

OCCUPIED BW TEST RESULTS

Contain 3 pages follow this page

3.4 Maximum peak output power test according to §15.247 (b)(2)

3.4.1 Definition of the test

This test was performed to demonstrate that the maximum RF peak output power of the transmitter does not exceed 0.25 watt (24 dBm).

3.4.2 Test set-up

The test was performed at the open field test site at 3 meter test distance with log periodic antenna. The EUT was installed on the 0.8 m high wooden table which was on the top of the metal turntable flush mounted with the ground plane. To find the maximum radiation measuring antenna height was changed from 1 to 4 m, the turntable was rotated 360° and the antennas polarization was changed from vertical to horizontal.

3.4.3 Test results

The peak output power was measured by substitution method at 3 carrier (channel) frequencies (low, middle, high). The transmitting dipole antenna was installed in the position where approximately the center of the EUT was to be placed. The transmitting antenna was fed by the generator signal with enough power ($P_{out\ gen}$) to give a suitable field strength reading on the measuring set for each test frequency.

For example, the measured result @902.5 MHz frequency for the EUT was 110.7 dB(μ V/m). To get this field strength, the 14.9 dBm output power from the signal generator was fed. Maximum peak output power was calculated from equation:

$$P = P_{out\ gen} - \text{Cable loss} + \text{Antenna gain} = \\ = 14.9 \text{ dBm} - 1 \text{ dB} + 1.7 \text{ dB} = 15.6 \text{ dBm}$$

All measured results are given in Plots 3.4.1 to 3.4.3 and in Table 3.4.

Table 3.4
Transmitter output RF power test results

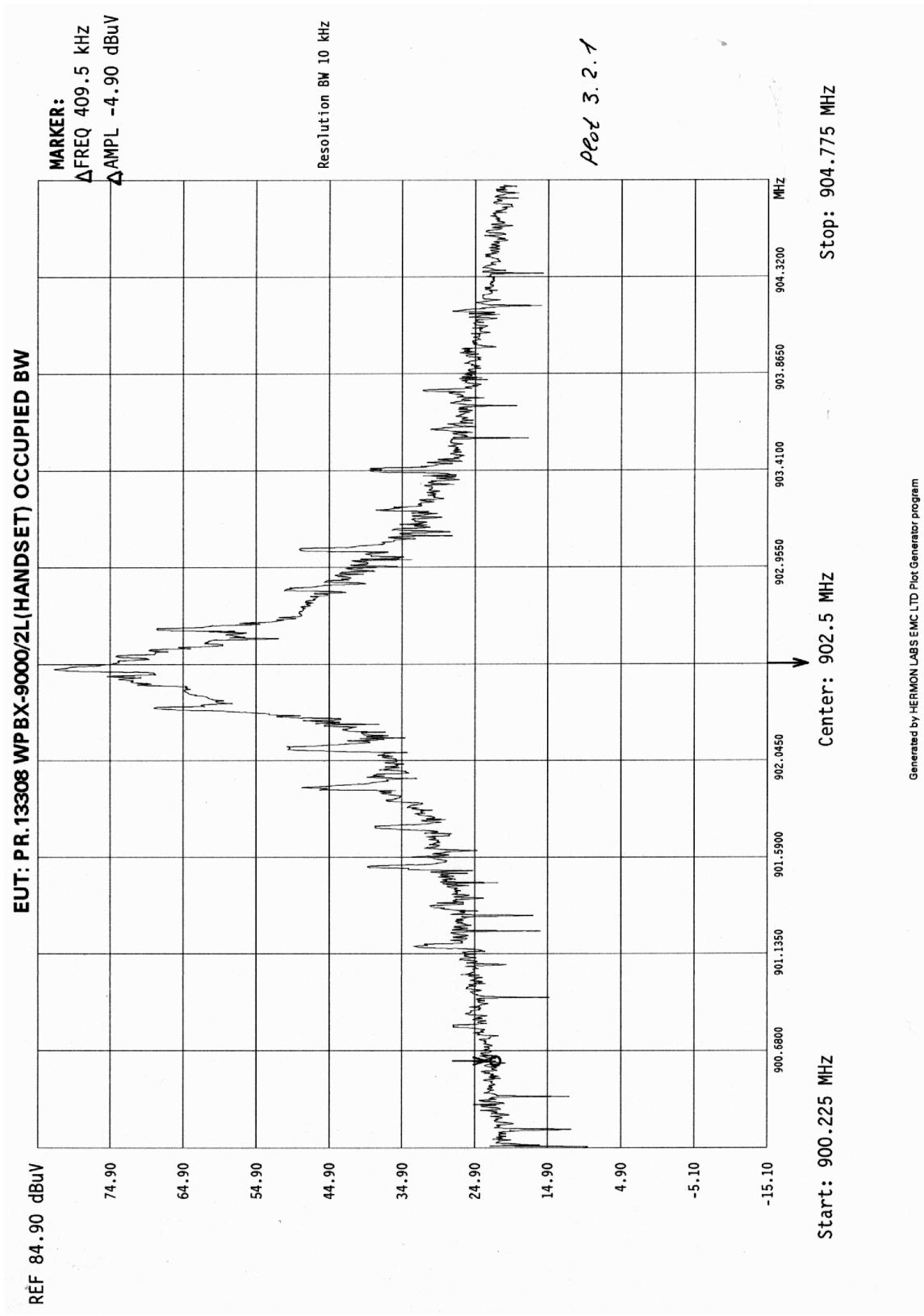
Freq., MHz	Measured radiated emission, dB(μ V/m)	Generator P_{out} dBm	Cable dB	Dipole Antenna gain dB	Peak output power, dBm	Limit, dBm	Margin dB	Result
902.5	110.7	14.9	1.0	1.7	15.6	24	8.4	Pass
915.0	111.2	15.4	1.0	1.7	16.1	24	7.9	Pass
927.0	112.4	16.6	1.0	1.7	17.3	24	6.7	Pass

Reference numbers of test equipment used

HL 0027	HL 0557	HL 0614	HL 0813	HL 0815	HL 0816	HL 1175
---------	---------	---------	---------	---------	---------	---------

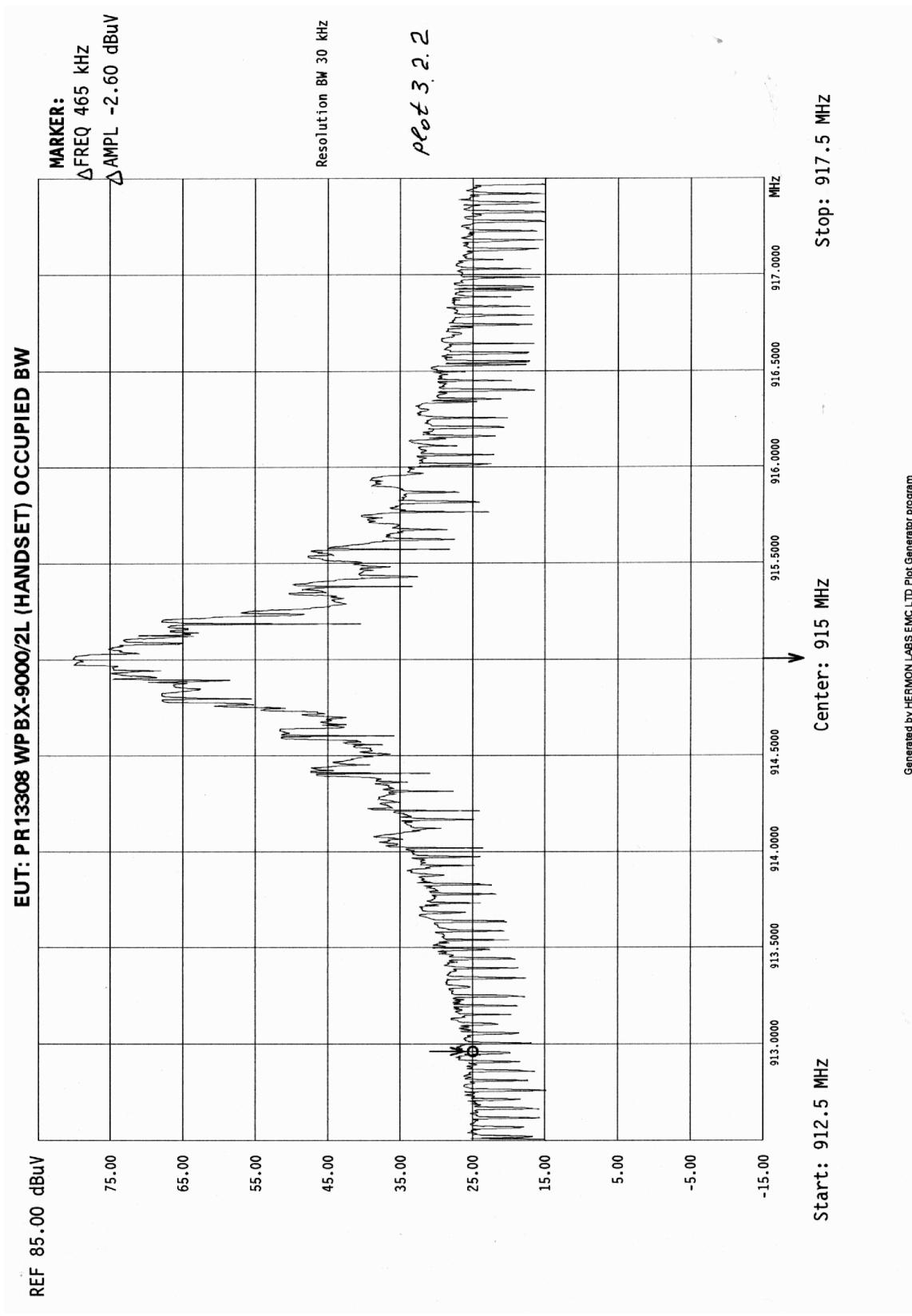
Full description is given in Appendix A.

Plot 3.2.1



Generated by HERMON LABS EMC LTD Plot Generator program

Plot 3.2.2



Plot 3.2.3

