

Handheld Direction Finding Antenna

20 MHz – 8.5 GHz (optional 9 kHz)

Product Code: DF-A0047

VERSION: 1.12



PRODUCT DESCRIPTION:

The DF-A0047 is a handheld wideband antenna for direction finding and transmitter hunting in the 20 to 8500 MHz band.

It combines several antennas in a neat housing, and some integrated electronics to make it more effective when used in conjunction with signal analysers.

A single RF output is provided, with internal switching selecting the appropriate antenna, and choosing to connect or bypass the pre-amplifier.

The amplifier is a low-noise wideband amplifier that enhances system sensitivity in active mode. In passive mode, the amplifier is bypassed so that the antenna can be used in the presence of strong signals.

The DF-A0047-01 is an extension module for 9 kHz to 20 MHz which is available as an option. It is a loop antenna with a diameter of 300 mm.

The DF-A0047-02 is a neat and robust carrycase for the DF-A0047.

MECHANICAL FEATURES:

- Small, light and easily operated by a single person
- Robust construction
- Waterproof

SPECIFICATIONS:

Product code:	
DF-A0047	20 – 8500 MHz
DF-A0047-01	9 kHz – 20 MHz (extension module)
DF-A0047-02	Carrycase only
DF-A0047-10	DF-A0047 in colour red
Electrical:	
Antenna type	Combined loop / LPDA
Frequency range	
Band A:	9 kHz – 20 MHz (DF-A0047-01)
Band B:	20 – 500 MHz
Band C:	500 – 8500 MHz
Nominal input impedance	50 Ω
VSWR	< 3.5:1 typical
Polarisation	Adjustable, vertical or horizontal
Antenna gain	Variable with frequency (< 600 MHz) 6 dBi (> 600 MHz)
Amplifier	Low noise 8 – 18 dB, switched in/out
Power supply	5 V @ 200 mA maximum, via USB
Control connection	USB
User inputs	Band selection by means of a rotary switch Active/passive selection by means of a push button
Angle detection	Digital compass (accuracy 3° RMS) ¹ , integrated with antenna
Mechanical:	
Form factor	Handheld
Dimensions (l x w x d)	543 mm x 320 mm x 60 mm
Mass, excluding carry case	1.8 kg
Supplied parts	Antenna, RF cable, USB cable.
Optional parts	Carrycase and Band A extension
Environmental: designed to meet the following specifications	
Operating temperature range	-30 °C to +55 °C
Storage temperature	-30 °C to +71 °C
Ingress protection	IP56
MTBF	> 50,000 h

¹Compass accuracy typically 3° RMS, dependent on calibration accuracy, magnetic environment and environmental conditions.

ELECTRICAL FEATURES:

- Digital compass gives precise bearing to source
- Very wideband performance in a practical size
- Horizontal and vertical polarisation
- Passive antenna if amplifier is switched off
- Excellent radiation patterns

Updated 2023-11-28

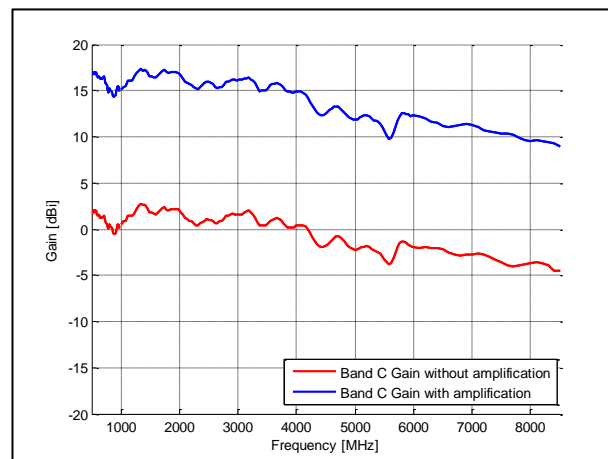
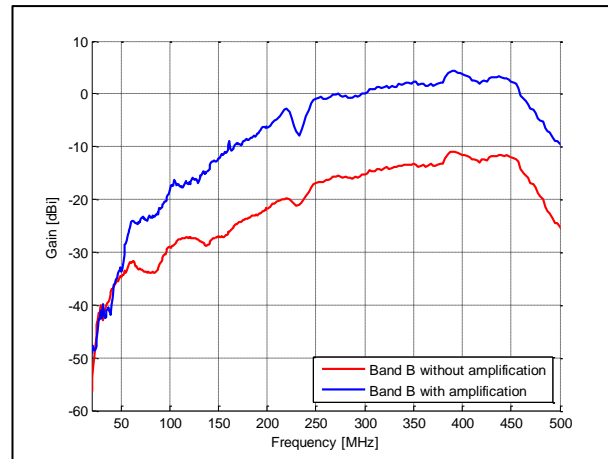
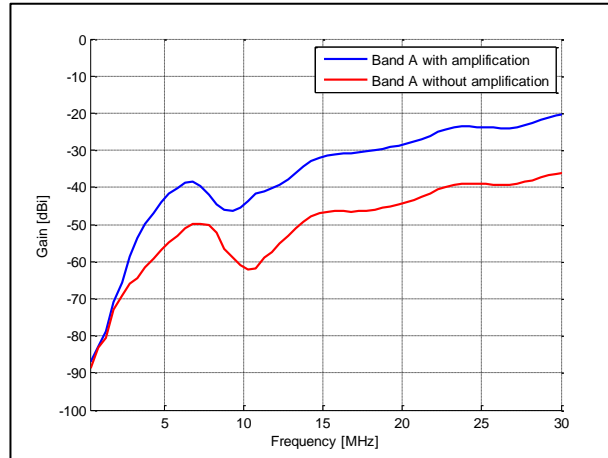
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Gain:



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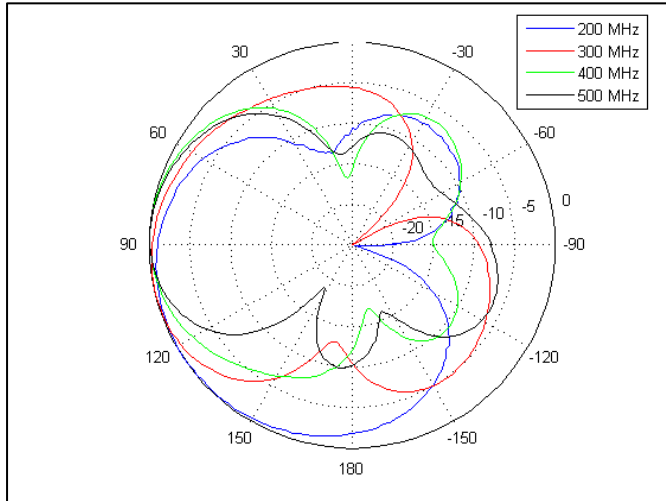
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VERSION: 1.12

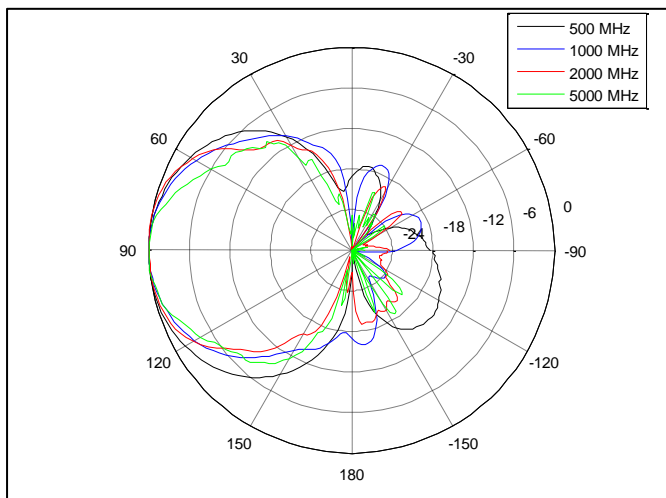
Radiation patterns (dB – normalised)

H-plane:

Band B:



Band C:



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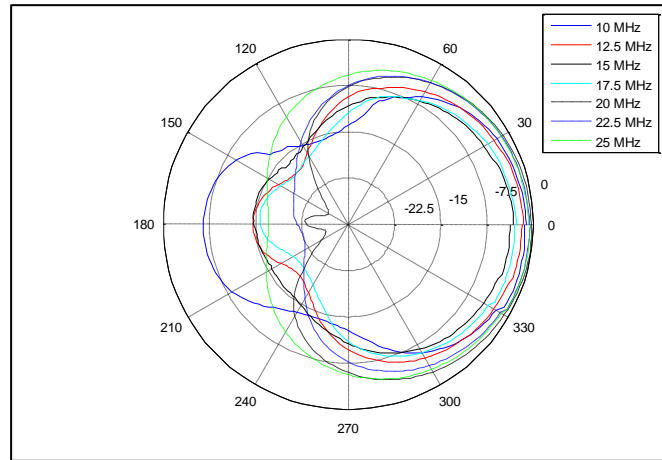
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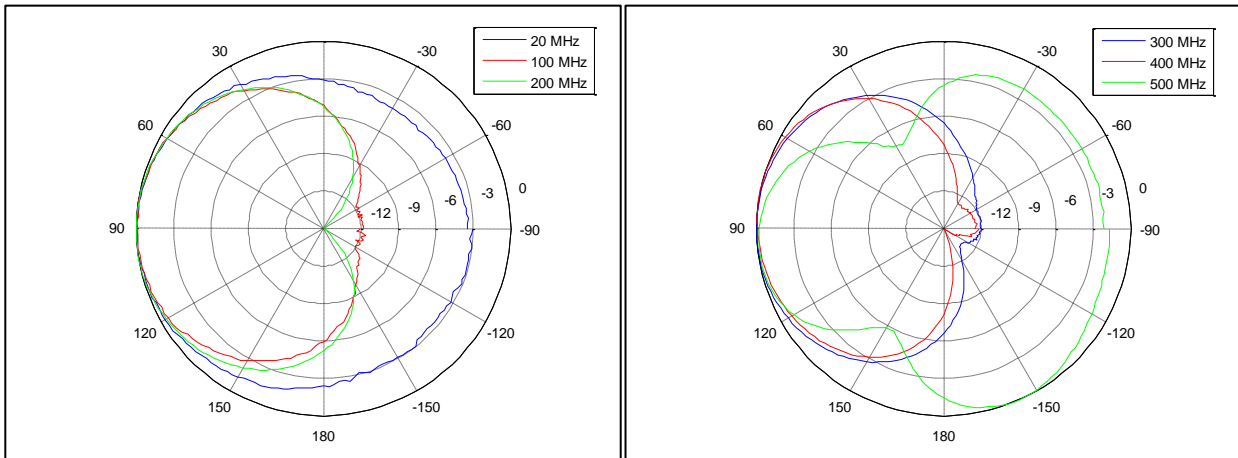
VERSION: 1.12

E-plane:

Band A:



Band B:



Band C:

