5a. Peak Power Spectral Density

[FCC 15.247(d), RSS-210 6.2.2(o)(b)]

5a.1 Test Procedure

The peak power spectral density is measured with a spectrum analyzer connected to the antenna terminal, while EUT is operating in transmission mode at the appropriate center frequencies of each 2.4GHz or 5.8GHz band.

The power spectral density was measured in accordance with the Appendix C of FCC R&O 97114, Released April 10, 1997.

First, each band was pre-scanned with the spectrum analyzer to locate the emission peak.

Then, the spectral analyzer center frequency was set to the emission peak found in the pre-scan and the power spectral density was measured with:

RBW = 3 kHz, VBW = 3 kHz, Span = 300 KHz,

Sweep = 100 seconds

5a.2 Test Instruments and Measurement Setup

Same as the Chapter 1(Table 1-1 & Figure 1).

5a.3 Measurement Results

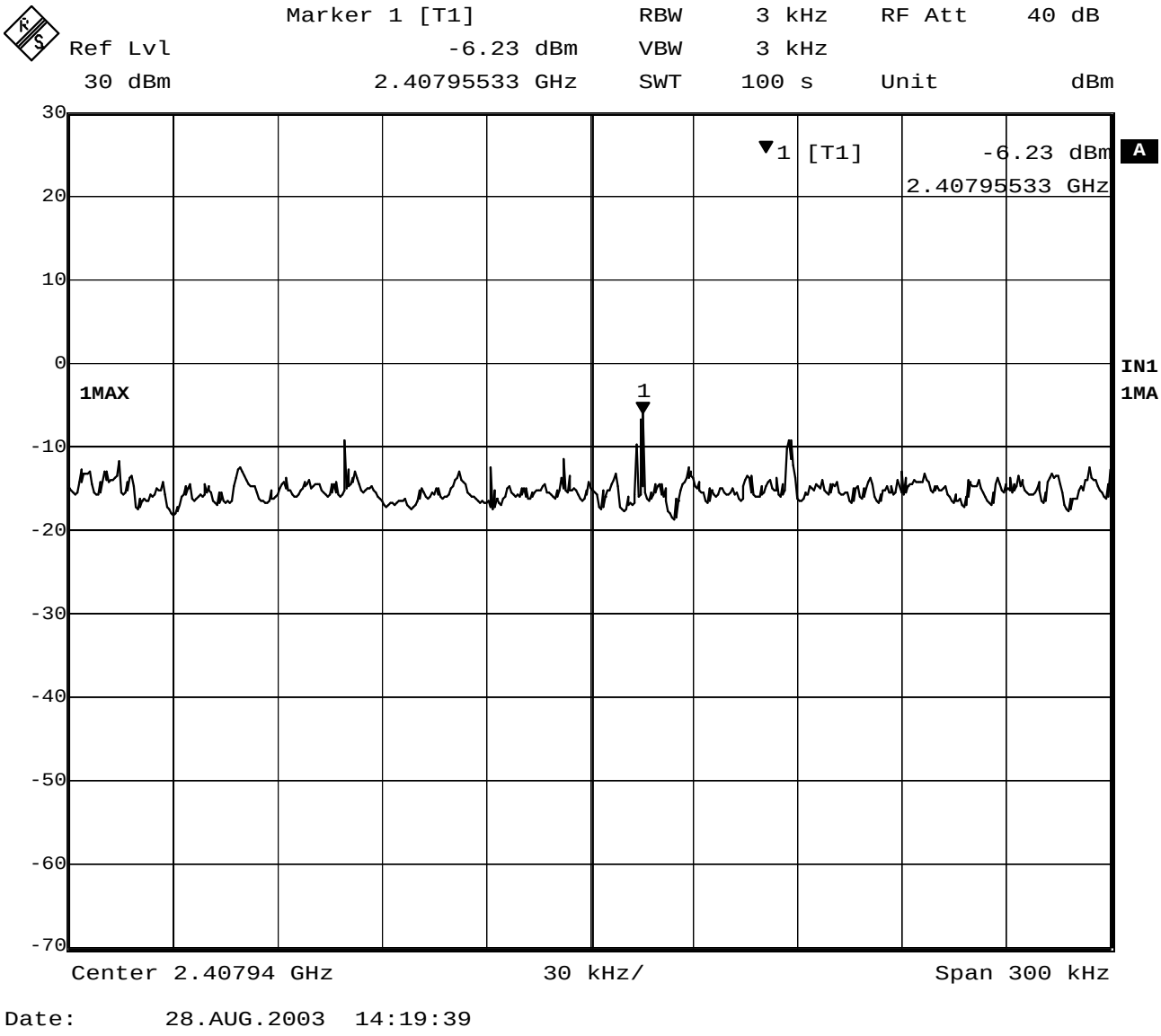
The measurement was performed with the worst cases (i.e. the highest conducted peak power) of each transmission mode based on the results of the Chapter 3, “Conducted Peak Output Power” measurement.

Test Date: August 28, 2003

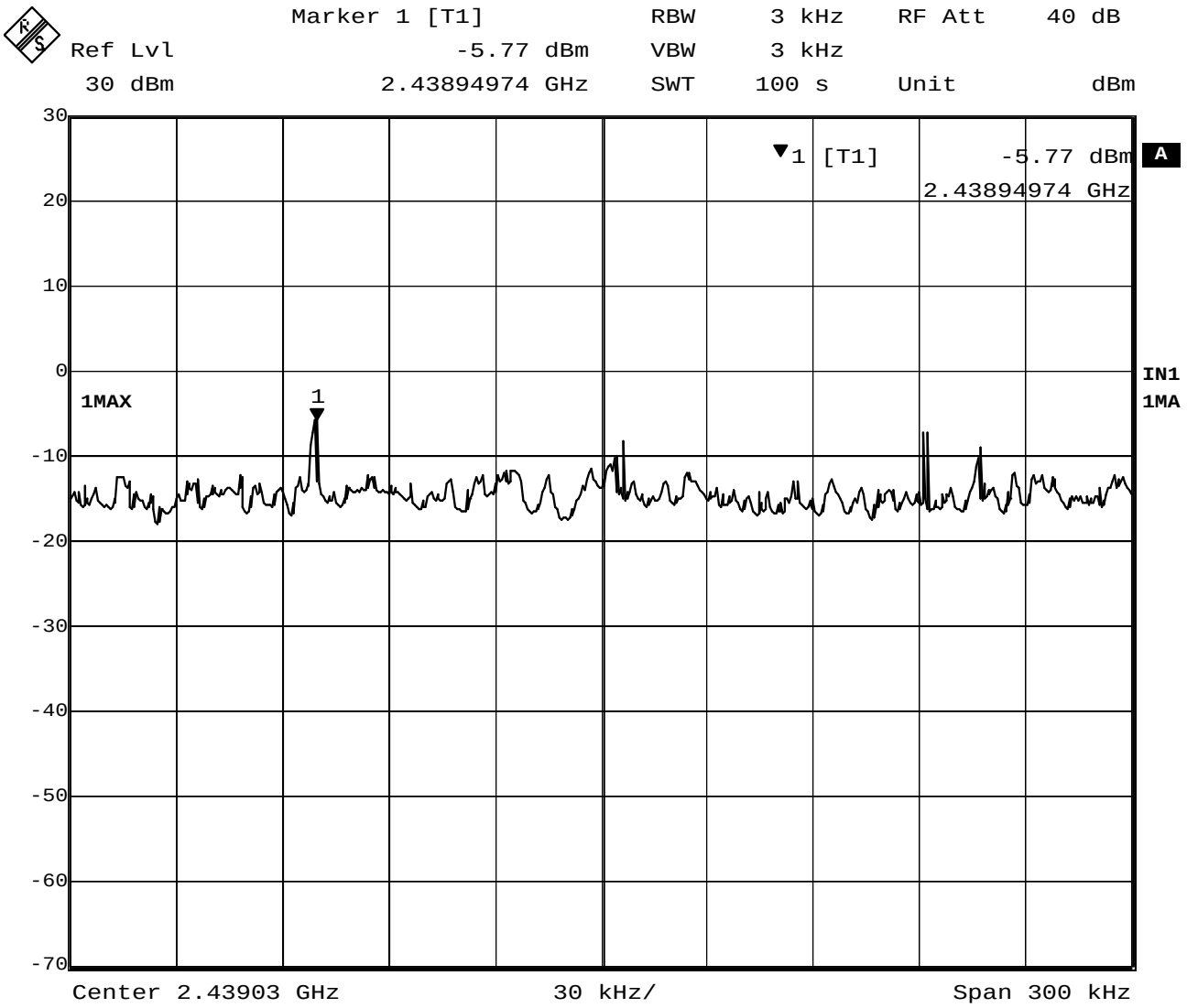
Table 5a-1. Peak Power Spectrum Density, TX mode

		Ch No.	Frequency (MHz)	**Analyzer Reading** (dBm)	Trace number	Cable loss (dB)	**Result** (dBm)	Limit (dBm)	Margin (dB)
DSSS	2.4GHz 11Mbps	1	2407.96	-6.23	Plot 5a-1	1.3	- 4.9	8.0	12.9
		6	2438.95	-5.77	Plot 5a-2	1.3	- 4.5	8.0	12.5
		11	2464.04	-6.62	Plot 5a-3	1.3	- 5.3	8.0	13.3
OFDM	2.4GHz 18Mbps	1	2412.31	-12.75	Plot 5a-4	1.3	-11.5	8.0	19.5
		6	2433.88	-10.42	Plot 5a-5	1.3	- 9.1	8.0	17.1
		11	2465.43	-13.73	Plot 5a-6	1.3	-12.4	8.0	20.4
	5.8GHz 24Mbps	149	5740.39	-12.91	Plot 5a-7	2.3	- 10.6	8.0	18.6
		157	5787.53	-13.64	Plot 5a-8	2.3	- 11.3	8.0	19.3
		165	5826.33	-13.88	Plot 5a-9	2.3	- 11.6	8.0	19.6

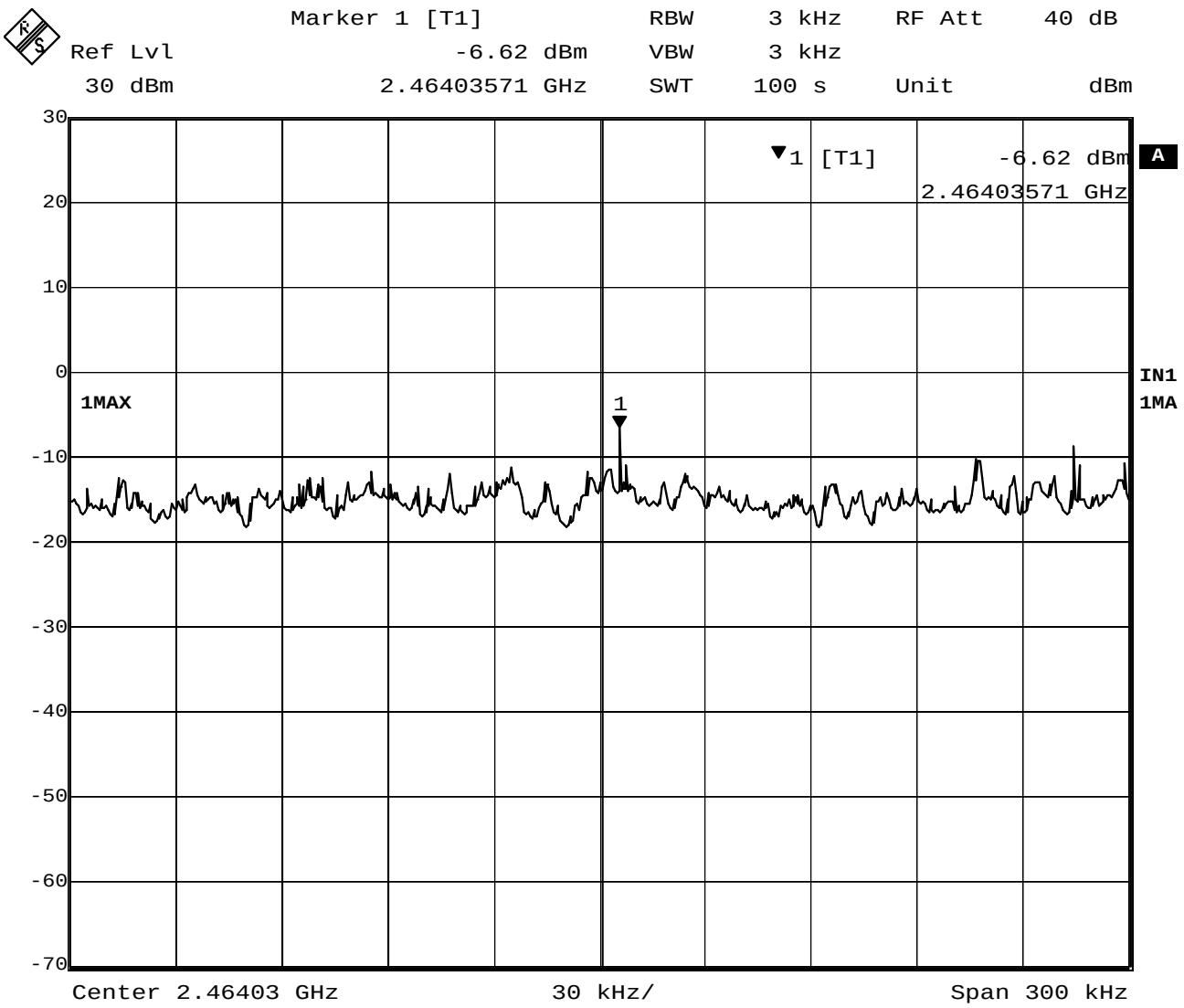
5a.4 Trace Data of Peak Power Spectral Density



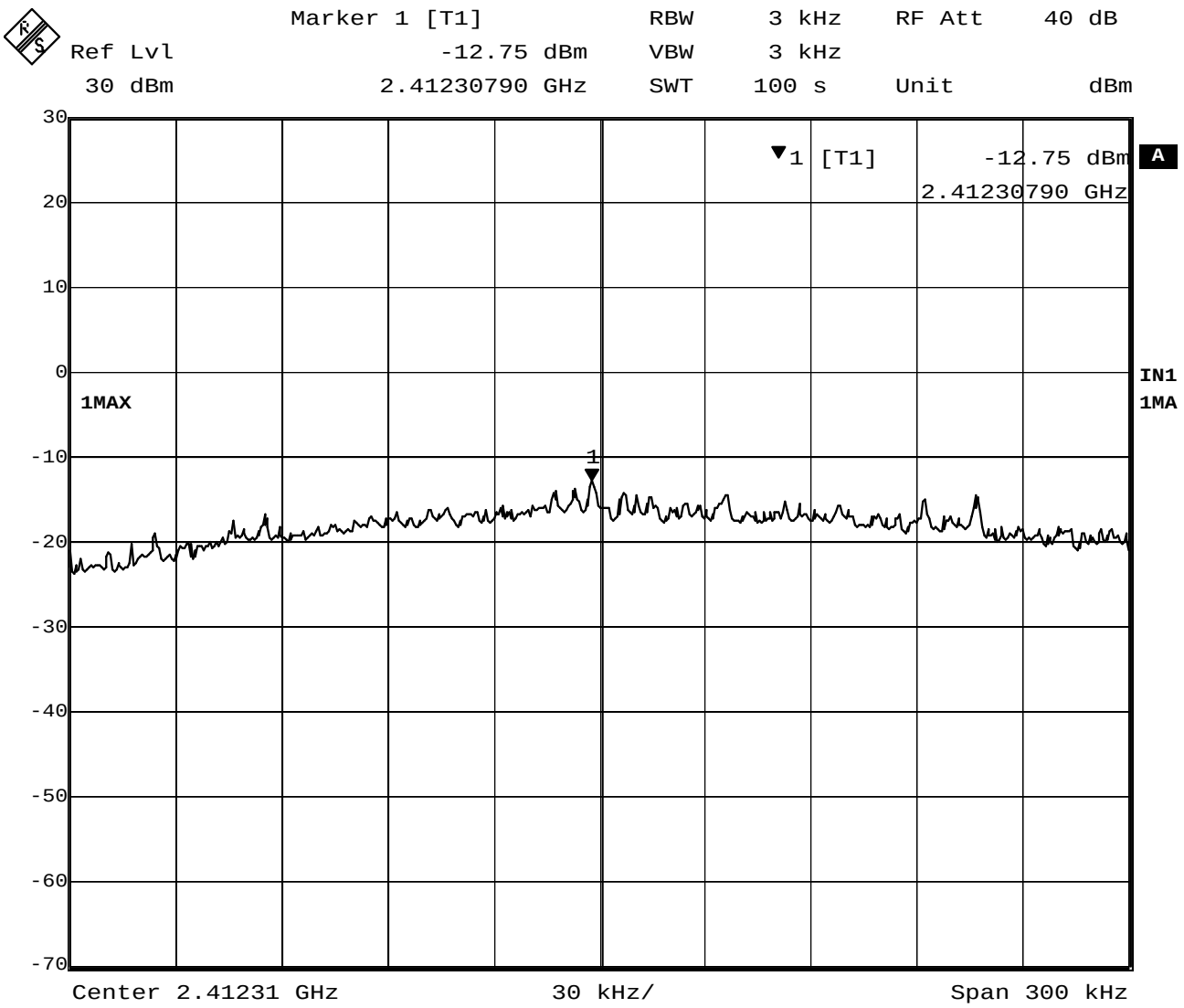
Plot 5a-1. Peak Power Spectral Density of 2412MHz (DSSS, 11Mbps)



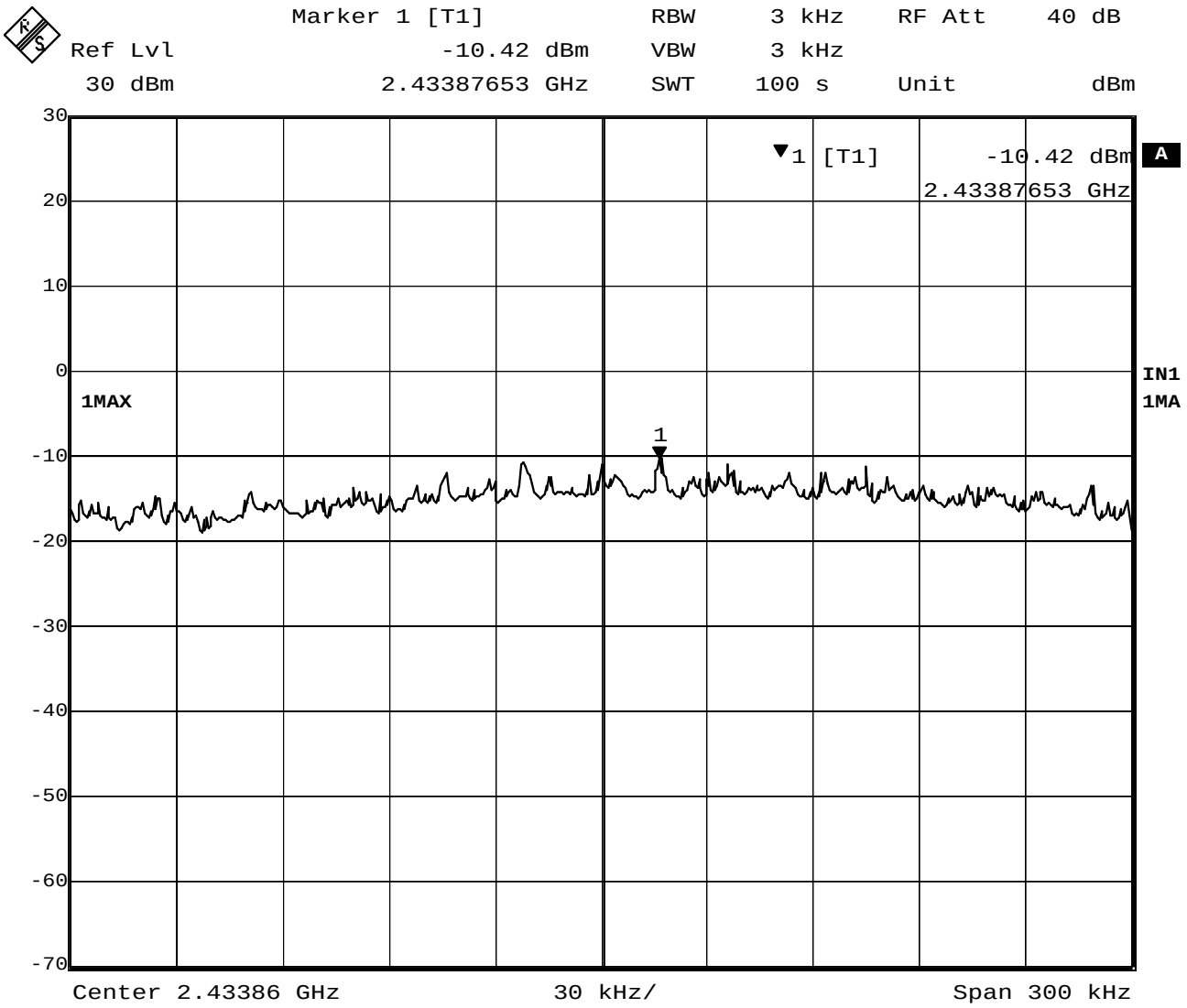
Plot 5a-2. Peak Power Spectral Density of 2437MHz (DSSS, 11Mbps)



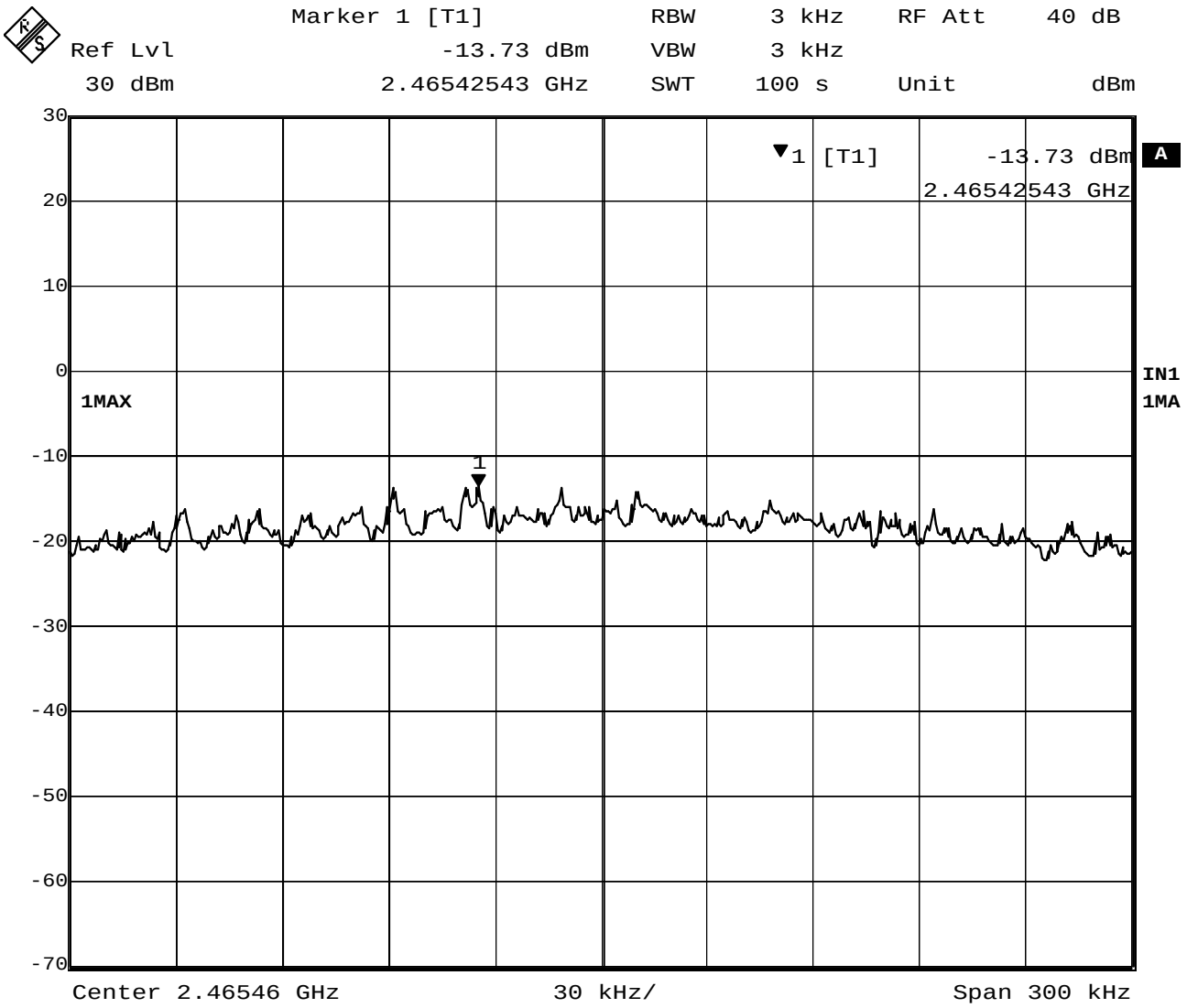
Plot 5a-3. Peak Power Spectral Density of 2462MHz (DSSS, 11Mbps)



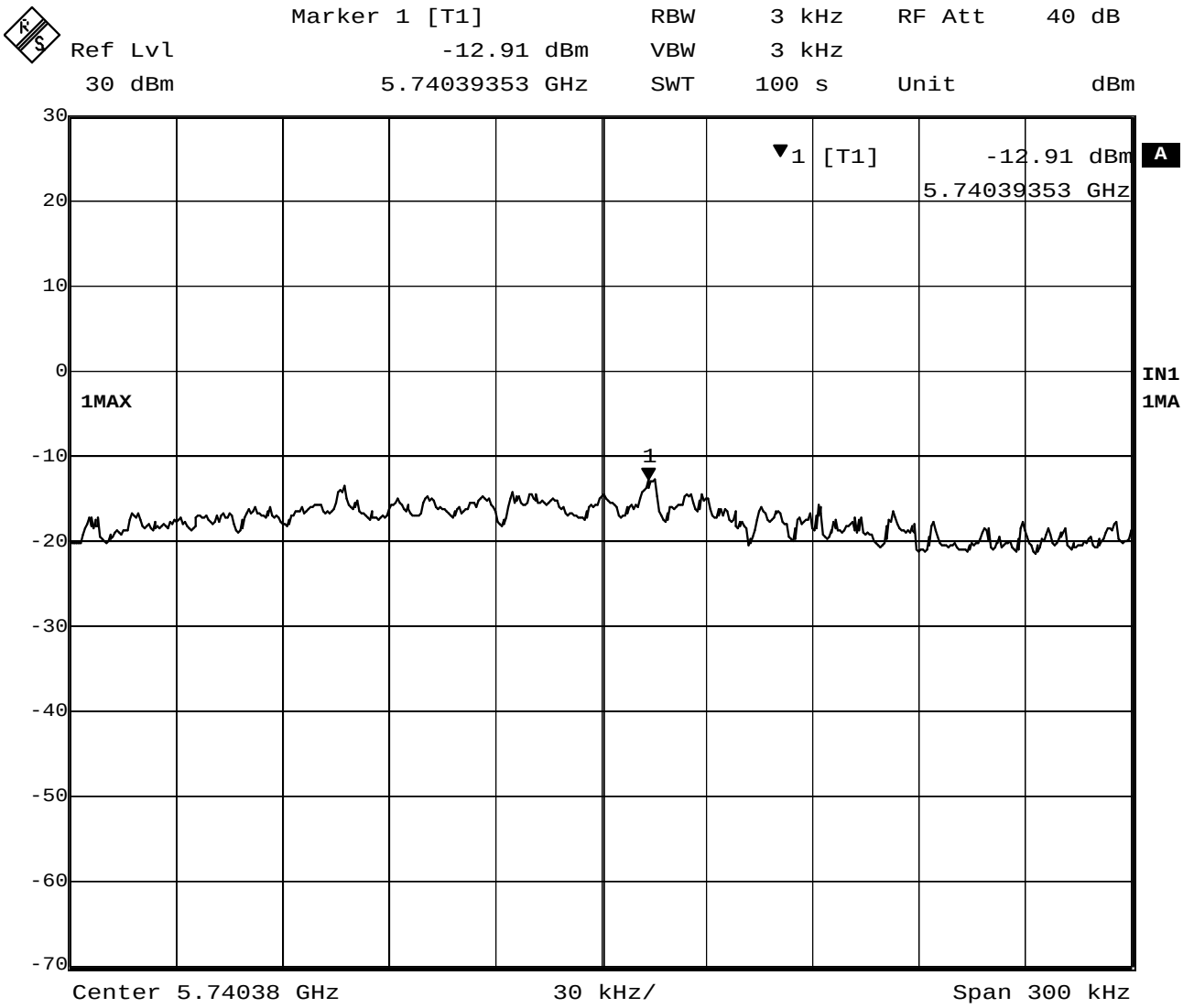
Plot 5a-4. Peak Power Spectral Density of 2412MHz (OFDM, 18Mbps)



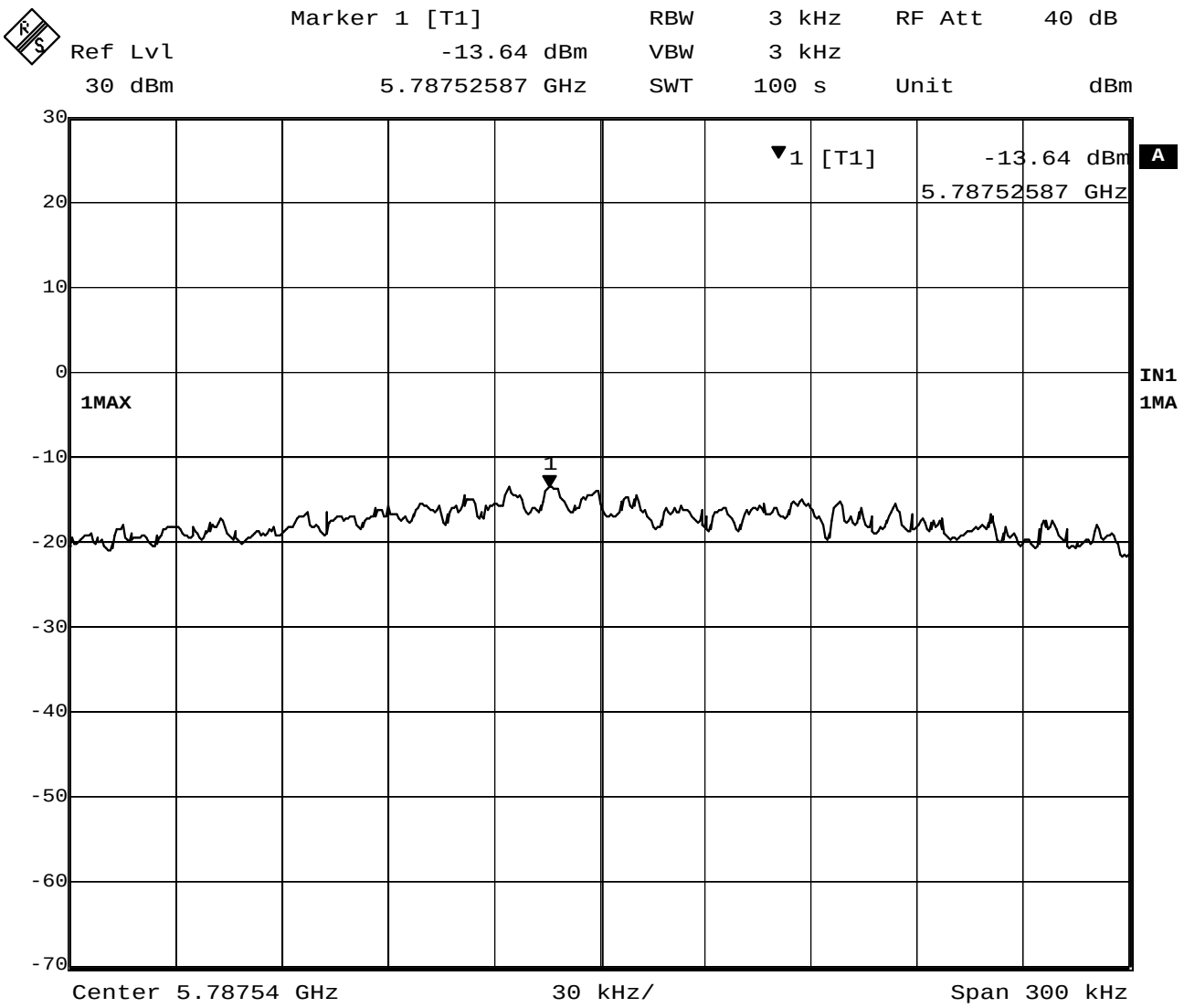
Plot 5a-5. Peak Power Spectral Density of 2437MHz (OFDM, 18Mbps)



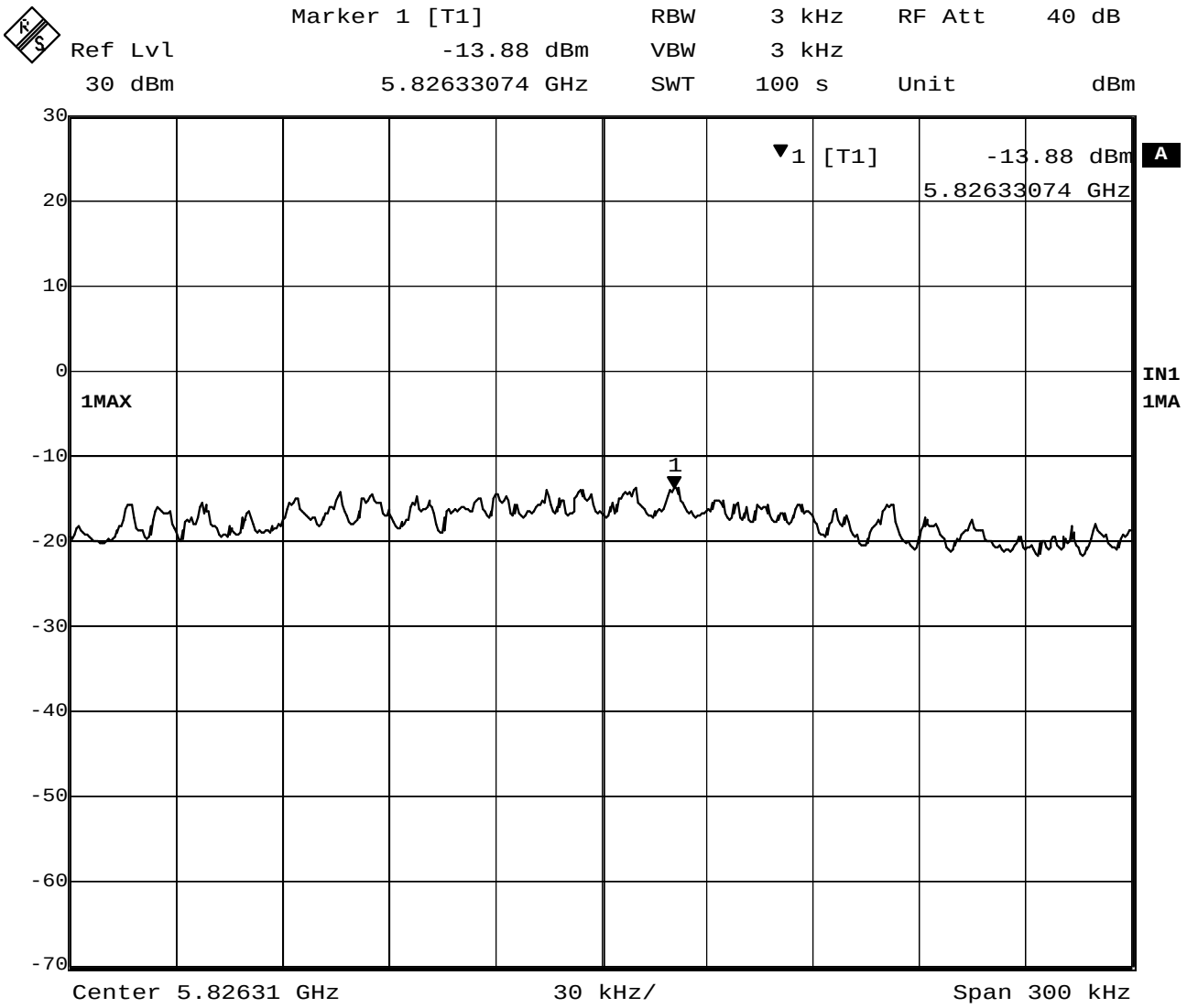
Plot 5a-6. Peak Power Spectral Density of 2462MHz (OFDM, 18Mbps)



Plot 5a-7. Peak Power Spectral Density of 5745MHz (OFDM, 24Mbps)



Plot 5a-8. Peak Power Spectral Density of 5785MHz (OFDM, 24Mbps)



Plot 5a-9. Peak Power Spectral Density of 5825MHz (OFDM, 24Mbps)