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				Classification: Confidential	
Date: 6 October 2025	Prepared by: Mikko Halonen			Version: 1.0	Page/pages: 1 of 18

# RF Test Report

EUFI29-25003357-S1

## RF Shielding Testing for Signal Protection Bag

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# RF Test Report

## Electromagnetic Compatibility




Purpose of test:	Product development test
Equipment under test:	Signal protection bag
Model:	Small and Big signal protection bags
Manufacturer/ Customer:	Kaso Oy
Contact information:	Lyhtytie 2 00750 Helsinki Finland
Test laboratory:	Eurofins Electric & Electronics Finland Oy, Hyvoninkatu 1 lab
Laboratory contact information:	Hyvoninkatu 1, 24240 Salo, Finland tel: +358 (0) 40 631 1311 e-mail: <a href="mailto:EEinfo@eurofins.fi">EEinfo@eurofins.fi</a>

<b>Date:</b>	6 October 2025		
<b>Prepared By:</b>	Mikko Halonen		

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## 1 Version History

Version	Description	Date
1.0	Initial release	6 October 2025
-	-	-

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## 2 Introduction

### 2.1 Scope


This document includes complete test results from RF Shielding testing to Signal protection bags. It describes the test schedule, test information, exceptions in test procedure / set-up, possible description of failures, test results, used test equipment and software, identification of tested units, test place and environment, test report distribution and person(s) who made the test. Document may also contain recorded monitoring data and detailed test specifications if needed.

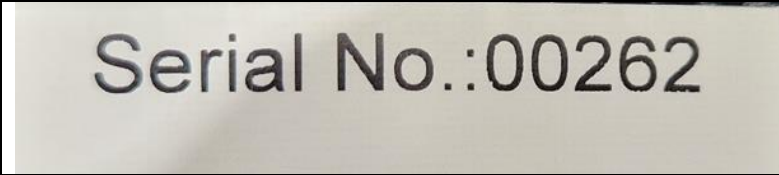
### 2.2 Abbreviations

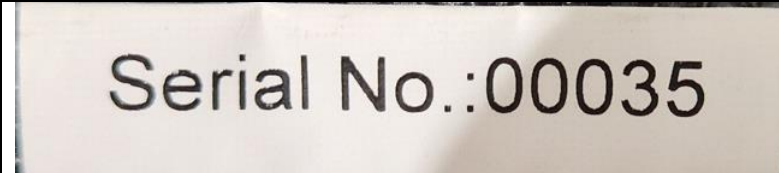
Abbreviation	Description
EUT	Equipment Under Test
STD	Standard
ID	Identification
SW	Software
HW	Hardware
NC	No calibration
S/N	Serial number


## 3 Equipment Under Test

EUT general information from Datasheet/Customer	
General product description	Signal protection bag
Model	Small and Big signal protection bag
Highest operating frequency [MHz]	-
Power input port type	-
Rated voltage [Vdc / Vac]	-
Rated frequency [Hz]	-
SW version	-
HW version	-
EUT dimensions [mm]	Small: Height: 267 Width: 258 Big: Height: 550 Width: 385
Weight [g]	Small: 180 Big: 380
Product variants	-

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EUT identification / Small bag	
Type label photo	
Model	Small signal protection bag
Serial number	00262

EUT identification / Big bag	
Type label photo	
Model	Big signal protection bag
Serial number	00035


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## 4 Testing Schedule and Results

Test ref.	Test name	Reference standard	Test site	Test Result
6.1	RF Shielding effectiveness	Customer specification EN 55016-2-3:2017 + A1:2019	EMC chamber	NA <sup>(*)</sup>

\*) Test results were not compared to any limit value.

**Results in this test report are valid only for tested EUT(s) defined in Chapter 3.**

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## 5 General test information

### 5.1 Ambient conditions

All the testing is done under controlled temperature and humidity conditions. Ambient conditions at the testing dates are in table below.

Date	Temperature [°C]	Relative Humidity [%]	Barometric pressure [hPa]
3 October 2025	21.6	48.8	1010

### 5.2 Measurement uncertainty

Laboratory calculated measurement uncertainties with coverage factor of 95% (k=2) are:

#### Radiated emission


Frequency Range 30 MHz - 150 MHz	<b>±3.98 dB</b>
Frequency Range 150 MHz - 1 GHz	<b>±4.05 dB</b>
Frequency Range 1 GHz - 6 GHz	<b>±3.70 dB</b>
Frequency Range 6 GHz - 15 GHz	<b>±3.20 dB</b>
Frequency Range 15-26.5 GHz	<b>±3.50 dB</b>

#### Conducted emission

Frequency range 9 kHz - 150 kHz	<b>±2.8 dB</b>
Frequency range 150 kHz-30 MHz	<b>±2.2 dB</b>

### 5.3 Ancillary equipment list

Ancillary equipment	Description
UCA-WBA08-3	Wideband Pocket Antenna SN:18125619

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## 6 Test results

### 6.1 RF Shielding effectiveness

Test standard:	Customer specification EN 55016-2-3:2017 + A1:2019
Test date:	3 October 2025
Test done by:	Mikko Halonen
Test result:	NA


#### 6.1.1 Test Description

Test will be made in Semi Anechoic Chamber (SAC) with floor absorbers. All the tests will be done at the measurement distance of 3 m. Testing will be done in 700 – 6000 MHz frequency range with 100 MHz steps. Horn antenna is used in measurements.

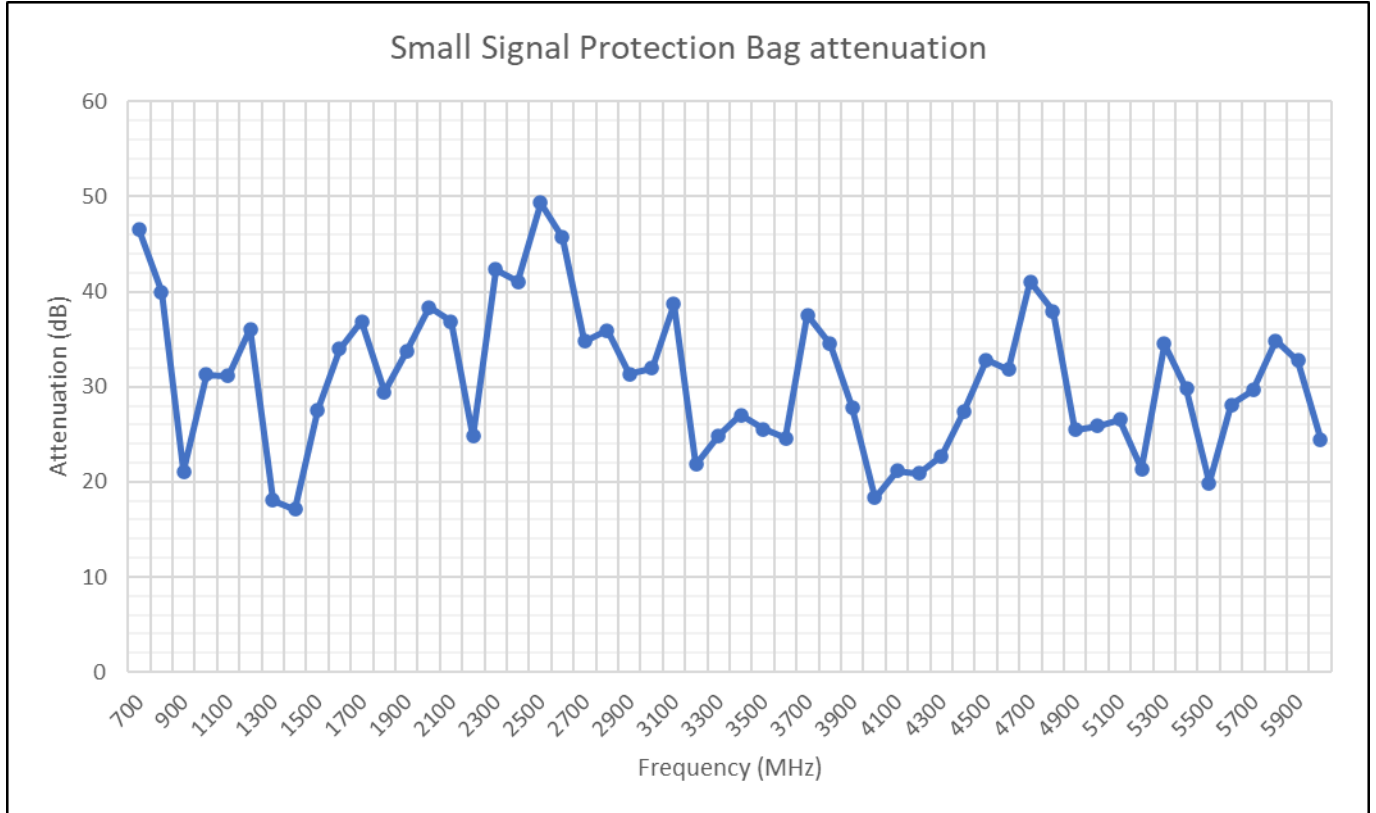
In the test maximum attenuation of the RF shielding is calculated by comparing measurement results of maximum directivity of known reference antenna and measured results when antenna placed inside the closed EUT.

In the test. RF signal to the Reference antenna is generated with signal generator. No modulation will be applied eq. CW carrier only. Leaked signal level from the EUT will be measured with test Receiver with highest dynamic range settings possible and with peak detector.

Setup photos in chapter 7.

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### 6.1.2 Test results, Small Bag



Measured attenuation in the frequency range of 700 MHz – 6 GHz

RESULT TABLE

Freq (MHz)	Small bag Attenuation (dB)
700	46.58
800	39.97
900	21.06
1000	31.29
1100	31.17
1200	36.03
1300	18.05
1400	17.09
1500	27.57
1600	33.94
1700	36.84
1800	29.48
1900	33.67
2000	38.34

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2100	36.86
2200	24.83
2300	42.36
2400	41.02
2500	49.35
2600	45.69
2700	34.78
2800	35.96
2900	31.35
3000	31.92
3100	38.67
3200	21.8
3300	24.85
3400	27.01
3500	25.54
3600	24.59
3700	37.52
3800	34.54
3900	27.86
4000	18.32
4100	21.18
4200	20.9
4300	22.7
4400	27.36
4500	32.82
4600	31.78
4700	41.03
4800	37.94
4900	25.47
5000	25.91
5100	26.53
5200	21.33
5300	34.48
5400	29.76
5500	19.89
5600	28.1
5700	29.68
5800	34.82
5900	32.78
6000	24.48

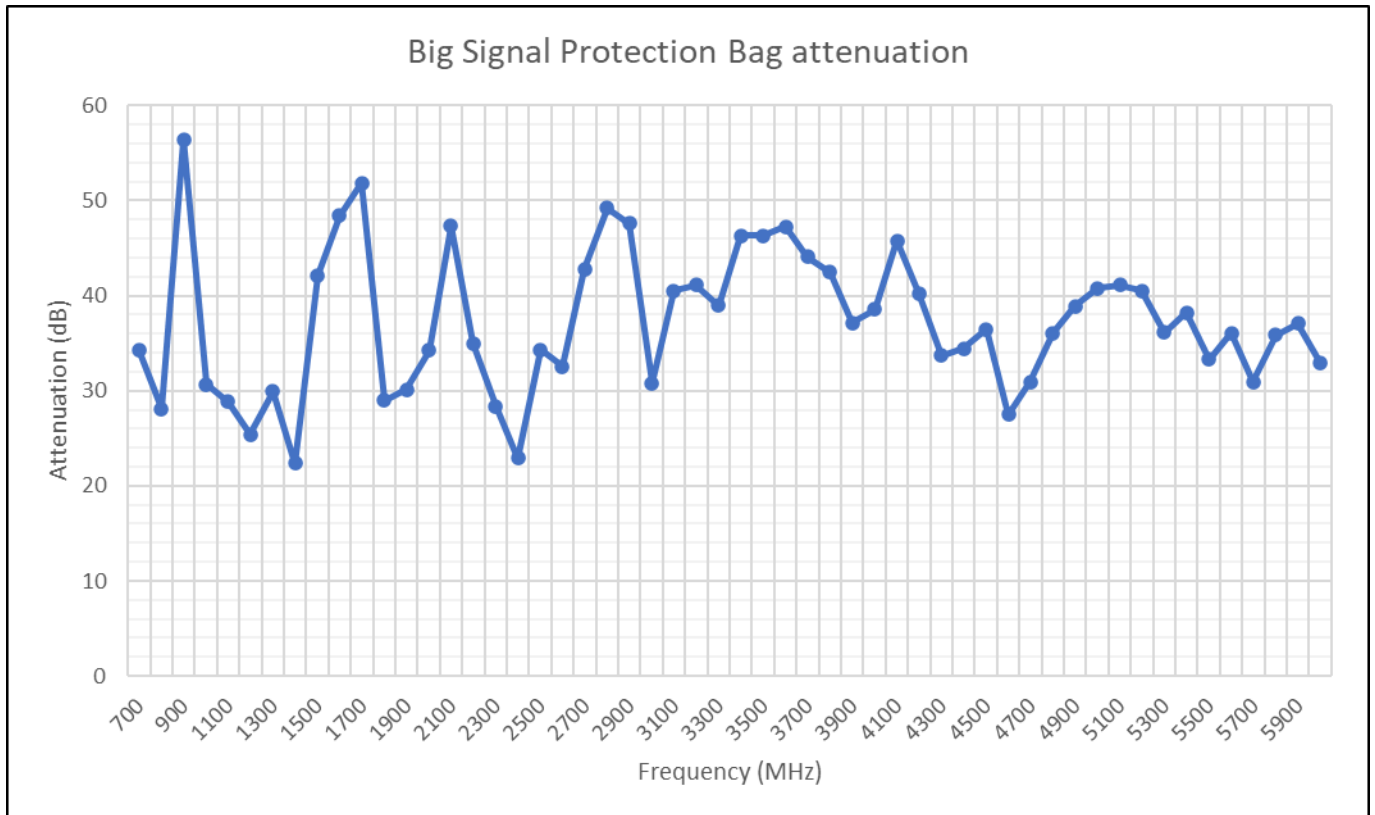
Date:  
6 October 2025

Prepared by:  
Mikko Halonen

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### 6.1.3 Test results, Big Bag




Measured attenuation in the frequency range of 700 MHz – 6 GHz

#### RESULT TABLE

Freq (MHz)	Big bag Attenuation (dB)
700	34.3
800	28.11
900	56.45
1000	30.65
1100	28.85
1200	25.38
1300	29.93
1400	22.39
1500	42.15
1600	48.37
1700	51.84
1800	29
1900	30.11
2000	34.27

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2100	47.31
2200	34.96
2300	28.4
2400	22.93
2500	34.32
2600	32.55
2700	42.78
2800	49.18
2900	47.57
3000	30.79
3100	40.53
3200	41.1
3300	38.94
3400	46.31
3500	46.31
3600	47.29
3700	44.07
3800	42.49
3900	37.15
4000	38.54
4100	45.76
4200	40.26
4300	33.69
4400	34.46
4500	36.47
4600	27.47
4700	30.97
4800	36.07
4900	38.9
5000	40.76
5100	41.11
5200	40.48
5300	36.11
5400	38.23
5500	33.28
5600	36.09
5700	30.94
5800	35.88
5900	37.1
6000	32.92

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## 7 Setup Photos



Photo 1. EUT / Small bag, front side



Photo 2. EUT / Small bag, back side


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Photo 3. EUT / Big bag, front side



Photo 4. EUT / Big bag, back side


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Photo 5. RF Shielding effectiveness test setup, reference measurement

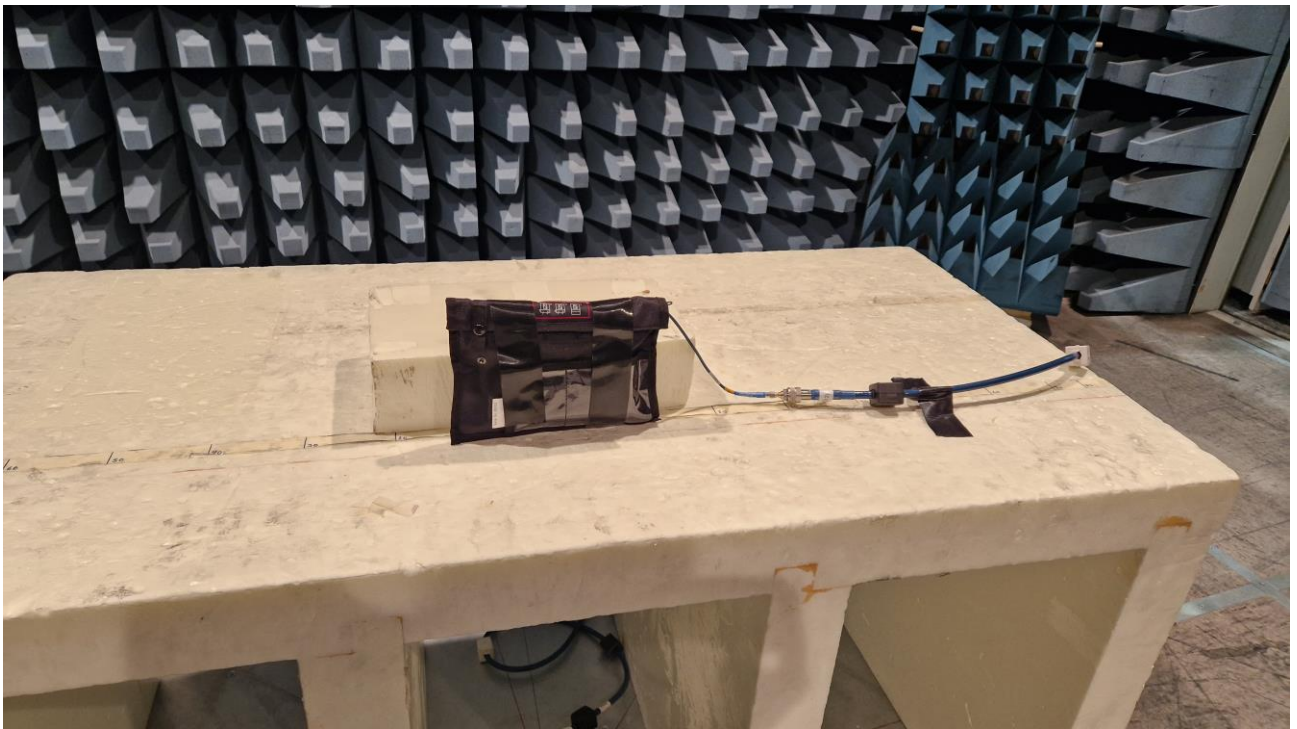


Photo 6. RF Shielding effectiveness test setup, small bag



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Photo 7. RF Shielding effectiveness test setup, big bag

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## 8 List of Test Equipment

Item code	Equipment	Manufacturer	Type	S/N	Calibration date / Calibration due
-	Test software	Rohde&Schwarz	EMC32	NA	NCR
EQM21-M29-003294	EMI Receiver	Rohde&Schwarz	ESW26	1328.4100K26-101422-zF	07-2025 / 07-2026
EQM21-M29-003328	Antenna 1GHz-18GHz	Rohde&Schwarz	HF906	100191	07-2025 / 07-2026
EQM23-M29-012064	LNA Box 1 GHz -18 GHz	Eurofins E&E Finland	LNA4	00001	08-2025 / 08-2026

NCR = No Calibration Required

NC = Not Calibrated

**End Of Report**