Compact Adcock DF Antenna

2000 – 6000 MHz

VERSION: 1.3

Product Code: DF-A0253

PRODUCT DESCRIPTION:

The DF-A0253 is a single band, compact Adcock DF antenna intended for direction-finding from 2000 to 6000 MHz.

The antenna presents patterns suitable for the Watson-Watt estimation method, as well as 3-channel correlative DF (CIDF). The antenna offers an omni-channel output that can also be used for monitoring.

The DF-A0253 has a low noise amplifier on each channel with passive bypass capability, an integrated noise source or optional external signal can be used for downstream RF chain calibration and also includes navigation and GPS.

*CA Application 2,853,219;
*EP Patent 2771943;
*U.S. Patent No. 14/353,382;
*ZA Patent No. 2014/02806

SPECIFICATIONS:

Product Code:		
DF-A0253	**RS485 communication interface and electronic compass**	
DF-A0253-05	**USB V2.0 communication interface, integrated inertial navigation system and 64 MB onboard memory**	
Electrical: DF		
Frequency range	2000 – 6000 MHz	
Number of channels	3	
DF method	Watson-Watt or 3-channel CIDF	
RMS accuracy	< 5° (using only pure WW)*	
Polarisation	Vertical	
Omni-output	Yes	
Nominal input impedance	50 Ω	
Electrical:	**DF-A0253**	**DF-A0253-05**
Frequency range	2000 – 6000 MHz	
RF Amplification Gain	20 ± 2 dB	
Control	RS 485 serial at 115 kbaud	USB V2.0
Switching time	< 100 µs using serial commands < 5 µs when using dedicated lines	< 25 µs
Integrated features:	**DF-A0253**	**DF-A0253-05**
Navigation	Integrated compass. Heading Accuracy 2° RMS	Integrated GPS/INS[1] unit. Heading accuracy 0.3° RMS
GPS Antenna	Active (L1)	
Onboard storage	Model no., serial no., user data fields	64MB flash in addition to Model no., serial no. and user data fields
Programming interface	None	to integrated micro controller
RF calibration	RF chain calibration using Integrated noise source or external applied signal	
Power supply	6 - 18 V DC	
Power consumption	< 3 W	
Interfaces:		
Electrical	Connectors recessed into base of antenna	
Antenna outputs	4 x SMA female	
Integrated Passive GPS	1 x SMA female	
Control and power	MIL-DTL-38999 multi-pin connector	
Mechanical	Flange for vehicle or mast-mounting	
Mechanical:		
Dimensions (ø x h)	83 mm x 388 mm (including mounting flange) *TBC	
Total mass	< 2 kg	
Environmental: designed to meet the following specifications		
Wind survival	160 km/h (without ice)	
Temperature (operation)	-30 ºC to +70 ºC	
Vibration and shock	Designed to MIL-STD-810-F for ground vehicles	
Water proofing	IP65 rain proof	

* Improved accuracy is possible using correlative methods

Notes:
1. RMS accuracy is measured over all azimuth.

Updated 2023-12-01

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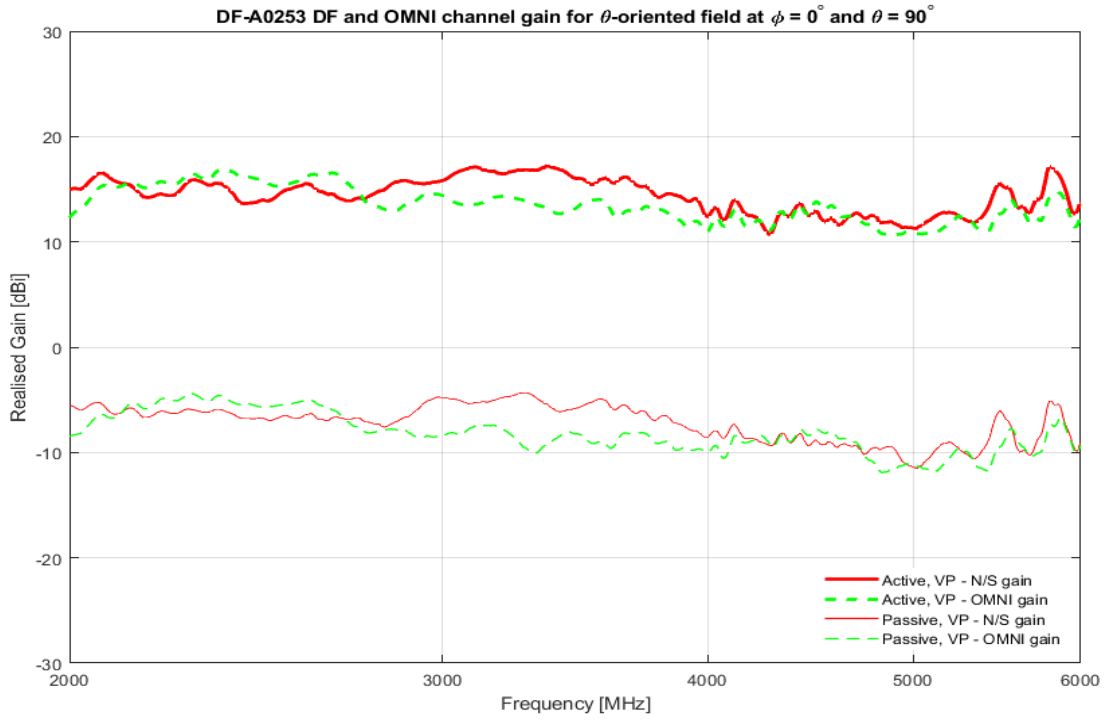
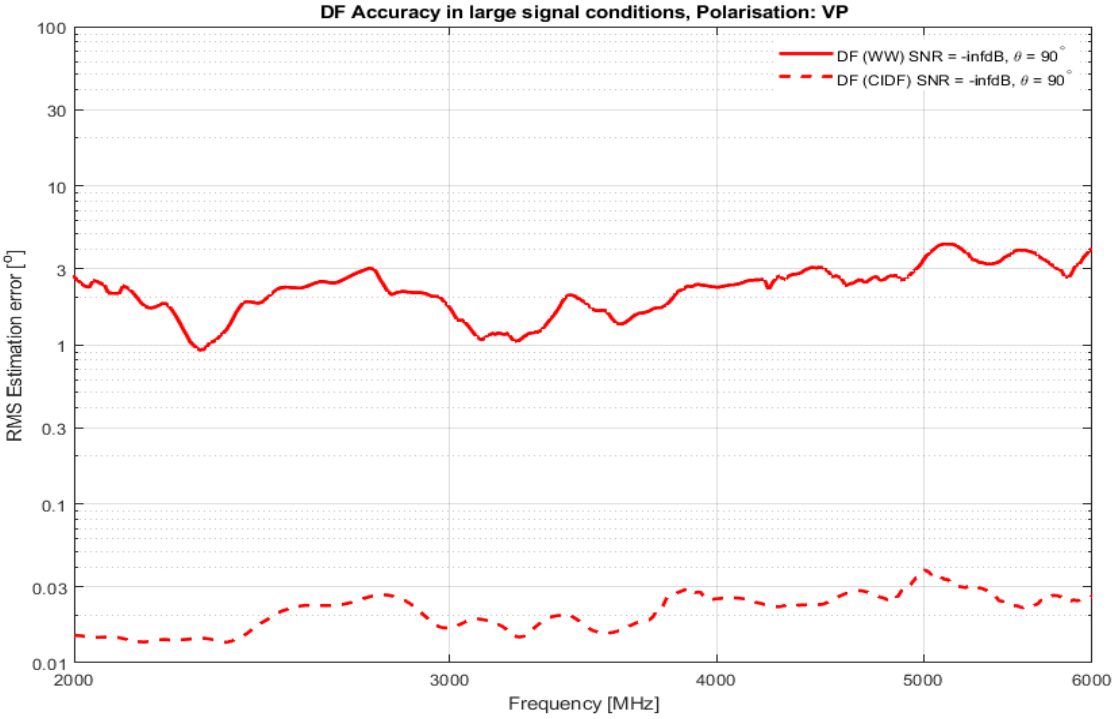
Antenna Channel Gain (TBC*):



DF Accuracy (TBC*):



Notes: *To be confirmed/ updated when antenna development is completed

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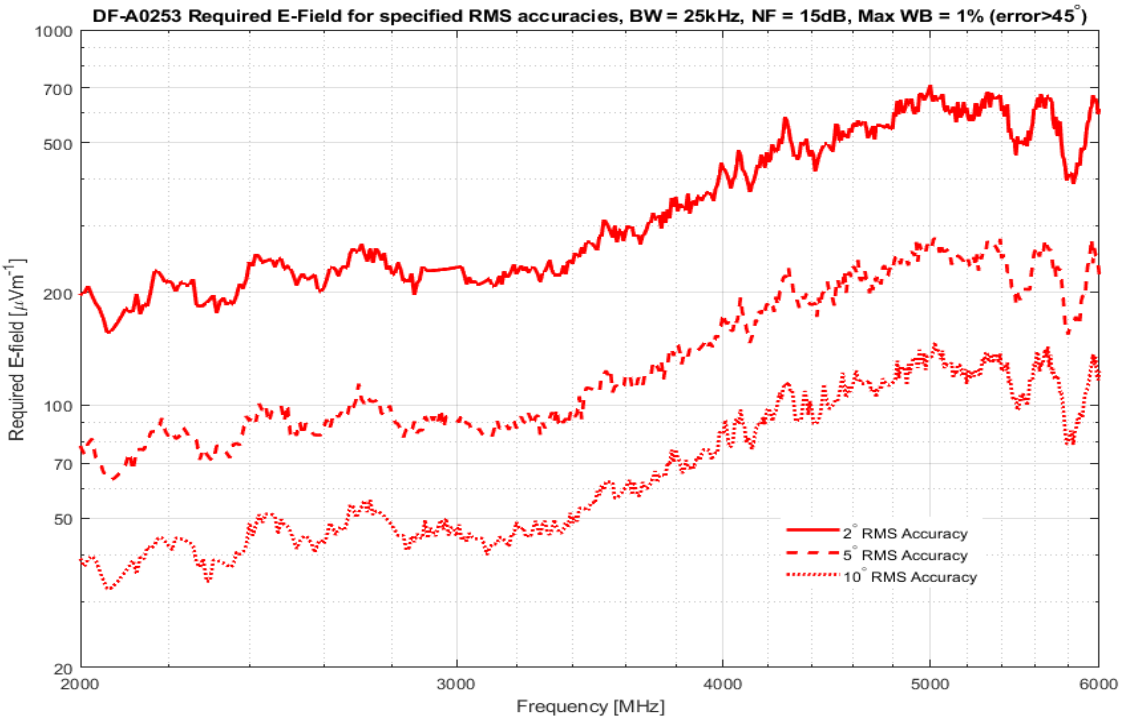
DF Sensitivity (TBC*):



DF Required SNR (TBC*):

Notes: *To be confirmed/ updated when antenna development is completed