SLS1470

General Purpose Inlay - Wet

This document describes the Smart Label Solutions SLS1470 inlay. The SLS1470 inlay is optimized for use with Monza R6 RFID tag chips and is available as either a wet (adhesive backing) or dry (no adhesive backing) product. It is a general-purpose inlay for operation across all worldwide RFID frequency bands and applied to a wide variety of materials.

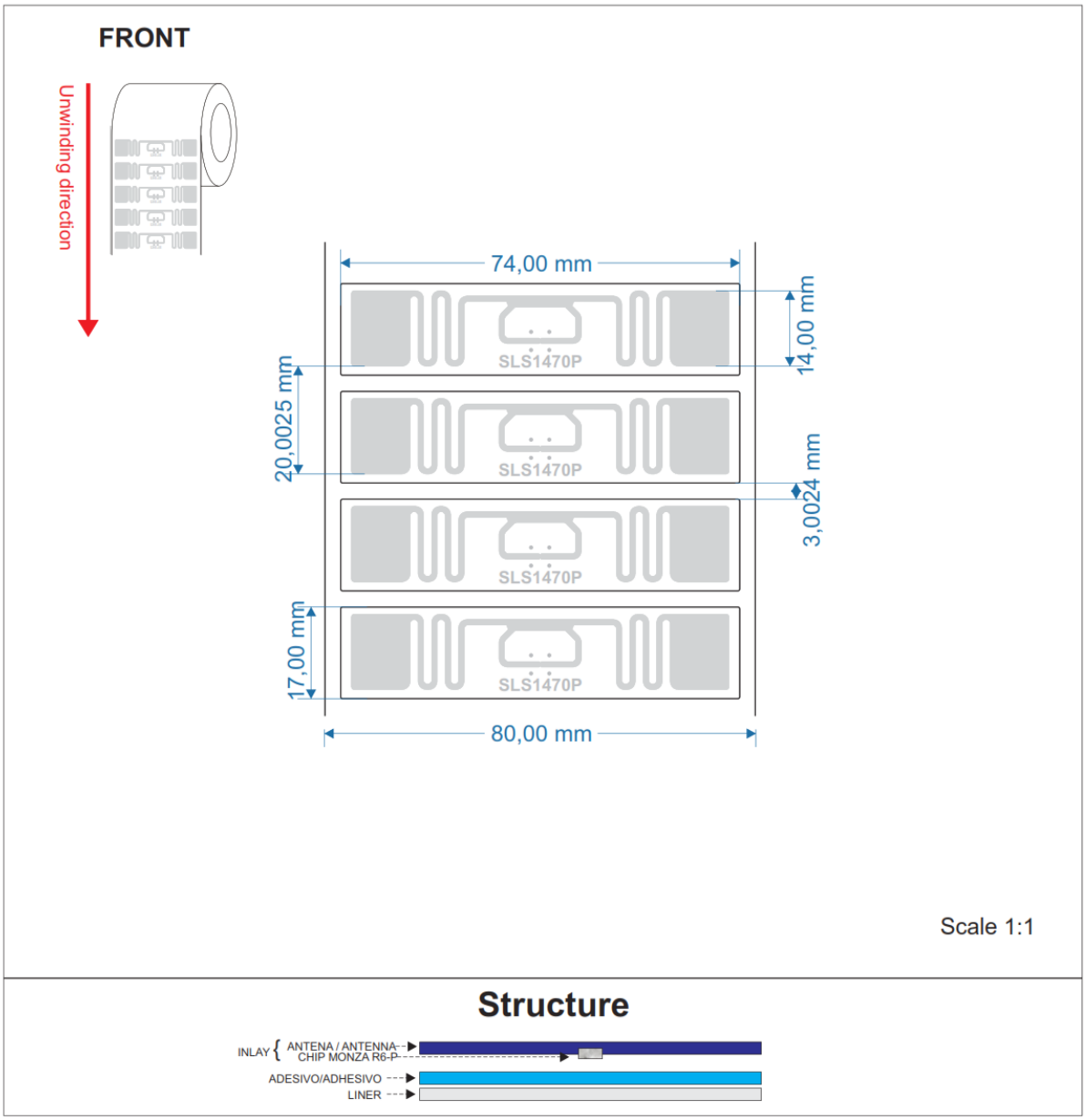

Fig 1 Inlay Dimensions

Inlay Specifications

Dimensions	3.54 x 0.94 “ / 90 x 24 mm
Face Material	PET - Clear
Back Material	Liner with acrylic adhesive ADC 1200
Inlay	SLS2490 with Monza R-6P Chip
Inner Core	3 inch / 76.2 mm
Maximum Roll Size (Outer Diameter)	8 inch / 203 mm or 15 inch / 380 mm
Frequency Band	902 MHz - 928 MHz (FCC) 865 MHz - 868 MHz (ETSI)
International Standard	EPC Class 1 Gen 2 / ISO 18000-6C
Type	Wet Inlay
Chip Info - Memory	Up to 128 bits EPC / 64 bits serialized TID / 64 Bits User
Shelf Life	Minimum 2 years from date of manufacture
Storage Environment	+ 23°C ±3°C / 50% RH ± 5% / 73.4 °F, 50 % RH
Service Environment (Adhesive)	-40 to 90 deg C (when applied between 0 and 26 Deg C).
Ordering Information	SLS Part # 10020265, Includes 14 x 70mm wet inlay

Performance

Samples of tags fabricated using the SLS1470 inlay were characterized in the anechoic chamber under well-controlled conditions. Tags were applied to materials that are consistent, commonly available, and which have electrical characteristics that correlate well with loading effects the tags may encounter in a typical deployment. The typical expected read range across frequency is plotted for the conditions of light, medium, and heavy dielectric loading.

Test Materials

FS: Styrofoam block

CB: Corrugated Cardboard Cox

PL15: Thin plastic (1.5 mm thick LDPE): McMaster-Carr® Part #8657K111

PL30: Thick plastic (3 mm thick HDPE), McMaster-Carr® Part #8657K112

Jeans: Denim Jeans

Books: Notebook, National® Brand chemistry notebook item No. 43-571

Glass: 6” x 6” ¾” thick Borosilicate Glass: McMaster-Carr® Part #8476K16

Note:

1. Lower sensitivity number indicates greater tag sensitivity.

2. The plots illustrate typical frequency responses. The responses may shift depending on inlay material selection and assembly parameters.

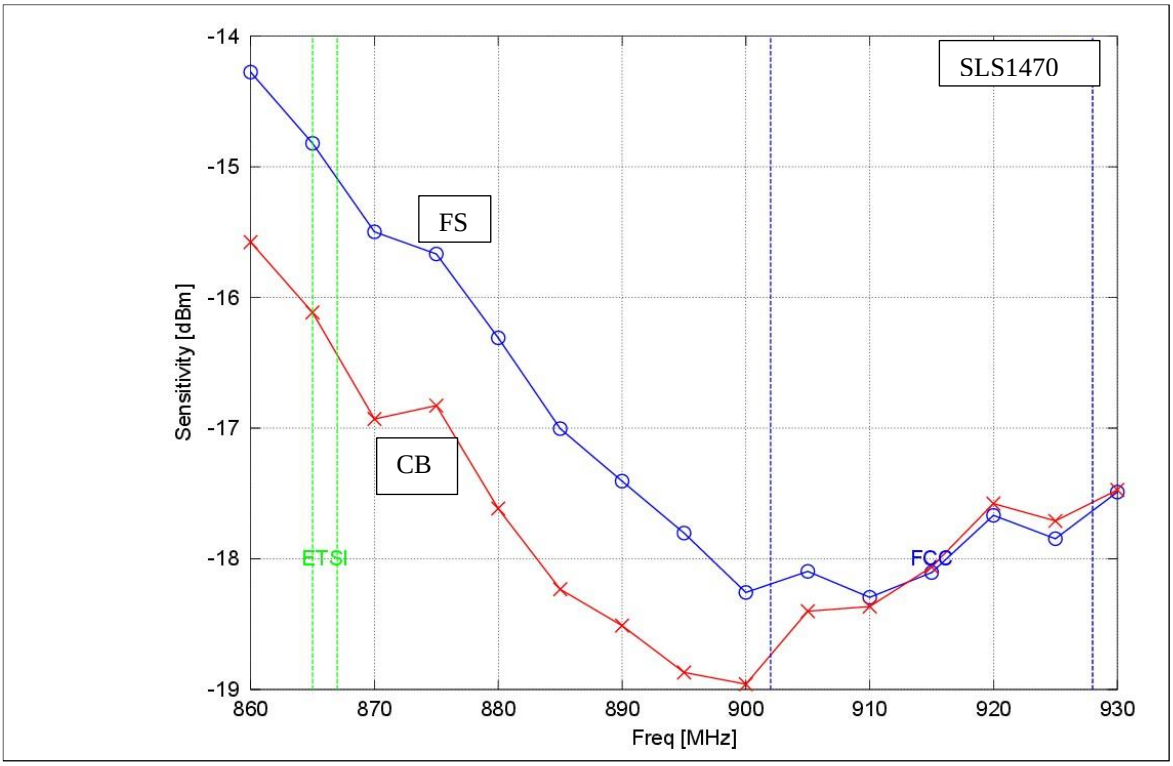

Figure 2: Sensitivity of SLS1470 tag applied to lightly loading materials

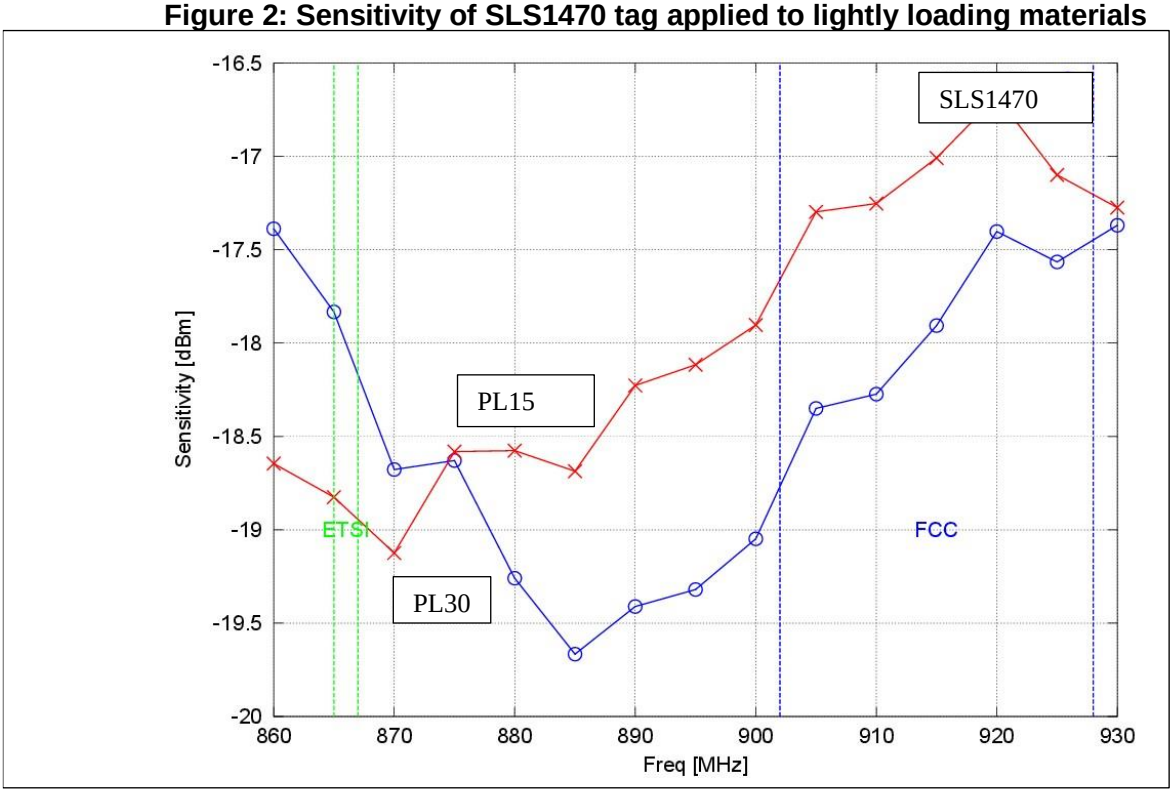

Figure 3: Sensitivity of SLS1470 tag applied to medium-loading materials

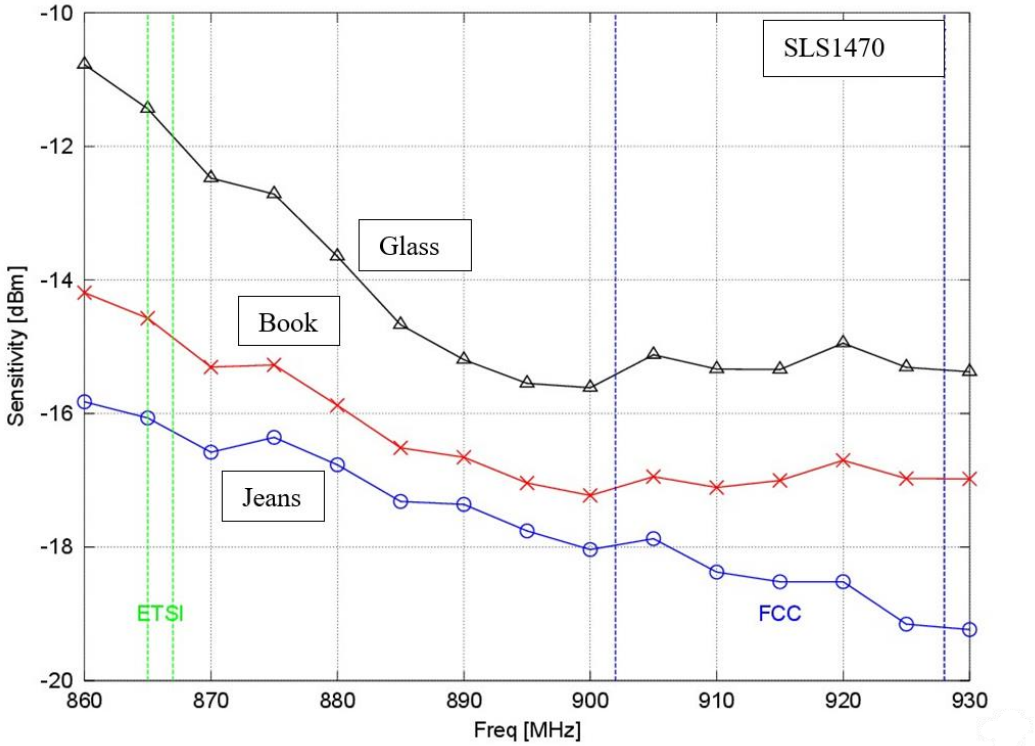

Figure 4: Sensitivity of SLS1470 tag applied to heavily loading material

Table 1: Sensitivity to Read Range Conversion Table

FCC Low – 902 MHz											
Sensitivity (dBm)	-20	-18	-16	-14	-12	-10	-8	-6	-4	-2	0
Read Range (m)	16.70	13.26	10.54	8.37	6.65	5.28	4.19	3.33	2.65	2.10	1.67
FCC High – 928 MHz											
Sensitivity (dBm)	-20	-18	-16	-14	-12	-10	-8	-6	-4	-2	0
Read Range (m)	16.23	12.89	10.24	8.14	6.46	5.13	4.08	3.24	2.57	2.04	1.62
ETSI – 867 MHz											
Sensitivity (dBm)	-20	-18	-16	-14	-12	-10	-8	-6	-4	-2	0
Read Range (m)	15.85	12.59	10.00	7.94	6.31	5.01	3.98	3.16	2.51	1.99	1.58

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