



Antenna specification in DLB5-23AX

Datasheet

Revision 1.0
liepos 31, 2025



Copyright © 2016 LigoWave www.ligowave.com

Revision tracking

Revision	Author	Date	Changes
1.0	Mateusz M.	2025-07-31	Initial version

Introduction

DLB5-20AX is a dual polarization microstrip antennas array consisting of 64 elements (8 x 8)

Antenna is operating in frequency band from 5.0GHz to 6.0GHz.

Both antenna ports are MCX (female) and connected to the main board with relevant pigtails.



Fig.1. DLB5=23AX antenna front view.

Parameters

Frequency band 5.1-6.0GHz

VSWR for Vertical (V) and Horizontal (H) polarization ports

$VSWR_{MAX} < 2.7$ @ 5.15-6.0GHz

$VSWR_{AWR} \approx 1.7$

ISOLATION

Isolation between V and H polarization ports (transmission measured):

$Isolation_{min} > 29dB @ 5.0-6.0GHz$

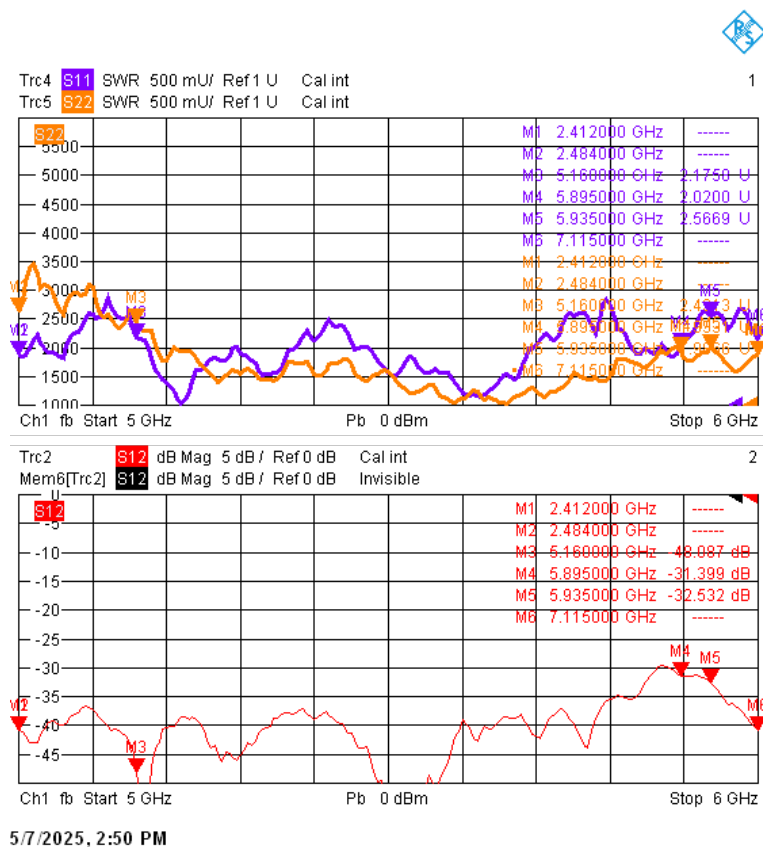


Fig.2. Measured VSWR (V polarization– ORANGE and H polarization VIOLETat top figure) and isolation (bottom figure S21)

GAIN

Table 1. Antenna gain

Gain [dBi]:	V polarization	H polarization
MAX	24.5	24
AVERAGE 5.0-6.1 GHz	23.5	22.8



Fig.3. Measured antenna gain for H and V polarizations

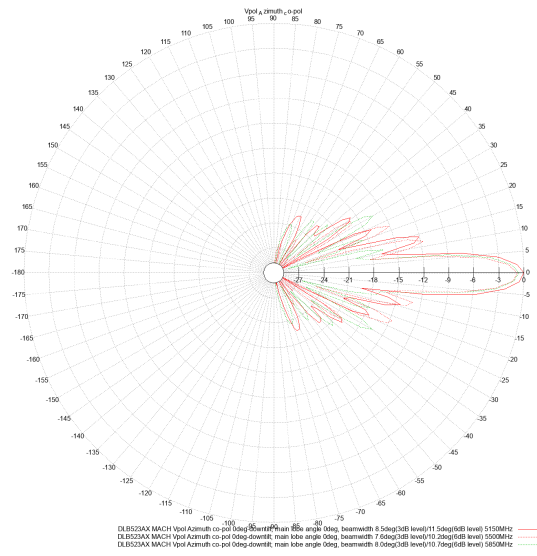
ANTENNA PATTERNS

Antenna patterns and related parameters are presented for 3 frequencies 5.15GHz, 5.5GHz and 5.85GHz

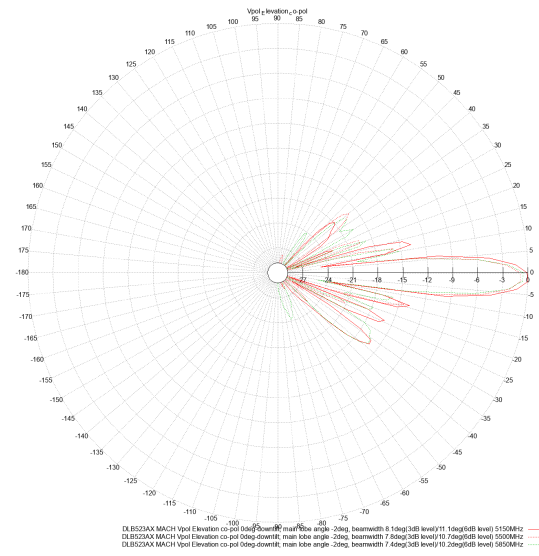
Table 2. Measured 3dB beamwidth and F/B front to back ratio for V and H polarizations

V polarization	Azimuth		Elevation	
frequency	3dB Beam width [°]	Front to back ratio range (-90° to +90°) [dBi]	3dB Beam width	Front to back ratio range (-90° to +90°)
5.15GHz	8.5	>30	8.1	>30
5.50GHz	7.6	>30	7.8	>30
5.85GHz	8.0	>30	7.4	>25

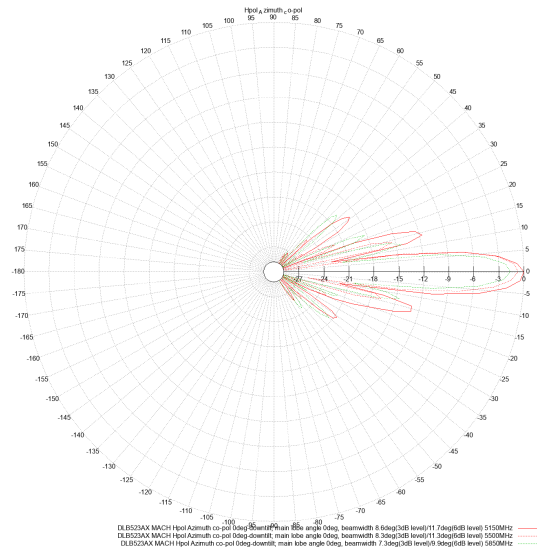
H polarization	Azimuth		Elevation	
frequency	3dB Beam width [°]	Front to back ratio range (-90° to +90°)	3dB Beam width	Front to back ratio range (-90° to +90°)
5.15GHz	8.6	>30	9.4	>30
5.50GHz	8.3	>30	9.1	>30
5.85GHz	7.3	>30	7.4	>27



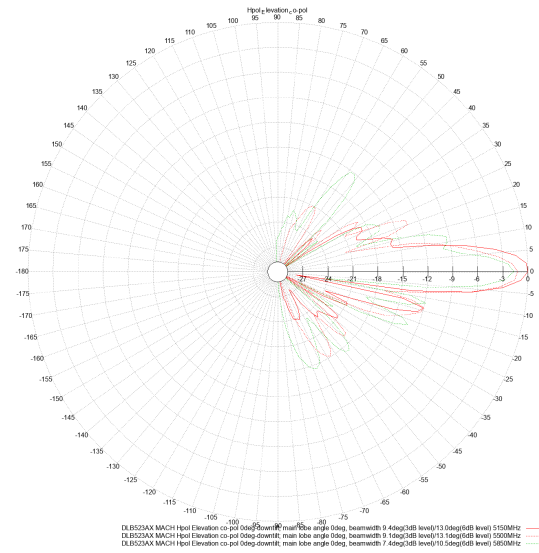
V polarization – Azimuth*



V polarization – Elevation



H polarization – Azimuth



V polarization – Elevation

Fig.3. Measured antenna patterns for H and V polarizations