

Homologation

Antenna and Conducted Module Datasheet

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1. Introduction

This document states information regarding the RF design and performance of Louis RIC HI. This document should only be used by the test-house as a source of information for the product homologation.

2. RF Design

Our transceiver (Shannon-P) is located inside a folded PCB (WH6 hybrid) which is the heart of the HI. In figure 1 one can find a high level block diagram of our Louis RIC HI.

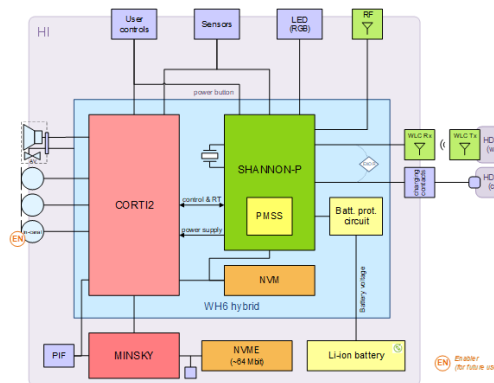


Figure 1 – High level block diagram

2.1 Antenna - Generic Information

The transceiver and matching network are in the 2nd level PCB. This PCB connects to the Antenna PCB through the pads highlighted in orange in Figure 1.

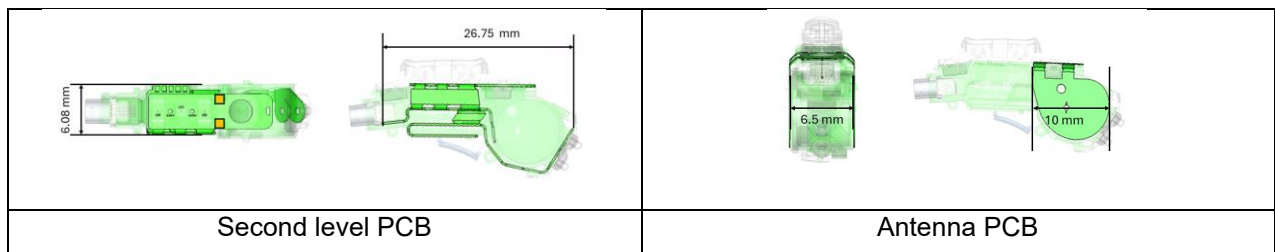


Figure 2 – Mechanical drawings of the 2nd Level PCB and Antenna PCB.

Table 1 – Generic data regarding the antenna used for Prince Zoom.

Model name and manufacture of the antenna:	
Brand/Manufacturer:	Sonova AG
Model Name:	006-0689-01
Technical antenna key-information:	
Antenna Pattern:	Omnidirectional pattern on free field, with max on the plane of the antenna
Antenna Type:	Folded dipole
Antenna Gain:	-10.5 dBi (built in final HI in Free space)
Connector Type:	Soldered pad connection on flexible PCB

2.2 Antenna - Radiation pattern

This section shows the EIRP 3D radiation pattern of the antenna at 2441 MHz is shown in Figure 3 (b). The position of the antenna with respect to the measurement coordinate system is illustrated in Figure 4 (a).

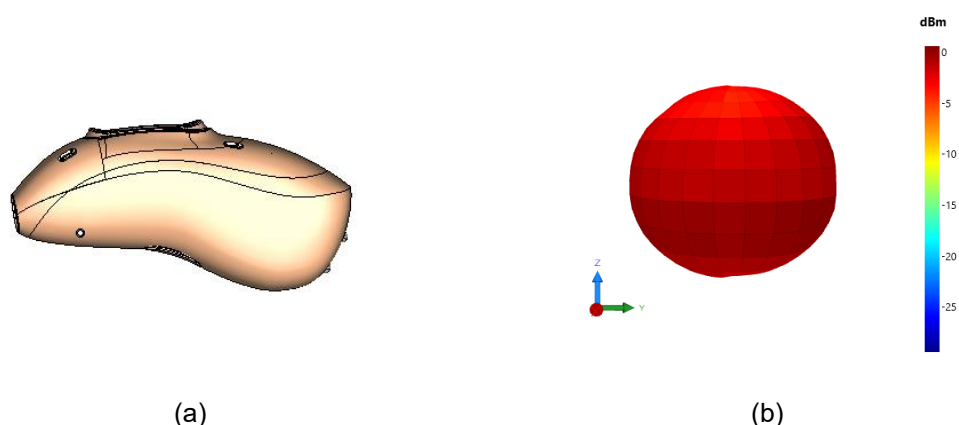


Figure 3 – Different radiation pattern cuts.

2.3 Conducted Sample

For the conducted sample, the Antenna PCB is removed and an external balun PCB (probe) is connected instead. This is a 2:1 Balun that converts a differential 100 Ohm into single-ended 50 Ohm. The conducted sample along with the balun are placed inside a fixture. A UFL cable connects the balun to the SMA input of the Conducted Module (CoMod) box. The insertion loss of the probe (Balun + UFL cable) is 1.5 dB. The CoMod setup is illustrated in Figure 4.

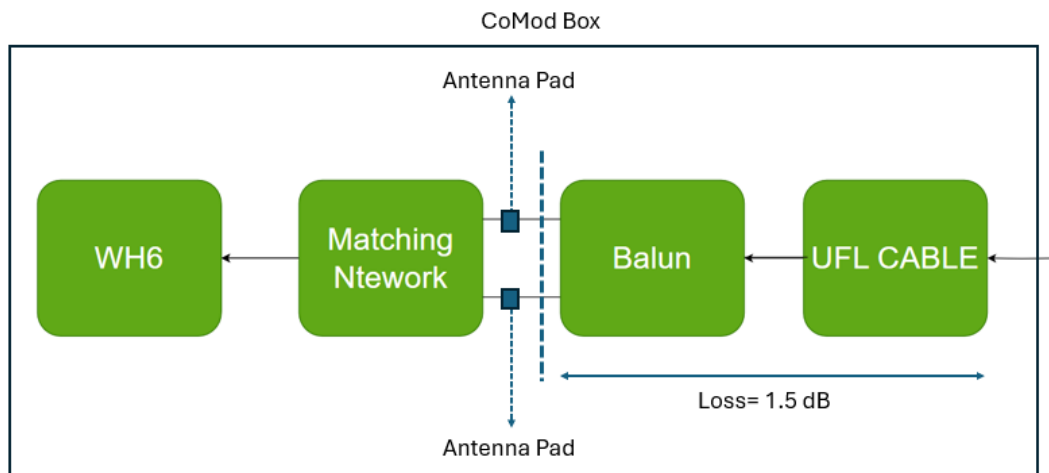


Figure 4 – Look into the mechanics of the fixture used for the conducted sample.

3. Appendix

3.1 References

Reference	Title
[1]	
[2]	
[3]	
[4]	

3.2 Definitions, terms, abbreviations

Abbreviation	Description

4. Modification Log

Old version	New version	short description of the modification / remarks	Date	Signature