5.3.5.6 RESULT

Power Spectral Density for all channels in both 40 MHz & 5 MHz Modulation Bandwidths is within the Specified limit. Refer below table for consolidated result.

Modulation Bandwidth (MHz)	Antenna path	Channel Frequency (MHz)	Recorded value (dBm/MHz)	Limit (dBm/MHz)	Result
40	Ch. 0	5495	-33.31	-3	Pass
40	Ch. 0	5575	-6.151	-3	Pass
40	Ch. 0	5700	-20.58	-3	Pass
40	Ch. 0	5490	-6.156	-3	Pass
40	Ch. 0	5705	-6.595	-3	Pass
40	Ch. 1	5495	-20.85	-3	Pass
40	Ch. 1	5575	-7.014	-3	Pass
40	Ch. 1	5700	-22.63	-3	Pass
40	Ch. 1	5490	-7.014	-3	Pass
40	Ch. 0	5705	-7.941	-3	Pass
10	Ch. 0	5475	-7.806	-3	Pass
10	Ch. 0	5485	-3.190	-3	Pass
10	Ch. 0	5585	-3.52	-3	Pass
10	Ch. 0	5710	-3.887	-3	Pass
10	Ch. 0	5475	-4.677	-3	Pass
10	Ch. 0	5720	-3.251	-3	Pass
10	Ch. 1	5485	-3.190	-3	Pass
10	Ch. 1	5585	-4.019	-3	Pass
10	Ch. 1	5710	-3.887	-3	Pass
10	Ch. 0	5475	-3.557	-3	Pass
10	Ch. 0	5720	-3.656	-3	Pass

Table 8: Result of PSD for 17 dBi configuration for both 40 MHz and 10 MHz modulation bandwidth

5.3.6 TRANSMITTER UNWANTED EMISSIONS (CONDUCTED)

5.3.6.1 TEST SPECIFICATION

Test Standard	RSS 247 Issue 1 May 2015			
Test Procedure	ANSI C63.10-2013			
Frequency Range	9 kHz - 150 kHz	150 kHz -30 MHz	30 MHz-1 GHz	1 GHz – 40 GHz
Resolution Bandwidth	200 Hz	9 kHz	120 kHz	1 MHz
Video Bandwidth	1 kHz	30 kHz	300 kHz	3 MHz
Sweep Time	Auto	Auto	Auto	Auto
Detector	Peak	Peak	Peak	Peak & Average
Attenuation	Auto			
Test Mode	Conducted			
Input Voltage	120 V AC			
Input Frequency	60 Hz			
Temperature	23.0 °C			
Humidity	52.0 %			
Tested By	Dikshit Raviteja			
Test Date	10th Mar 2016			

5.3.6.2 LIMITS

Standard	Reference section	Frequency range	Limit EIRP (dBm/MHz)
RSS 247 Issue 1 May 2015	6.2.3(2)	Outside 5470-5725 MHz	-27

Table 9: Unwanted emission Limit

Standard	Reference section	Frequency range	Limit (dBµV/m)
RSS GEN-Issue 4 Nov 2014	8.9 and 8.10	9 kHz to 490 kHz 490 kHz to 1.705 MHz 1.705 MHz to 30 MHz	128.5194 to 93.8003* 73.8003 to 62.9697* 69.5429

Table 10: General Field strength limit below 30 MHz

*Note: * Decreases with the logarithm of the frequency*

Standard	Reference section	Frequency range	Limit (dBµV/m) as per Section 5.209
RSS GEN-Issue 4 Nov 2014	8.9 and 8.10	30 MHz to 88 MHz 88 MHz to 216 MHz 216 MHz to 960 MHz 960 MHz to 40 GHz	40 43.52 46.02 53.98

Table 11: General Field strength limit above 30 MHz

Above table specifies limit with Average detector above 1 GHz. 73.98 dBµV/m is considered as the limit when Peak detector is employed for the measurements above 1 GHz.

5.3.6.3 TEST SETUP

Figure 63: Typical test setup for Conducted Test

5.3.6.4 TEST PROCEDURE

The Conducted test was performed using the Spectrum analyzer/EMI receiver. Measurements were done as per Section II G.0 of KDB **"789033 DO2 General UNII Test Procedure New Rules v01r01".** The RF output of the EUT was connected to the input port of Spectrum analyzer/EMI receiver using an attenuator. The graph and data captured from spectrum analyzer and performed required calculations to attain the Electric Field value and compared with the limits specified in the standard.

In the frequency range 9 kHz to 1 GHz, the measurement was performed with peak detector. In the frequency range 1 GHz to 40 GHz, measurement was performed employing both peak & average detector as specified in the standard. Detectors were selected based on FCC KDB document.

Peak search option was used to capture the frequency with maximum amplitude in the respective bands and final calculations have been performed on these frequencies to show compliance with the limits specified.

5.3.6.5 MEASUREMENT GRAPHS / DATA

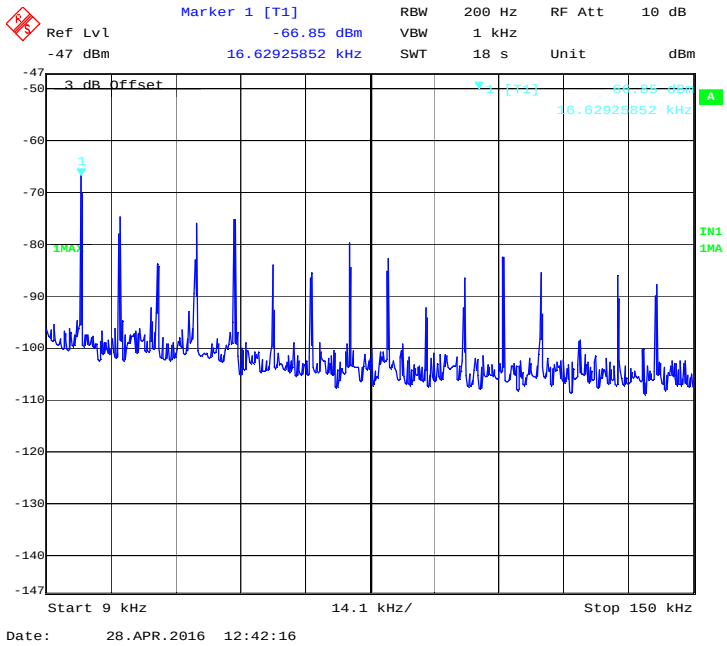

Figure 64: 40 MHz, 17 dBi, Low Channel: Peak emission from 9 kHz to 150 kHz at Ch. 0 – 5495 MHz

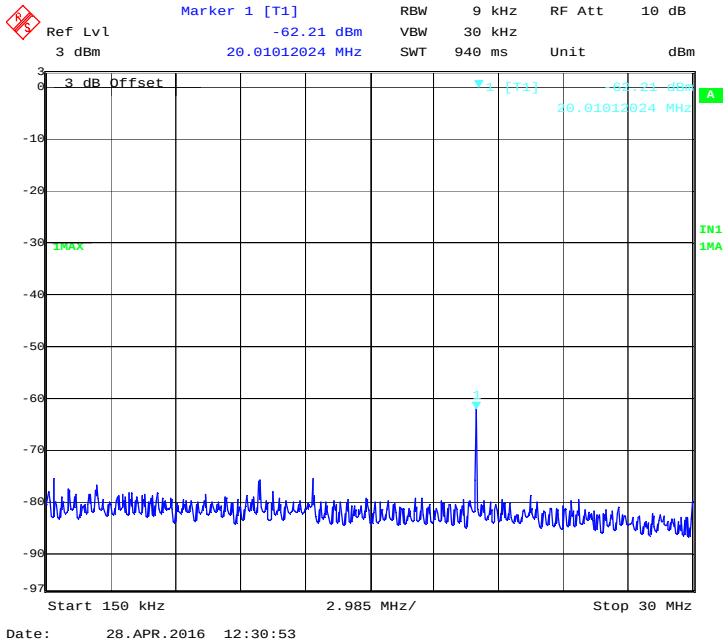

Figure 65: 40 MHz, 17 dBi, Low Channel: Peak emission from 150 kHz to 30 MHz at Ch. 0 –5495 MHz

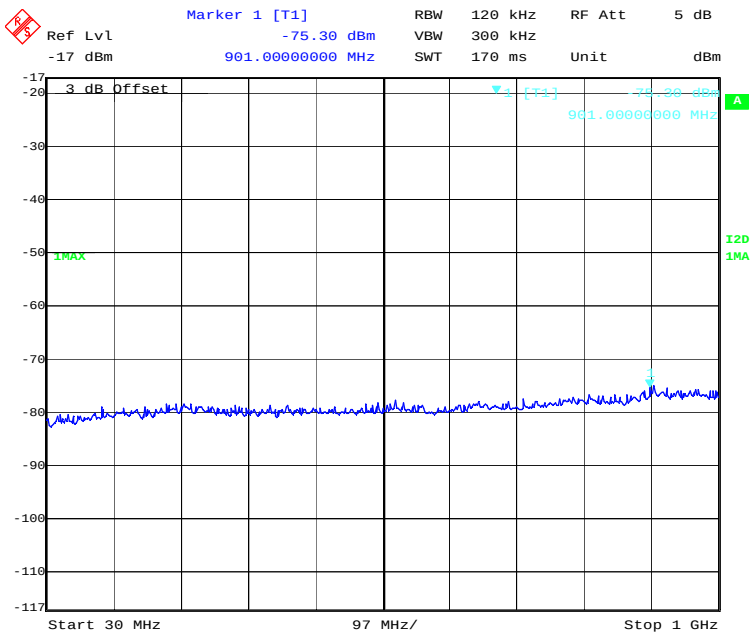

Figure 66: 40 MHz, 17 dBi, Low Channel: Peak emission from 30 MHz to 1 GHz at Ch. 0 –5495 MHz

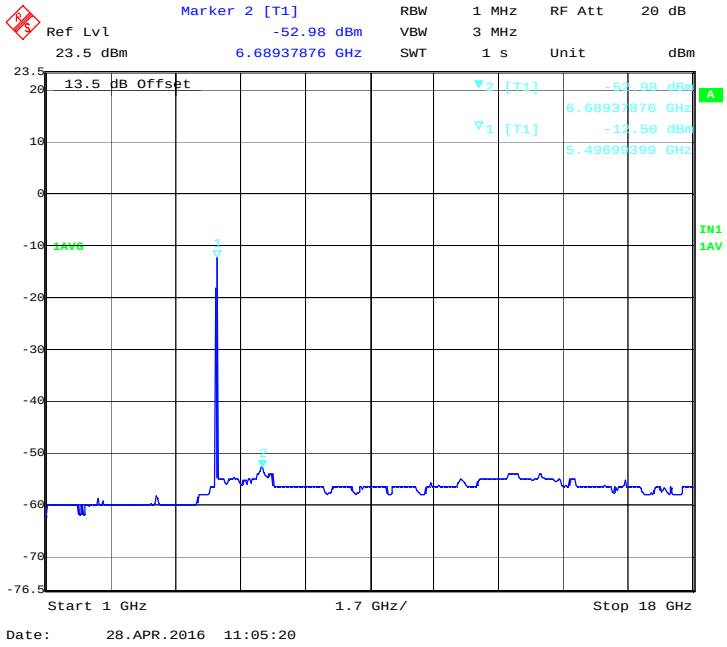

Figure 67: 40 MHz, 17 dBi, Low Channel: Average emission from 1 GHz to 18 GHz at Ch. 0 –5495 MHz

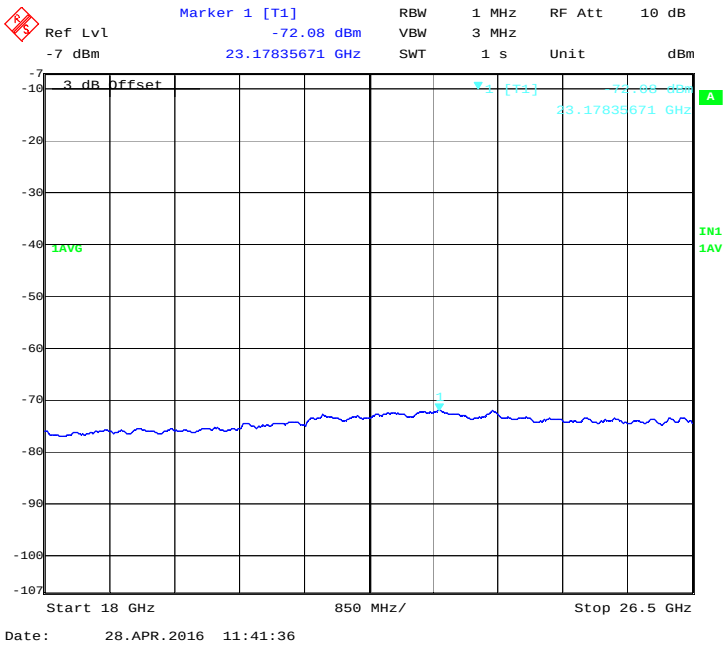

Figure 68: 40 MHz, 17 dBi, Low Channel: Average emission from 18 GHz to 26.5 GHz at Ch. 0 –5495 MHz

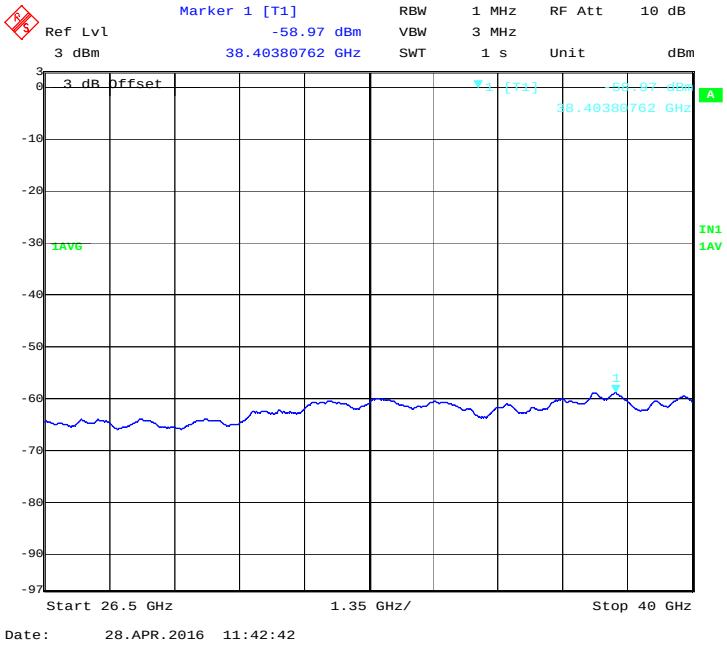

Figure 69: 40 MHz, 17 dBi, Low Channel: Average emission from 26.5 GHz to 40 GHz at Ch. 0 –5495 MHz

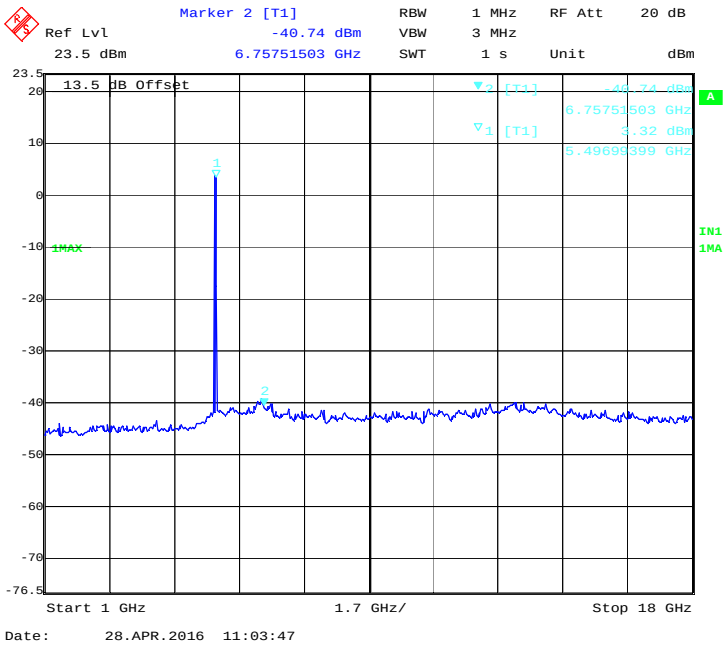

Figure 70: 40 MHz, 17 dBi, Low Channel: Peak emission from 1 GHz to 18 GHz at Ch. 0 –5495 MHz

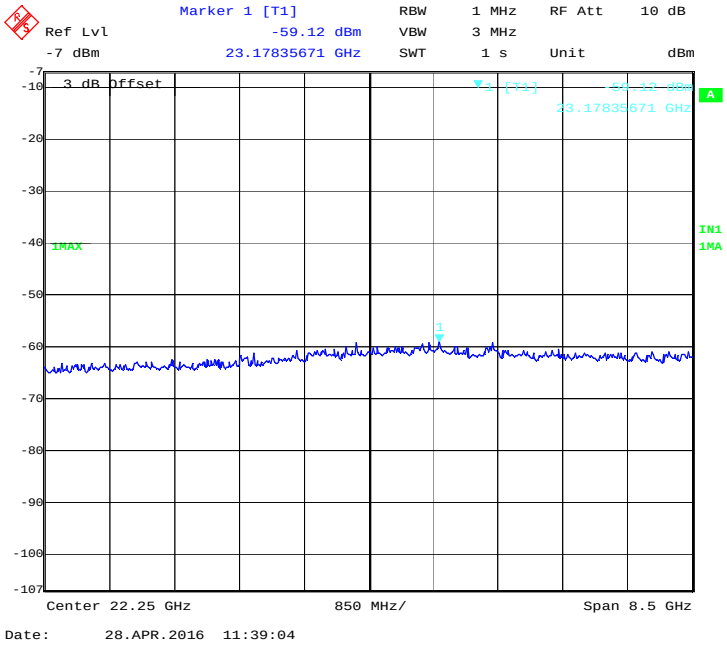

Figure 71: 40 MHz, 17 dBi, Low Channel: Peak emission from 18 GHz to 26.5 GHz at Ch. 0 –5495 MHz

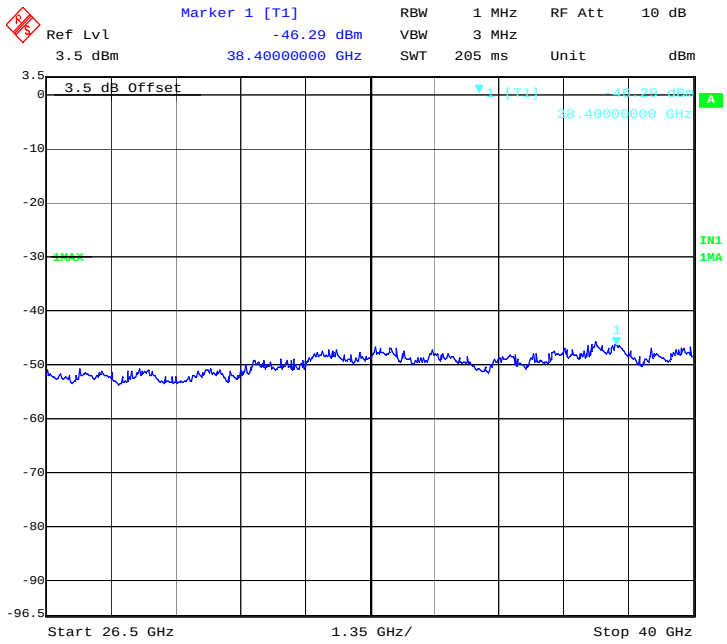

Figure 72: 40 MHz, 17 dBi, Low Channel: Peak emission from 26.5 GHz to 40 GHz at Ch. 0 –5495 MHz

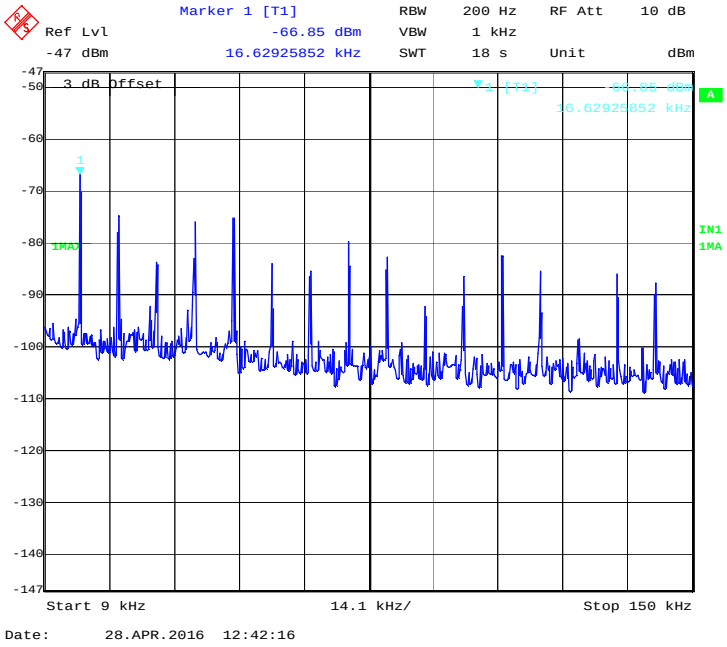

Figure 73: 40 MHz, 17 dBi, Low Channel: Peak emission from 9 kHz to 150 kHz at Ch. 1 –5495 MHz

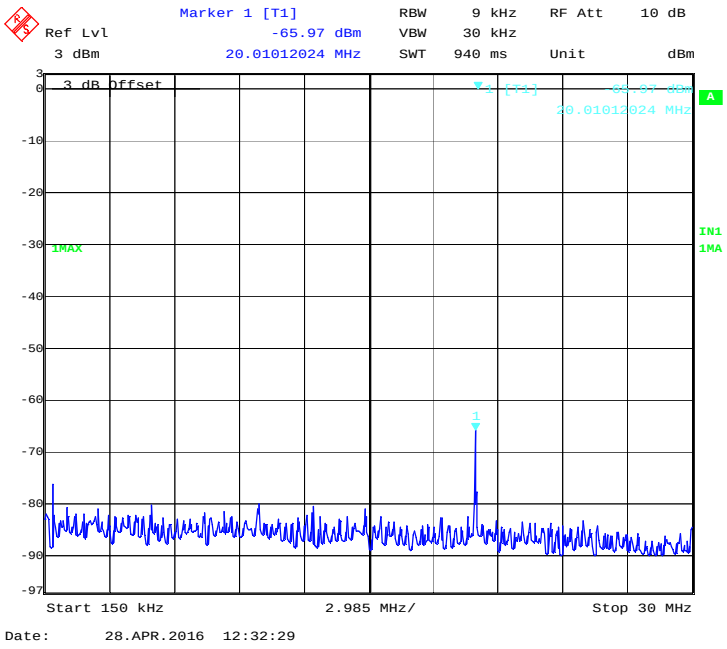

Figure 74: 40 MHz, 17 dBi, Low Channel: Peak emission from 150 kHz to 30 MHz at Ch. 1 –5495 MHz

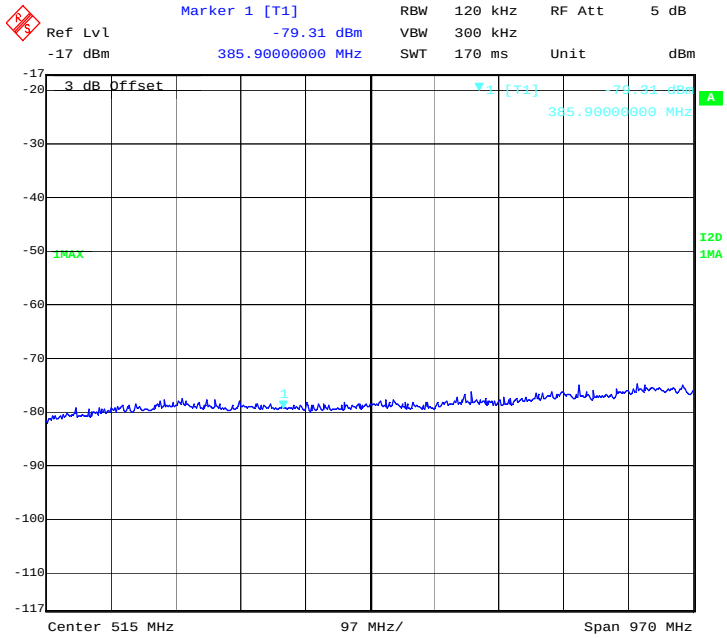

Figure 75: 40 MHz, 17 dBi, Low Channel: Peak emission from 30 MHz to 1 GHz at Ch. 1 –5495 MHz

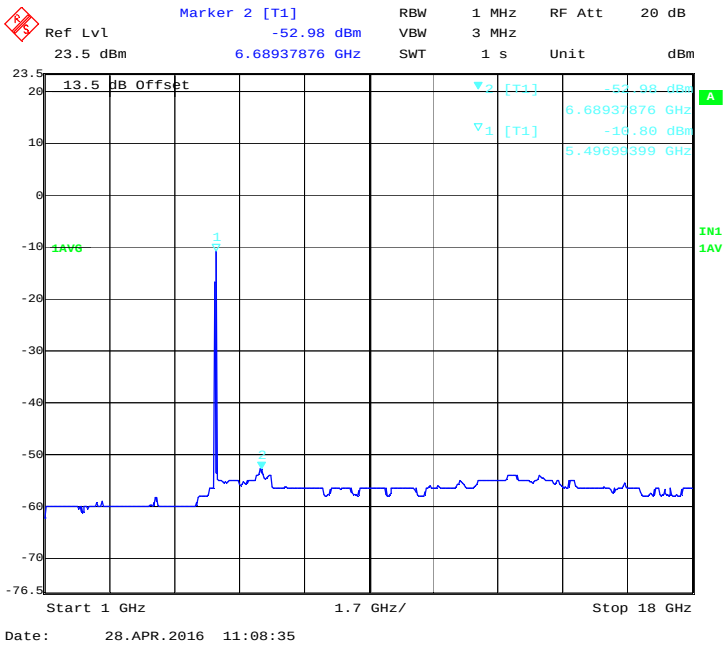

Figure 76: 40 MHz, 17 dBi, Low Channel: Average emission from 1 GHz to 18 GHz at Ch. 1 –5495 MHz

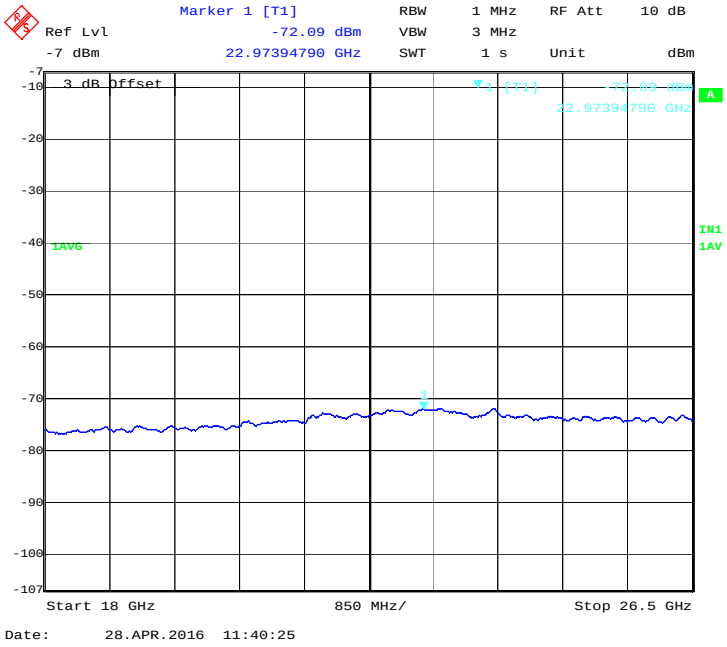

Figure 77: 40 MHz, 17 dBi, Low Channel: average Emission from 18 GHz to 26.5 GHz at Ch. 1 –5495 MHz

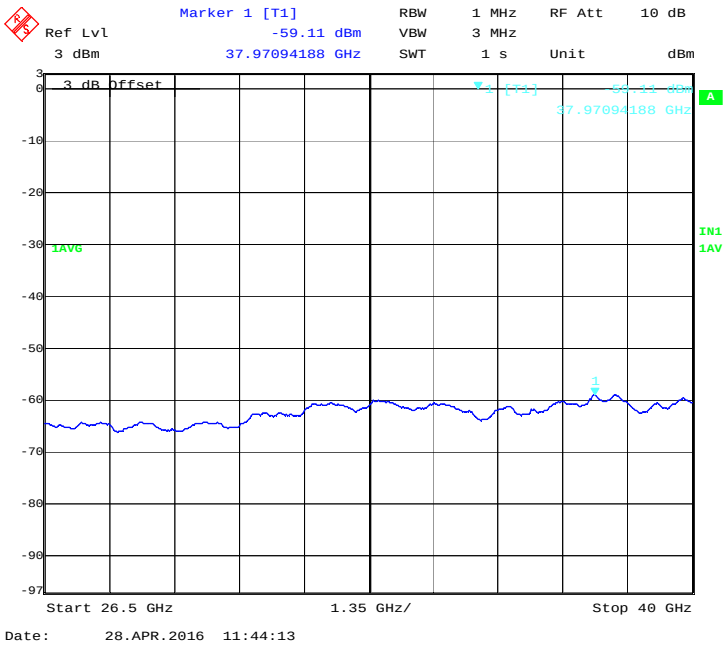

Figure 78: 40 MHz, 17 dBi, Low Channel: Average emission from 26.5 GHz to 40 GHz at Ch. 1 –5495 MHz

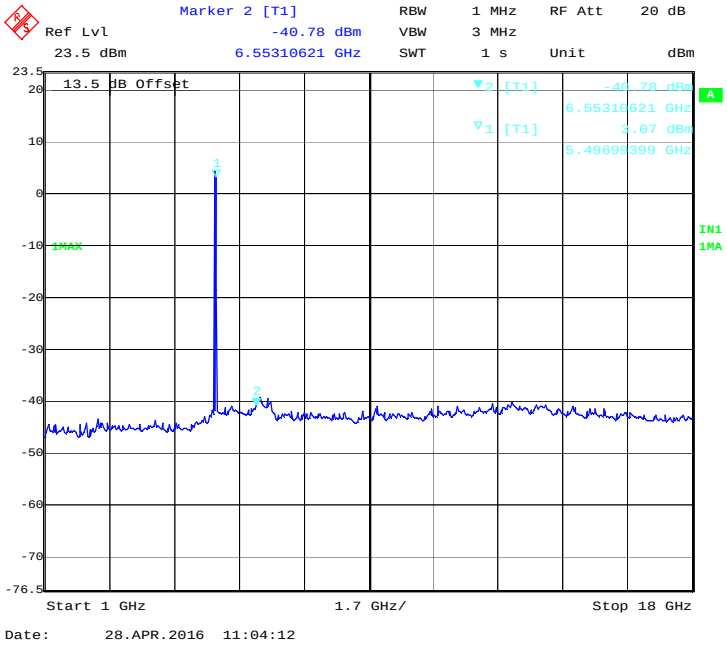

Figure 79: 40 MHz, 17 dBi, Low Channel: Peak emission from 1 GHz to 18 GHz at Ch. 1 –5495 MHz

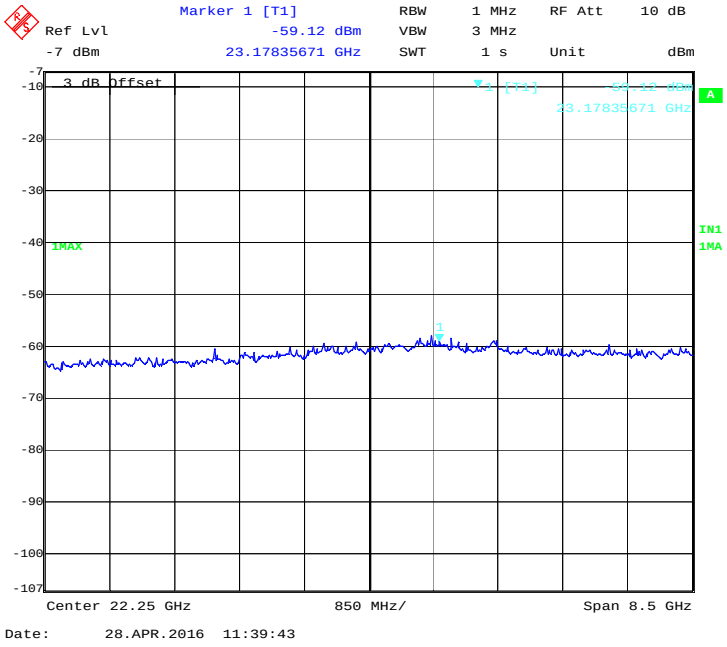

Figure 80: 40 MHz, 17 dBi, Low Channel: Peak emission from 18 GHz to 26.5 GHz at Ch. 1 –5495 MHz

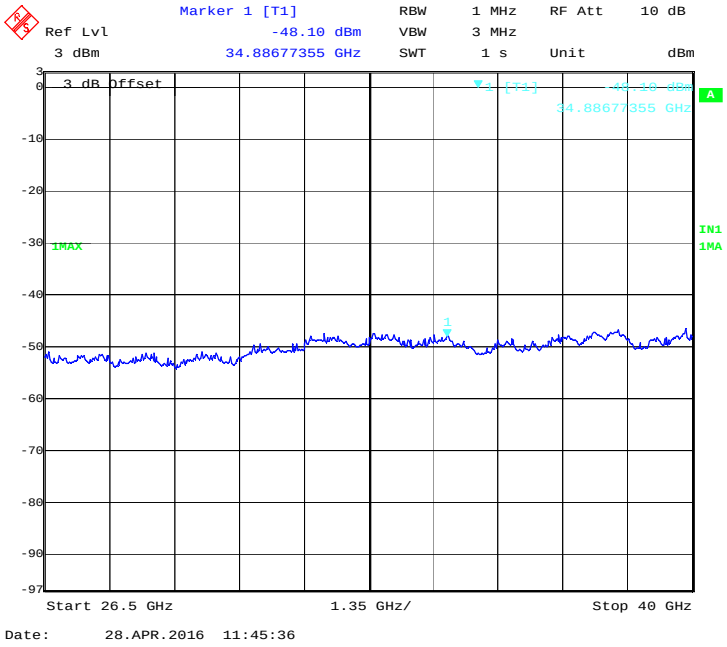

Figure 81: 40 MHz, 17 dBi, Low Channel: Peak emission from 26.5 GHz to 40 GHz at Ch. 1 –5495 MHz

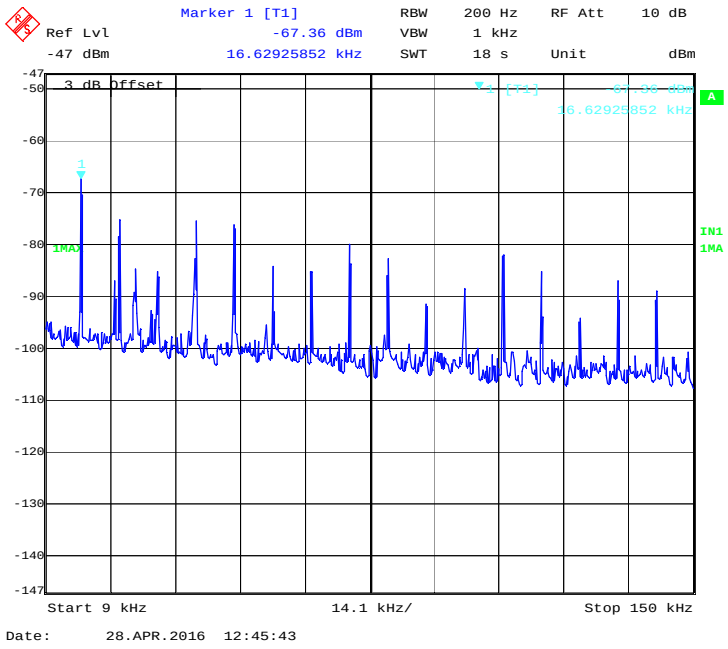

Figure 82: 40 MHz, 17 dBi, Mid Channel: Peak emission from 9 kHz to 150 kHz at Ch. 0 –5575 MHz

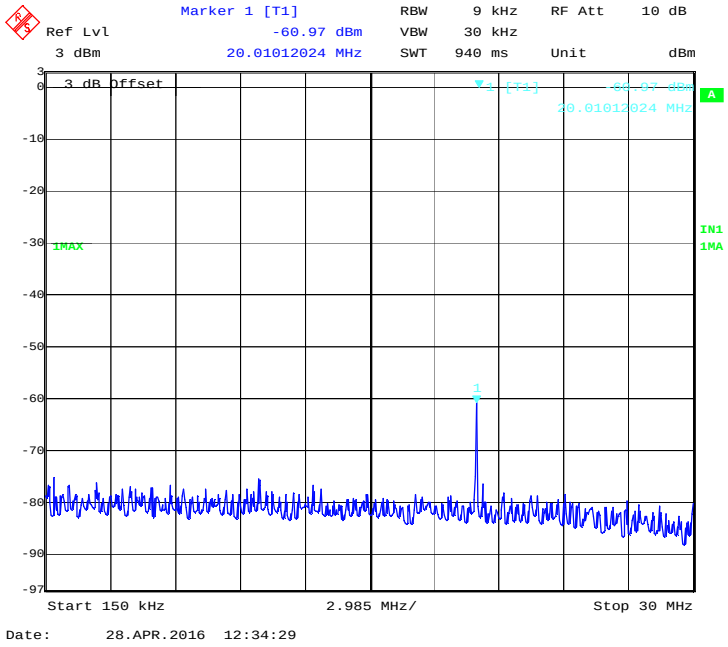

Figure 83: 40 MHz, 17 dBi, Mid Channel: Peak Emission from 150 kHz to 30 MHz at Ch. 0 –5575 MHz

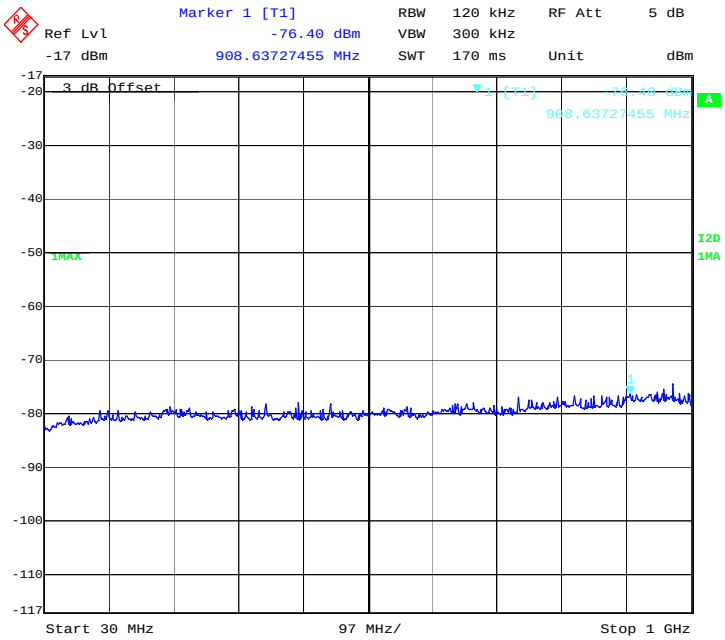

Figure 84: 40 MHz, 17 dBi, Mid Channel: Peak Emission from 30 MHz to 1 GHz at Ch. 0 –5575 MHz

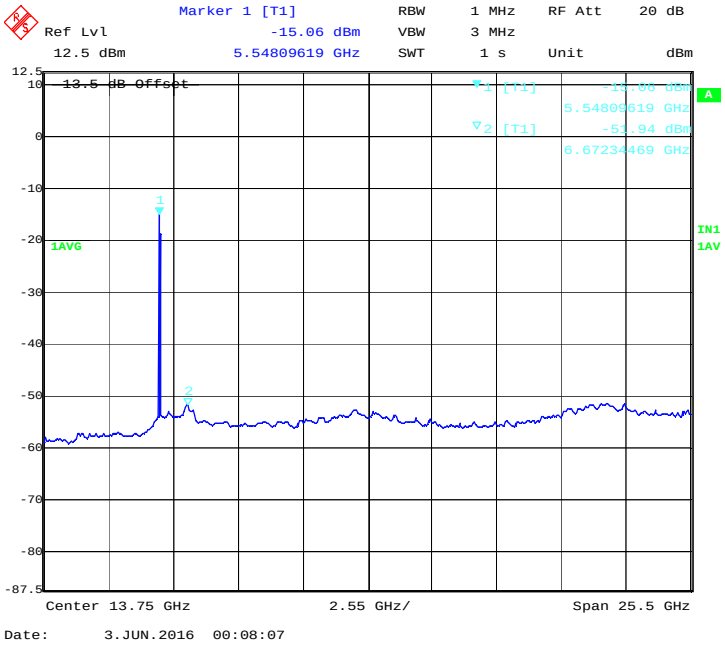

Figure 85: 40 MHz, 17 dBi, Mid Channel: Average Emission from 1 GHz to 18 GHz at Ch. 0 –5575 MHz

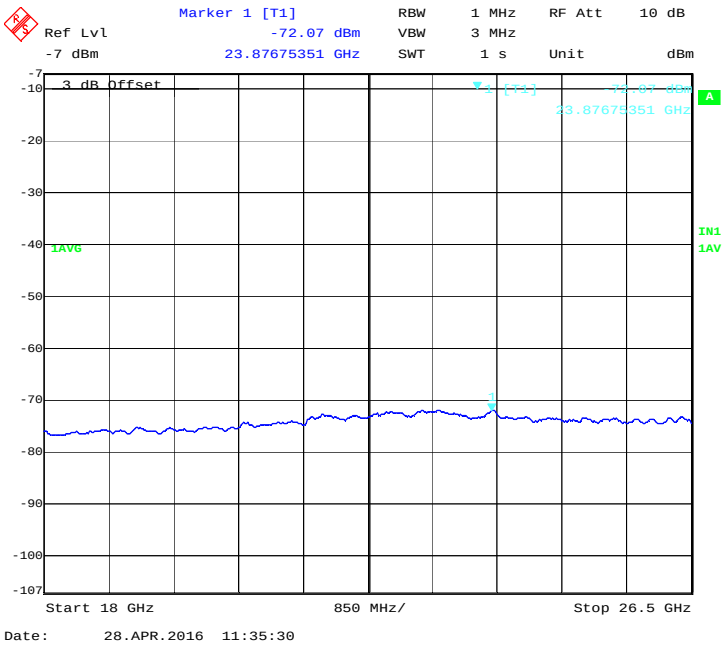

Figure 86: 40 MHz, 17 dBi, Mid Channel: Average Emission from 18 GHz to 26.5 GHz at Ch. 0 –5575 MHz

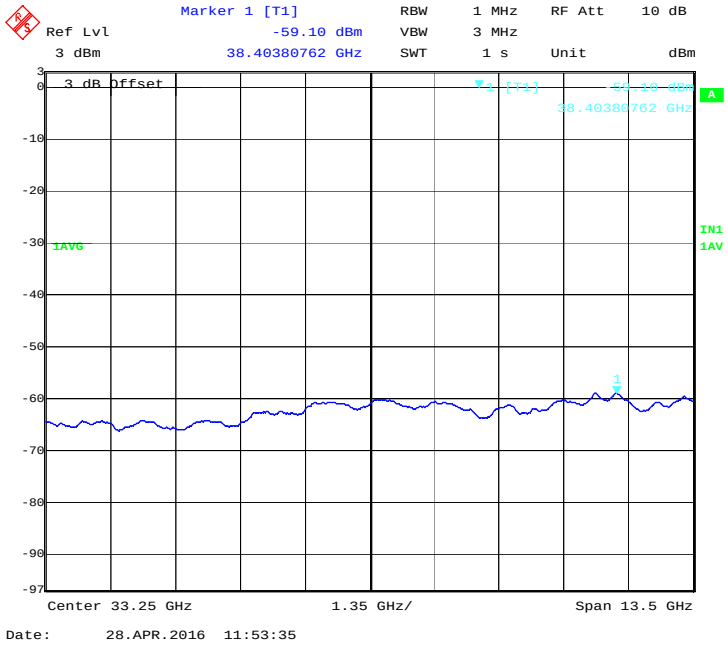

Figure 87: 40 MHz, 17 dBi, Mid Channel: Average Emission from 26.5 GHz to 40 GHz at Ch. 0 –5575 MHz

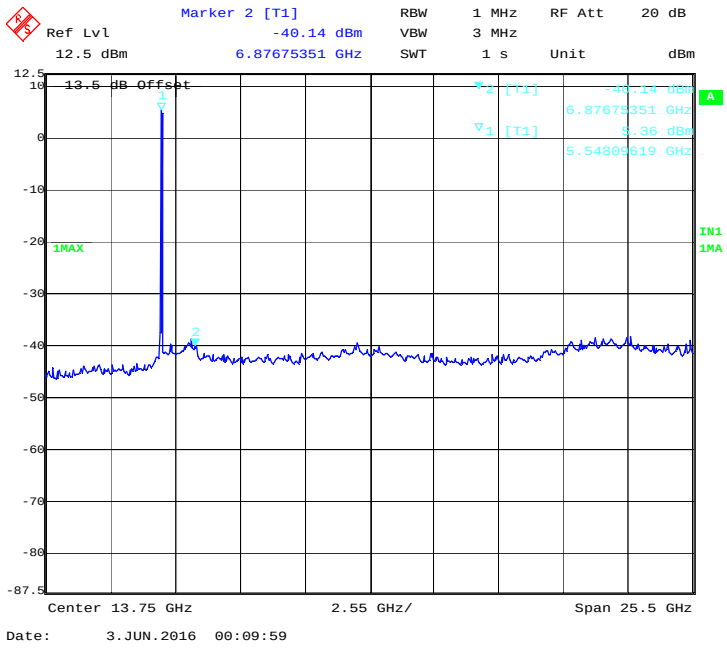

Figure 88: 40 MHz, 17 dBi, Mid Channel: Peak Emission from 1 GHz to 18 GHz at Ch. 0 –5575 MHz

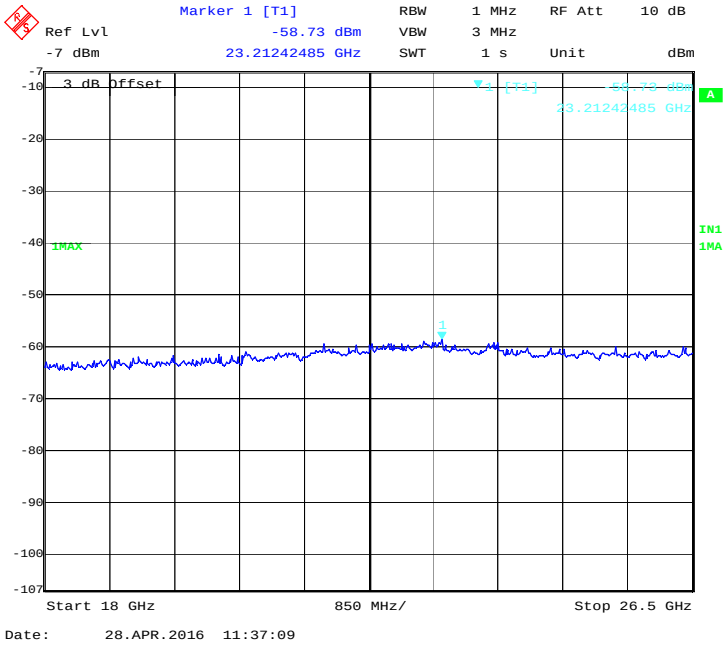

Figure 89: 40 MHz, 17 dBi, Mid Channel: Peak Emission from 18 GHz to 26.5 GHz at Ch. 0 –5575 MHz

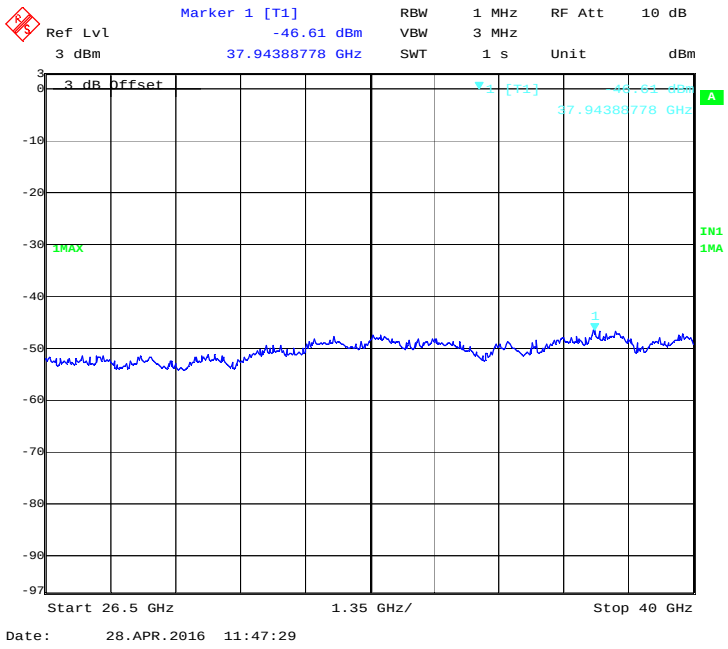

Figure 90: 40 MHz, 17 dBi, Mid Channel: Peak Emission from 26.5 GHz to 40 GHz at Ch. 0 –5575 MHz

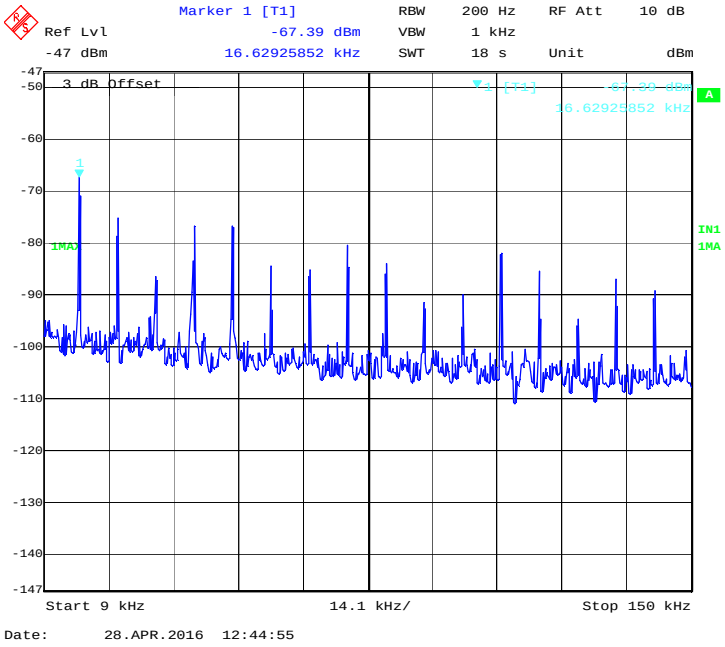

Figure 91: 40 MHz, 17 dBi, Mid Channel: Peak Emission from 9 kHz to 150 kHz at Ch. 1 –5575 MHz

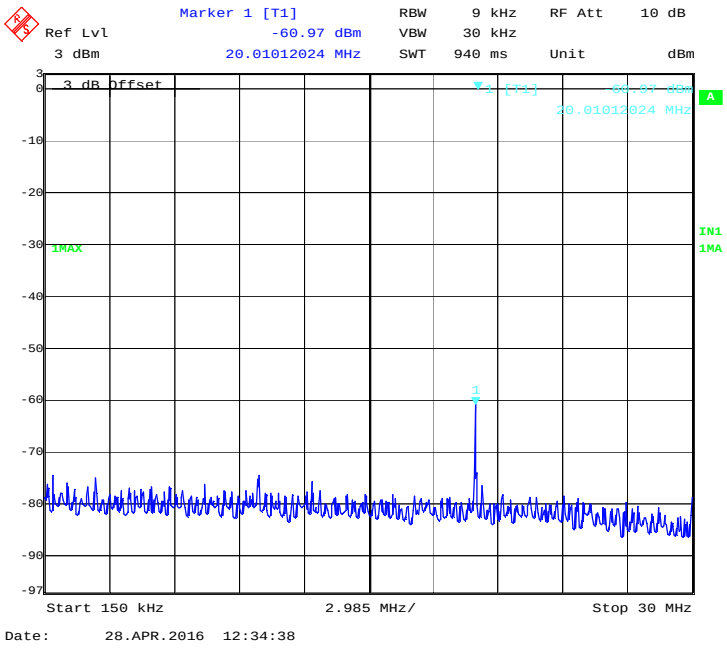

Figure 92: 40 MHz, 17 dBi, Mid Channel: Peak Emission from 150 kHz to 30 MHz at Ch. 1 –5575 MHz

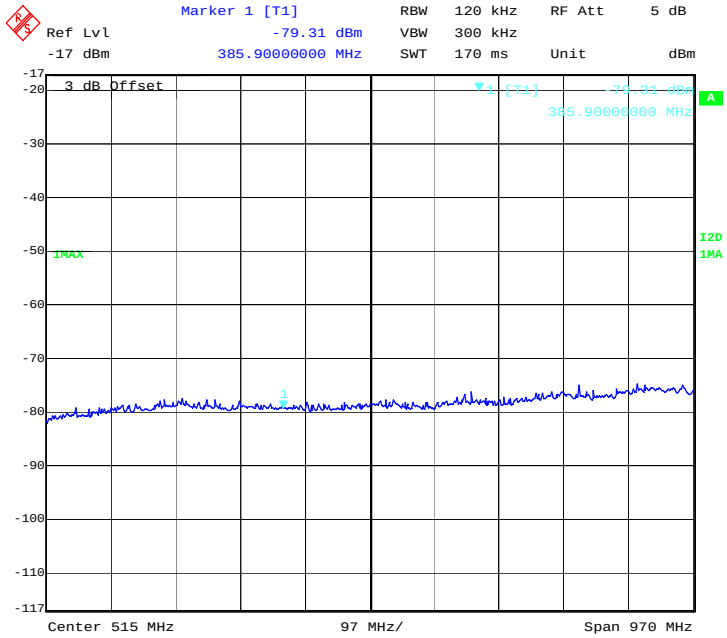

Figure 93: 40 MHz, 17 dBi, Mid Channel: Peak Emission from 30 MHz to 1 GHz at Ch. 1–5575 MHz

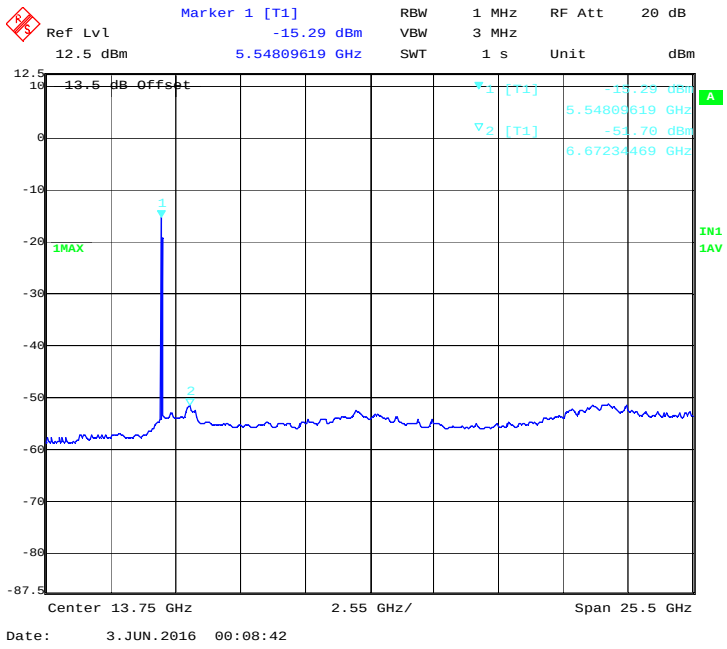

Figure 94: 40 MHz, 17 dBi, Mid Channel: Average Emission from 1 GHz to 18 GHz at Ch. 1 –5575 MHz

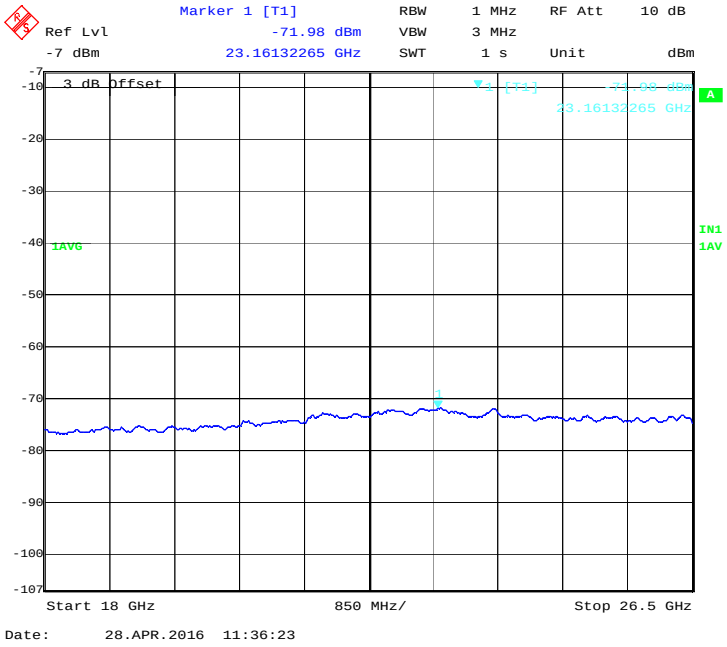

Figure 95: 40 MHz, 17 dBi, Mid Channel: Average Emission from 18 GHz to 26.5 GHz at Ch. 1 –5575 MHz

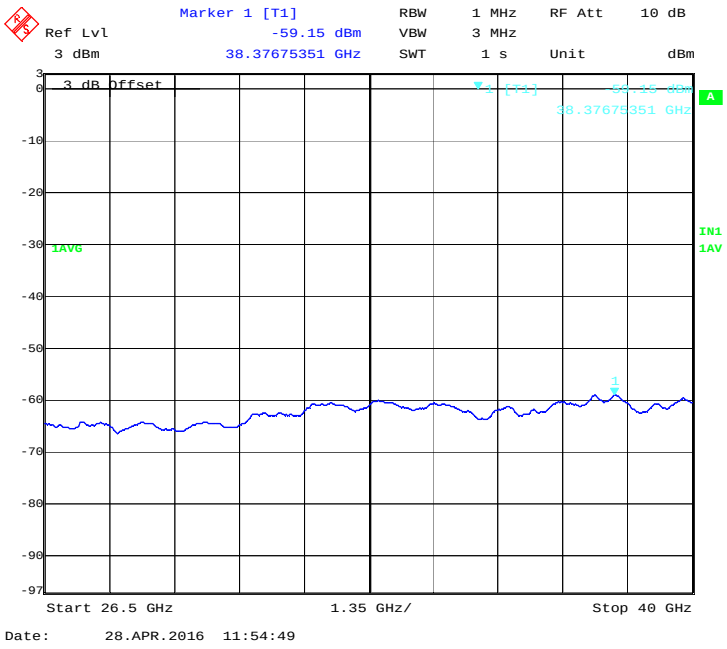

Figure 96: 40 MHz, 17 dBi, Mid Channel: Average Emission from 26.5 GHz to 40 GHz at Ch. 1 –5575 MHz

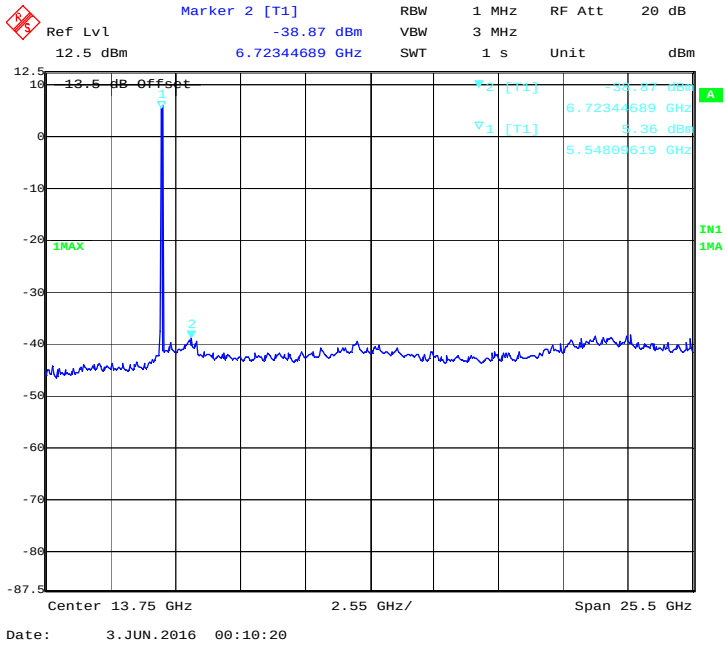

Figure 97: 40 MHz, 17 dBi, Mid Channel: Peak Emission from 1 GHz to 18 GHz at Ch. 1 –5575 MHz

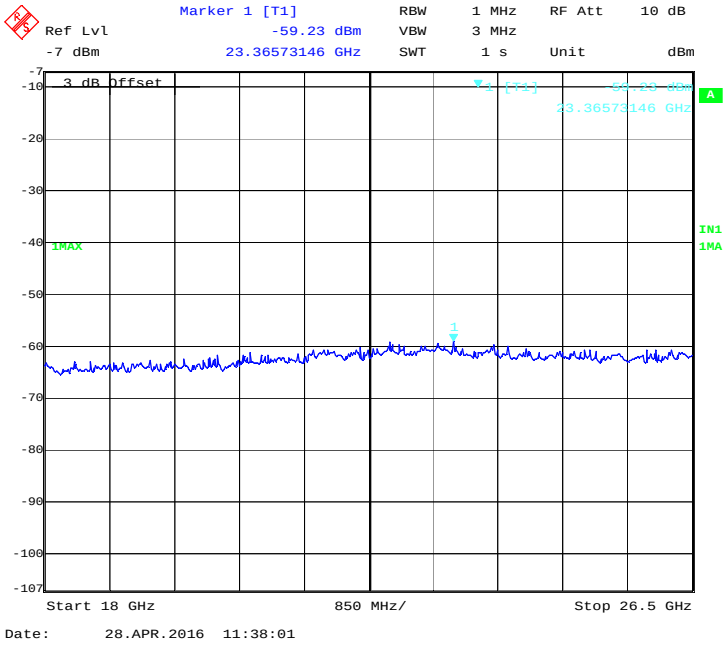

Figure 98: 40 MHz, 17 dBi, Mid Channel: Peak Emission from 18 GHz to 26.5 GHz at Ch. 1 –5575 MHz

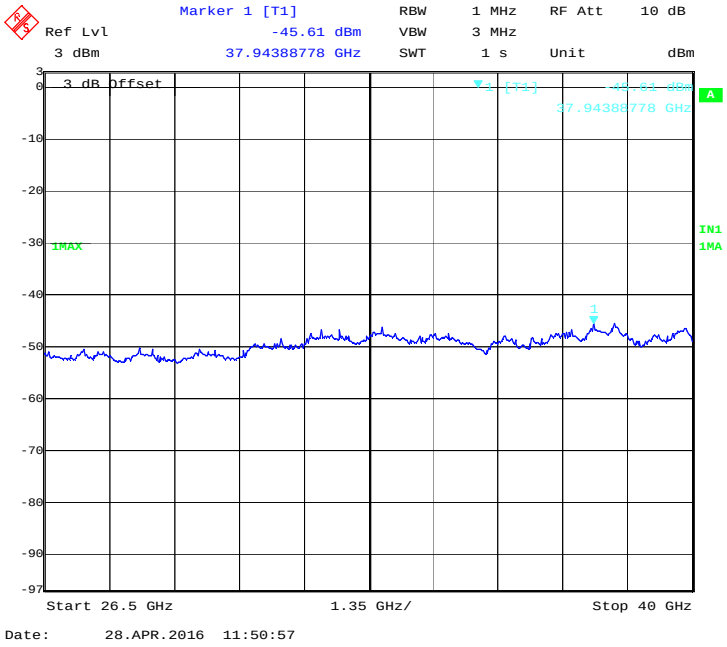

Figure 99: 40 MHz, 17 dBi, Mid Channel: Peak Emission from 26.5 GHz to 40 GHz at Ch. 1 –5575 MHz

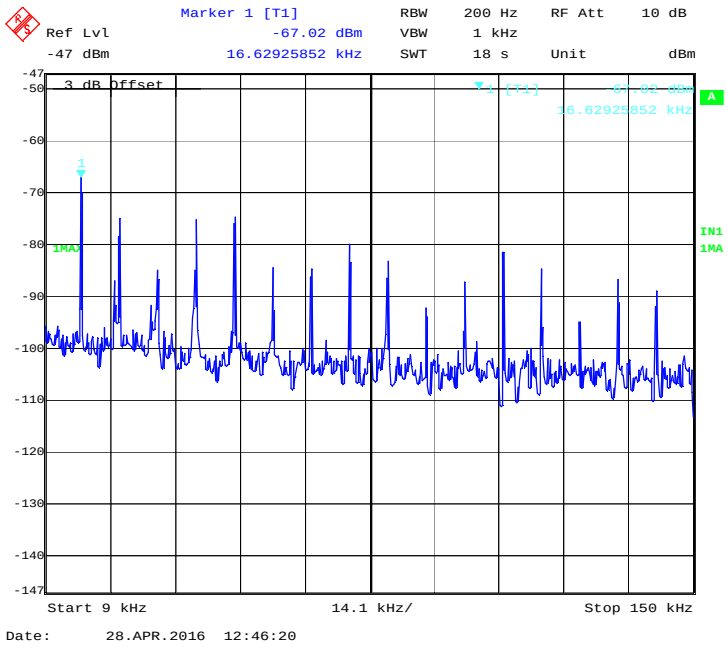

Figure 100: 40 MHz, 17 dBi, High Channel: Peak Emission from 9 kHz to 150 kHz at Ch. 0 –5700 MHz

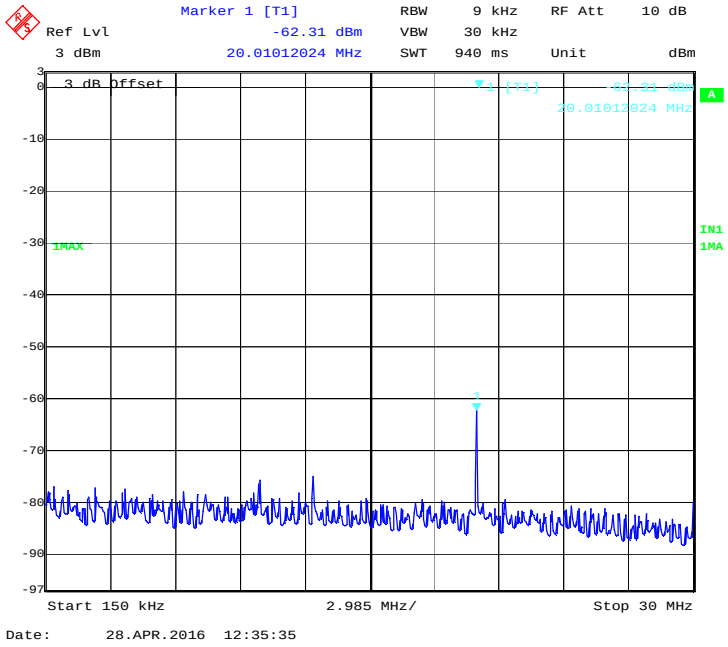

Figure 101: 40 MHz, 17 dBi, High Channel: Peak Emission from 150 kHz to 30 MHz at Ch. 0 –5700 MHz

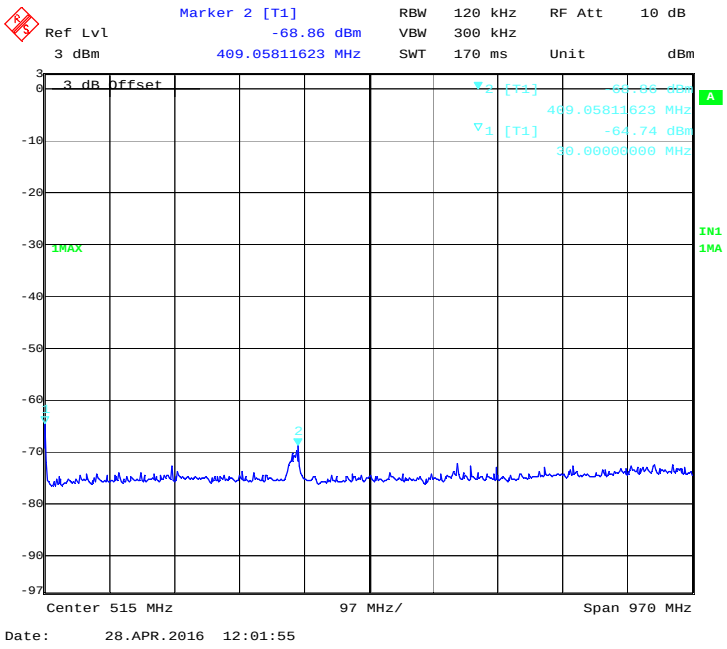

Figure 102: 40 MHz, 17 dBi, High Channel: Peak Emission from 30 MHz to 1 GHz at Ch. 0 –5700 MHz

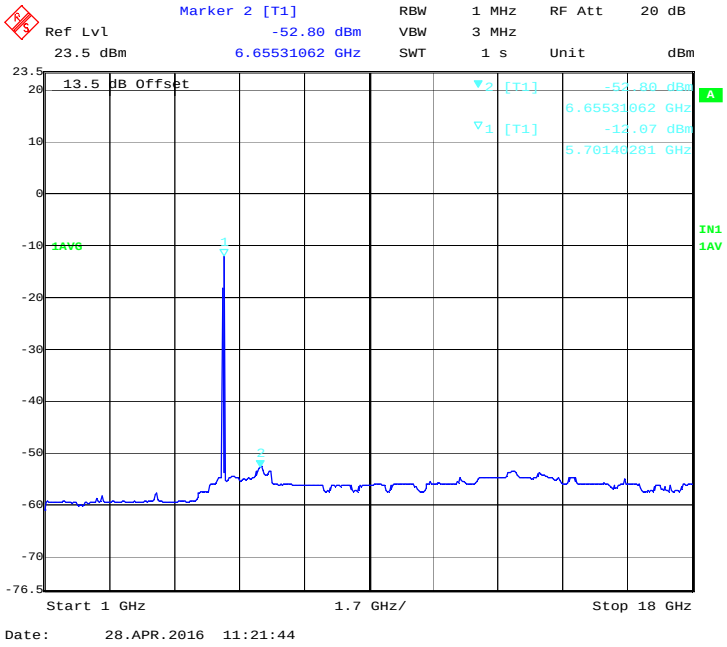

Figure 103: 40 MHz, 17 dBi, High Channel: Average Emission from 1 GHz to 18 GHz at Ch. 0 –5700 MHz

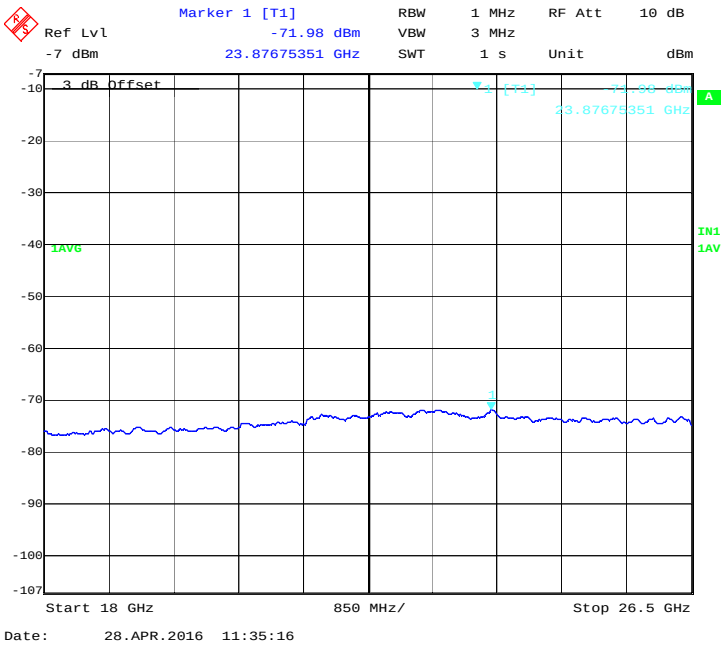

Figure 104: 40 MHz, 17 dBi, High Channel: Average Emission from 18 GHz to 26.5 GHz at Ch. 0 –5700 MHz

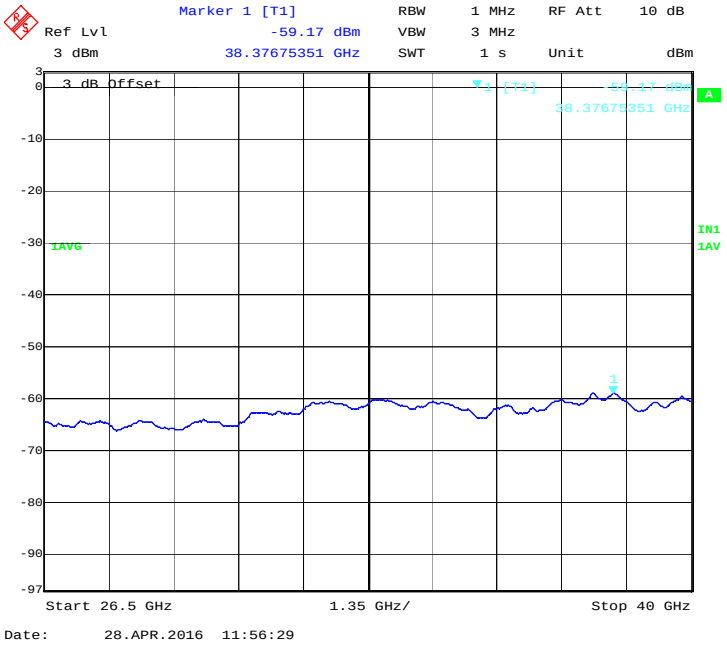

Figure 105: 40 MHz, 17 dBi, High Channel: Average Emission from 26.5 GHz to 40 GHz at Ch. 0 –5700 MHz

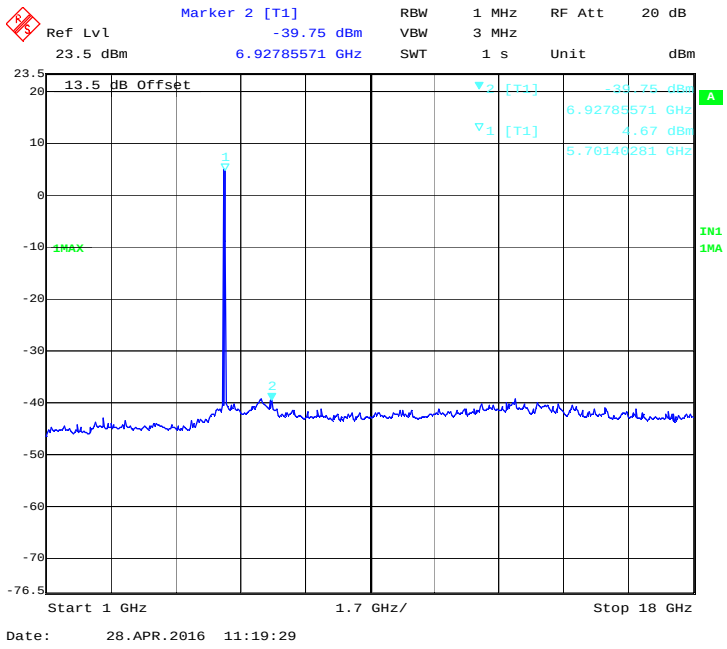

Figure 106: 40 MHz, 17 dBi, High Channel: Peak Emission from 1 GHz to 18 GHz at Ch. 0 –5700 MHz

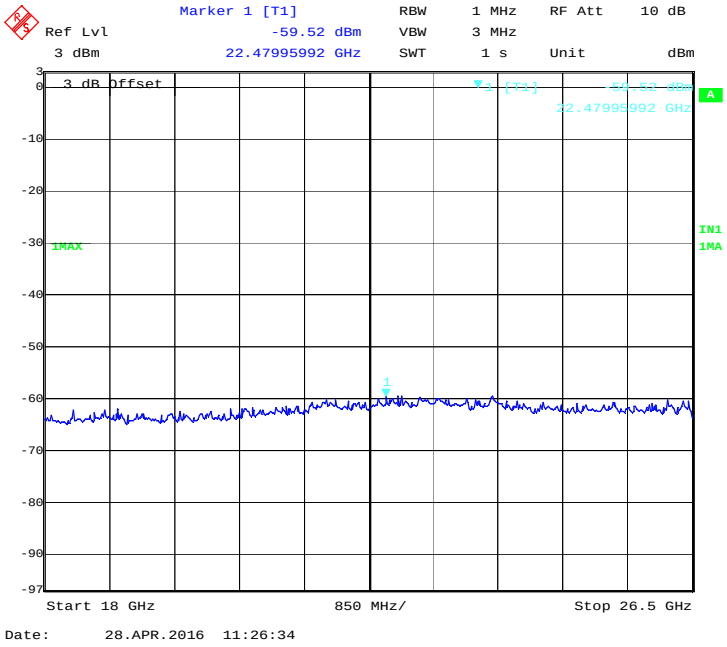

Figure 107: 40 MHz, 17 dBi, High Channel: Peak Emission from 18 GHz to 26.5 GHz at Ch. 0 –5700 MHz

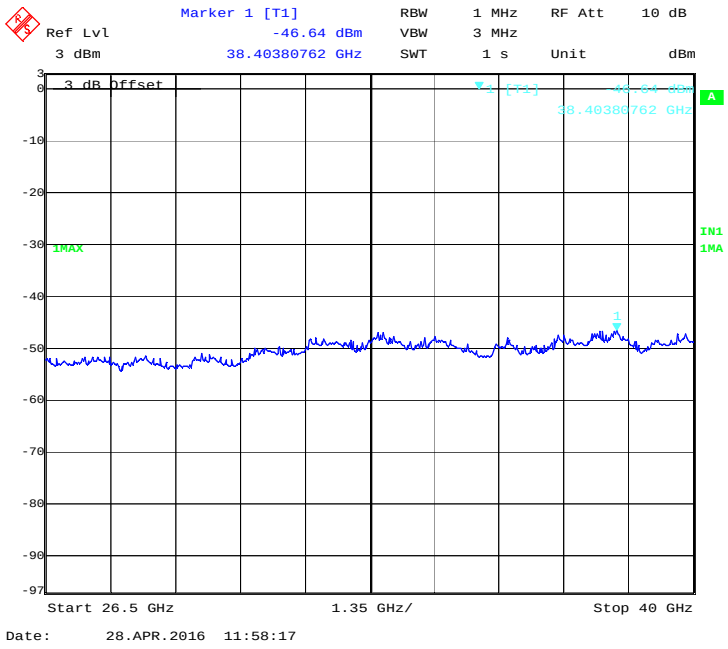

Figure 108: 40 MHz, 17 dBi, High Channel: Peak Emission from 26.5 GHz to 40 GHz at Ch. 0 –5700 MHz

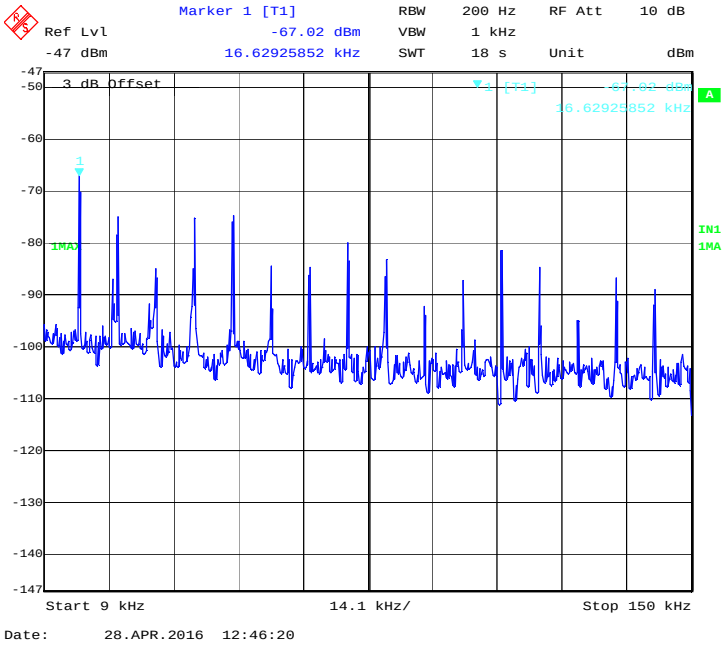

Figure 109: 40 MHz, 17 dBi, High Channel: Peak Emission from 9 kHz to 150 kHz at Ch. 1 –5700 MHz

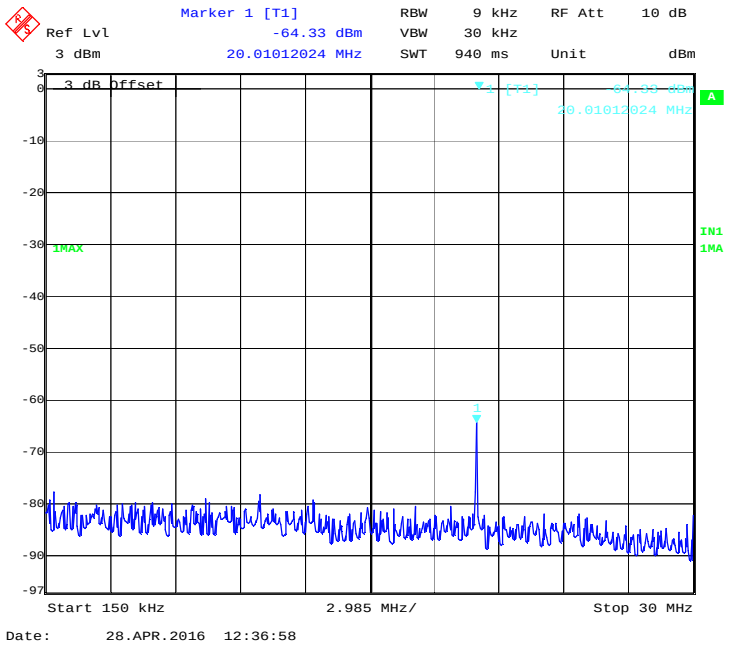

Figure 110: 40 MHz, 17 dBi, High Channel: Peak Emission from 150 kHz to 30 MHz at Ch. 1 –5700 MHz

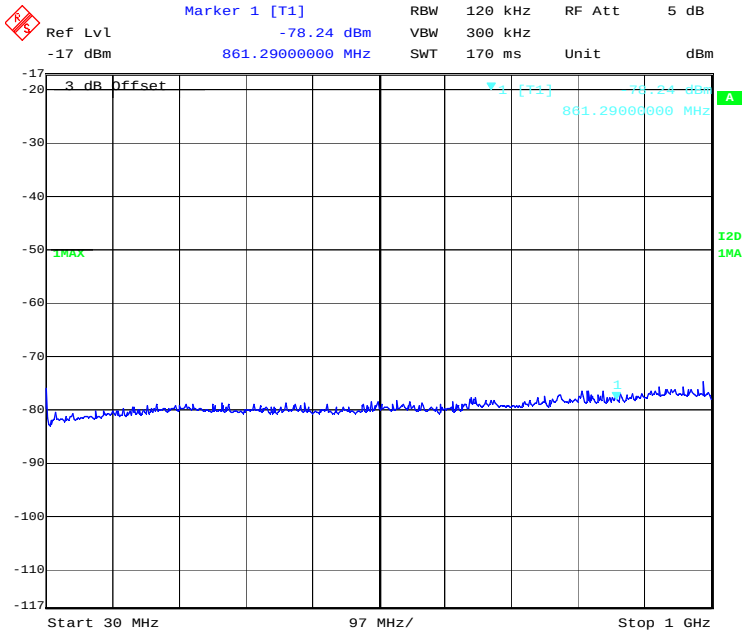

Figure 111: 40 MHz, 17 dBi, High Channel: Peak Emission from 30 MHz to 1 GHz at Ch. 1 –5700 MHz

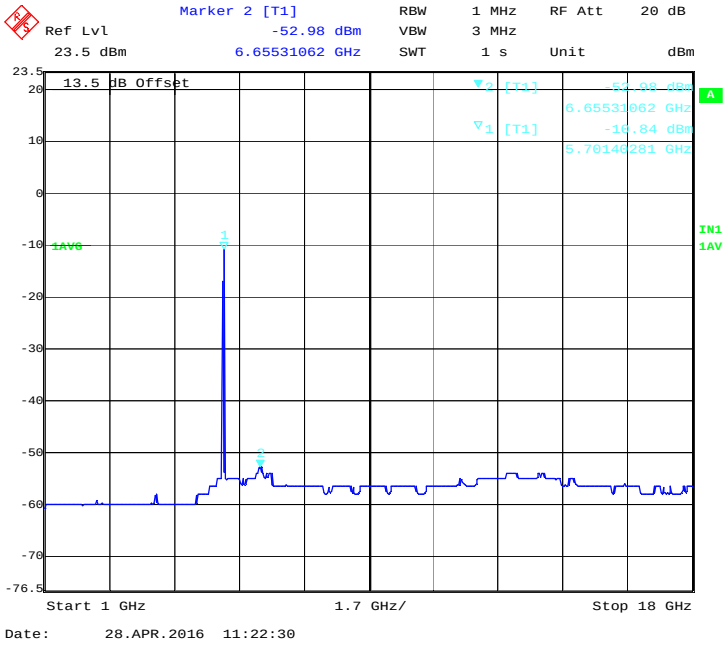

Figure 112: 40 MHz, 17 dBi, High Channel: Average Emission from 1 GHz to 18 GHz at Ch. 1 –5700 MHz

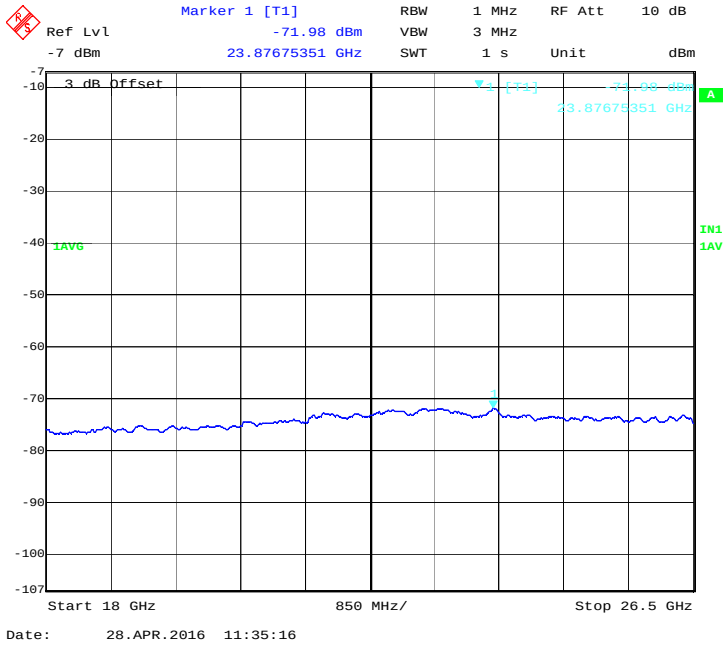

Figure 113: 40 MHz, 17 dBi, High Channel: Average Emission from 18 GHz to 26.5 GHz at Ch. 1 –5700 MHz

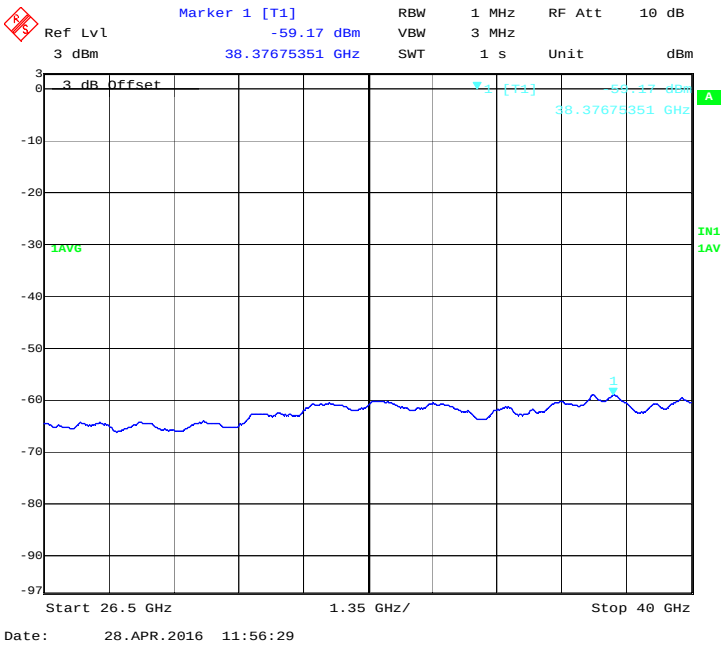

Figure 114: 40 MHz, 17 dBi, High Channel: Average Emission from 26.5 GHz to 40 GHz at Ch. 1 –5700 MHz

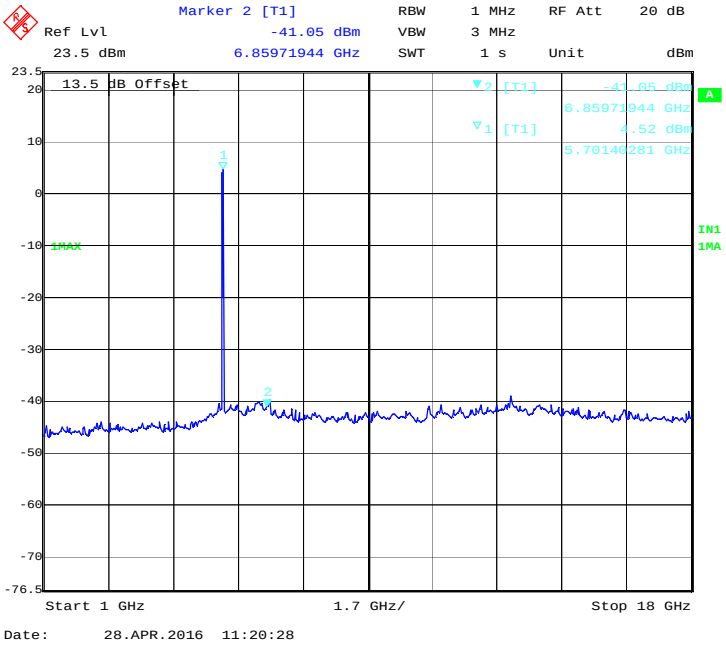

Figure 115: 40 MHz, 17 dBi, High Channel: Peak Emission from 1 GHz to 18 GHz at Ch. 1 –5700 MHz

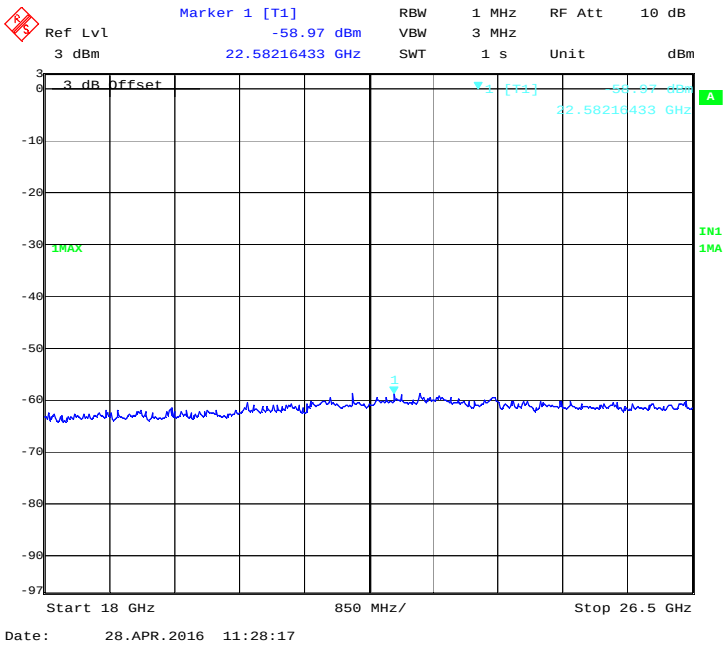

Figure 116: 40 MHz, 17 dBi, High Channel: Peak Emission from 18 GHz to 26.5 GHz at Ch. 1 –5700 MHz

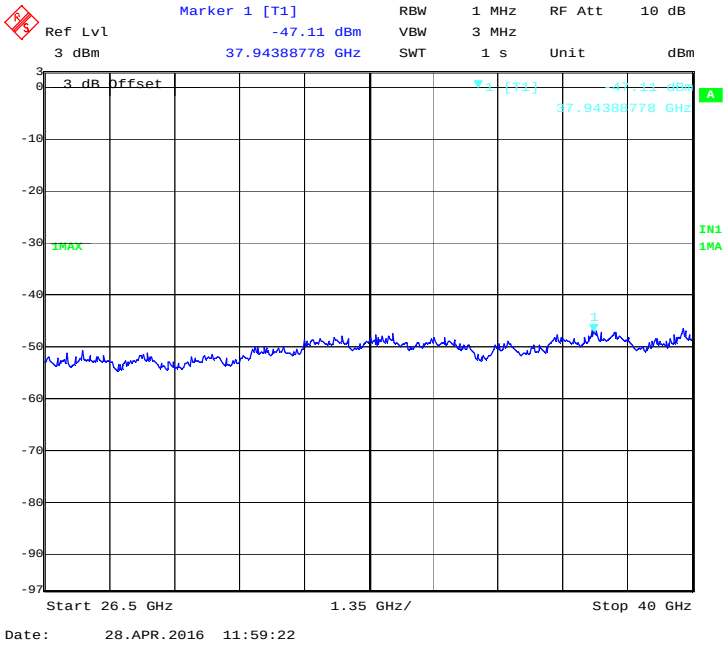

Figure 117: 40 MHz, 17 dBi, High Channel: Peak Emission from 26.5 GHz to 40 GHz at Ch. 1 –5700 MHz

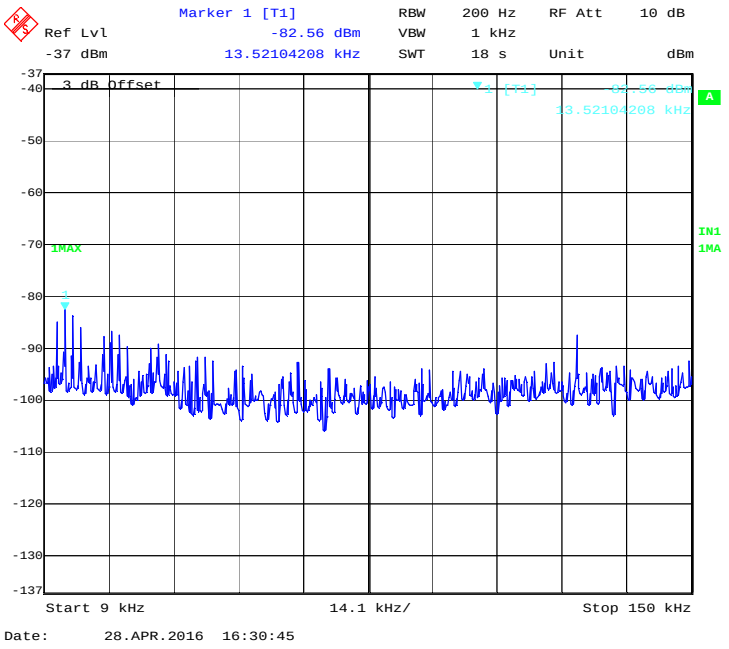

Figure 118: 10 MHz, 17 dBi, Low Channel: Peak Emission from 9 kHz to 150 kHz at Ch. 0 –5485 MHz

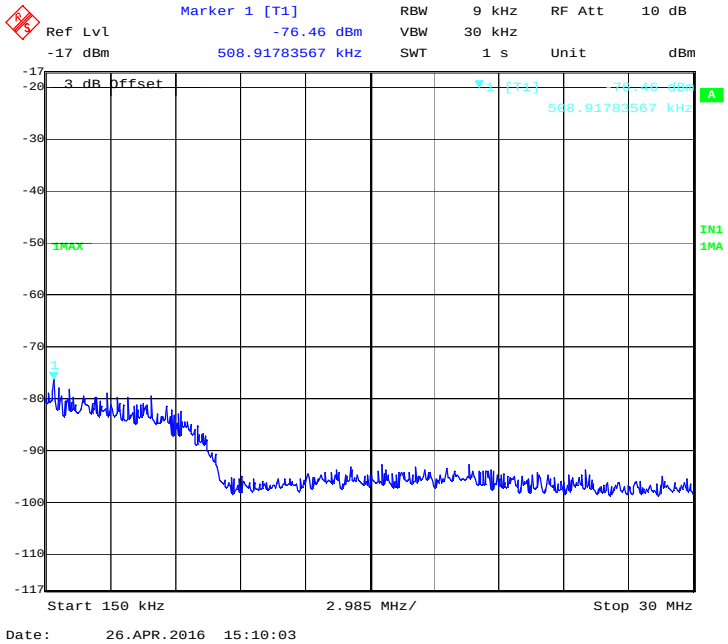

Figure 119: 10 MHz, 17 dBi, Low Channel: Peak Emission from 150 kHz to 30 MHz at Ch. 0 –5485 MHz

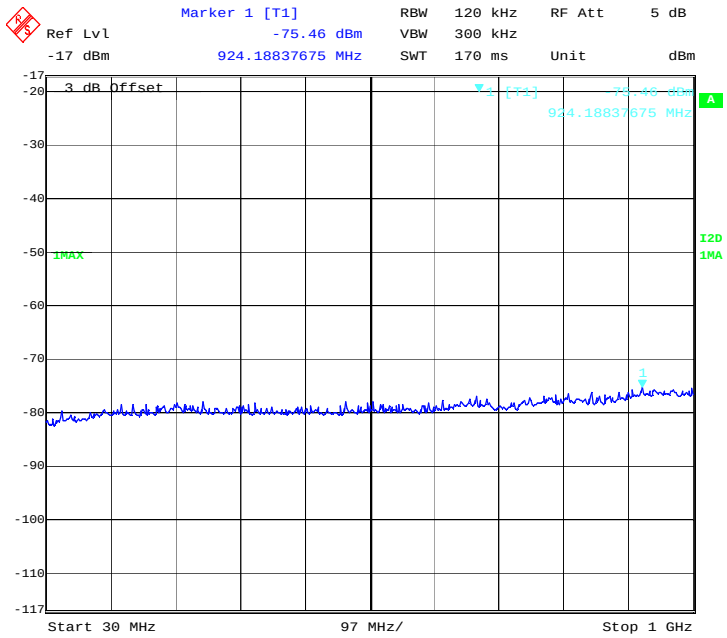

Figure 120: 10 MHz, 17 dBi, Low Channel: Peak Emission from 30 MHz to 1 GHz at Ch. 0 –5485 MHz

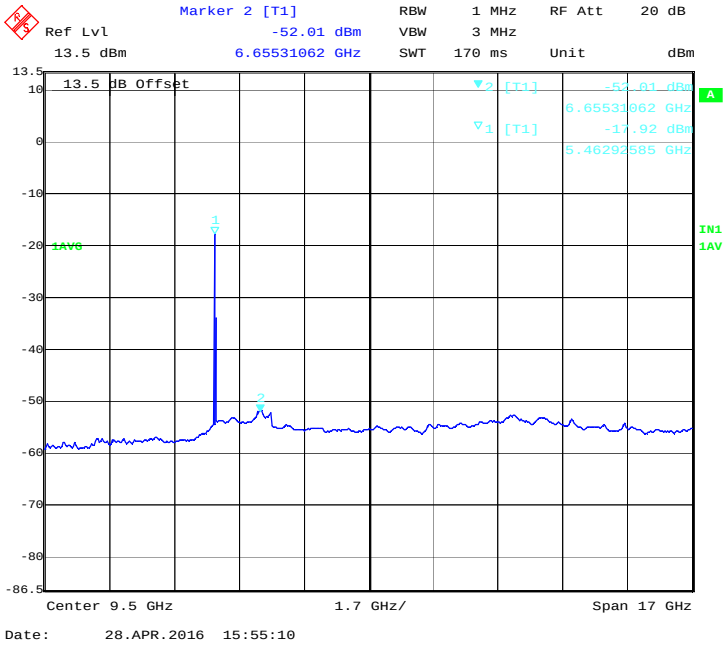

Figure 121: 10 MHz, 17 dBi, Low Channel: Average Emission from 1 GHz to 18 GHz at Ch. 0 –5485 MHz

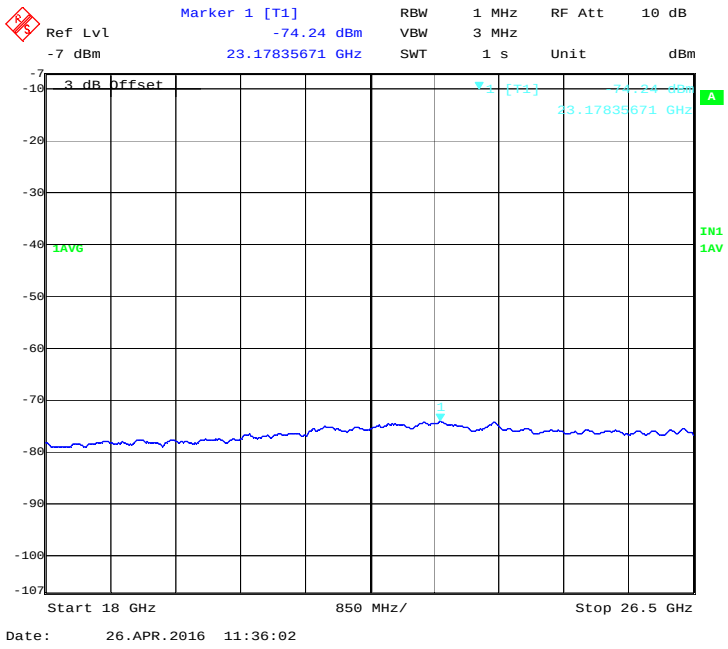

Figure 122: 10 MHz, 17 dBi, Low Channel: Average Emission from 18 GHz to 26.5 GHz at Ch. 0 –5485 MHz

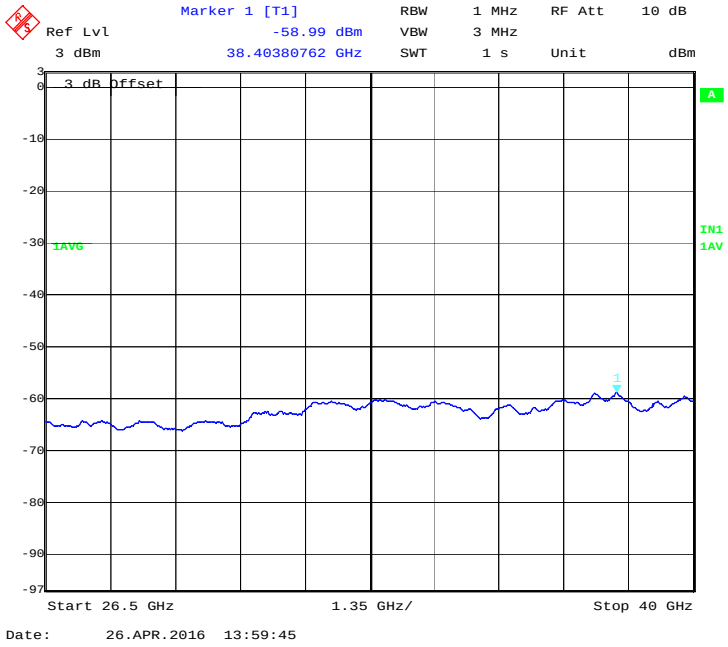

Figure 123: 10 MHz, 17 dBi, Low Channel: Average Emission from 26.5 GHz to 40 GHz at Ch. 0 –5485 MHz

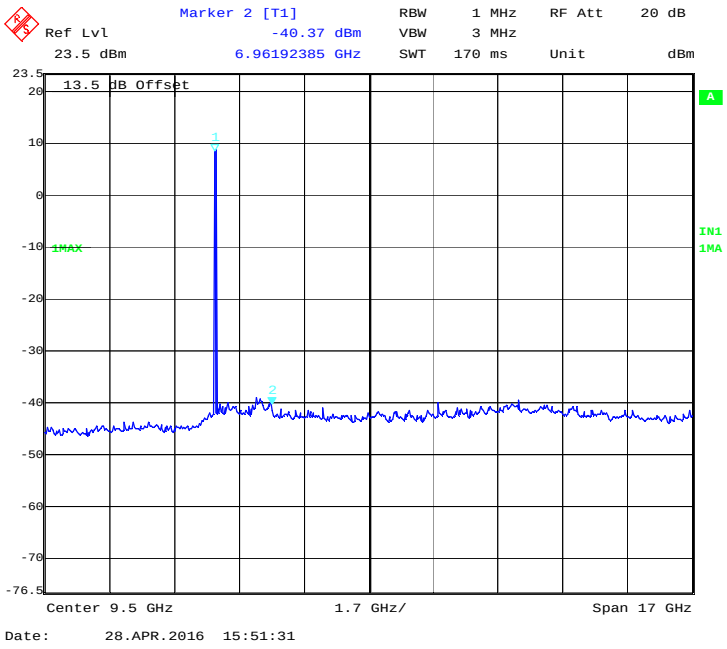

Figure 124: 10 MHz, 17 dBi, Low Channel: Peak Emission from 1 GHz to 18 GHz at Ch. 0 –5485 MHz

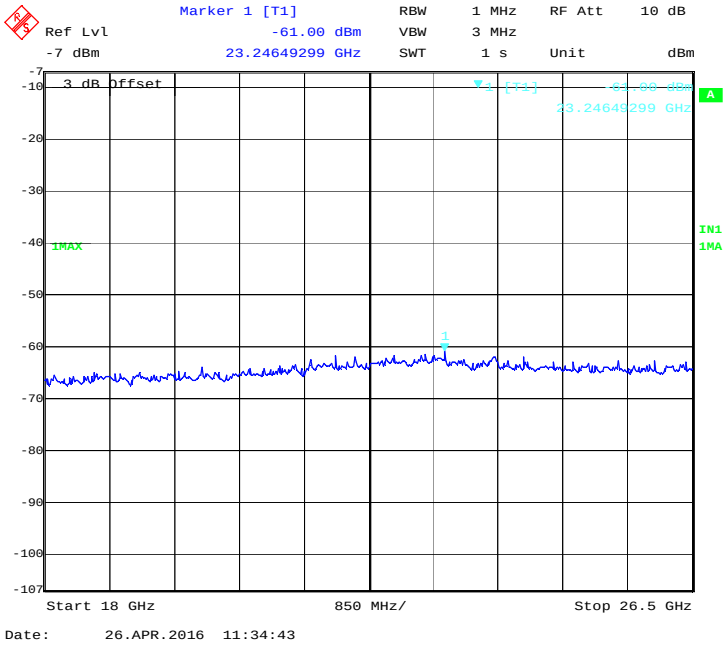

Figure 125: 10 MHz, 17 dBi, Low Channel: Peak Emission from 18 GHz to 26.5 GHz at Ch. 0 –5485 MHz

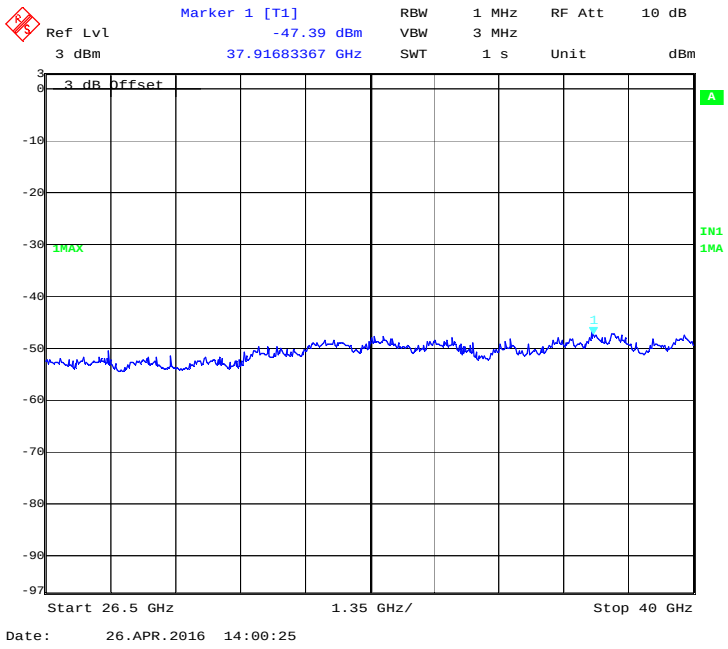

Figure 126: 10 MHz, 17 dBi, Low Channel: Peak Emission from 26.5 GHz to 40 GHz at Ch. 0 –5485 MHz

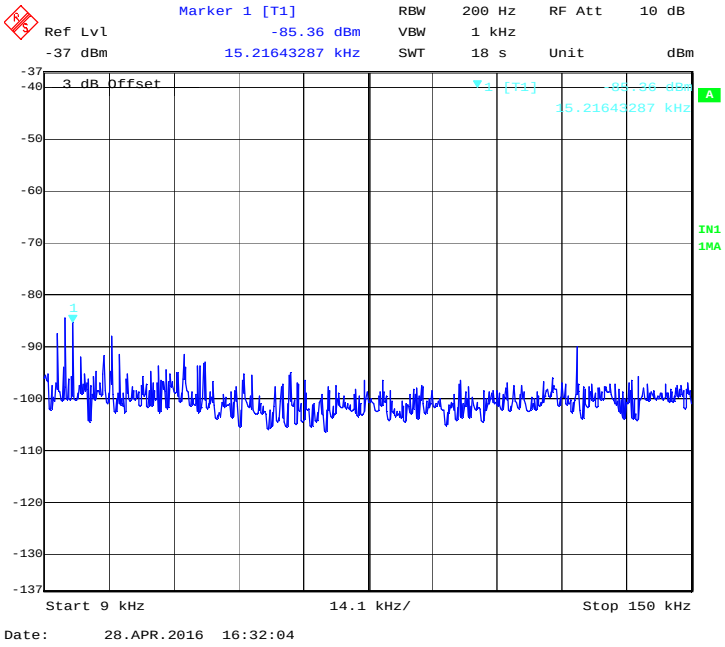

Figure 127: 10 MHz, 17 dBi, Low Channel: Peak Emission from 9 kHz to 150 kHz at Ch. 1 –5485 MHz

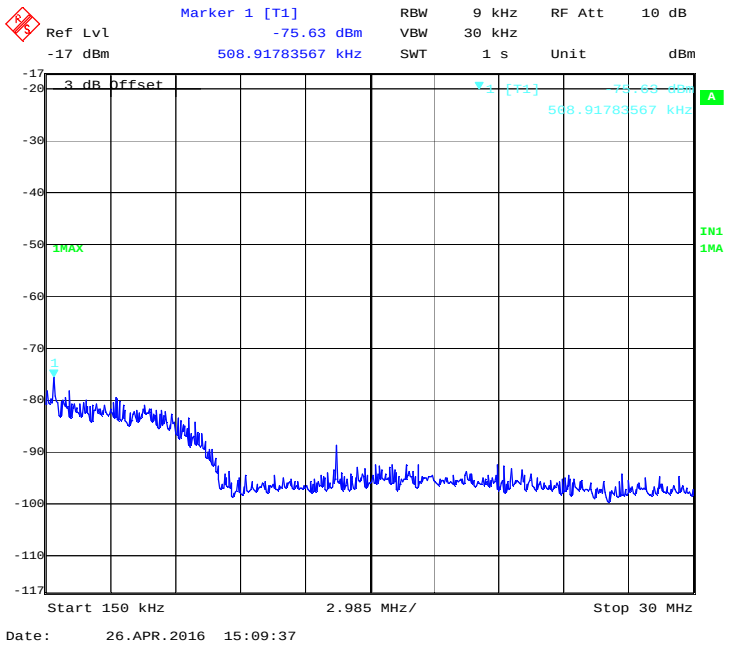

Figure 128: 10 MHz, 17 dBi, Low Channel: Peak Emission from 150 kHz to 30 MHz at Ch. 1 –5485 MHz

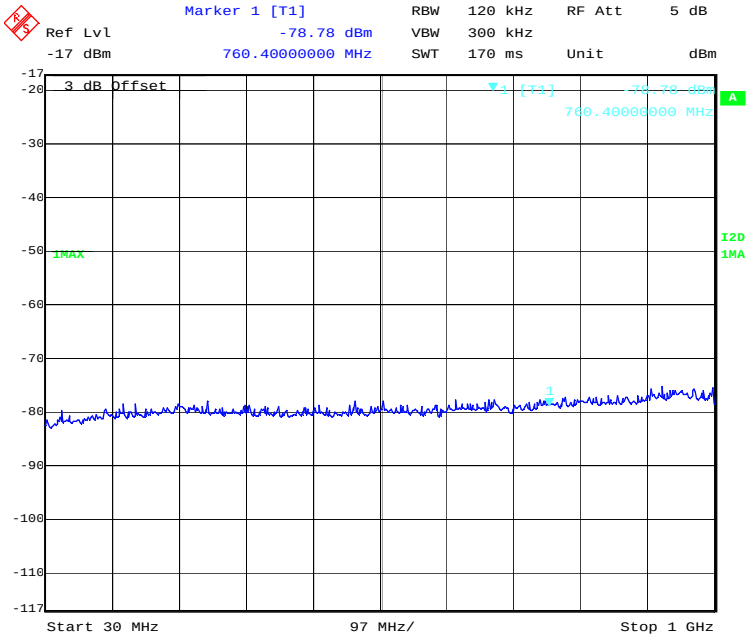

Figure 129: 10 MHz, 17 dBi, Low Channel: Peak Emission from 30 MHz to 1 GHz at Ch. 1 –5485 MHz

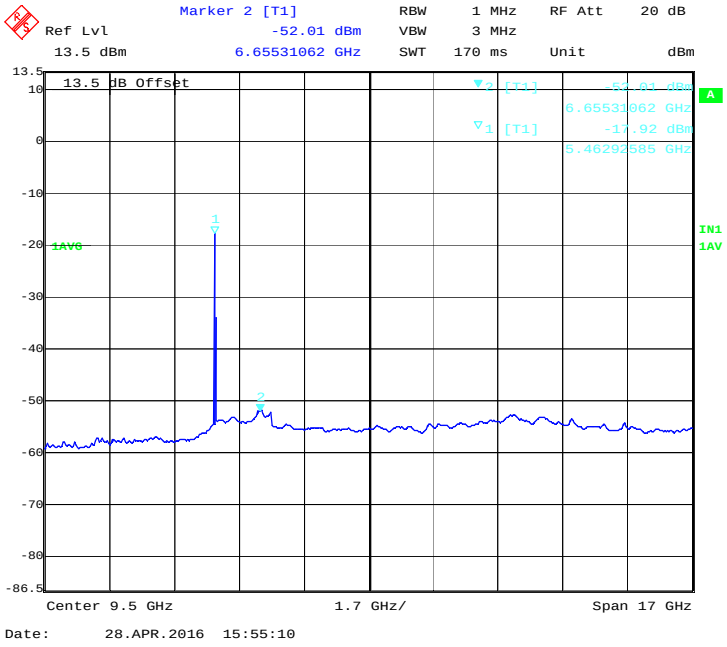

Figure 130: 10 MHz, 17 dBi, Low Channel: Average Emission from 1 GHz to 18 GHz at Ch. 1 –5485 MHz

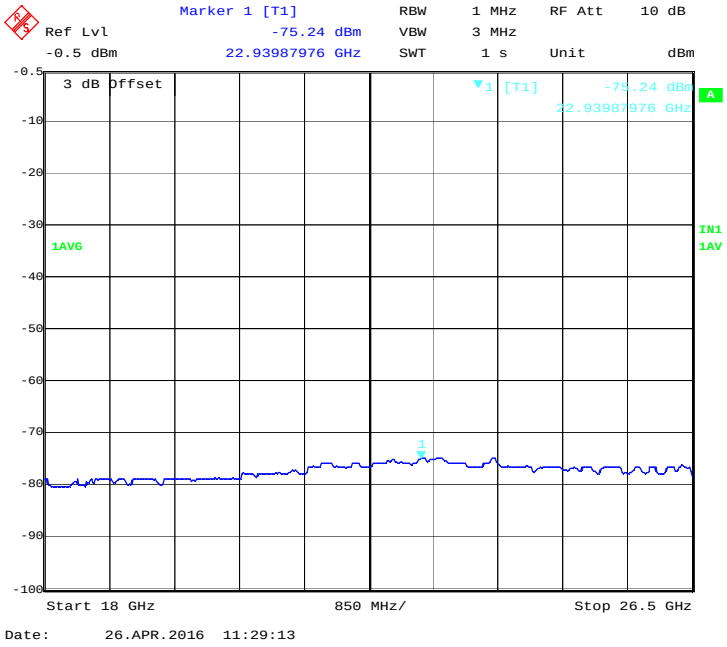

Figure 131: 10 MHz, 17 dBi, Low Channel: Average Emission from 18 GHz to 26.5 GHz at Ch. 1 –5485 MHz

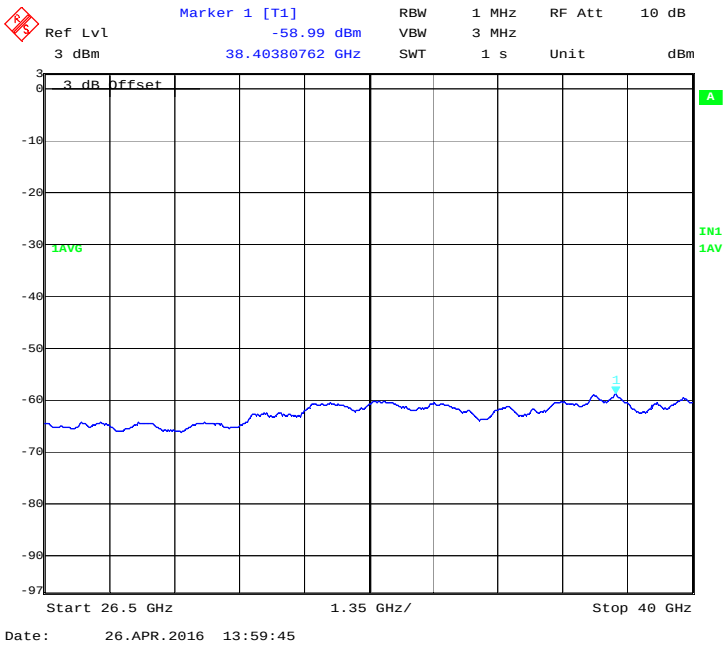

Figure 132: 10 MHz, 17 dBi, Low Channel: Average Emission from 26.5 GHz to 40 GHz at Ch. 1 –5485 MHz

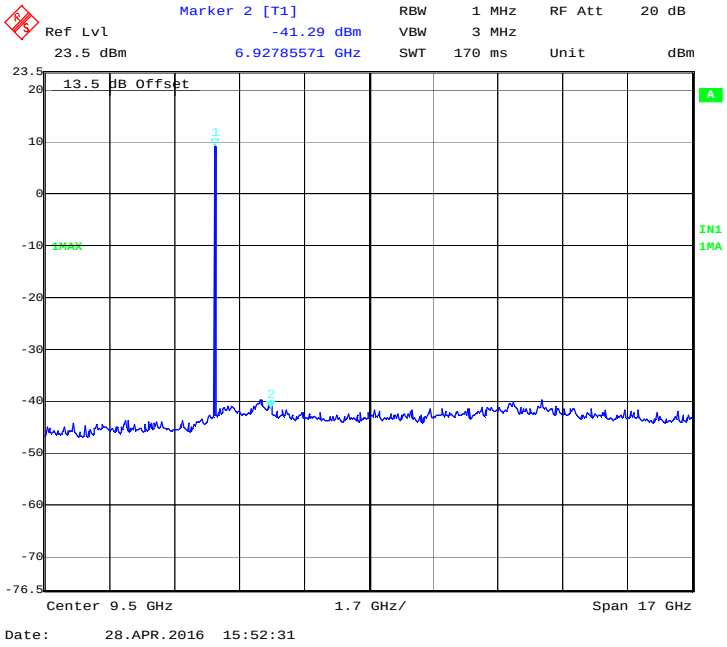

Figure 133: 10 MHz, 17 dBi, Low Channel: Peak Emission from 1 GHz to 18 GHz at Ch. 1 –5485 MHz

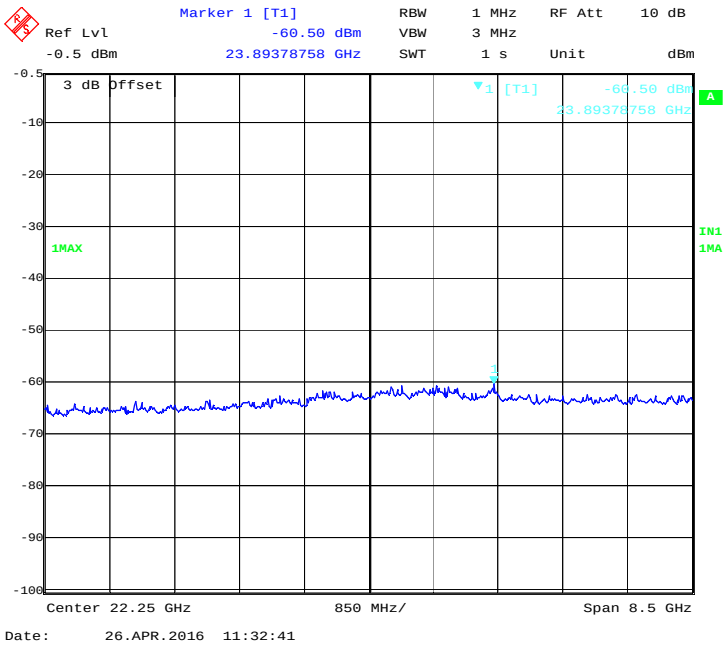

Figure 134: 10 MHz, 17 dBi, Low Channel: Peak Emission from 18 GHz to 26.5 GHz at Ch. 1 –5485 MHz

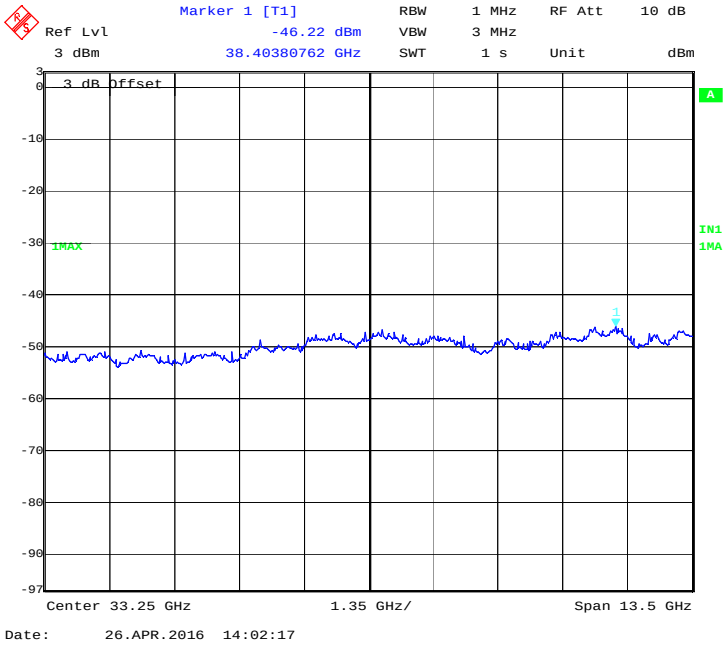

Figure 135: 10 MHz, 17 dBi, Low Channel: Peak Emission from 26.5 GHz to 40 GHz at Ch. 1 –5485 MHz

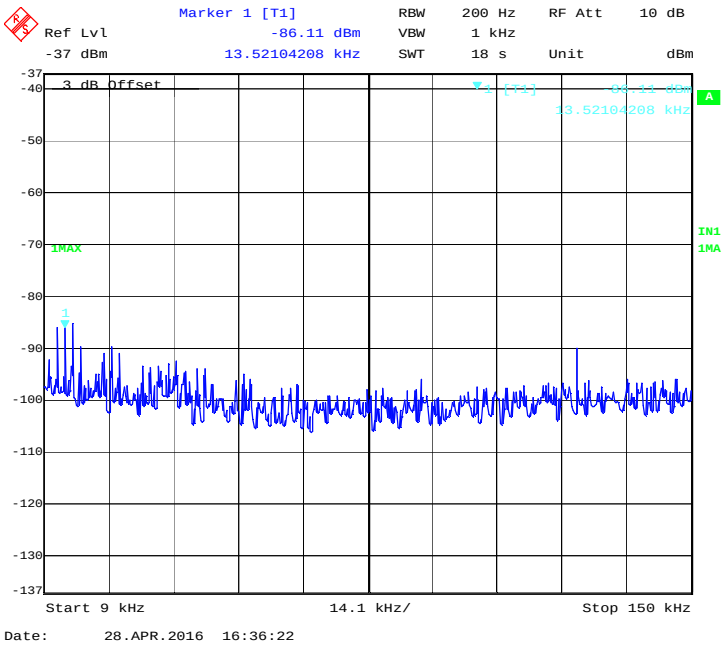

Figure 136: 10 MHz, 17 dBi, Mid Channel: Peak Emission from 9 kHz to 150 kHz at Ch. 0 –5585 MHz

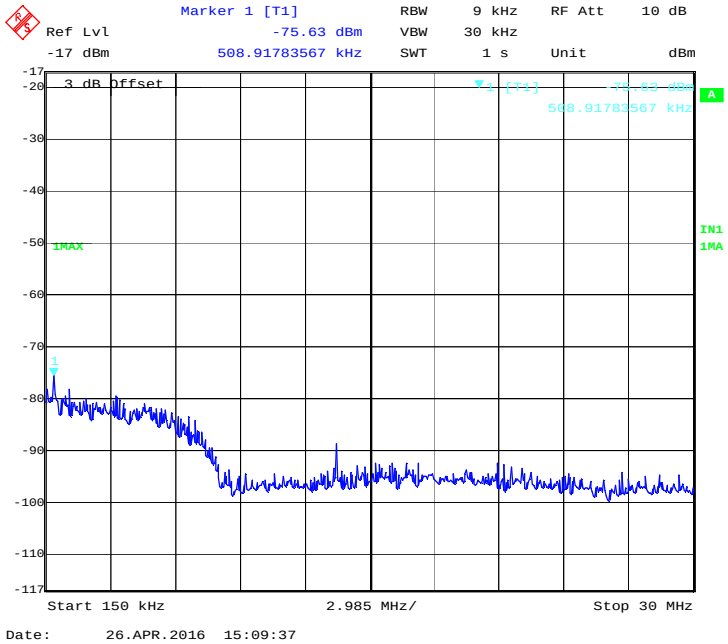

Figure 137: 10 MHz, 17 dBi, Mid Channel: Peak Emission from 150 kHz to 30 MHz at Ch. 0 –5585 MHz

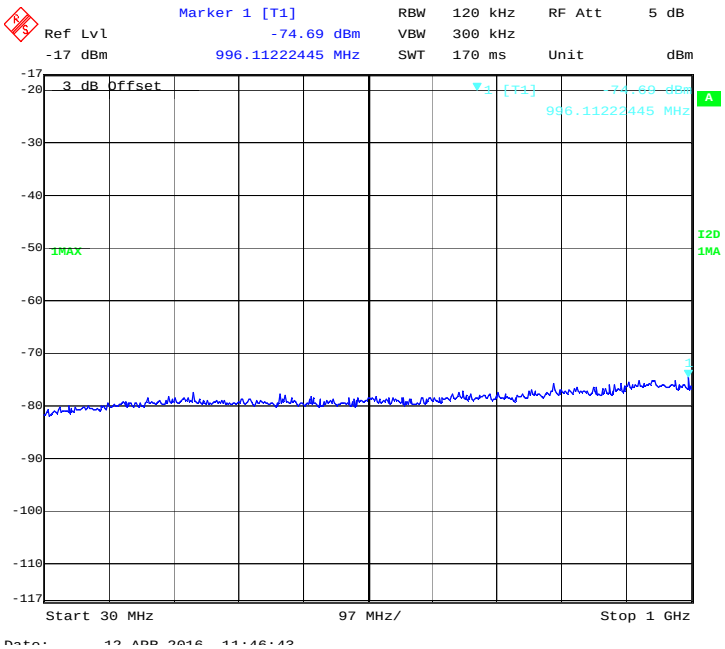

Figure 138: 10 MHz, 17 dBi, Mid Channel: Peak Emission from 30 MHz to 1 GHz at Ch. 0 –5585 MHz

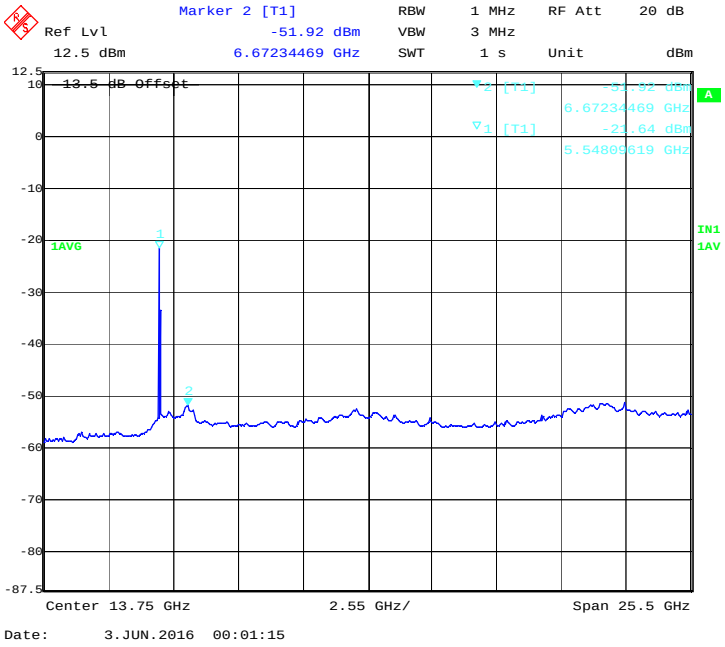

Figure 139: 10 MHz, 17 dBi, Mid Channel: Average Emission from 1 GHz to 18 GHz at Ch. 0 –5585 MHz

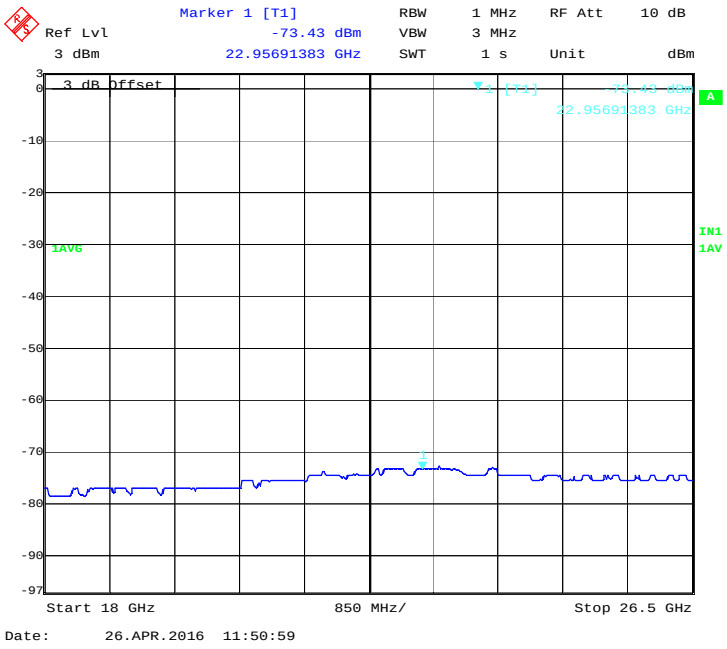

Figure 140: 10 MHz, 17 dBi, Mid Channel: Average Emission from 18 GHz to 26.5 GHz at Ch. 0 –5585 MHz

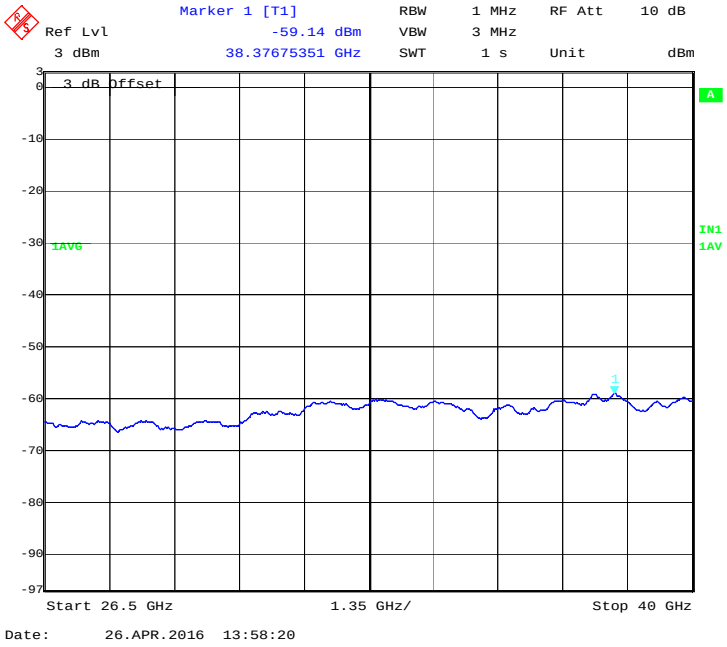

Figure 141: 10 MHz, 17 dBi, Mid Channel: Average Emission from 26.5 GHz to 40 GHz at Ch. 0 –5585 MHz

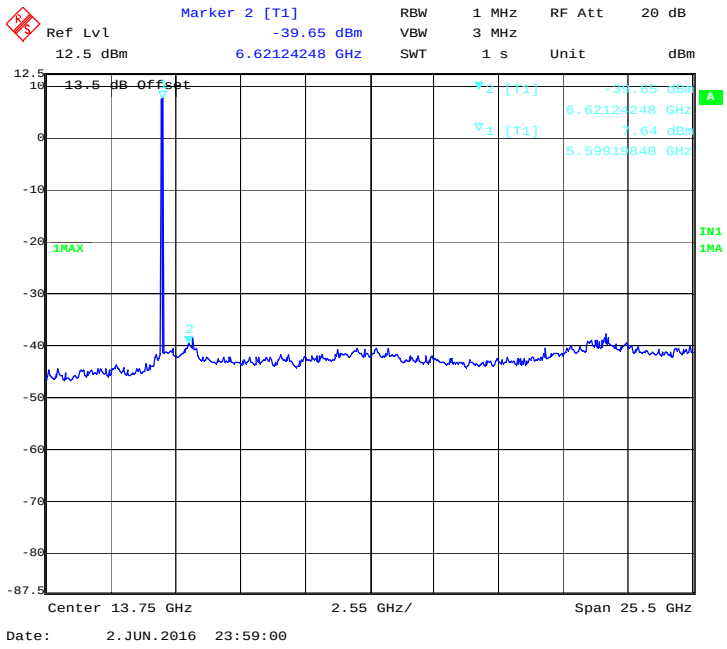

Figure 142: 10 MHz, 17 dBi, Mid Channel: Peak Emission from 1 GHz to 18 GHz at Ch. 0 –5585 MHz

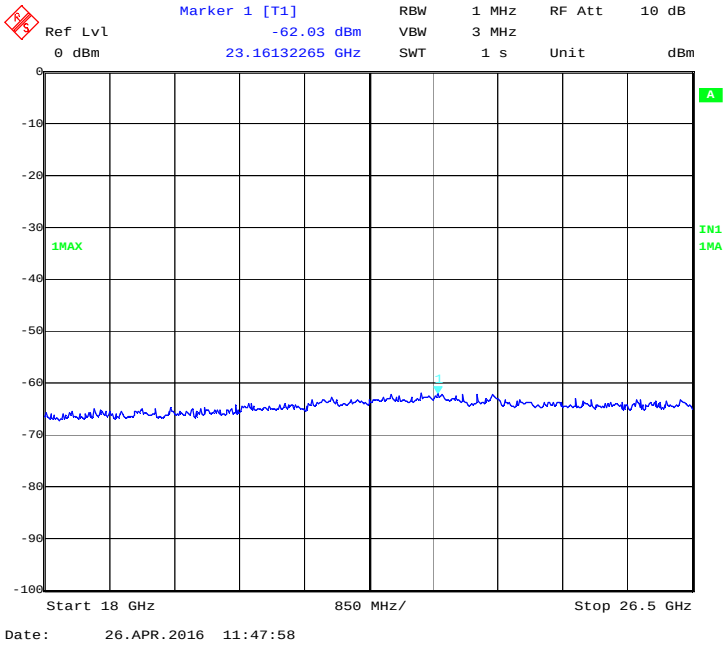

Figure 143: 10 MHz, 17 dBi, Mid Channel: Peak Emission from 18 GHz to 26.5 GHz at Ch. 0 –5585 MHz

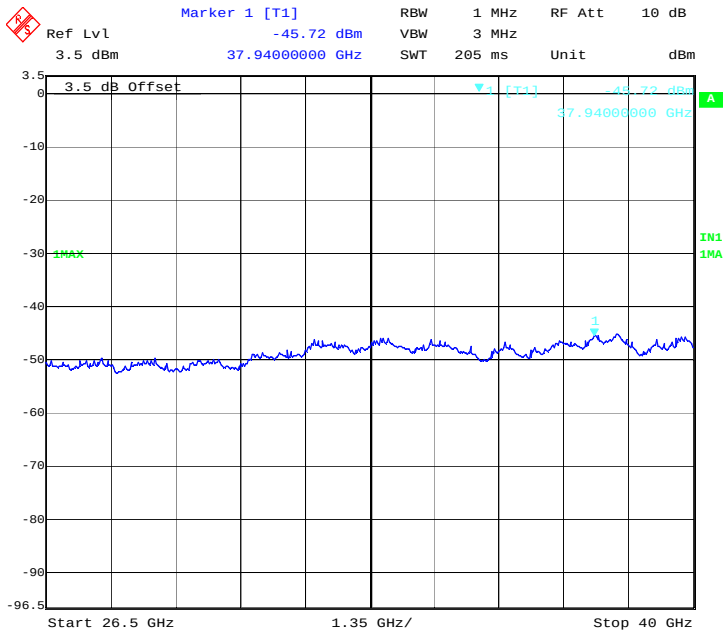

Figure 144: 10 MHz, 17 dBi, Mid Channel: Peak Emission from 26.5 GHz to 40 GHz at Ch. 0 –5585 MHz

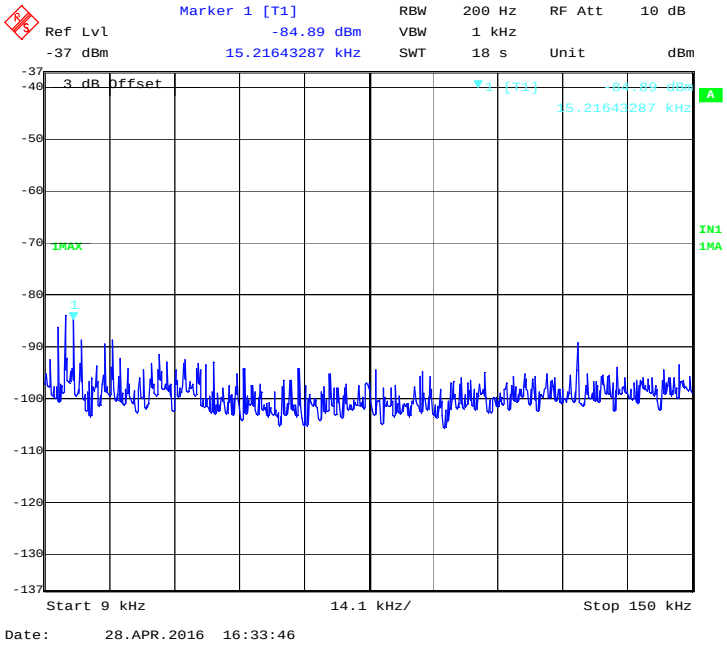

Figure 145: 10 MHz, 17 dBi, Mid Channel: Peak Emission from 9 kHz to 150 kHz at Ch. 1 –5585 MHz

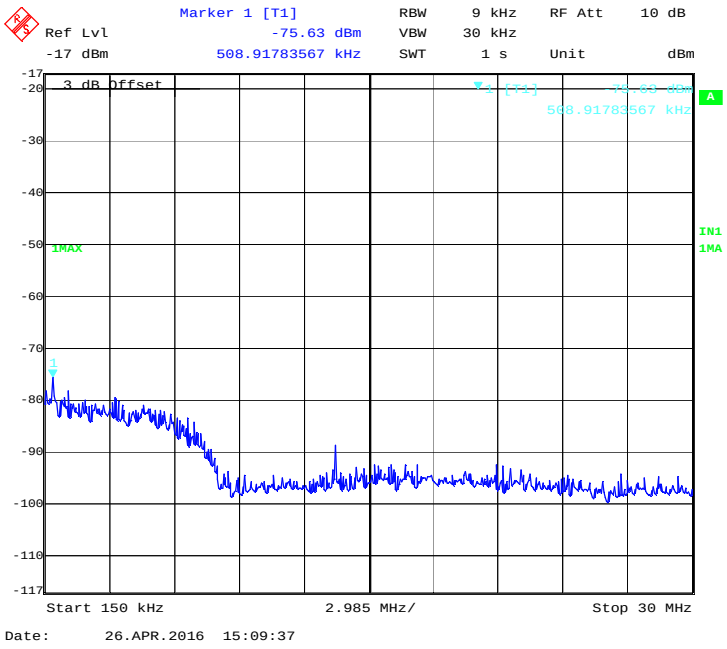

Figure 146: 10 MHz, 17 dBi, Mid Channel: Peak Emission from 150 kHz to 30 MHz at Ch. 1 –5585 MHz

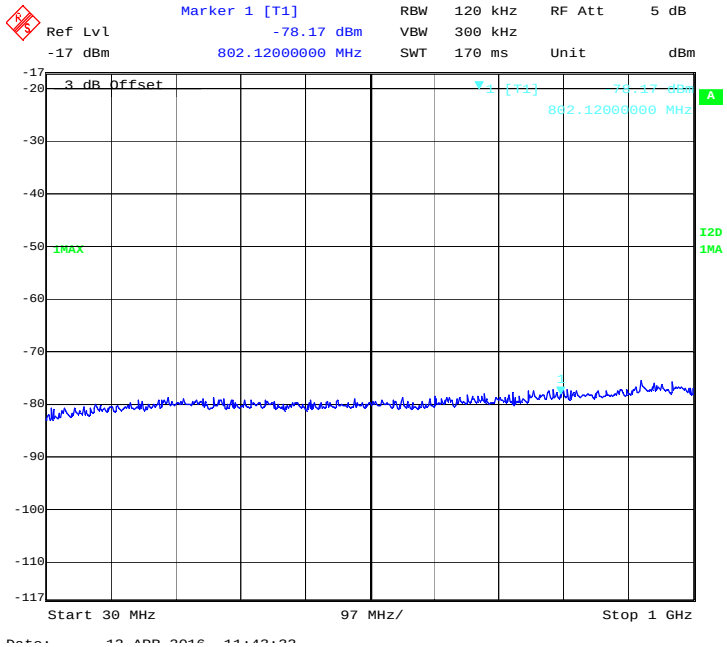

Figure 147: 10 MHz, 17 dBi, Mid Channel: Peak Emission from 30 MHz to 1 GHz at Ch. 1 –5585 MHz

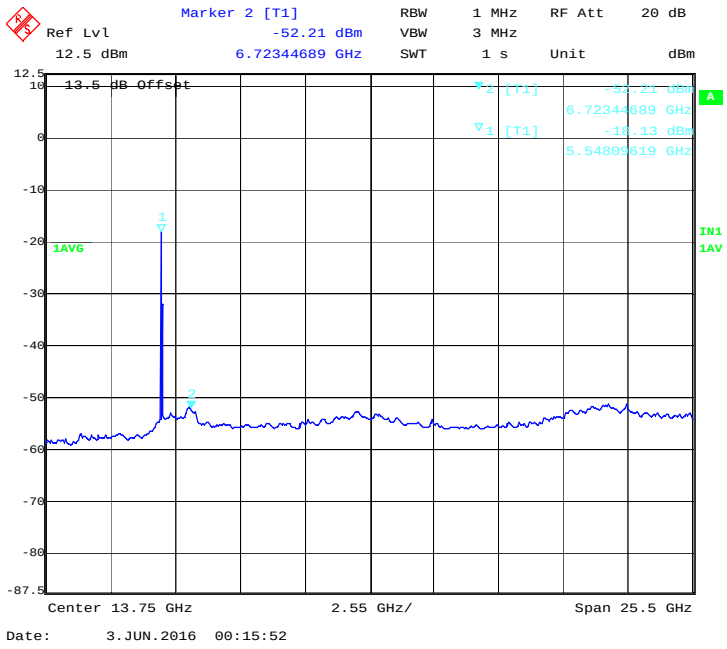

Figure 148: 10 MHz, 17 dBi, Mid Channel: Average Emission from 1 GHz to 18 GHz at Ch. 1 –5585 MHz

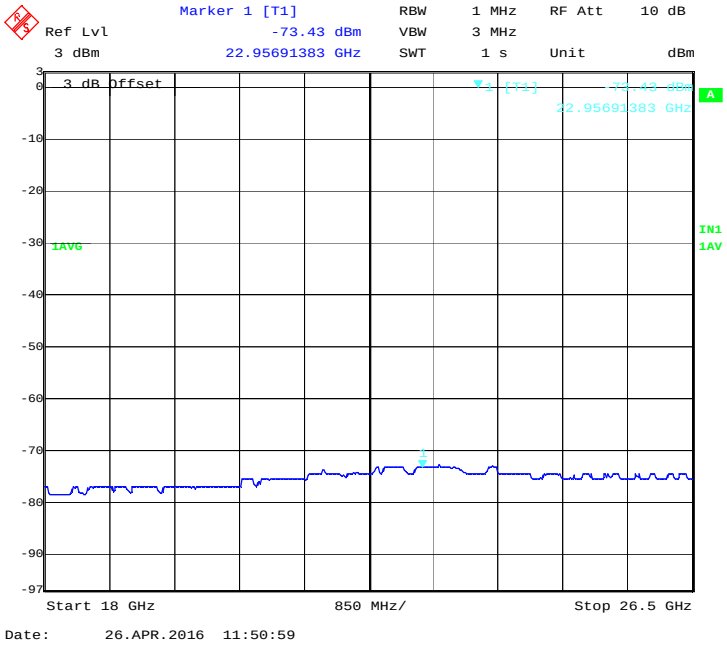

Figure 149: 10 MHz, 17 dBi, Mid Channel: Average Emission from 18 GHz to 26.5 GHz at Ch. 1 –5585 MHz

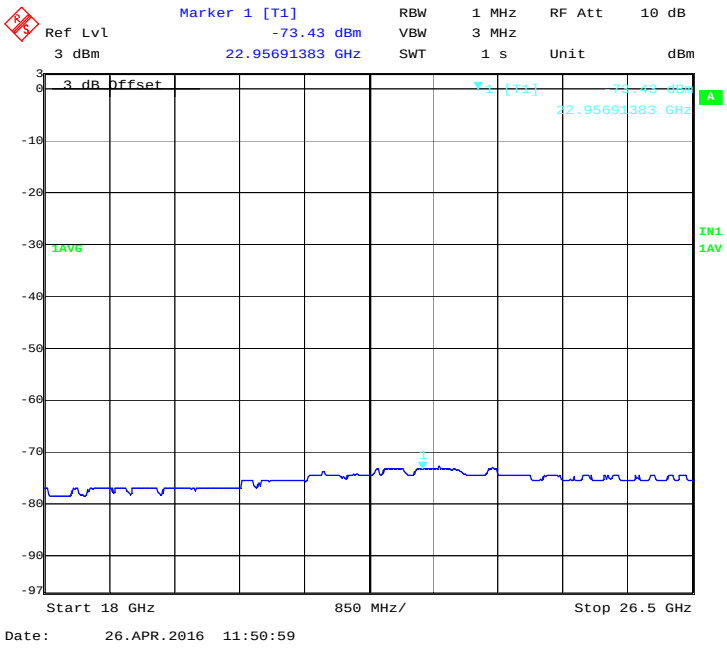

Figure 150: 10 MHz, 17 dBi, Mid Channel: Average Emission from 26.5 GHz to 40 GHz at Ch. 1 –5585 MHz

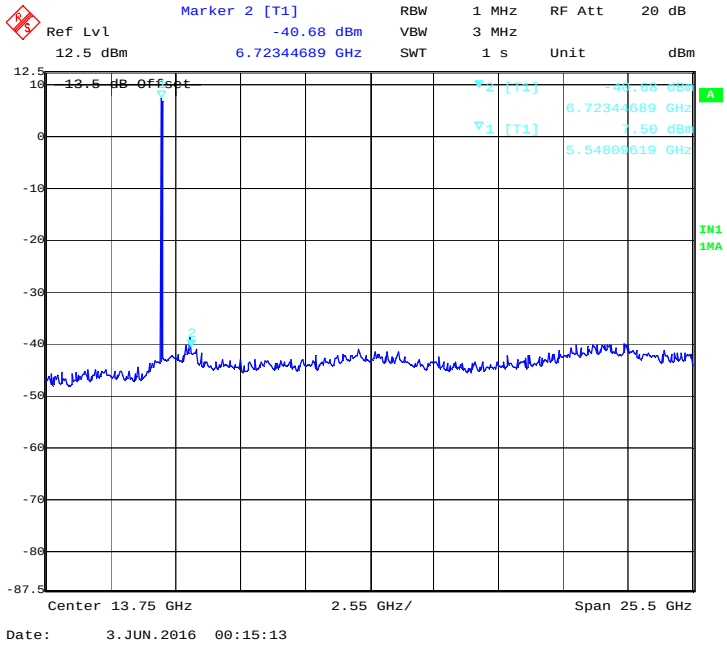

Figure 151: 10 MHz, 17 dBi, Mid Channel: Peak Emission from 1 GHz to 18 GHz at Ch. 1 –5585 MHz

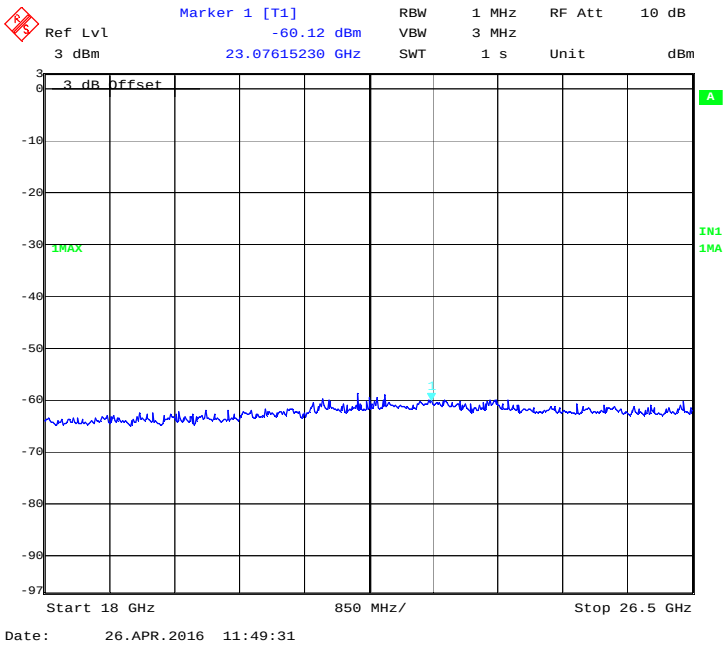

Figure 152: 10 MHz, 17 dBi, Mid Channel: Peak Emission from 18 GHz to 26.5 GHz at Ch. 1 –5585 MHz

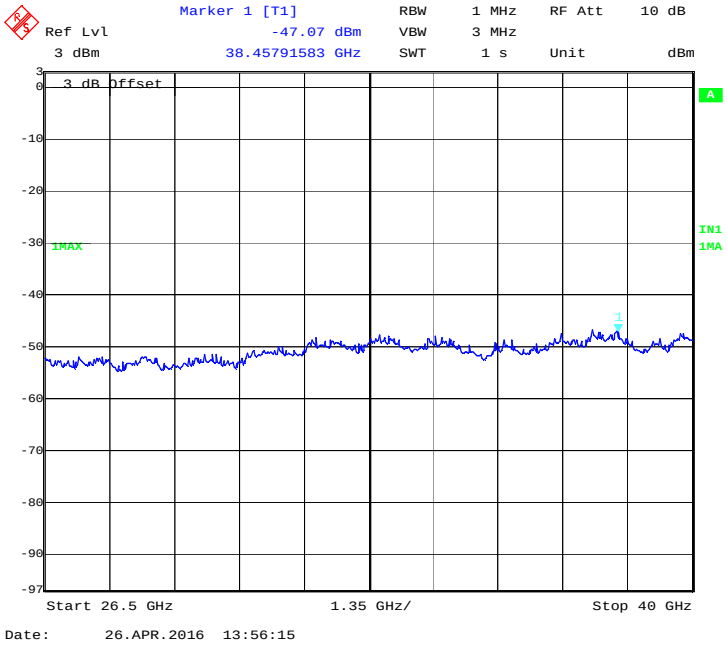

Figure 153: 10 MHz, 17 dBi, Mid Channel: Peak Emission from 26.5 GHz to 40 GHz at Ch. 1 –5585 MHz

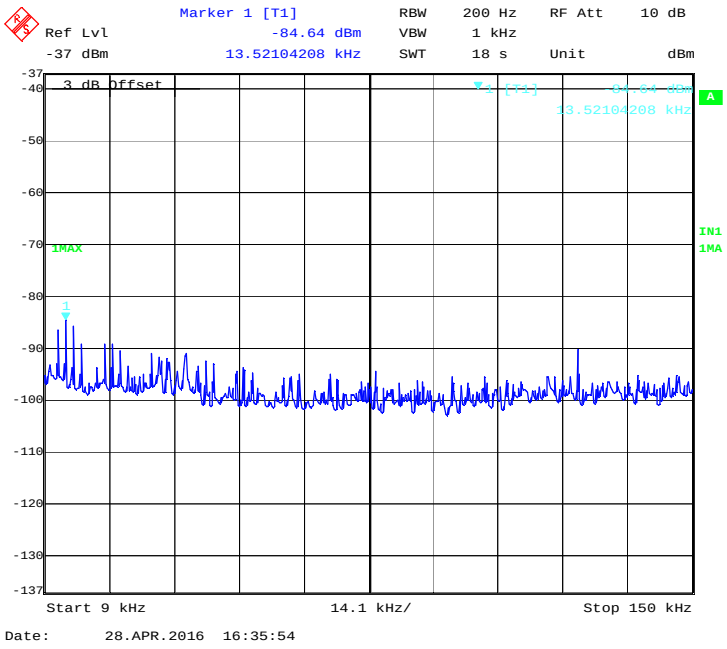

Figure 154: 10 MHz, 17 dBi, High Channel: Peak Emission from 9 kHz to 150 kHz at Ch. 0 –5710 MHz

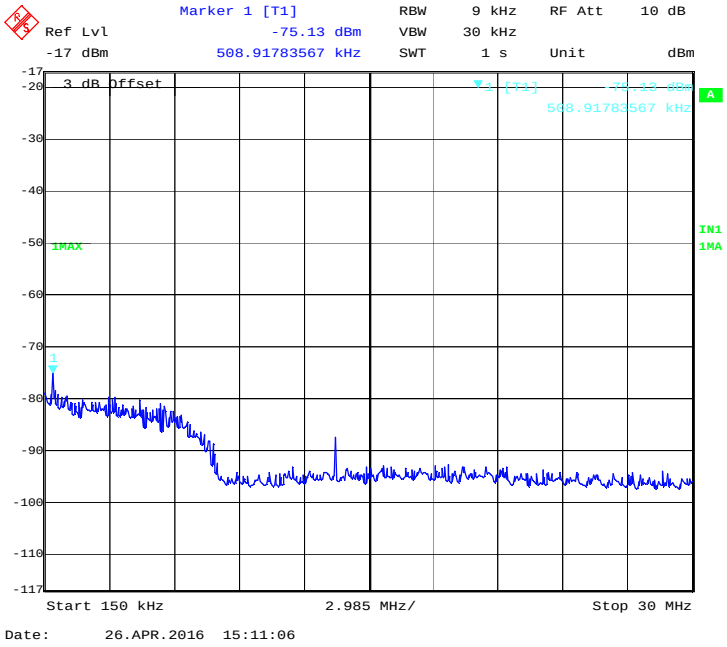

Figure 155: 10 MHz, 17 dBi, High Channel: Peak Emission from 150 kHz to 30 MHz at Ch. 0 –5710 MHz

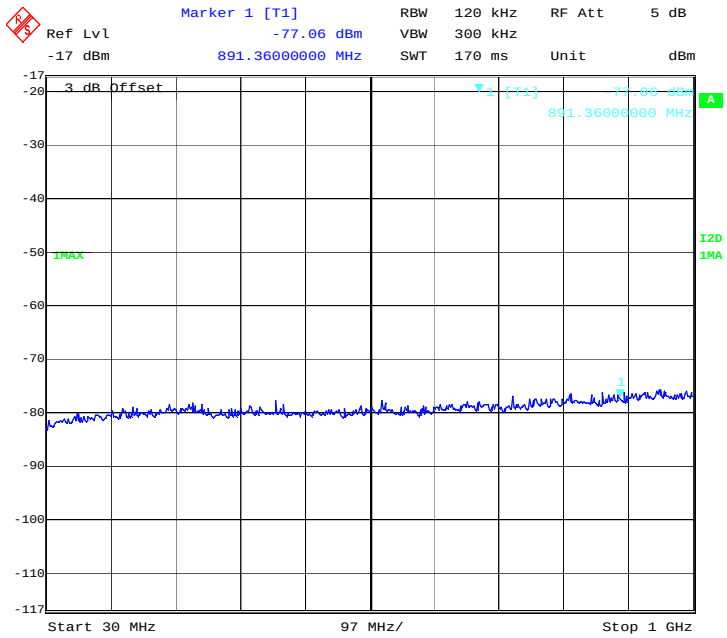

Figure 156: 10 MHz, 17 dBi, High Channel: Peak Emission from 30 MHz to 1 GHz at Ch. 0 –5710 MHz

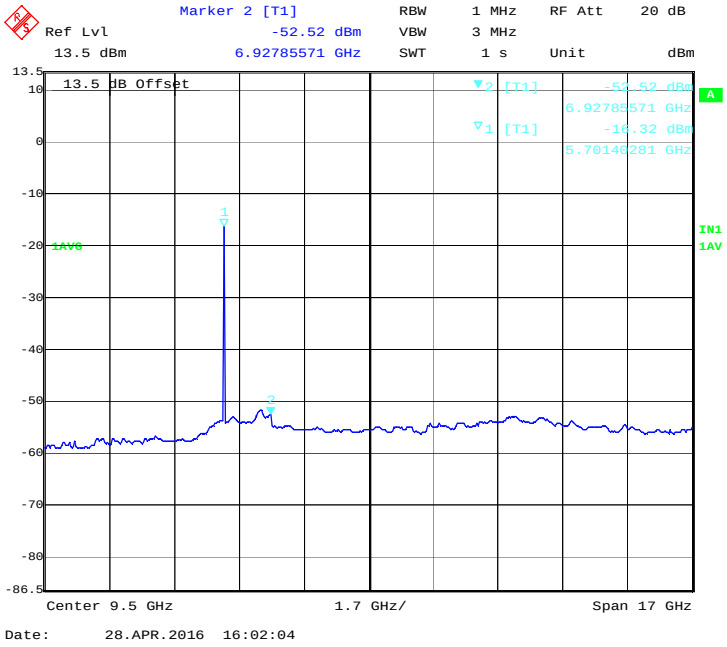

Figure 157: 10 MHz, 17 dBi, High Channel: Average Emission from 1 GHz to 18 GHz at Ch. 0 –5710 MHz

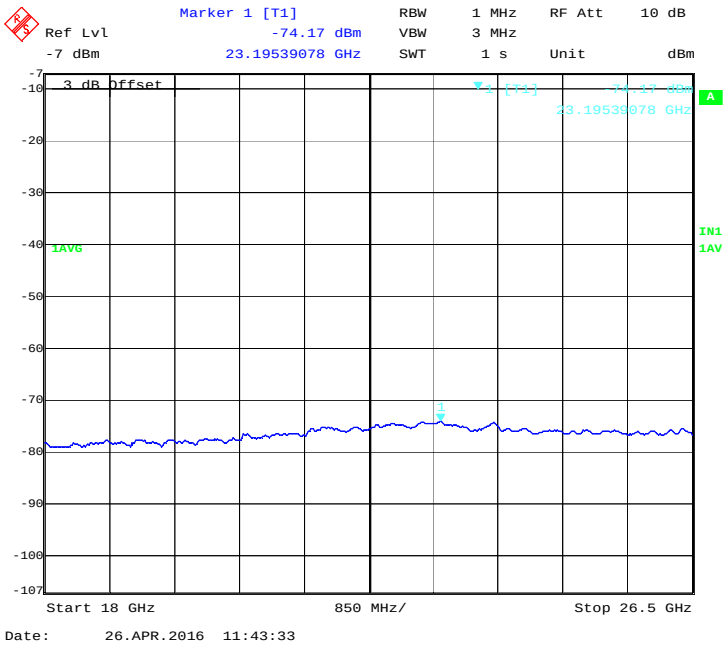

Figure 158: 10 MHz, 17 dBi, High Channel: Average Emission from 18 GHz to 26.5 GHz at Ch. 0 –5710 MHz

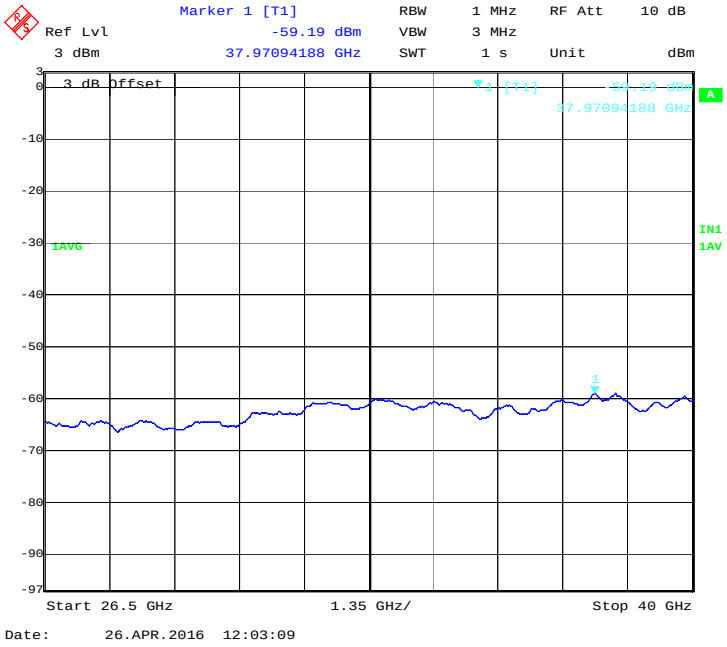

Figure 159: 10 MHz, 17 dBi, High Channel: Average Emission from 26.5 GHz to 40 GHz at Ch. 0 –5710 MHz

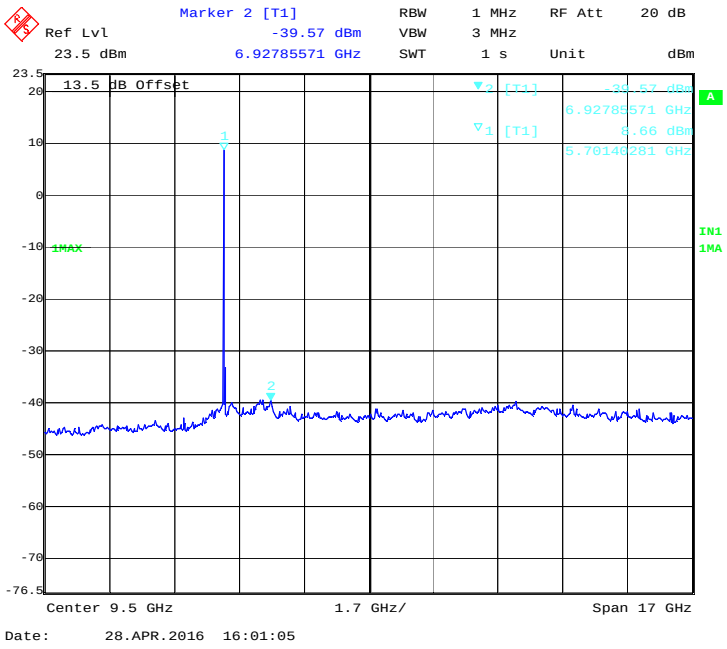

Figure 160: 10 MHz, 17 dBi, High Channel: Peak Emission from 1 GHz to 18 GHz at Ch. 0 –5710 MHz

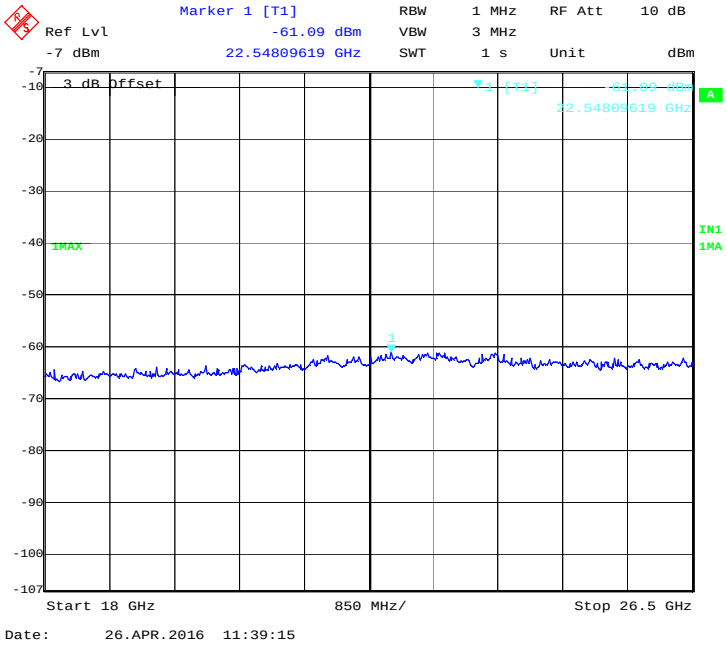

Figure 161: 10 MHz, 17 dBi, High Channel: Peak Emission from 18 GHz to 26.5 GHz at Ch. 0 –5710 MHz

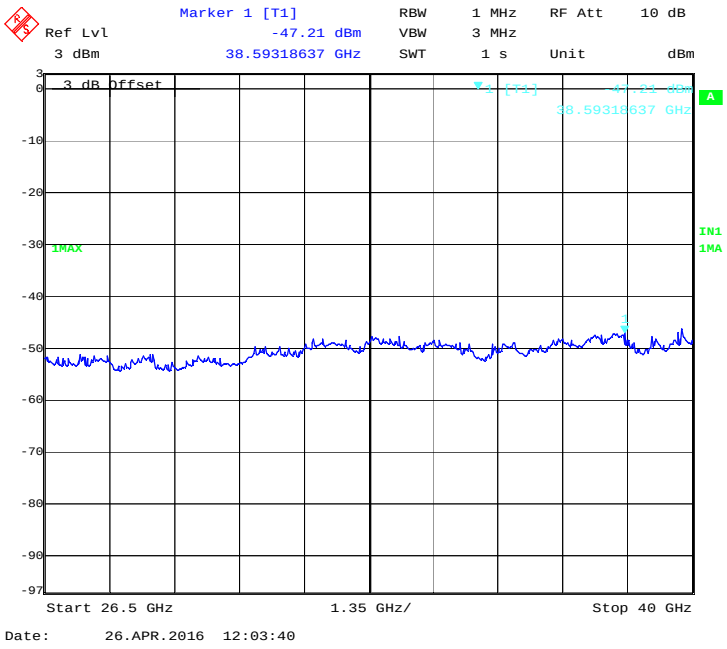

Figure 162: 10 MHz, 17 dBi, High Channel: Peak Emission from 26.5 GHz to 40 GHz at Ch. 0 –5710 MHz

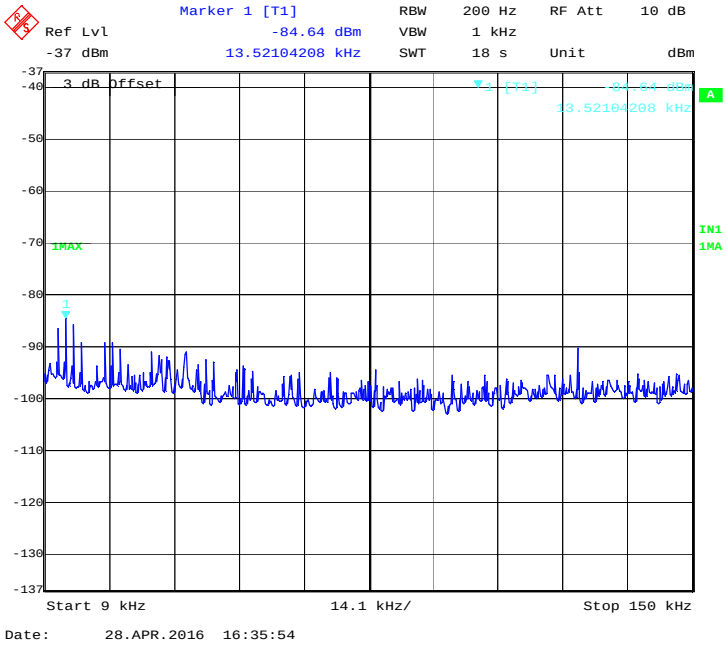

Figure 163: 10 MHz, 17 dBi, High Channel: Peak Emission from 9 kHz to 150 kHz at Ch. 1 –5710 MHz

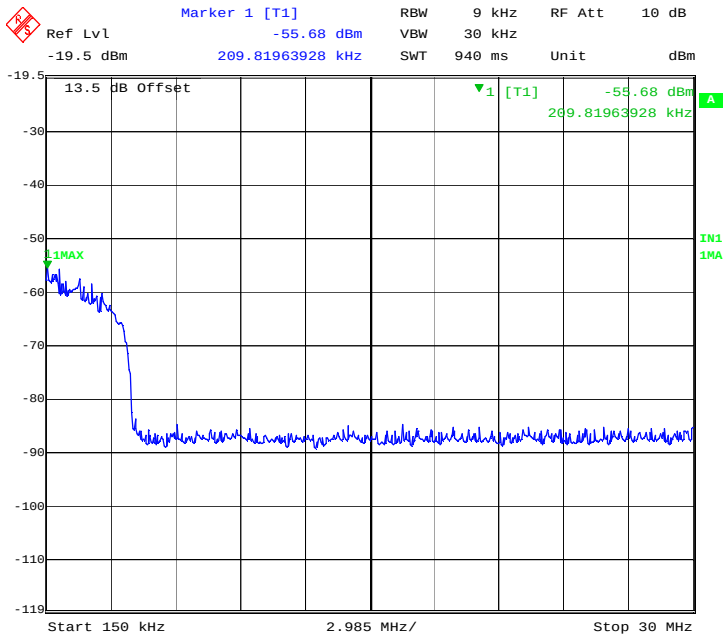

Figure 164: 10 MHz, 17 dBi, High Channel: Peak Emission from 150 kHz to 30 MHz at Ch. 1 –5710 MHz

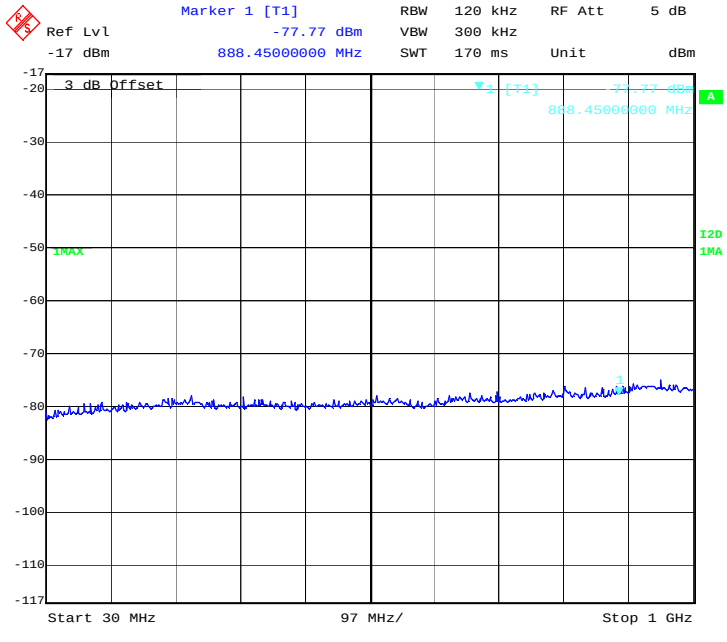

Figure 165: 10 MHz, 17 dBi, High Channel: Peak Emission from 30 MHz to 1 GHz at Ch. 1 –5710 MHz

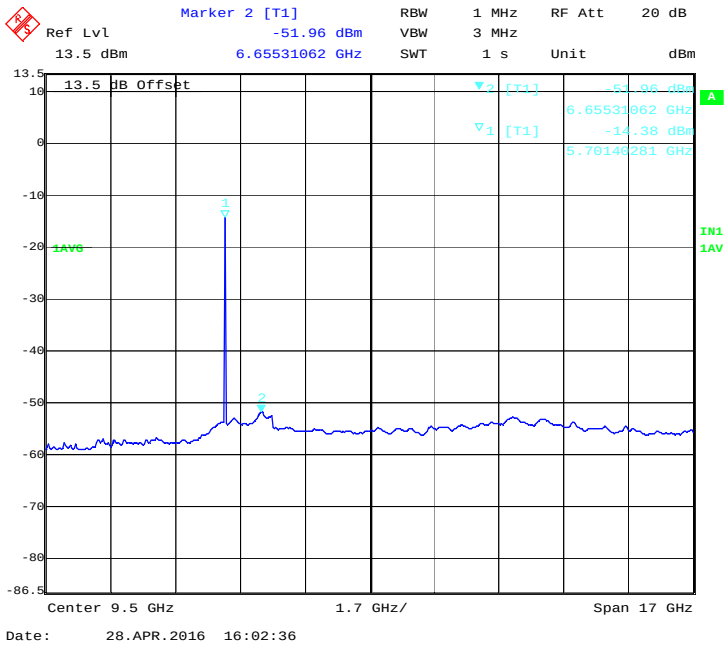

Figure 166: 10 MHz, 17 dBi, High Channel: Average Emission from 1 GHz to 18 GHz at Ch. 1 –5710 MHz

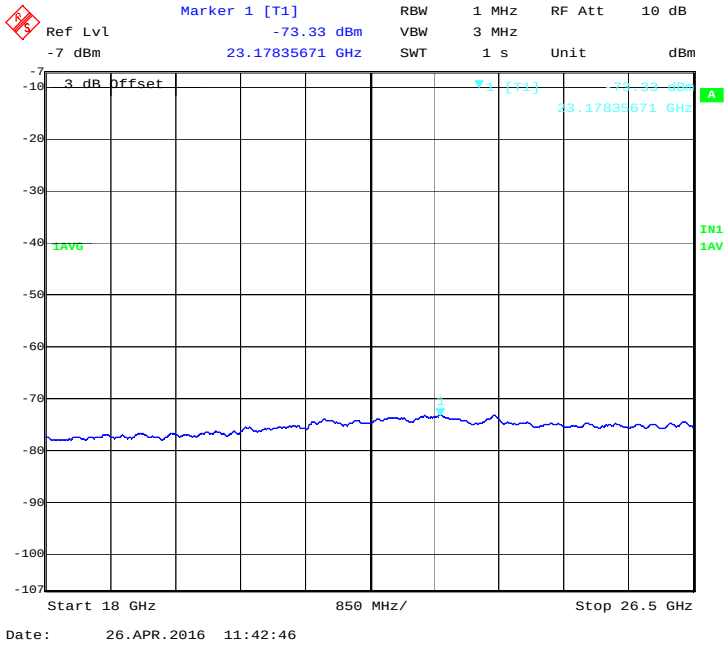

Figure 167: 10 MHz, 17 dBi, High Channel: Average Emission from 18 GHz to 26.5 GHz at Ch. 1 –5710 MHz

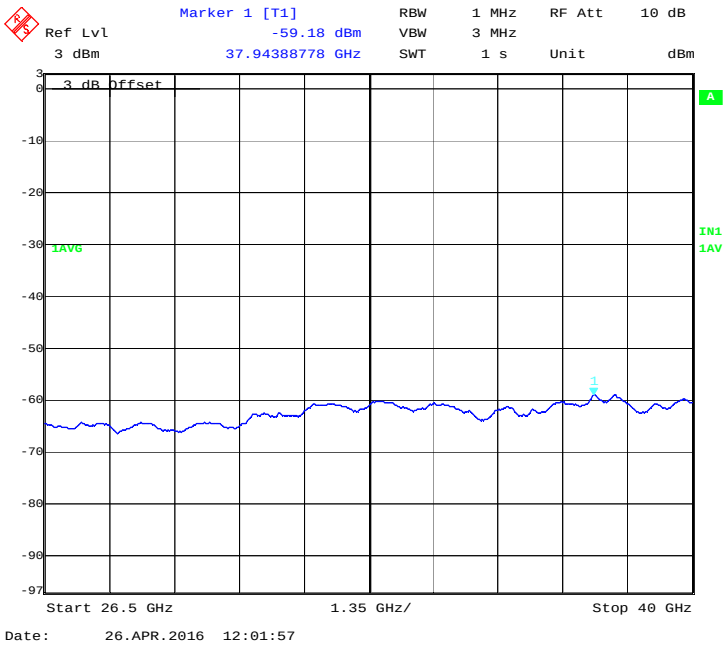

Figure 168: 10 MHz, 17 dBi, High Channel: Average Emission from 26.5 GHz to 40 GHz at Ch. 1 –5710 MHz

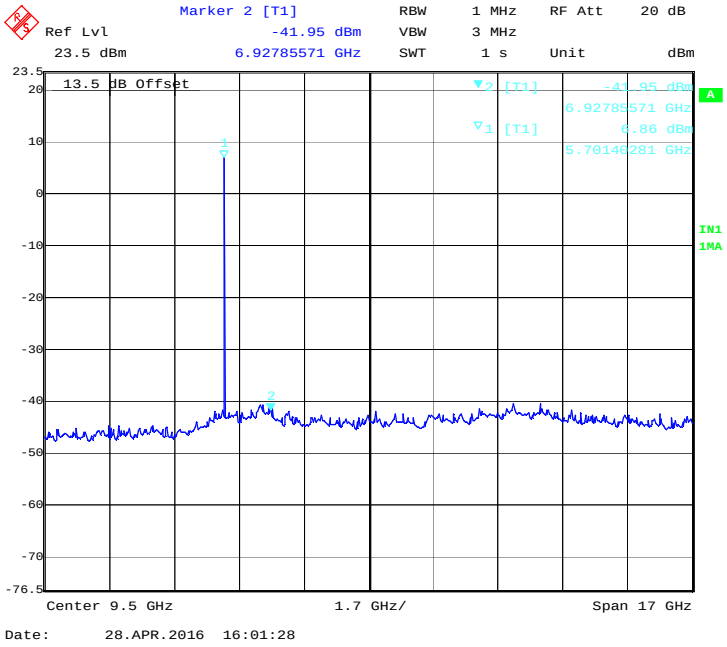

Figure 169: 10 MHz, 17 dBi, High Channel: Peak Emission from 1 GHz to 18 GHz at Ch. 1 –5710 MHz

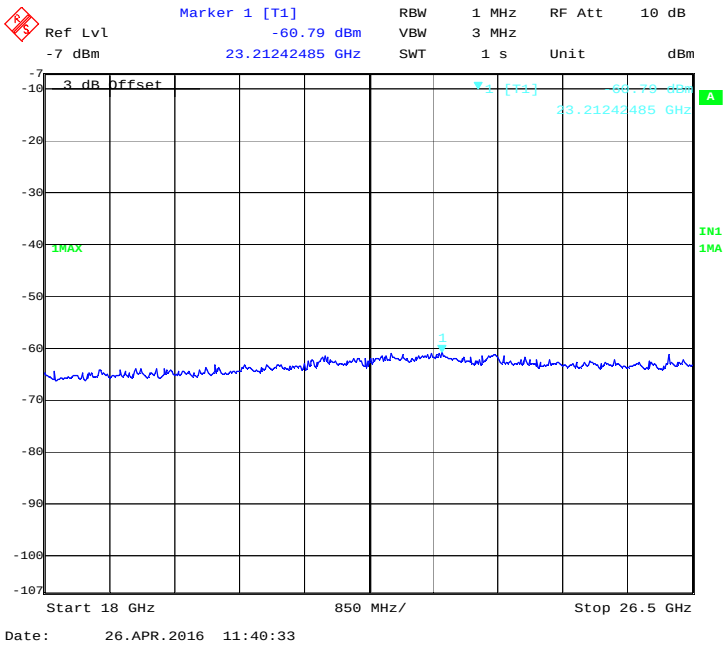

Figure 170: 10 MHz, 17 dBi, High Channel: Peak Emission from 18 GHz to 26.5 GHz at Ch. 1 –5710 MHz

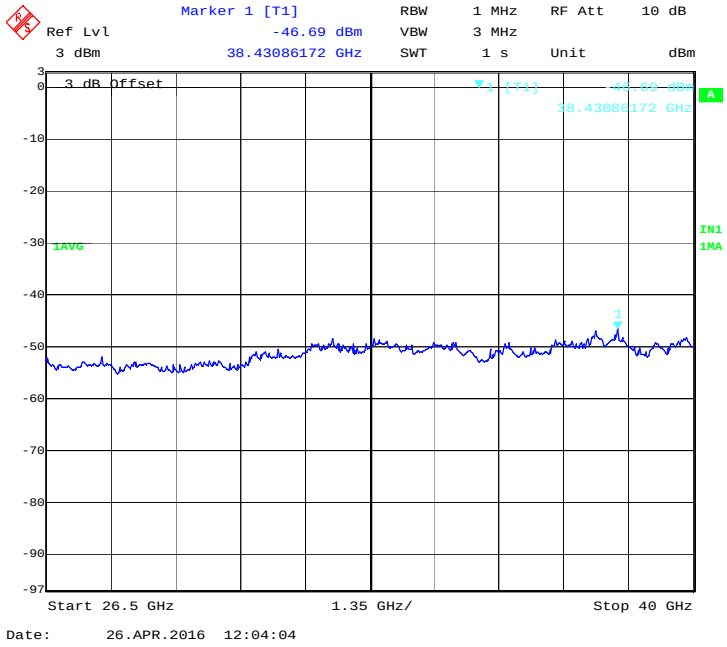

Figure 171: 10 MHz, 17 dBi, High Channel: Peak Emission from 26.5 GHz to 40 GHz at Ch. 1 –5710 MHz

5.3.6.6 RESULT

Conducted RF emission is within the restricted band of operation limit specified. Refer below table for consolidated data.

17 dBi Antenna Channel	Detector	Freq.	Ch. 0	Freq.	Ch. 1	Ant Gain	EIRP + GRF Ch. 0	EIRP + GRF Ch. 1	Ch. 0 + Ch. 1	E	Limit	Margin
	(PK/AVG)	(Hz)	(dBm)	(Hz)	(dBm)	(dBi)	(dBm)	(dBm)	(dBm)	(dBµV/m)		(dB)
Low	PK	16.62 k	-66.85	16.62k	-66.85	17.00	-43.85	-43.85	-40.84	54.42	120.52	-66.10
	PK	20 M	-62.21	20.01M	-65.97	17.00	-39.21	-42.97	-37.68	57.57	69.54	-11.97
	PK	906.69M	-75.16	906.69M	-75.16	17.00	-53.46	-53.46	-50.45	44.81	46.02	-1.21
	AVG	6.689G	-52.98	6.62G	-52.98	17.00	-35.98	-35.98	-32.97	62.29	80.00	-17.71
	AVG	23.17G	-72.08	22.97	-72.09	17.00	-55.08	-55.09	-52.07	43.18	54.00	-10.82
	AVG	38.4G	-58.97	37.9G	-59.11	17.00	-41.97	-42.11	-39.03	56.23	80.00	-23.77
	PK	6.75G	-40.74	6.655G	-40.78	17.00	-23.74	-23.78	-20.75	74.51	80.00	-5.49
	PK	23.17G	-59.12	23.17G	-59.12	17.00	-42.12	-42.12	-39.11	56.15	74.00	-17.85
	PK	38.4G	-46.29	34.88G	-48.10	17.00	-29.29	-31.10	-27.09	68.17	80.00	-11.83
Mid	PK	16.62k	-67.36	16.62k	-67.39	17.00	-44.36	-44.39	-41.36	53.89	120.52	-66.63
	PK	20.01M	-60.97	20.01M	-60.97	17.00	-37.97	-37.97	-34.96	60.30	69.54	-9.24
	PK	908.63M	-76.40	385.90	-79.31	17.00	-54.70	-57.61	-52.91	42.35	46.02	-3.67
	AVG	6.672G	-51.98	6.655G	-51.96	17.00	-35.98	-34.96	-32.43	62.83	80.00	-17.17
	AVG	23.87G	-72.07	23.16G	-71.98	17.00	-55.07	-54.98	-52.01	43.24	54.00	-10.76
	AVG	38.40G	-59.10	38.37G	-59.15	17.00	-42.10	-42.15	-39.11	56.14	80.00	-23.86
	PK	6.687G	-40.14	6.69G	-39.12	17.00	-24.10	-22.12	-19.99	75.27	80.00	-4.73
	PK	23.21G	-58.73	23.14G	-59.23	17.00	-41.73	-42.23	-38.96	56.30	74.00	-17.70
	PK	37.94G	-46.61	37.94G	-45.61	17.00	-29.61	-28.61	-26.07	69.19	80.00	-10.81
High	PK	16.62k	-67.02	16.62k	-67.02	17.00	-44.02	-44.02	-41.01	54.25	120.52	-66.27
	PK	20.01M	-62.31	20.01M	-64.33	17.00	-39.31	-41.33	-37.19	58.06	69.54	-11.48
	PK	861.29M	-78.24	86.21M	-78.24	17.00	-56.54	-65.94	-56.07	39.19	46.02	-6.83
	AVG	6.65G	-52.80	6.655G	-52.98	17.00	-35.80	-35.98	-32.88	62.38	80.00	-17.62
	AVG	23.87G	-71.98	23.87G	-71.98	17.00	-54.98	-54.98	-51.97	43.29	54.00	-10.71
	AVG	38.37G	-59.17	38.37G	-59.17	17.00	-42.17	-42.17	-39.16	56.10	80.00	-23.90
	PK	6.92G	-39.75	6.85G	-41.05	17.00	-22.75	-24.05	-20.34	74.92	80.00	-5.08
	PK	22.47G	-59.52	22.5G	-58.97	17.00	-42.52	-41.97	-39.23	56.03	74.00	-17.97
	PK	38.4G	-46.64	37.94G	-47.11	17.00	-29.64	-30.11	-26.86	68.40	80.00	-11.60

Table 12: Result for 17 dBi configuration – 40 MHz modulation bandwidth

Channel	Detector	Freq.	Ch. 0	Freq.	Ch. 1	Ant Gain	EIRP + GRF Ch. 0	EIRP + GRF Ch. 1	Ch. 0 + Ch. 1	E	Limit	Margin
	(PK/AVG)	(Hz)	(dBm)	(Hz)	(dBm)	(dBi)	(dBm)	(dBm)	(dBm)	(dBµV/m)		(dB)
Low	PK	13.52k	-82.56	15.21k	-85.36	17.00	-59.56	-62.36	-57.73	37.53	120.52	-82.99
	PK	508.91k	-76.46	508.91k	-75.63	17.00	-53.46	-52.63	-50.01	45.24	69.52	-24.28
	PK	924.18M	-75.46	760.40M	-78.78	17.00	-53.76	-57.08	-52.10	43.16	46.02	-2.86
	AVG	6.655G	-52.01	6.655G	-52.01	17.00	-35.01	-35.01	-32.00	63.26	80.00	-16.74
	AVG	23.17G	-74.24	22.93G	-75.24	17.00	-57.24	-58.24	-54.70	40.56	54.00	-13.44
	AVG	38.4G	-58.99	38.4G	-58.99	17.00	-41.99	-41.99	-38.98	56.28	80.00	-23.72
	PK	6.69G	-40.37	6.927G	-41.29	17.00	-23.37	-24.29	-20.80	74.46	80.00	-5.54
	PK	23.24G	-61.00	23.89G	-60.50	17.00	-44.00	-43.50	-40.73	54.53	74.00	-19.47
	PK	37.91G	-18.51	38.4G	-46.22	17.00	-1.51	-29.22	-1.50	93.75	80.00	13.75
Mid	PK	13.52k	-86.11	15.21k	-84.89	17.00	-63.11	-61.89	-59.45	35.81	120.52	-84.71
	PK	508k	-75.63	508.91k	-75.63	17.00	-52.63	-52.63	-49.62	45.64	73.80	-28.16
	PK	996.11M	-74.65	802.13	-78.17	17.00	-52.95	-56.47	-51.35	43.91	46.02	-2.11
	AVG	6.655G	-52.01	6.655G	-52.01	17.00	-35.01	-35.01	-32.00	63.26	80.00	-16.74
	AVG	22.95G	-73.43	22.95G	-73.43	17.00	-56.43	-56.43	-53.42	41.84	54.00	-12.16
	AVG	38.37G	-59.14	38.97G	-59.14	17.00	-42.14	-42.14	-39.13	56.13	80.00	-23.87
	PK	6.68G	-39.73	6.68G	-41.00	17.00	-22.73	-24.00	-20.31	74.95	80.00	-5.05
	PK	23.16G	-62.03	23.07G	-60.12	17.00	-45.03	-43.12	-40.96	54.30	74.00	-19.70
	PK	37.94G	-45.72	38.45G	-47.07	17.00	-28.72	-30.07	-26.33	68.93	80.00	-11.07
High	PK	13.52k	-84.64	13.52k	-84.64	17.00	-61.64	-61.64	-58.63	36.63	120.52	-83.89
	PK	508.9k	-75.13	209.98k	-55.68	17.00	-52.13	-32.68	-32.63	62.63	73.80	-11.17
	PK	891.36M	-77.06	888.45M	-77.77	17.00	-55.36	-56.07	-52.69	42.57	46.02	-3.45
	AVG	6.62G	-52.52	6.68G	-51.96	17.00	-35.52	-34.96	-32.22	63.04	80.00	-16.96
	AVG	23.19G	-74.17	23.17G	-73.33	17.00	-57.17	-56.33	-53.72	41.54	54.00	-12.46
	AVG	37.97G	-59.19	37.94G	-37.94	17.00	-42.19	-20.94	-20.91	74.35	80.00	-5.65
	PK	6.92G	-39.57	6.69G	-41.95	17.00	-22.57	-24.95	-20.59	74.67	80.00	-5.33
	PK	22.54G	-61.09	23.21G	-60.79	17.00	-44.09	-43.79	-40.93	54.33	74.00	-19.67
	PK	38.59G	-47.21	38.37G	-46.09	17.00	-30.21	-29.09	-26.60	68.65	80.00	-11.35

Table 13: Result for 17 dBi configuration - 10 MHz modulation bandwidth

Note:

GRF is Ground Reflection Factor and it is considered to be 6dB for frequencies below 30MHz, 4.7dB for frequencies between 30MHz to 1GHz & 0dB for frequencies above 1GHz.
EIRP = Ch. x measured power + Antenna gain
E = (EIRP+GRF) – 20log D + 104.8
Margin = E – Limit

5.3.7 BAND EDGE EMISSIONS

5.3.7.1 TEST SPECIFICATION

Test Standard	RSS 247 Issue 1 May 2015
Test Procedure	789033 D2 General U-NII Test Procedures New Rule V01r01
Frequency Range	5470 MHz to 5725 MHz
Resolution Bandwidth	100 kHz
Video Bandwidth	300 kHz
Sweep Time	1 ms
Attenuation	Auto
Test Mode	Conducted
Detector	Peak
Input Voltage	120 V AC
Input Frequency	60 Hz
Temperature	24.0 °C
Humidity	55.0 %
Tested By	Dikshit Raviteja
Test Date	08th Feb 2016

5.3.7.2 LIMITS

Standard	Reference section	Frequency range	Limit
RSS 247 Issue 1 May 2015	6.2.3(2)	5470 MHz to 5725 MHz	≤ -27 dBm in any 1MHz band Limit, Limit (for 17 dBi antenna configuration) : ≤ 47 dBm/MHz

5.3.7.3 TEST SETUP

Figure 172: Typical test setup for Conducted Test

5.3.7.4 TEST PROCEDURE

The Conducted test was performed using the Spectrum analyzer. Measurements were done as per the **"789033 D2 General U-NII Test Procedures New Rule V01r01".** The RF output of the EUT was connected to the input port of Spectrum analyzer using an attenuator. The graph and data captured from spectrum analyzer and recorded.

5.3.7.5 MEASUREMENT GRAPHS / DATA

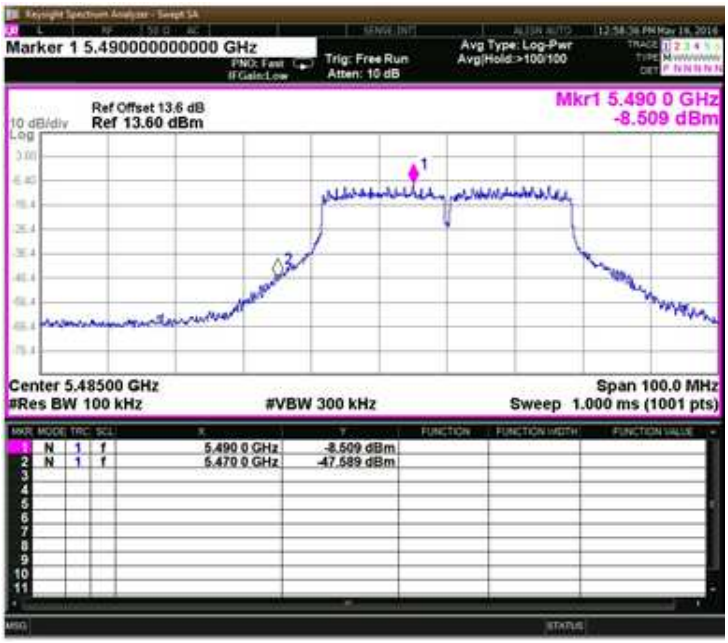

Figure 173: 40 MHz, 17 dBi, Low Channel: Band edge measured at Ch.0 –5495 MHz

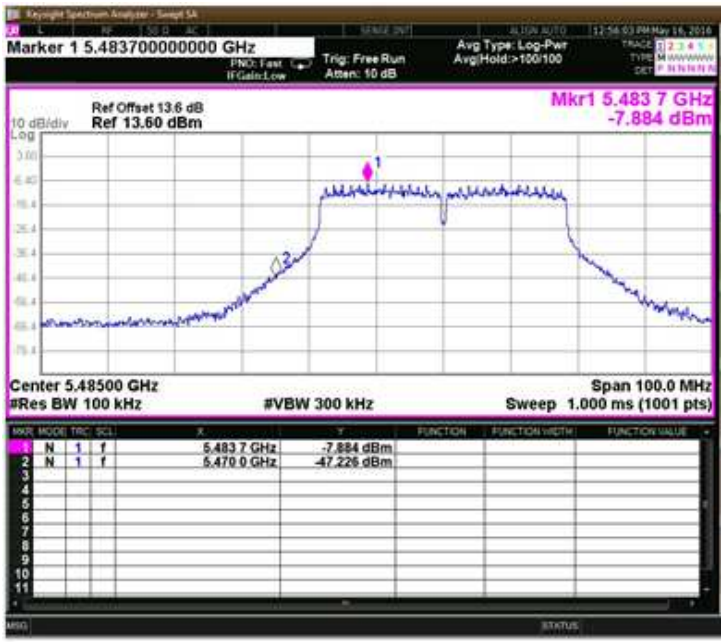

Figure 174: 40 MHz, 17 dBi, Low Channel: Band edge measured at Ch.1 –5495 MHz

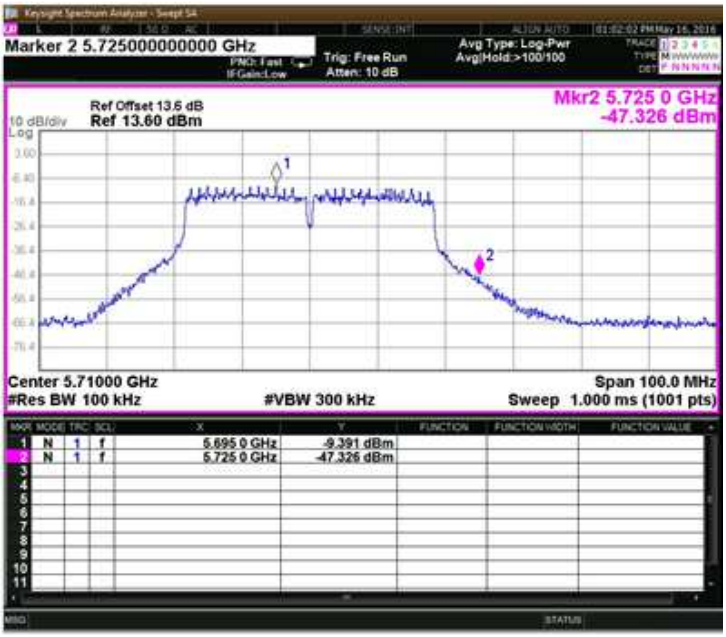

Figure 175: 40 MHz, 17 dBi, High Channel: Band edge measured at Ch.0 –5720 MHz

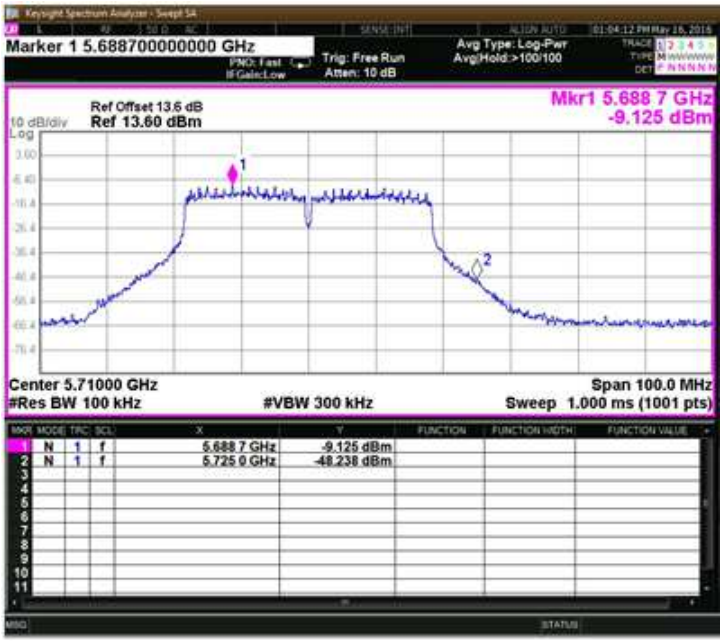

Figure 176: 40 MHz, 17 dBi, High Channel: Band edge measured at Ch.1 –5720 MHz

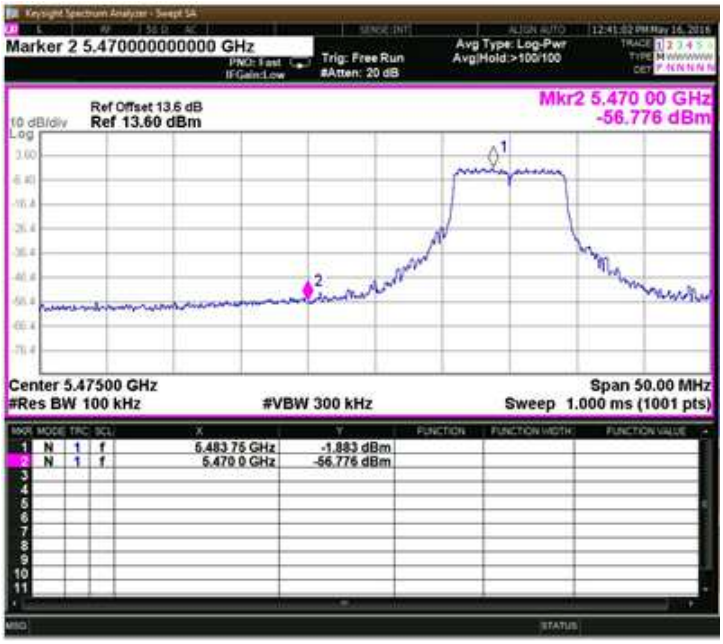

Figure 177: 10 MHz, 17 dBi, Low Channel: Band edge measured at Ch.0 –5475 MHz

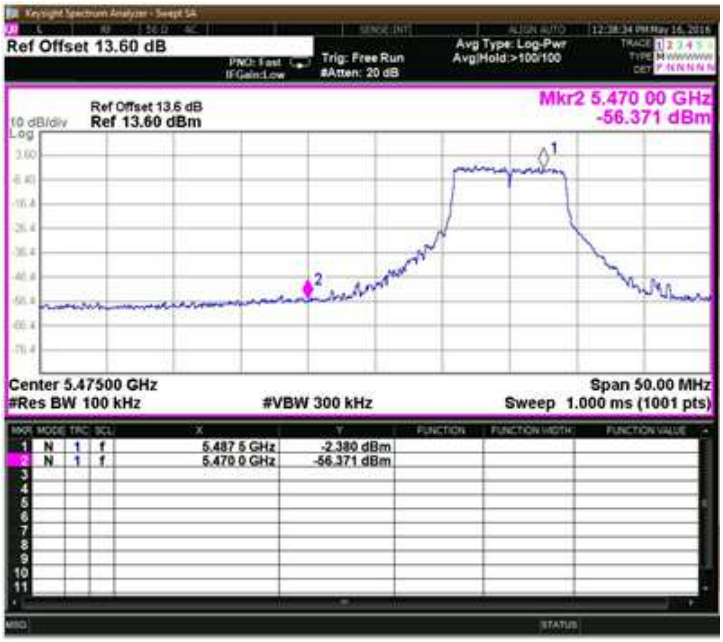

Figure 178: 10 MHz, 17 dBi, Low Channel: Band edge measured at Ch.1 –5475 MHz

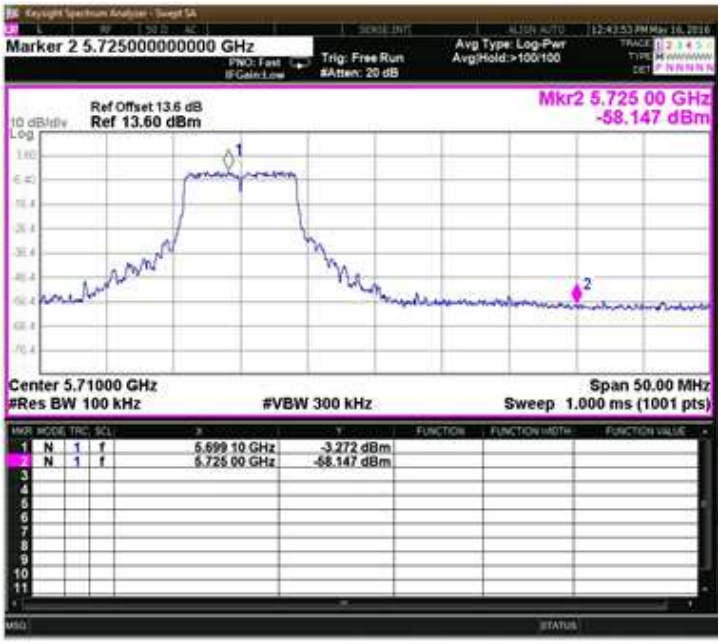

Figure 179: 10 MHz, 17 dBi, High Channel: Band edge measured at Ch.0 –5720 MHz

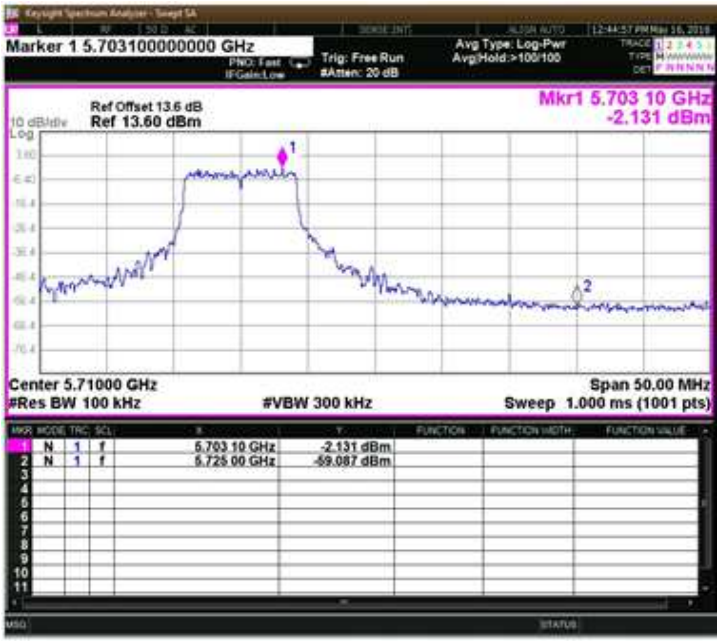

Figure 180: 10 MHz, 17 dBi, High Channel: Band edge measured at Ch.1 –5720 MHz

5.3.7.6 RESULT

The Band Edge measurements for Low and High channels in both 40 MHz & 10 MHz modulation bandwidth is within the permissible levels.

ANNEXURE I: EUT SOFTWARE SETTINGS

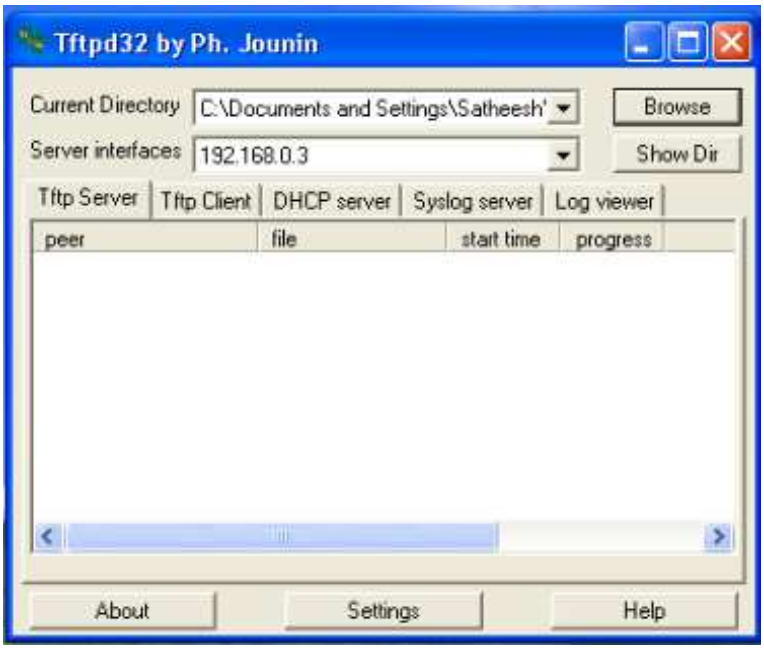

Figure 181: tftpd32 application screenshot

Figure 182: tftpd32 application initialization root_ screenshot

Figure 183: Tera term application screenshot

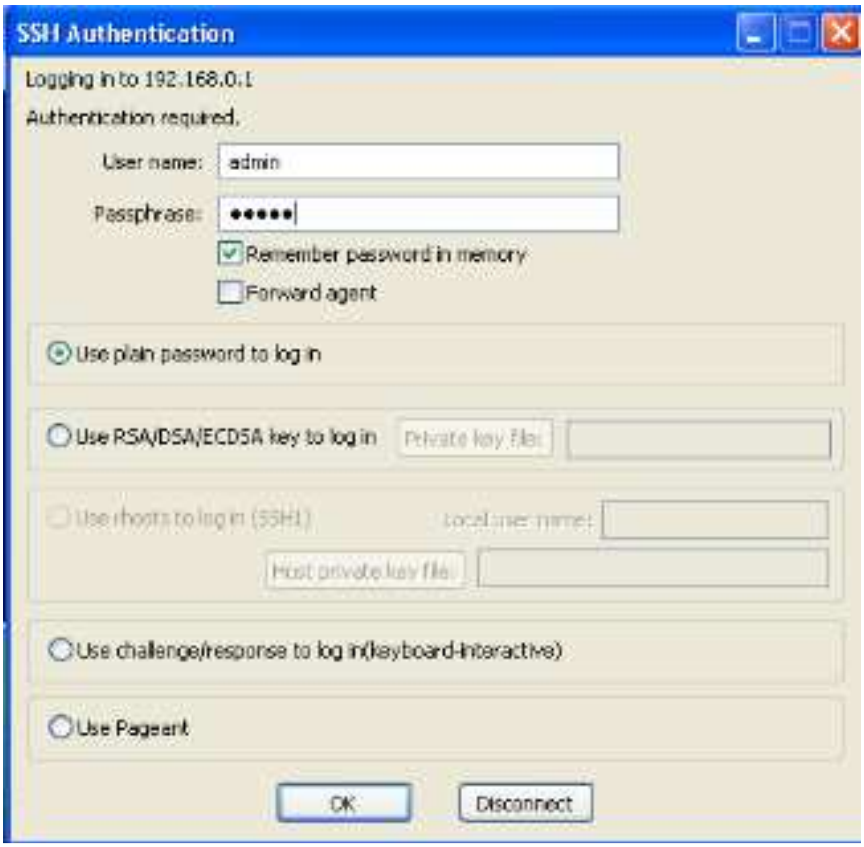

Figure 184: Tera term application Login screenshot

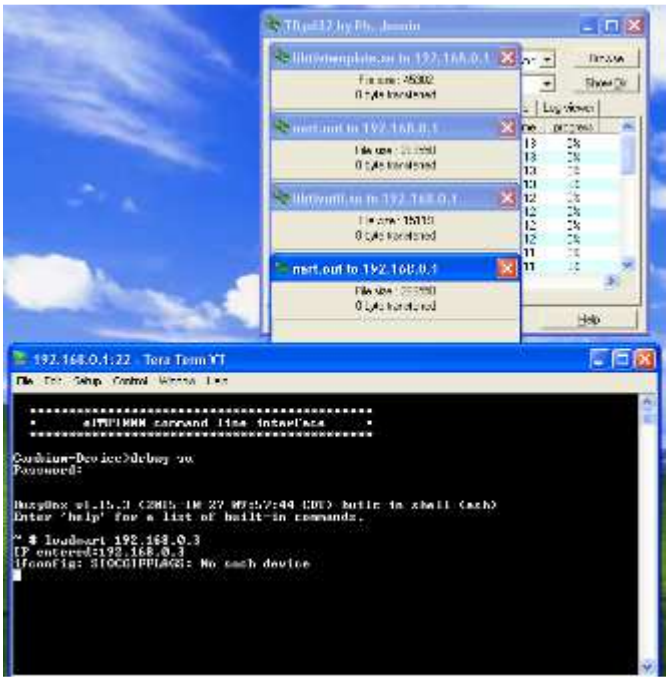

Figure 185: Initializing EUT screenshot

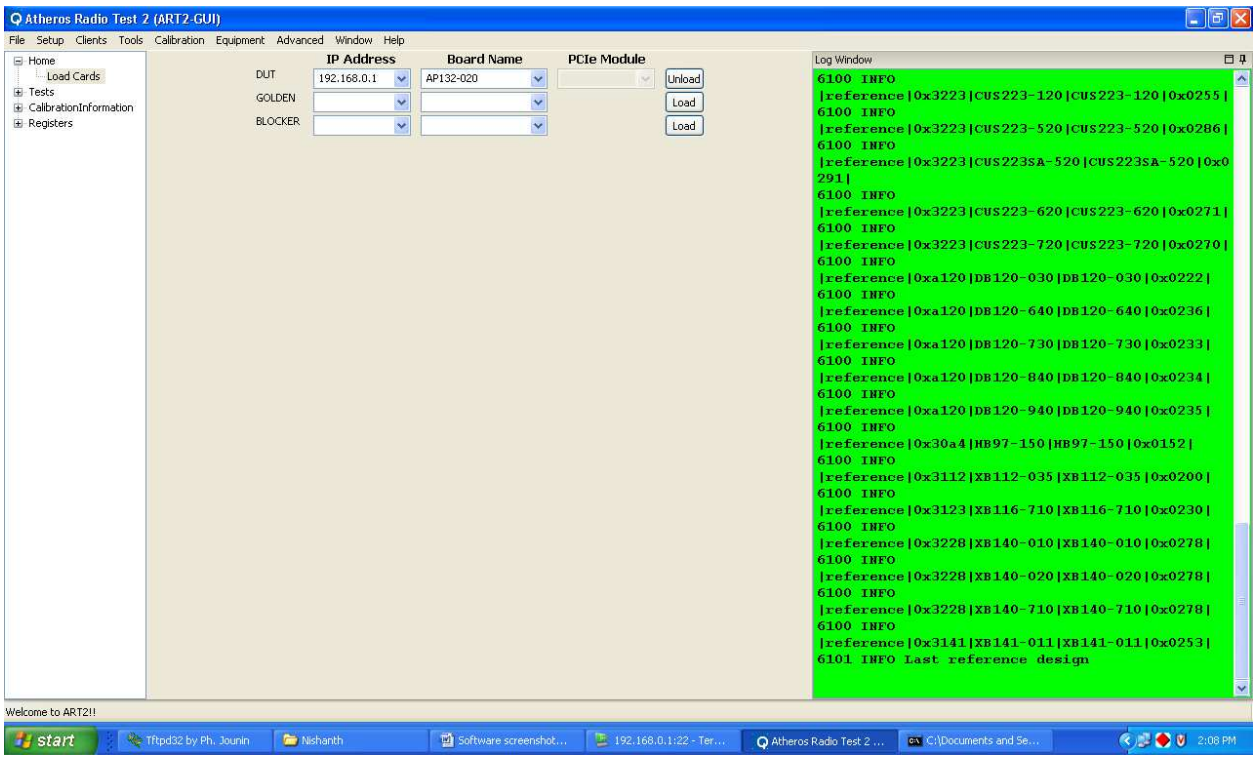

Figure 186: Atheros Radio Test GUI screenshot-1

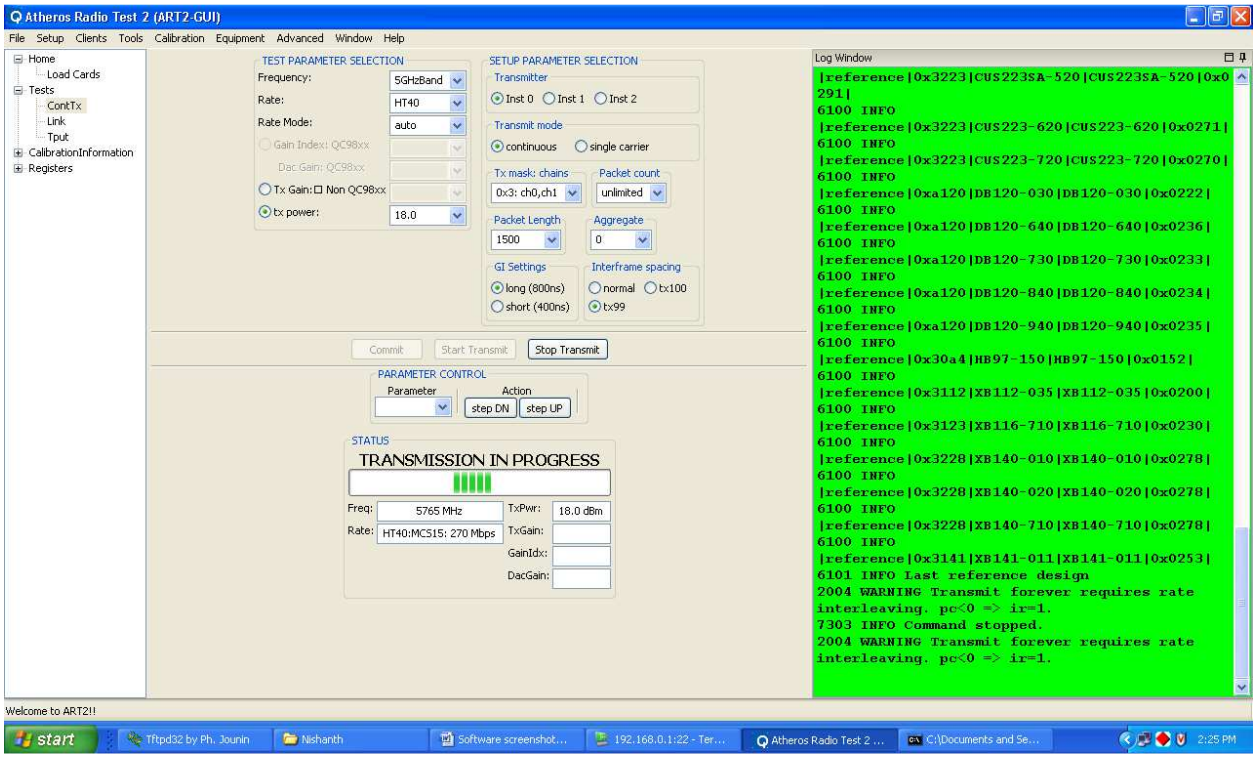

Figure 187: Atheros Radio Test GUI screenshot -2

ANNEXURE II: ACRONYMS

dBµV	Decibel micro Volts
dBm	Decibel in milli watt
EUT	Equipment Under Test
FCC	Federal Communications Commission
GHz	Giga Hertz
kHz	Kilo Hertz
LISN	Line Impedance Stabilization Network
MHz	Mega Hertz
POE	Power over Ethernet
PSD	Power Spectral density
QP	Quasi Peak
RF	Radio Frequency

END OF REPORT