A

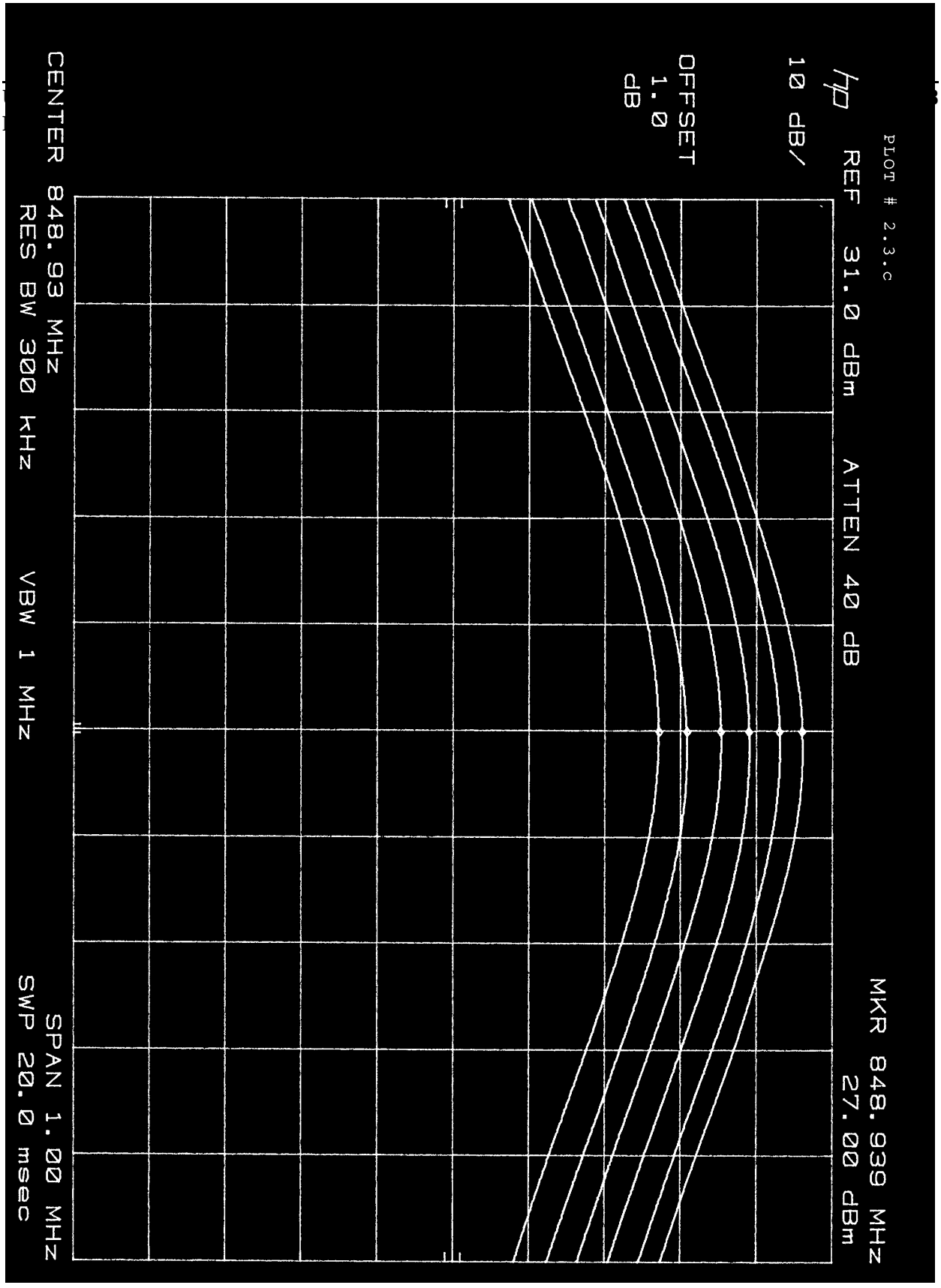
Requested Test Report Pages (4, 6, 12, 13, 16, 17, 18, & 19) for
FCC Part 22 Type Acceptance Application for U.S. Wireless Data Inc.
Reference #4578

CDPD Data Module
Model: USWD500

FCC ID: N5RUSWD500

Date of Test: July 30, 1998

Report #: J98023667



6.0 **Emission Limitations, Occupied Bandwidth**, FCC § 22.917(b)(d), FCC § 2.989(b)(1)

For F3E/F3D emission mask uses with audio filter, the mean power of emissions must be attenuated below the mean power of the unmodulated carrier wave (P) as follows:

(1) On any frequency removed from the carrier frequency by more than 20 kHz but not more than 45 kHz: at least 26 dB;

(2) On any frequency removed from the carrier frequency by more than 45 kHz, up to the first multiple of the carrier frequency: at least 60 dB or 43 + 10 log P dB, whichever is the lesser attenuation.

For F1D emission mask, the mean power of emissions must be attenuated below the mean power of the unmodualted carrier (P) as follows:

(1) On any frequency removed from the carrier frequency by more than 20 kHz but no more than 45 kHz: at least 26 dB;

(2) On any frequency removed from the carrier frequency by more than 45 kHz but not more than 90 kHz: at least 45 dB;

(2) On any frequency removed from the carrier frequency by more than 90 kHz, up to the first multiple ofthe carrier frequency: at least 60 dB or 43 +10 log P db, whichever is the lesser attenuation.

6.1 Test Procedure

The RF output of the transceiver was connected to the input of the spectrum analyzer through sufficient attenuation.

The spectrum with no modulation was recorded.

The resolution bandwidth of the spectrum analyzer was set at 300 Hz and the spectrum was recorded in the frequency band ±50 kHz and ±150 kHz from the carrier frequency.

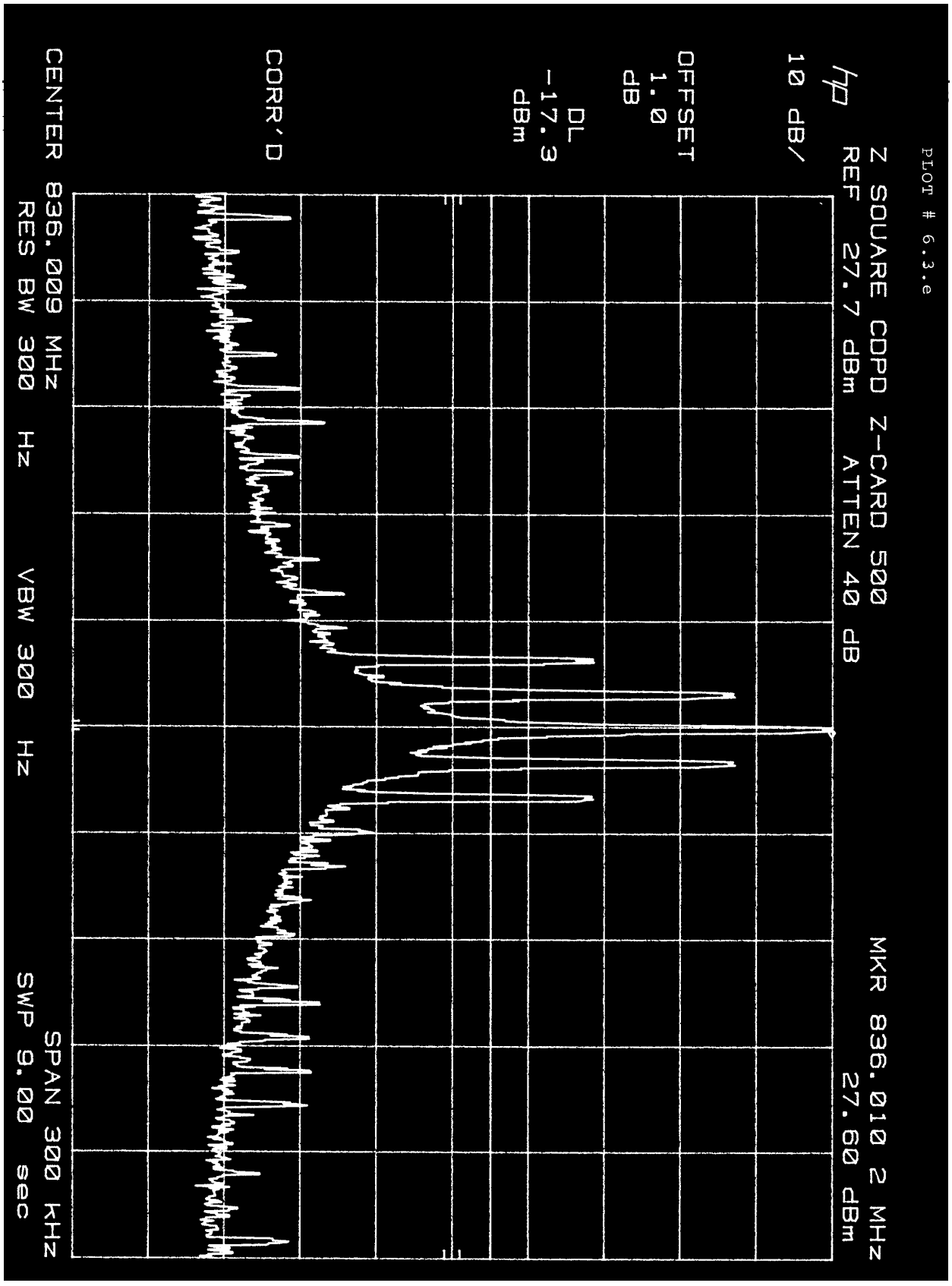
6.2 Test Equipment

HP 8566B Spectrum Analyzer
Leader LFG-1300S Function Generator
Leader LMV-182 AC Millivoltmeter
Marconi 2955A Radio Communication Test Set
HP 7470A Plotter

6.3 Test Results

Passes	Refer to the attached plots.

Plot Number	Description
6.3.a	Carrier (No modulation), scan 100 kHz
6.3.b	Wideband emissions (Random Numbers), scan 100 kHz
6.3.c	Wideband emissions (Random Numbers), scan 300 kHz
6.3.d	0,1,0,1, data scan 100 kHz
6.3.e	0,1,0,1, data scan 300 kHz


PLOT # 6.3.e
Z SQUARE CDPD Z-CARD 500
REF 27.7 dBm
ATTEN 40 dB
MKR 836.010 2 MHz
27.60 dBm
10 dB/
OFFSET
1.0
dB
DL
-17.3
dBm
CORR'D
CENTER 836.009 MHz
RES BW 300 Hz
VBW 300 Hz
SPAN 300 kHz
SWP 9.00 sec

7.0 **Out of Band Emissions at Antenna Terminals** , FCC § 22.917(e), FCC § 22.917(f)

Out of Band Emissions:

The mean power of emissions must be attenuated below the mean power of the unmodulated carrier (P) on any frequency twice or more than twice the fundamental frequency by at least 43 + 10 log P dB.

Mobile Emissions in Base Frequency Range:

The mean power of any emissions appearing in the base station frequency range from cellular mobile transmitters operated must be attenuated to a level not to exceed -80 dBm at the transmit antenna connector.

7.1 Test Procedure

The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation. The resolution bandwidth of the spectrum analyzer was set at 30 kHz. The audio modulating signal was adjusted like it is described in Section 6.1 of this report. Sufficient scans were taken to show the outband emissions if any up to 10th harmonic.

7.2 Test Equipment

HP 8566B Spectrum Analyzer
Leader LFG-1300S Function Generator
Leader LMV-182 AC Millivoltmeter