



Physical Installation

A radial waveguide antenna is placed on top of a vending machine (vendor) at a position 15 cm back from the front edge. The door top is 187 above the floor.

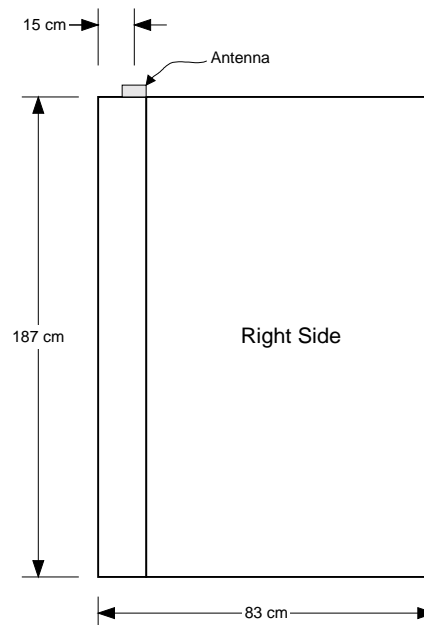


Figure 1. Vendor dimensions and antenna placement

A person operating the vendor will be standing in some position in front of the unit. Spacing to the customer is typically 40 cm or greater.

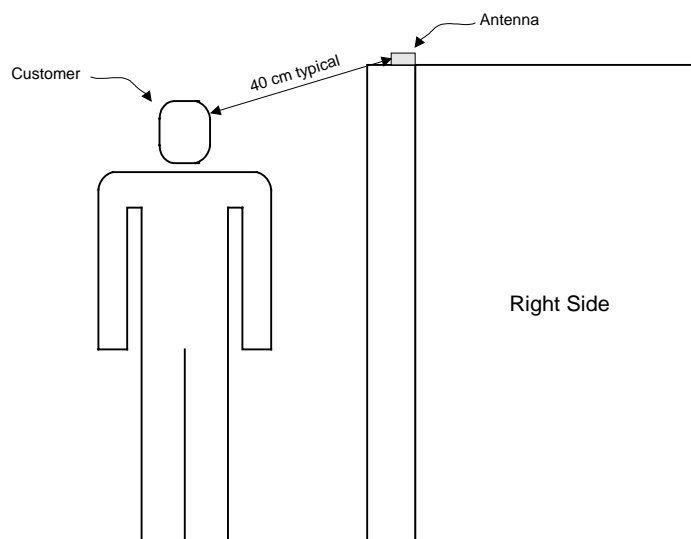


Figure 2. Customer relationship to vendor



Field Strength Measurements

Field strength measurements were taken using an electric field probe and a test transceiver. The transceiver was placed in the normal installed position and connected to an antenna of the type used for field installations. Antenna placement is representative of the final installation. The transceiver was caused to transmit a continuous carrier at the normal frequency of operation. This represents the worst case field intensity in an FM system.

The following operating parameters apply:

Parameter	Value
Modulation type	FSK
Output power	2 watts maximum
Operating frequency range	896 MHz to 901 MHz

Equipment used is as follows:

Manufacturer	Description	Model Number	Serial Number
Chase	Antenna	CBL 6121A	1025
Chase	Probe	EMC20	2244/29

The test setup is shown in Figure 3. Measurements were taken with the probe mounted to a non-magnetic, non-conducting tripod set in front of the vending machine.

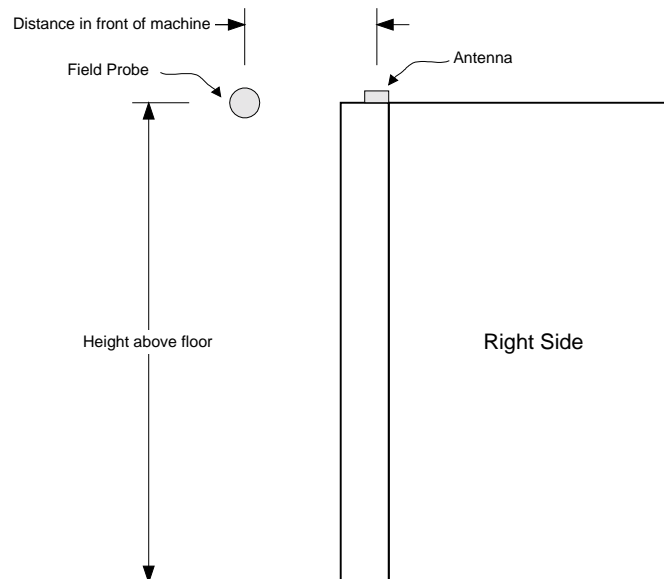


Figure 3. Probe placement for measurements



The probe was moved to a variety of positions and the electric field intensity was recorded. Table 1 shows the results.

Field Intensities (V/m)

Distance in front of machine (m)	Height above floor (m)			
	1.50	1.75	2.00	2.25
0.20	7.730	8.040	39.220	32.390
0.50	3.520	11.200	15.480	17.030
0.75	5.170	9.220	13.520	11.090
1.00	4.650	5.950	7.320	8.590

Table 1. Electric field intensities at various locations in front of the vendor

The resulting power density was calculated from the electric field intensity. Table 2 contains the final results.

Power Densities (mW/cm²)

Distance in front of machine (m)	Height above floor (m)			
	1.50	1.75	2.00	2.25
0.20	0.016	0.017	0.408	0.278
0.50	0.003	0.033	0.064	0.077
0.75	0.007	0.023	0.048	0.033
1.00	0.006	0.009	0.014	0.020

Power Density Limit = 0.6 mW/cm²

Table 2. Power densities at various locations in front of the vendor

At all measured points the power density was below the limit called for in Parts 2.1091 and 1.1310. A value of $f/1500$, or 0.6 mW/cm² is indicated. The highest power density encountered was 0.4 mW/cm² at a level 2 meters above the floor.

We believe that this level combined with the height of the machine and typical customer relationships to the machine will assure MPE compliance.