Shielding a Commercial Building from Cellular RF Frequency Radiation

An Example of Practical Real Life Shielding Application

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The Roof and Antennas

The roof of a commercial building with cellular antennas hidden in the fake cupola. The task is to shield occupants from RF radiation exposure.

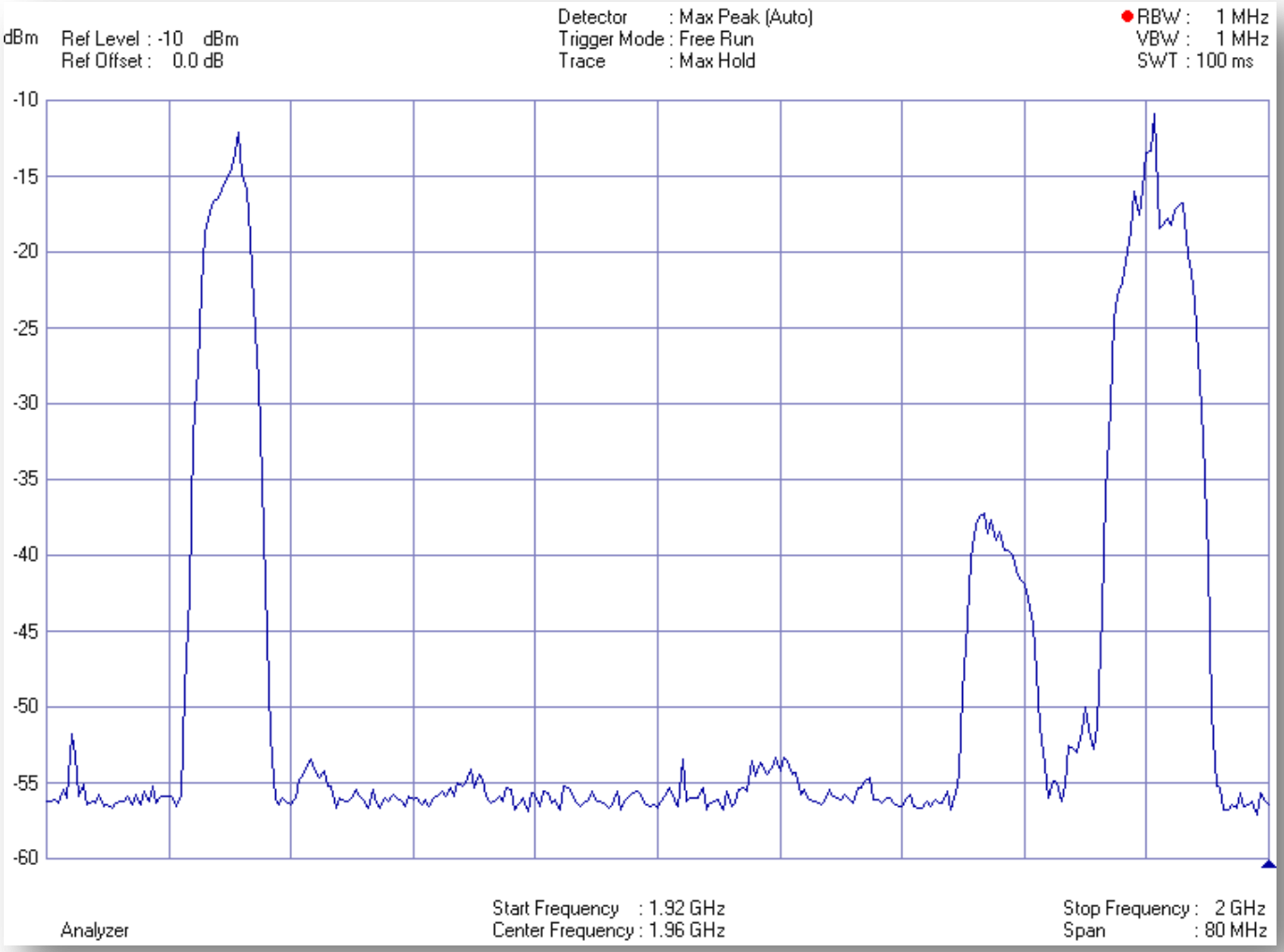
The Cellular Antennas

Six antennas are located inside this fake building with a skylight next to it.

The roof is going to be replace and at that time RF shielding is being installed.

The Spectrum Analysis

Our Spectrum analysis determined two wideband CDMA channels in the 1950 MHz range were being emitted from the roof-top antennas



The New Roof Sheeting

New plywood sheeting was installed due to roofing deterioration.

This was not necessary for the RF shielding system itself.

The Shielding Material

Cuprotect® is a patented RF shielding system manufactured in Germany. The material is now available with distribution in the US.

The Interconnection

Starting with a corner section, the whole shielding system interlocks with its patented design.
This feature prevent gaps between the different section of the material.

Including Penetrations

Penetration are important because they contribute to an antenna effect.
27 penetrations are integrated into the entire shielding system.

Lifting the Load

The entire antenna array including the fake cupola are lifted off the roof to allow installation and coverage of the shielding material underneath the antennas.

The Grounding System

The entire shielding system is grounded.

The Skylight Challenge

The skylight is the largest penetration in this roof assembly.

The Skylight Challenge

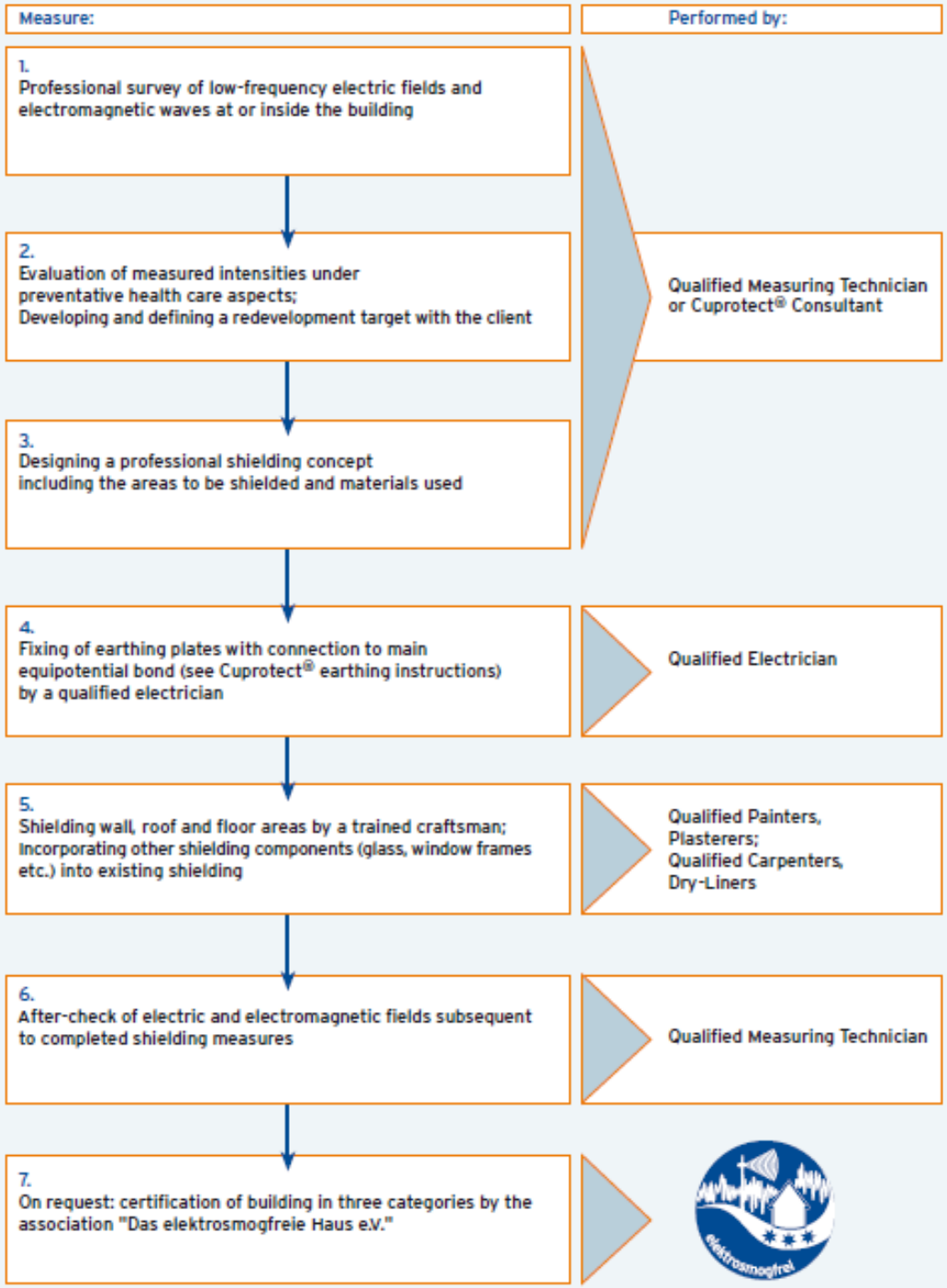
Therefore, the shielding mesh is installed and integrated into the shielding system.

The Roof on Top

The underlayment for the roofing system is installed on top of the Cuprotect® shielding system.

The Roofing Membrane

The final layer of the roofing system, a TPO membrane is installed as the final layer to be the water shedding membrane.



EMF&RF solutions

Guide for the Design and Implementation of Professional Shielding Measures

Project Completed

The Project Team

RF Consultant

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