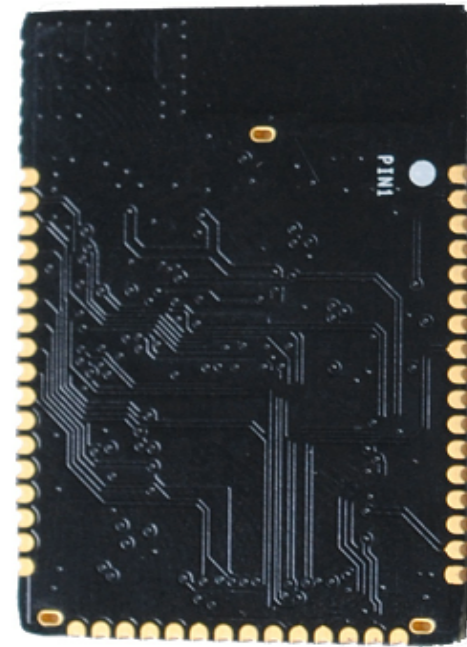


# HF- LPB100

Date: 20 Sept. 2013

Many aspects of this presentation are protected by UK and International Patents and Patent Applications

# Test Configuration:



# Results

## Return Loss

The Return Loss at the input of the matching circuit was measured using an HP 8714ET RF Network Analyser. For all measurements, an appropriate RF sleeve choke was used to reduce the effect of the cable radiation.

Figure 2 - RF Choke for measurements.

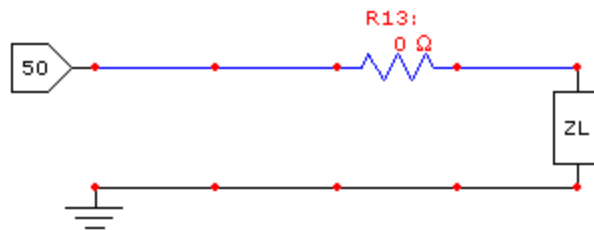


# Recommendations

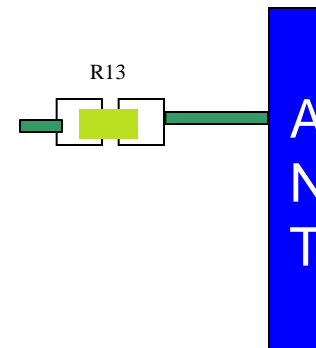
## Matching Circuit -BT

The recommended matching circuit is valid only for the hardware configuration provided. Any changes to the PCB layout, hardware or relative position of the antenna, including microphones, speakers, batteries, cases, etc, may modify the antenna impedance and it would require a different matching circuit.

The recommended matching circuit in free space for hardware provided is:

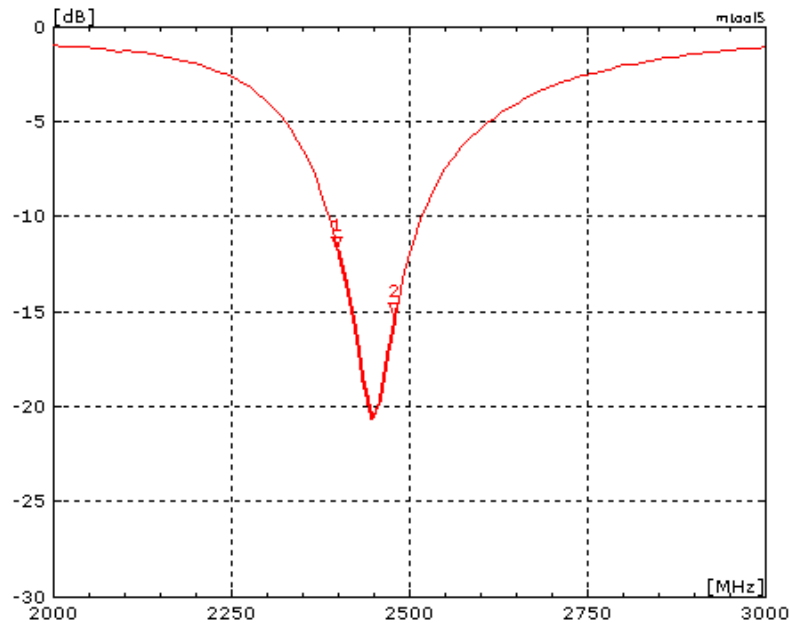


0 ohm: R13

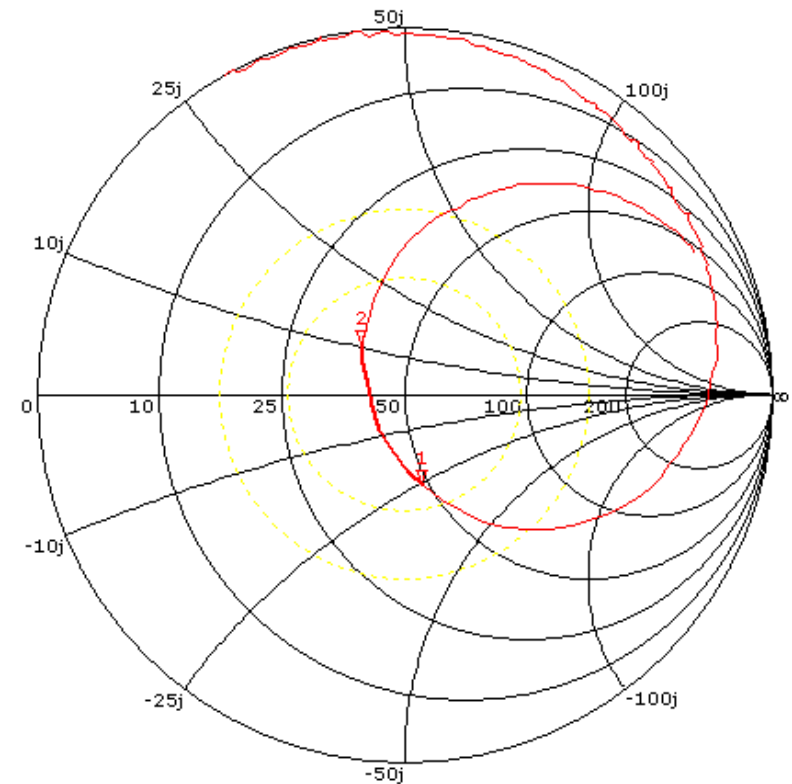


**It is important that the exact components and part numbers are used for production. Using different type of components or components from a different manufacturer (even with the same values) could detune the antenna and reduce considerably the performance.**

# Return Loss - BT



MARKERS:	MHz	dB
TRACE12.S1P		
1: 2402	-11.89	
2: 2480	-15.30	

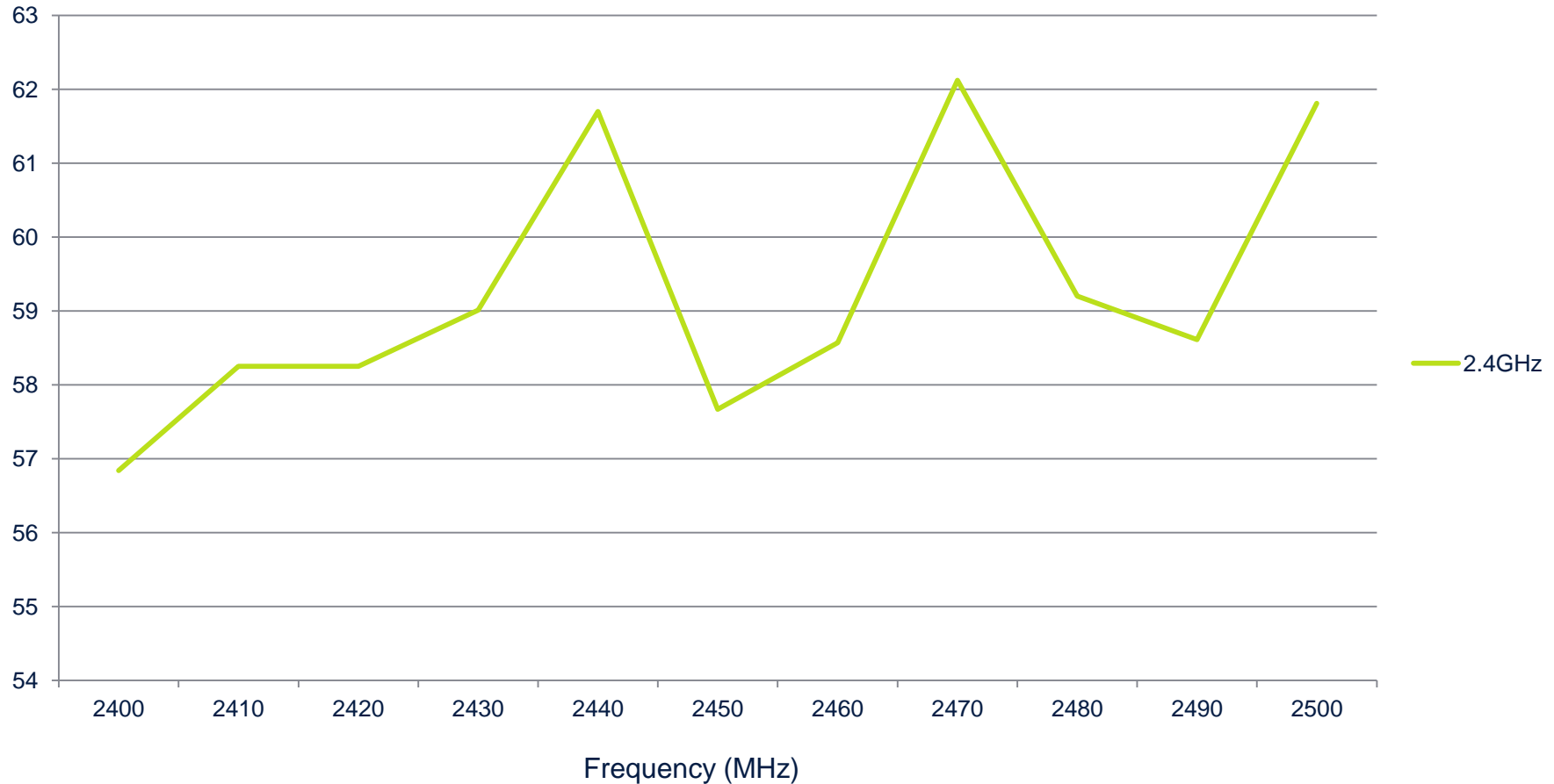


MARKERS:	MHz	$\Omega$
TRACE12.S1P		
1: 2402	48.8-26.0i	
2: 2480	38.7+10.4i	

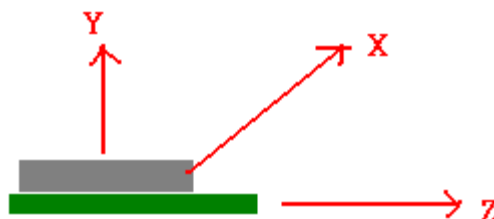
# 3D efficiency -BT

Efficiency (%)

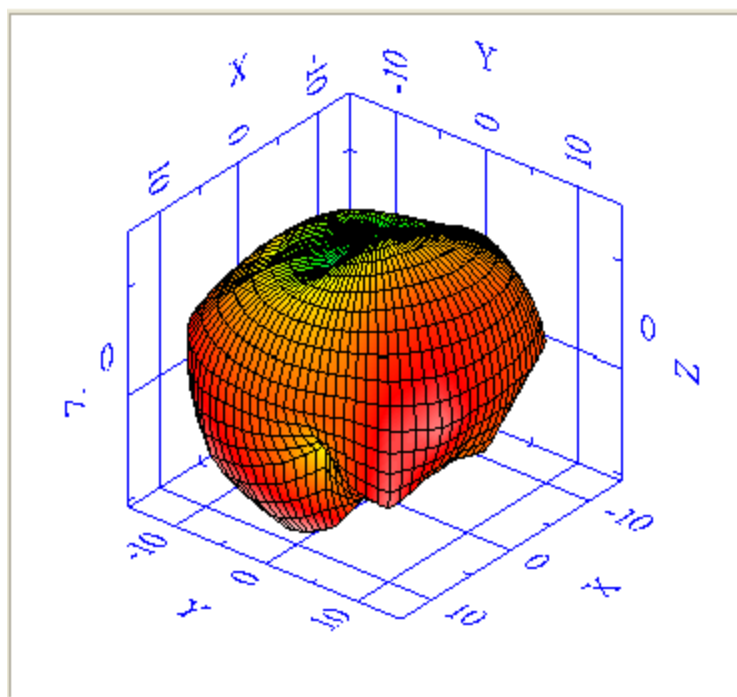
**2.4GHz**



# 3D pattern



Total View



Frequency (MHz)

2450.00

TRP (dBm)

-2.39

Efficiency (%)

57.67

NHPRP +/- 45 (dBm)

-2.54

NHPRP +/- 30 (dBm)

-3.26

Directivity (dBi)

4.57

Gain (dBi)

2.18

Average Gain (dB)

-2.39

Peak EIRP (dBm)

2.18

Max. Power (dBm)

2.18

Min. Power (dBm)

-15.56

Avg. Power (dBm)

-3.61

Max. / Min. Ratio (dB)

17.74

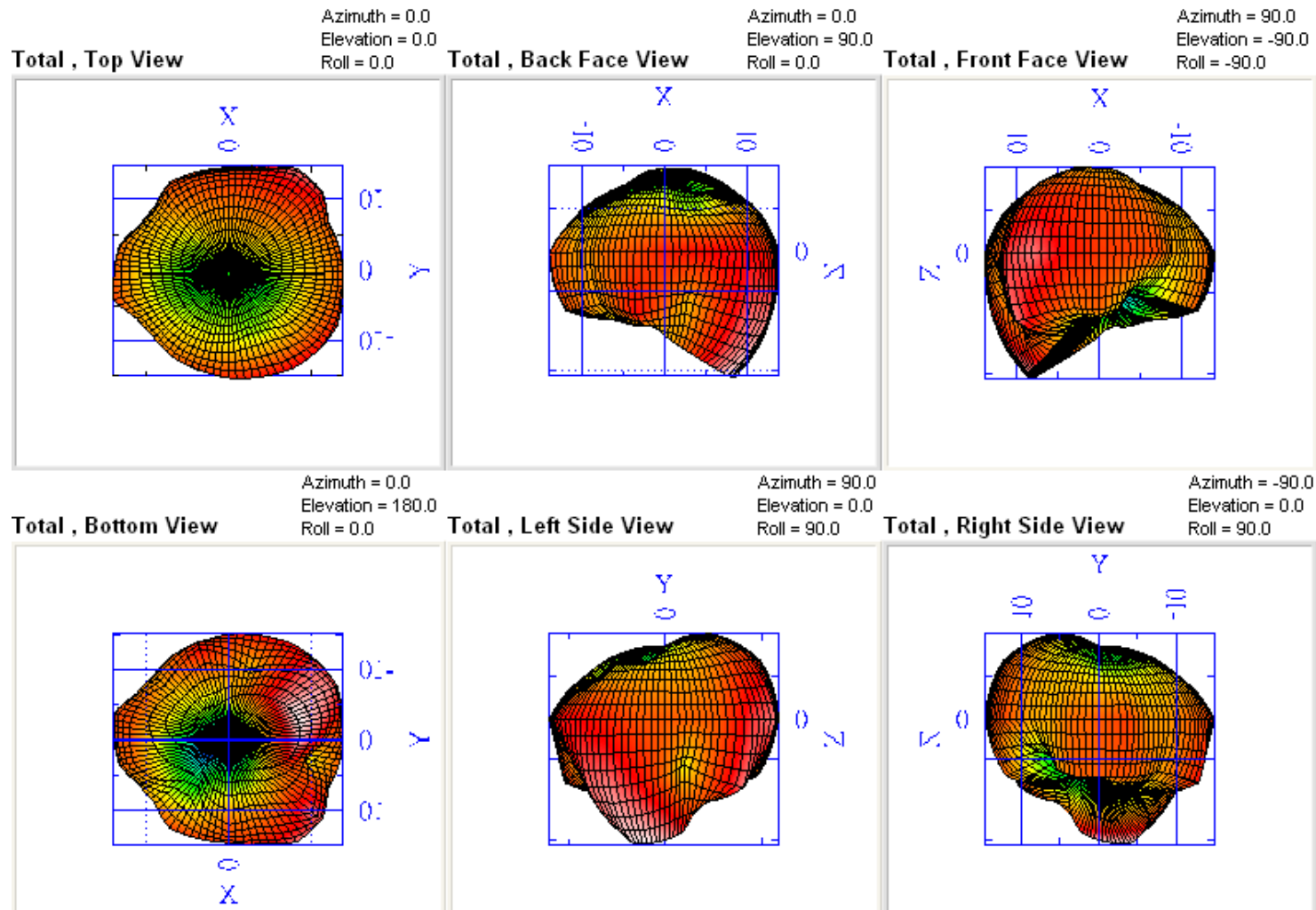
Max. / Avg. Ratio (dB)

5.79

Min. / Avg. Ratio (dB)

-11.95

# 3D patern





# Statement On Intellectual Property & Disclaimer



## **Statement on Intellectual Property**

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