



4.5 POWER SPECTRAL DENSITY MEASUREMENT

4.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

4.5.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
SPECTRUM ANALYZER	FSEK30	100049	Aug. 12, 2005

NOTE: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

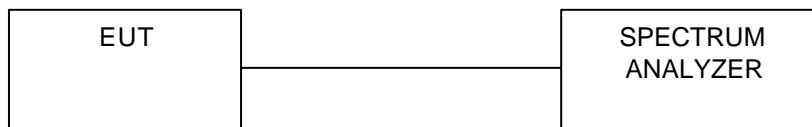
4.5.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer through an attenuator, the bandwidth of the fundamental frequency was measured with the spectrum analyzer using 3 kHz RBW and 30 kHz VBW, set sweep time=span/3kHz. The power spectral density was measured and recorded. The sweep time is allowed to be longer than span/3KHz for a full response of the mixer in the spectrum analyzer.

4.5.4 DEVIATION FROM TEST STANDARD

No deviation

4.5.5 TEST SETUP



4.5.6 EUT OPERATING CONDITIONS

Same as 4.3.6



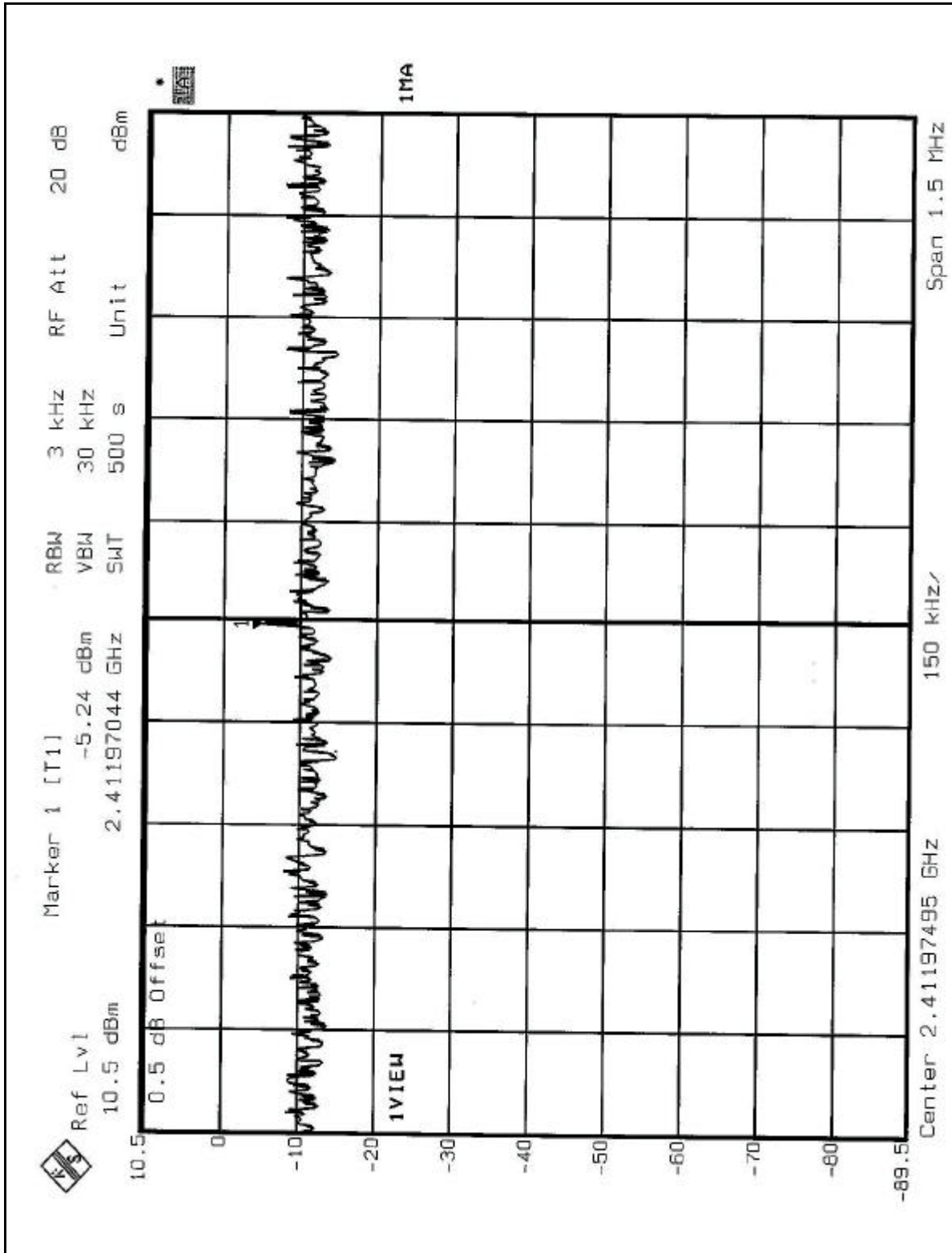
4.5.7 TEST RESULTS (A)

EUT	2.4GHz Wireless 108Mbps Mini PCI	MODEL	WL MP 2454 1A5
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	24deg. C, 67%RH, 991 hPa
TESTED BY	Steven Lu		

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 KHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	-5.24	8	PASS
6	2437	-5.02	8	PASS
11	2462	-5.77	8	PASS

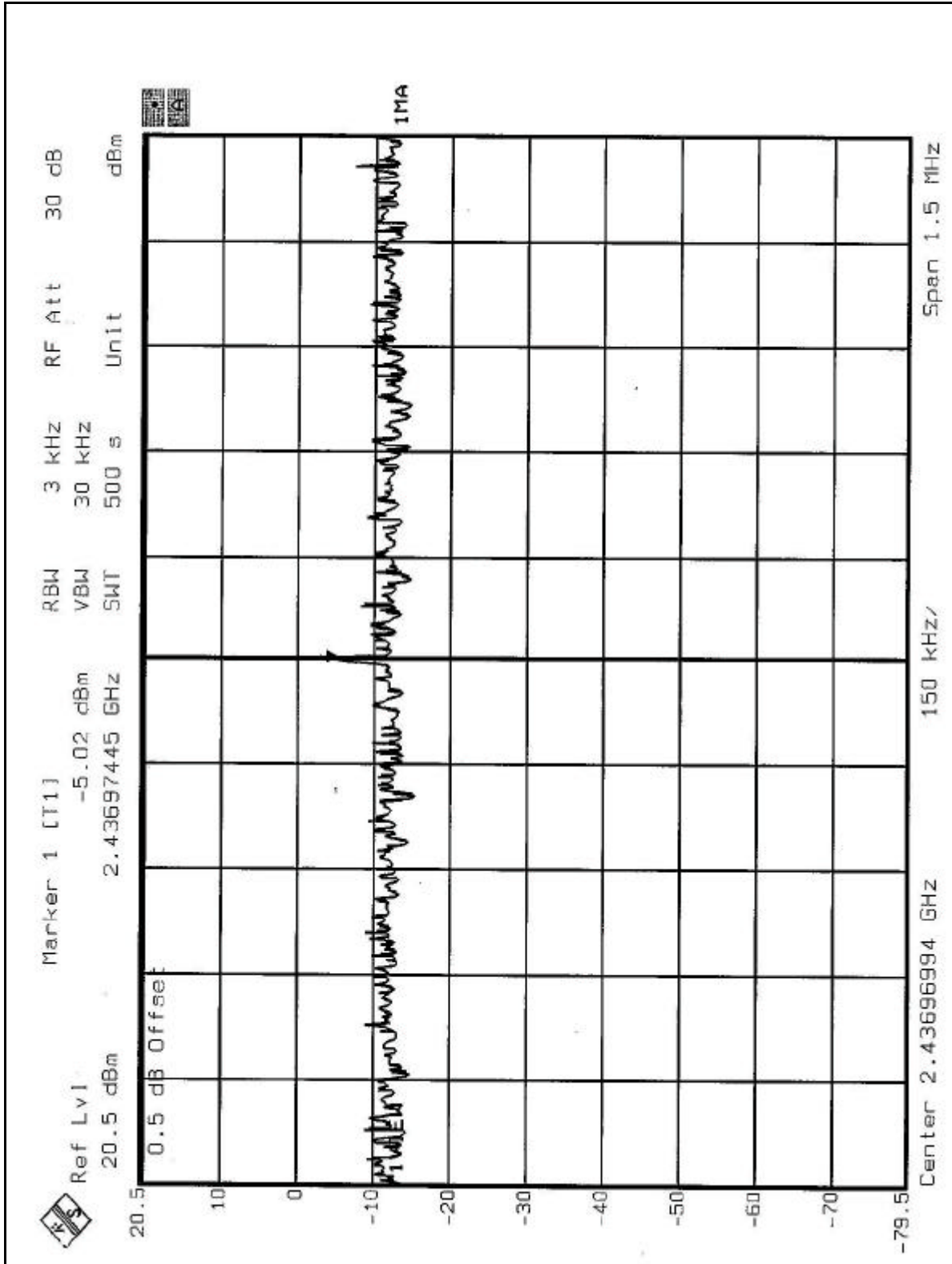


CH1



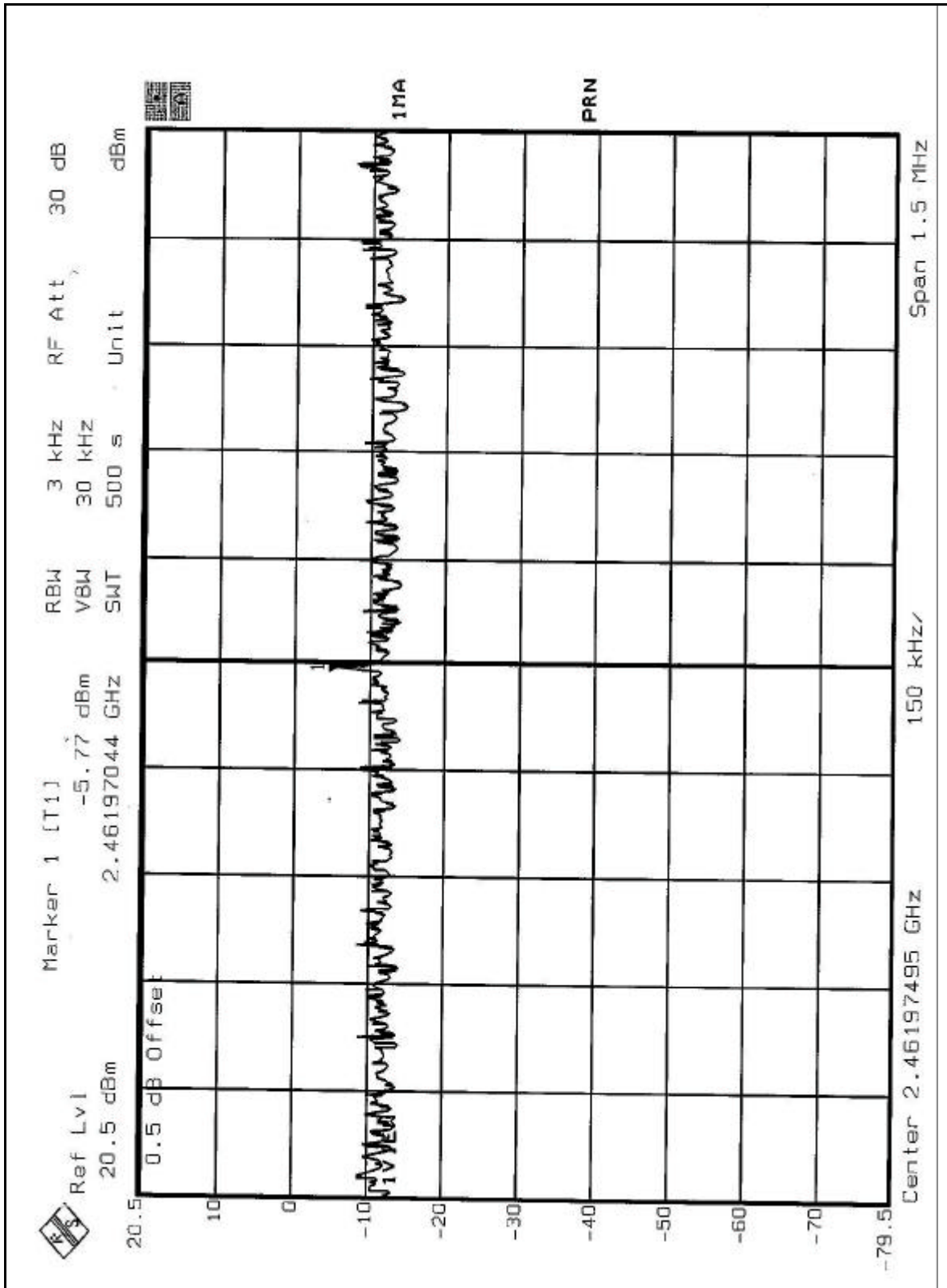


CH6





CH11





4.5.8 TEST RESULTS (B)

Normal mode

EUT	2.4GHz Wireless 108Mbps Mini PCI	MODEL	WL MP 2454 1A5
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	24deg. C, 67%RH, 991 hPa
TESTED BY	Steven Lu		

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 KHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	-3.25	8	PASS
6	2437	-3.50	8	PASS
11	2462	-3.14	8	PASS

Turbo mode

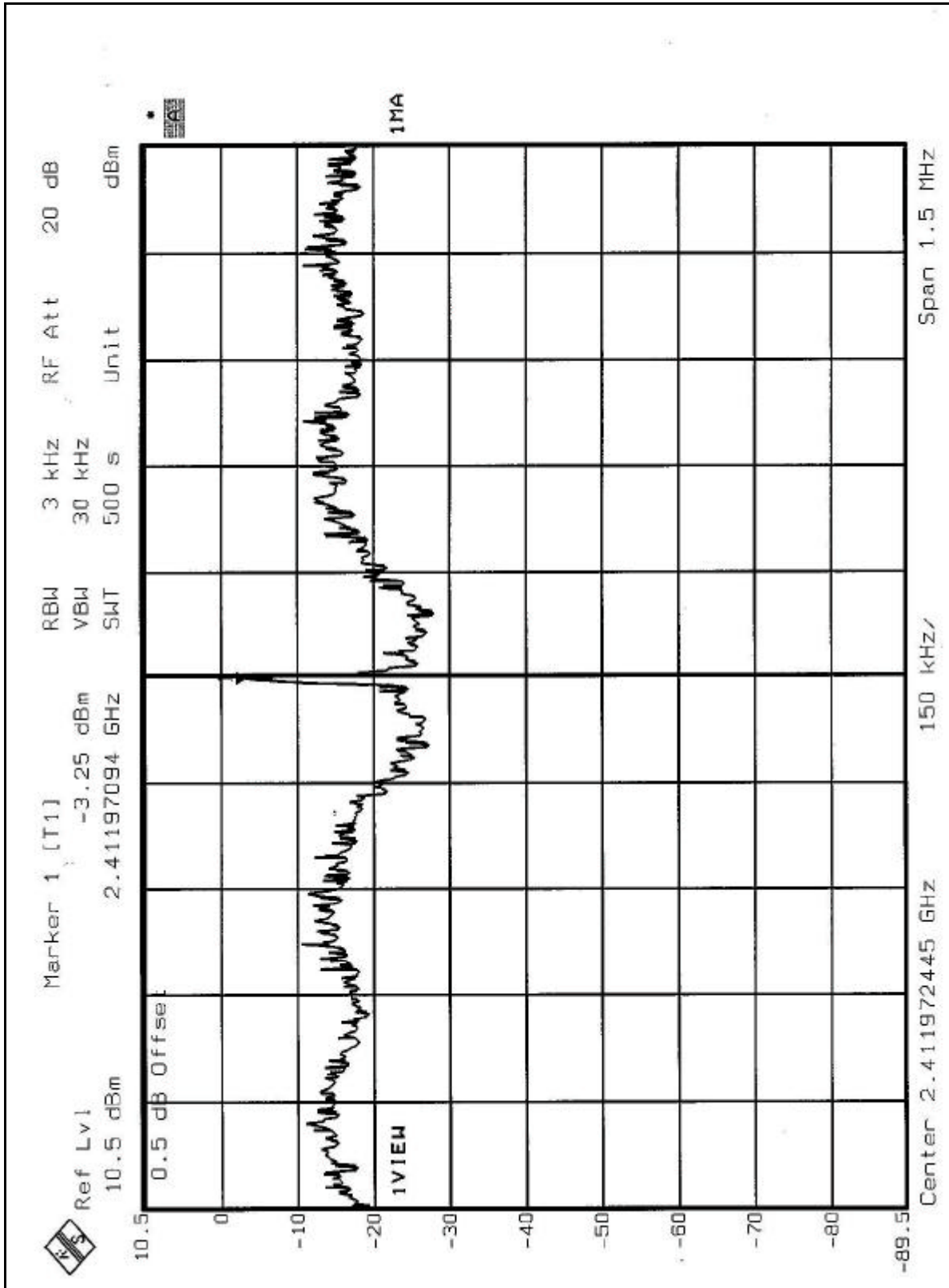
EUT	2.4GHz Wireless 108Mbps Mini PCI	MODEL	WL MP 2454 1A5
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	24deg. C, 67%RH, 991 hPa
TESTED BY	Steven Lu		

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 KHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
6	2437	-1.46	8	PASS



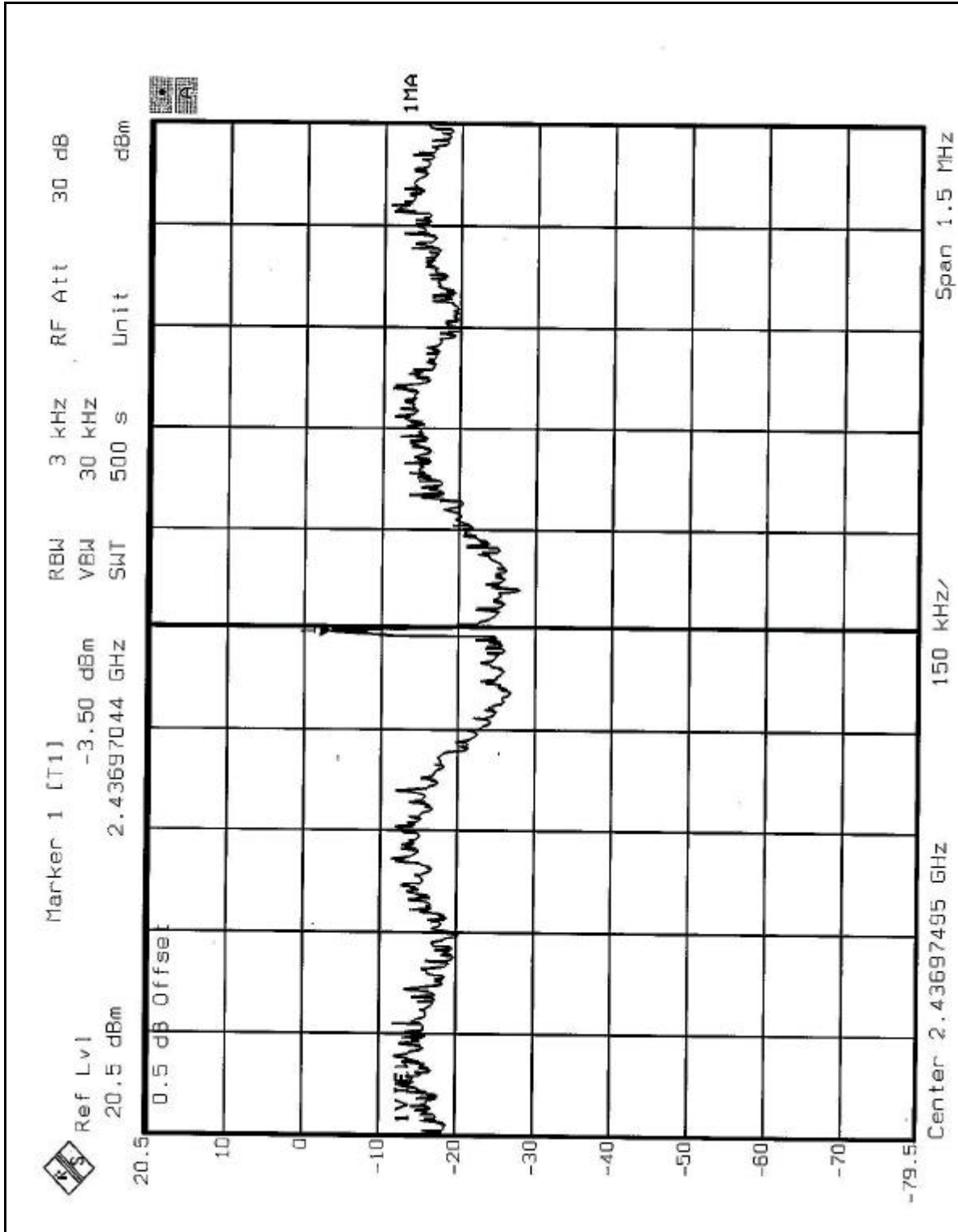
Normal mode

CH1



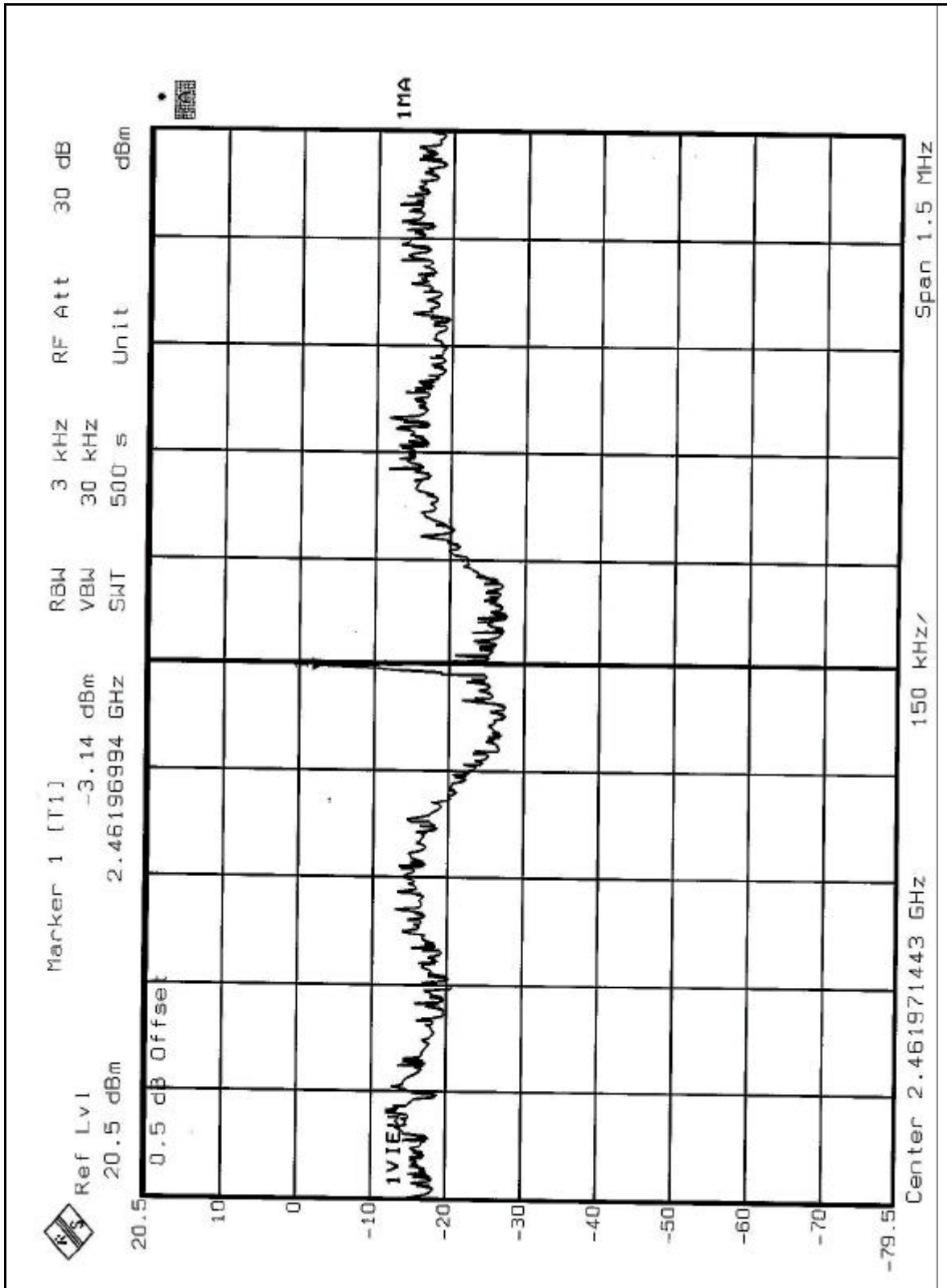


CH6



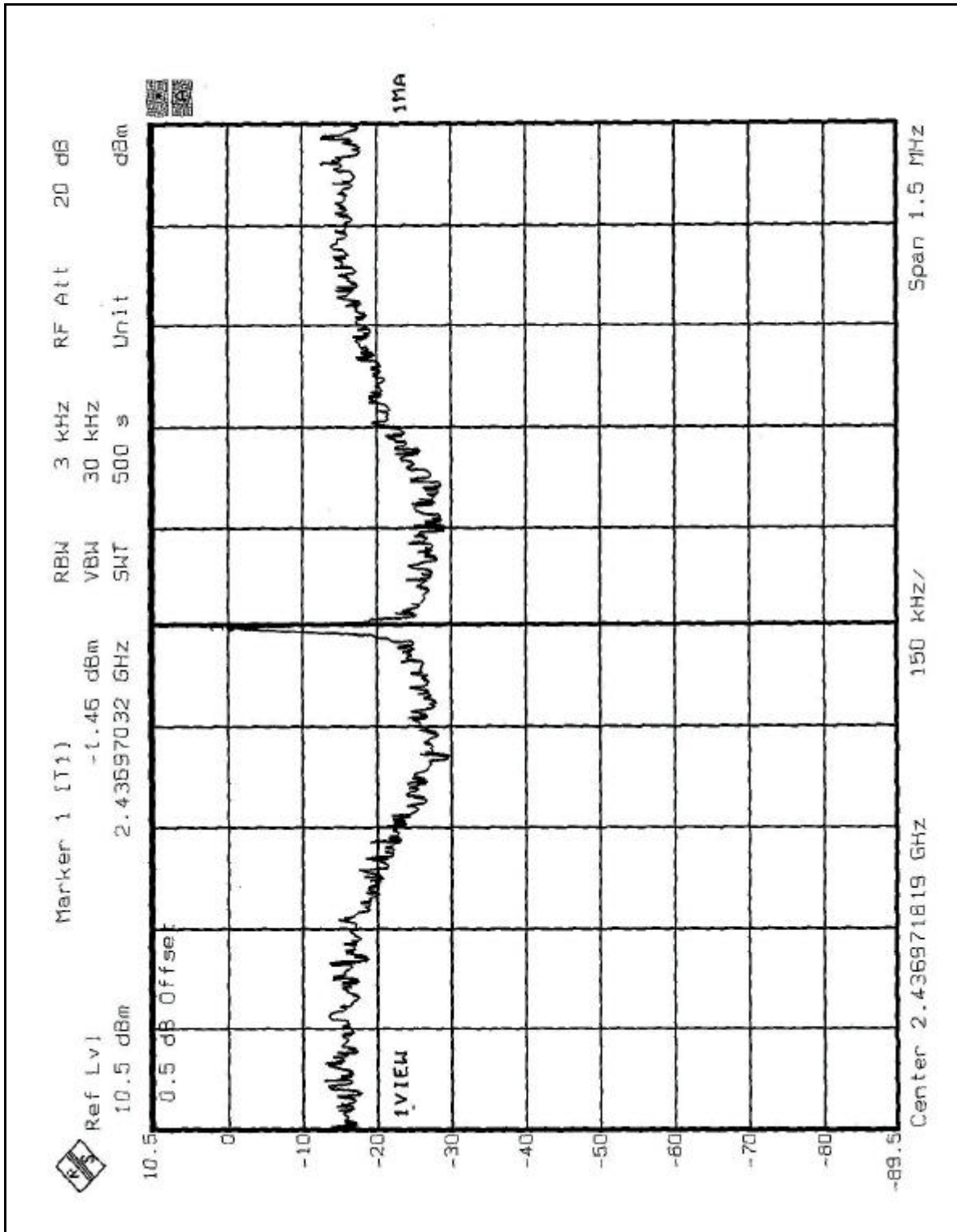


CH11





Turbo mode
CH6





4.6 BAND EDGES MEASUREMENT

4.6.1 LIMITS OF BAND EDGES MEASUREMENT

Below -20dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).

4.6.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
SPECTRUM ANALYZER	FSEK30	100049	Aug. 12, 2005

NOTE: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4.6.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer via a low lose cable. Set both RBW and VBW of spectrum analyzer to 100kHz and 100kHz with suitable frequency span including 100 MHz bandwidth from band edge. The band edges was measured and recorded.

4.6.4 DEVIATION FROM TEST STANDARD

No deviation



4.6.5 EUT OPERATING CONDITION

Same as Item 4.3.6

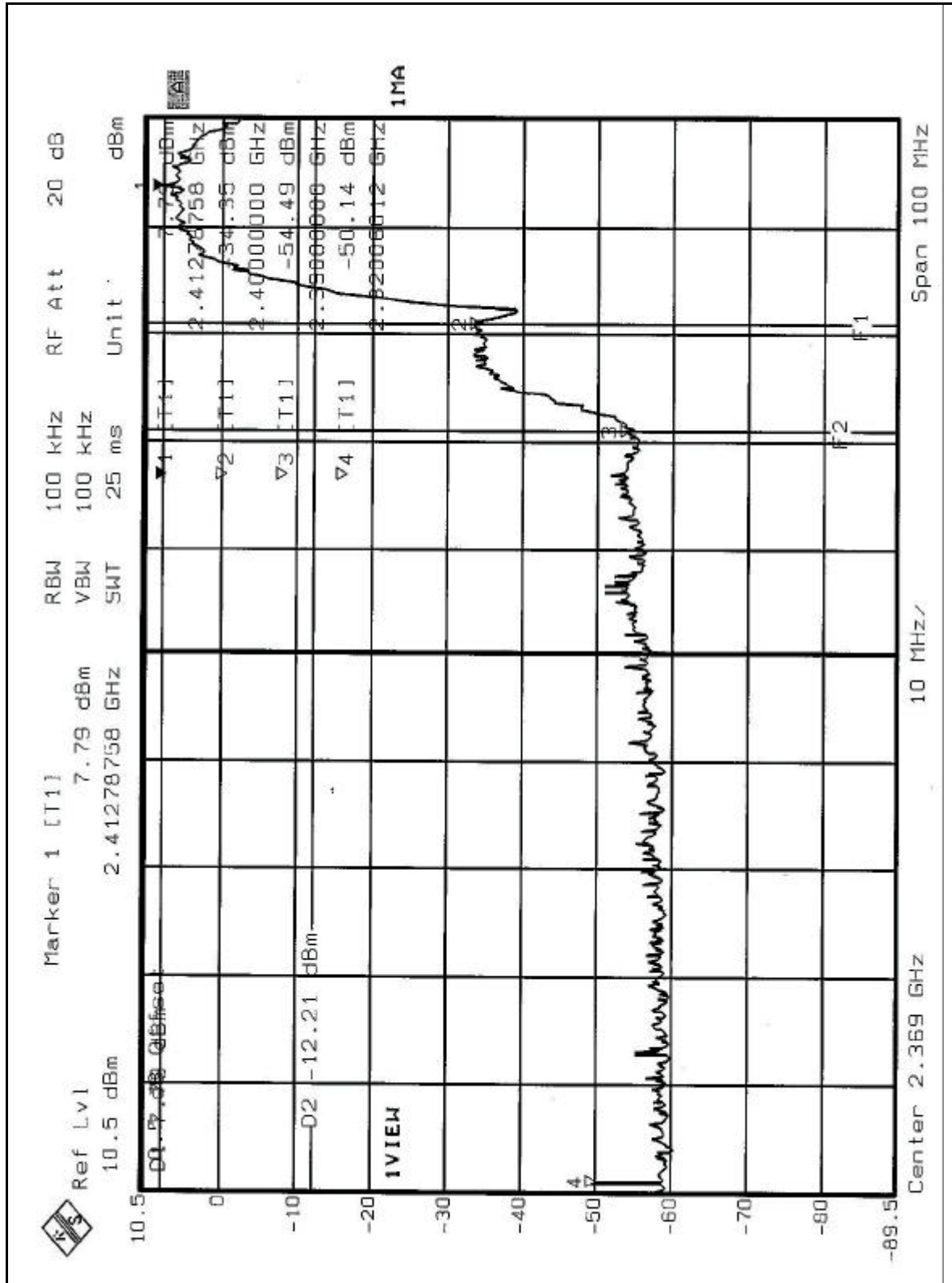
4.6.6 TEST RESULTS (A)

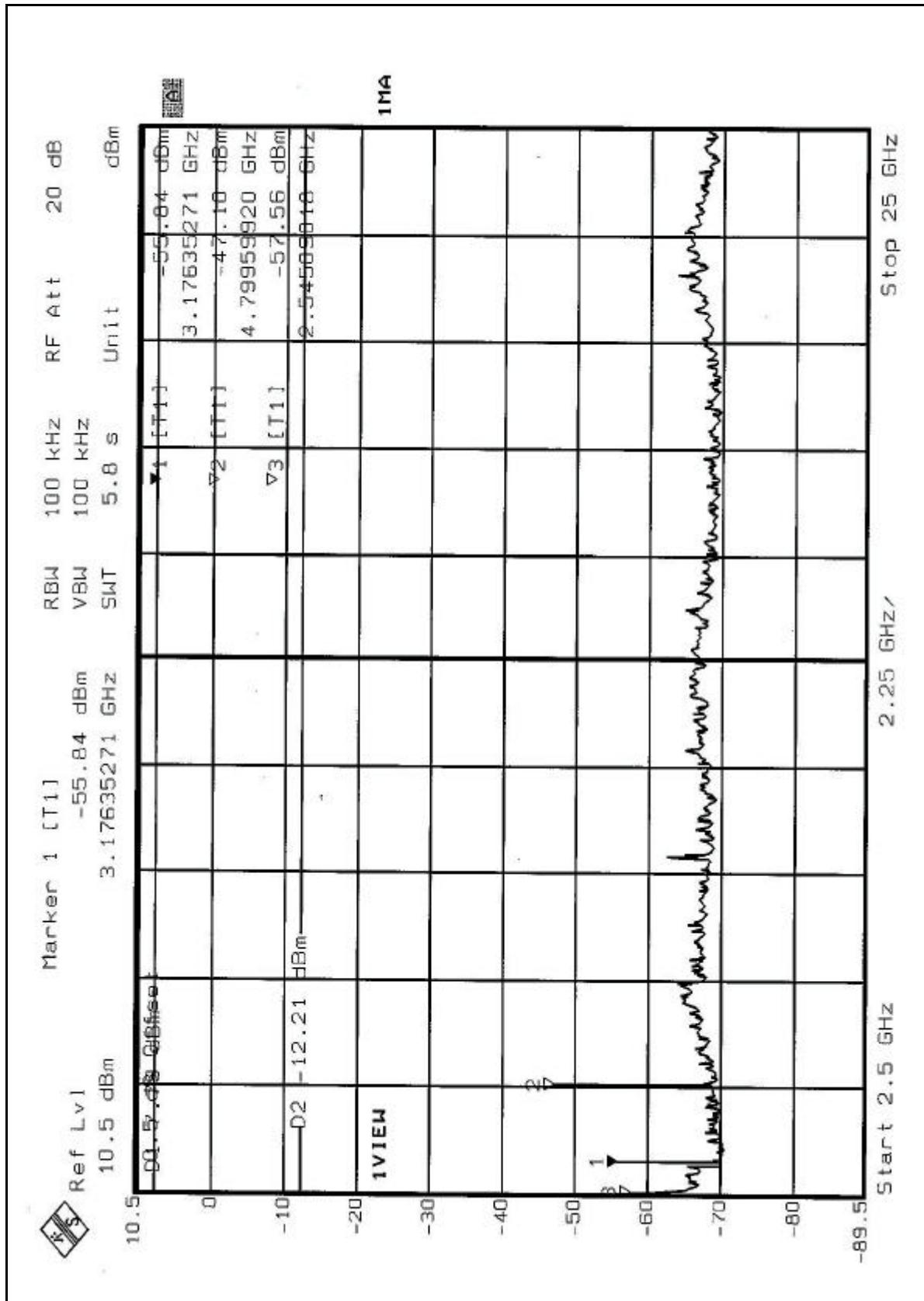
The spectrum plots are attached on the following 4 pages. D2 line indicates the highest level, D1 line indicates the 20dB offset below D2. It shows compliance with the requirement in part 15.247(C).

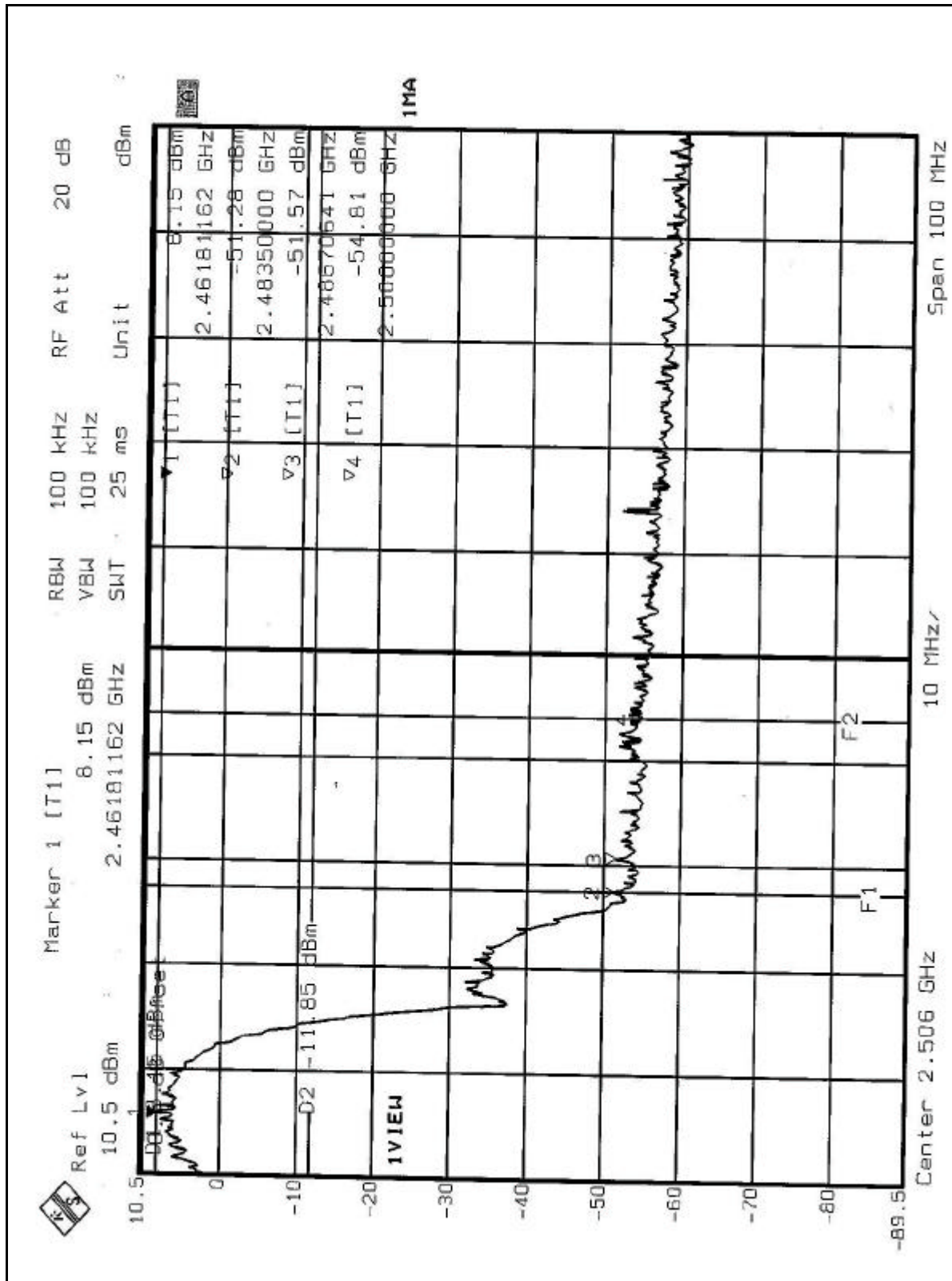
NOTE:

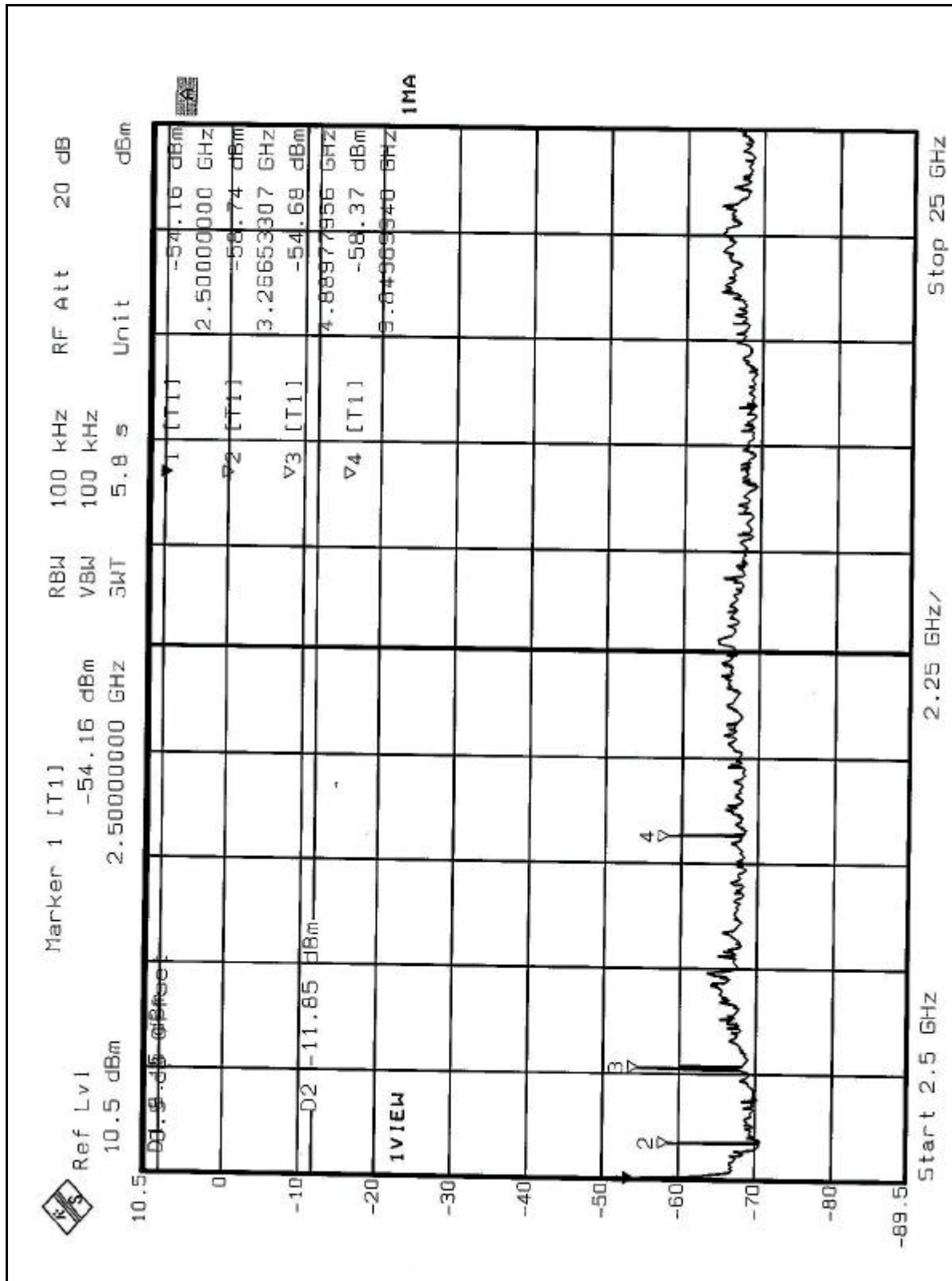
The band edge emission plot on the following 1~2 pages show 57.93dB delta between carrier maximum power and local maximum emission in restrict band (2.3200GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2.8 is 104.11dBuV/m, so the maximum field strength in restrict band is $104.11 - 57.93 = 46.18$ dBuV/m which is under 54dBuV/m limit.

The band edge emission plot on the following 3~4 pages show 59.43dB delta between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2.8 is 105.51dBuV/m, so the maximum field strength in restrict band is $105.51 - 59.43 = 46.08$ dBuV/m which is under 54dBuV/m limit.











4.6.7 TEST RESULTS (B)

The spectrum plots are attached on the following 8 pages. D2 line indicates the highest level, D1 line indicates the 20dB offset below D2. It shows compliance with the requirement in part 15.247(C).

Normal mode

NOTE :

The band edge emission plot on the following 1~2 pages show 50.31dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2.9 is 100.57dBuV/m, so the maximum field strength in restrict band is $100.57-50.31=50.26$ dBuV/m which is under 54dBuV/m limit.

The band edge emission plot on the following 3~4 pages show 48.64dB delta between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2.9 is 99.86dBuV/m, so the maximum field strength in restrict band is $99.86-48.64=51.22$ dBuV/m which is under 54dBuV/m limit.

Turbo mode

NOTE :

The band edge emission plot on the following 5~6 pages show 49.97dB delta between carrier maximum power and local maximum emission in restrict band (2.3198GHz). The emission of carrier strength list in the test result of channel 6 at the item 4.2.9 is 97.87dBuV/m, so the maximum field strength in restrict band is $97.87-49.97=47.90$ dBuV/m which is under 54dBuV/m limit.

The band edge emission plot on the following 7~8 pages show 50.04dB delta between carrier maximum power and local maximum emission in restrict band (2.4839GHz). The emission of carrier strength list in the test result of channel 6 at the item 4.2.9 is 97.87dBuV/m, so the maximum field strength in restrict band is $97.87-50.04=47.83$ dBuV/m which is under 54dBuV/m limit.

