

ANTENNA MEASUREMENT

Report

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About this document

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Version History

Date	Version	Author	Revision	Remarks
December 20, 2016	V001	Chris De Vos		First draft

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1 USED MEASUREMENT EQUIPMENT REFERENCES

Equipment	ser number
Antenna chamber Satimo SG32	
Network analyser R&S ZVB-8	

2 PRODUCT OVERVIEW

The measurements were carried out on the antenna embedded in BlooLoc Yobee tag. Board revision2 (4 layer board, NRF52 Nordic chip).

3 ANTENNA MEASUREMENT SETUP

Fig. 2 illustrates the near-field coordinate system and orientations. Fig. 3 shows the sensor mounted on the reference set-up. Efficiency of the antenna is measured.

Fig. 1

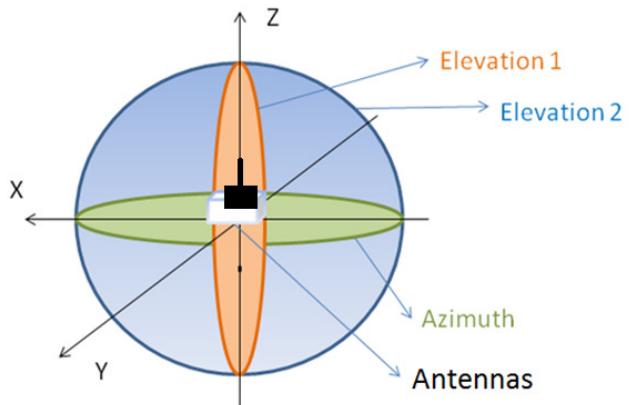
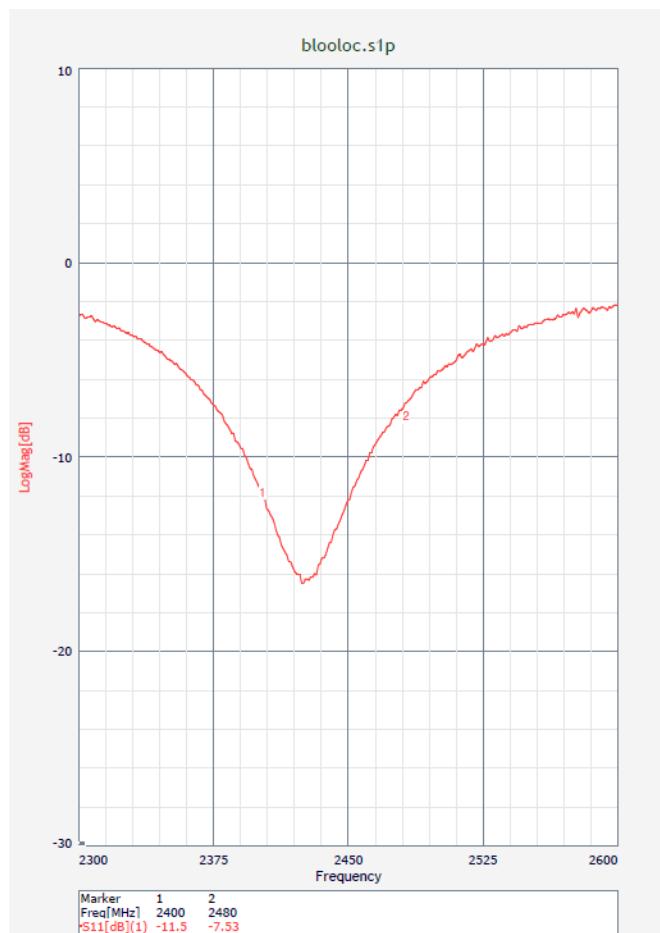


Fig. 2



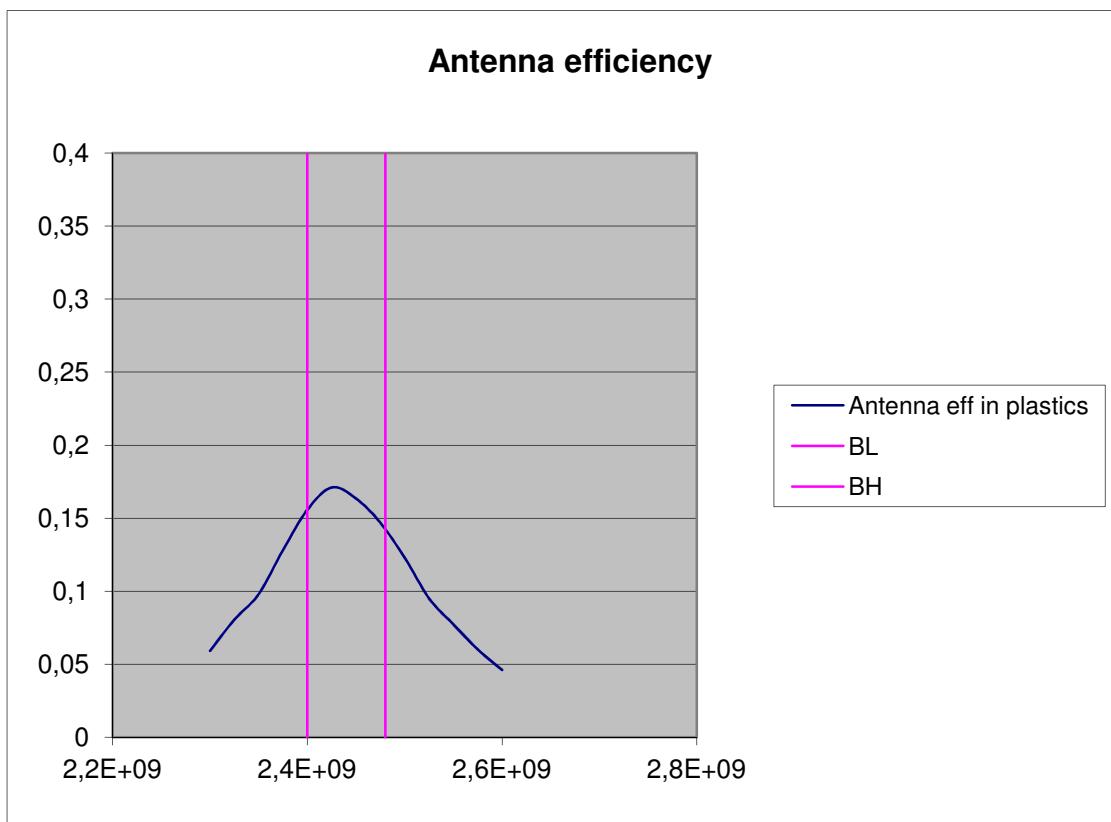
4 MEASUREMENT RESULTS

4.1 S11



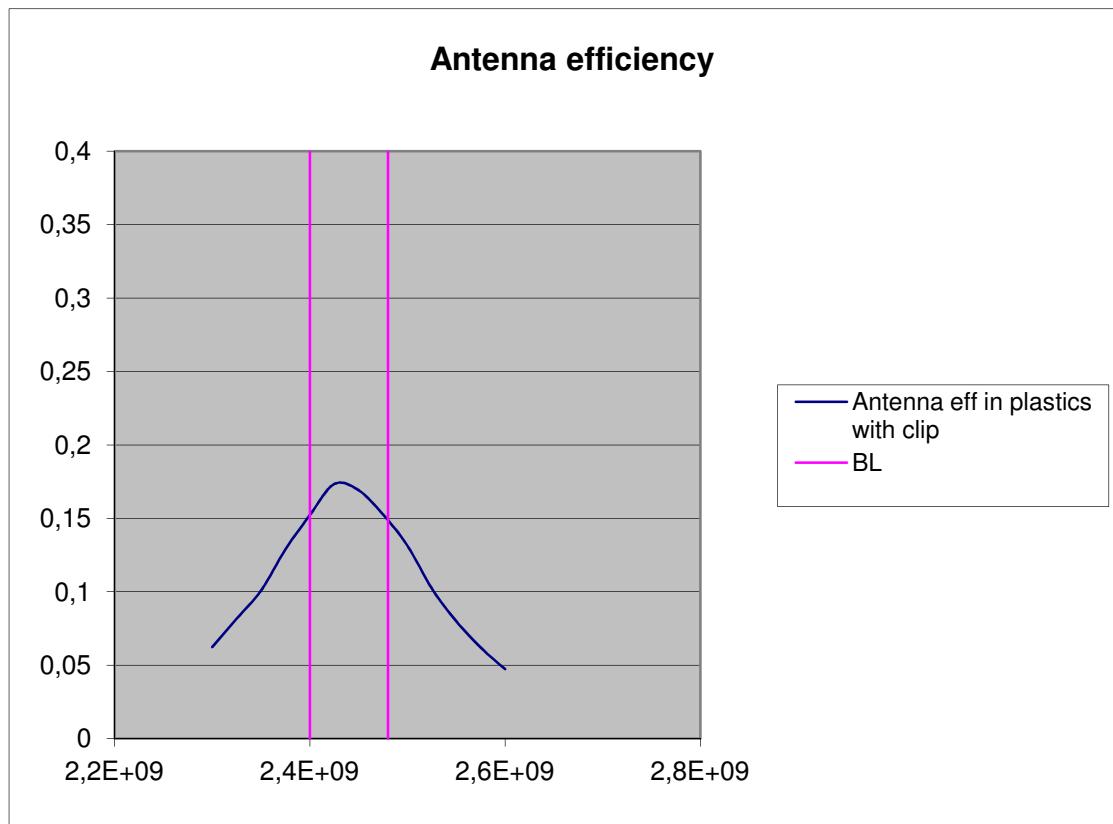
4.2 Badge in plastic

This figure shows the radiation efficiency of the antenna under test device in plastics.



4.3 Badge with clip



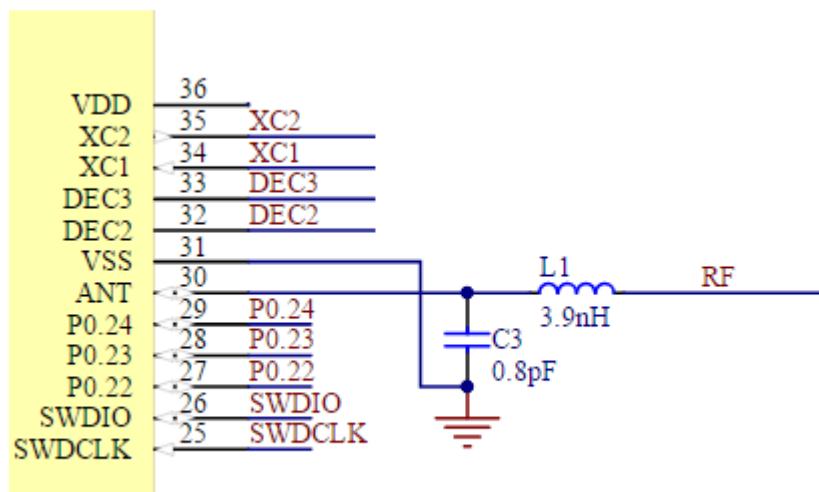


4.4 Conclusion

Antenna is tuned to the correct frequency. No matching is required for the antenna

But

Matching to 50 ohm: The output impedance of the chip is not 50 ohm. Therefore a matching network needs to be inserted between the chip and the reference point. Please note that this matching is NOT the same as with nRF51.



5 REFERENCES

Ref	Reference documents	Owner