



Measurement Report

Nokeval, RHT-2, 916 MHz variant

Revision History

Rev.	Date	Description
1.0	30.01.2025	Initial version
1.1	05.02.2025	Fixed efficiency and gain values
1.2	11.02.2025	Updated new measurement
1.3	23.10.2025	Updated S11 and components

EXECUTIVE SUMMARY

This measurement report details the antenna measurements for RHT-2 (LoRa 916 MHz).

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MEASUREMENT SETUP

The device was measured in free-space conditions.

MEASUREMENT RESULTS

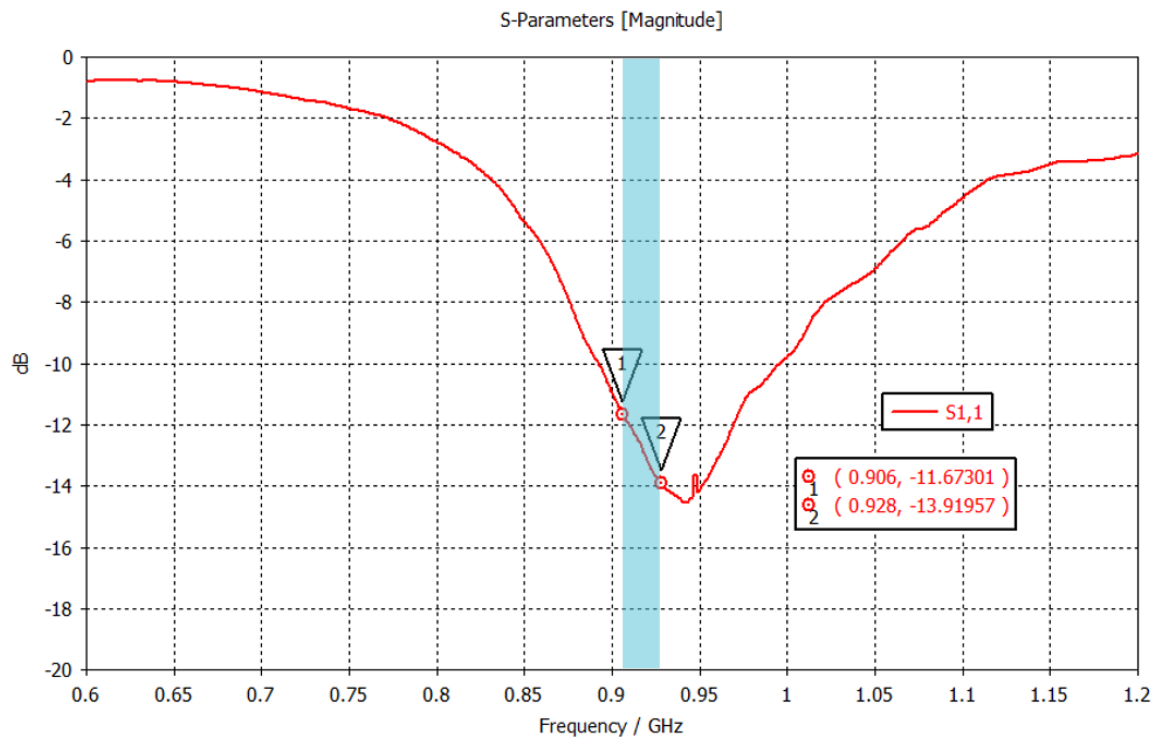


Figure 1: Return loss (S_{11})

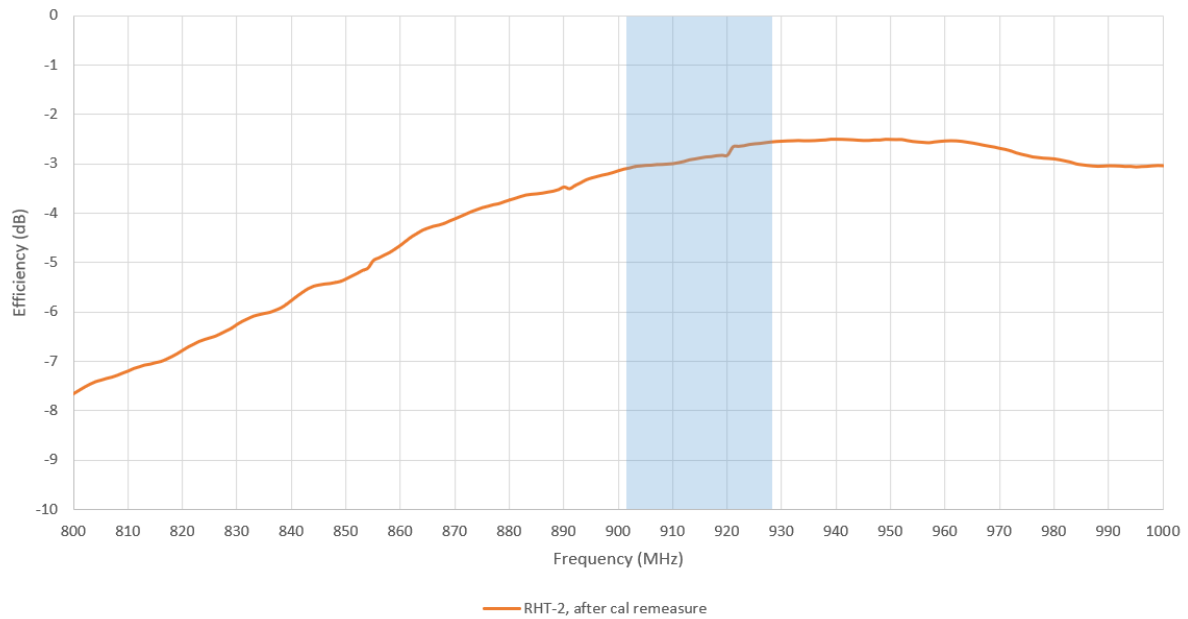


Figure 2: Total efficiency

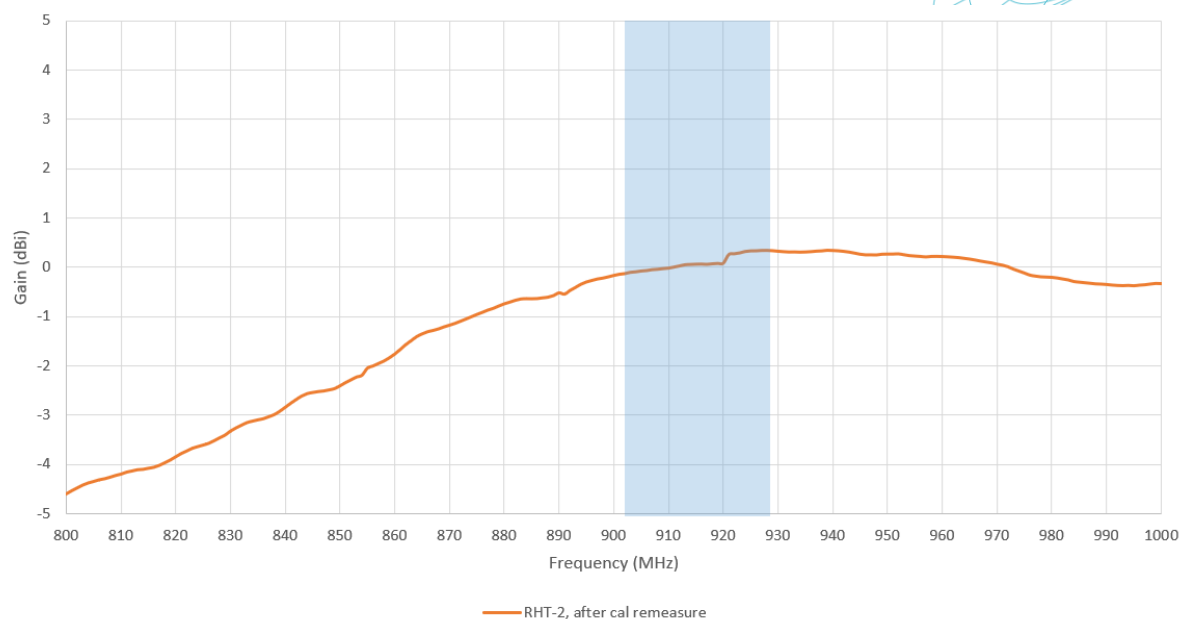
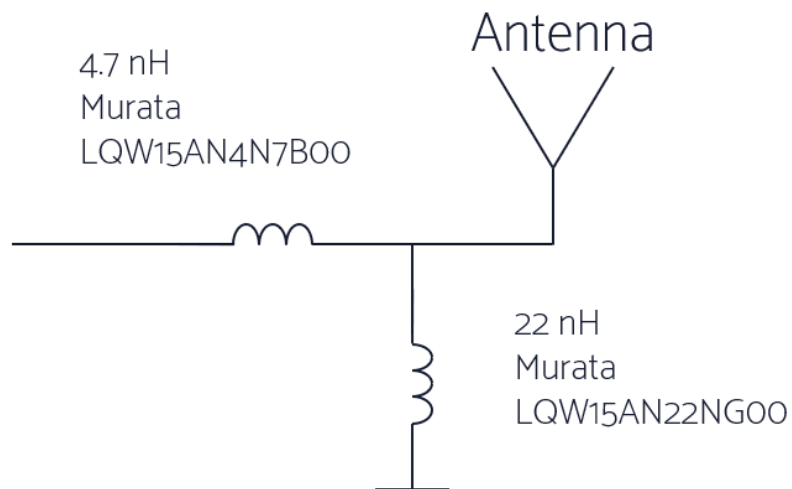


Figure 3: Maximum gain

RHT-2, maximum gain, LoRa 916 MHz (908-928 MHz)	+0.4 dBi
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MATCHING CIRCUIT

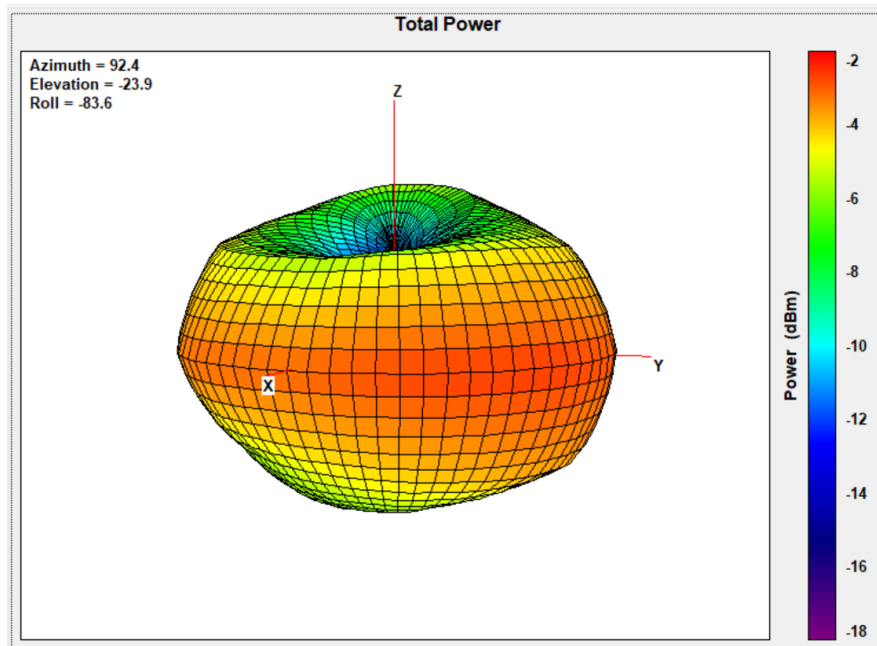


Inductor, 22nH: Murata LQW15AN22NG00

Inductor, 4.7 nH: Murata LQW15AN4N7B00

RADIATION PATTERN

916 MHz



ADDITIONAL MEASUREMENTS

Antenna raw impedances

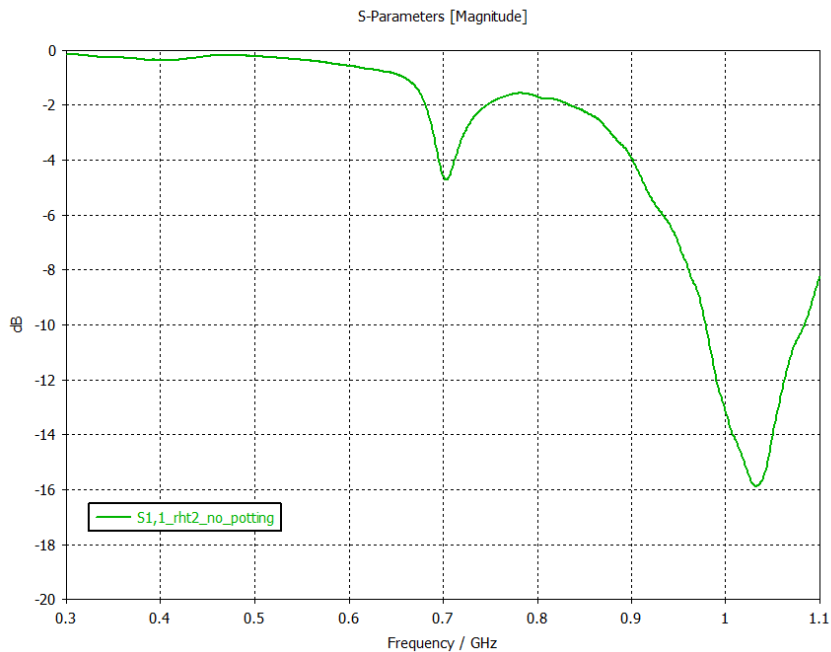


Figure 4: Return loss (S_{11}) of antenna without matching components

Due to the phase of the measurement work during this measurement, this result is from a prototype without potting material.

CONCLUSIONS AND RECOMMENDATIONS

The LoRa antenna of the device performs well. Antenna matching is expected to behave well when placed close to wood or wood-like material. This is important, as the device will be installed within a roof structure of a building.

ATTACHMENTS

Radiation pattern files:

- RHT-2_2025.02.10.15.11.07.raw

HOW DID WE DO?

We would greatly appreciate if you could provide feedback on how we managed to serve you by using the link below:

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