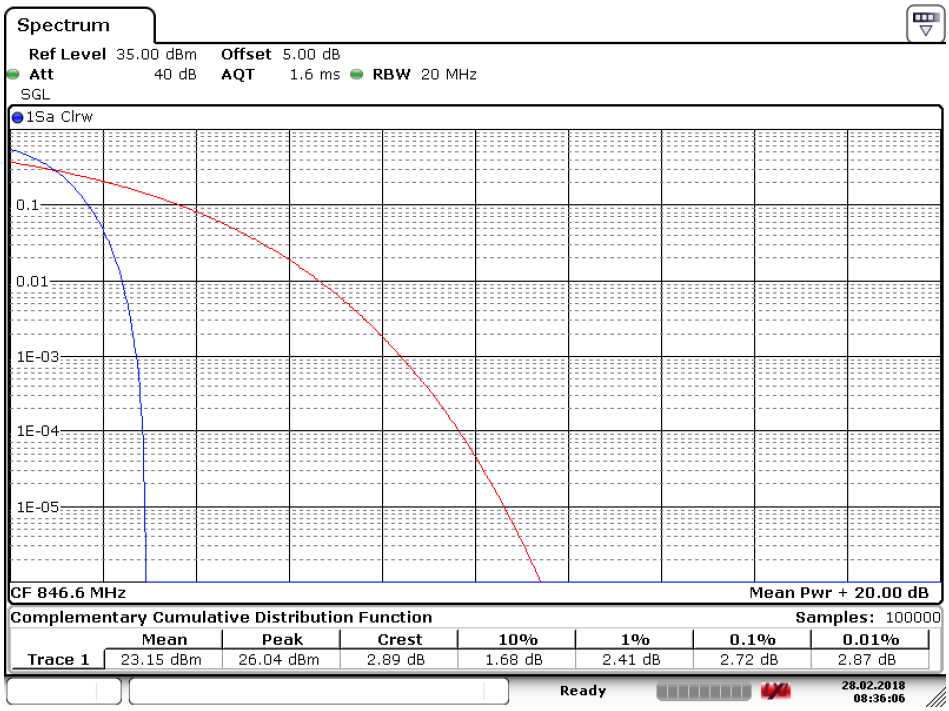
Date: 28.FEB.2018 08:36:43

2.1.3.1.2 Test Channel = MCH



Date: 6.MAR.2018 10:20:49

2.1.3.1.3 Test Channel = HCH



Date: 28.FEB.2018 08:36:06

3 Modulation Characteristics

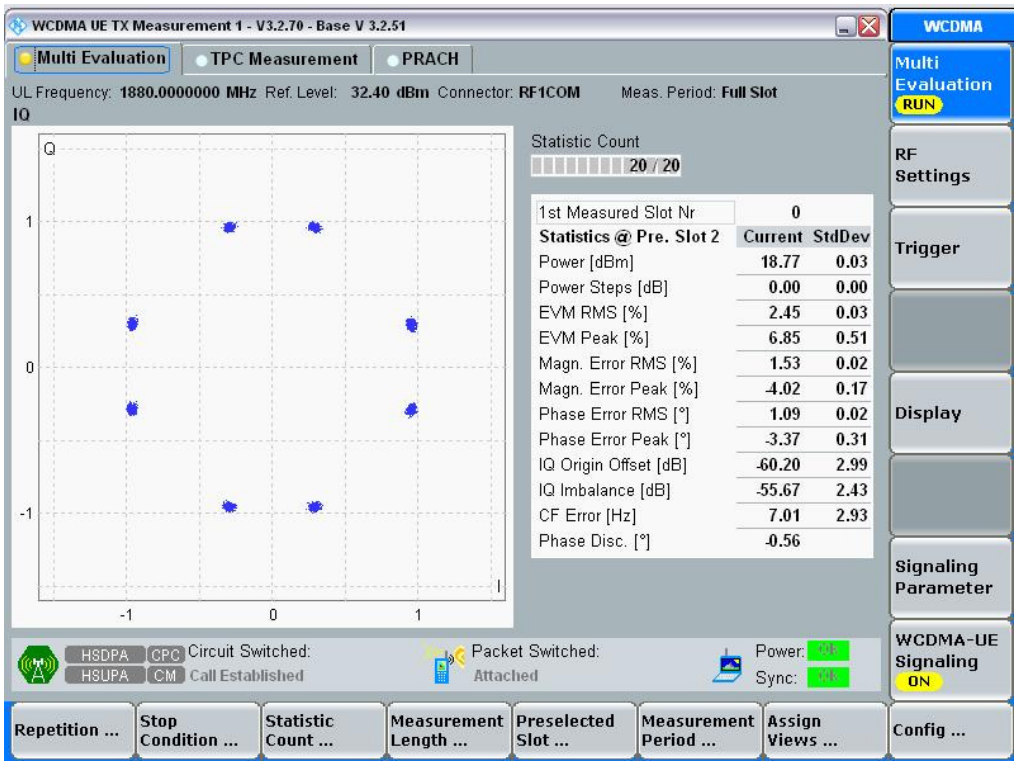
Part I - Test Plots

3.1 For WCDMA

3.1.1 Test Band = WCDMA 1900

3.1.1.1 Test Mode = UMTS/TM1

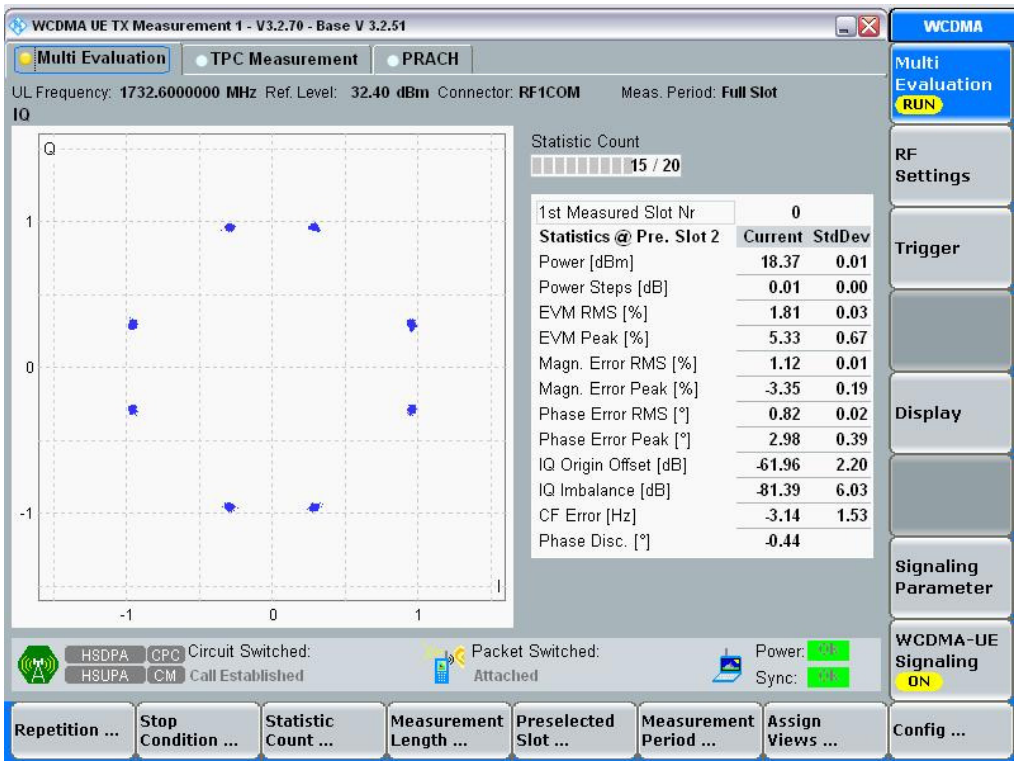
3.1.1.1.1 Test Channel = MCH



3.1.2 Test Band = WCDMA 1700

3.1.2.1 Test Mode = UMTS /TM1

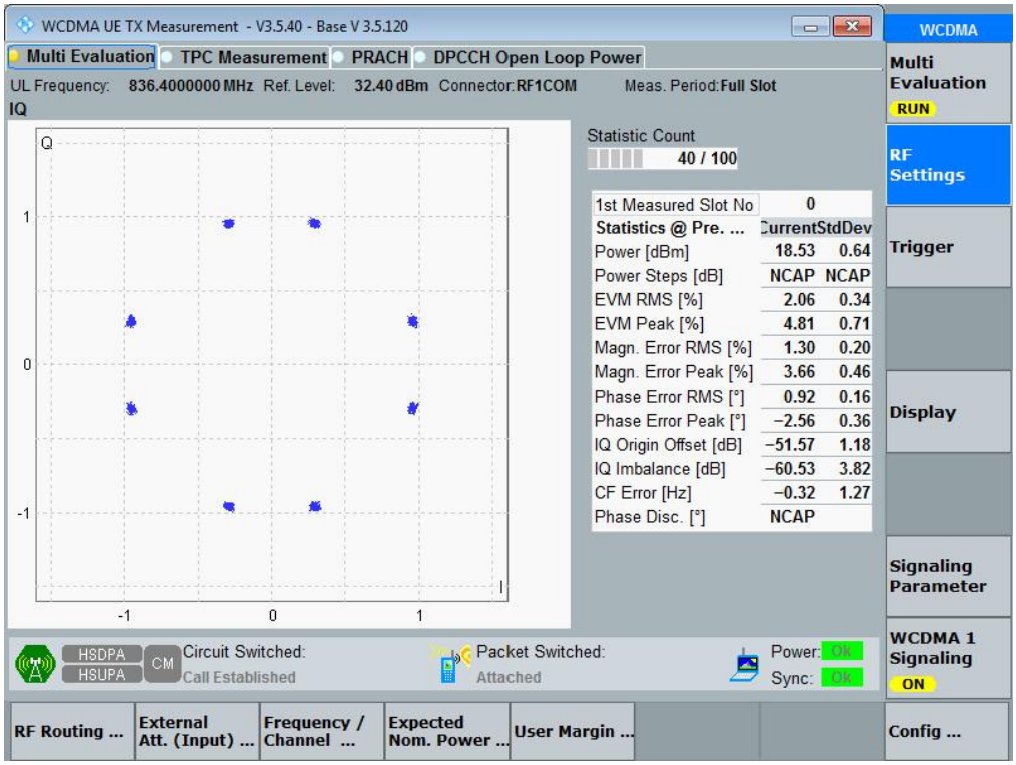
3.1.2.1.1 Test Channel = MCH



3.1.3 Test Band = WCDMA 850

3.1.3.1 Test Mode = UMTS /TM1

3.1.3.1.1 Test Channel = MCH



4 Bandwidth

Part I - Test Results

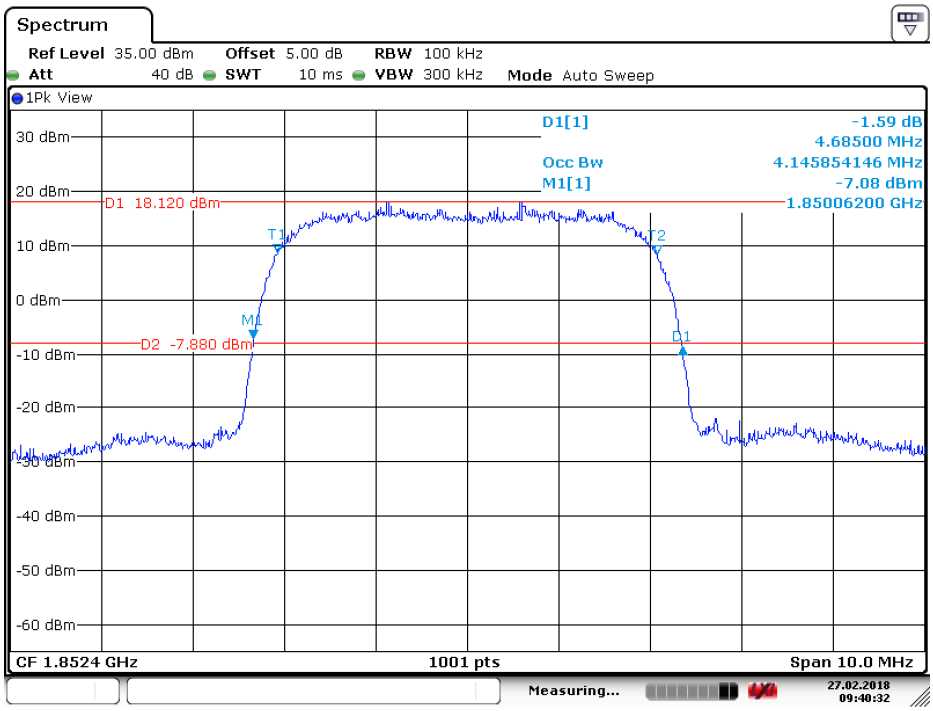
Test Band	Test Mode	Test Channel	Occupied Bandwidth [MHz]	Emission Bandwidth [MHz]	Verdict
WCDMA1900	UMTS/TM1	LCH	4.15	4.69	PASS
		MCH	4.16	4.68	PASS
		HCH	4.16	4.69	PASS
WCDMA1700	UMTS/TM1	LCH	4.16	4.71	PASS
		MCH	4.15	4.69	PASS
		HCH	4.16	4.70	PASS
WCDMA850	UMTS/TM1	LCH	4.17	4.67	PASS
		MCH	4.16	4.68	PASS
		HCH	4.17	4.71	PASS

4.1 For WCDMA

4.1.1 Test Band = WCDMA 1900

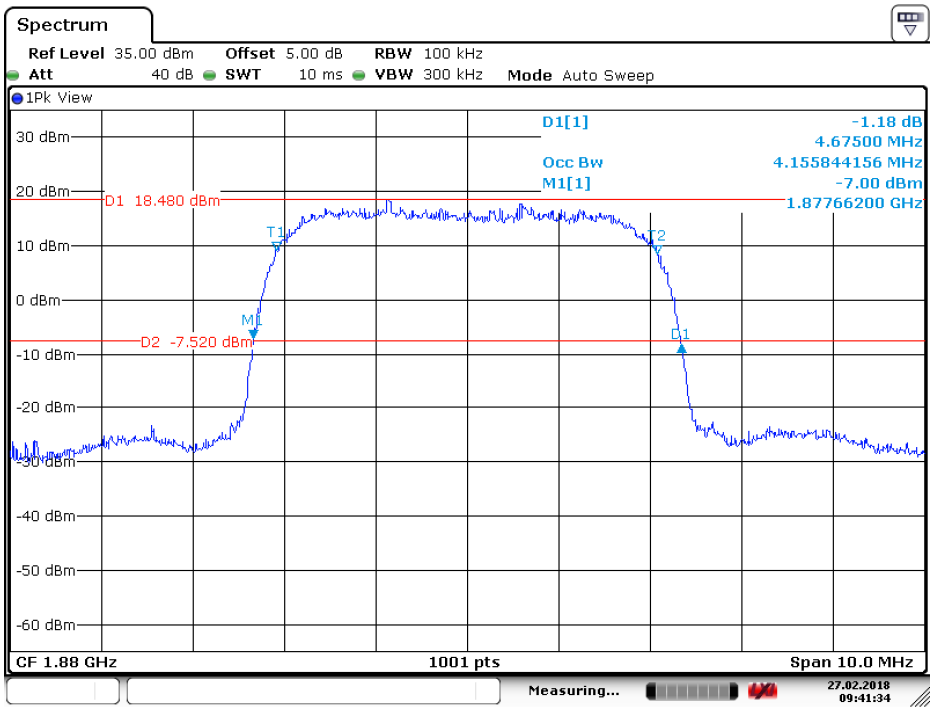
4.1.1.1 Test Mode = UMTS/TM1

4.1.1.1.1 Test Channel = LCH



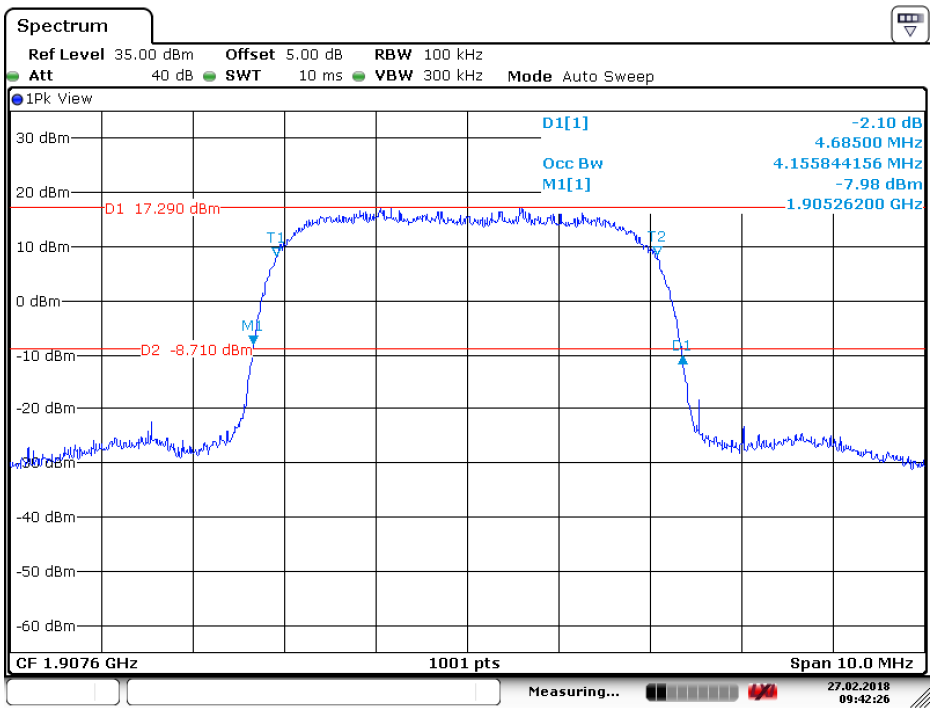
Date: 27.FEB.2018 09:40:32

4.1.1.1.2 Test Channel = MCH



Date: 27.FEB.2018 09:41:34

4.1.1.1.3 Test Channel = HCH

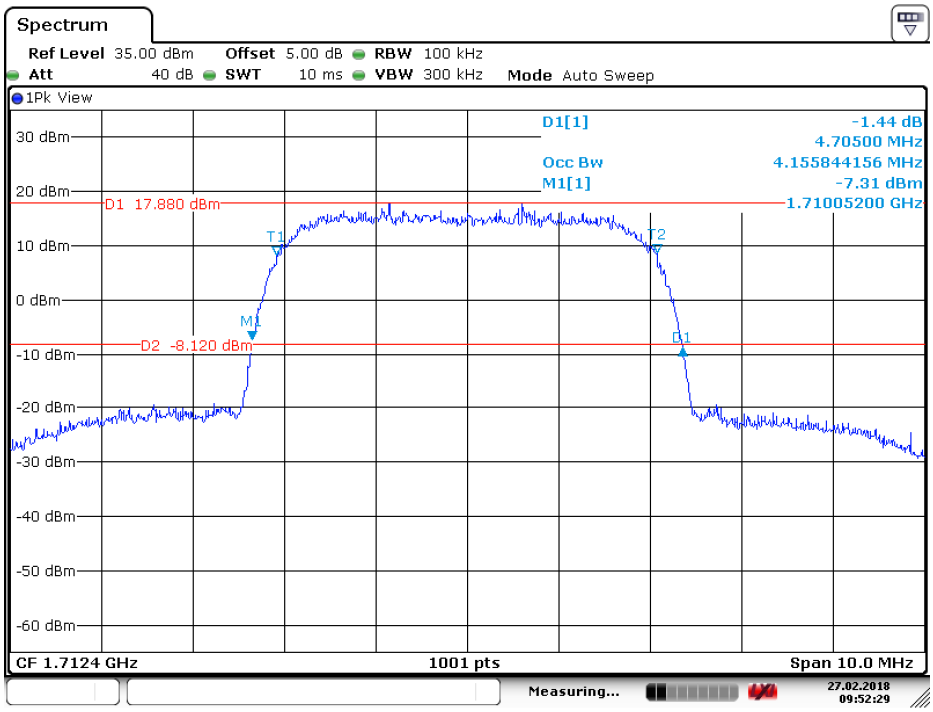


Date: 27.FEB.2018 09:42:26

4.1.2 Test Band = WCDMA 1700

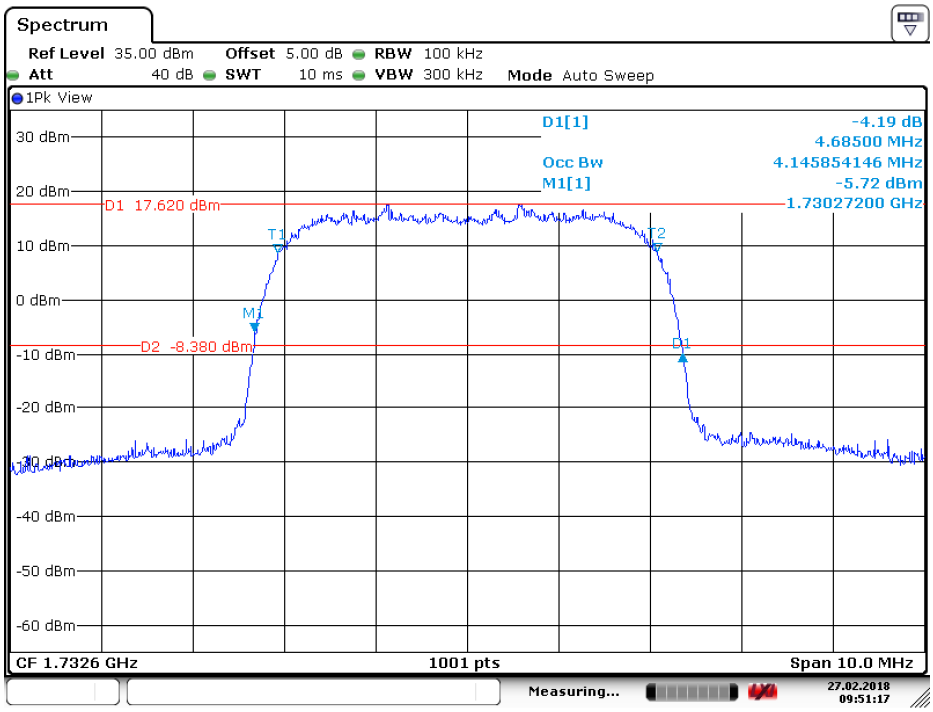
4.1.2.1 Test Mode = UMTS/TM1

4.1.2.1.1 Test Channel = LCH



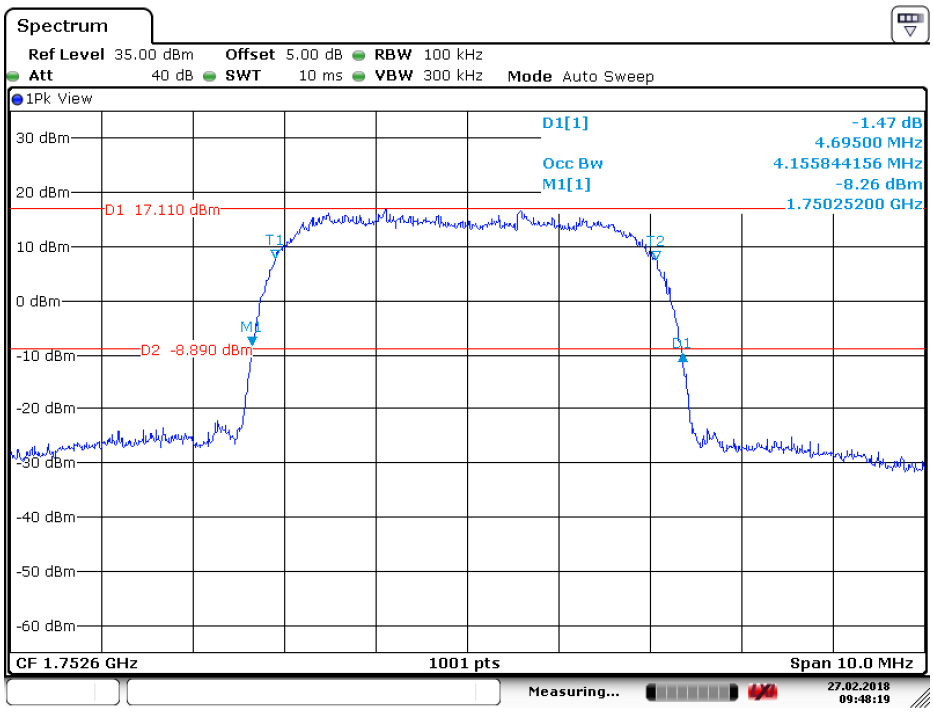
Date: 27.FEB.2018 09:52:30

4.1.2.1.2 Test Channel = MCH



Date: 27.FEB.2018 09:51:17

4.1.2.1.3 Test Channel = HCH

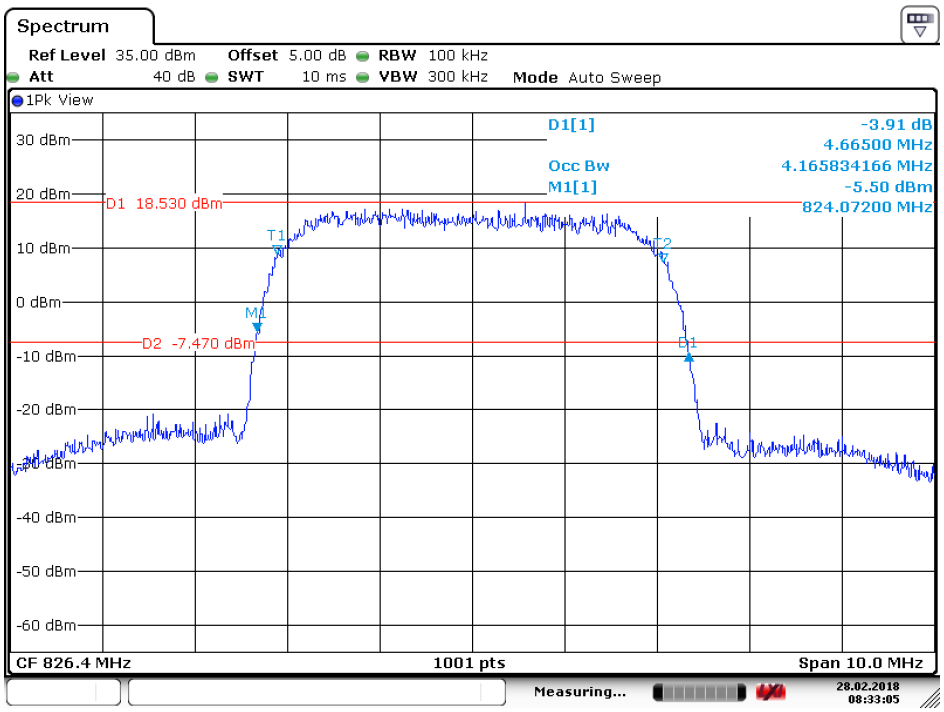


Date: 27.FEB.2018 09:48:19

4.1.3 Test Band = WCDMA 850

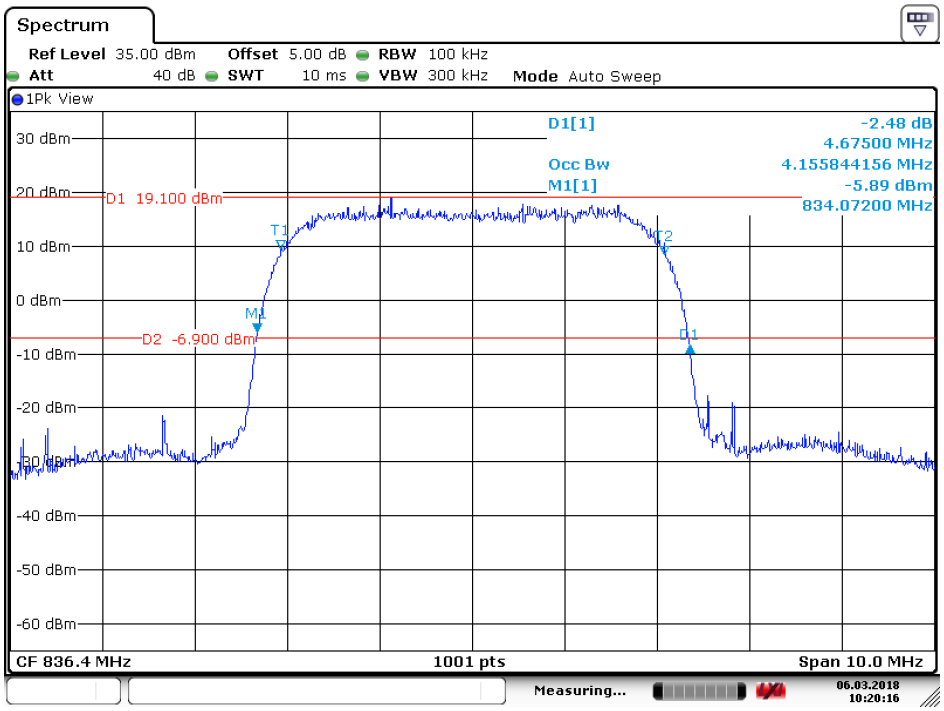
4.1.3.1 Test Mode = UMTS/TM1

4.1.3.1.1 Test Channel = LCH



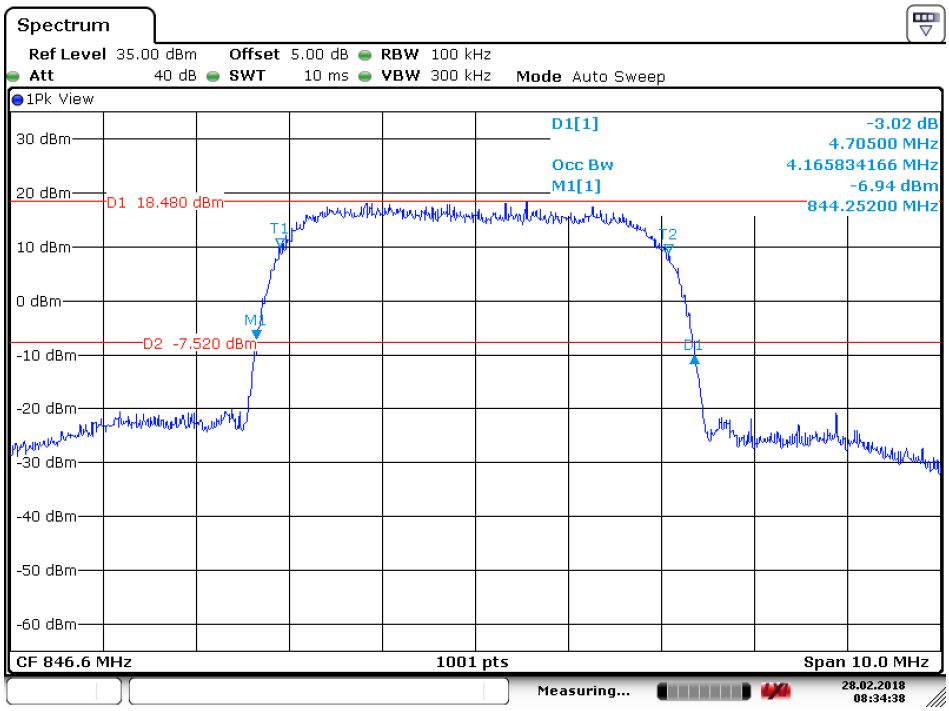
Date: 28.FEB.2018 08:33:06

4.1.3.1.2 Test Channel = MCH



Date: 6.MAR.2018 10:20:16

4.1.3.1.3 Test Channel = HCH



Date: 28.FEB.2018 08:34:38

5 Band Edges Compliance

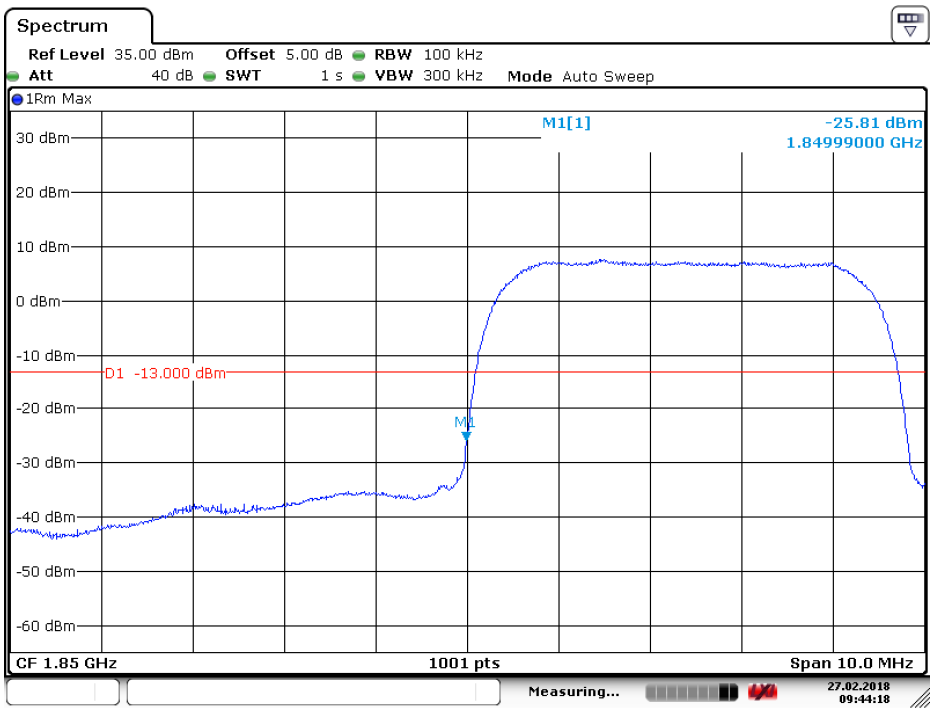
Part I - Test Plots

5.1 For WCDMA

5.1.1 Test Band = WCDMA 1900

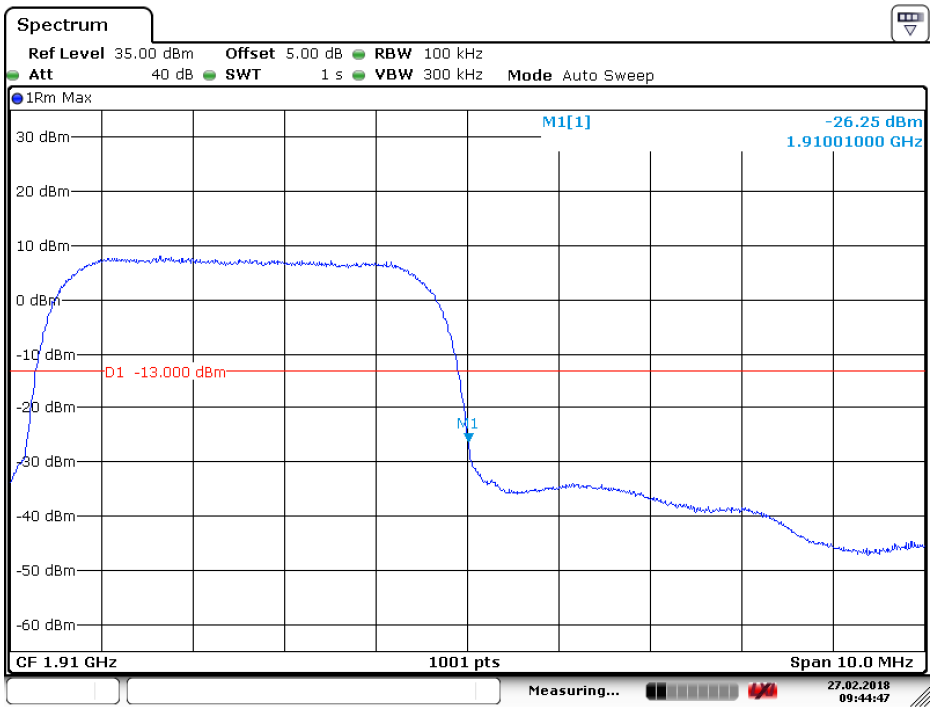
5.1.1.1 Test Mode = UMTS/TM1

5.1.1.1.1 Test Channel = LCH



Date: 27.FEB.2018 09:44:19

5.1.1.1.2 Test Channel = HCH

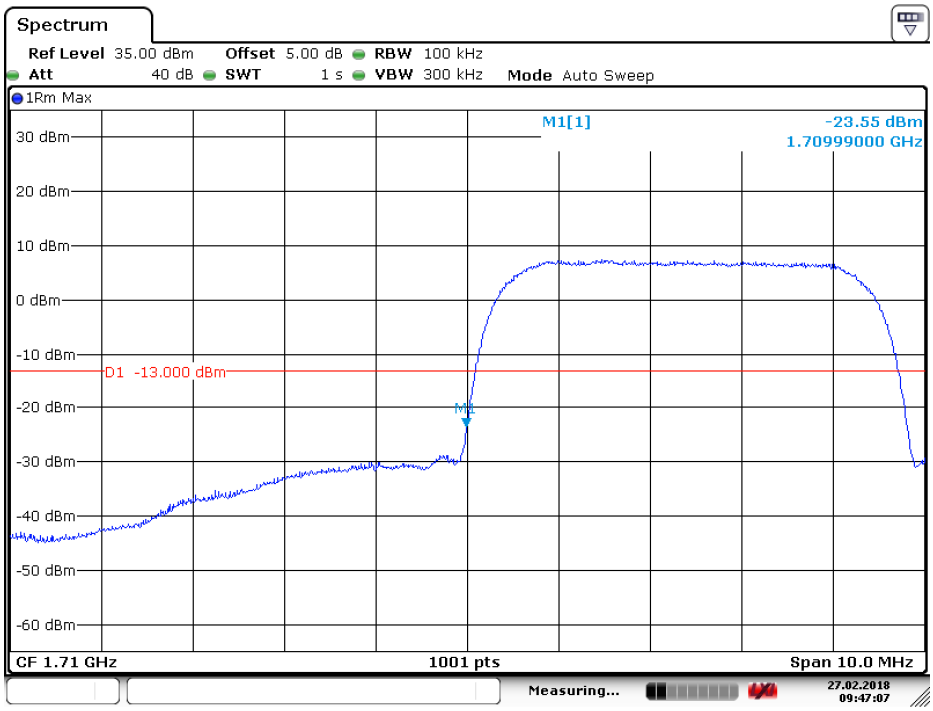


Date: 27.FEB.2018 09:44:47

5.1.2 Test Band = WCDMA 1700

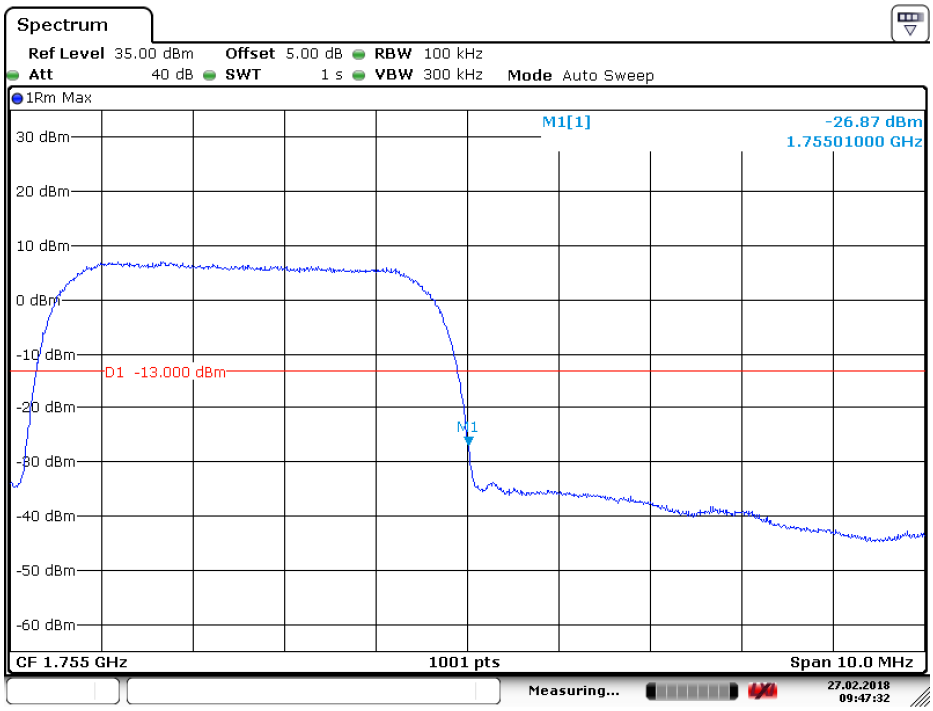
5.1.2.1 Test Mode = UMTS/TM1

5.1.2.1.1 Test Channel = LCH



Date: 27.FEB.2018 09:47:08

5.1.2.1.2 Test Channel = HCH

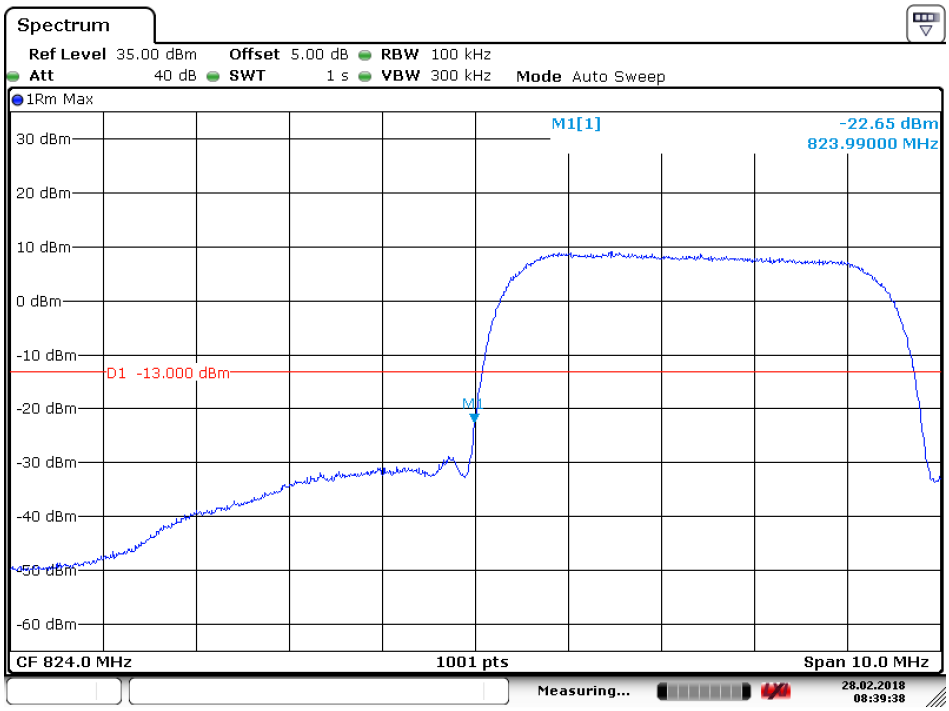


Date: 27.FEB.2018 09:47:32

5.1.3 Test Band = WCDMA 850

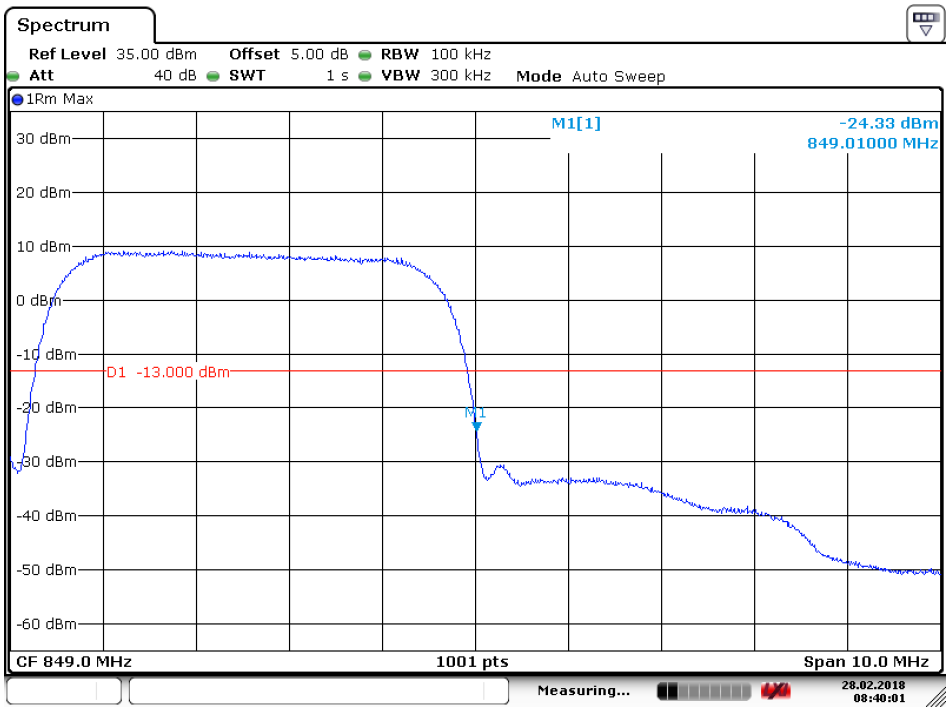
5.1.3.1 Test Mode = UMTS/TM1

5.1.3.1.1 Test Channel = LCH



Date: 28.FEB.2018 08:39:38

5.1.3.1.2 Test Channel = HCH



Date: 28.FEB.2018 08:40:02

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.

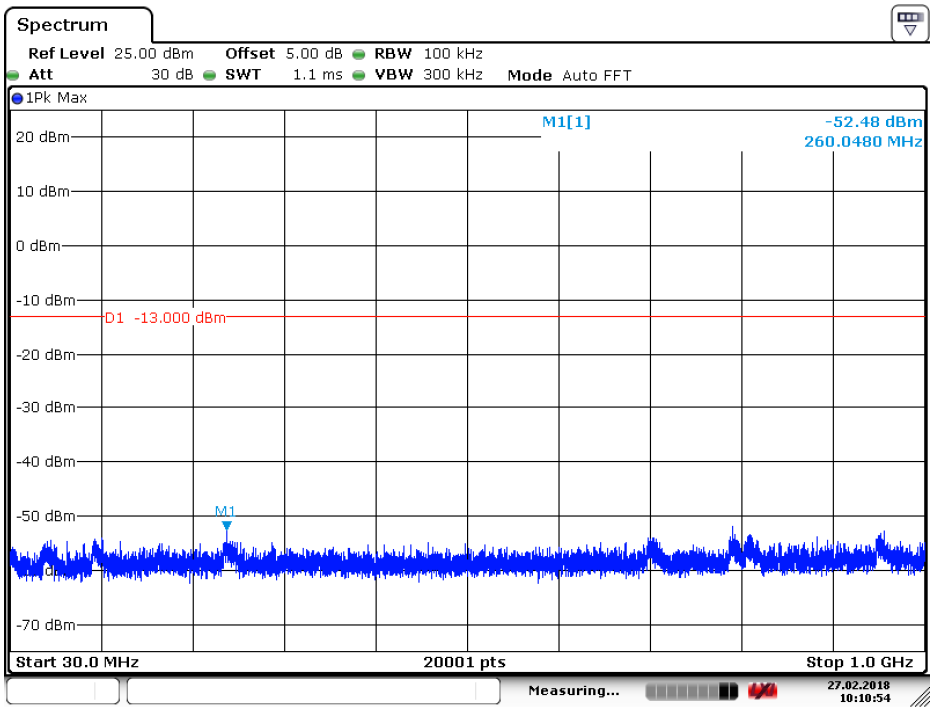
Part I - Test Plots

6.1 For WCDMA

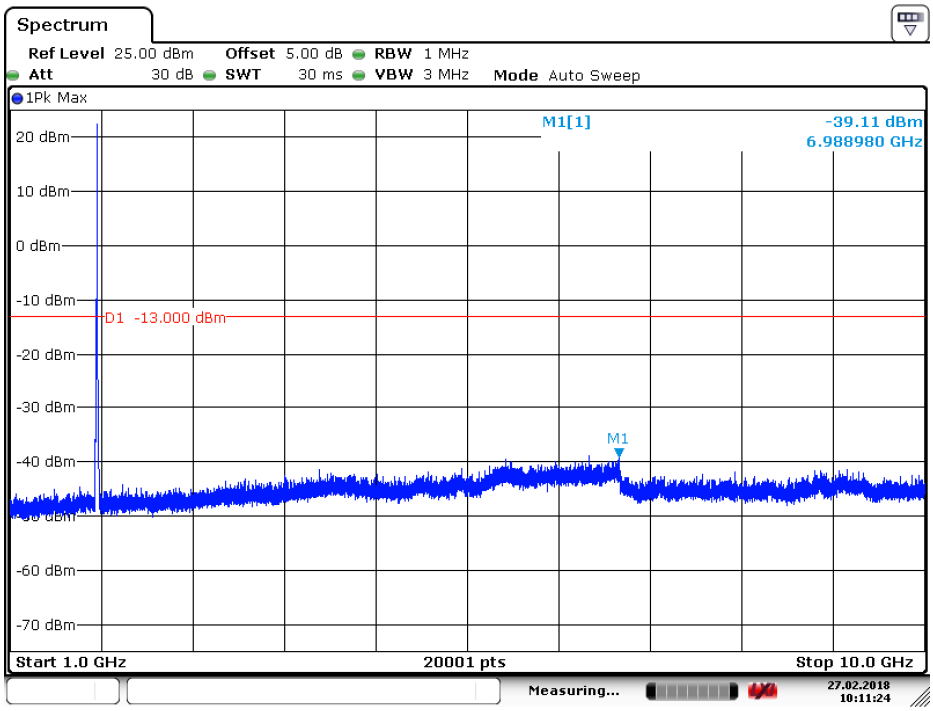
6.1.1 Test Band = WCDMA 1900

6.1.1.1 Test Mode = UMTS/TM1

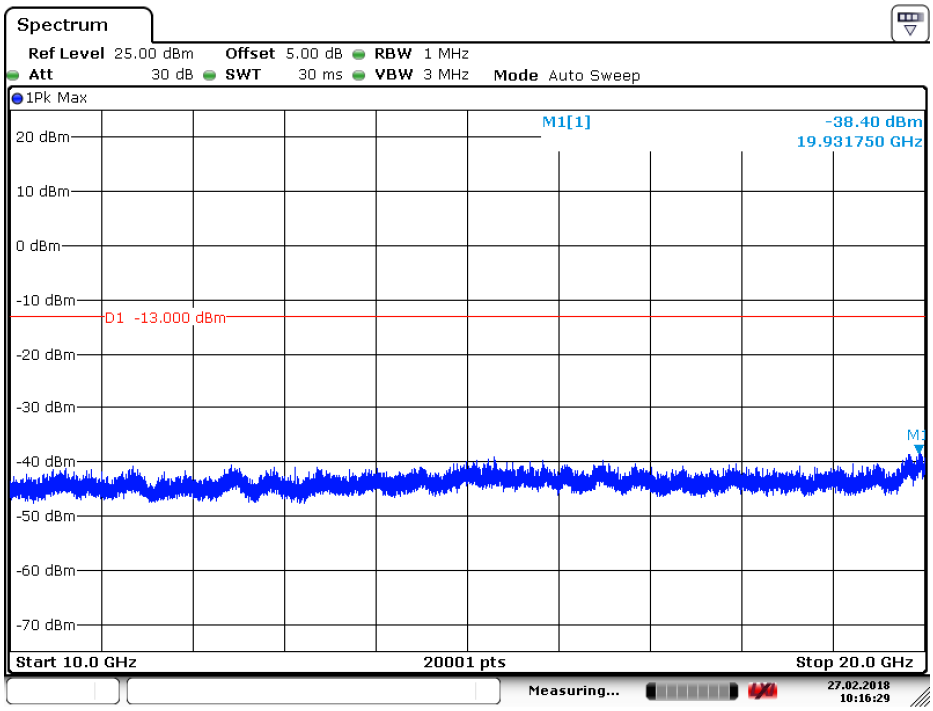
6.1.1.1.1 Test Channel = LCH



Date: 27.FEB.2018 10:10:55

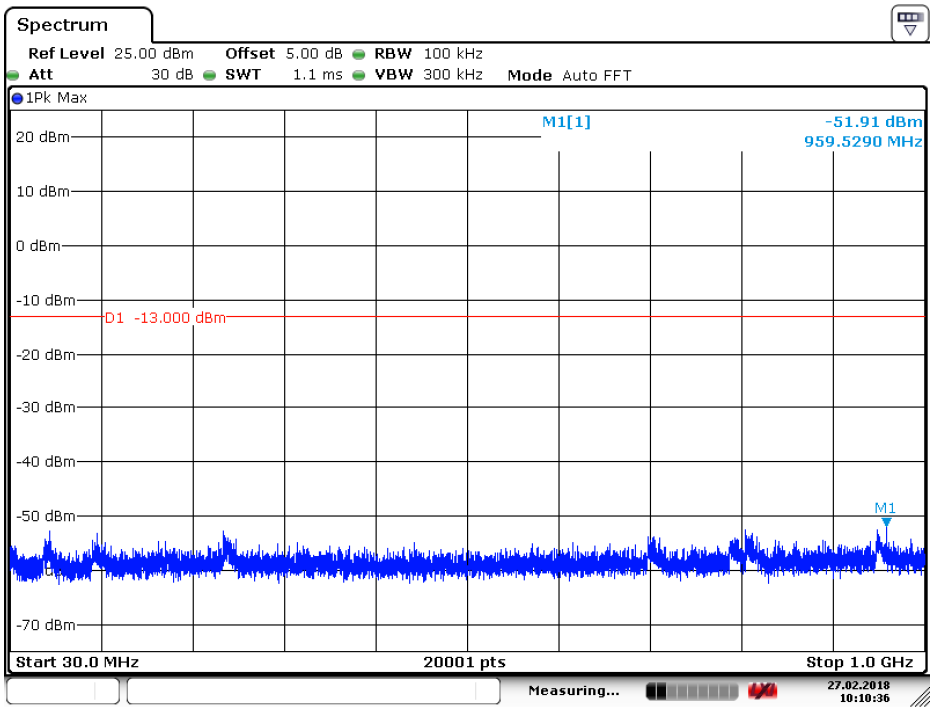


Date: 27.FEB.2018 10:11:25

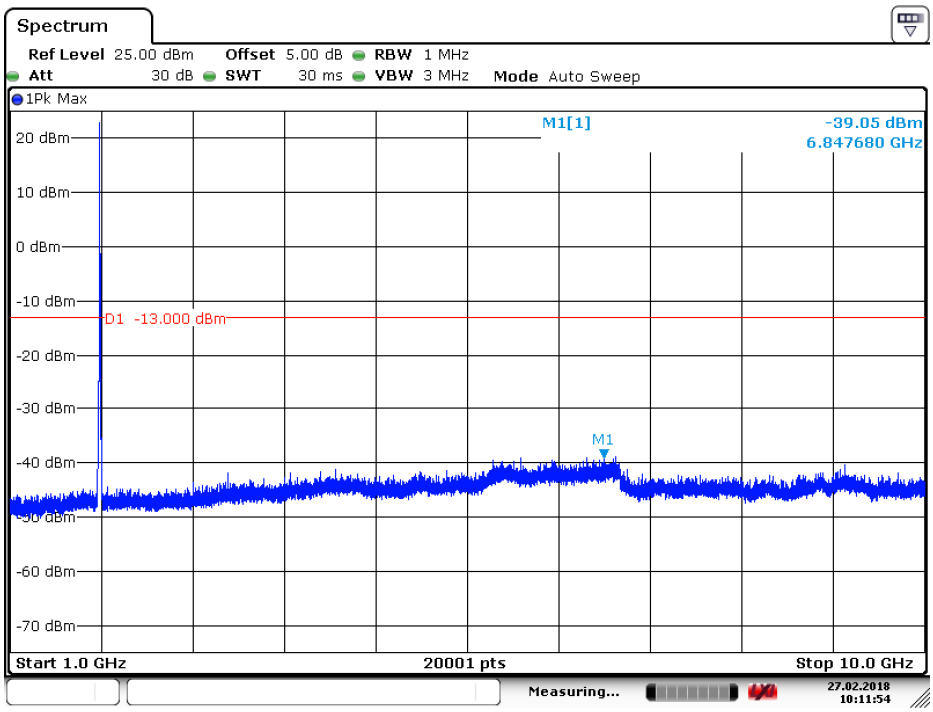


Date: 27.FEB.2018 10:16:30

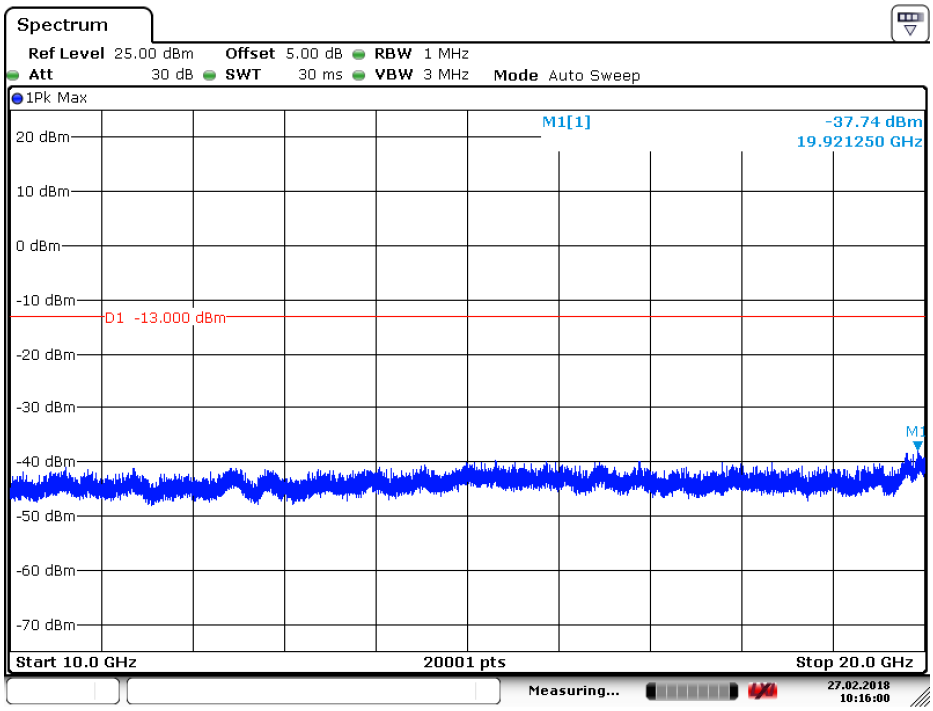
6.1.1.1.2 Test Channel = MCH



Date: 27.FEB.2018 10:10:36

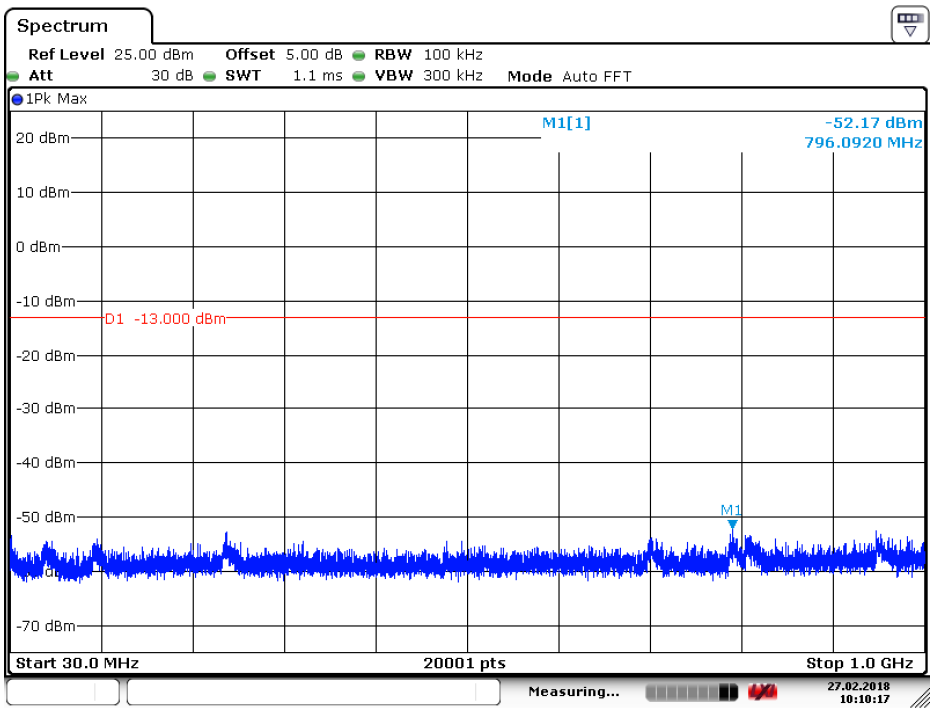


Date: 27.FEB.2018 10:11:55

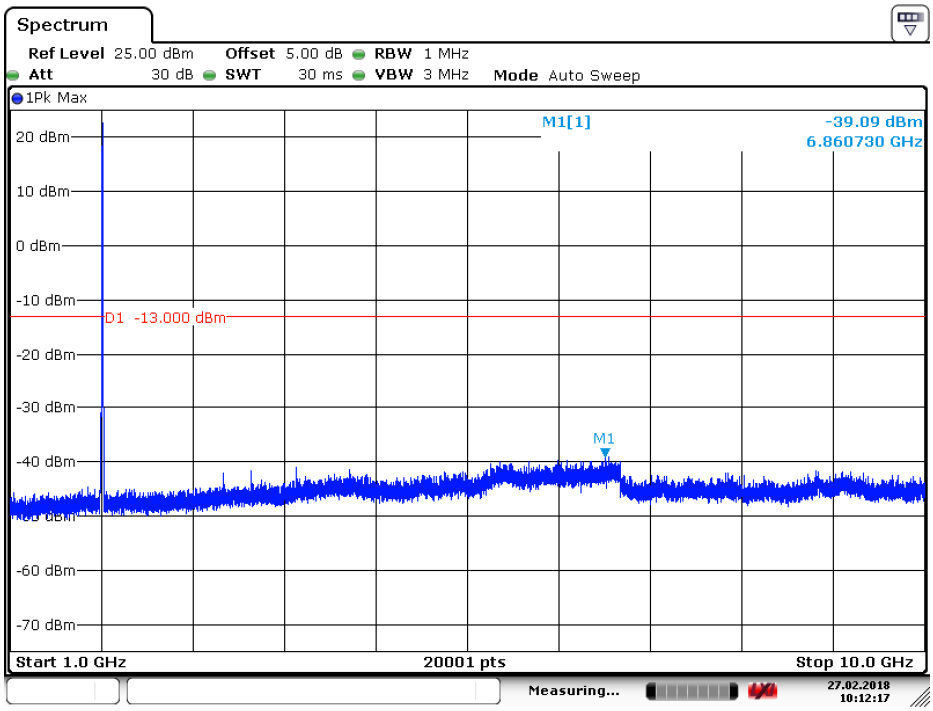


Date: 27.FEB.2018 10:16:00

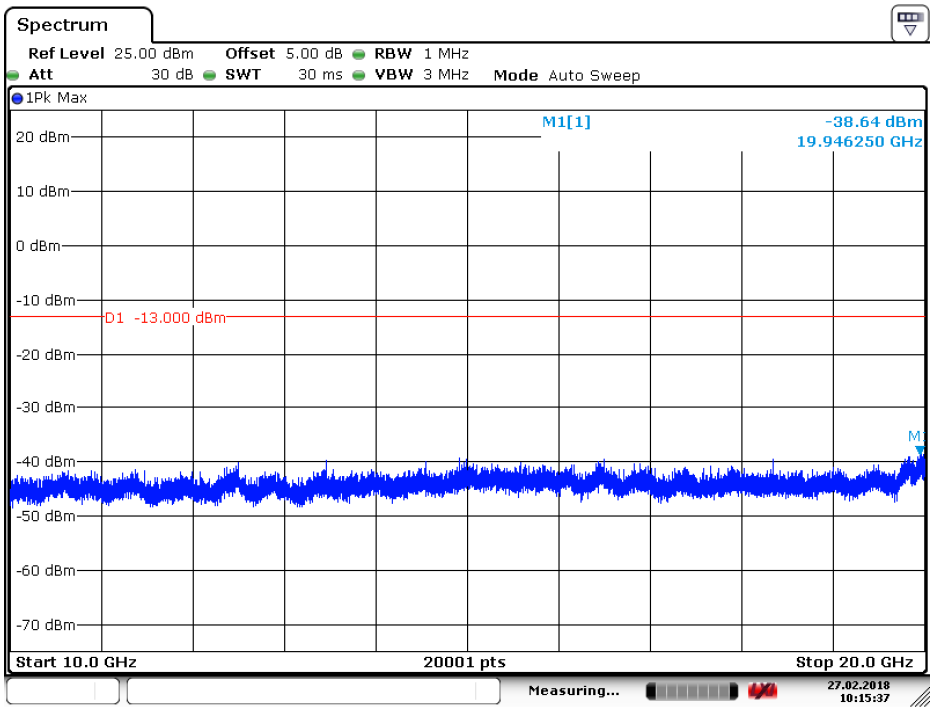
6.1.1.1.3 Test Channel = HCH



Date: 27.FEB.2018 10:10:17



Date: 27.FEB.2018 10:12:17

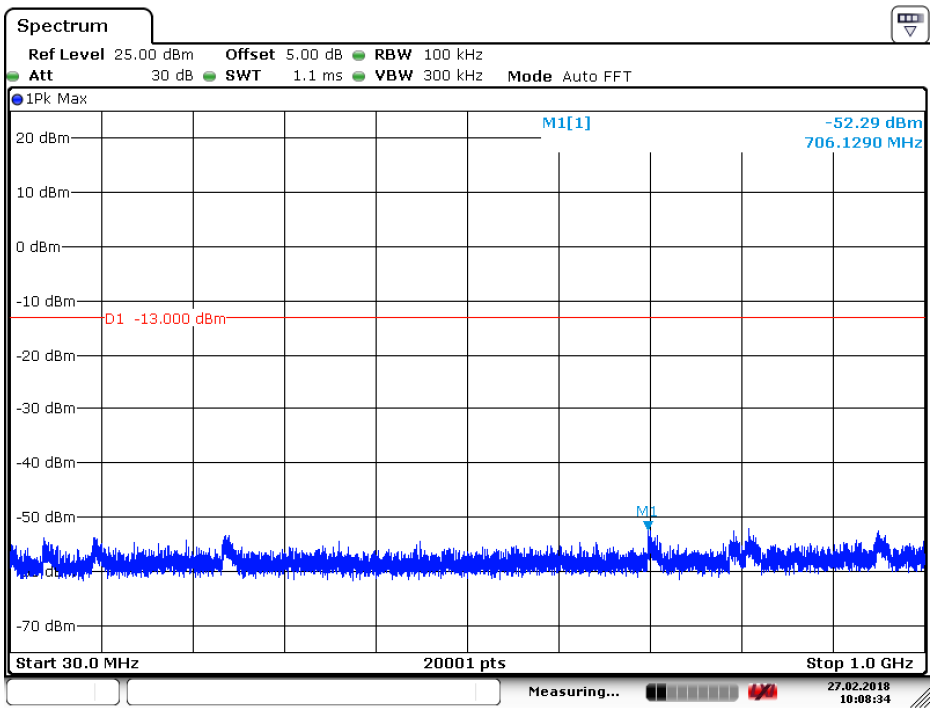


Date: 27.FEB.2018 10:15:38

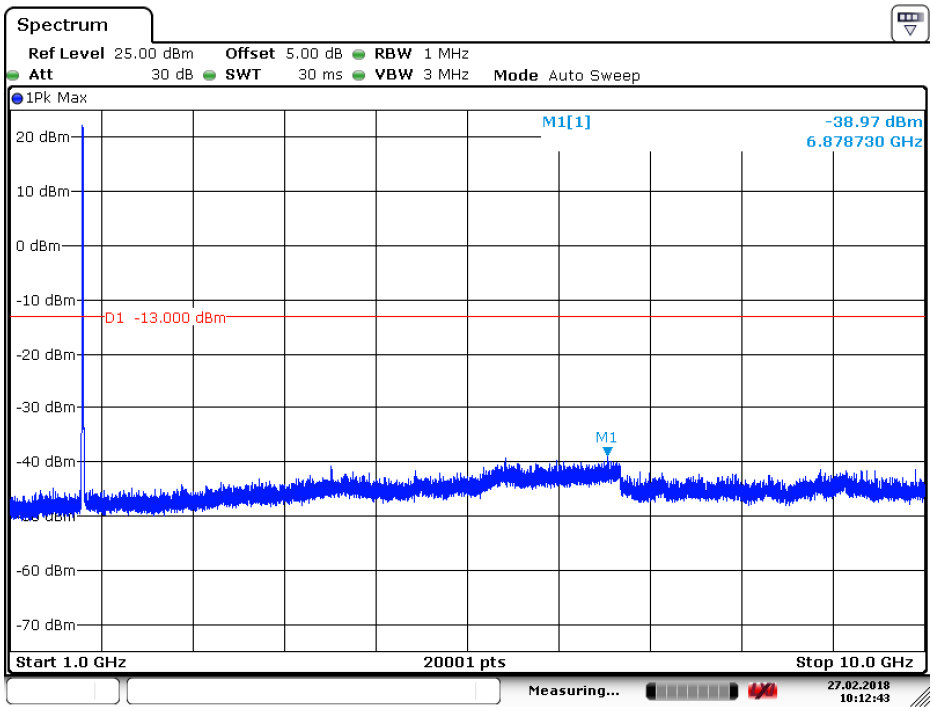
6.1.2 Test Band = WCDMA 1700

6.1.2.1 Test Mode = UMTS/TM1

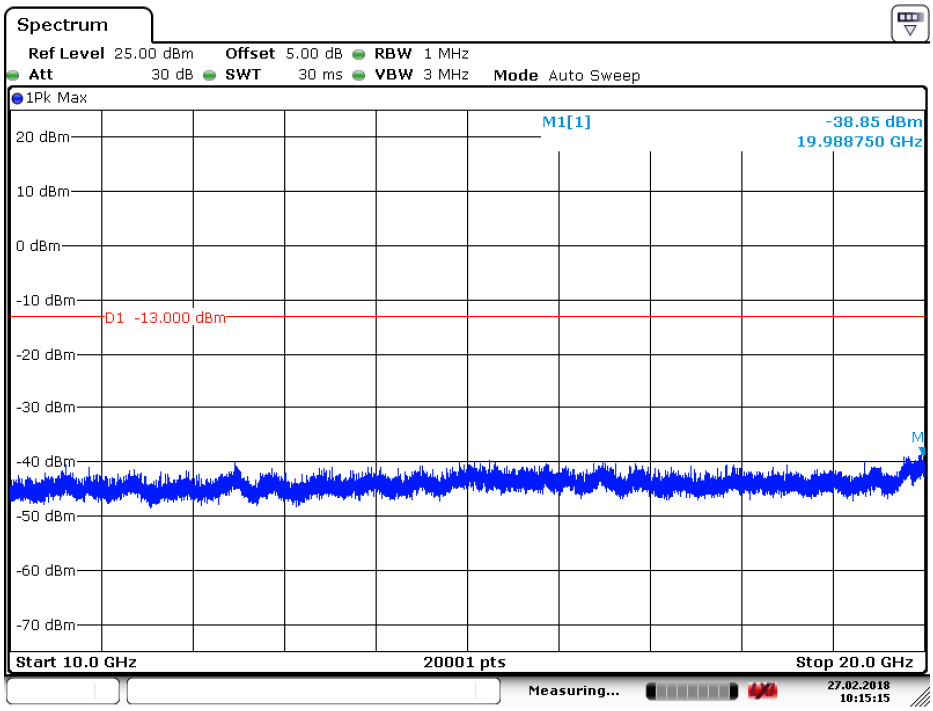
6.1.2.1.1 Test Channel = LCH



Date: 27.FEB.2018 10:08:34

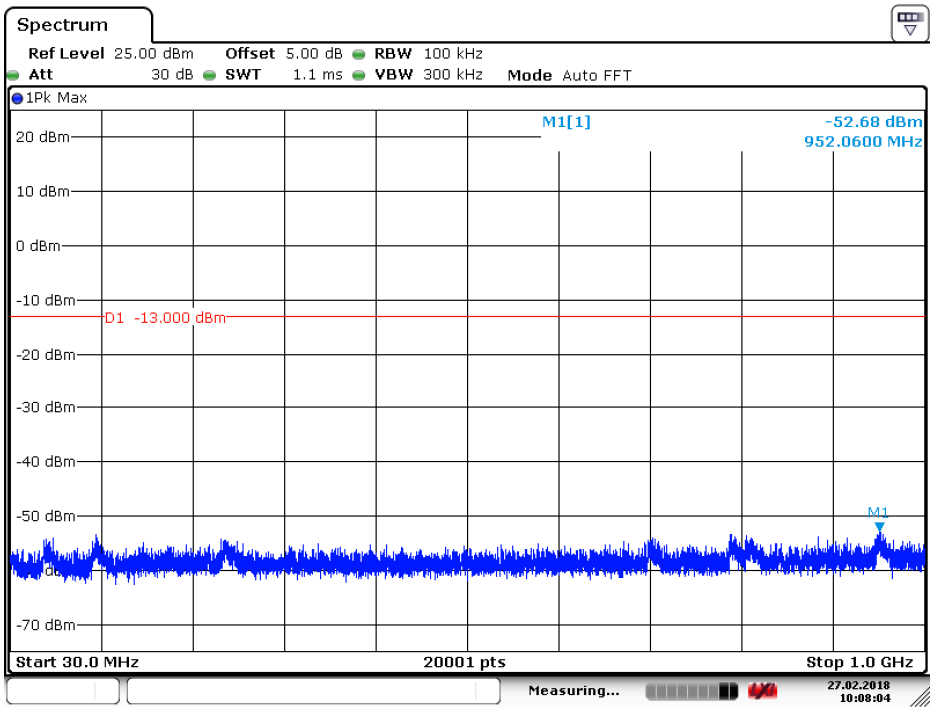


Date: 27.FEB.2018 10:12:44

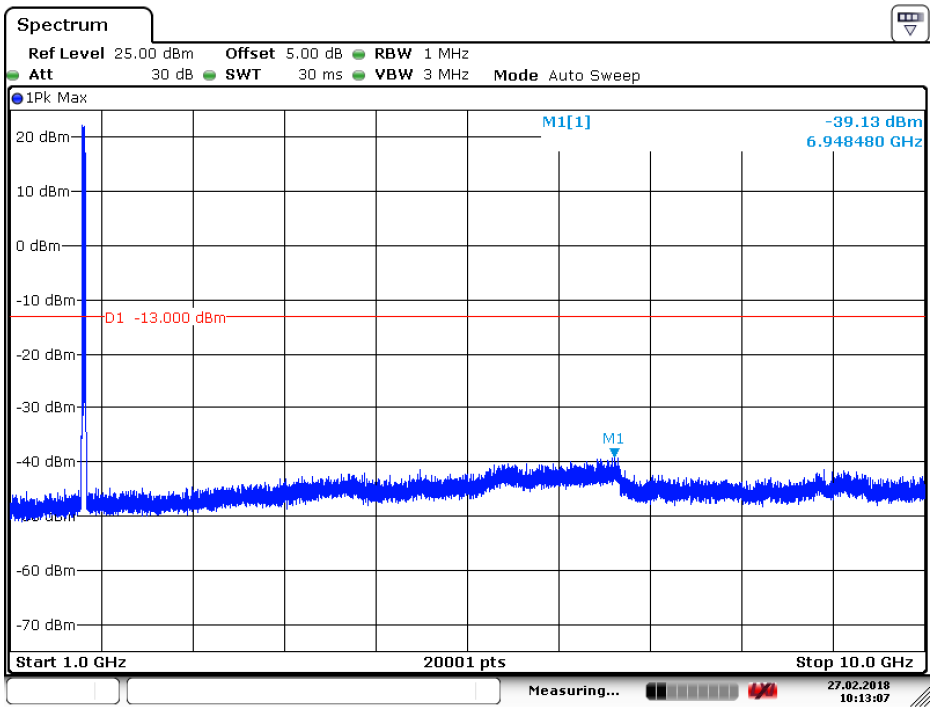


Date: 27.FEB.2018 10:15:15

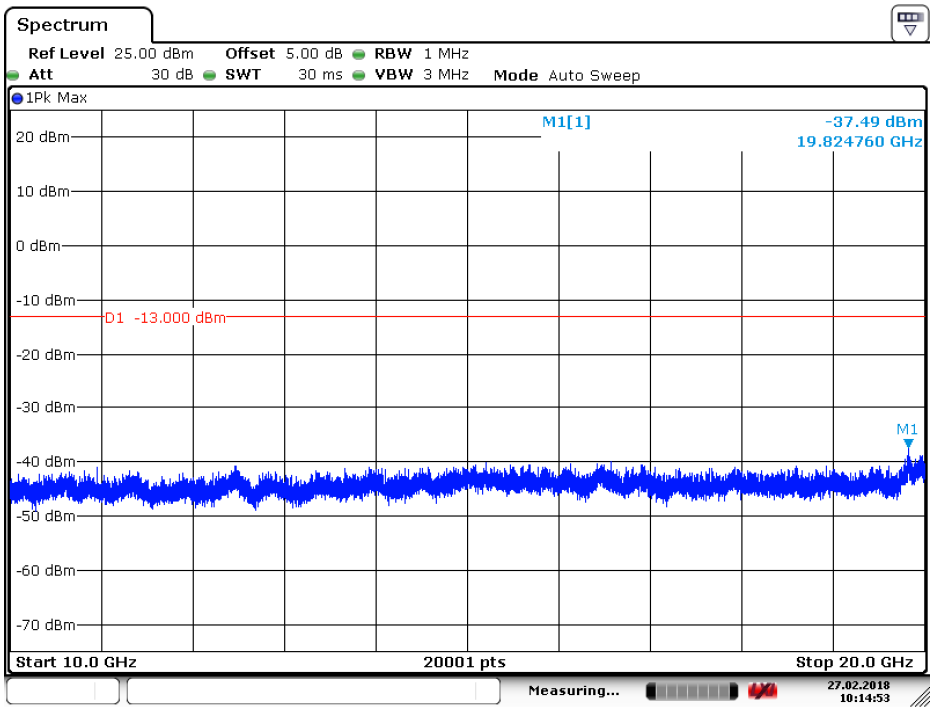
6.1.2.1.2 Test Channel = MCH



Date: 27.FEB.2018 10:08:05

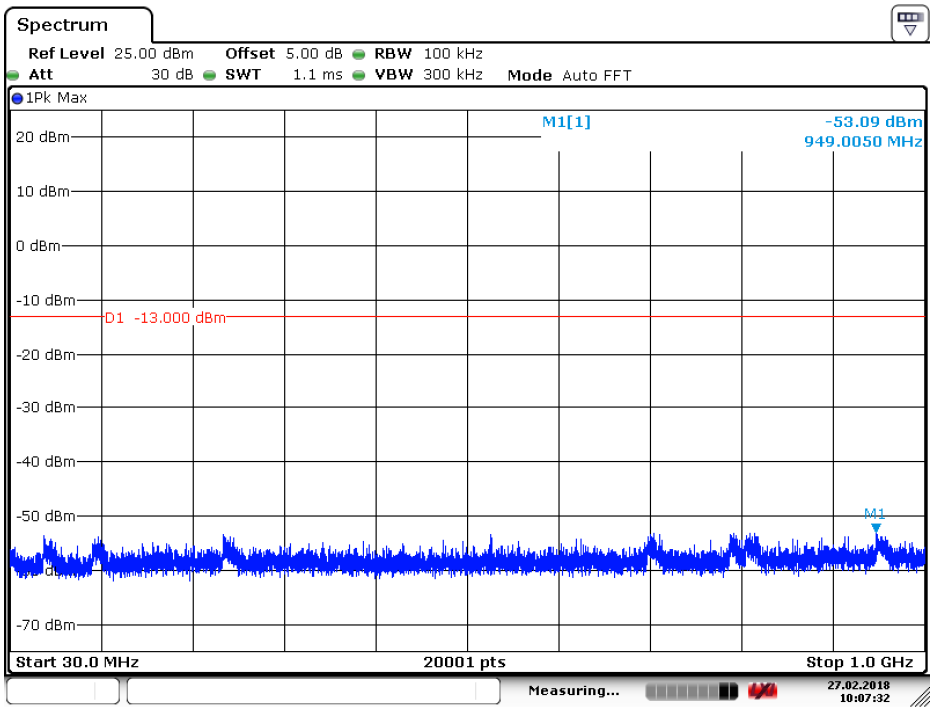


Date: 27.FEB.2018 10:13:08

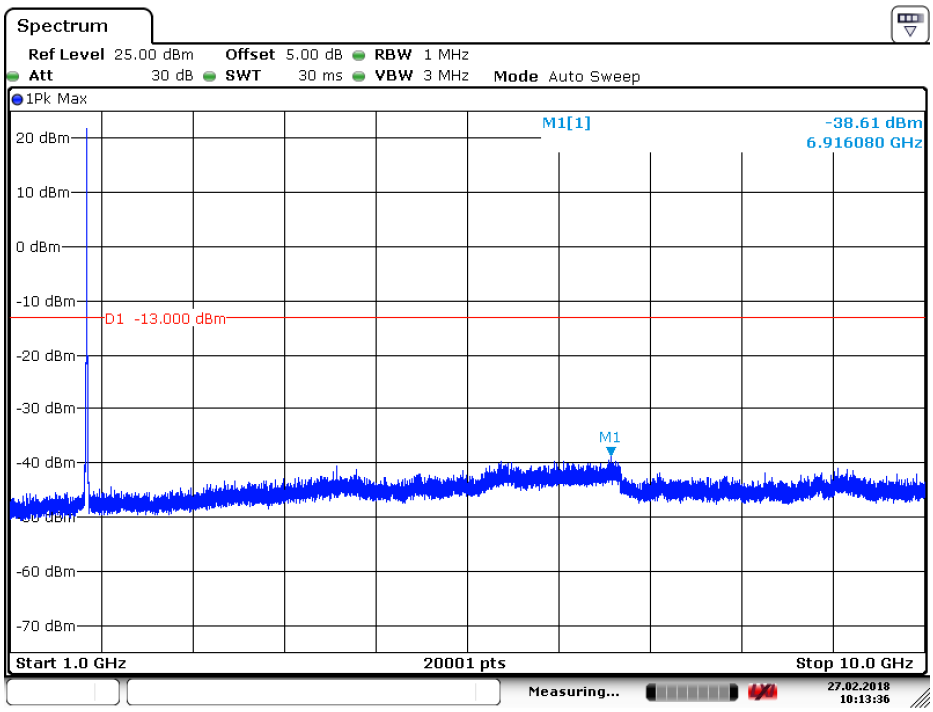


Date: 27.FEB.2018 10:14:53

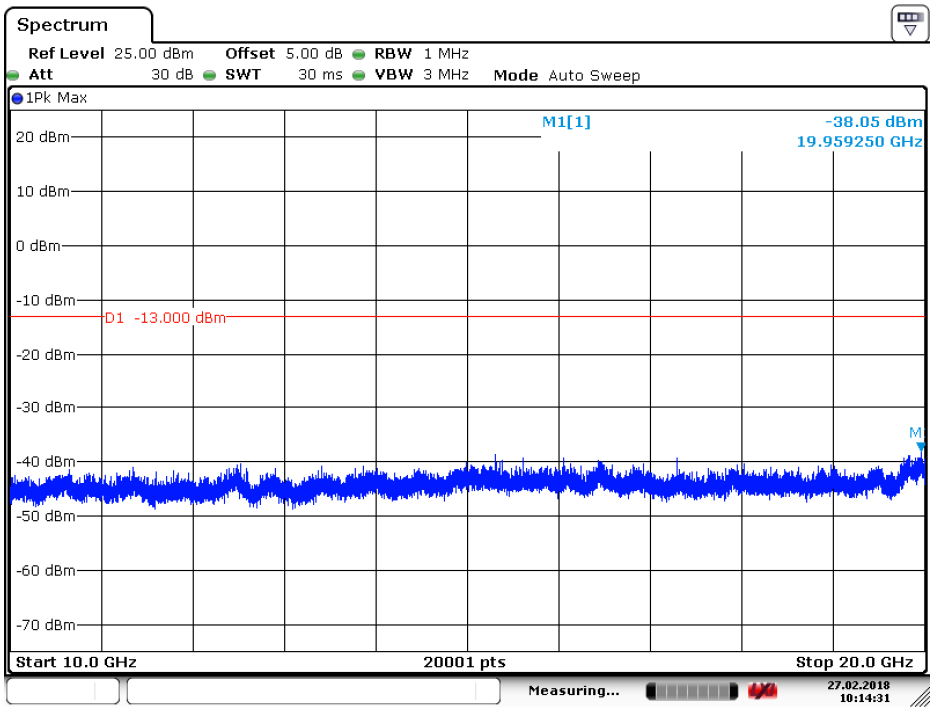
6.1.2.1.3 Test Channel = HCH



Date: 27.FEB.2018 10:07:32



Date: 27.FEB.2018 10:13:36

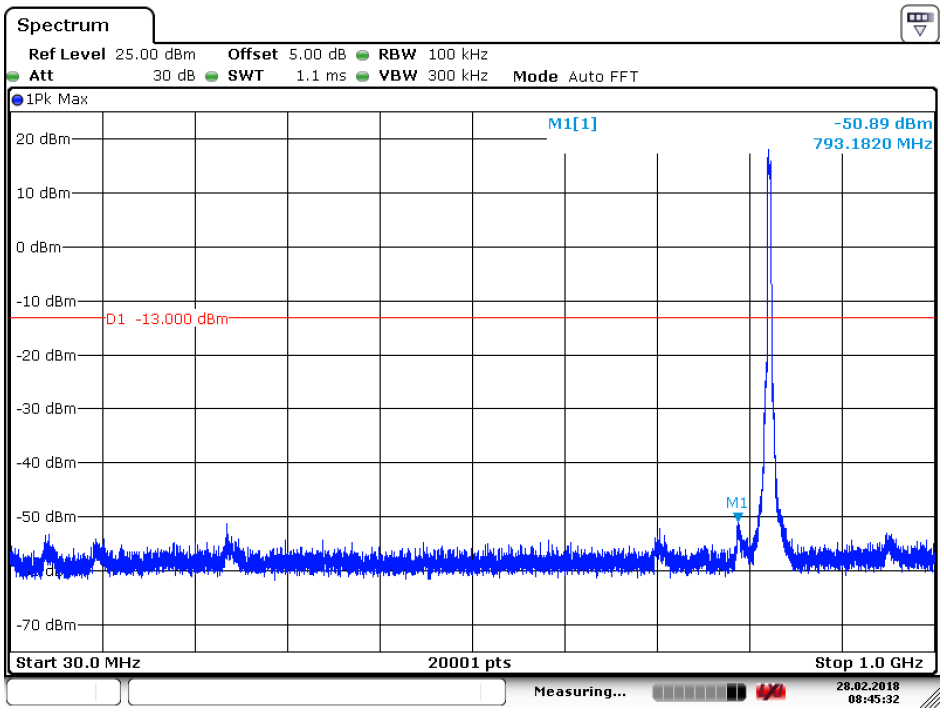


Date: 27.FEB.2018 10:14:32

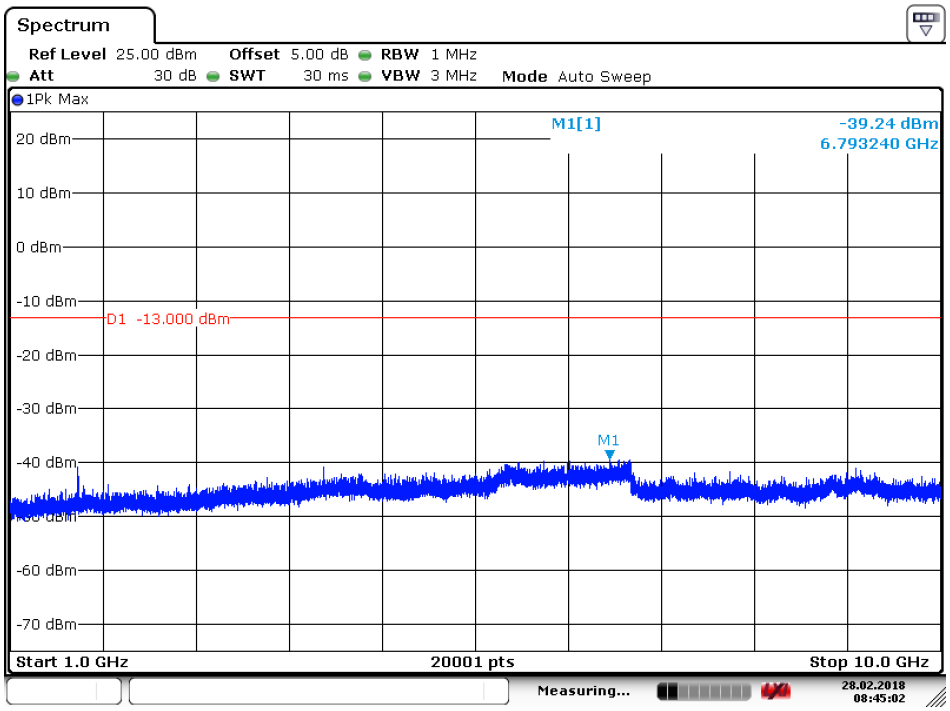
6.1.3 Test Band = WCDMA 850

6.1.3.1 Test Mode = UMTS/TM1

6.1.3.1.1 Test Channel = LCH

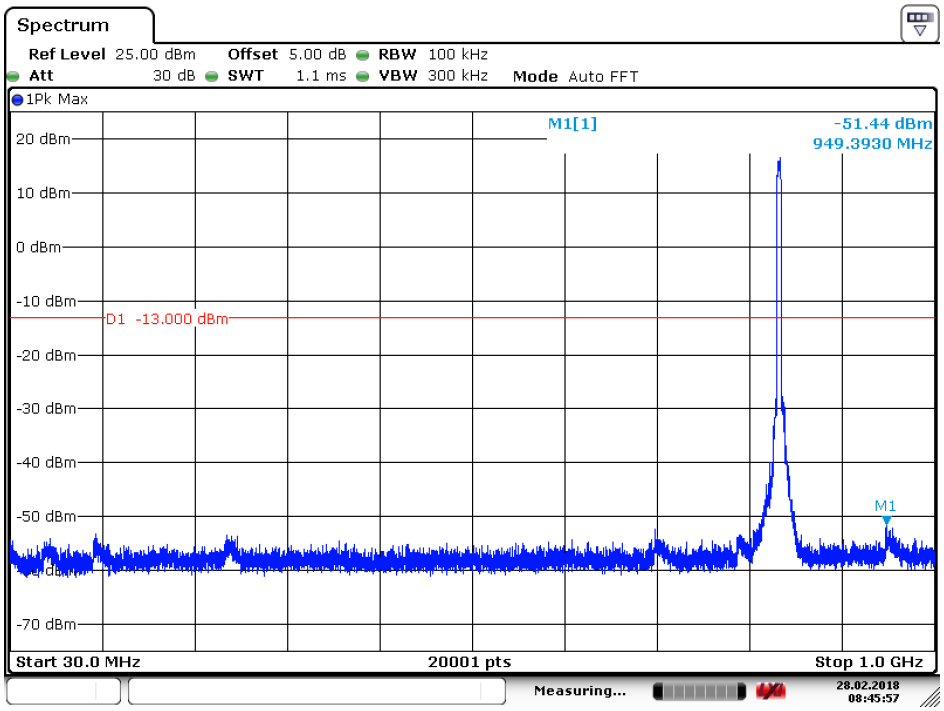


Date: 28.FEB.2018 08:45:31

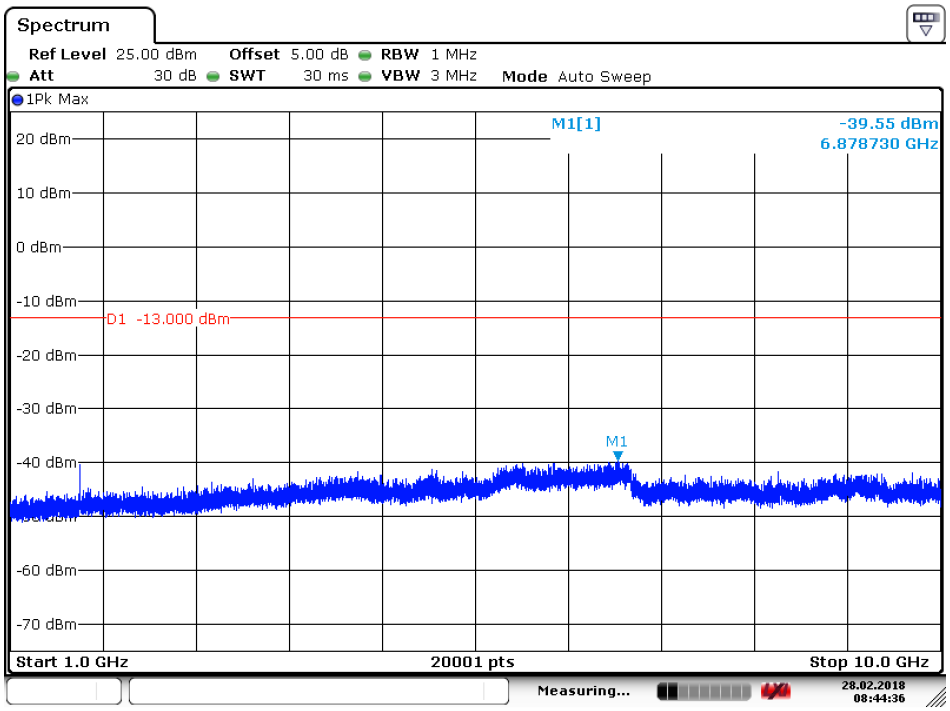


Date: 28.FEB.2018 08:45:03

6.1.3.1.2 Test Channel = MCH

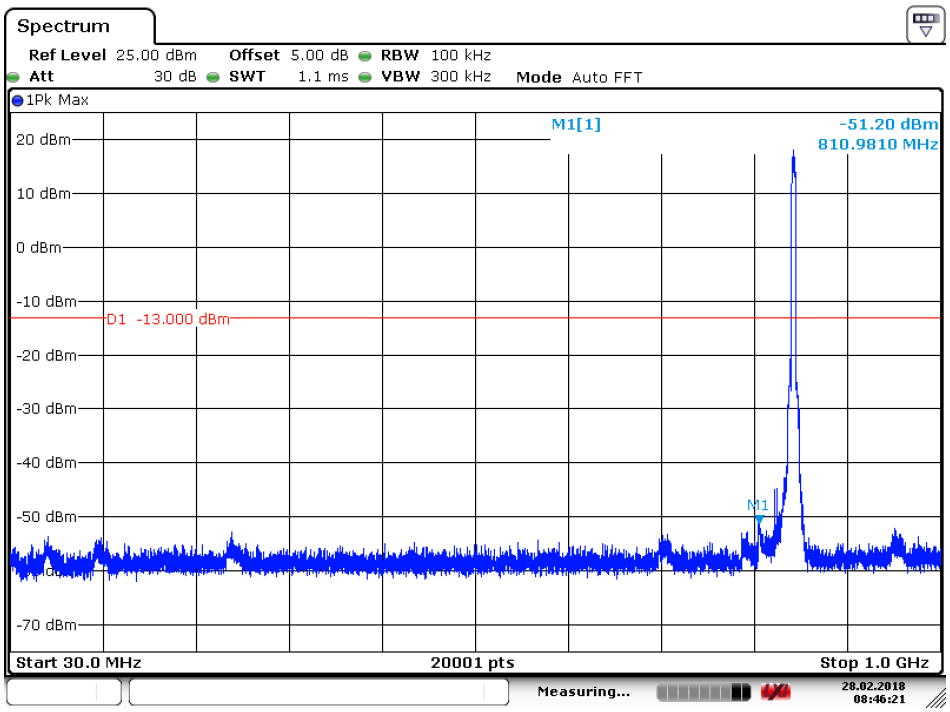


Date: 28.FEB.2018 08:45:57

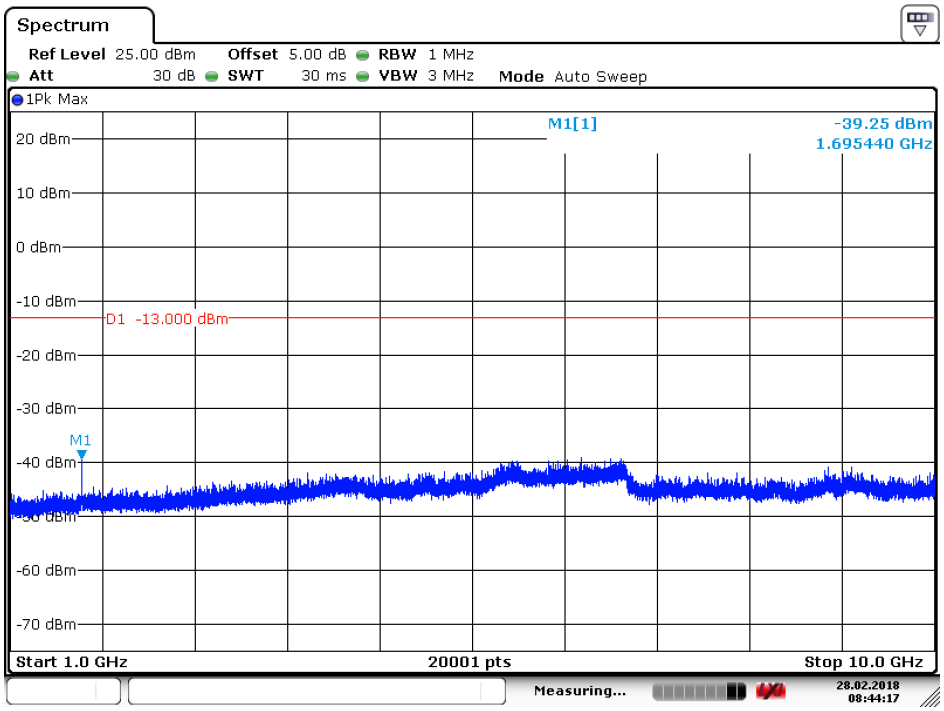


Date: 28.FEB.2018 08:44:36

6.1.3.1.3 Test Channel = HCH



Date: 28.FEB.2018 08:46:22



Date: 28.FEB.2018 08:44:17

7 Field Strength of Spurious Radiation

Part I - Test Plots

7.1 For WCDMA

7.1.1 Test Band = WCDMA 1900

7.1.1.1 Test Mode = UMTS/TM1

7.1.1.1.1 Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
450.320833	-76.22	-13.00	63.22	Vertical
855.395833	-70.12	-13.00	57.12	Vertical
1718.500000	-47.00	-13.00	34.00	Vertical
3714.187500	-56.43	-13.00	43.43	Vertical
5637.375000	-47.46	-13.00	34.46	Vertical
9242.925000	-51.02	-13.00	38.02	Vertical
351.700000	-78.69	-13.00	65.69	Horizontal
659.916667	-73.79	-13.00	60.79	Horizontal
1635.000000	-47.89	-13.00	34.89	Horizontal
3761.962500	-47.95	-13.00	34.95	Horizontal
5643.712500	-43.29	-13.00	30.29	Horizontal
10627.912500	-51.43	-13.00	38.43	Horizontal

7.1.1.1.2 Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
260.300000	-79.16	-13.00	66.16	Vertical
778.075000	-70.41	-13.00	57.41	Vertical
1613.000000	-48.21	-13.00	35.21	Vertical
3757.575000	-53.46	-13.00	40.46	Vertical
5635.912500	-45.90	-13.00	32.90	Vertical
7516.687500	-50.86	-13.00	37.86	Vertical
312.700000	-76.92	-13.00	63.92	Horizontal
633.104167	-75.17	-13.00	62.17	Horizontal
1682.500000	-47.50	-13.00	34.50	Horizontal
3757.087500	-47.19	-13.00	34.19	Horizontal
5635.912500	-41.87	-13.00	28.87	Horizontal
9708.975000	-51.59	-13.00	38.59	Horizontal

7.1.1.1.3 Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
162.950000	-84.75	-13.00	71.75	Vertical
506.008333	-76.15	-13.00	63.15	Vertical
1596.500000	-48.05	-13.00	35.05	Vertical
3816.075000	-52.84	-13.00	39.84	Vertical
5719.275000	-42.06	-13.00	29.06	Vertical
9736.275000	-51.87	-13.00	38.87	Vertical
315.650000	-78.59	-13.00	65.59	Horizontal
640.575000	-72.87	-13.00	59.87	Horizontal
1537.000000	-48.57	-13.00	35.57	Horizontal
3812.175000	-48.93	-13.00	35.93	Horizontal
5718.787500	-45.44	-13.00	32.44	Horizontal
9199.050000	-51.51	-13.00	38.51	Horizontal

7.1.2 Test Band = WCDMAband 1700

7.1.2.1 Test Mode = UMTS/TM1

7.1.2.1.1 Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
439.500000	-76.92	-13.00	63.92	Vertical
887.387500	-69.15	-13.00	56.15	Vertical
2410.500000	-44.26	-13.00	31.26	Vertical
3423.150000	-52.73	-13.00	39.73	Vertical
5134.762500	-48.37	-13.00	35.37	Vertical
7097.925000	-52.69	-13.00	39.69	Vertical
179.700000	-82.58	-13.00	69.58	Horizontal
499.637500	-76.71	-13.00	63.71	Horizontal
2411.500000	-44.24	-13.00	31.24	Horizontal
3422.662500	-54.20	-13.00	41.20	Horizontal
5133.300000	-47.57	-13.00	34.57	Horizontal
9189.300000	-51.55	-13.00	38.55	Horizontal

7.1.2.1.2 Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
329.700000	-76.87	-13.00	63.87	Vertical
792.375000	-70.16	-13.00	57.16	Vertical
2082.000000	-40.94	-13.00	27.94	Vertical
3467.025000	-51.87	-13.00	38.87	Vertical
5194.237500	-44.70	-13.00	31.70	Vertical
8658.412500	-47.72	-13.00	34.72	Vertical

241.150000	-79.82	-13.00	66.82	Horizontal
670.687500	-73.41	-13.00	60.41	Horizontal
2080.500000	-39.60	-13.00	26.60	Horizontal
3462.637500	-48.64	-13.00	35.64	Horizontal
5193.750000	-48.88	-13.00	35.88	Horizontal
8663.287500	-47.10	-13.00	34.10	Horizontal

7.1.2.1.3 Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
292.350000	-77.62	-13.00	64.62	Vertical
686.820833	-73.96	-13.00	60.96	Vertical
2100.500000	-39.45	-13.00	26.45	Vertical
3503.100000	-49.91	-13.00	36.91	Vertical
6087.825000	-53.02	-13.00	40.02	Vertical
10650.337500	-50.89	-13.00	37.89	Vertical
337.100000	-77.72	-13.00	64.72	Horizontal
769.733333	-71.34	-13.00	58.34	Horizontal
1470.000000	-49.53	-13.00	36.53	Horizontal
3502.612500	-49.40	-13.00	36.40	Horizontal
5253.712500	-51.01	-13.00	38.01	Horizontal
8769.075000	-48.60	-13.00	35.60	Horizontal

7.1.3 Test Band = WCDMAband 850

7.1.3.1 Test Mode = UMTS/TM1

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
257.600000	-89.89	-13.00	76.89	Vertical
726.741667	-78.37	-13.00	65.37	Vertical
1654.000000	-62.84	-13.00	49.84	Vertical
2413.000000	-52.41	-13.00	39.41	Vertical
4307.475000	-66.22	-13.00	53.22	Vertical
9727.012500	-63.59	-13.00	50.59	Vertical
294.350000	-87.87	-13.00	74.87	Horizontal
727.016667	-78.88	-13.00	65.88	Horizontal
1654.500000	-62.70	-13.00	49.70	Horizontal
2413.000000	-54.61	-13.00	41.61	Horizontal
4127.100000	-64.88	-13.00	51.88	Horizontal
6469.537500	-64.51	-13.00	51.51	Horizontal

7.1.3.1.1 Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
275.000000	-88.19	-13.00	75.19	Vertical
535.891667	-81.82	-13.00	68.82	Vertical
1198.500000	-65.81	-13.00	52.81	Vertical
2413.000000	-52.36	-13.00	39.36	Vertical
4471.762500	-66.71	-13.00	53.71	Vertical
7241.250000	-64.00	-13.00	51.00	Vertical
231.500000	-89.36	-13.00	76.36	Horizontal
670.504167	-79.53	-13.00	66.53	Horizontal
1476.000000	-65.52	-13.00	52.52	Horizontal
2410.000000	-53.56	-13.00	40.56	Horizontal
4419.600000	-66.63	-13.00	53.63	Horizontal
9248.775000	-62.68	-13.00	49.68	Horizontal

7.1.3.1.2 Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Over Limit (dB)	Polarization
292.700000	-87.40	-13.00	74.40	Vertical
728.758333	-78.10	-13.00	65.10	Vertical
1694.500000	-62.16	-13.00	49.16	Vertical
2409.500000	-55.32	-13.00	42.32	Vertical
4419.600000	-66.71	-13.00	53.71	Vertical
7689.262500	-64.29	-13.00	51.29	Vertical
231.250000	-89.33	-13.00	76.33	Horizontal
633.104167	-79.07	-13.00	66.07	Horizontal
1694.500000	-61.51	-13.00	48.51	Horizontal
2410.500000	-52.97	-13.00	39.97	Horizontal
4647.750000	-66.37	-13.00	53.37	Horizontal
10253.512500	-63.41	-13.00	50.41	Horizontal

NOTE:

1) 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
WCDMA 1900	UMTS/TM1	LCH	TN	VL	3.28	0.00177	PASS
				VN	-0.36	-0.00019	PASS
				VH	4.02	0.00217	PASS
		MCH	TN	VL	3.84	0.00204	PASS
				VN	0.75	0.00040	PASS
				VH	-2.37	-0.00126	PASS
		HCH	TN	VL	1.60	0.00084	PASS
				VN	-2.64	-0.00138	PASS
				VH	-4.35	-0.00228	PASS

Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
WCDMA 1700	UMTS/TM1	LCH	TN	VL	-3.30	-0.00193	PASS
				VN	-1.48	-0.00086	PASS
				VH	2.32	0.00135	PASS
		MCH	TN	VL	-3.84	-0.00222	PASS
				VN	1.32	0.00076	PASS
				VH	-2.45	-0.00141	PASS
		HCH	TN	VL	1.75	0.00100	PASS
				VN	-3.61	-0.00206	PASS
				VH	2.80	0.00160	PASS

Test Band	Test Mode	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
WCDMA 850	UMTS/TM1	LCH	TN	VL	-3.36	-0.00407	PASS
				VN	-1.48	-0.00179	PASS
				VH	2.32	0.00281	PASS
		MCH	TN	VL	-3.84	-0.00459	PASS
				VN	0.34	0.00041	PASS
				VH	-2.45	-0.00293	PASS
		HCH	TN	VL	1.75	0.00207	PASS
				VN	-4.33	-0.00511	PASS
				VH	2.90	0.00343	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
WCDMA 1900	UMTS/TM1	LCH	VN	-30	-2.49	-0.00134	PASS
				-20	1.96	0.00106	PASS
				-10	-5.97	-0.00322	PASS
				0	0.50	0.00027	PASS
				10	-5.65	-0.00305	PASS
				20	-4.11	-0.00222	PASS
				30	-3.96	-0.00214	PASS
				40	-5.71	-0.00308	PASS
				50	-2.74	-0.00148	PASS
		MCH	VN	-30	-1.94	-0.00103	PASS
				-20	3.29	0.00175	PASS
				-10	-4.34	-0.00231	PASS
				0	1.76	0.00094	PASS
				10	-5.10	-0.00271	PASS
				20	-3.43	-0.00182	PASS
				30	-2.13	-0.00113	PASS
				40	-3.00	-0.00160	PASS
				50	-0.50	-0.00027	PASS
		HCH	VN	-30	-3.25	-0.00170	PASS
				-20	-6.34	-0.00332	PASS
				-10	-2.73	-0.00143	PASS
				0	-5.34	-0.00280	PASS
				10	1.07	0.00056	PASS
				20	-4.03	-0.00211	PASS
				30	-3.22	-0.00169	PASS
				40	-2.84	-0.00149	PASS
				50	-5.07	-0.00266	PASS

Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
WCDMA 1700	UMTS/TM1	LCH	VN	-30	-3.13	-0.00183	PASS
				-20	-4.23	-0.00247	PASS
				-10	1.38	0.00081	PASS
				0	-2.47	-0.00144	PASS
				10	-2.75	-0.00161	PASS
				20	-4.08	-0.00238	PASS
				30	1.04	0.00061	PASS
				40	-3.21	-0.00187	PASS
				50	-6.31	-0.00368	PASS
		MCH	VN	-30	-5.42	-0.00313	PASS
				-20	-2.30	-0.00133	PASS
				-10	-4.42	-0.00255	PASS
				0	1.89	0.00109	PASS
				10	-5.35	-0.00309	PASS
				20	-2.15	-0.00124	PASS
				30	-3.07	-0.00177	PASS
				40	0.13	0.00008	PASS
				50	-6.14	-0.00354	PASS
		HCH	VN	-30	-3.45	-0.00197	PASS
				-20	2.42	0.00138	PASS
				-10	1.45	0.00083	PASS
				0	-5.30	-0.00302	PASS
				10	-6.51	-0.00371	PASS
				20	-4.33	-0.00247	PASS
				30	-2.37	-0.00135	PASS
				40	-2.42	-0.00138	PASS
				50	-6.06	-0.00346	PASS

Test Band	Test Mode	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
WCDMA 850	UMTS/TM1	LCH	VN	-30	3.04	0.00368	PASS
				-20	1.97	0.00238	PASS
				-10	-2.64	-0.00319	PASS
				0	5.32	0.00644	PASS
				10	3.00	0.00363	PASS
				20	-0.45	-0.00054	PASS
				30	1.44	0.00174	PASS
				40	4.33	0.00524	PASS
				50	-2.08	-0.00252	PASS
		MCH	VN	-30	1.54	0.00184	PASS
				-20	3.65	0.00436	PASS
				-10	0.43	0.00051	PASS
				0	-5.43	-0.00649	PASS
				10	4.23	0.00506	PASS
				20	3.44	0.00411	PASS
				30	-4.32	-0.00516	PASS
				40	1.87	0.00224	PASS
				50	2.04	0.00244	PASS
		HCH	VN	-30	3.56	0.00421	PASS
				-20	6.43	0.00760	PASS
				-10	-1.54	-0.00182	PASS
				0	4.82	0.00569	PASS
				10	-0.53	-0.00063	PASS
				20	3.66	0.00432	PASS
				30	2.35	0.00278	PASS
				40	-1.54	-0.00182	PASS
				50	5.52	0.00652	PASS

The End