

## WB 12



Frequenz:  
617-6000 MHz

Gewinn:  
@ 617 - 960 MHz 3dBi  
@ 1710 - 2170MHz 4dBi  
@ 2170 - 2700MHz 5dBi  
@ 3400 - 3800MHz 6dBi  
@ 4000 - 6000MHz 8dBi

VSWR: <2,5:1  
Polarisation: Vertikal  
Strahlungsmuster: Omni-Direktional  
Widerstand: 50 Ohm  
max. Eingangsleistung: 25 Watt



Maße: Höhe 95mm / Durchmesser 48mm  
Material: UV resistenter Kunststoff  
Farbe: Schwarz  
Befestigung: Magnetische Befestigung (bis zu 160km/h)

Kabeltyp: SR1-174-XLPE  
Kabellänge: 2 Meter  
Stecker: SMA Stecker (m)

Artikelnummer:103182

Wittenberg Antennen und Zubehör UG,  
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Part No.

## WB 12

## Electrical Data

Frequency Range (MHz)	Element 1	1562-1612
	Elements 2 & 3	698-960, 1710-2170, 2500-3800
	Elements 4 & 5	2.3-2.5 / 4.9-6.0GHz
	Whip	2.396-2.485 / 4.9-6.0GHz
Operational Bands	Element 1	GPS/GNSS/Galileo/Beidou
	Elements 2 & 3	4G/3G/2G
	Elements 4 & 5	2.4GHz WLAN / Public Safety 4.9GHz / 5.8GHz WiFi
	Whip	2.4/5.0GHz WiFi
Peak gain: Isotropic*	Elements 2 & 3	2dBi (698-960MHz), 5dBi (1710-3800MHz)
	Elements 3 & 4	4dBi (2.4GHz), 6dBi (5.8GHz)
	Whip	2dBi (2.4GHz), 2dBi (5.8GHz)
Isolation with 5m (16') CS29	Cellular	>12dB
	WiFi	> 20dB
Typical Efficiency w/o Cable Loss	Elements 2 & 3	> 50%
Correlation Coefficient	Elements 2 & 3	<0.2
Polarisation		Vertical
Pattern		Omni-directional
Impedance		50Ω
Max Input Power (W)		25W

## GPS/GNSS Data

Frequency Range (MHz)	1562-1612
VSWR	<2:1 ± 4MHz
Gain: LNA	26dB
Polarisation	Right Hand Circular
Operating Voltage	3-5V DC (fed via coax)
Current	Typical <20mA

## Mechanical Data

Dimensions (mm)	Height (including whip)	118 (4.6")
	Height (excluding whip)	50 (2.2")
	Length	170 (6.7")
	Width	60 (2.4")
Operating Temp (°C)		-40° / +80°C (-40° / 176°F)
Material		ASA, EPDM, Aluminium Alloy
Colour		Black
Weight (g)		260

## Mounting Info

Fixing	Panel Mount
Hole Size (mm)	19 (3/4")

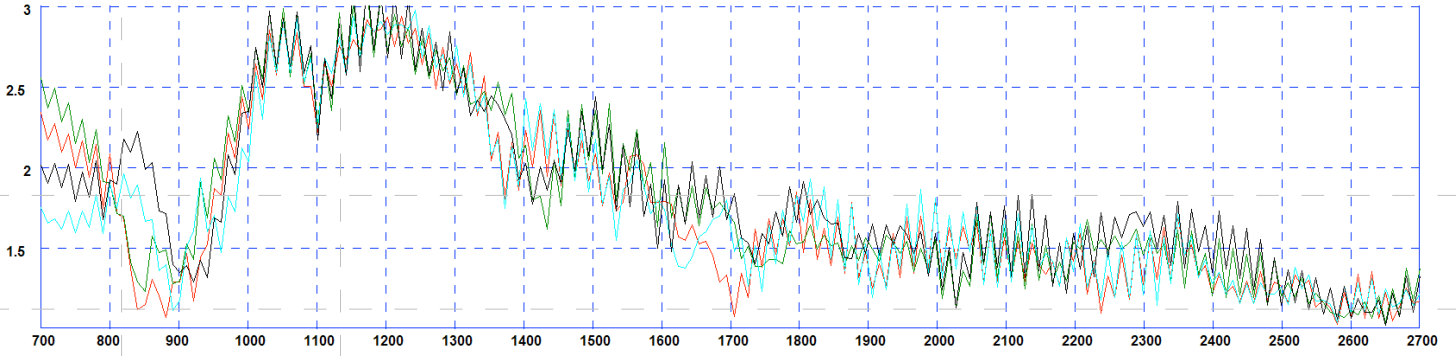
## Cable Data

Cable Type - All Feeds		RG174 (UN ECE 118.01 Compliant)
Dimensions (mm)	Diameter	2.8 (0.11")
	Length	300 mm (12")
Termination	Whip	SMA socket
	GPS/GNSS	FME socket
	2 x 4G/3G/2G	2 x SMA plug
	2 x WiFi	2 x SMA socket

\* Excluding cable loss

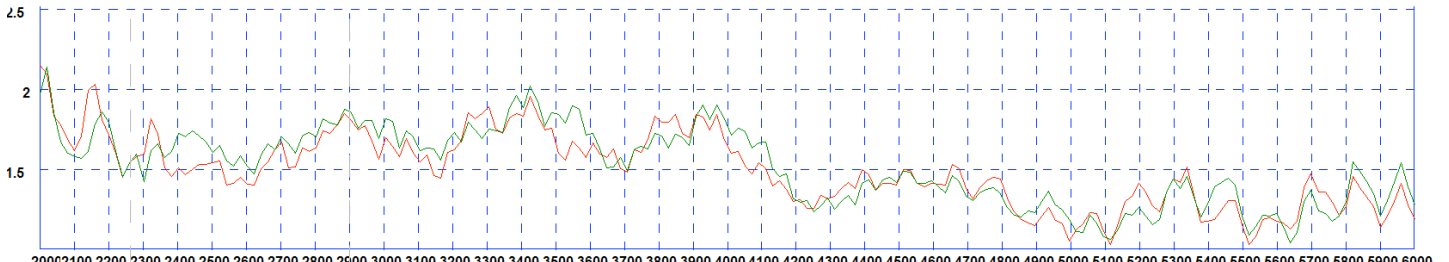
VSWR

Typical VSWR - 2G/3G/4G Elements 2&3\*



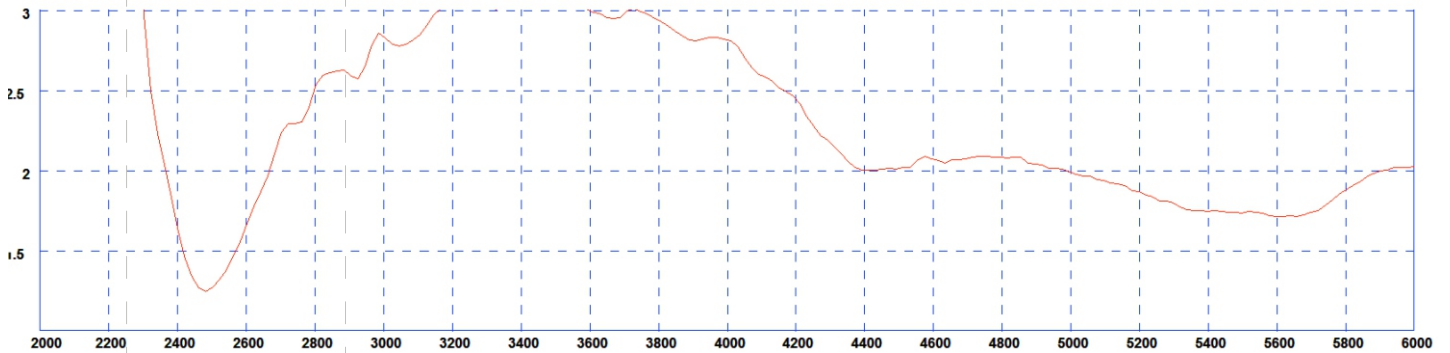
\*VSWR measured with no whip and 5m (16') of CS29 cable. Black & Blue = no ground plane Green and Red = 600x600mm (2'x2') ground plane

Typical VSWR - WiFi Elements 4&5\*



\*VSWR measured with no whip and 5m (16') of CS32 cable

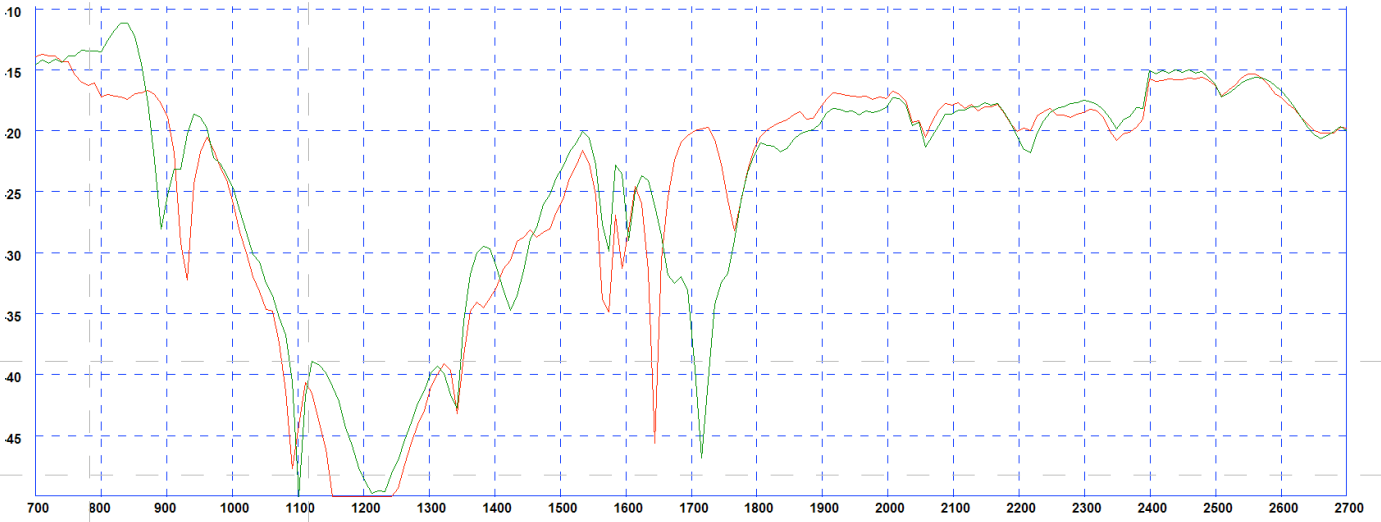
Typical VSWR - Whip - WiFi Element 6



\* VSWR measured in free space

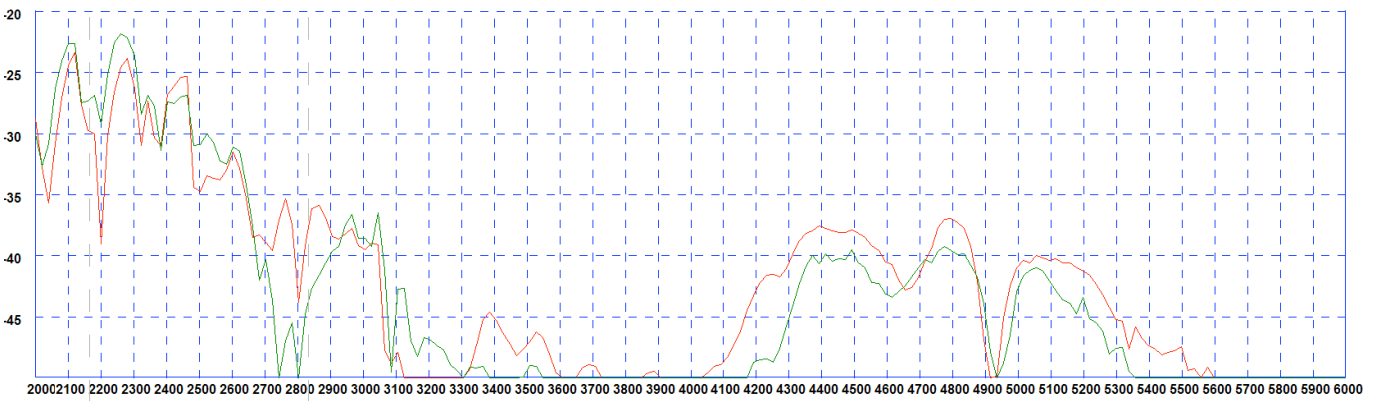
Isolation

Typical Isolation - Cellular Elements 2&3\*



\*Isolation measured with no whip and 5m (16') of CS29 cable Green Plot = 600x600mm (2' X2') ground plane Red Plot = no ground plane

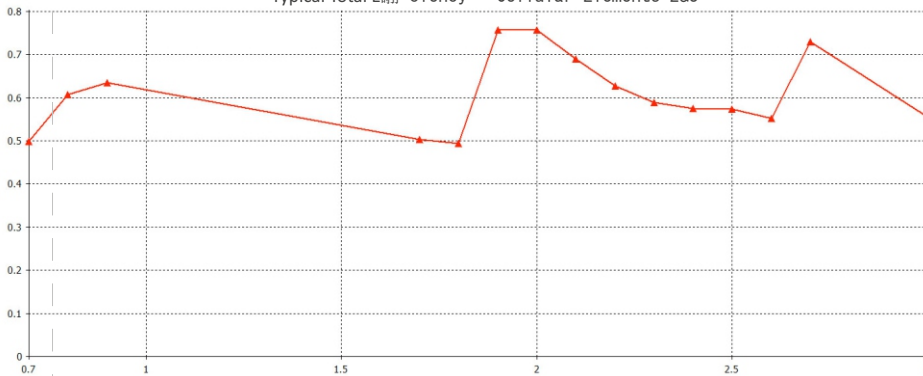
Typical Isolation - WiFi Elements 4&5\*



\*Isolation measured with no whip and 5m (16') of CS29 cable Red Plot = 600x600mm (2' X2') ground plane Green Plot = no ground plane

Typical Total Efficiency

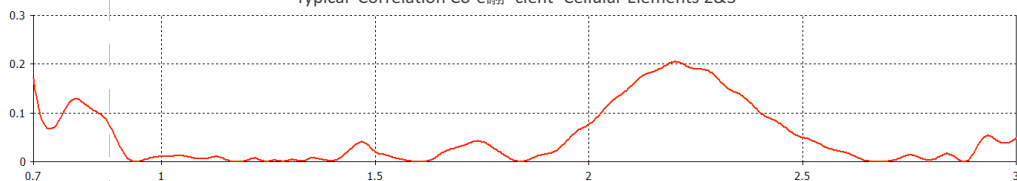
Typical Total Efficiency - Cellular Elements 2&3\*



\*Efficiency simulated in free space with no whip and no ground plane and no cable.

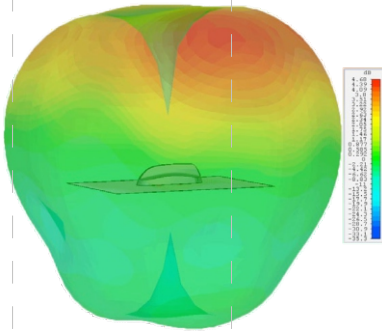
Typical Correlation Coefficient

Typical Correlation Coefficient - Cellular Elements 2&3\*

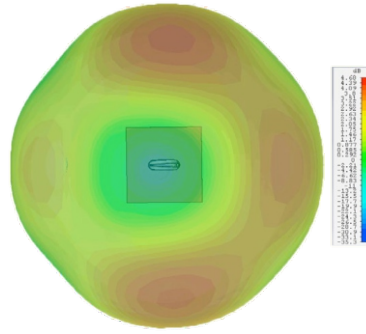


3D Radiation Patterns - Cell / LTE Elements 2&3

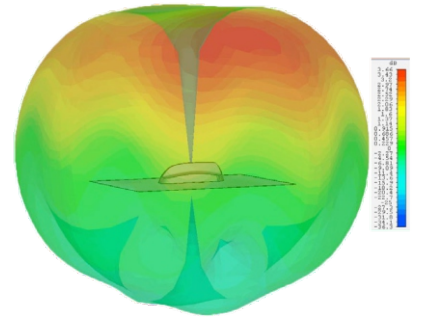
3D Gain Plot Side (700MHz)



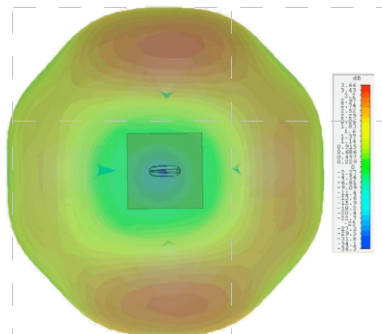
3D Gain Plot Top (700MHz)



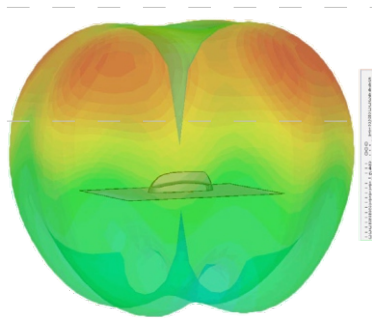
3D Gain Plot Side (800MHz)



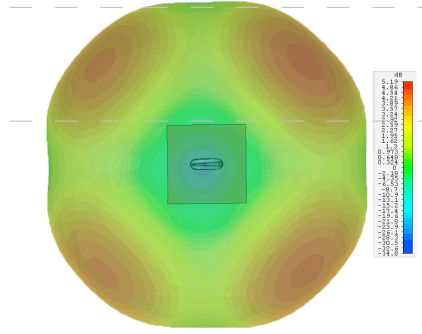
3D Gain Plot Top (800MHz)



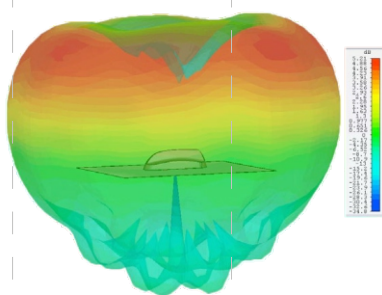
3D Gain Plot Side (900MHz)



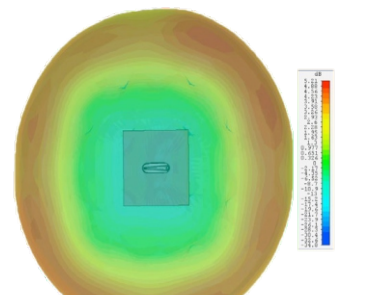
3D Gain Plot Top (900MHz)



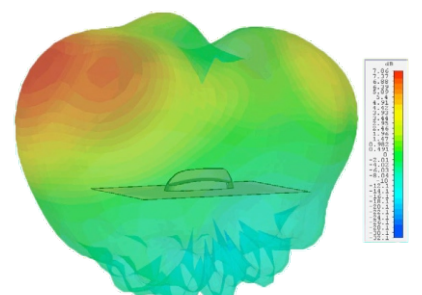
3D Gain Plot Side (1800MHz)



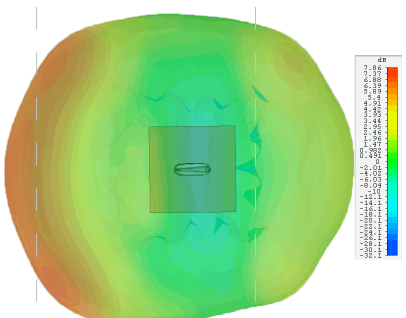
3D Gain Plot Top (1800MHz)



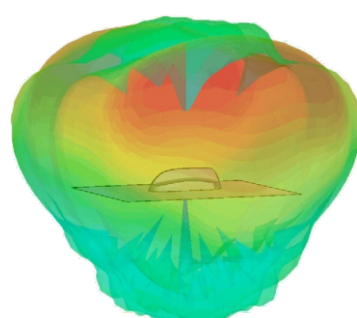
3D Gain Plot Side (2100MHz)



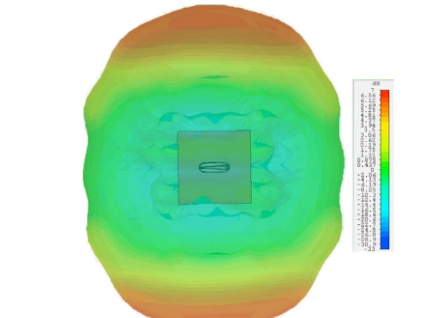
3D Gain Plot Top (2100MHz)



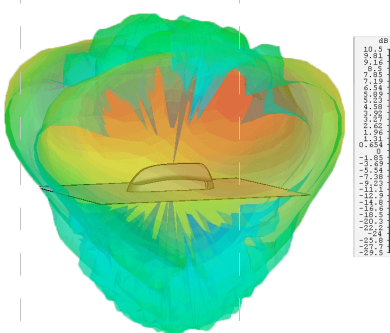
3D Gain Plot Side (2600MHz)



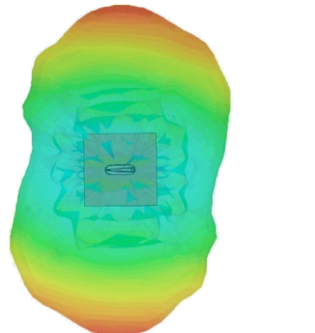
3D Gain Plot Top (2600MHz)



3D Gain Plot Side (3600MHz)



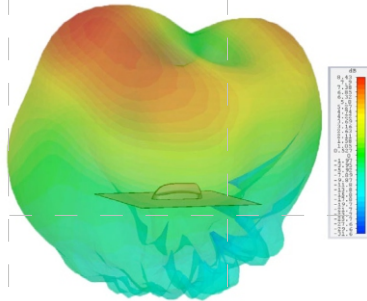
3D Gain Plot Top (3600MHz)



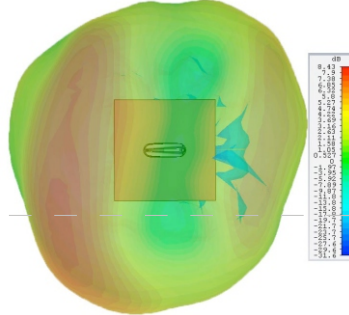
\*3D radiation patterns simulated in CST Microwave Studio on a 600x600mm (2' X2') ground plane with both elements fed together.

Typical 3D Radiation Patterns - Wifi Elements 4&5

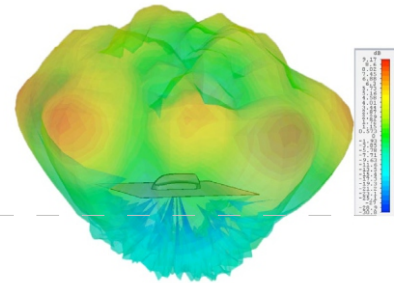
3D Gain Plot Side (2.4GHz)



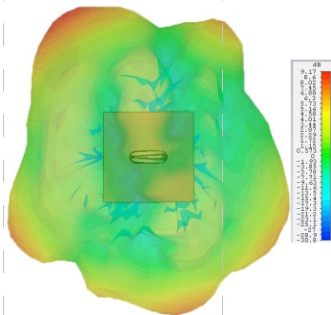
3D Gain Plot Top (2.4GHz)



3D Gain Plot Side (5.4GHz)



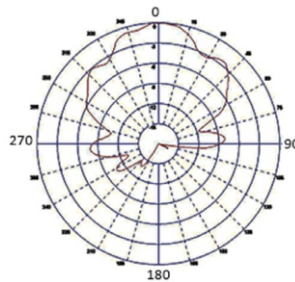
3D Gain Plot Top (5.4GHz)



\*3D radiation patterns simulated in CST Microwave Studio on a 600x600mm (2' X2') ground plane with both elements fed together.

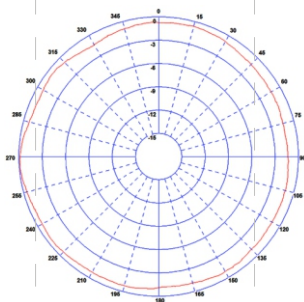
Typical Radiation Patterns - GPS/GNSS Element 1

Element 1: Typical E Plane Pattern

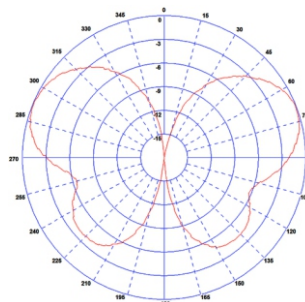


Typical Radiation Patterns - Whip

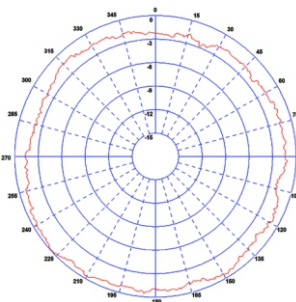
Typical H Plane Plot (2450MHz)



Typical E Plane Plot (2450MHz)



Typical H Plane Plot (5400MHz)



Typical E Plane Plot (5400MHz)

