

**Annex acc. to FCC Title 47 CFR Part 15
relating to
Steute Schaltgeraete GmbH & Co. KG
SW2.4LE**

Annex no. 11

Antenna characteristics / Antenna description

**Title 47 - Telecommunication
Part 15 - Radio Frequency Devices
Subpart C – Intentional Radiators
ANSI C63.4-2014
ANSI C63.10-2013**



Deutsche
Akkreditierungsstelle
D-PL-12053-01-00

EUT: SW2.4LE

FCC ID: XK5-SW24LE

FCC Title 47 CFR Part 15

Date of issue: 2016-11-16

Plots of the test equipment (EUT) – Antenna characteristics / Antenna description



Rubber antenna 2.4 GHz, SMA

Best.Nr. 17010.11REV



Electrical Specifications:

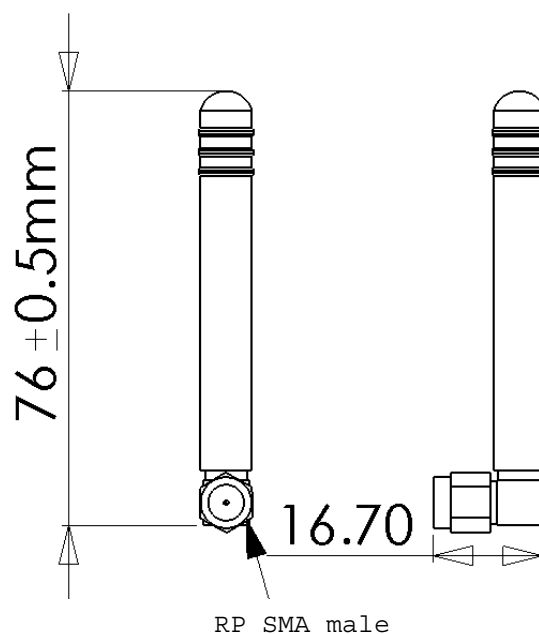
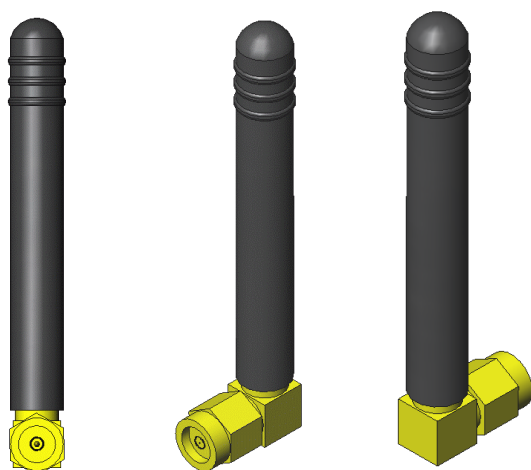
Frequency Range	2.4~2.4835GHz
VSWR	≤ 2.0
Impedance	$50\Omega \pm 5\Omega$
Gain	2dBi
Polarization	Vertical
Power Handling	10 Watt
Beam Width	H: 360° / E: 54.4°

Mechanical Specifications:

Connector	RP SMA MALE RIGHT ANGLE
Operation Temp.	-30° ~ +60°
Material	Radom: ABS
Dimension	76*16.7 mm
Weight	9.5g $\pm$ 1g
Color	Black



3D illustration



WiMo Antennen und Elektronik GmbH

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TESTING CONDITION

TEST SETUP

VSWR measurement (S11): Use Rhode & Schwarz ZV8 Network Analyzer with Harbour RG-142 coaxial cable: 1000mm length in free space.

VSWR

	VSWR Performance		
Freq(MHz)	2400	2450	2485
Free space	1.5	1.4	1.5

GAIN MEASUREMENT

TEST SETUP

The gain of the antenna was measured by non-reflective chamber. The chamber provides less than -30 dB reflectivity from 800 MHz through 6 GHz and a 60cm diameter spherical quiet zone. The measurement results are calibrated using both **SCHWARZBECK** horn standards. A decoupling sleeve is used to reduce feed line radiation.

TEST RESULT

The peak gain is picked up as table list from Network analyzer in Chamber room, the completely gain plots also be shown below.

	Peak Gain(H)
Freq	2450 MHz
Peak Gain	2.89 dBi

	Peak Gain(E)
Freq	2450 MHz
Peak Gain	3.84 dBi

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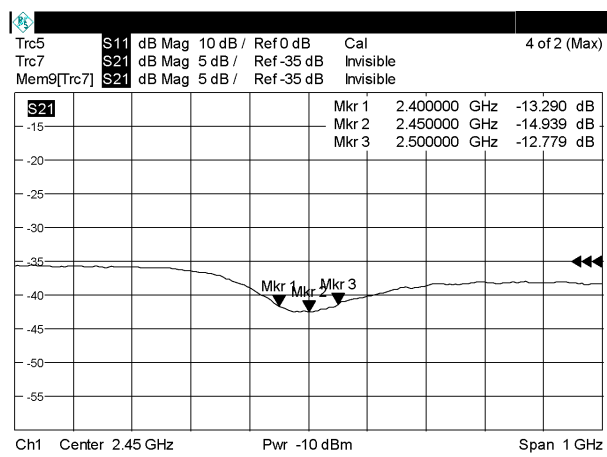


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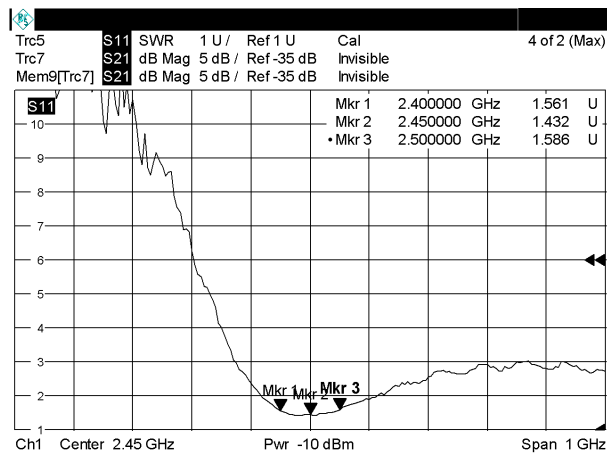


Return loss



Date: 13.OCT.2008 07:51:31

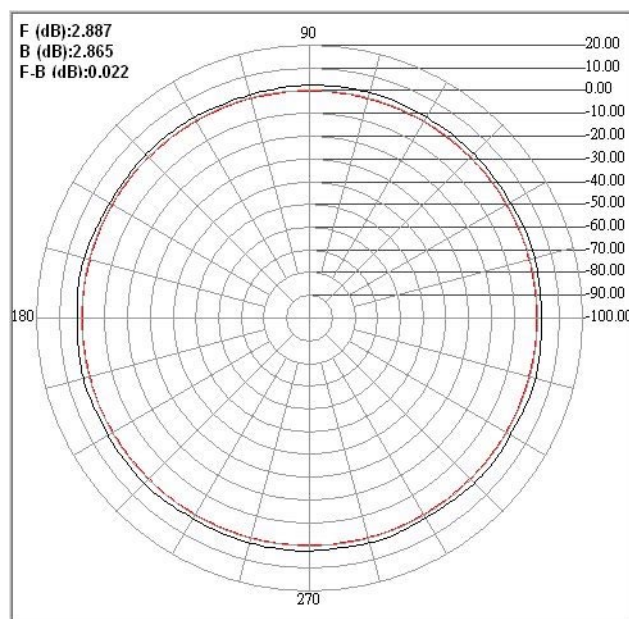
SWR



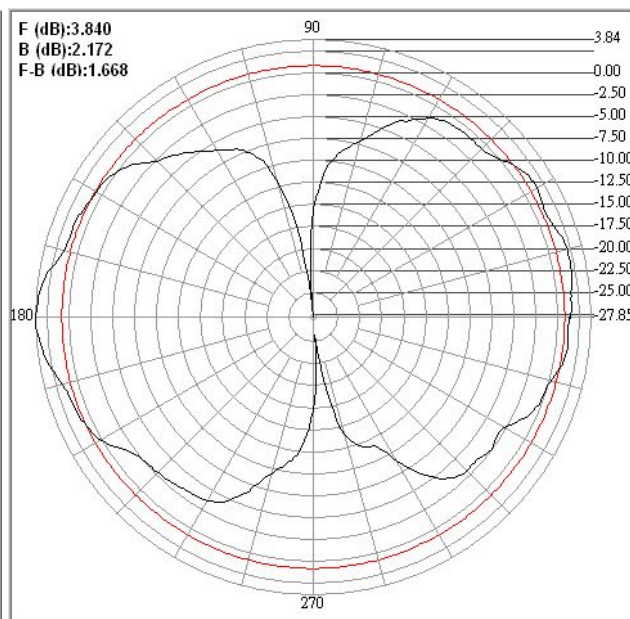
Date: 13.OCT.2008 07:51:52

Radiation pattern

H-plane



E-plane



Center freq.(MHz): 2450	Plane : E Plane	
Max gain(dBi) : 3.84	Min gain(dBi) : -27.85	
-3dB1 : 206.60 deg	-3dB2 : 152.20 deg	HPB : 54.40 deg
Front (dB) : 3.840	Back (dB) : 2.172	F B Ratio (dB) : 1.668

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PLEASE CHECK WWW.MOLEX.COM FOR LATEST PART INFORMATION

Part Number: [1461530100](#)
Status: **Active**
Overview: [Standard Antennas](#)
Description: 2.4GHz / 5GHz Wi-Fi* Stand Alone Balance Antenna, 9.00mm Width, Cable Length 100.00mm

Documents:

Drawing (PDF)	Packaging Specification PK-146153-100 (PDF)
Product Specification PS-146153-100 (PDF)	RoHS Certificate of Compliance (PDF)
Application Specification AS-146153-100 (PDF)	Product Literature (PDF)

General

Product Family	Antennas
Series	146153
Component Type	Stand Alone Antenna with Cable
Mates With	73412-0110 Microcoaxial RF, 50 Ohm
Overview	Standard Antennas
Product Literature Order No	987650-5892
Product Name	2.4/5GHz Balanced Flex Antenna
Type	Wi-Fi* Antenna
UPC	889056310017

Physical

Cable Length	100.00mm
Depth	0.10mm
Length	34.90mm
Mounting Style	Adhesive
Net Weight	0.574/g
Packaging Type	PET Film
Polarization	Linear
Radiation Pattern	Omnidirectional
Width	9.00mm

Electrical

Band#1 F_End (MHz)	2483.5
Band#1 F_Start (MHz)	2400
Band#2 F_End (MHz)	5850
Band#2 F_Start (MHz)	5150
Electrical Connectivity	Cable
Impedance	50#
Number of Bands	2
Peak Gain (dBi)	3.0 @ 2.4G, 4.5 @ 5G
Return Loss - S11 (dB)	< -10
Total Efficiency	>70% @ 5G, >75% @ 2.4G

Material Info

Reference - Drawing Numbers

Application Specification	AS-146153-100
Packaging Specification	PK-146153-100
Product Specification	PS-146153-100
Sales Drawing	SD-146153-050

*Wi-Fi is a registered trademark of the Wi-Fi Alliance



Series image - Reference only

EU ELV

Not Relevant

EU RoHS

Compliant

REACH SVHC

Not Contained Per
-ED/79/2015 (17
December 2015)

Halogen-Free

Status

Low-Halogen

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ELV

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