

Appendix - WCDMA_band_4

1. Effective (Isotropic) Radiated Power Output Data

1.1 Test Result

1.1.1 Band4_EIRP

Band: 4								
ENV	Mode		Frequency (MHz)	Conducted Power (dBm)	Gain (dBi)	EIRP (dBm)		Verdict
	Network	Subset				Result	Limit	
NTNV	RMC	12.2kbps RMC	1712.4	22.28	0.72	23.00	<=30	Pass
			1732.6	22.28	0.72	23.00	<=30	Pass
			1752.6	22.36	0.72	23.08	<=30	Pass
	HSDPA	Subtest 1	1712.4	21.05	0.72	21.77	<=30	Pass
		Subtest 2	1712.4	21.06	0.72	21.78	<=30	Pass
		Subtest 3	1712.4	21.07	0.72	21.79	<=30	Pass
		Subtest 4	1712.4	21.02	0.72	21.74	<=30	Pass
		Subtest 1	1732.6	21.61	0.72	22.33	<=30	Pass
		Subtest 2	1732.6	21.50	0.72	22.22	<=30	Pass
		Subtest 3	1732.6	21.52	0.72	22.24	<=30	Pass
		Subtest 4	1732.6	21.59	0.72	22.31	<=30	Pass
		Subtest 1	1752.6	21.03	0.72	21.75	<=30	Pass
		Subtest 2	1752.6	21.06	0.72	21.78	<=30	Pass
		Subtest 3	1752.6	20.99	0.72	21.71	<=30	Pass
		Subtest 4	1752.6	21.04	0.72	21.76	<=30	Pass
	HSUPA	Subtest 1	1712.4	18.84	0.72	19.56	<=30	Pass
		Subtest 2	1712.4	19.12	0.72	19.84	<=30	Pass
		Subtest 3	1712.4	18.59	0.72	19.31	<=30	Pass
		Subtest 4	1712.4	18.57	0.72	19.29	<=30	Pass
		Subtest 5	1712.4	18.89	0.72	19.61	<=30	Pass
		Subtest 1	1732.6	19.47	0.72	20.19	<=30	Pass
		Subtest 2	1732.6	19.63	0.72	20.35	<=30	Pass
		Subtest 3	1732.6	19.21	0.72	19.93	<=30	Pass
		Subtest 4	1732.6	19.52	0.72	20.24	<=30	Pass
		Subtest 5	1732.6	19.69	0.72	20.41	<=30	Pass
		Subtest 1	1752.6	18.74	0.72	19.46	<=30	Pass
		Subtest 2	1752.6	19.06	0.72	19.78	<=30	Pass
		Subtest 3	1752.6	19.22	0.72	19.94	<=30	Pass
		Subtest 4	1752.6	18.74	0.72	19.46	<=30	Pass
		Subtest 5	1752.6	19.22	0.72	19.94	<=30	Pass

Note1: EIRP=Conducted Power+Antenna Gain

2. Frequency Stability

2.1 Test Result

2.1.1 Band4

Band: 4							
Network	Frequency (MHz)	Temp. (°C)	Voltage (VDC)	Freq. Error (Hz)	Freq. vs. Rated (ppm)		Verdict
					Result	Limit	

RMC	1712.4	20	3.27	-5.114	-0.0030	-2.5 to 2.5	Pass
			3.85	-2.804	-0.0016	-2.5 to 2.5	Pass
			4.43	0.236	0.0001	-2.5 to 2.5	Pass
		-30	3.85	-2.553	-0.0015	-2.5 to 2.5	Pass
		-20	3.85	-5.171	-0.0030	-2.5 to 2.5	Pass
		-10	3.85	-4.771	-0.0028	-2.5 to 2.5	Pass
		0	3.85	-5.629	-0.0033	-2.5 to 2.5	Pass
		10	3.85	-5.457	-0.0032	-2.5 to 2.5	Pass
		30	3.85	1.388	0.0008	-2.5 to 2.5	Pass
		40	3.85	-4.277	-0.0025	-2.5 to 2.5	Pass
		50	3.85	4.106	0.0024	-2.5 to 2.5	Pass
	1732.6	20	3.27	3.483	0.0020	-2.5 to 2.5	Pass
			3.85	-2.947	-0.0017	-2.5 to 2.5	Pass
			4.43	-3.698	-0.0021	-2.5 to 2.5	Pass
		-30	3.85	-3.691	-0.0021	-2.5 to 2.5	Pass
		-20	3.85	-1.996	-0.0012	-2.5 to 2.5	Pass
		-10	3.85	-3.126	-0.0018	-2.5 to 2.5	Pass
		0	3.85	-1.953	-0.0011	-2.5 to 2.5	Pass
		10	3.85	-2.875	-0.0017	-2.5 to 2.5	Pass
		30	3.85	-4.478	-0.0026	-2.5 to 2.5	Pass
		40	3.85	-3.176	-0.0018	-2.5 to 2.5	Pass
		50	3.85	-4.020	-0.0023	-2.5 to 2.5	Pass
	1752.6	20	3.27	-1.538	-0.0009	-2.5 to 2.5	Pass
			3.85	0.579	0.0003	-2.5 to 2.5	Pass
			4.43	1.037	0.0006	-2.5 to 2.5	Pass
		-30	3.85	0.143	0.0001	-2.5 to 2.5	Pass
		-20	3.85	-8.104	-0.0046	-2.5 to 2.5	Pass
		-10	3.85	-6.938	-0.0040	-2.5 to 2.5	Pass
		0	3.85	-7.582	-0.0043	-2.5 to 2.5	Pass
		10	3.85	-7.789	-0.0044	-2.5 to 2.5	Pass
		30	3.85	-8.476	-0.0048	-2.5 to 2.5	Pass
		40	3.85	-6.452	-0.0037	-2.5 to 2.5	Pass
		50	3.85	-7.281	-0.0042	-2.5 to 2.5	Pass
HSDPA	1712.4	20	3.27	11.680	0.0068	-2.5 to 2.5	Pass
			3.85	11.888	0.0069	-2.5 to 2.5	Pass
			4.43	12.388	0.0072	-2.5 to 2.5	Pass
		-30	3.85	13.568	0.0079	-2.5 to 2.5	Pass
		-20	3.85	12.524	0.0073	-2.5 to 2.5	Pass
		-10	3.85	12.653	0.0074	-2.5 to 2.5	Pass
		0	3.85	13.003	0.0076	-2.5 to 2.5	Pass
		10	3.85	11.029	0.0064	-2.5 to 2.5	Pass
		30	3.85	10.471	0.0061	-2.5 to 2.5	Pass
		40	3.85	11.809	0.0069	-2.5 to 2.5	Pass
		50	3.85	10.893	0.0064	-2.5 to 2.5	Pass
	1732.6	20	3.27	15.292	0.0088	-2.5 to 2.5	Pass
			3.85	12.081	0.0070	-2.5 to 2.5	Pass
			4.43	14.005	0.0081	-2.5 to 2.5	Pass
		-30	3.85	14.162	0.0082	-2.5 to 2.5	Pass
		-20	3.85	10.972	0.0063	-2.5 to 2.5	Pass
		-10	3.85	8.183	0.0047	-2.5 to 2.5	Pass
		0	3.85	11.888	0.0069	-2.5 to 2.5	Pass
		10	3.85	8.483	0.0049	-2.5 to 2.5	Pass
		30	3.85	11.523	0.0067	-2.5 to 2.5	Pass
		40	3.85	6.230	0.0036	-2.5 to 2.5	Pass

	1752.6	50	3.85	8.082	0.0047	-2.5 to 2.5	Pass
		20	3.27	15.020	0.0086	-2.5 to 2.5	Pass
			3.85	11.501	0.0066	-2.5 to 2.5	Pass
			4.43	15.514	0.0089	-2.5 to 2.5	Pass
		-30	3.85	16.637	0.0095	-2.5 to 2.5	Pass
		-20	3.85	8.605	0.0049	-2.5 to 2.5	Pass
		-10	3.85	4.721	0.0027	-2.5 to 2.5	Pass
		0	3.85	18.518	0.0106	-2.5 to 2.5	Pass
		10	3.85	18.275	0.0104	-2.5 to 2.5	Pass
		30	3.85	16.522	0.0094	-2.5 to 2.5	Pass
HSUPA	1712.4	40	3.85	16.179	0.0092	-2.5 to 2.5	Pass
		50	3.85	13.647	0.0078	-2.5 to 2.5	Pass
		20	3.27	10.185	0.0059	-2.5 to 2.5	Pass
			3.85	6.337	0.0037	-2.5 to 2.5	Pass
			4.43	4.878	0.0028	-2.5 to 2.5	Pass
		-30	3.85	3.290	0.0019	-2.5 to 2.5	Pass
		-20	3.85	-3.519	-0.0021	-2.5 to 2.5	Pass
		-10	3.85	-3.462	-0.0020	-2.5 to 2.5	Pass
		0	3.85	-1.917	-0.0011	-2.5 to 2.5	Pass
		10	3.85	-1.123	-0.0007	-2.5 to 2.5	Pass
	1732.6	30	3.85	-3.684	-0.0022	-2.5 to 2.5	Pass
		40	3.85	-0.772	-0.0005	-2.5 to 2.5	Pass
		50	3.85	-0.951	-0.0006	-2.5 to 2.5	Pass
		20	3.27	1.624	0.0009	-2.5 to 2.5	Pass
			3.85	-5.350	-0.0031	-2.5 to 2.5	Pass
			4.43	-6.173	-0.0036	-2.5 to 2.5	Pass
		-30	3.85	-4.098	-0.0024	-2.5 to 2.5	Pass
		-20	3.85	-1.638	-0.0009	-2.5 to 2.5	Pass
		-10	3.85	-3.204	-0.0018	-2.5 to 2.5	Pass
		0	3.85	-1.466	-0.0008	-2.5 to 2.5	Pass
	1752.6	10	3.85	0.257	0.0001	-2.5 to 2.5	Pass
		30	3.85	-0.844	-0.0005	-2.5 to 2.5	Pass
		40	3.85	-0.622	-0.0004	-2.5 to 2.5	Pass
		50	3.85	-0.229	-0.0001	-2.5 to 2.5	Pass
		20	3.27	7.710	0.0044	-2.5 to 2.5	Pass
			3.85	-1.781	-0.0010	-2.5 to 2.5	Pass
			4.43	-0.322	-0.0002	-2.5 to 2.5	Pass
		-30	3.85	2.875	0.0016	-2.5 to 2.5	Pass
		-20	3.85	4.177	0.0024	-2.5 to 2.5	Pass
		-10	3.85	-6.695	-0.0038	-2.5 to 2.5	Pass
		0	3.85	-8.883	-0.0051	-2.5 to 2.5	Pass
		10	3.85	8.805	0.0050	-2.5 to 2.5	Pass
		30	3.85	6.802	0.0039	-2.5 to 2.5	Pass
		40	3.85	3.097	0.0018	-2.5 to 2.5	Pass
		50	3.85	7.324	0.0042	-2.5 to 2.5	Pass

3. Modulation Characteristics

3.1 Test Result

3.1.1 Band4

Band: 4

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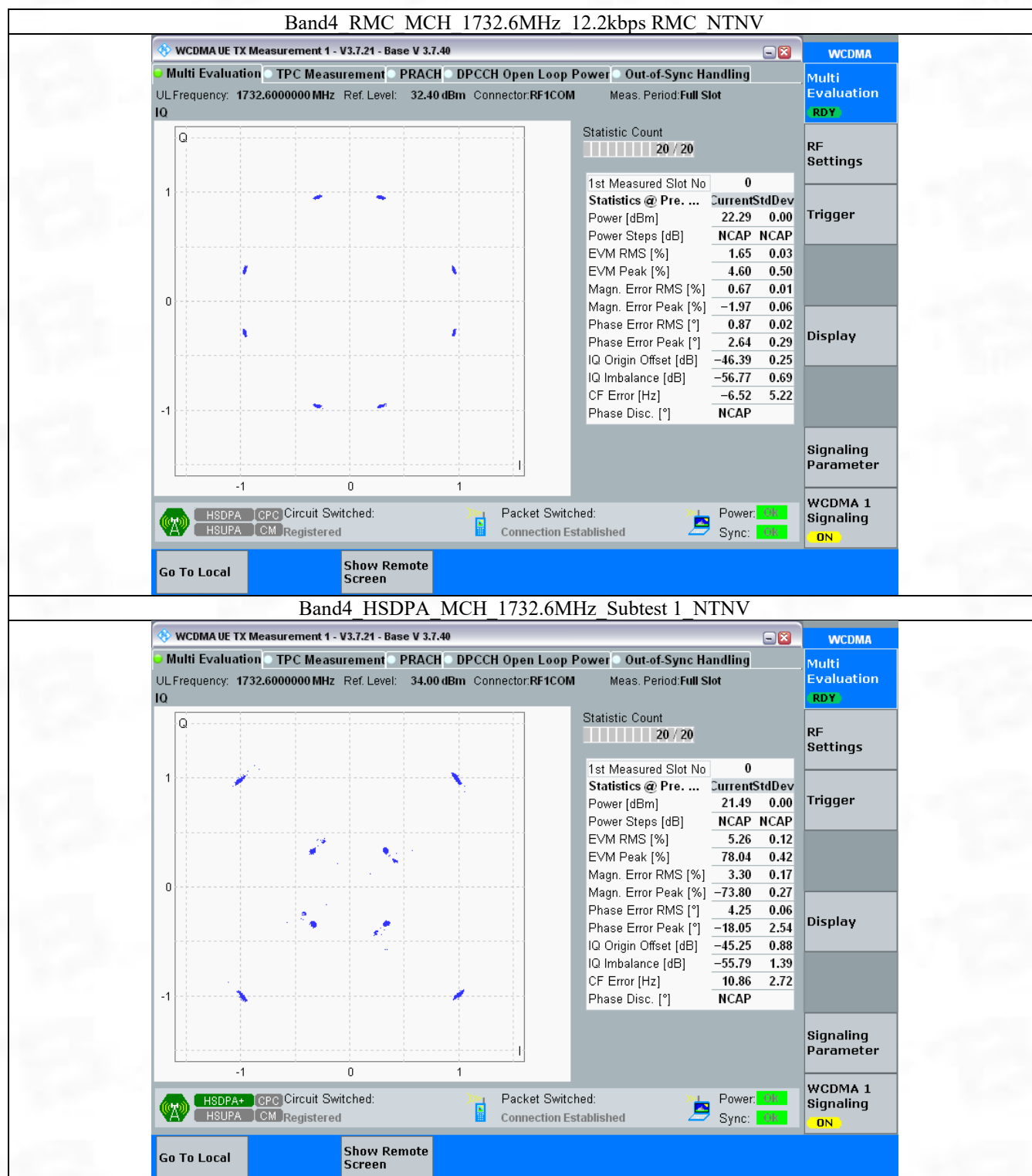
<http://www.btf-lab.com>

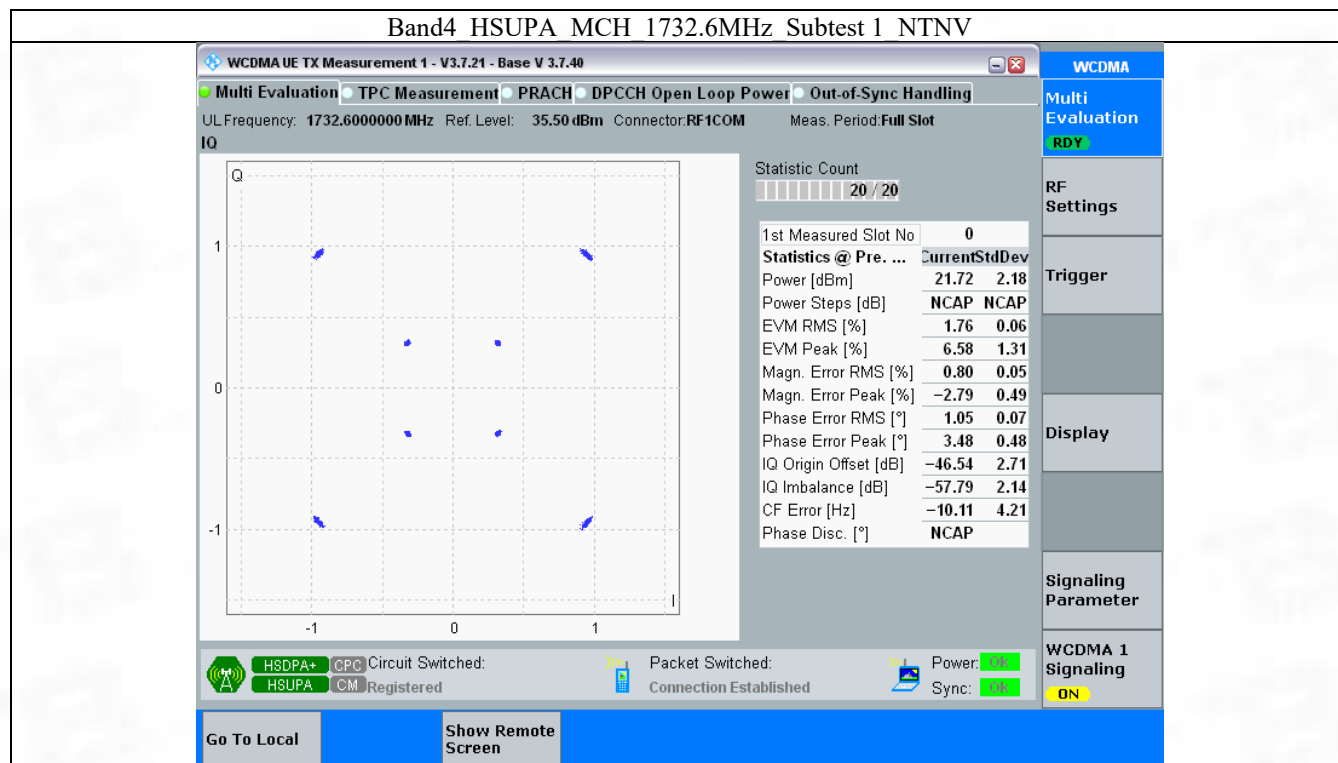
Version: 1/00

ENV	Mode		Frequency (MHz)	Modulation Characteristics		Verdict
	Network	Subset		Result	Limit	
NTNV	RMC	12.2kbps RMC	1732.6	Refer To Test Graph		Pass
	HSDPA	Subtest 1	1732.6	Refer To Test Graph		Pass
	HSUPA	Subtest 1	1732.6	Refer To Test Graph		Pass

3.2 Test Graph

3.2.1 Band4





4. 99% & 26dB Bandwidth

4.1 Test Result

4.1.1 Band4_OBW

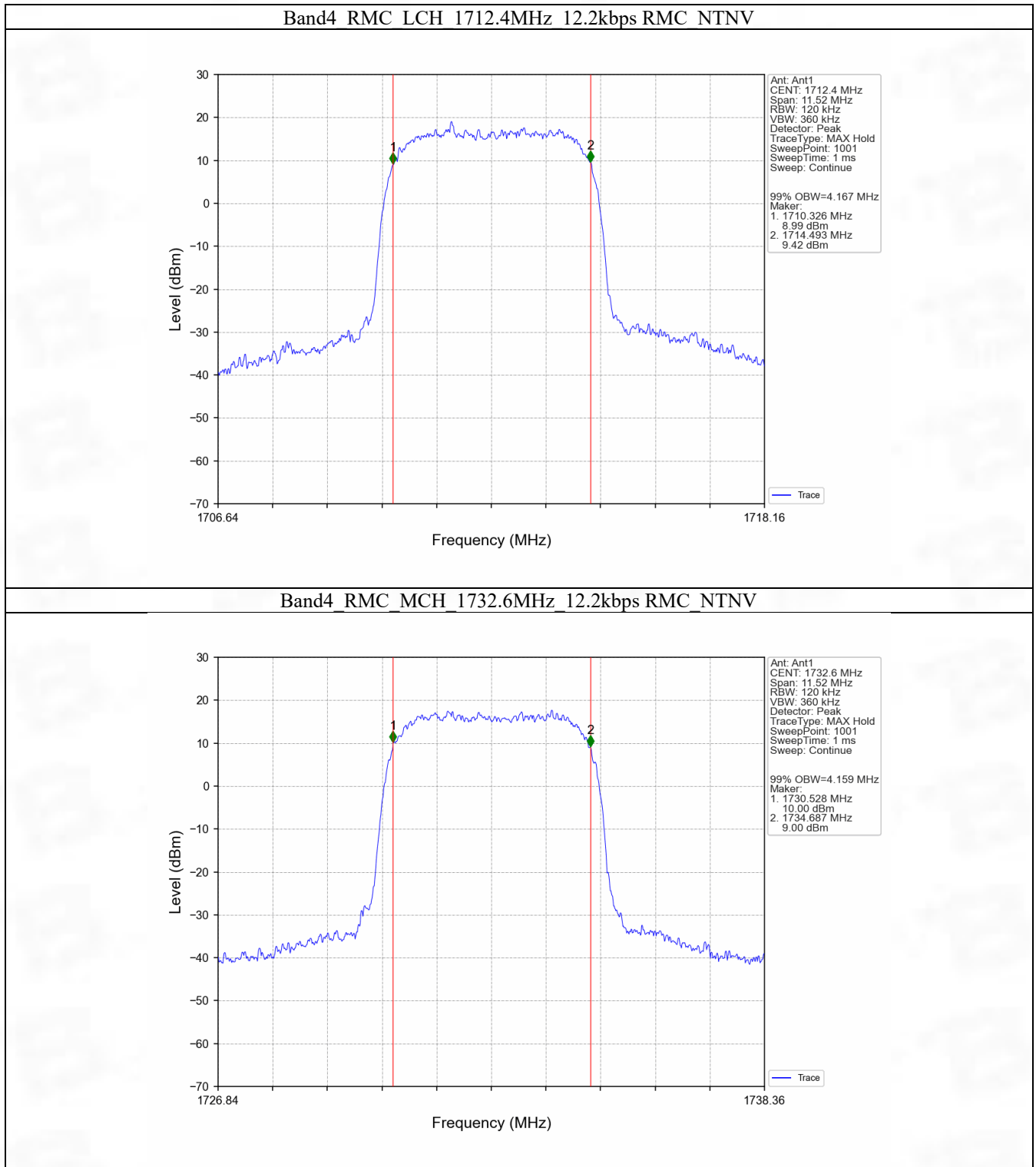
Band: 4						
ENV	Mode		Frequency (MHz)	99% Occupied Bandwidth (MHz)		Verdict
	Network	Subset		Result	Limit	
NTNV	RMC	12.2kbps RMC	1712.4	4.167	/	Pass
			1732.6	4.159	/	Pass
			1752.6	4.171	/	Pass
	HSDPA	Subtest 1	1712.4	4.150	/	Pass
			1732.6	4.166	/	Pass
			1752.6	4.153	/	Pass
	HSUPA	Subtest 1	1712.4	4.177	/	Pass
			1732.6	4.152	/	Pass
			1752.6	4.165	/	Pass

4.1.2 Band4_XDB

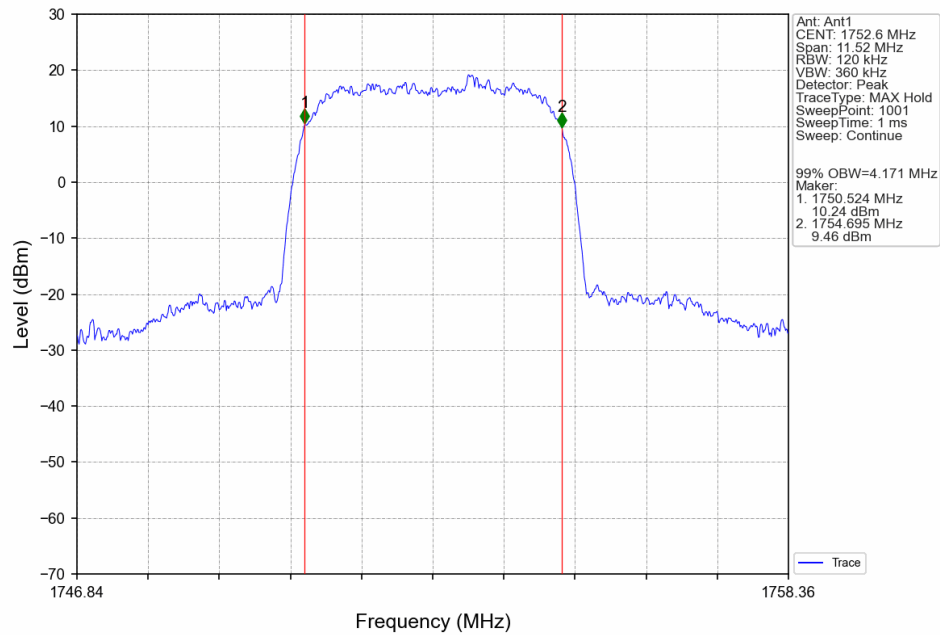
Band: 4						
ENV	Mode		Frequency (MHz)	26dB Bandwidth (MHz)		Verdict
	Network	Subset		Result	Limit	
NTNV	RMC	12.2kbps RMC	1712.4	4.701	/	Pass
			1732.6	4.715	/	Pass
			1752.6	4.710	/	Pass
	HSDPA	Subtest 1	1712.4	4.706	/	Pass
			1732.6	4.725	/	Pass
			1752.6	4.691	/	Pass
	HSUPA	Subtest 1	1712.4	4.677	/	Pass
			1732.6	4.698	/	Pass
			1752.6	4.701	/	Pass

4.2 Test Graph

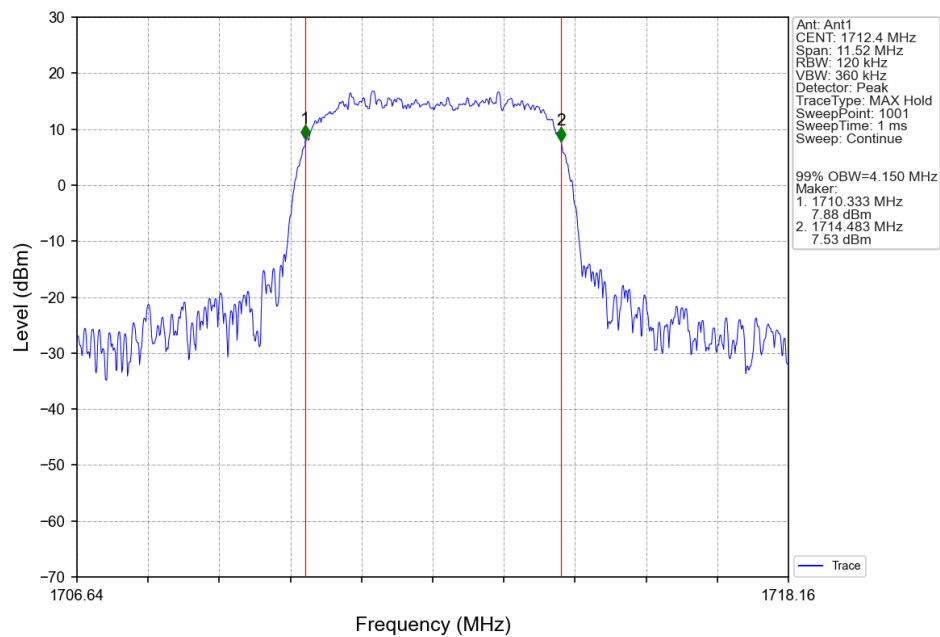
4.2.1 Band4_OBW



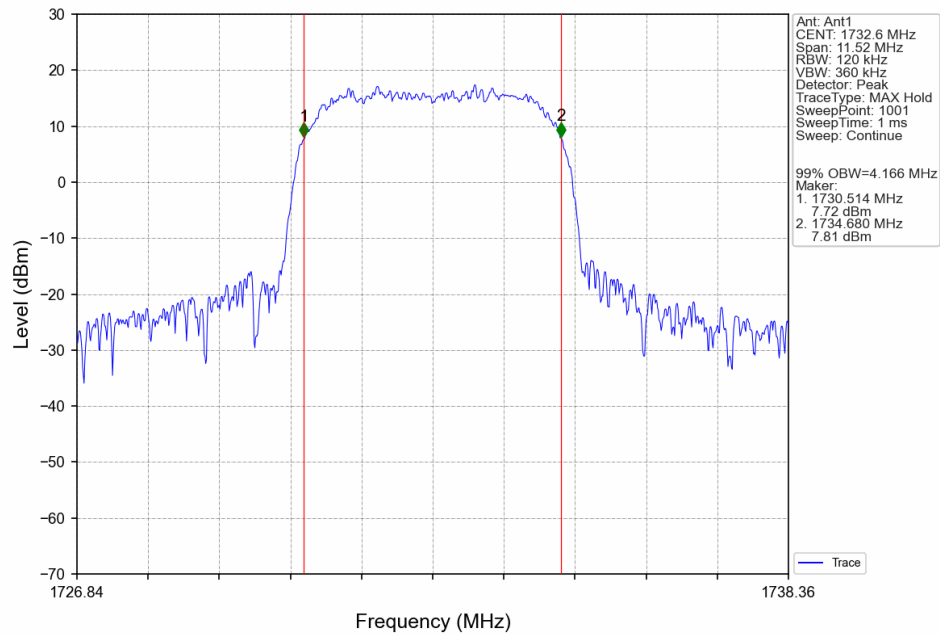
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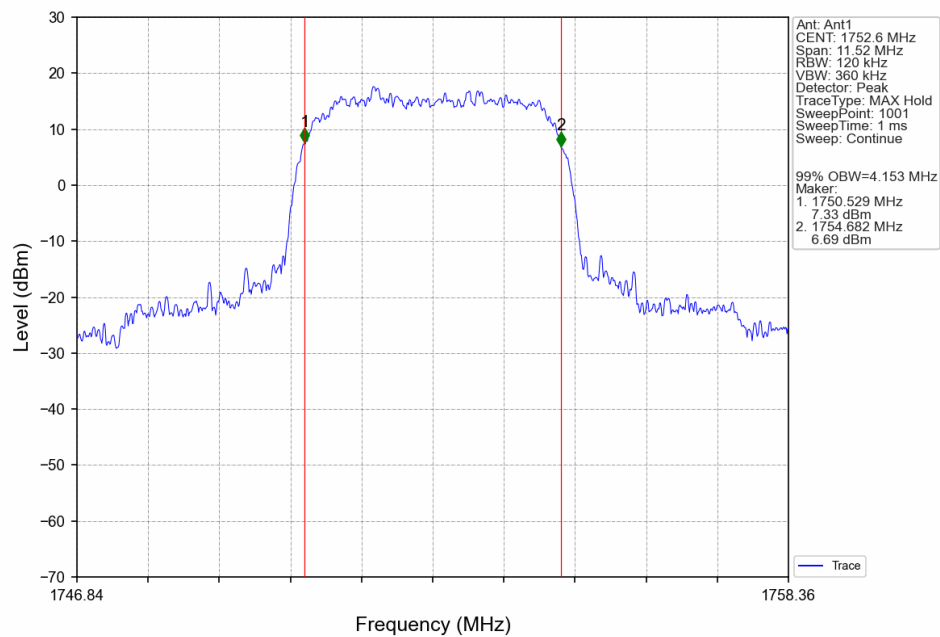
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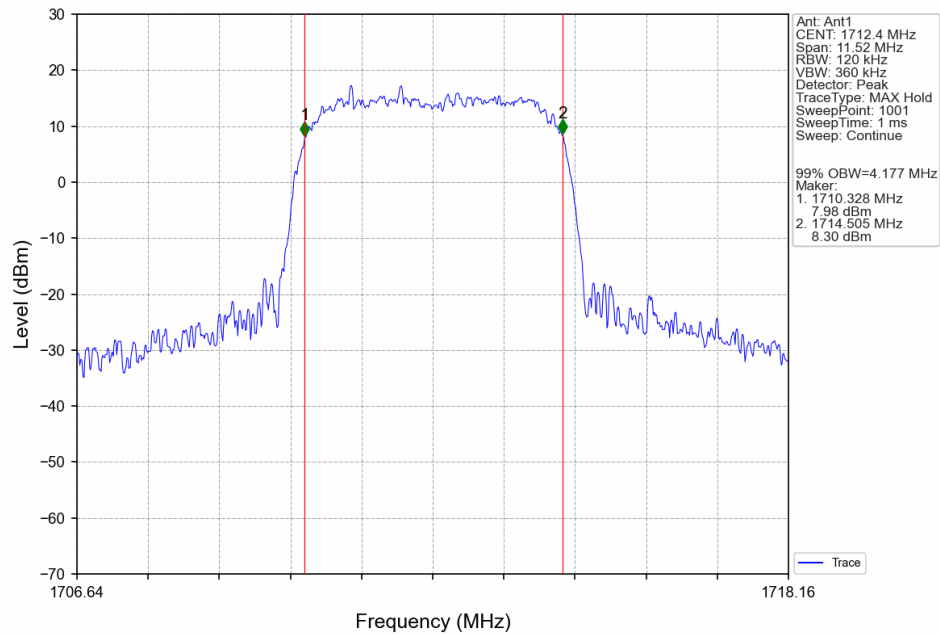
Band4 HSDPA MCH 1732.6MHz Subtest 1 NTNV



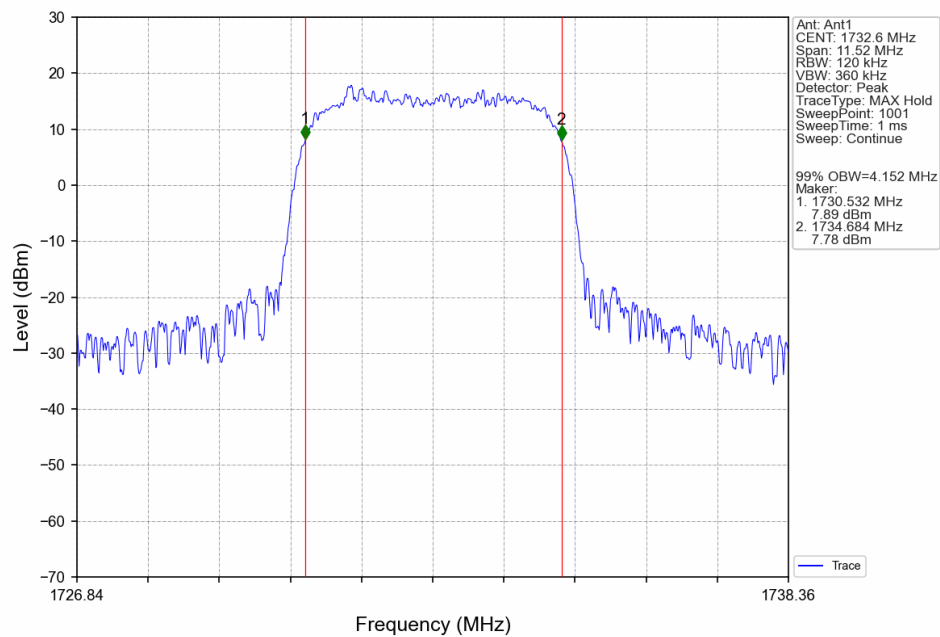
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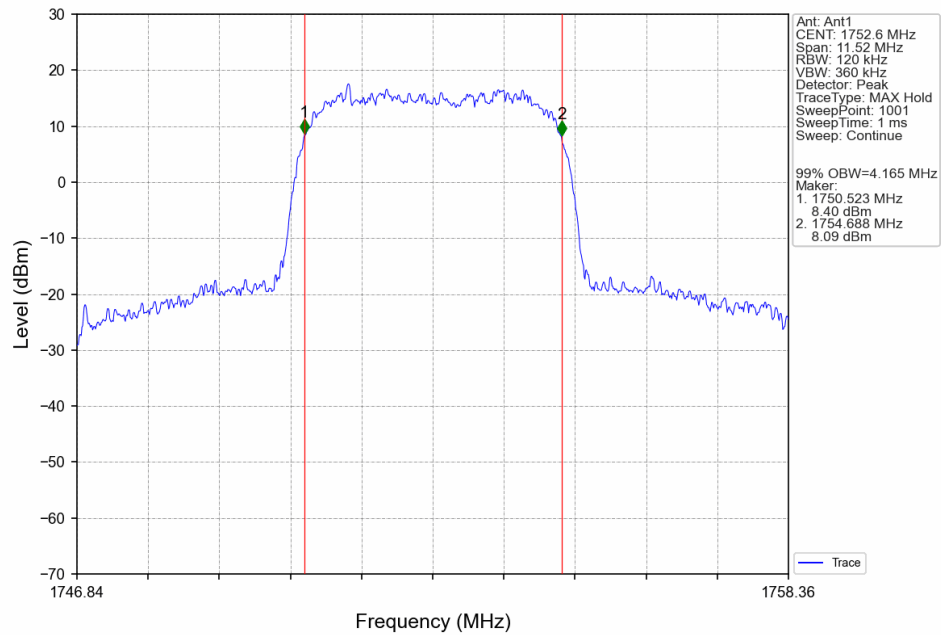
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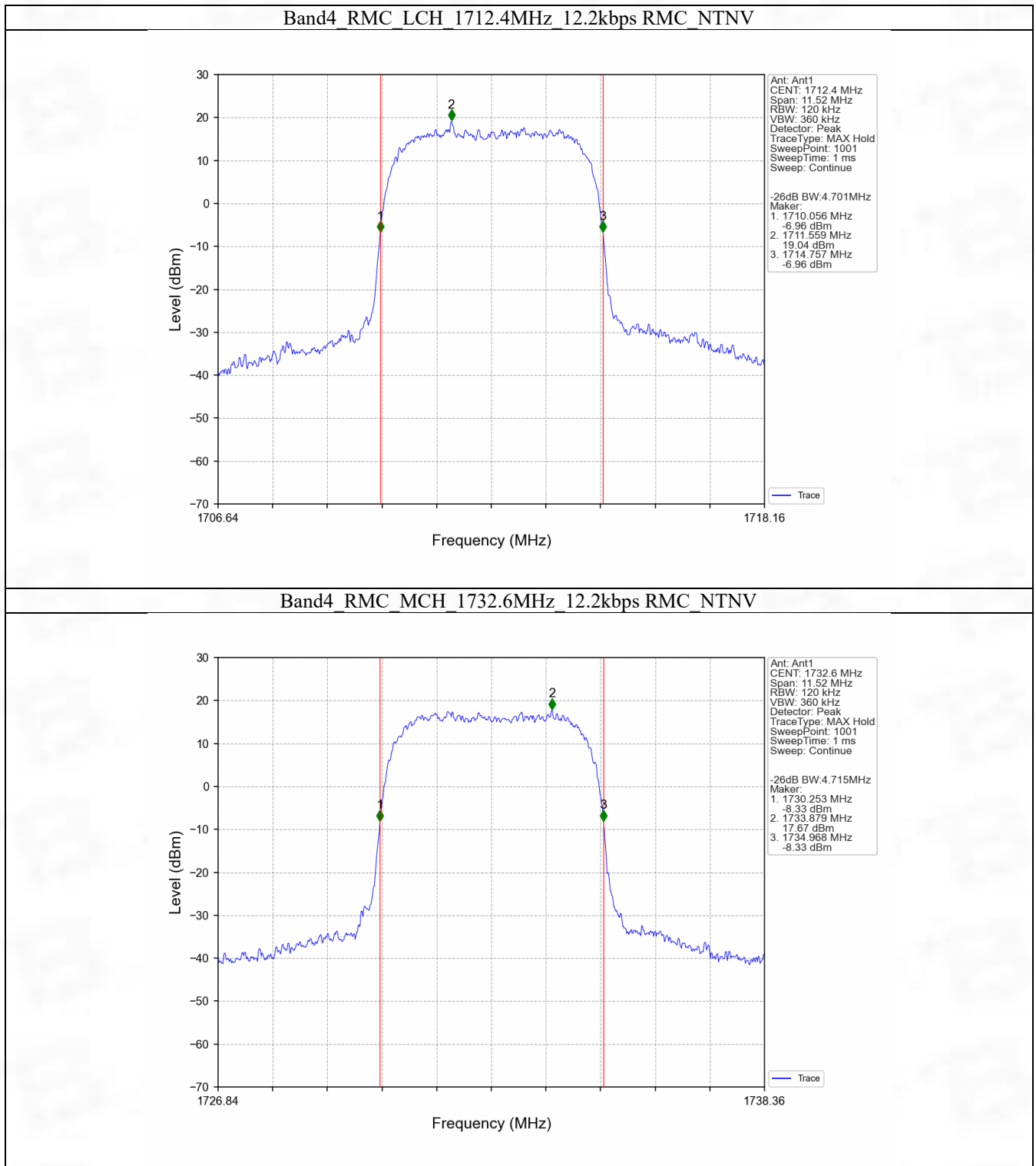
Band4 HSUPA MCH 1732.6MHz Subtest 1 NTNV



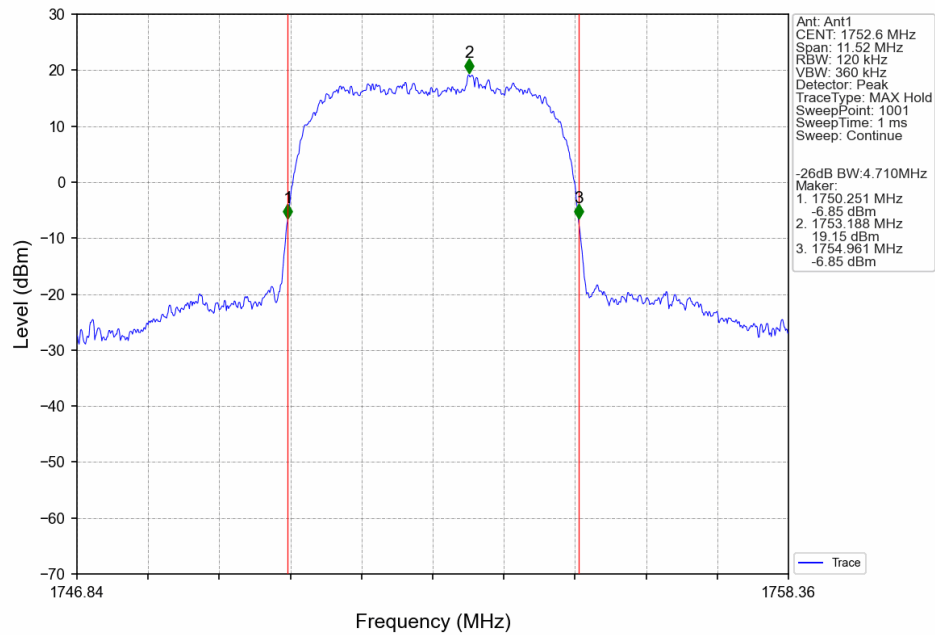
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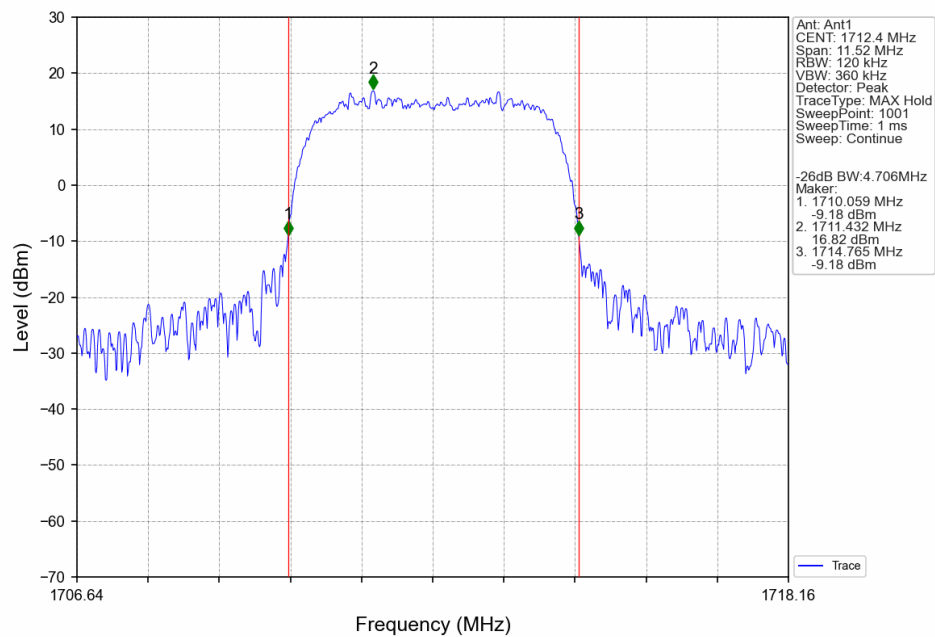
4.2.2 Band4_XDB



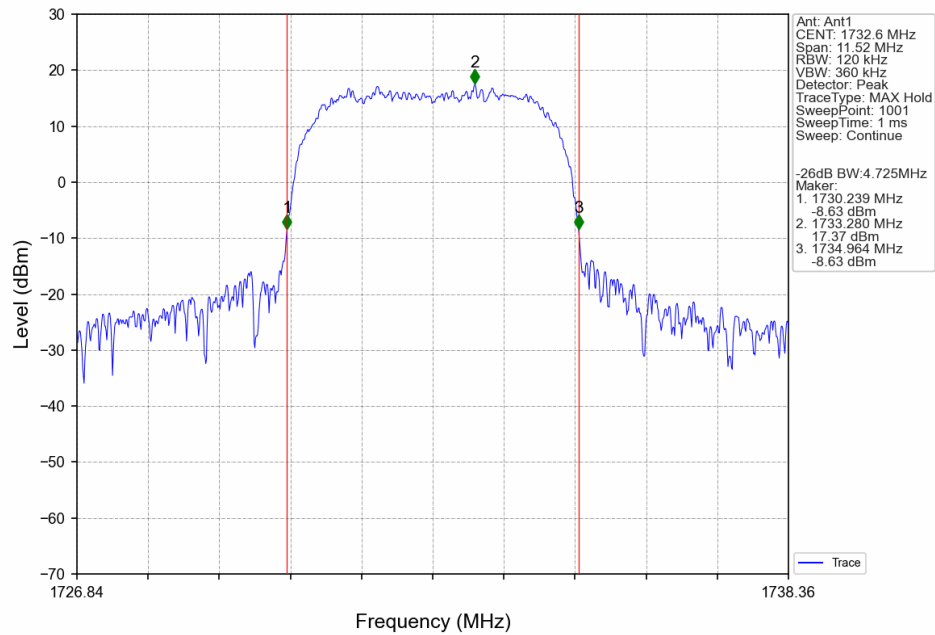
Band4 RMC HCH 1752.6MHz 12.2kbps RMC NTN



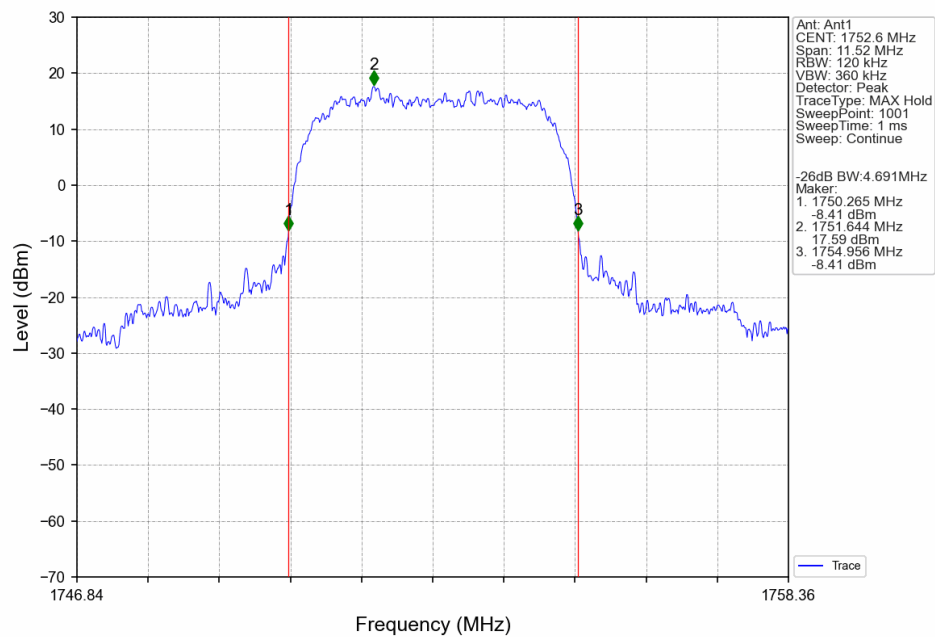
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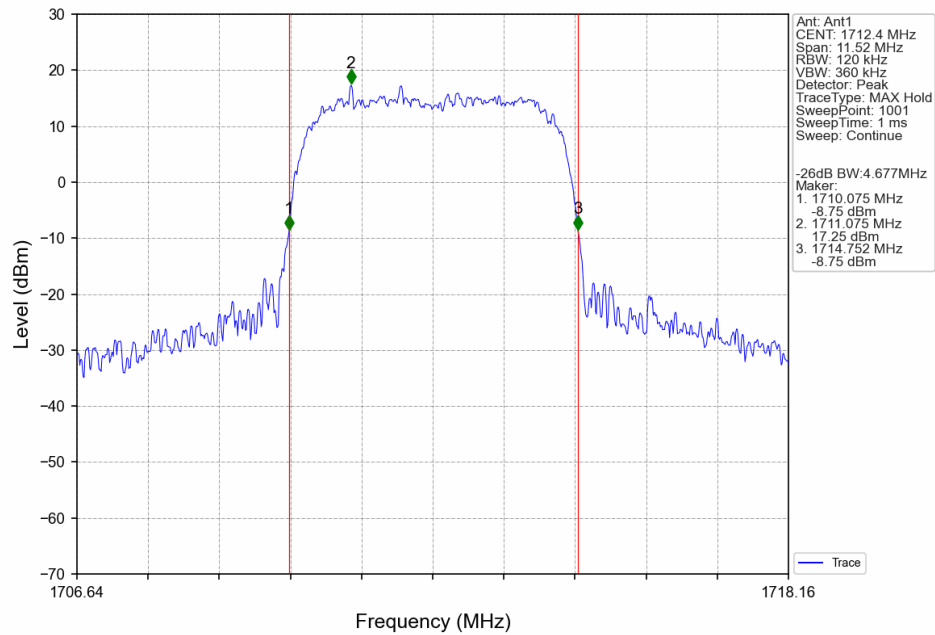
Band4 HSDPA MCH 1732.6MHz Subtest 1 NTNV



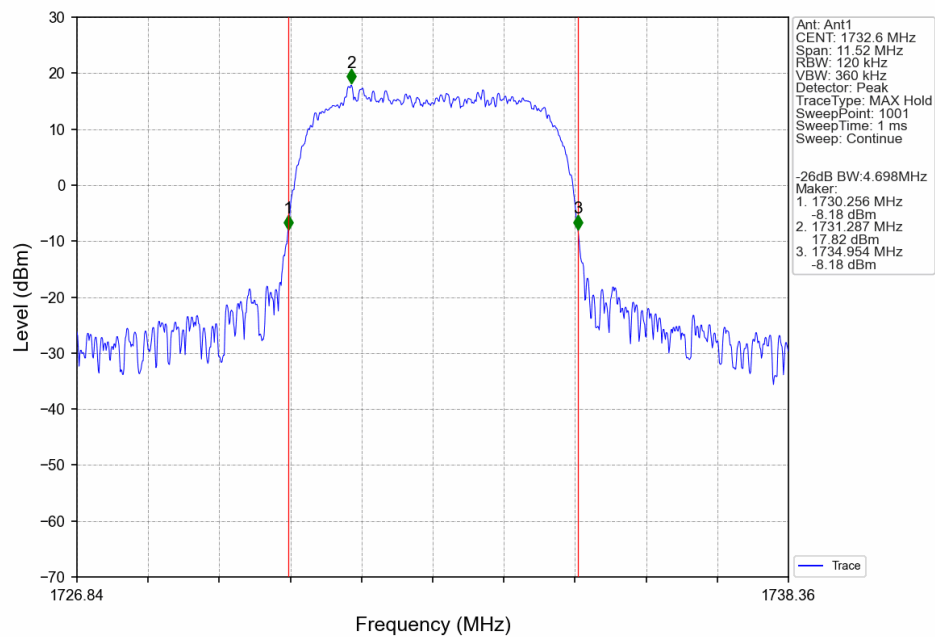
Band4 HSDPA HCH 1752.6MHz Subtest 1 NTNV



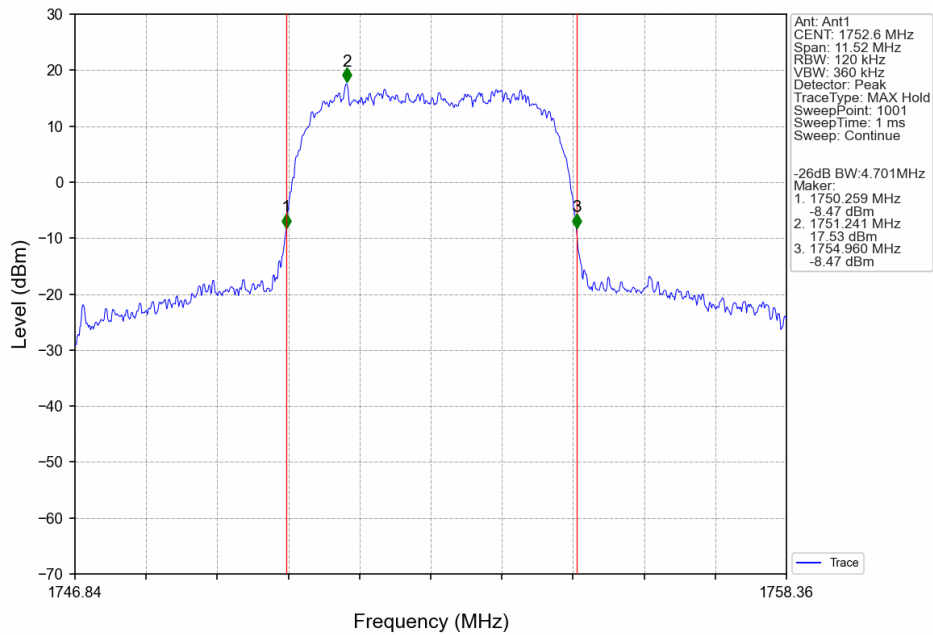
Band4 HSUPA LCH 1712.4MHz Subtest 1 NTNV



Band4 HSUPA MCH 1732.6MHz Subtest 1 NTNV



Band4 HSUPA HCH 1752.6MHz Subtest 1 NTNV



5. Peak-Average Ratio

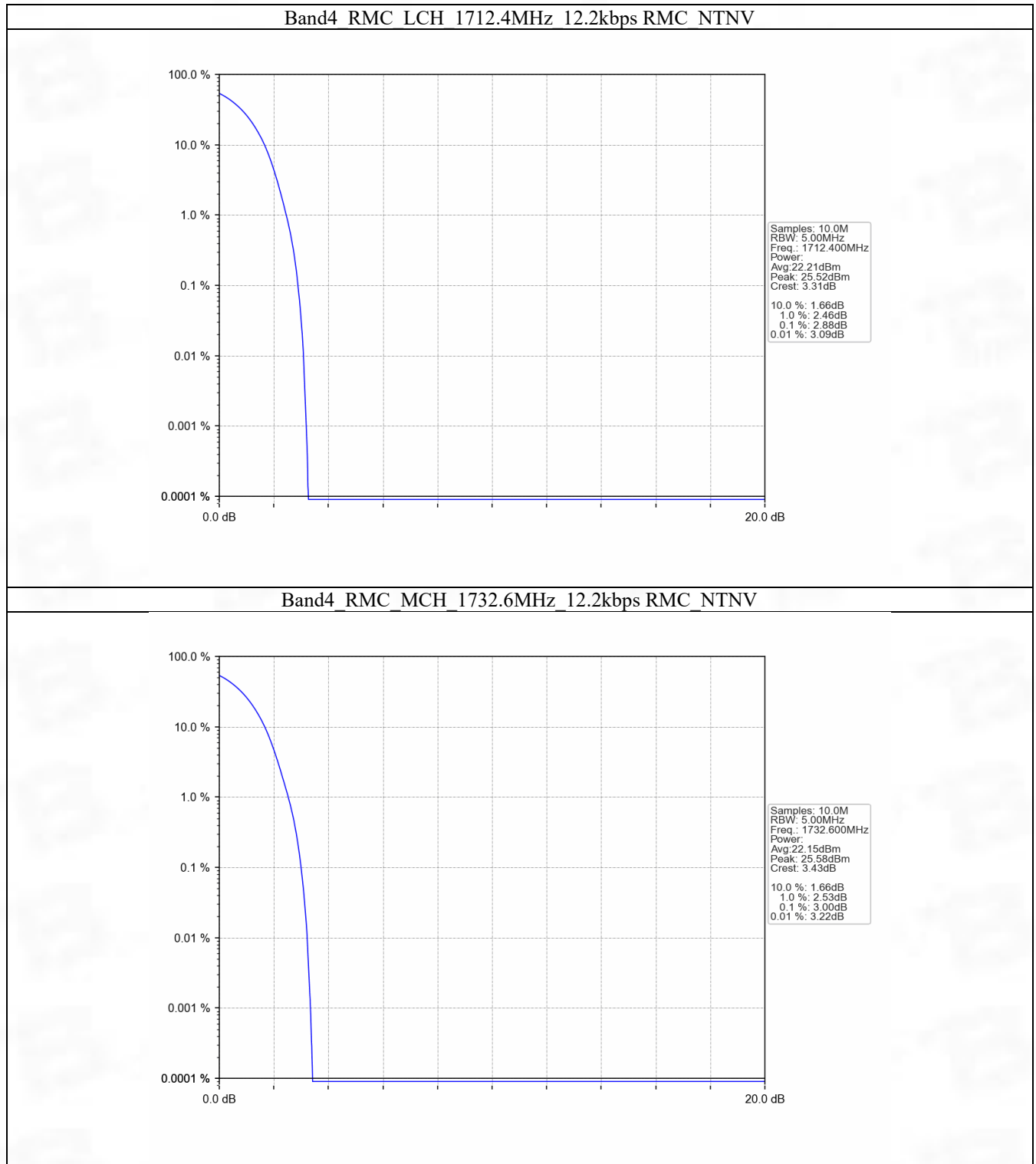
5.1 Test Result

5.1.1 Band4

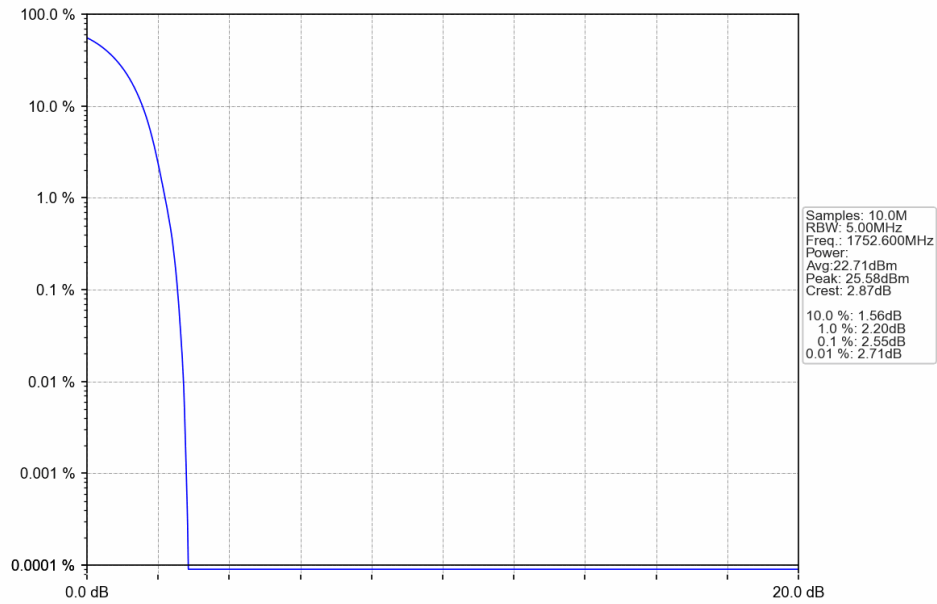
Band: 4						
ENV	Mode		Frequency (MHz)	Peak-Average Ratio (dB)		Verdict
	Network	Subset		Result	Limit	
NTNV	RMC	12.2kbps RMC	1712.4	2.88	≤ 13	Pass
			1732.6	3.00	≤ 13	Pass
			1752.6	2.55	≤ 13	Pass
	HSDPA	Subtest 1	1712.4	5.77	≤ 13	Pass
			1732.6	5.61	≤ 13	Pass
			1752.6	5.46	≤ 13	Pass
	HSUPA	Subtest 1	1712.4	6.57	≤ 13	Pass
			1732.6	6.68	≤ 13	Pass
			1752.6	5.96	≤ 13	Pass

5.2 Test Graph

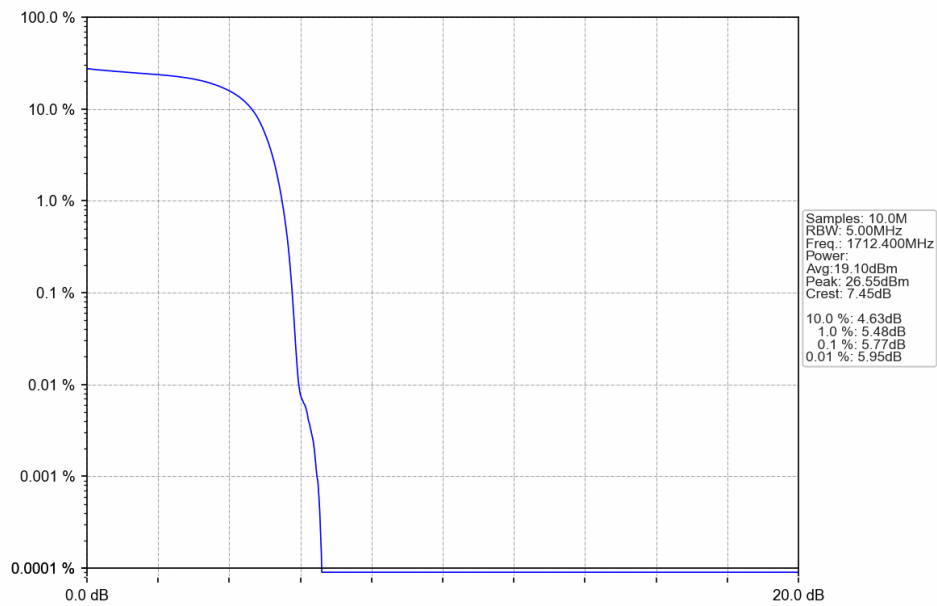
5.2.1 Band4



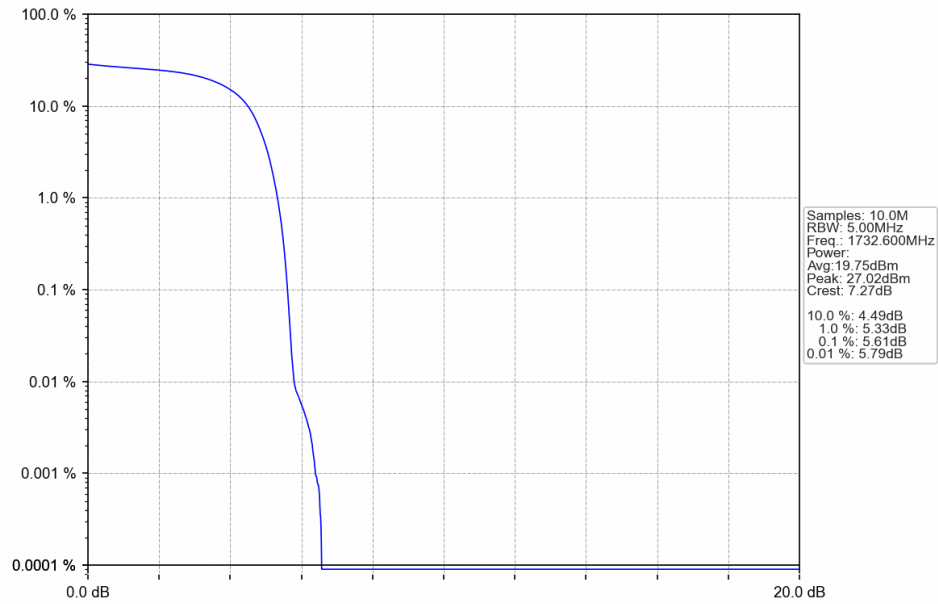
Band4 RMC HCH 1752.6MHz 12.2kbps RMC NTN



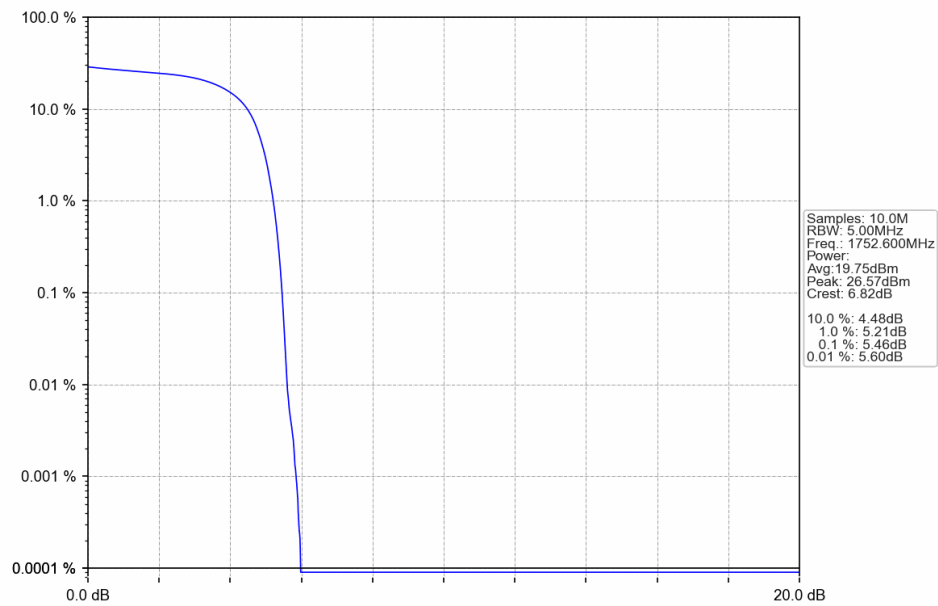
Band4 HSDPA LCH 1712.4MHz Subtest 1 NTN



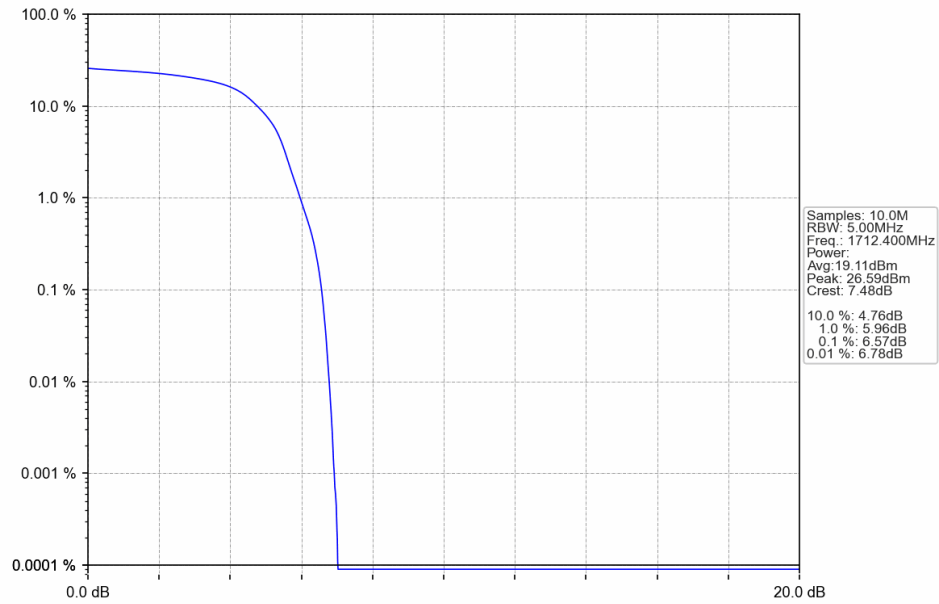
Band4 HSDPA MCH 1732.6MHz Subtest 1 NTN



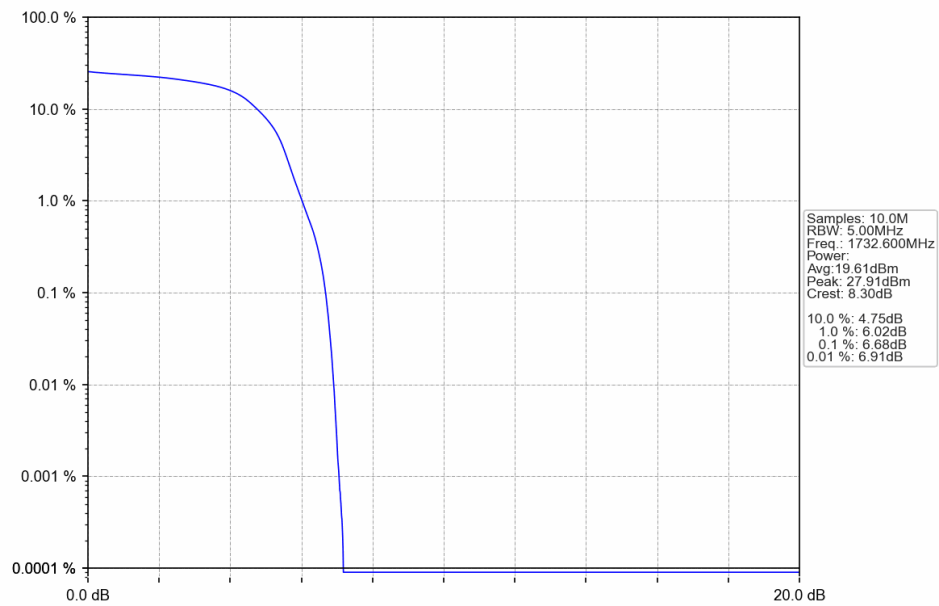
Band4 HSDPA HCH 1752.6MHz Subtest 1 NTN



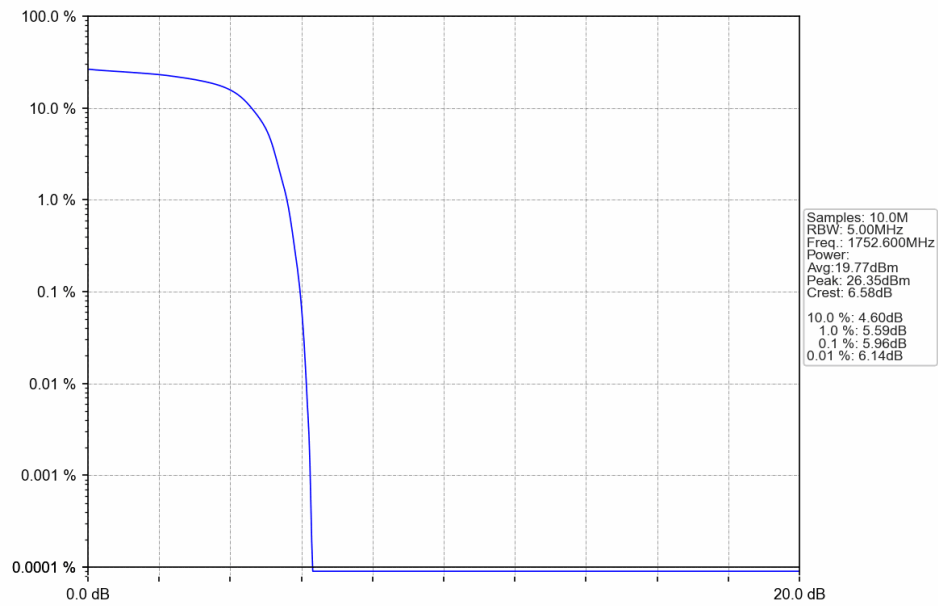
Band4 HSUPA LCH 1712.4MHz Subtest 1 NTNV



Band4 HSUPA MCH 1732.6MHz Subtest 1 NTNV



Band4 HSUPA HCH 1752.6MHz Subtest 1 NTN



6. Spurious Emission

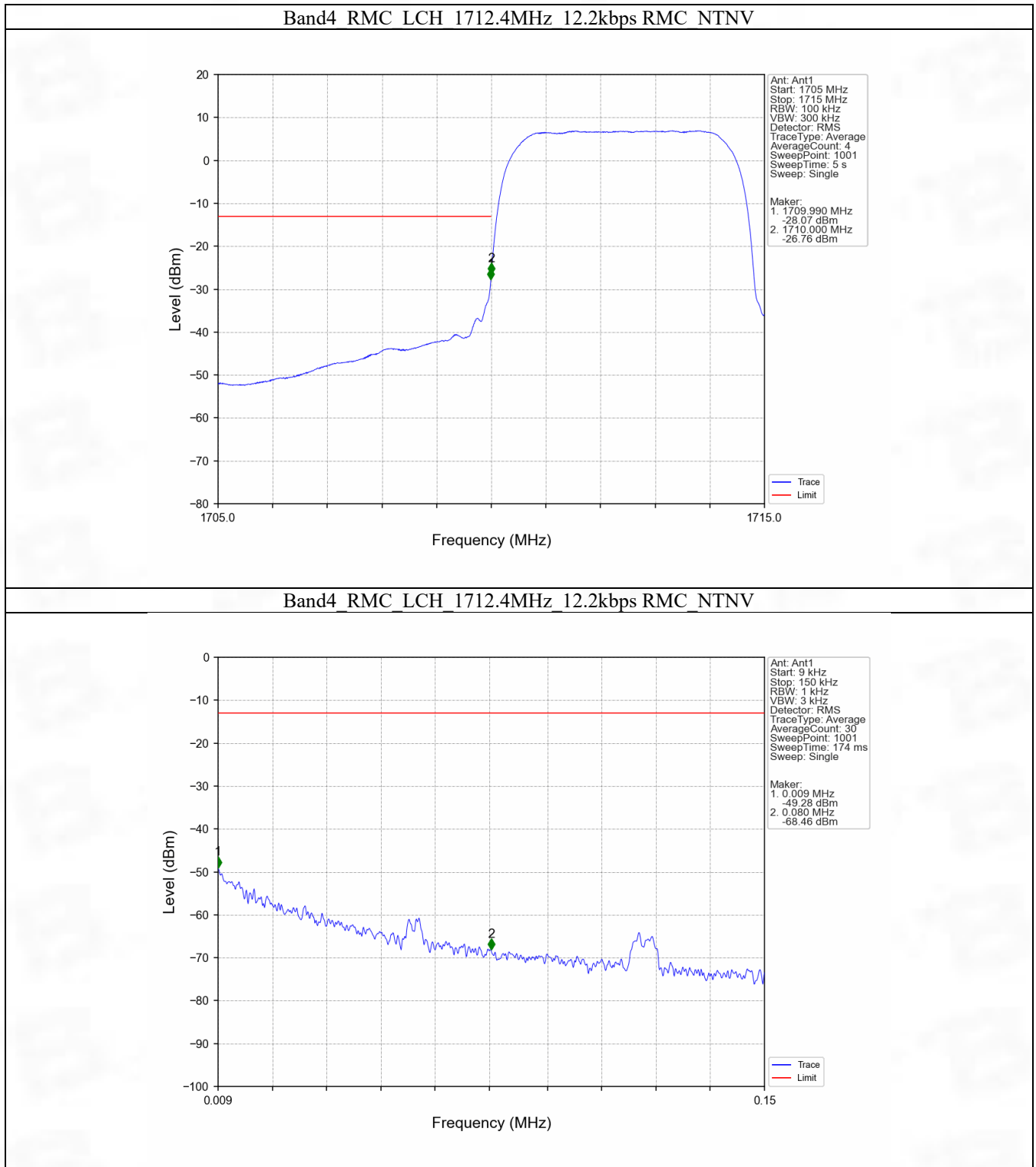
6.1 Test Result

6.1.1 Band4

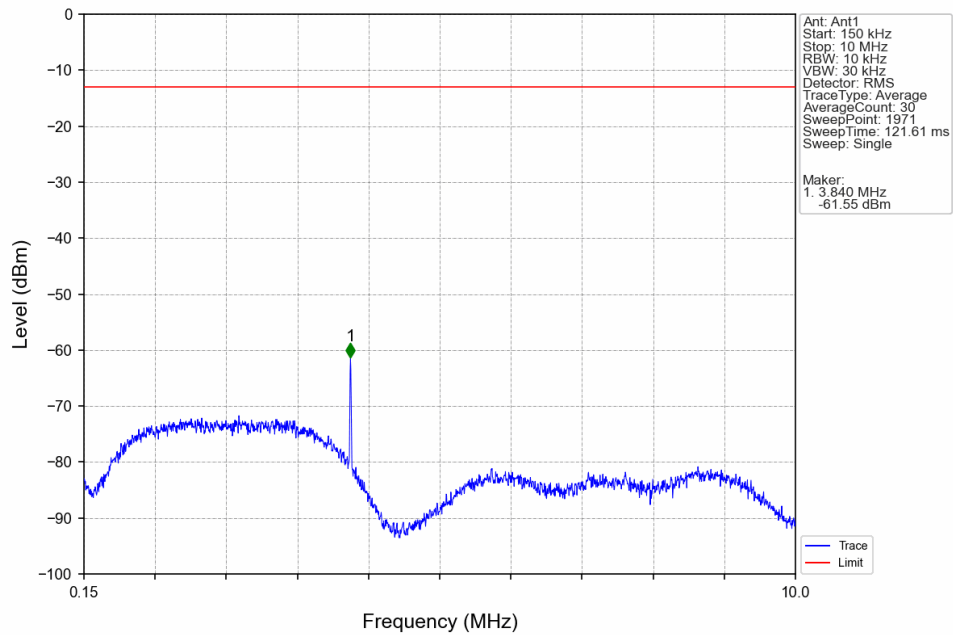
Band: 4						
ENV	Mode		Frequency (MHz)	Spurious Emission		Verdict
	Network	Subset		Result	Limit	
NTNV	RMC	12.2kbps RMC	1712.4	Refer To Test Graph	Pass	
			1732.6	Refer To Test Graph	Pass	
			1752.6	Refer To Test Graph	Pass	
	HSDPA	Subtest 1	1712.4	Refer To Test Graph	Pass	
			1732.6	Refer To Test Graph	Pass	
			1752.6	Refer To Test Graph	Pass	
	HSUPA	Subtest 1	1712.4	Refer To Test Graph	Pass	
			1732.6	Refer To Test Graph	Pass	
			1752.6	Refer To Test Graph	Pass	

6.2 Test Graph

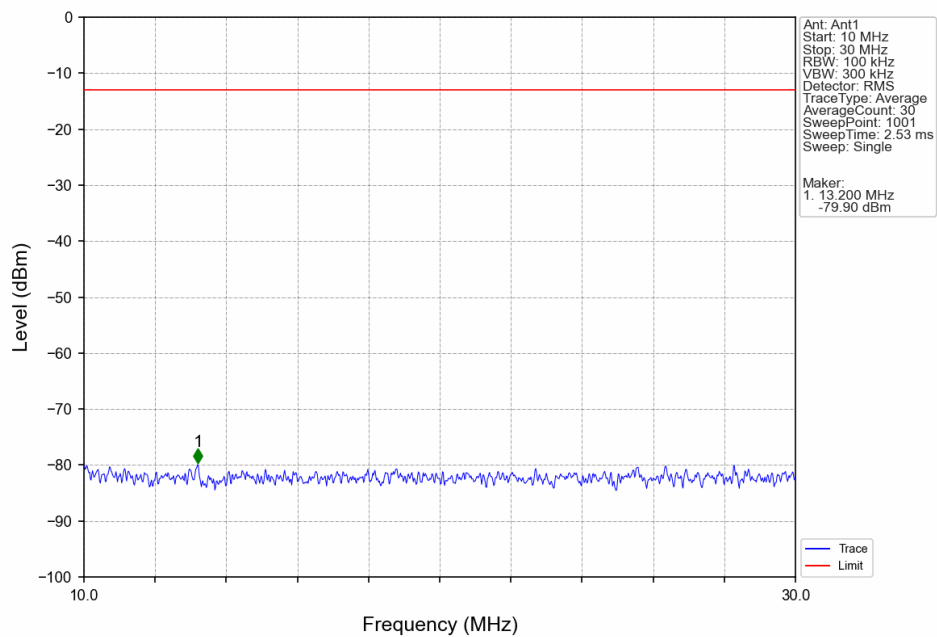
6.2.1 Band4



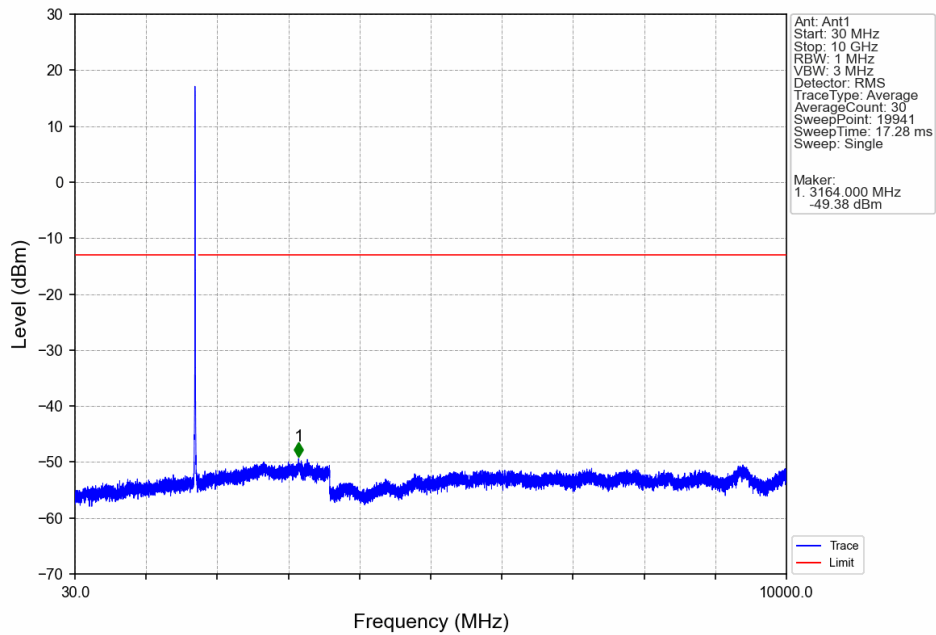
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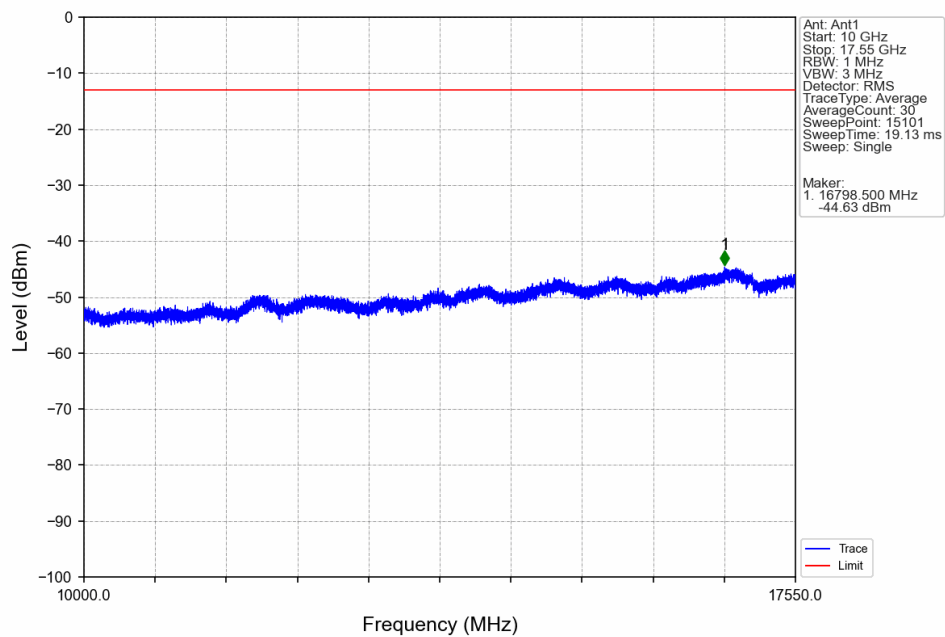
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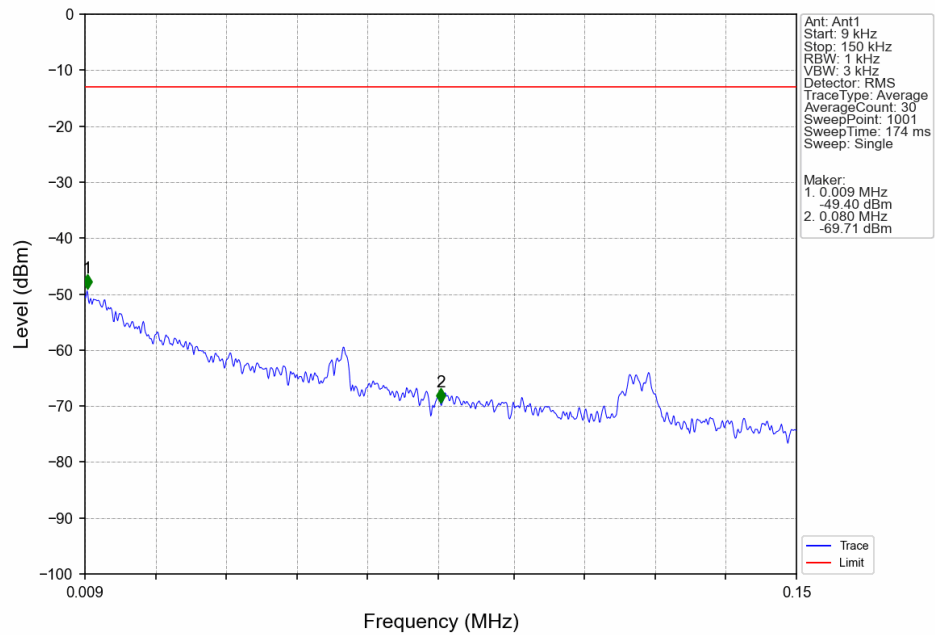
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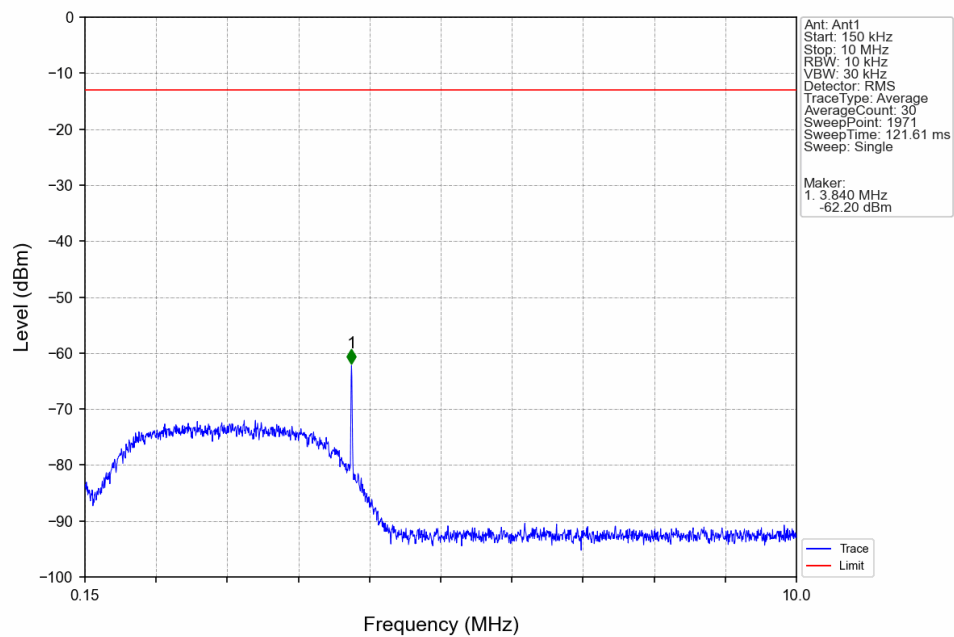
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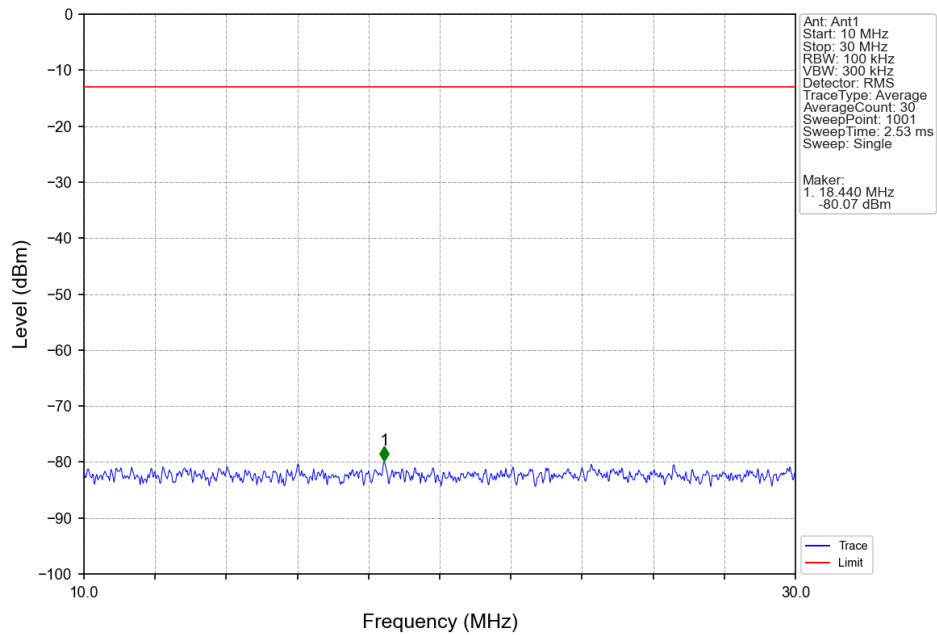
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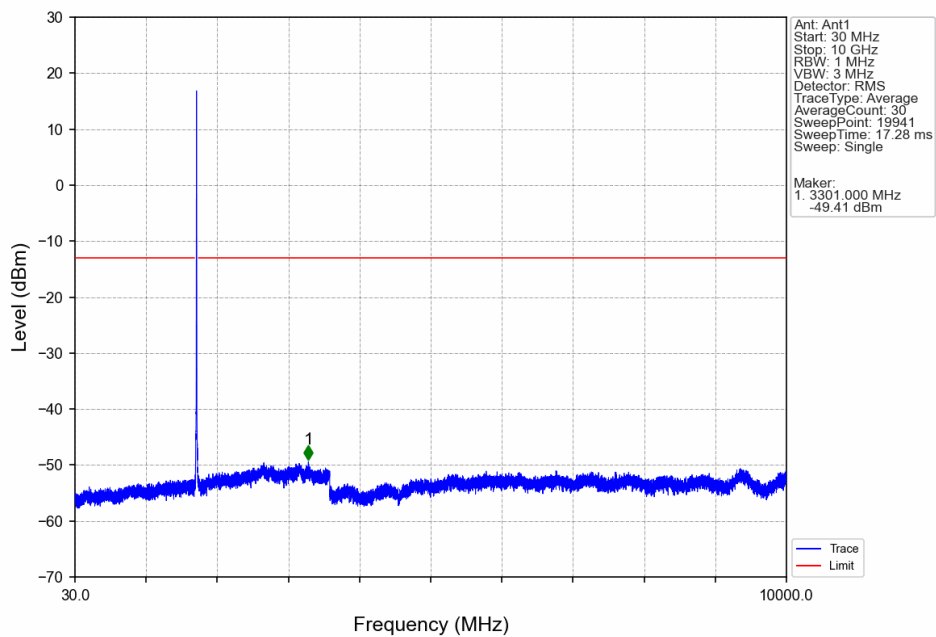
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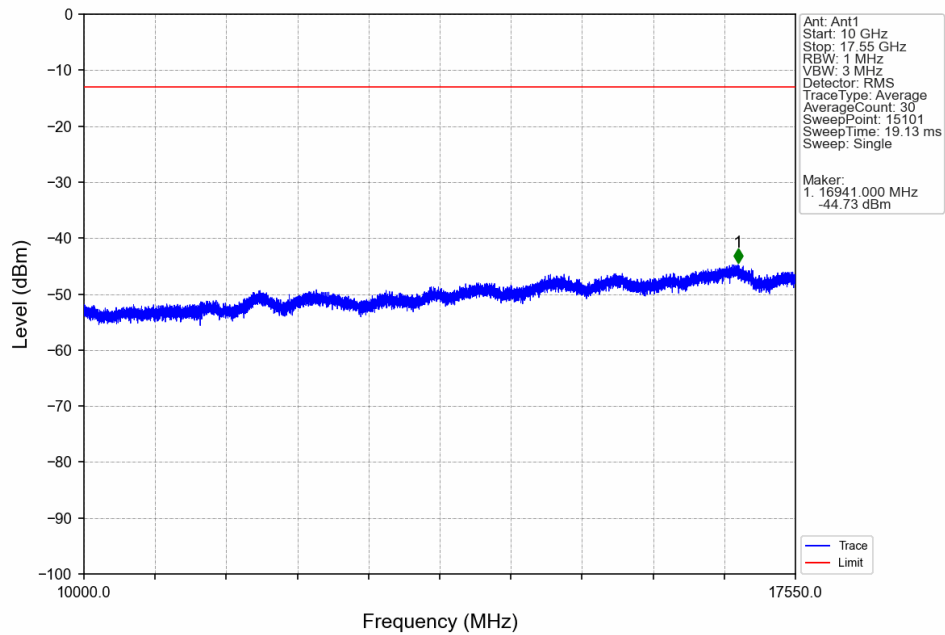
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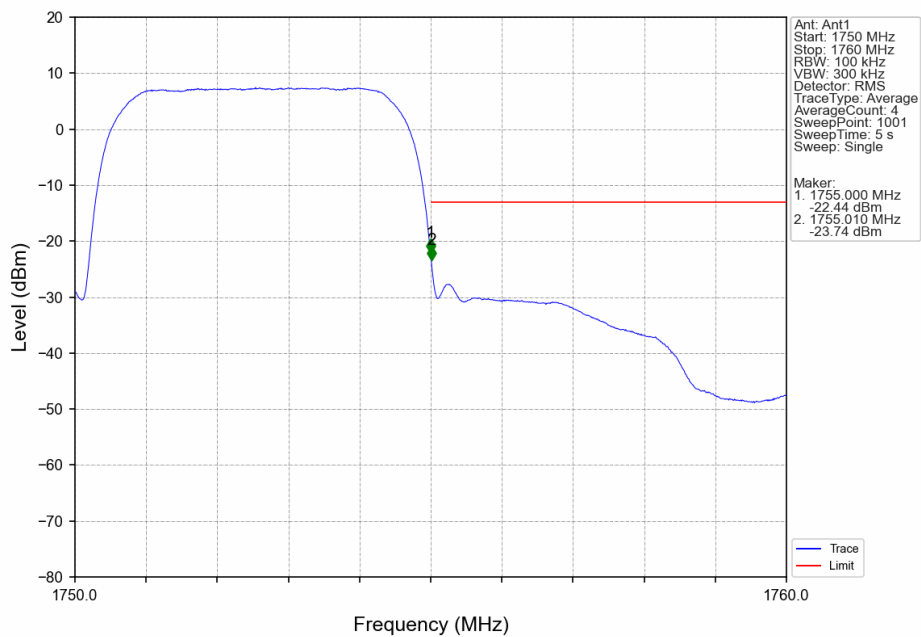
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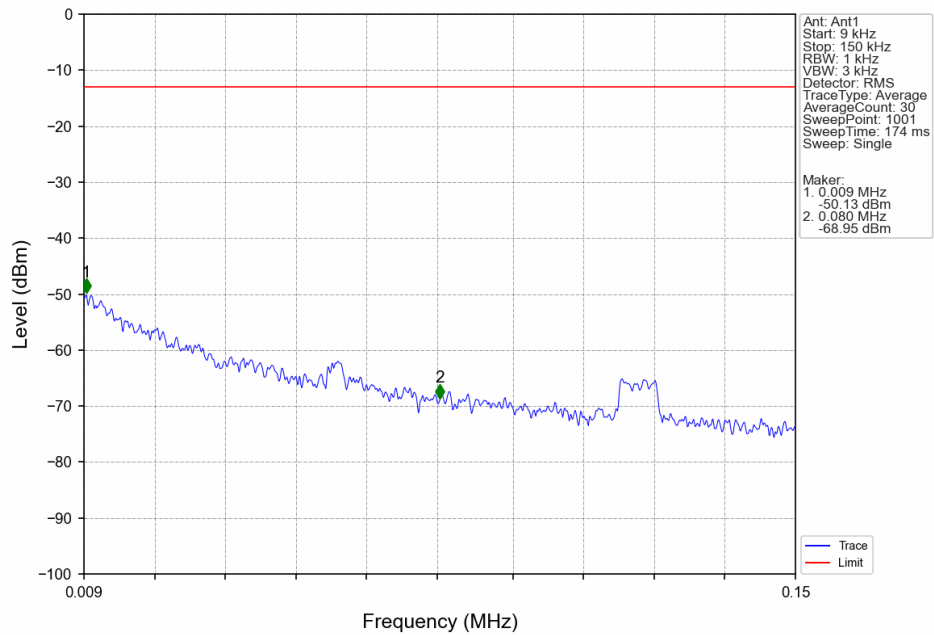
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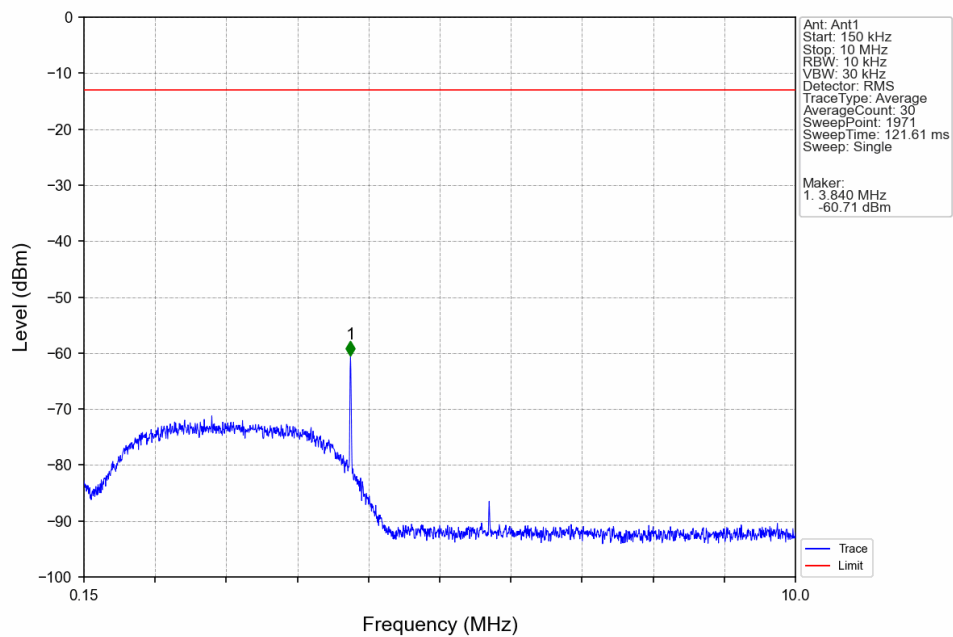
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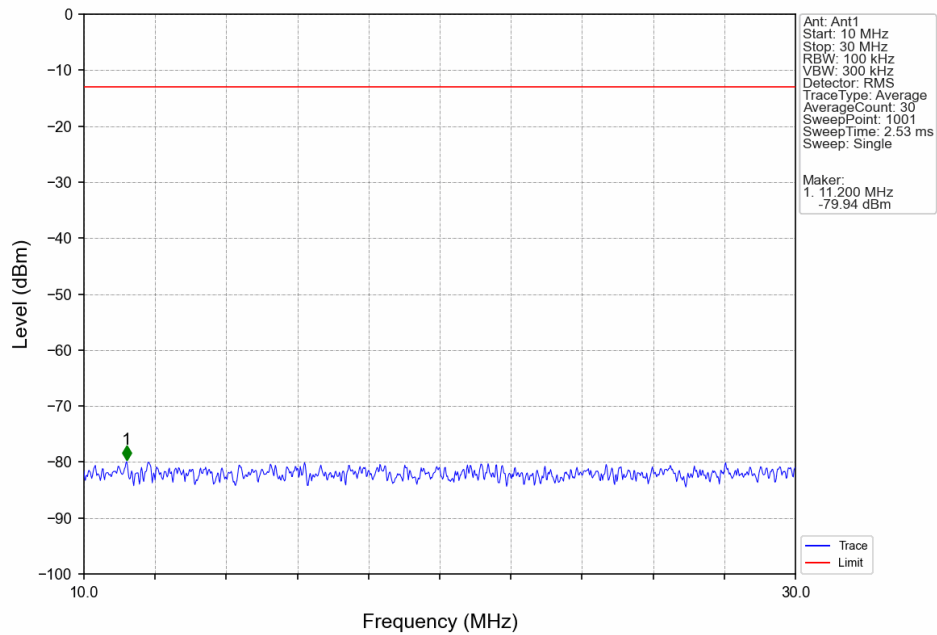
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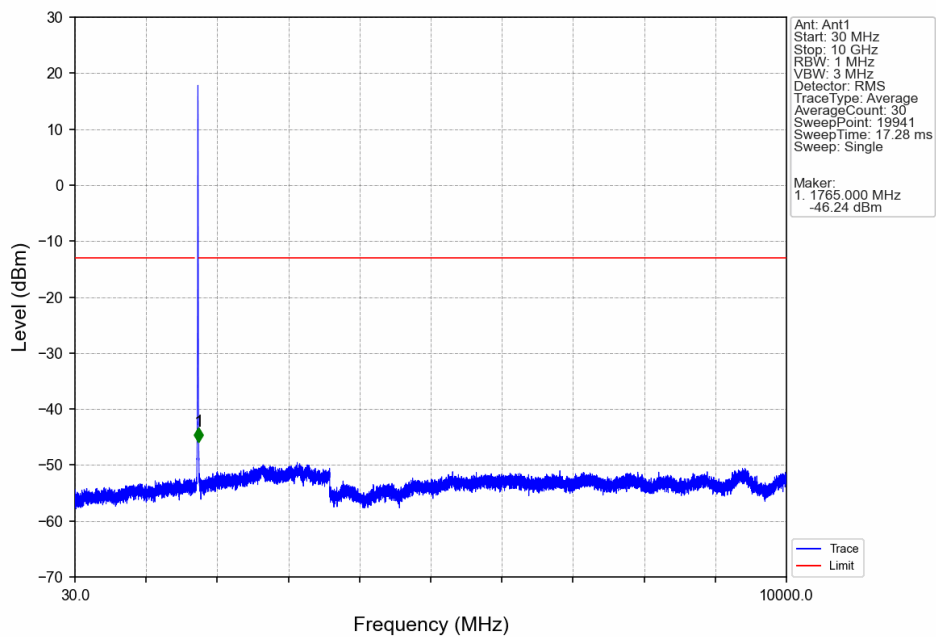
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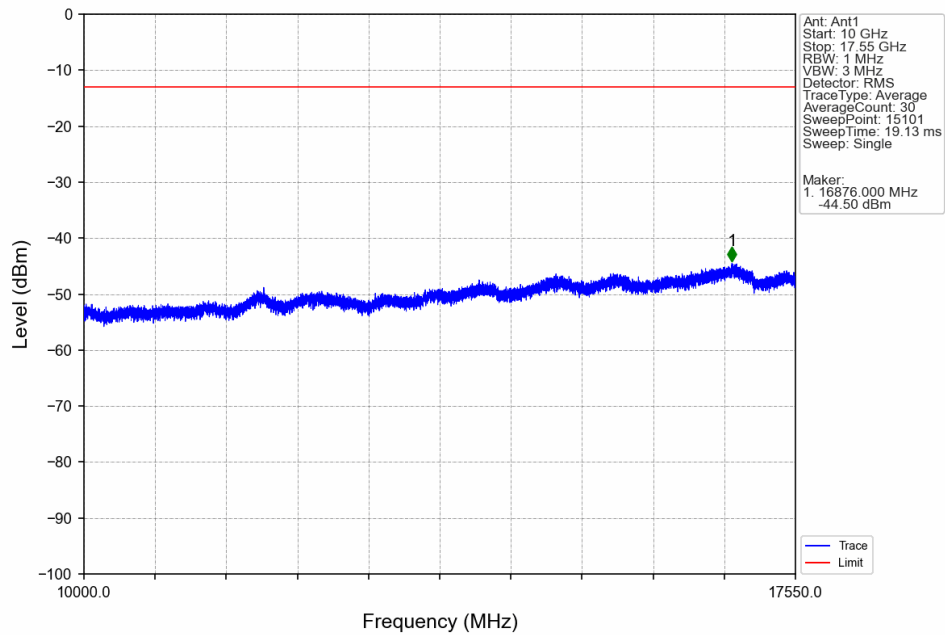
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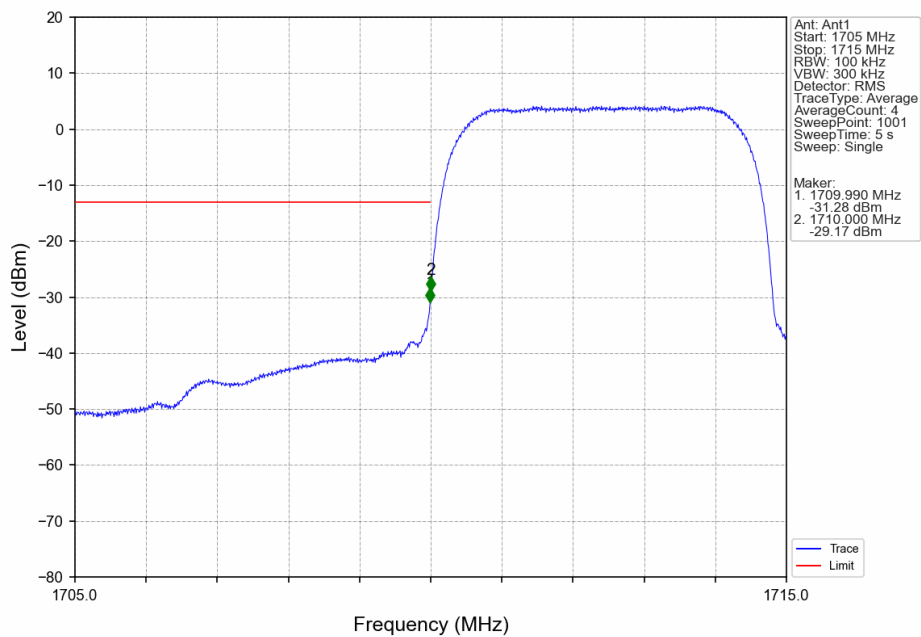
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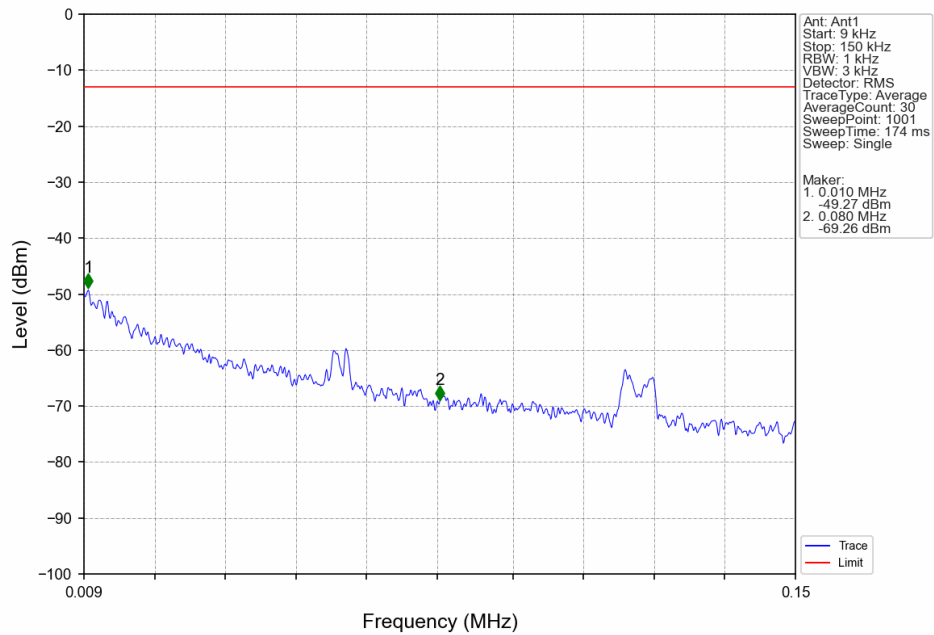
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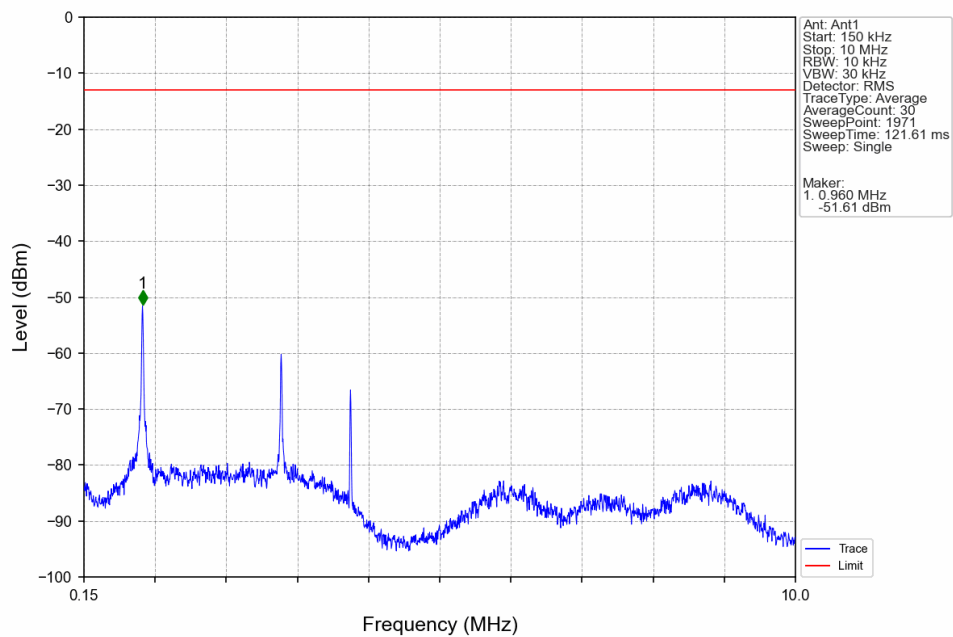
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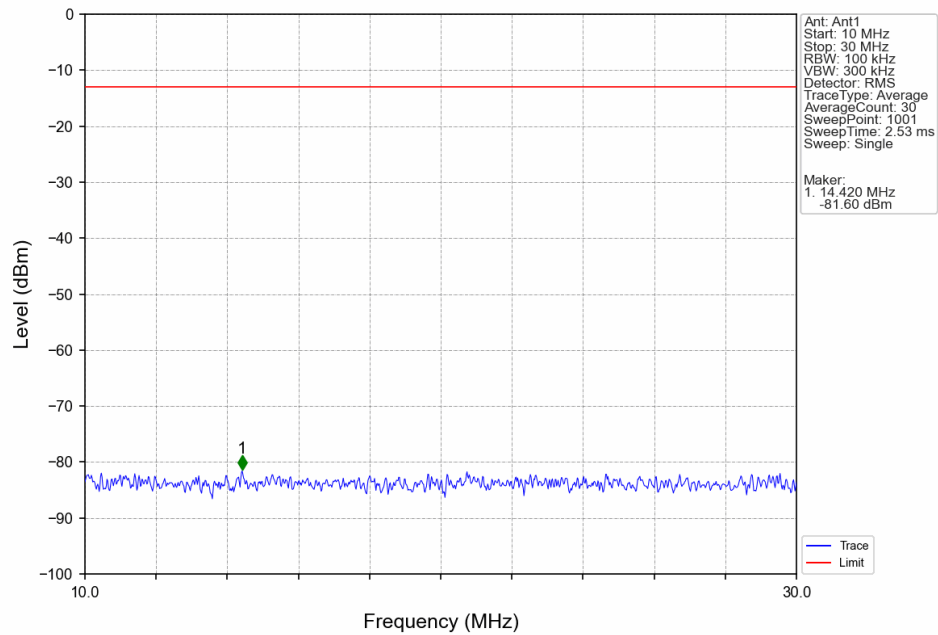
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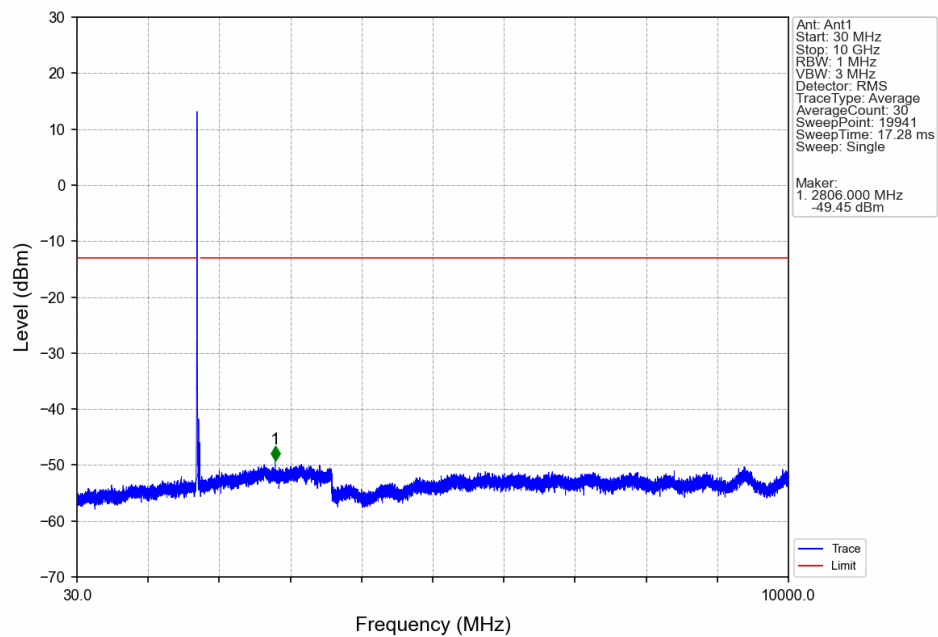
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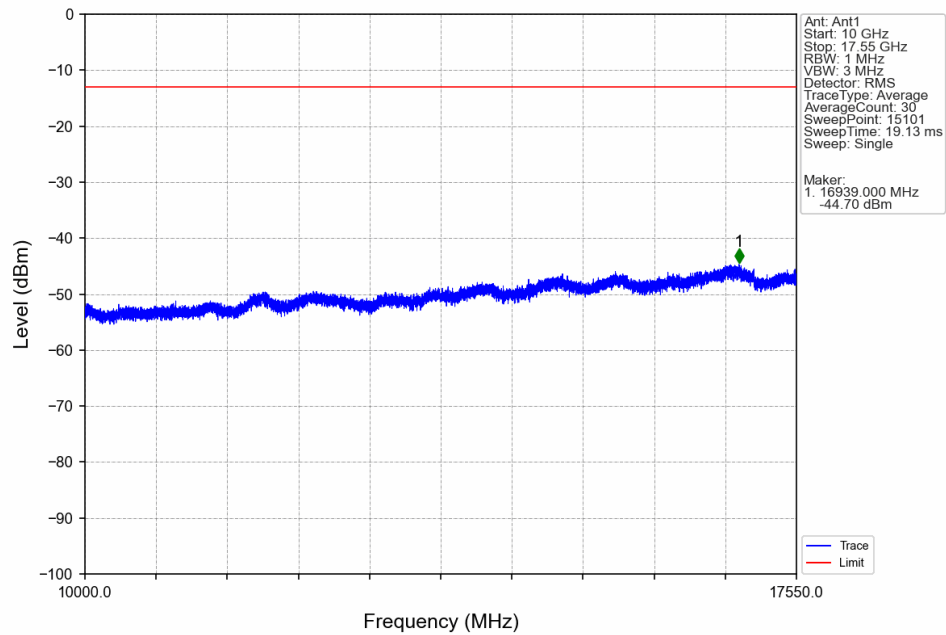
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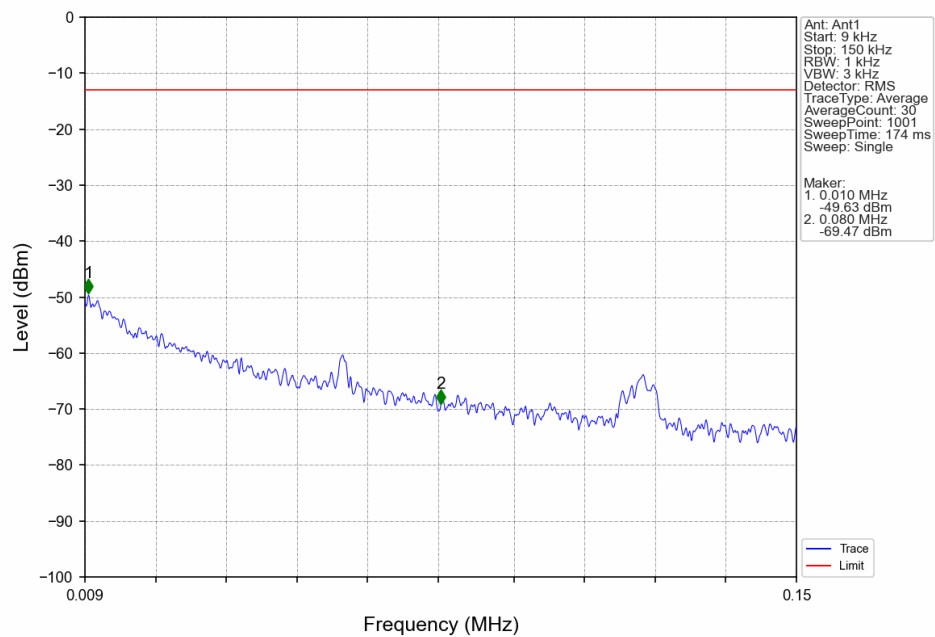
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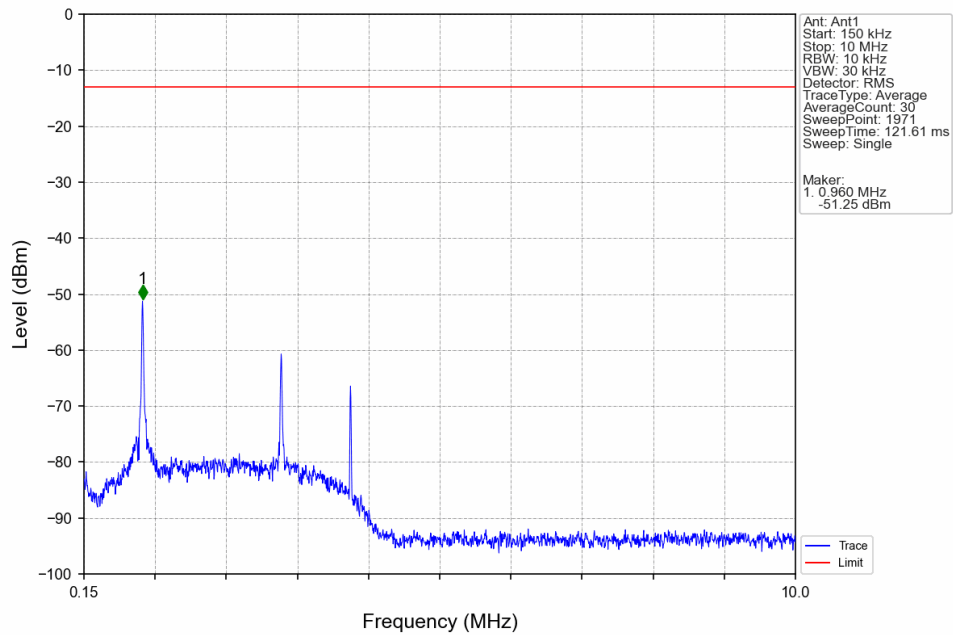
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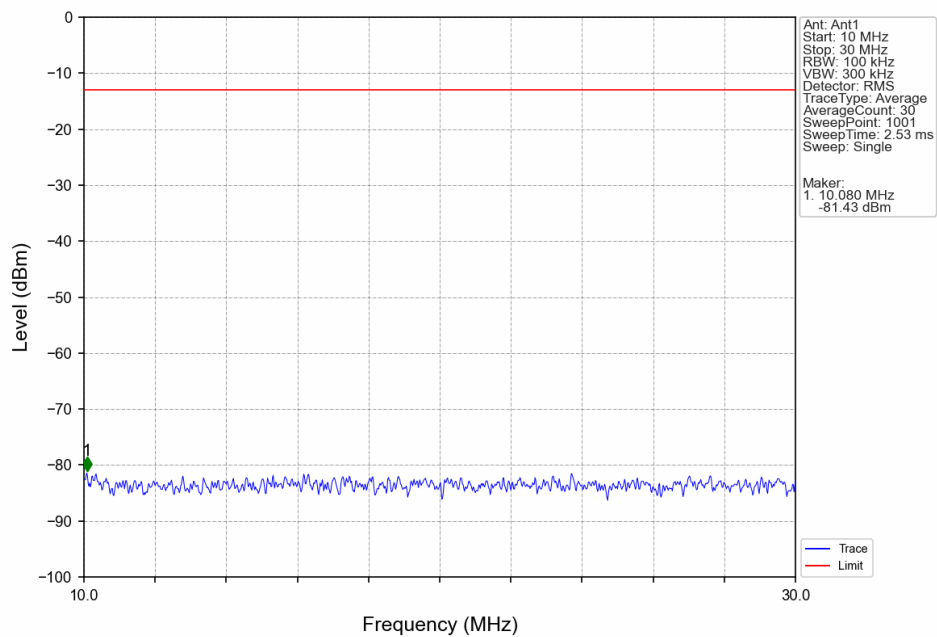
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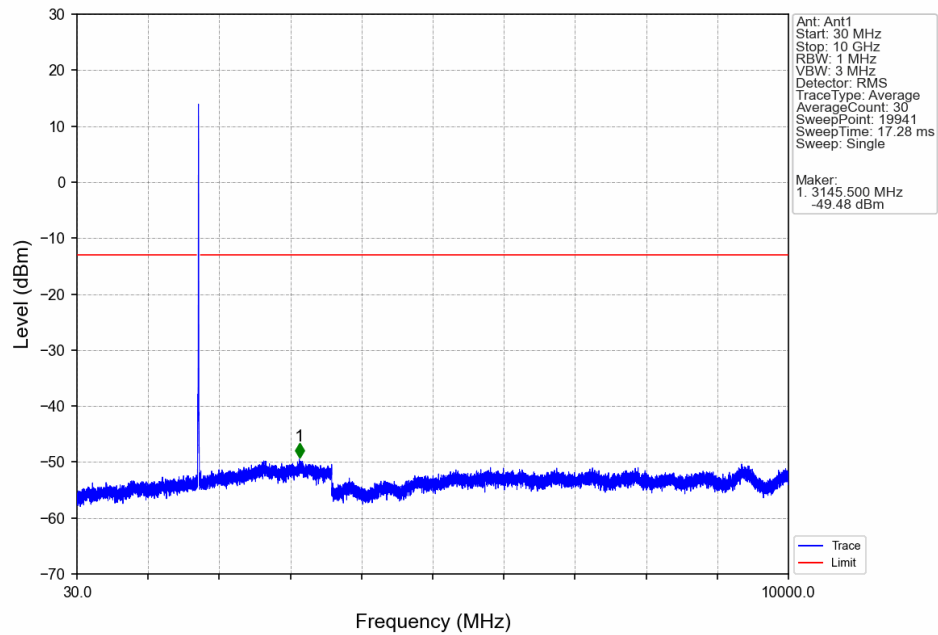
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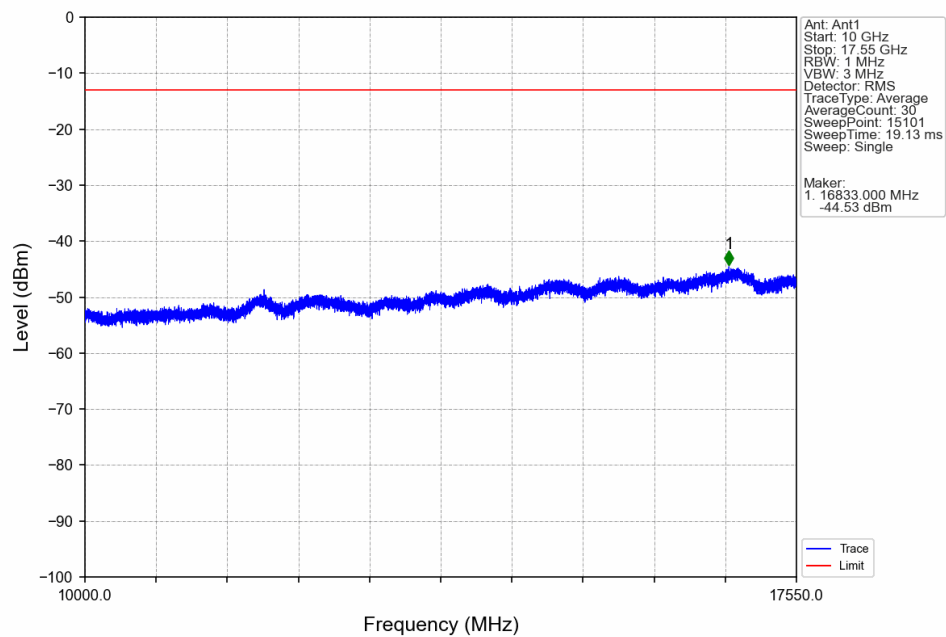
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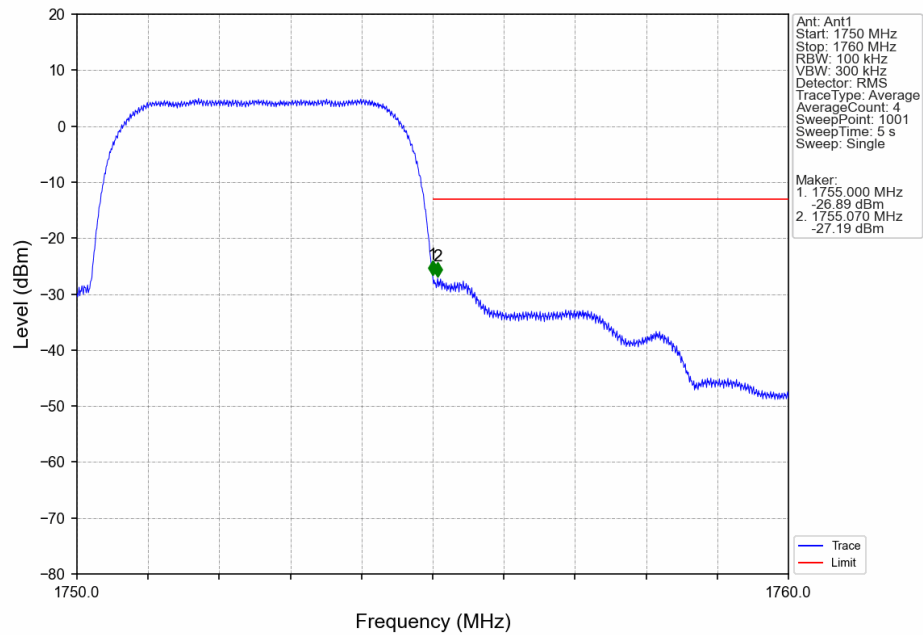
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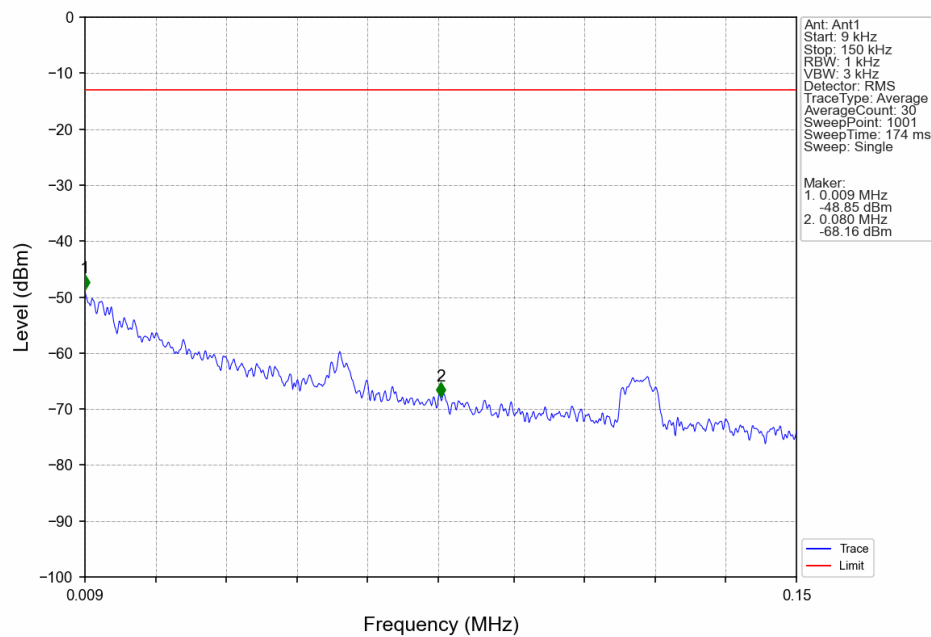
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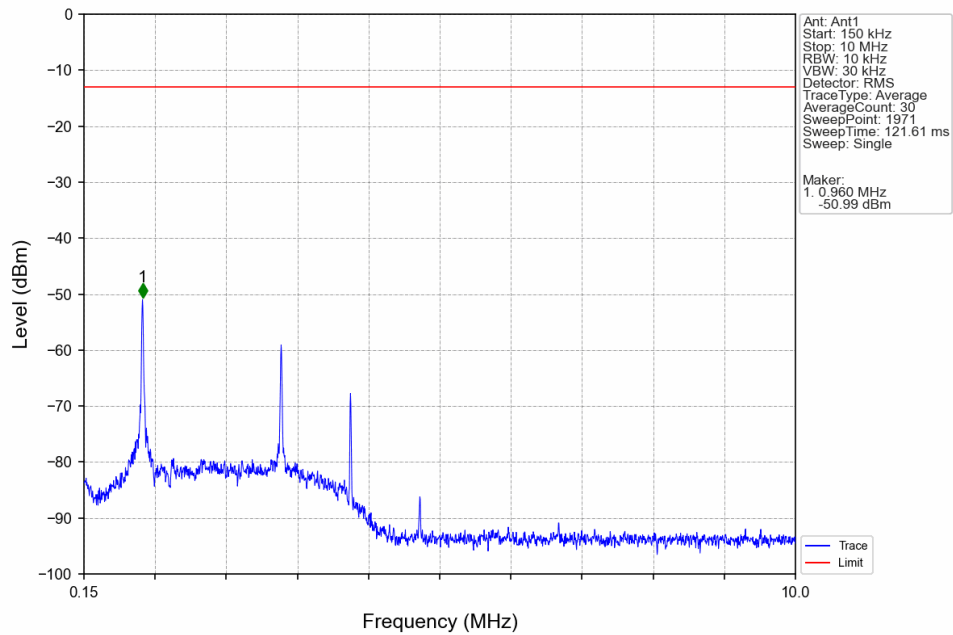
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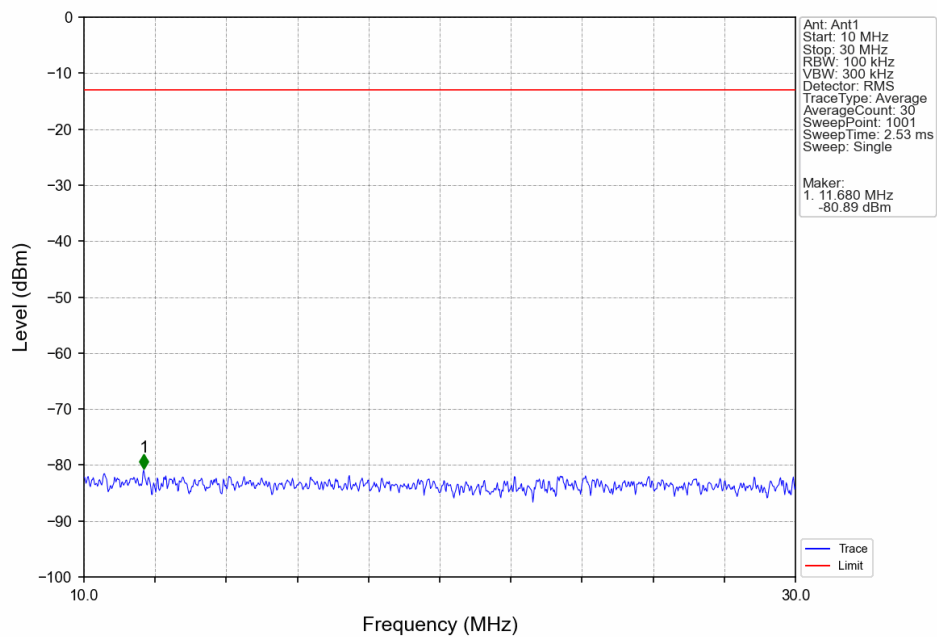
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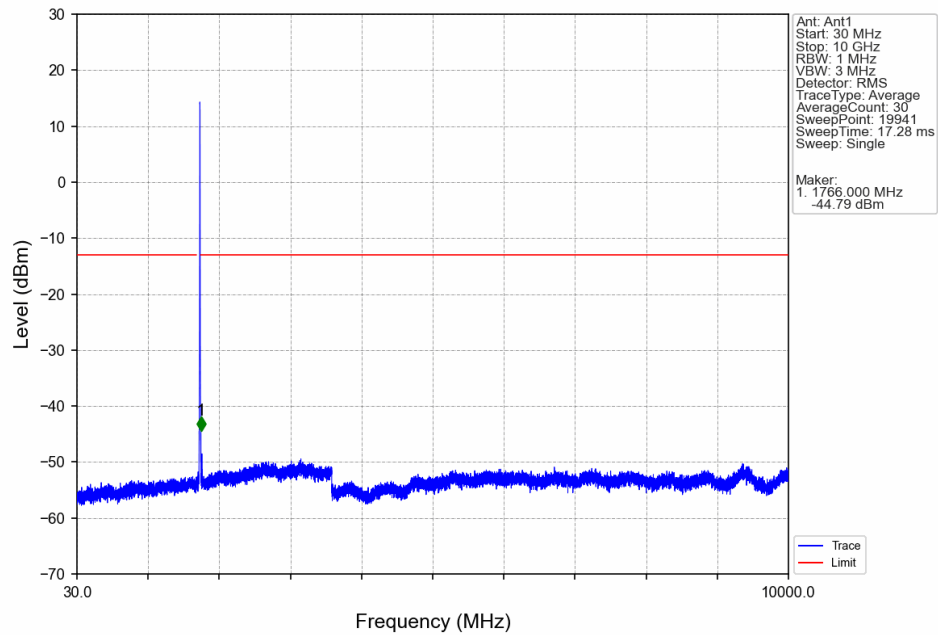
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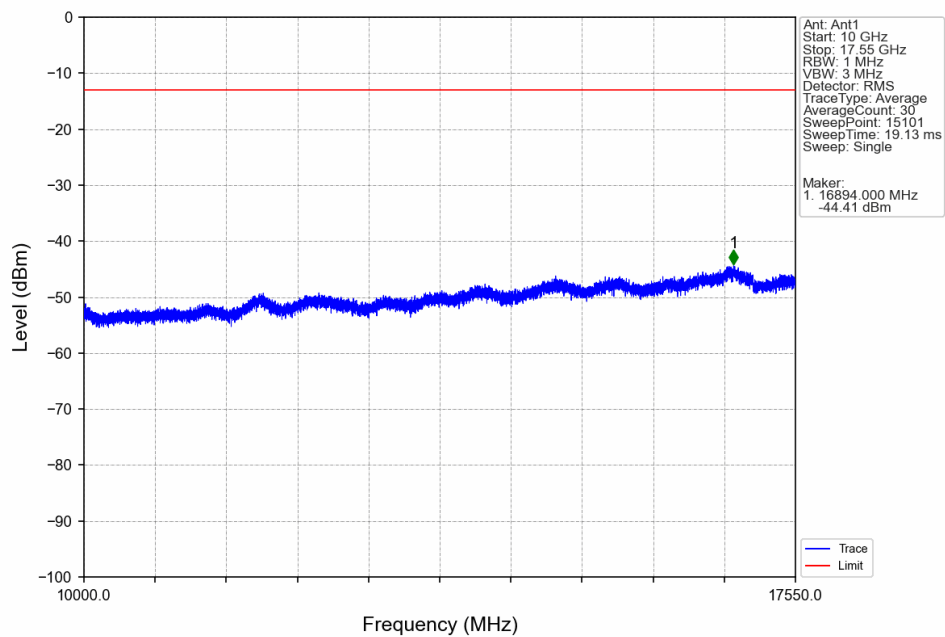
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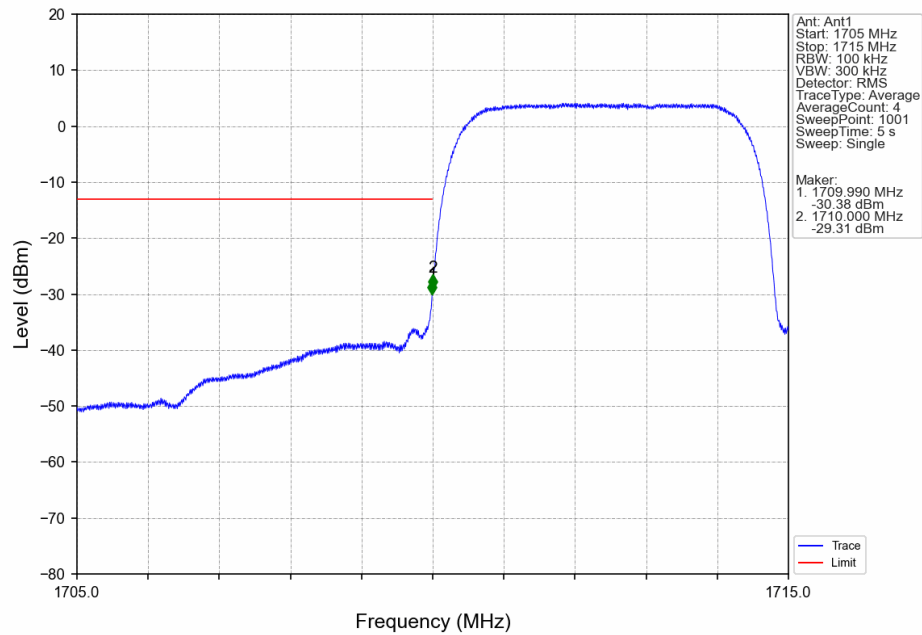
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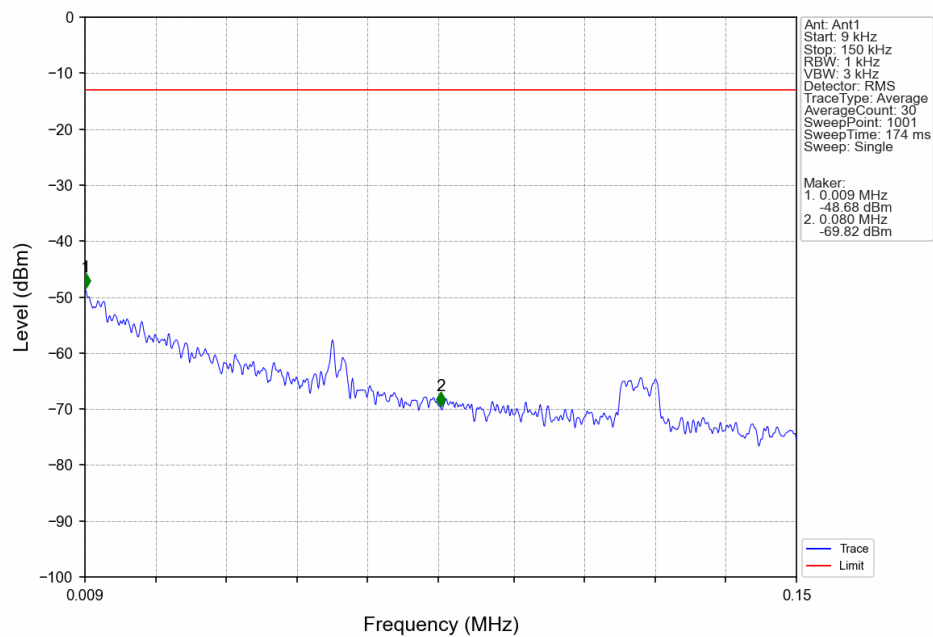
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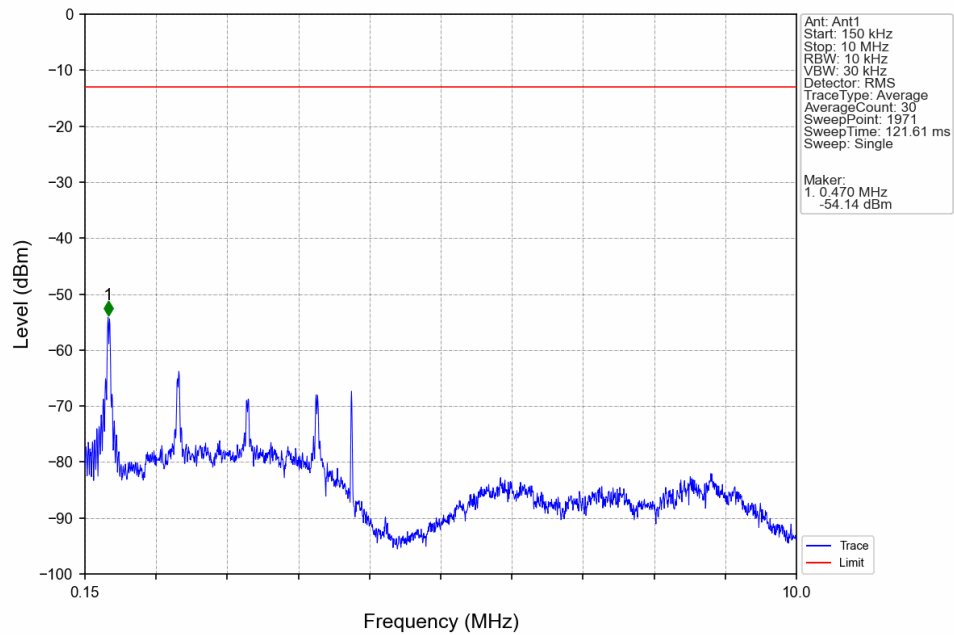
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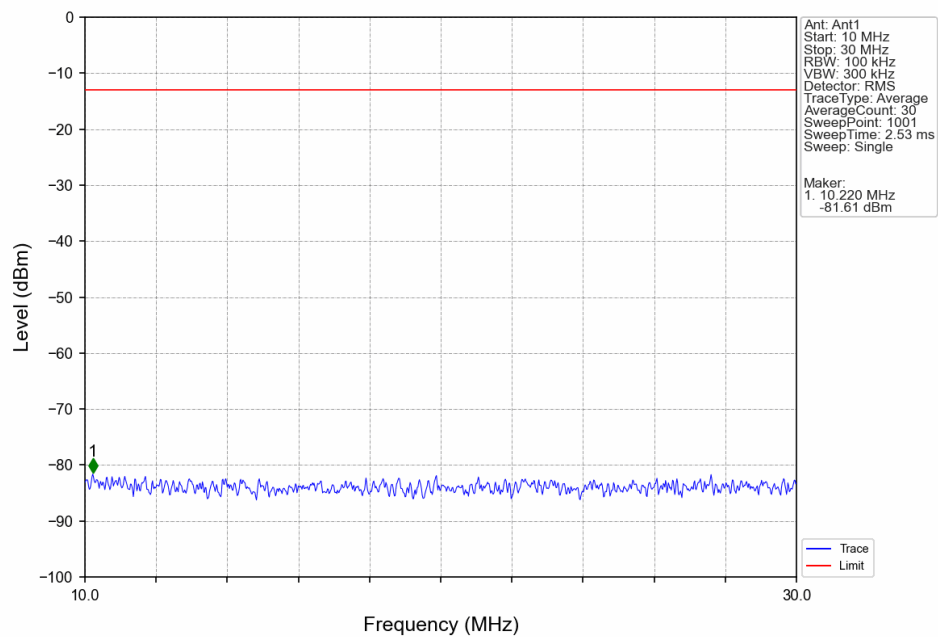
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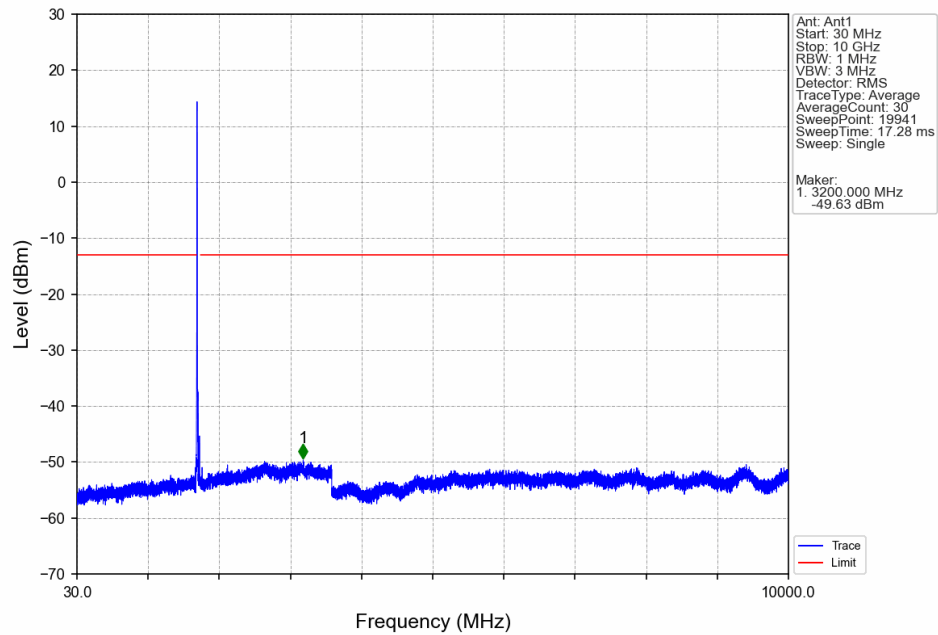
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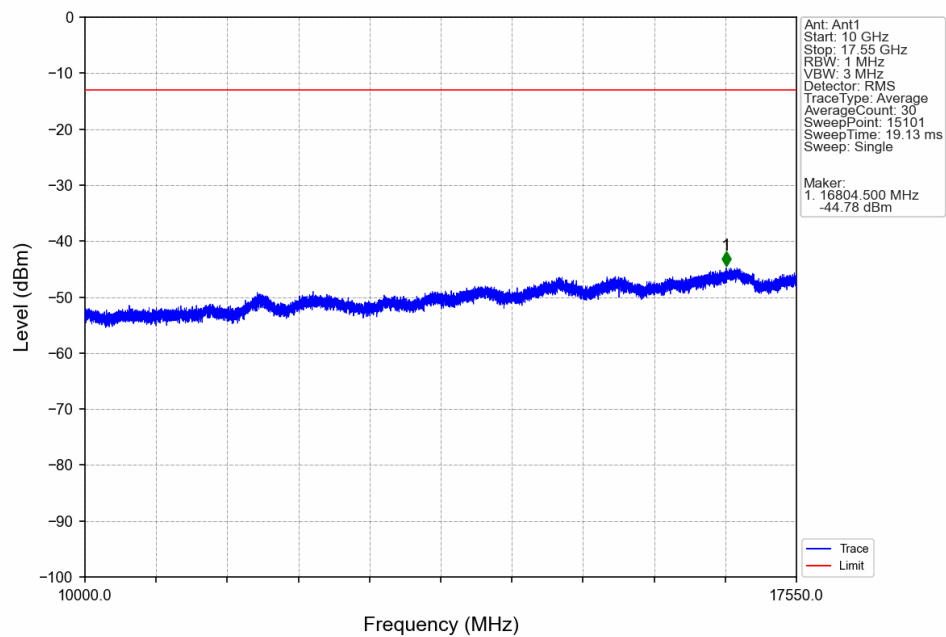
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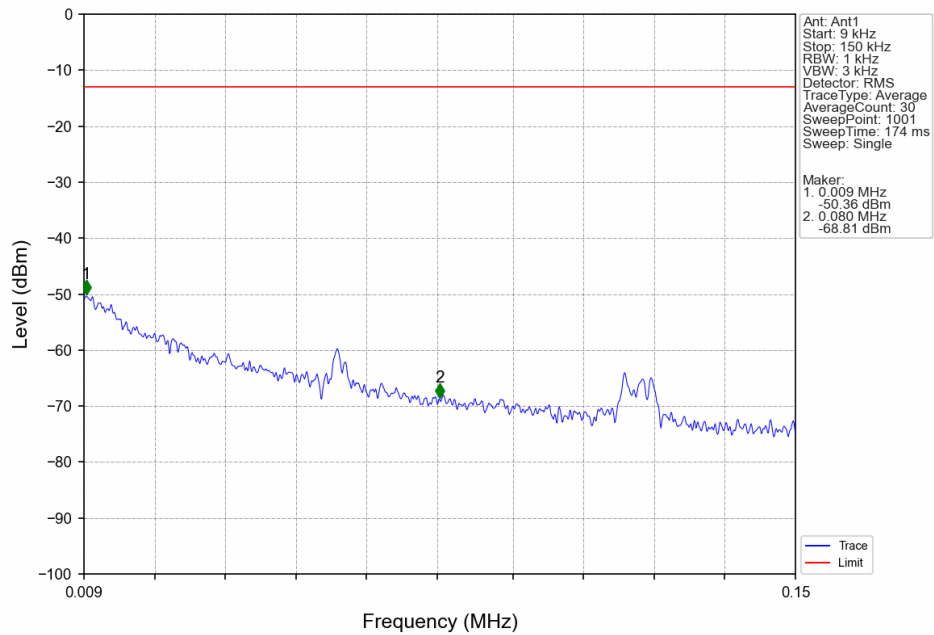
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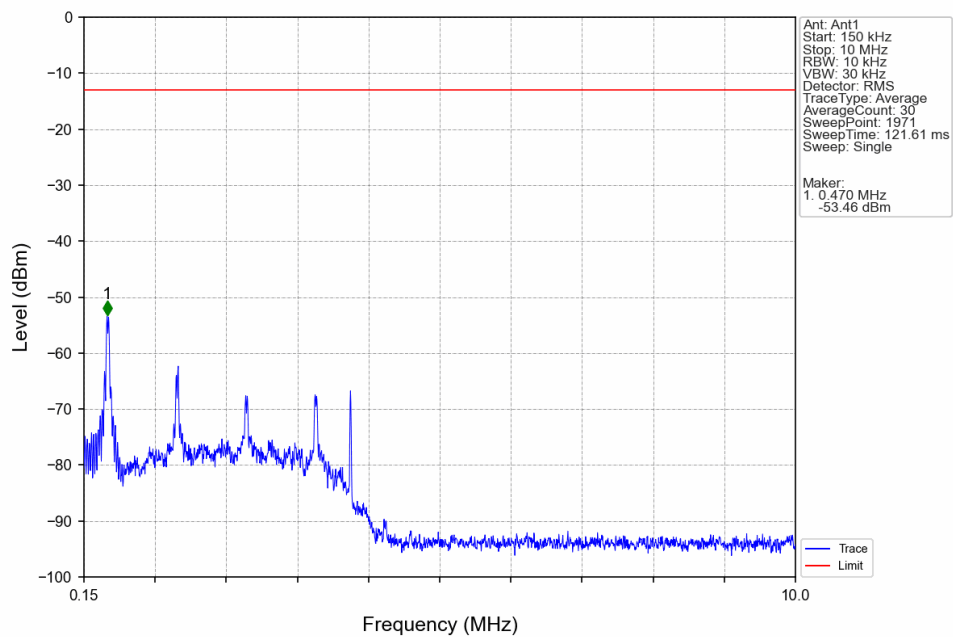
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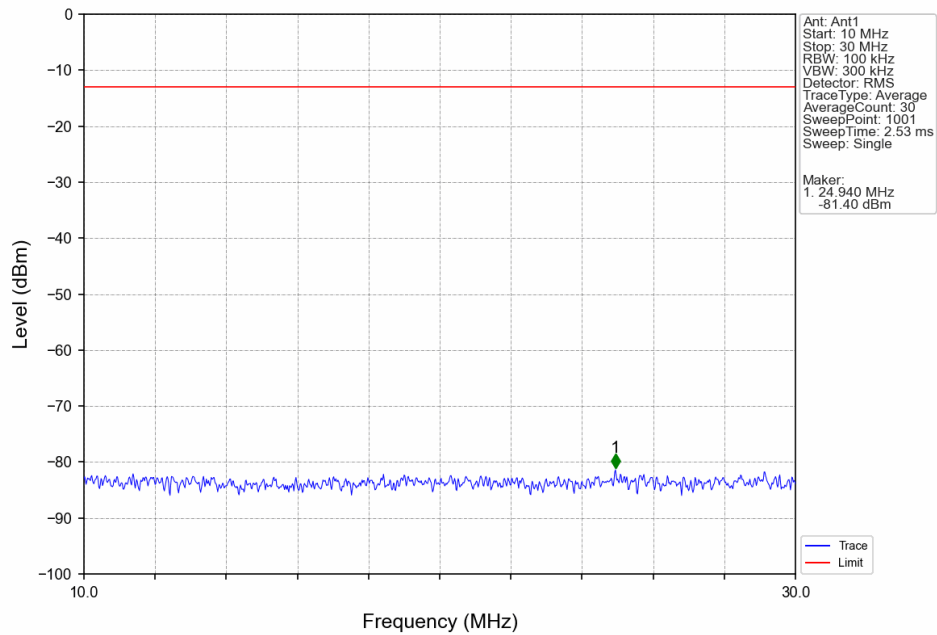
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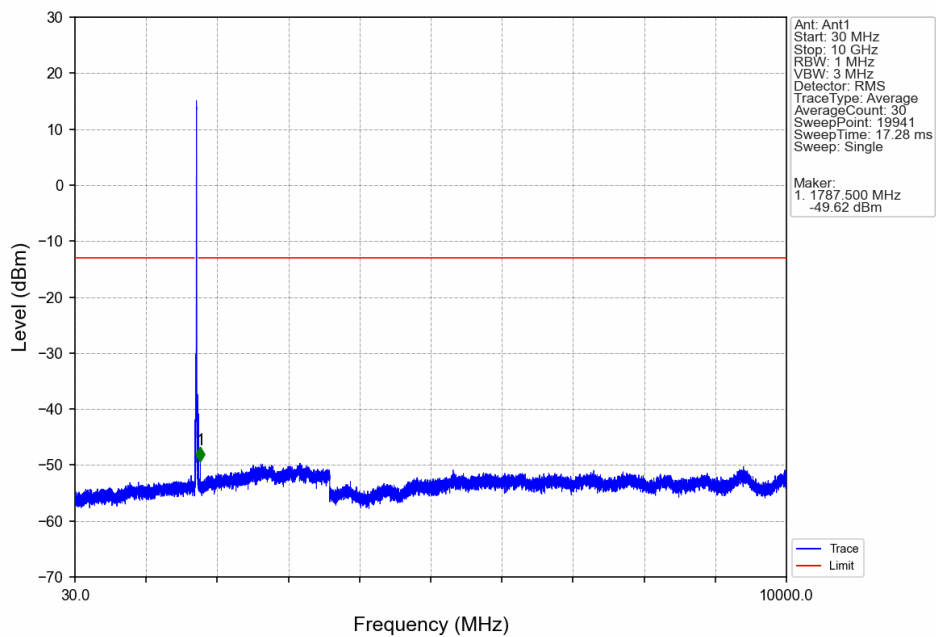
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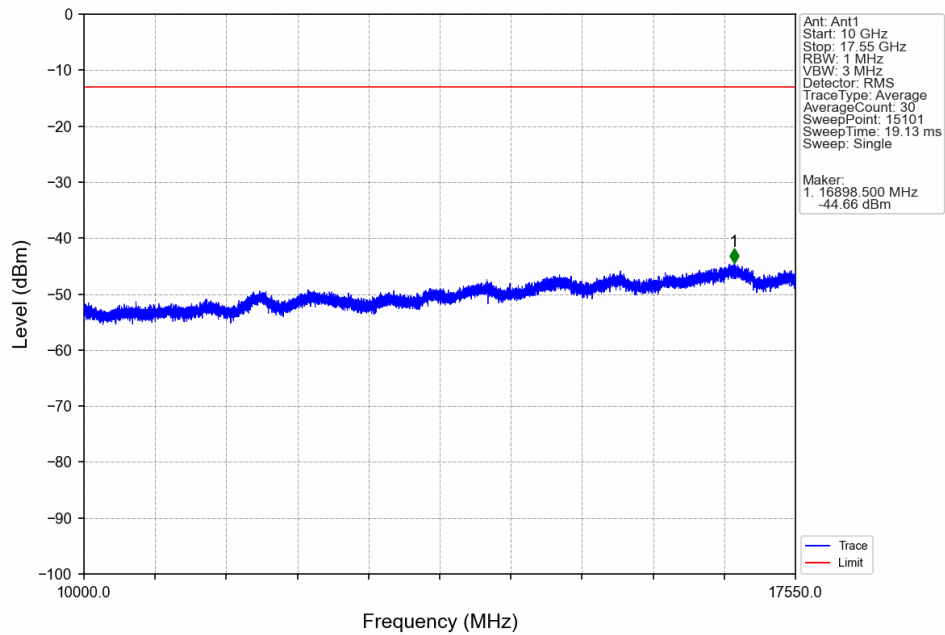
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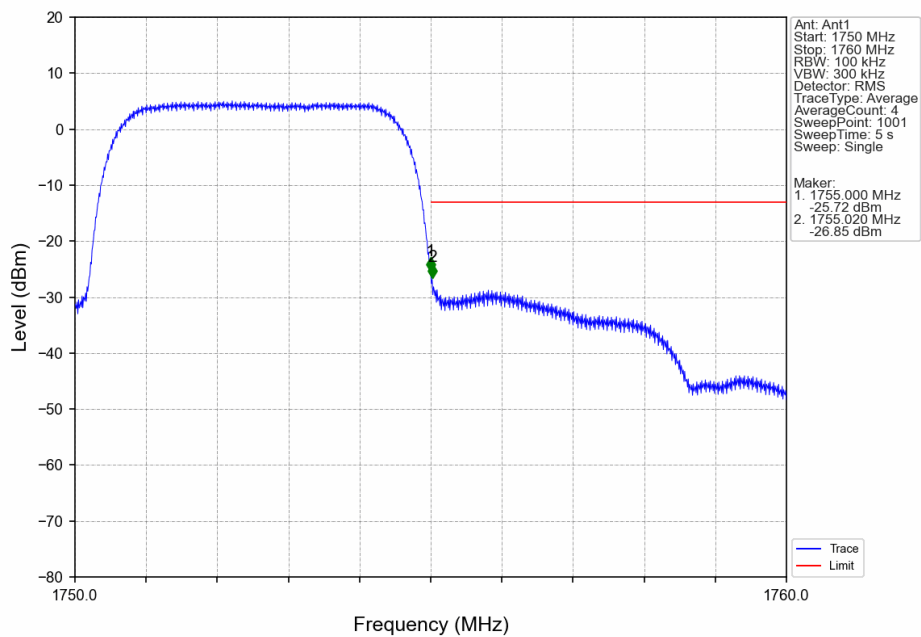
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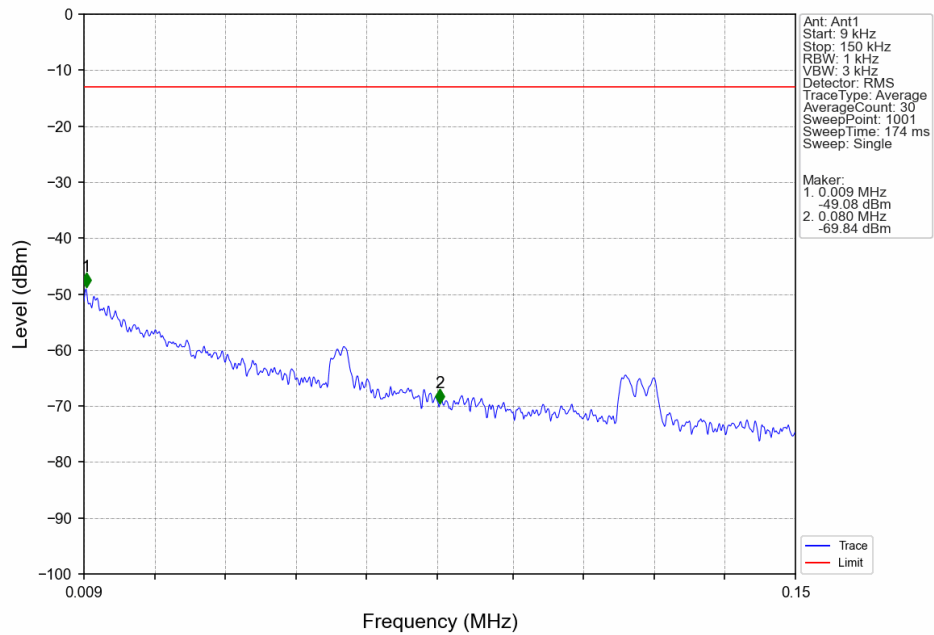
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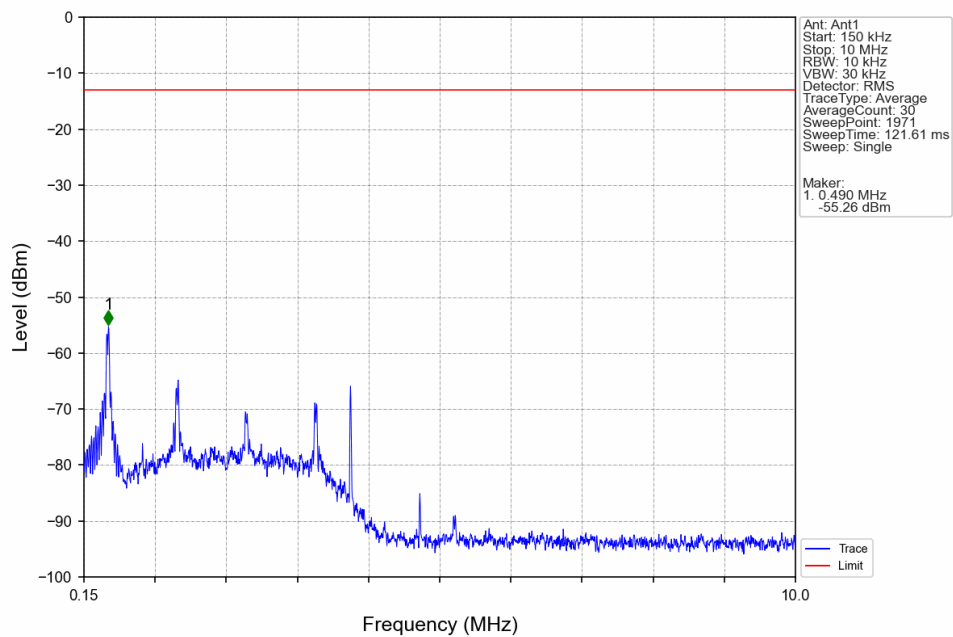
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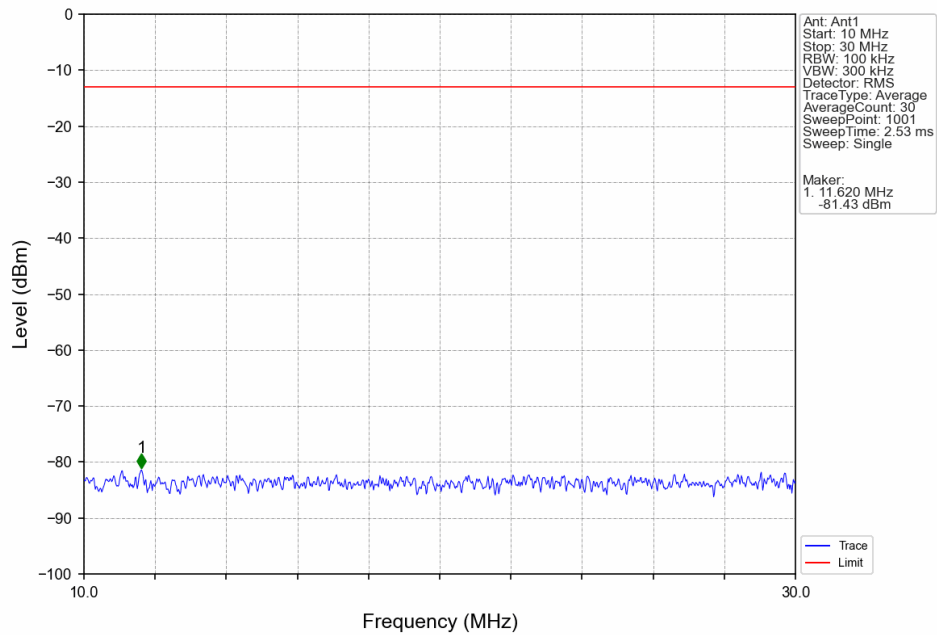
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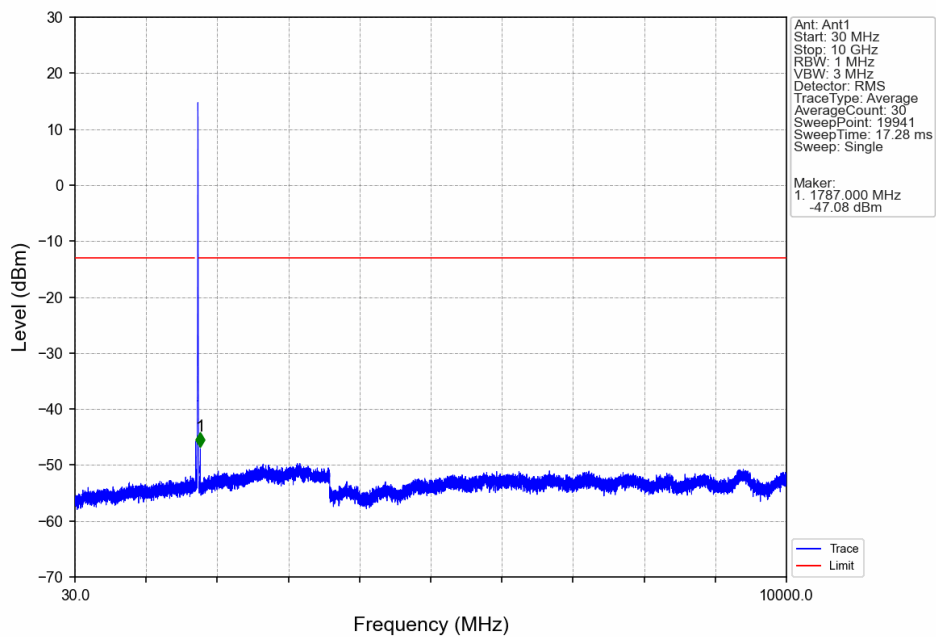
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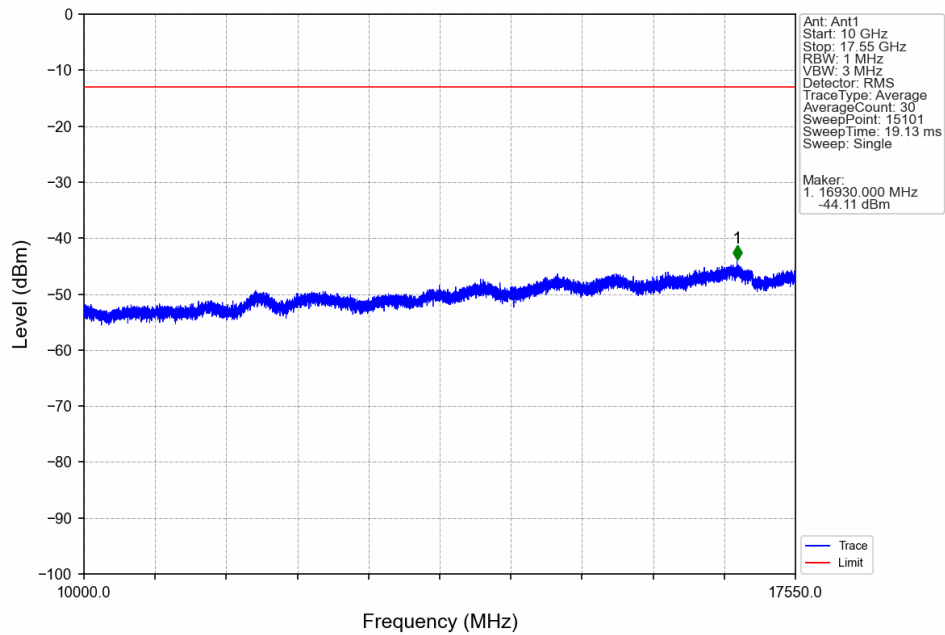
Band4 HSUPA HCH 1752.6MHz Subtest 1 NTNV



Band4 HSUPA HCH 1752.6MHz Subtest 1 NTNV



Band4 HSUPA HCH 1752.6MHz Subtest 1 NTN



7. Form731

7.1 Test Result

7.1.1 Form731_Power

Band	BW	Lower Freq	High Freq	MAX Power (W)	Value	Hz/ppm	Emission Designator	Rule Parts	MAX Power (dBm)
4	3.84	1712.4	1752.6	0.1722	0.0106	ppm	4M18F9W	27L	22.36

7.1.2 Form731_EIRP

Band	BW	Lower Freq	High Freq	MAX Power (W)	Value	Hz/ppm	Emission Designator	Rule Parts	MAX Power (dBm)
4	3.84	1712.4	1752.6	0.2032	0.0106	ppm	4M18F9W	27L	23.08