

The limit for unwanted emission was recalculated relative to the EUT output as follows:

$$10 \times \log (.05763 \text{ watts}) = -12.4 \text{ dB watts}$$

The requirement is $43 + 10 \times \log (\text{watts})$

Substituting -12.4 in above equation is $43 + (-12.4) = 30.6 \text{ dB}$ below carrier

Carrier level is $10 \times \log (57.63 \text{ mw}) = +17.6 \text{ dBm}$

Limit is then $+17.6$ (Carrier) $- 30.6$ (requirement) $= -13 \text{ dBm}$

Measurement Setup and Procedure:

The EUT was placed on the OATS table (or 1 meter setup above 865 MHz) and normal Radiated Emissions measurements were made and recorded in dBuV for the worst case polarity and EUT orthogonal orientation and azimuth. Above 865 MHz a 10 meter Armored microwave cable was used.

An appropriate antenna for the frequency was substituted for the EUT in a matching polarization. A signal generator in CW mode was connected to a HP11667A power divider. The power divider was connected to the 100 foot RG-214 cable, or the 10 meter Armored cable, going to the antenna on one side and to a HP8482A power sensor connected to a HP436A power meter on the other side.

The signal generator was set to the frequency in question and the output adjusted as required to match the previously measured signal from the EUT. The receiving antenna was height scanned for a peak amplitude. In some cases it was necessary to add additional HP 9491B attenuators to the power divider output going to the antenna. When these attenuators were added the level as read on the power meter was adjusted down by the same amount as the additional attenuation added. The power meter reading, or adjusted reading was recorded.

The cable loss was subtracted from the power meter reading, or adjusted reading, to get the power at the substitution antenna. The Substitution Antenna Gain relative to a dipole was then added to the above calculated power to arrive at the Effective Radiated Power of the EUT.

The Limit was subtracted from the Effective radiated power to arrive at a margin.

The substitution procedure was repeated with an appropriate antenna for all the frequencies recorded in the first step.