

MATURIX NOVA ANTENNA MEASUREMENT REPORT

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- Measured antenna: Bluetooth
- Antenna model: PCB IFA
- Antenna manufacturer:
Dream Devices Technologies
Mustionkatu 2
20750 Turku
Finland



Antenna
radiation
pattern

SUMMARY OF RESULTS

- Bluetooth antenna's s_{11} was measured and the results were very good. The antenna is naturally tuned well for 2.45GHz and thus does not require any additional matching.
- The antenna's radiation pattern was measured, and the results show good radiation towards all directions.

S11 MEASUREMENTS AND ANTENNA TUNING

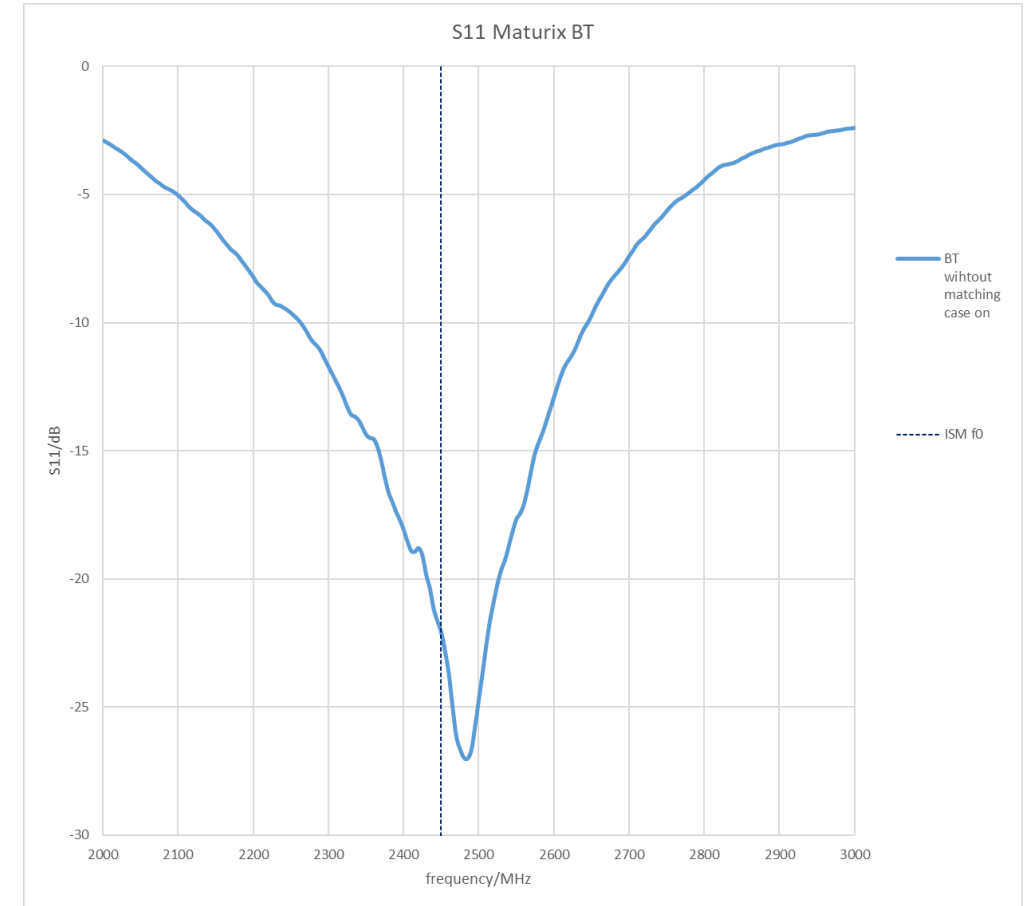
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- S11 parameter was measured from Bluetooth antenna.
- S11 measurement shows how much of the overall power sent to the antenna is reflected. This indicates how well the antenna is tuned.
- Limit of good performance is lower than -6dB reflection on the used frequency band.

S11 MEASUREMENT RESULTS

S11 without matching was measured. Results shown below.

- The return loss of the antenna without matching is extremely good. The return loss is easily below the recommended -6dB on the entire band of use.
- The antenna is extremely well tuned on 2.4GHz band.
- Antenna does not require matching circuit.



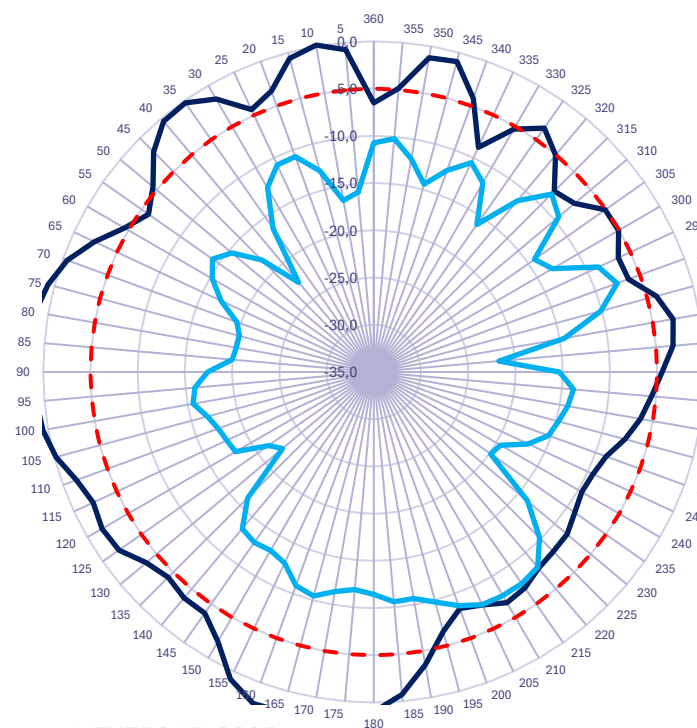
ANTENNA RADIATION MEASUREMENT RESULTS

The radiation performance of the Bluetooth antenna was measured to confirm the antenna design.

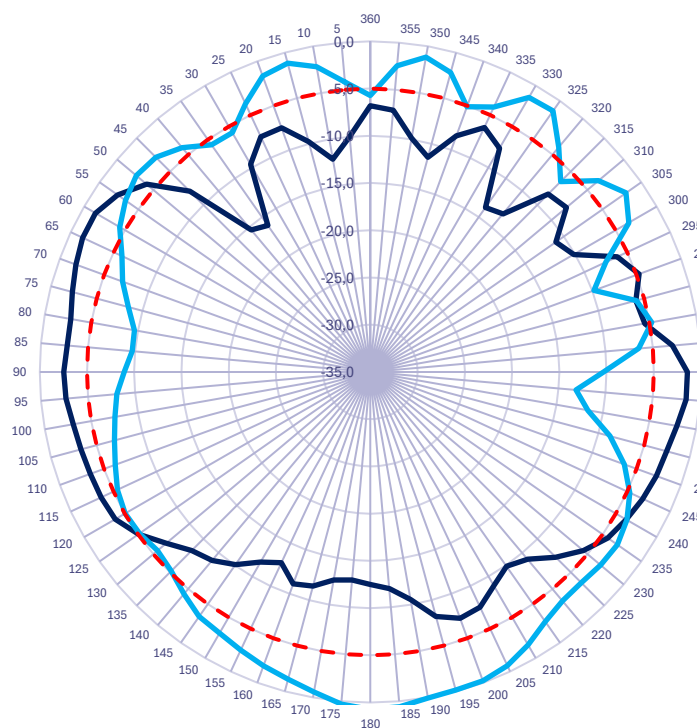
The measured radiation performance is good in all positions.

The result of the antenna radiation measurements are shown below.

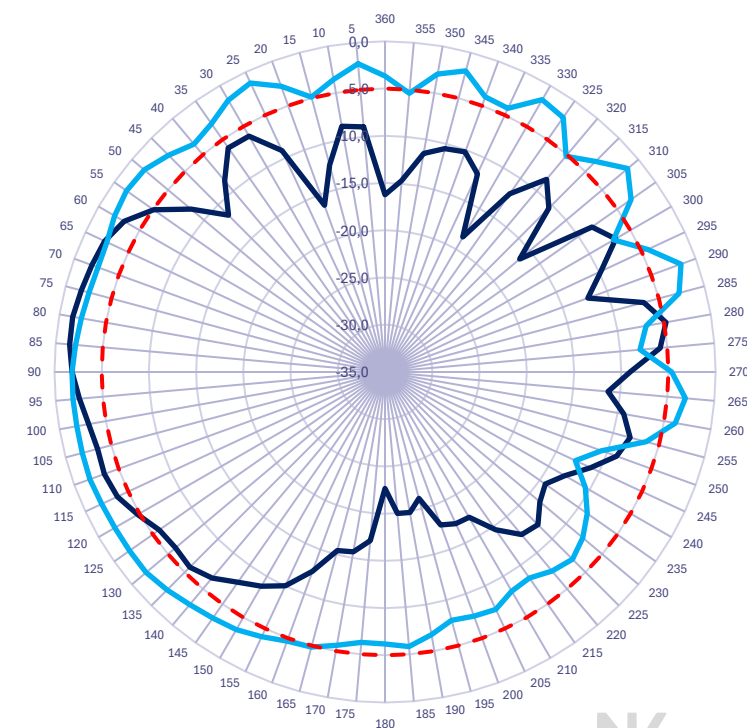
— Maturix Bluetooth antenna, Horizontal position, Horizontal polarization, 2450 MHz
 — Maturix Bluetooth antenna, Horizontal position, Vertical polarization, 2450 MHz
 - - - Main antenna requirement



— Maturix Bluetooth antenna, Side position, Horizontal polarization, 2450 MHz
 — Maturix Bluetooth antenna, Side position, Vertical polarization, 2450 MHz
 - - - Main antenna requirement



— Maturix Bluetooth antenna, Vertical position, Horizontal polarization, 2450 MHz
 — Maturix Bluetooth antenna, Vertical position, Vertical polarization, 2450 MHz
 - - - Main antenna requirement



ANTENNA EFFICIENCY AND GAIN

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Frequency / MHz	Efficiency / %	Peak Gain / dBi
2400	31	-0,28
2410	37	-0,03
2420	38	0,15
2430	41	0,18
2440	46	0,22
2450	51	0,81
2460	44	0,14
2470	42	0,05
2480	38	-0,16