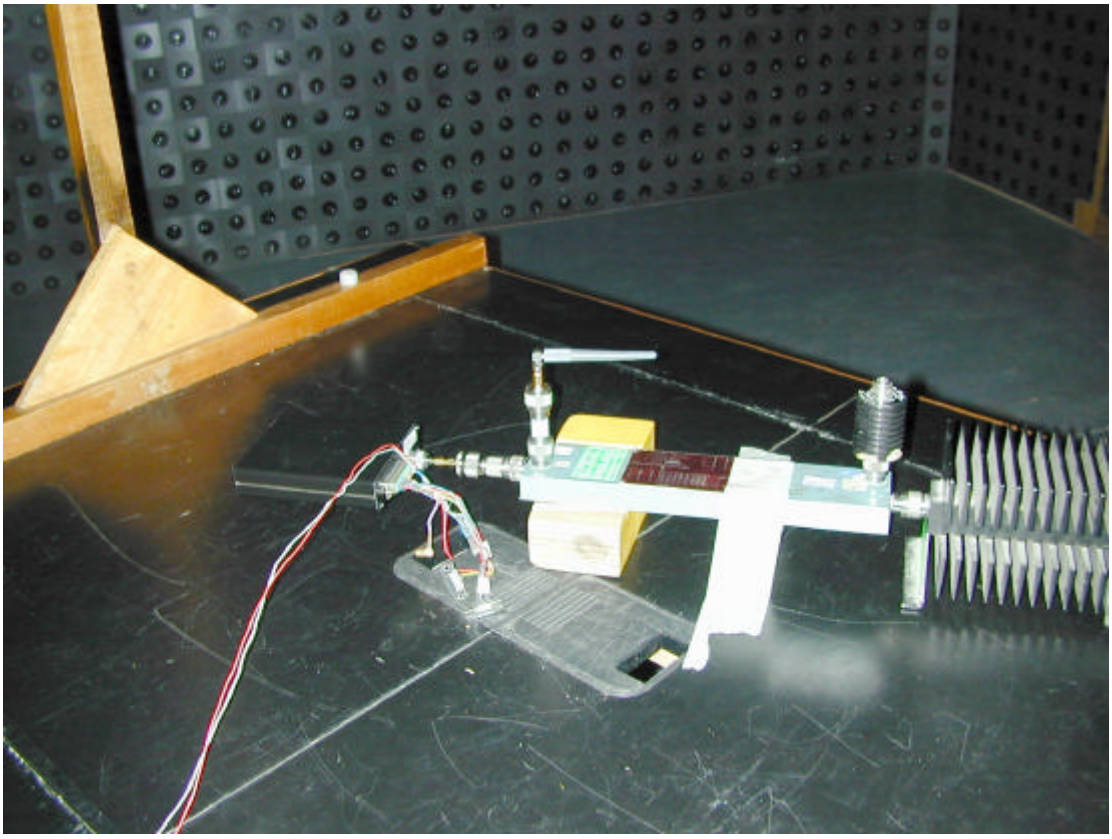
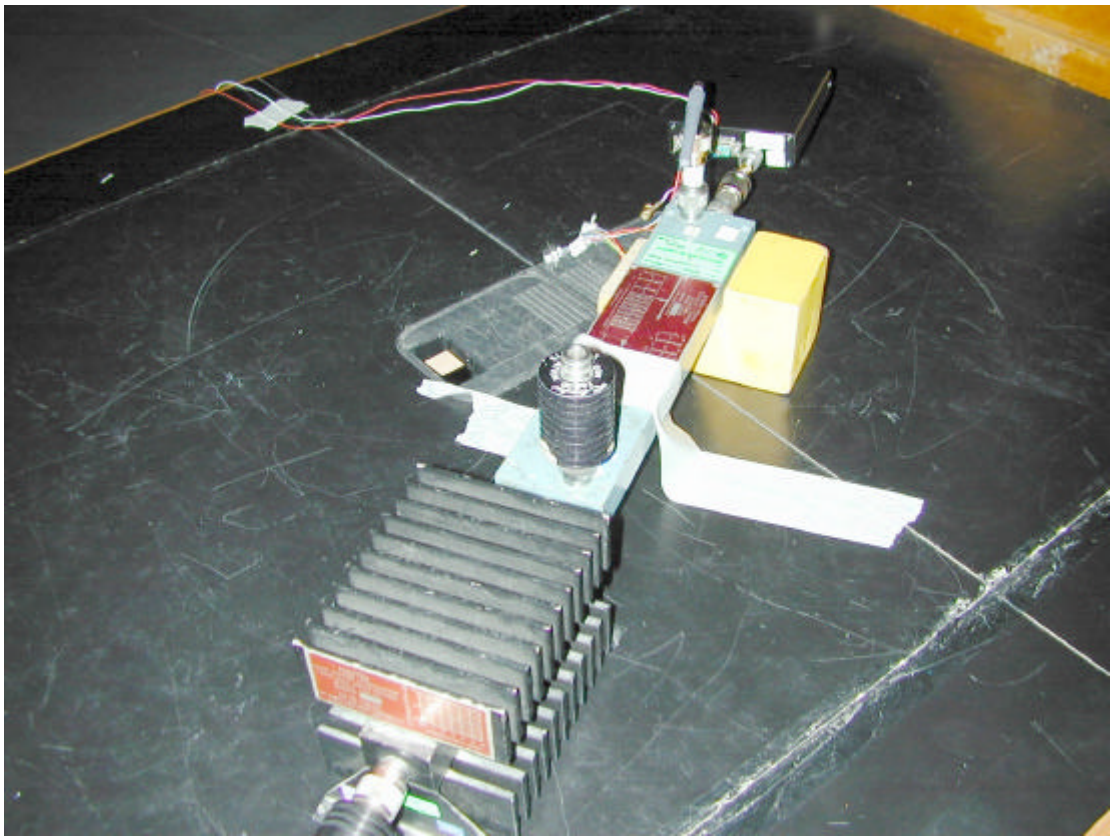
Photograph 4.1.3
Setup for radiated emission measurements



Photograph 4.1.4
Setup for radiated emission measurements



4.2 Effective radiated power measurements according to FCC part 90 paragraph 205j

4.2.1 General

This test was performed to determine maximal effective radiated power.
The standard specification limit is 30 W ERP.

4.2.2 Test procedure

The EUT was set up as shown in Figure 2.4.1b, Photograph 4.2.1. The measurements were made with spectrum analyzer.

The 8.5 W ERP was calculated according to formula

$$\mathbf{P = P_{SA} + Att_{ext},}$$

where P_{SA} = -21.7 dBm,

Att_{ext} = 61 dB,

$$P = -21.7 \text{ dBm} + 61 \text{ dB} = 39.3 \text{ dBm} = 8.5 \text{ W}.$$

The measurements were repeated with power meter, see Photograph 4.2.2, and 8.9 W ERP was obtained according to the same formula:

$$\mathbf{P = P_{PM} + Att_{ext},}$$

where

P_{PM} = -21.5 dBm,

$$P = -21.5 \text{ dBm} + 61 \text{ dB} = 39.5 \text{ dBm} = 8.9 \text{ W}.$$

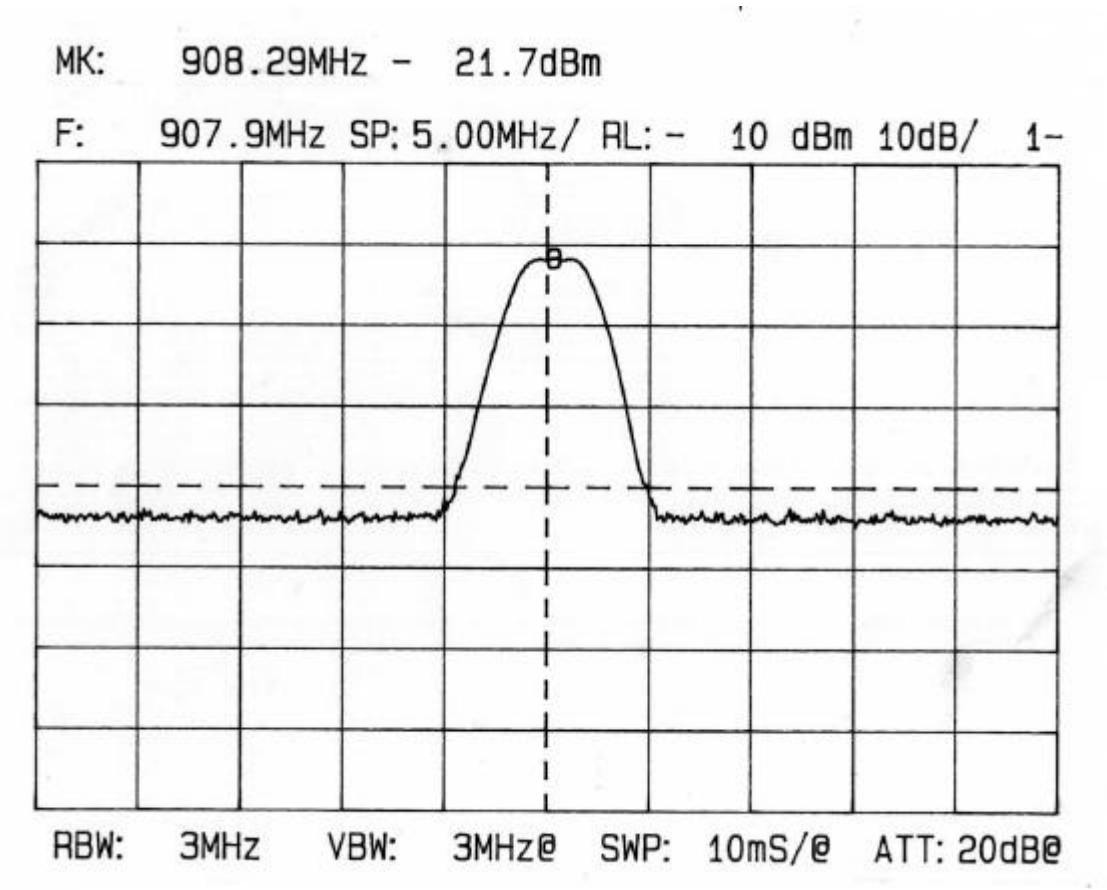
The test result is shown in Plot 4.2.1.

Reference numbers of test equipment used

HL 0025	HL 0056	HL 0316	HL 0317	HL 0872

Full description is in Appendix A.

Plot 4.2.1
ERP measurement



External attenuation = 61 dB.

Photograph 4.2.1
Set up for ERP measurement with spectrum analyzer

Photograph 4.2.2
Set up for ERP measurement with power meter