WASB-2400-20-SMAM Datasheet

Single-Band 2.4 GHz Dipole Antenna

Revision 1.1
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1. Overview

WASB-2400-20-SMAM is a single-band, omni-directional, multi-position, dipole antenna with an SMA Plug (SMA Male port); hence it requires a connector cable with RP SMA Plug (SMA Female port).

Omni-directional antennas radiate equally well in all directions and are best used to spread a signal uniformly over some area. The dBi rating of an antenna specifies the amount of gain the antenna has in a particular direction. An antenna gain of 0dBi specifies an antenna that radiates all power uniformly over a sphere. For a dipole antenna, the radiation pattern is toroidal; and signal transmission and reception is best on the broad side of the antenna (i.e. horizontally placed from the antenna). The higher the gain of a dipole antenna, the stronger the signal is in the horizontal directions and the weaker the signal will be in the vertical (elevated) directions. Hence a high gain dipole antenna may not be ideal for a multi-story building, but it will be good to disperse a signal omni-directionally across a single floor. This antenna is designed for Wireless Communications.

Figure 1: WASB-2400-20-SMAM at 180°

Figure 2: WASB-2400-20-SMAM at 45°

Figure 3: WASB-2400-20-SMAM at 90°

Figure 4: WASB-2400-20-SMAM showing SMA Plug (SMA Male) connector

2. Specification

Antenna Type	:	Dipole
Frequency	:	2.4GHz – 2.5GHz
Polarization	:	Linear Vertical
Gain Factor	:	2 dBi
VSWR	:	≤ 1.5 : 1
Impedance	:	50 Ω
Antenna's Port	:	SMA Plug (SMA Male)
Mating Connector Type	:	RP SMA Plug (SMA Female)
Weight	:	13 grams
Size	:	105mm (Len) x 10mm (Dia)
Antenna Color	:	Matte Black

3. Performance Graphs

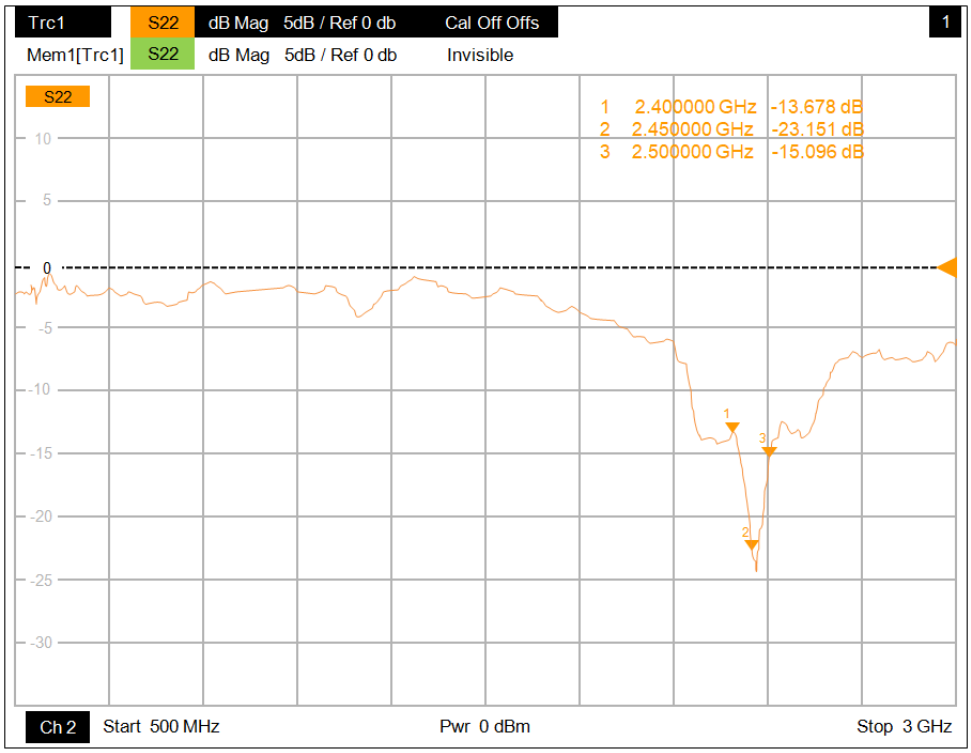

Figure 5: Reflection Coefficient vs Frequency

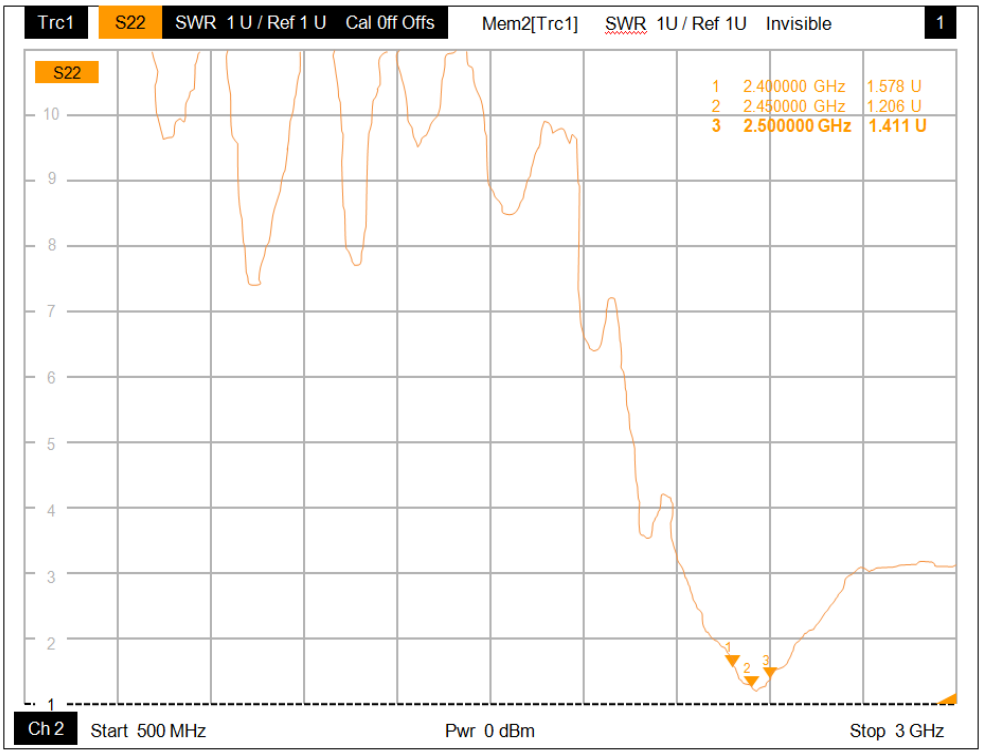

Figure 6: VSWR vs Frequency

4. Radiation Patterns

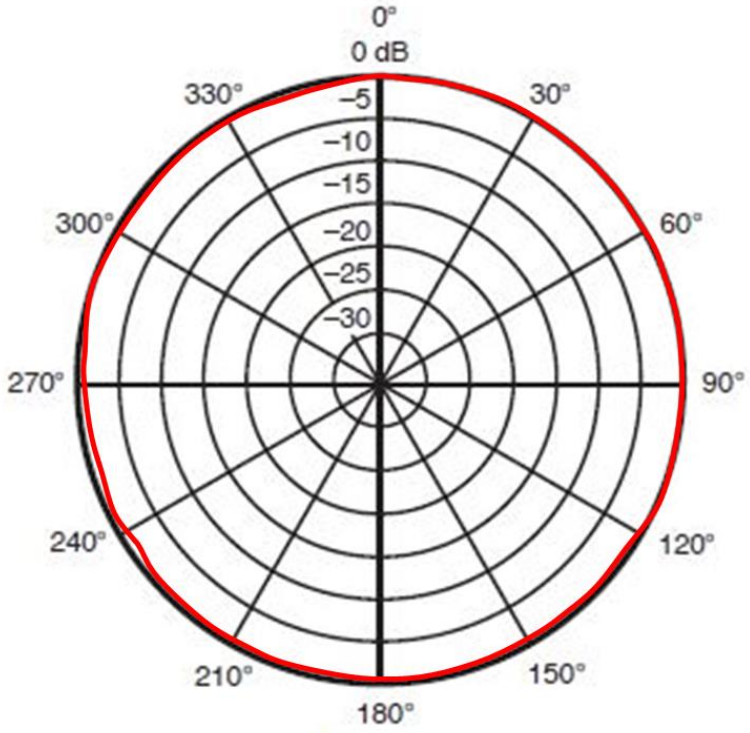

Figure 7: H-PLANE Radiation Pattern

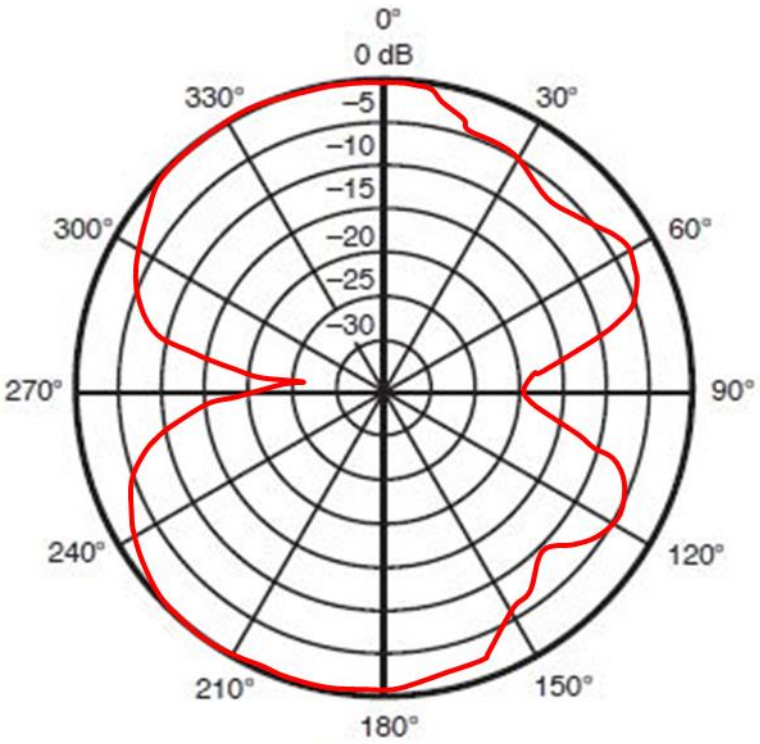

Figure 8: E-PLANE Radiation Pattern

5. Mechanical Drawing

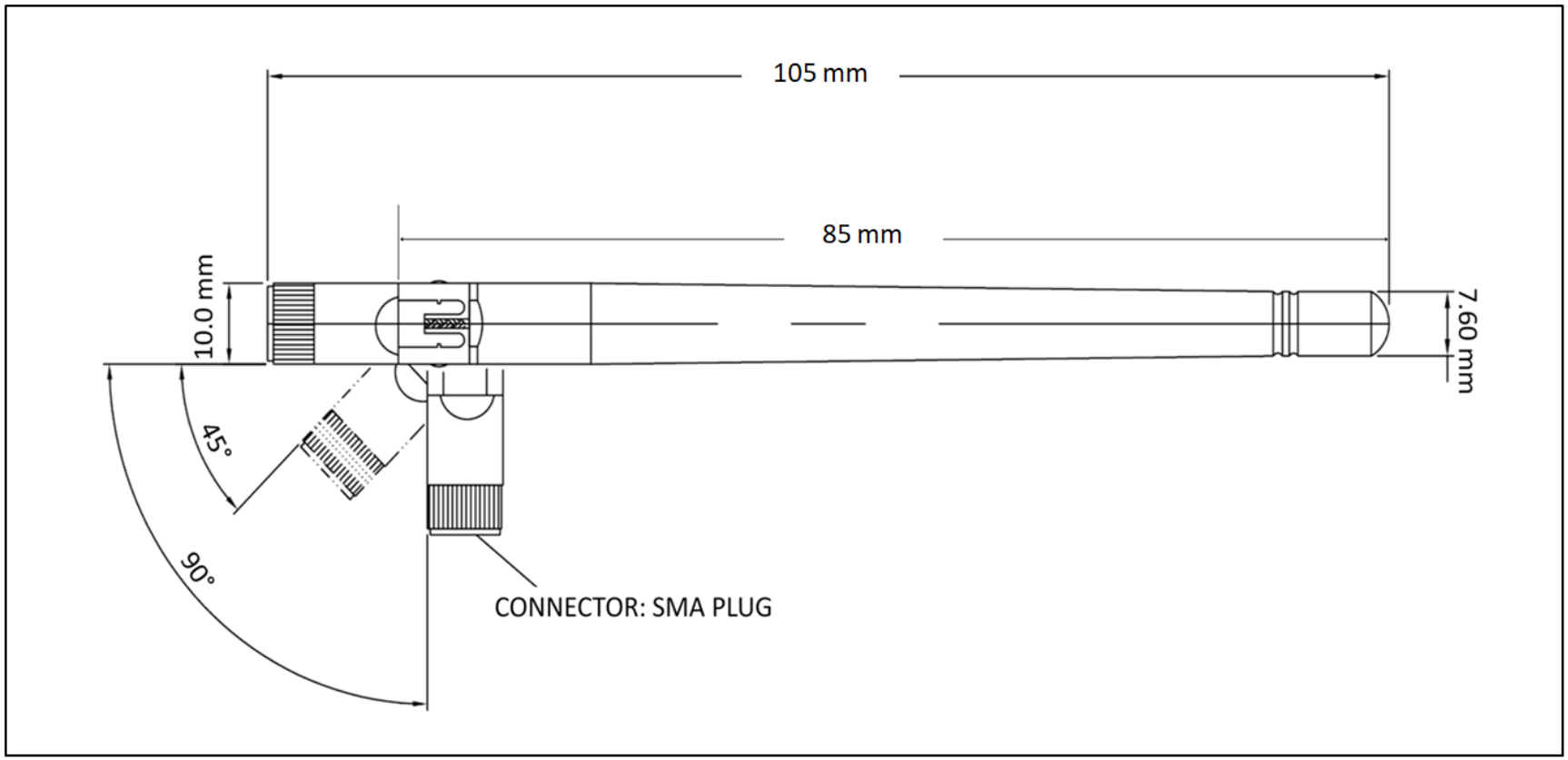

Figure 9: Antenna Drawing with Dimensions

6. Part Ordering

Part Order Number	Description
WASB-2400-20-SMAM	Dipole Antenna, Single-Band 2.4 GHz, SMA-Male Gain = 2 dBi (2.4 GHz)
WADB-2458-23-SMAM	Dipole Antenna, Dual-Band 2.4/5 GHz, SMA-Male Gain = 2 dBi (2.4 GHz) / 3 dBi (5 GHz)
WACC-MHF4-SMAF-100-113	Antenna Connector Cable, MHF4-Female, SMA-Female Length = 100 mm, Diameter = 1.13 mm

7. Revision History

Revision	Revision Date	Originator	Changes
1.0	07/12/2017	Wi2Wi	Initial version Datasheet
1.1	10/13/2017	Wi2Wi	Added graphs

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