

Annex. B Maximum Power Density

B.1 RF Exposure Limit Introduction

According to NCC LP0002, the criteria listed in Table shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in §5.20.2.1 and §5.20.2.2.

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f ²)	6
30-300	61.4	0.163	1.0	6
300-1500			f/300	6
1500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f ²)	30
30-300	27.5	0.073	0.2	30
300-1500			f/1500	30
1500-100,000			1.0	30

The MPE was calculated at 20 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

$$S = \frac{PG}{4\pi R^2}$$

Where:

S = Power Density

P = Output Power at Antenna Terminals

G = Gain of Transmit Antenna (linear gain)

R = Distance from Transmitting Antenna

B.2 Standalone Power Density Calculation

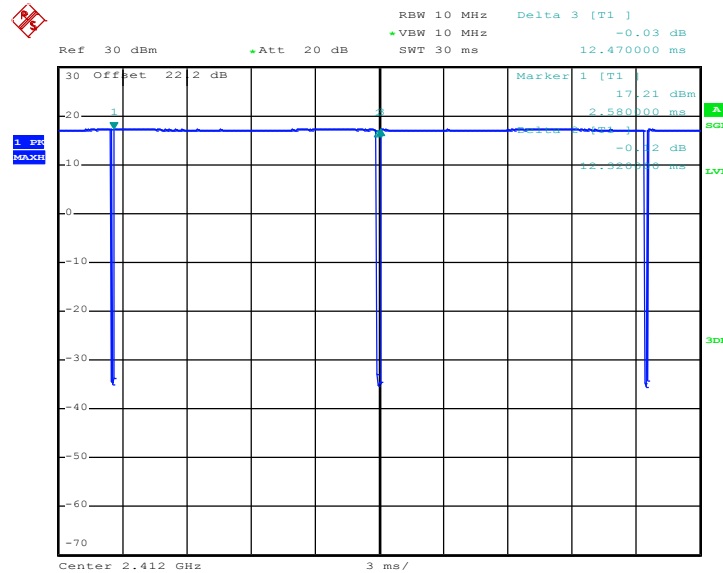
Maximum Power Density				
Max. Power	Gain	EIRP	20 cm PSD	Limit
16.72	2	18.72	0.0148	1
dBm	dBi	dBm	mW/cm ²	mW/cm ²

Appendix D. Duty Cycle Plots

Antenna	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting	Duty Factor(dB)
1	802.11b	98.80	-	-	10Hz	0.05
2	802.11b	98.64	-	-	10Hz	0.06
1+2	802.11b for Ant. 1	98.20	-	-	10Hz	0.08
1+2	802.11b for Ant. 2	98.83	-	-	10Hz	0.05
1	802.11g	98.56	-	-	10Hz	0.06
2	802.11g	98.09	-	-	10Hz	0.08
1+2	802.11g for Ant. 1	98.33	-	-	10Hz	0.07
1+2	802.11g for Ant. 2	98.33	-	-	10Hz	0.07
1	2.4GHz 802.11n HT20	98.20	-	-	10Hz	0.08
2	2.4GHz 802.11n HT20	98.45	-	-	10Hz	0.07
1+2	2.4GHz 802.11n HT20 for Ant. 1	97.70	1910.00	0.52	1kHz	0.10
1+2	2.4GHz 802.11n HT20 for Ant. 2	97.70	1910.00	0.52	1kHz	0.10
1	2.4GHz 802.11n HT40	95.88	930.00	1.08	3kHz	0.18
2	2.4GHz 802.11n HT40	95.85	925.00	1.08	3kHz	0.18
1+2	2.4GHz 802.11n HT40 for Ant. 1	95.41	935.00	1.07	3kHz	0.20
1+2	2.4GHz 802.11n HT40 for Ant. 2	95.88	930.00	1.08	3kHz	0.18

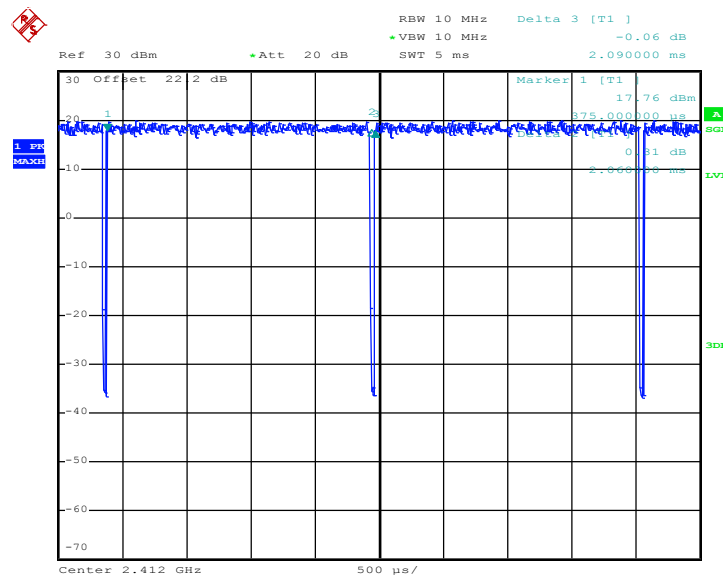
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802.11b



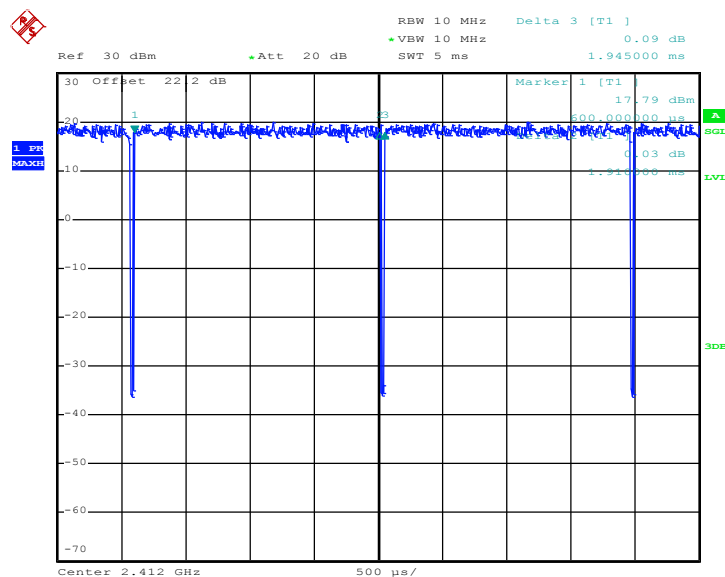
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802.11g



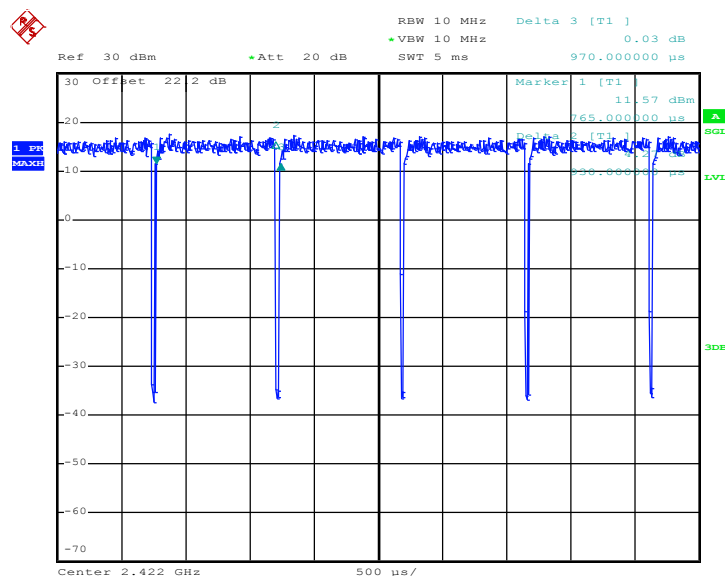
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802.11n HT20



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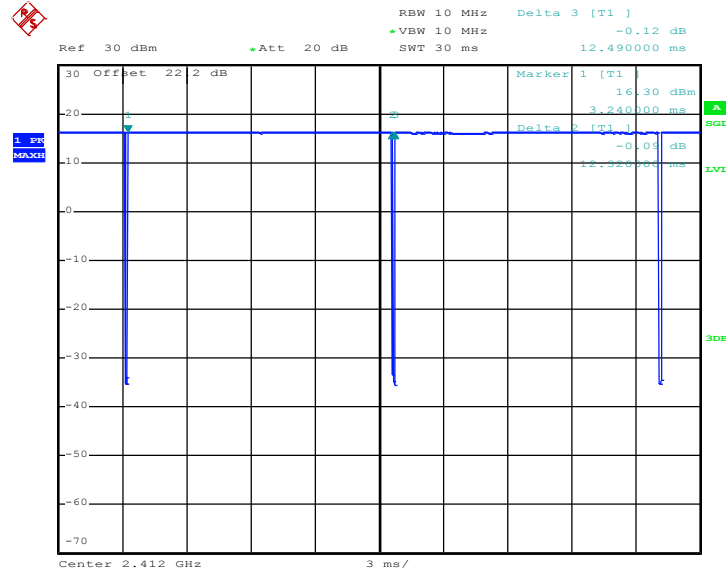
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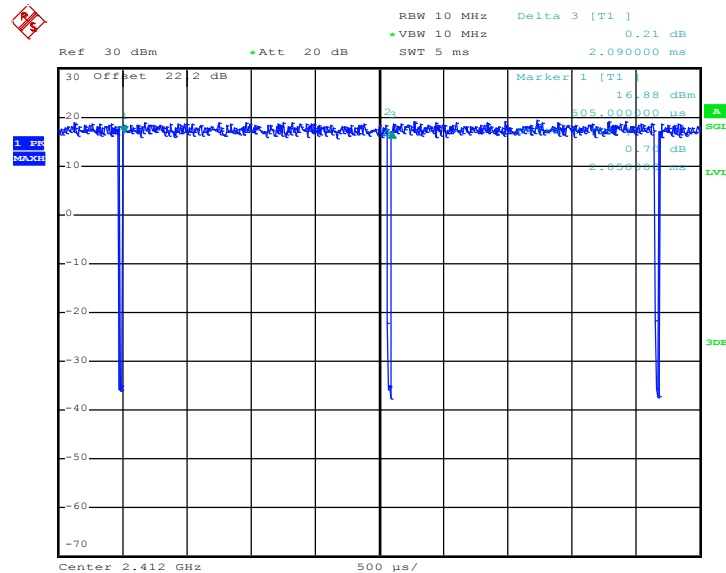
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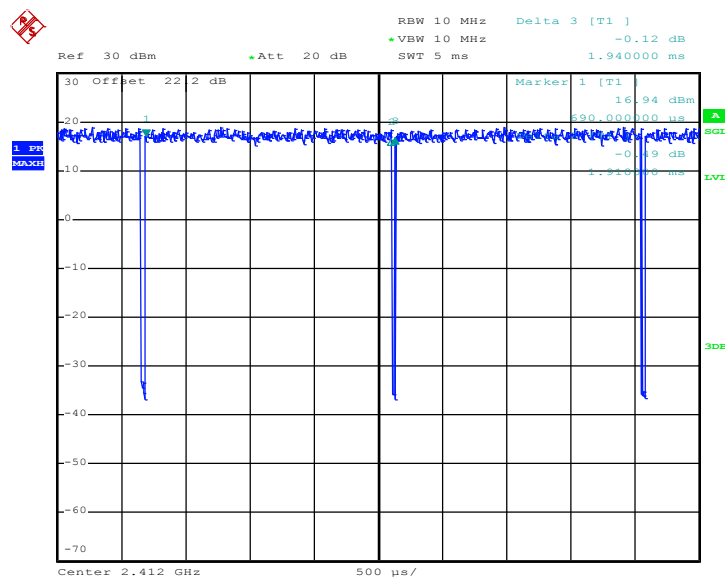
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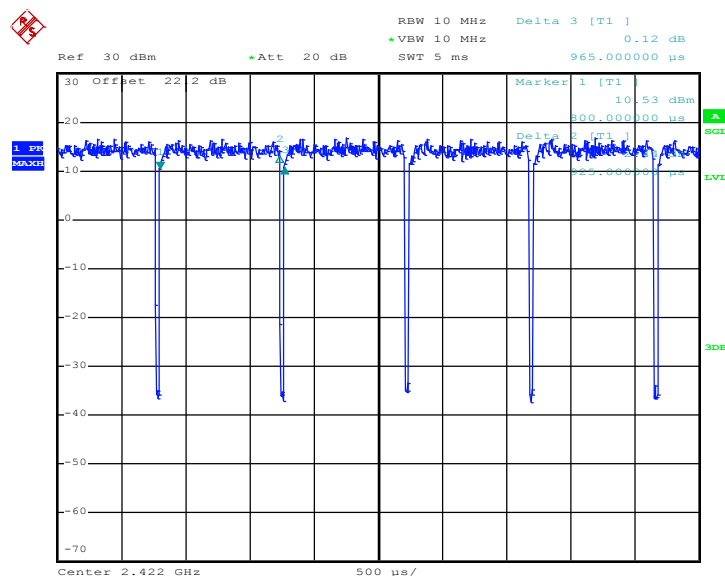
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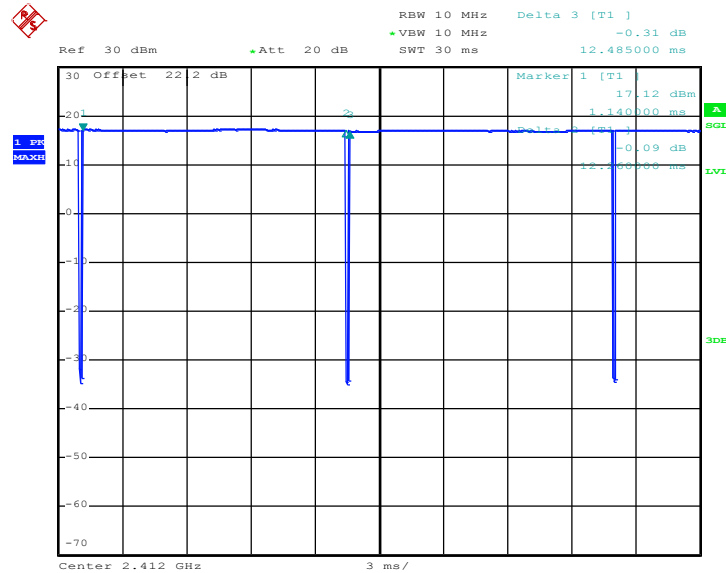
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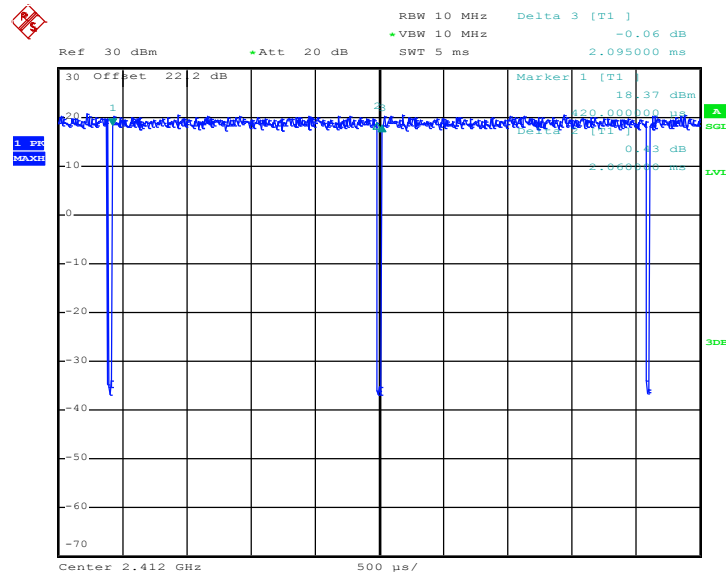
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802.11b



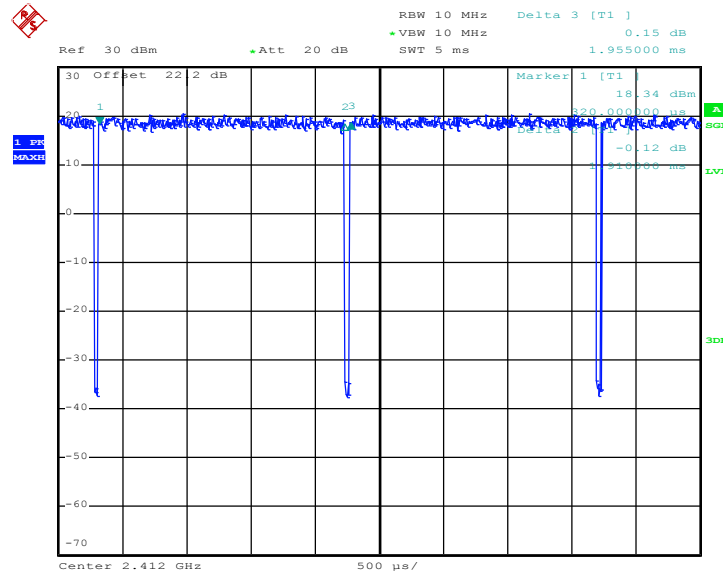
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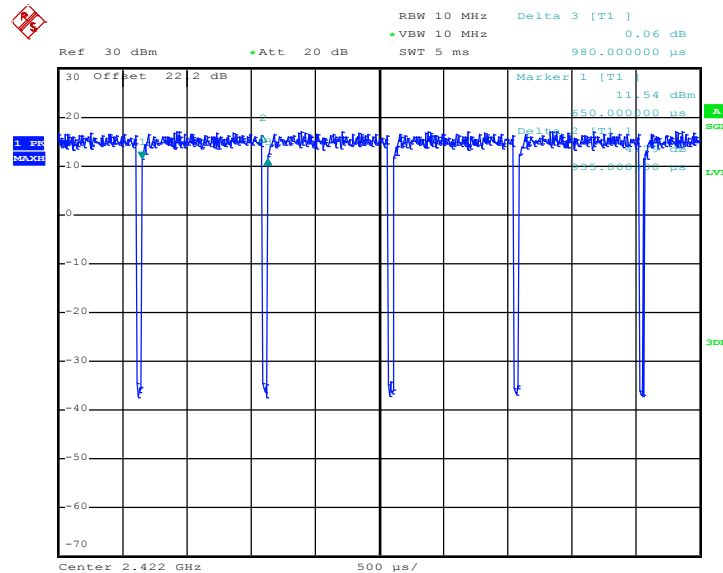
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802.11n HT20



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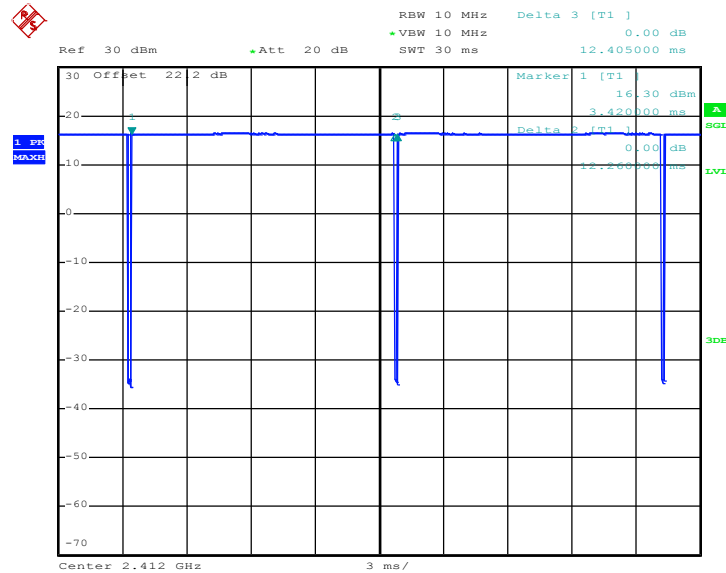
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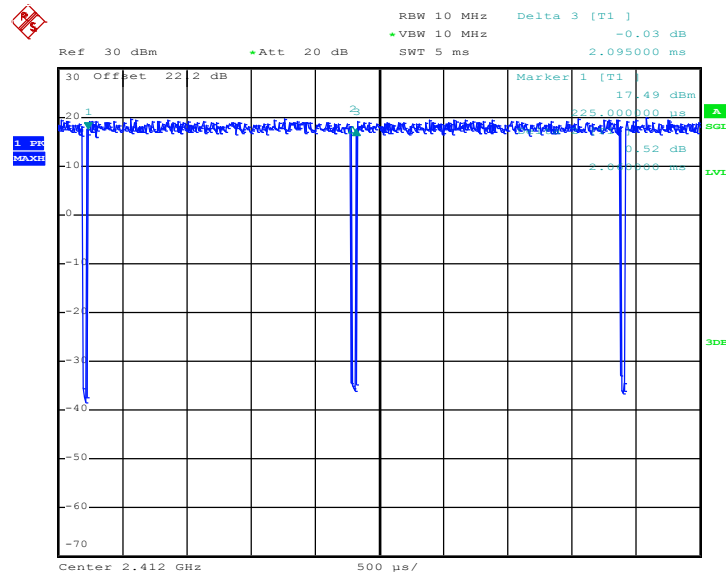
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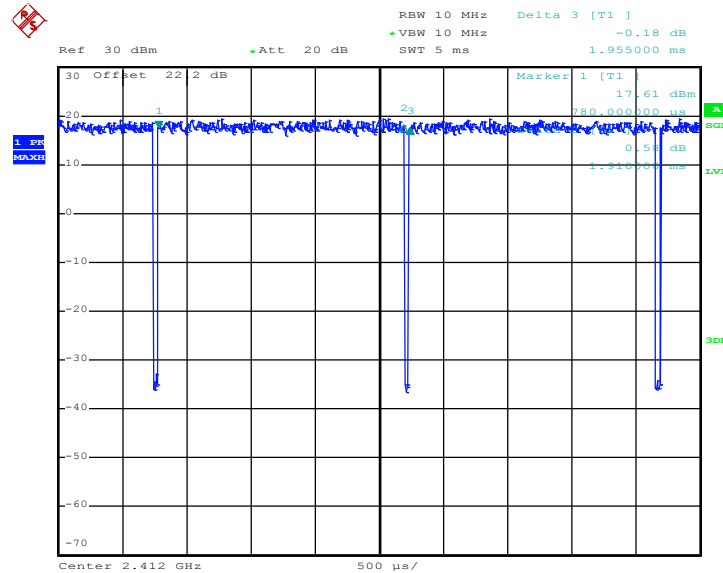
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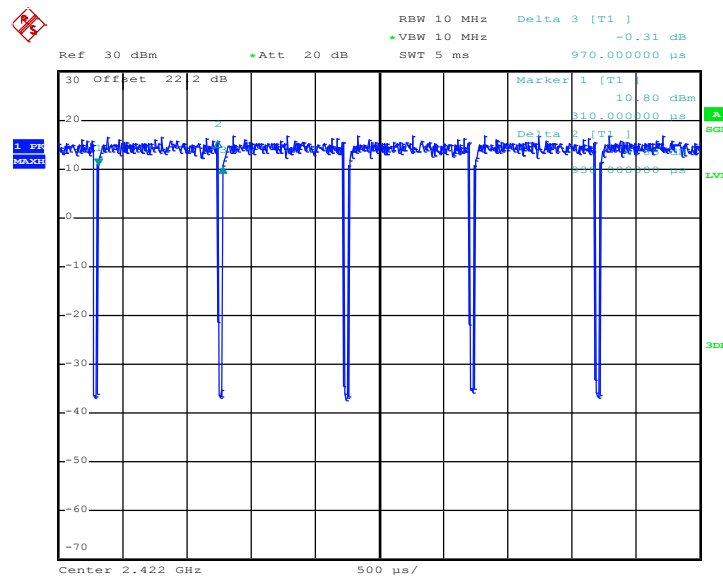
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