

9 RADIATION EXPOSURE

The M-WIBS1900 Base Station is the transceiver intended to service multiple subscribers on a point-to-multipoint basis. Antenna is fix-mounted, generally quite high, so it is impossible to use the product in any portable application. Therefore, to comply with RF Exposure Requirement, the MPE is calculated and measured.

The maximum Peak EIRP measured and calculated is 19.7 dBm or 0. W. The Power Density can be calculated using the formula

$$S = \text{EIRP} / 4\pi D^2$$

Where S is Power Density in W/m^2
D is the distance from the antenna

In the table below, the calculated Power Density (using the formula) at different distances and MPE Limit are presented.

Distance, m	Power Density, W/m^2	MPE, W/m^2
0.05	3.2	10.0
0.1	0.8	10.0
0.2	0.2	10.0
0.3	0.09	10.0
0.6	0.02	10.0
0.8	0.01	10.0
1.0	0.008	10.0

In the table below, the calculated Power Density (using the Field Strength measurement data) at different distances and MPE Limit are presented.

Distance, m	Field Strength (measured) V/m	Power Density (calculated) W/m^2	MPE, W/m^2
0.1	16.0	0.7	10.0
0.2	9.7	0.25	10.0
0.3	6.0	0.095	10.0
0.6	3.4	0.031	10.0
0.8	2.2	0.013	10.0
1.0	1.5	0.006	10.0

As can be seen from the data, the MPE is well below the limit at 5 cm and more.

Cisco Systems Inc. Model: MWIBS-1900
FCC ID:LDKMWIBS1900

Date of Test: January 20-February 17, 2000

10 LIST OF TEST EQUIPMENT

Equipment	Manufacturer	Model	Serial #	Cal. Int.	Cal. Due	Used
Double-ridged Horn Antenna	EMCO	3115	9107-3712	12	6/25/01	X
				#	#	X
				12	11/14/01	X
		AFT18855	8723H705	12	11/14/01	X
		ACO/400	47526	12	11/14/01	X
Spectrum Analyzer w/8650 QP Adapter	Hewlett Packard	HP 8566B	2416A00317 2521A01021	6	7/03/01	X
Spectrum Analyzer	Tektronix	2784	B3020108	12	8/4/01	X
Field Strength Meters				12	9/15/01	X
Peak Power Meter	Hewlett Packard	8900D		12	7/31/01	X
Peak Power Sensor	Hewlett Packard	84811A		12	7/31/01	X

Calibration is not required

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11 EXHIBIT 1

Plot No	Description
3.1 – 3.6	Output Power
	Out-of-band conducted emissions at antenna terminal, low channel
	Out-of-band conducted emissions at antenna terminal, middle channel
5.1c – 5.5c	Out-of-band conducted emissions at antenna terminal, high channel
6.1 – 6.4	Bandwidth plots

Mkr 271.5MHz *-61.10dBm Tek

Ref Lvl*21.0dBm 10dB/ Atten 20dB

M-WBS1900

-1.0

29.0

39.

59.0

69.0

30.0MHz

to

1.000 0GHz

ResBW 100kHz

Vi dBW 100kHz

SWP 550ms

TRIG

SPAN

Vi dBW

00kHz

KN0B

KN0B

KE AD

ek onl

2784

Plot 8.0

Mkr 1.929 0GHz *-56.50dBm Tek

Ref Lvl*1.0dBm 10dB/ Atten 20dB

M-WIBS1900

Av#100

Plot 5.22

000 0GHz to 929 0GHz

ResBW MHz V dBW 7MHz SWP 20mS

TR G SPAN

VidBW 7MHz

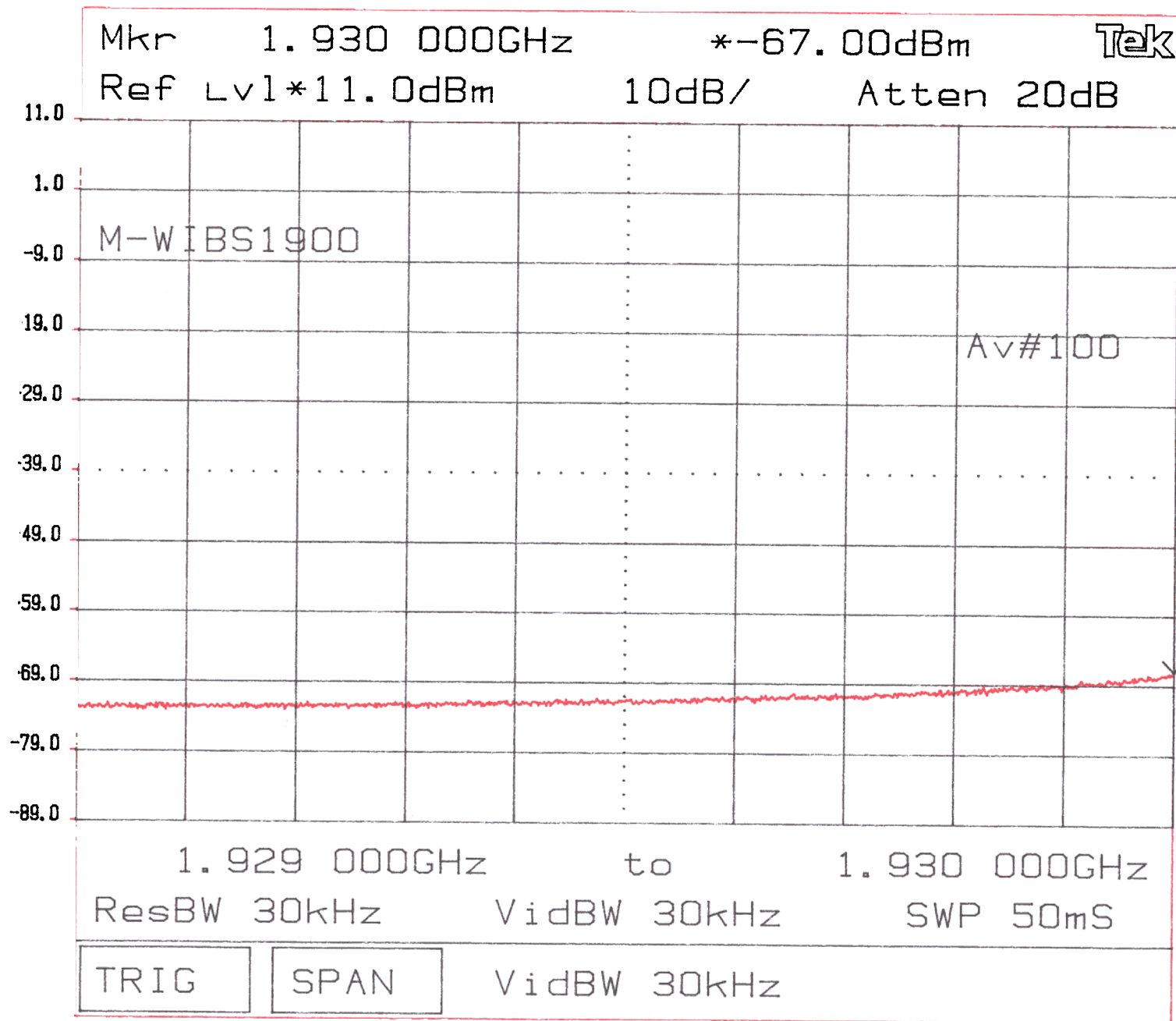
KN0B

KN0B

KEYPAD

Tek

278



Plot 5.3a

Knob 2

Knob

Keypad

Tektronix

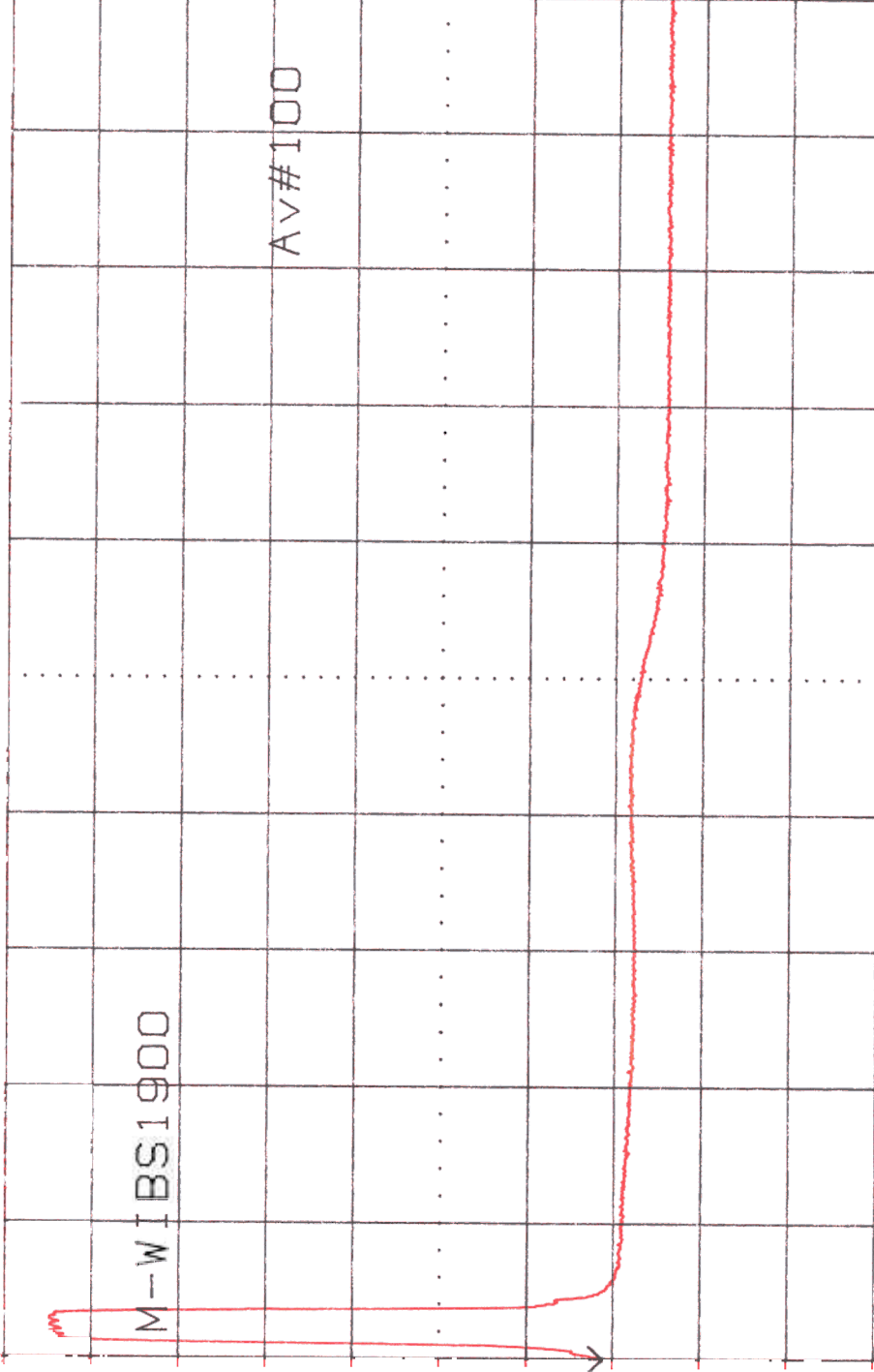
2784

Tek

Mkr 930 00GHz

*-67.80dBm

Ref Lv *1.0dBm 10dB/ Atten 20dB



930 00GHz to 990 00GHz

ResBW 30kHz V dBW 30kHz SWP 380mS

TRIG SPAN

Ref Lv1*1.0dBm

KNOB

KNOB

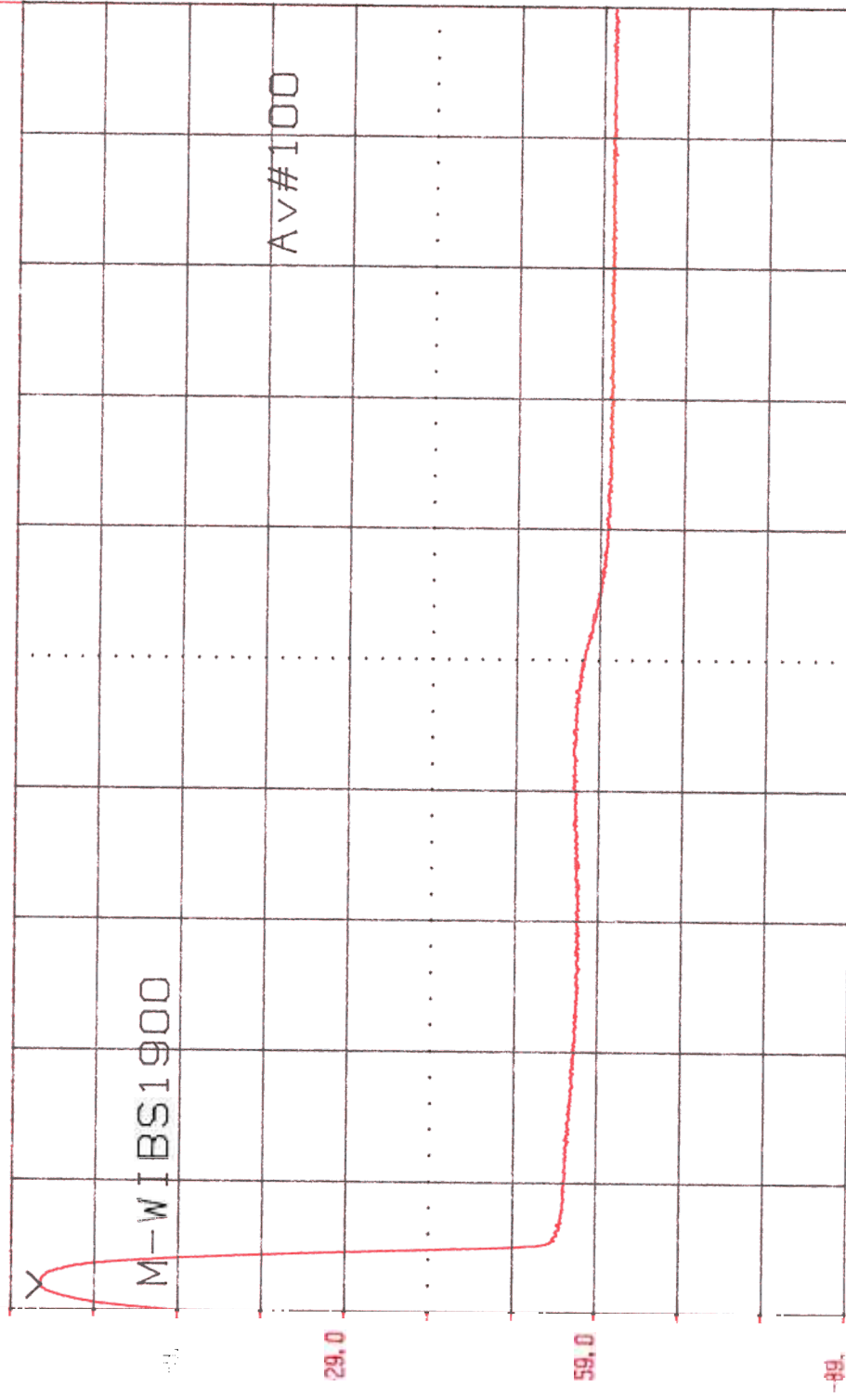
KEYPAD

ak onl

2784

Mkr 1.931 14GHz *6.90dBm Tek

Ref Lvl *11.0dBm 10dB/ Atten 20dB



1.930 00GHz to 1.990 00GHz

ResBW 1MHz VidBW 7MHz SWP 20mS

TRIG SPAN

Ref Lvl * 0dBm

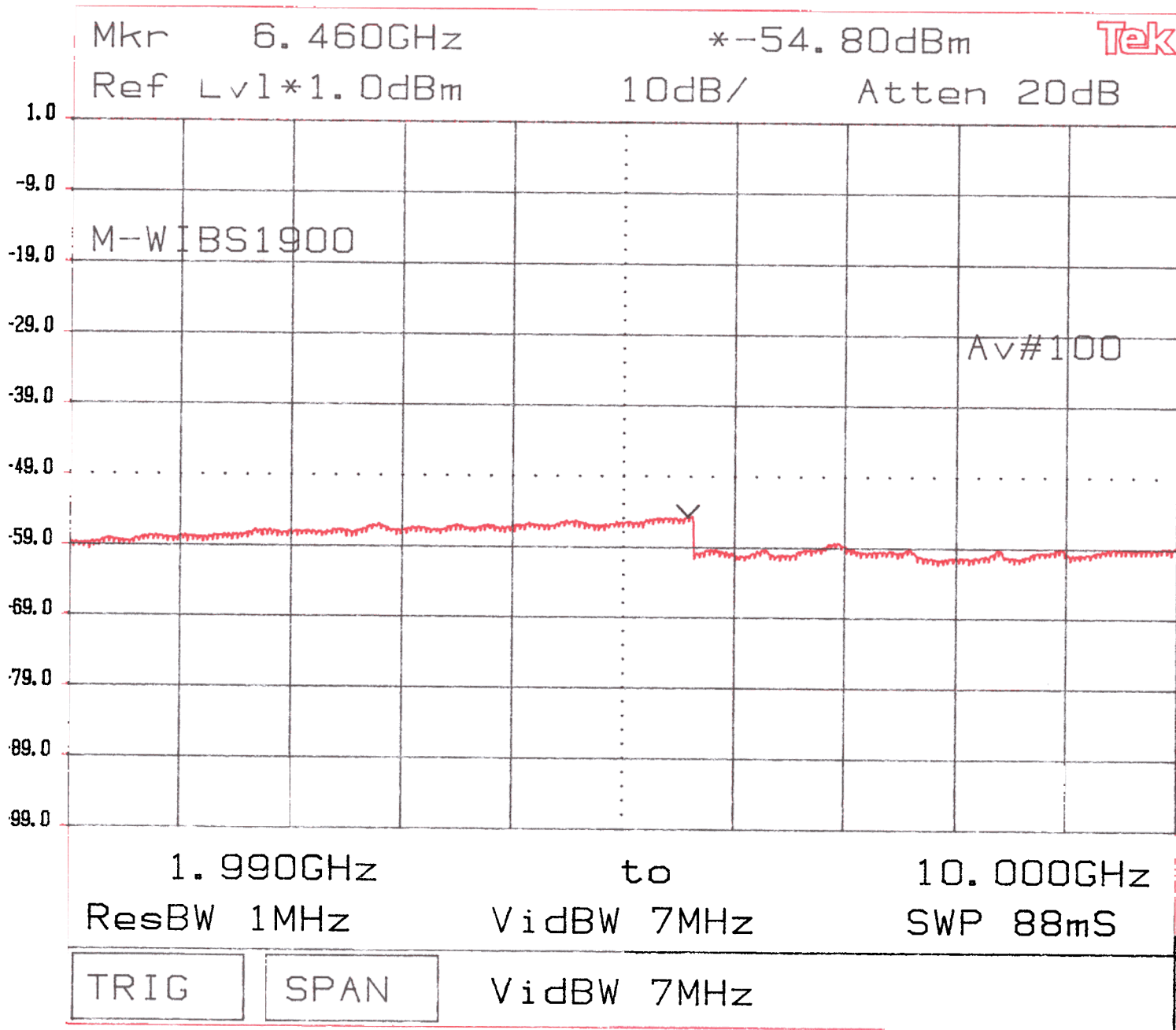
KNOB

KNOB

KE PAD

T t roni

7B4



Plot 5.6a

KnOB 2

KnOB

KEYPAD

Tektronix

2784

Mkr 19.99GHz *-64.30dBm Tek

Ref Lvl*1.0dBm 10dB/ Atten 10dB

M-WIBS1900

Av#100

-9.0

19.0

39.

-49.0

79.0

-99.

10.00GHz to 20.00GHz

ResBW 1MHz VidBW 7MHz SWP 100mS

TRIG

SPAN

Atten 10dB

KNOB

KNOB

KEYPAD

aktroni

2784

Plot A 72