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Test Report

4th of December 2025

Ordered by : **PINTURAS ADORAL**
Crra. Nacional 301 Km. 215.700
02630 La Roda (Albacete)
España

Tested device: **Anti-radiation paint E-Wifi**
(With two coats at 5g each, applied to a plasterboard panel)

Subject: Measuring the shielding efficiency (SE) against electromagnetic waves from 800 MHz to 6 GHz

Regulations: According to ASTM D-4935-18

Date of measurements: 3rd of December 2025

Volume: 4 pages text and 1 appendix

Comments: The shielding-results of the test specimen are listed in table 2 and can be confirmed by the inserted printed values in the headlines of the measured trace in the appendix.
The measurements between **800 MHz** and **6 GHz** proved remarkable good shielding values between **29 dB** and **33dB**.

At 30 dB only one thousandth of the incident radiation-power can be measured behind the coated plasterboard plate.

1. Introduction

To explain the measured diagrams, it is helpful to use this table. You can easily find the relation between shielding in „dB“ and the transmitted power in „%“.

To calculate the dB-value from the incident power P_1 respectively field strength E_1 and the transmitted power P_2 or field strength E_2 , one has to use the following

equation:
$$a_{Shield} = 10 \cdot \log \frac{P_2}{P_1} = 20 \cdot \log \frac{E_2}{E_1} \text{ in decibel (dB)}$$

The network analyzer presents the results of the shielding measurements in „Decibel“ (dB). The mode of measurement is a typical transmission measurement (S₂₁-measurement). The dB value describes, how much the level of an incident power or power flux density has decreased, passing the device under test.

It describes values of field-strength as well. But the calculation of the percent-values in the table at the right refers to the power-relationships.

Conversion of Decibel to Percent of transmitted Power			
dB	Power Transmission in %	dB	Power Transmission in %
0	100,00		
1	81.00	21	0.78
2	62.80	22	0.63
3	50.00	23	0.50
4	40.00	24	0.39
5	31.60	25	0.31
6	25.00	26	0.25
7	20.00	27	0.20
8	16.00	28	0.18
9	12.50	29	0.12
10	10.00	30	0.10
11	7.90	31	0,08
12	6.25	32	0.06
13	5.00	33	0.05
14	4.00	34	0.04
15	3.13	35	0.03
16	2.50	36	0.02
17	2.00	37	0.02
18	1.56	38	0.02
19	1.20	39	0.02
20	1.00	40	0.01

Table 1: Conversion of SE-values, given in dB, In percent values of transmitted power

3. Results

In the appendix the shielding efficiency of the coated plasterboard plate is presented in the diagram between 800 MHz and 6 GHz.

In table 2 you will find the results, listed at some selected frequencies.

Frequencies	900 MHz GSM900 LTE	1800MHz GSM1800 LTE	2450 MHz W-LAN Bluetooth	3.2 -3.8GHz 5G	5.8GHz
Anti-Radiation Paint E-Wifi	33 dB	31 dB	29 dB	30 dB	32 dB

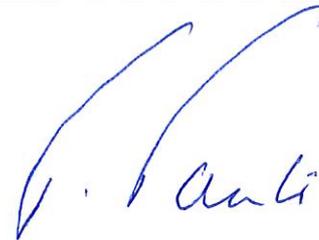
Table 2: Shielding values of the plasterboard plate, covered with two coats of **E-Wifi**

To interpret the shielding values, one should use table 1 of this test report.

It tells for example, that a shielding of 30 dB reduces the power, which penetrates the sample, down to 0.1%. Therefore **99.9 %** of the incident power is deleted by the shielding paint.

Neubiberg/Bad Tölz,

4th of December 2025



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Test device:

Plasterboard plate, covered with two coats of the anti-radiation paint E-Wifi

Frequency: 800 MHz – 6 GHz

