WADB-2458-23-SMAM Datasheet

Dual-Band 2.4 & 5 GHz Dipole Antenna

Revision 1.1
Oct 12, 2017

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The definitions used herein are:
a) Life support devices or systems are devices which (1) are intended for surgical implant into the body, or (2) support or sustain life and whose failure to perform when properly used in accordance with the instructions for use provided in the labeling can reasonably be expected to result in a significant injury to the user. b) A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

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1. Overview

WADB-2458-23-SMAM is dual-band, omni-directional, multi-position, dipole antenna with an SMA Plug (SMA Male port); hence it requires a connector 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: WADB-2458-23-SMAM at 180°

Figure 2: WADB-2458-23-SMAM at 45°

Figure 3: WADB-2458-23-SMAM at 90°

Figure 4: WADB-2458-23-SMAM showing SMA Plug (SMA Male) connector

2. Specification

Antenna Type	:	Dipole
Frequency	:	2.4GHz – 2.5GHz 5.1GHz – 5.8GHz
Polarization	:	Linear Vertical
Gain Factor	:	2 dBi for 2.4GHz – 2.5GHz 3 dBi for 5.1GHz – 5.8GHz
VSWR	:	≤ 2.0 : 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

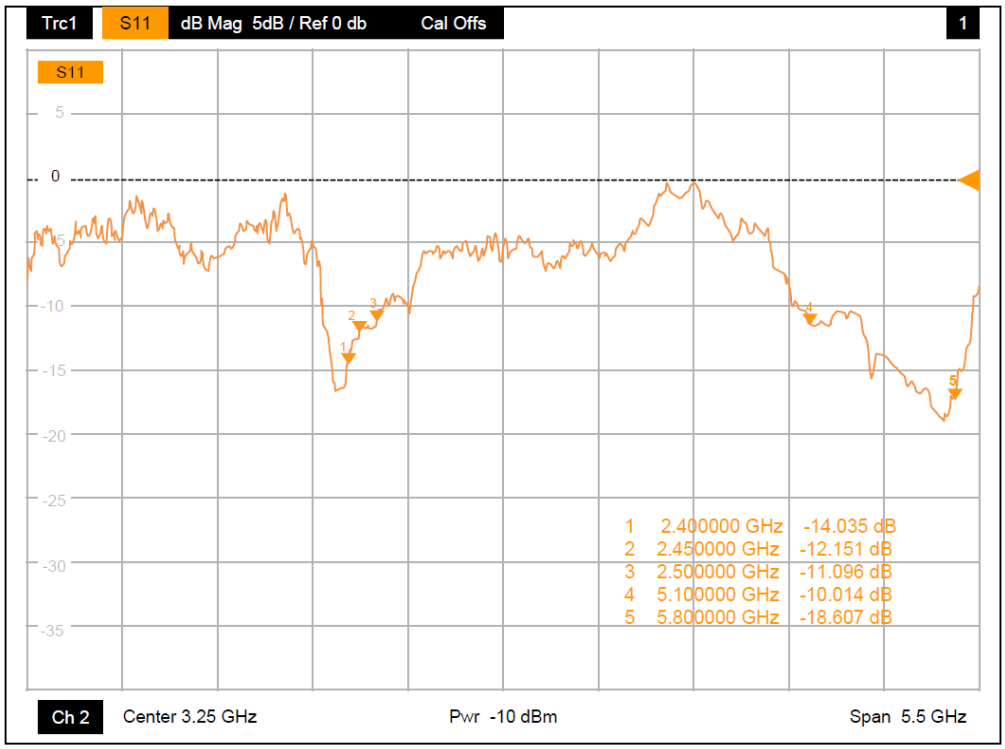

Figure 5: Reflection Coefficient vs Frequency

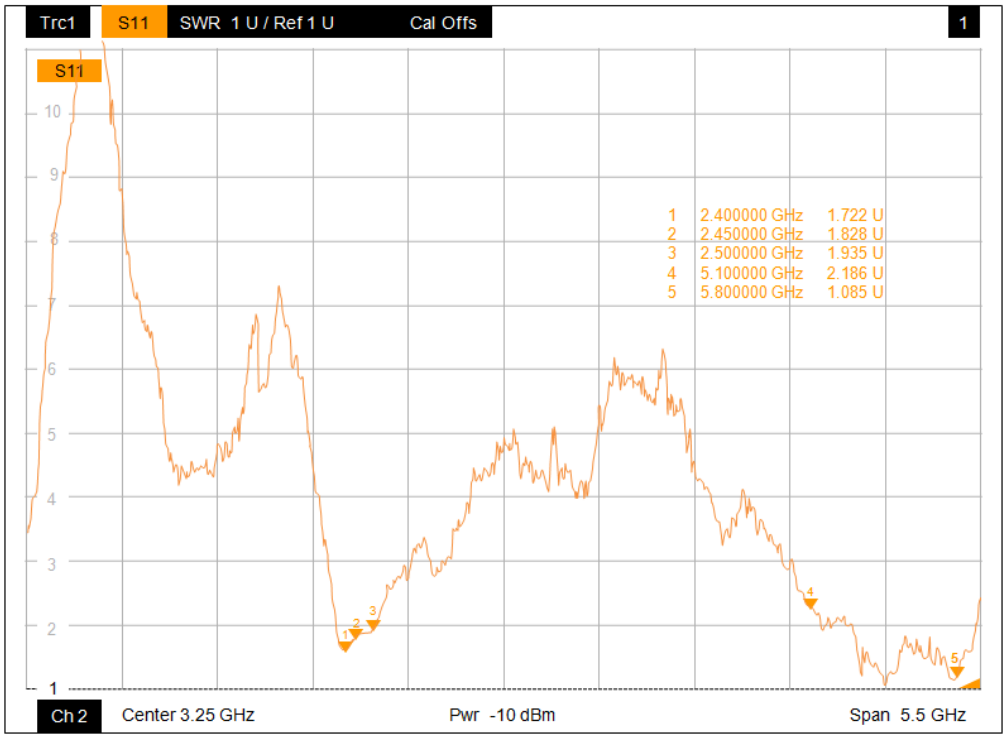

Figure 6: VSWR vs Frequency

4. Radiation Patterns

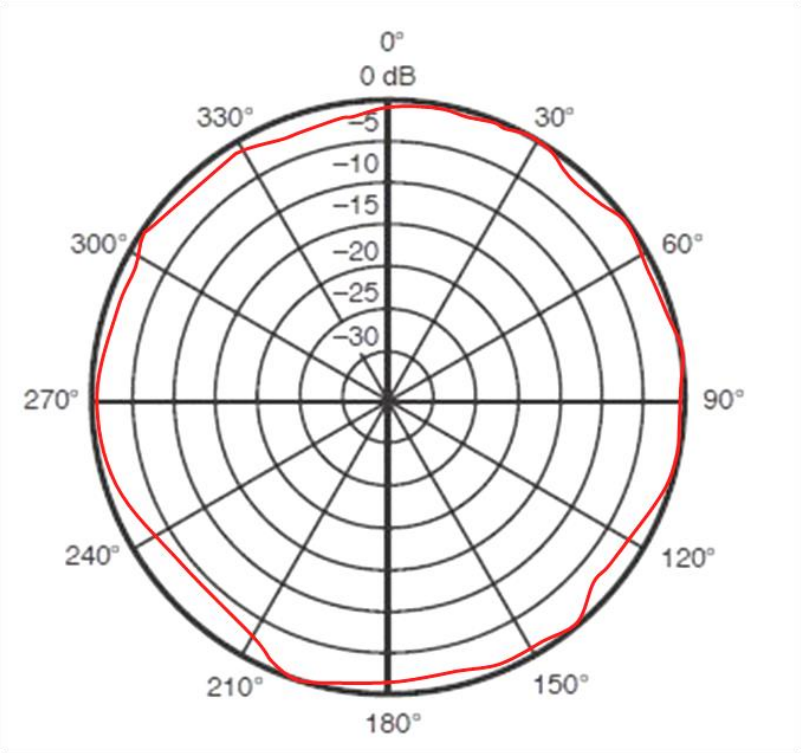

Figure 7: H-PLANE Radiation Pattern

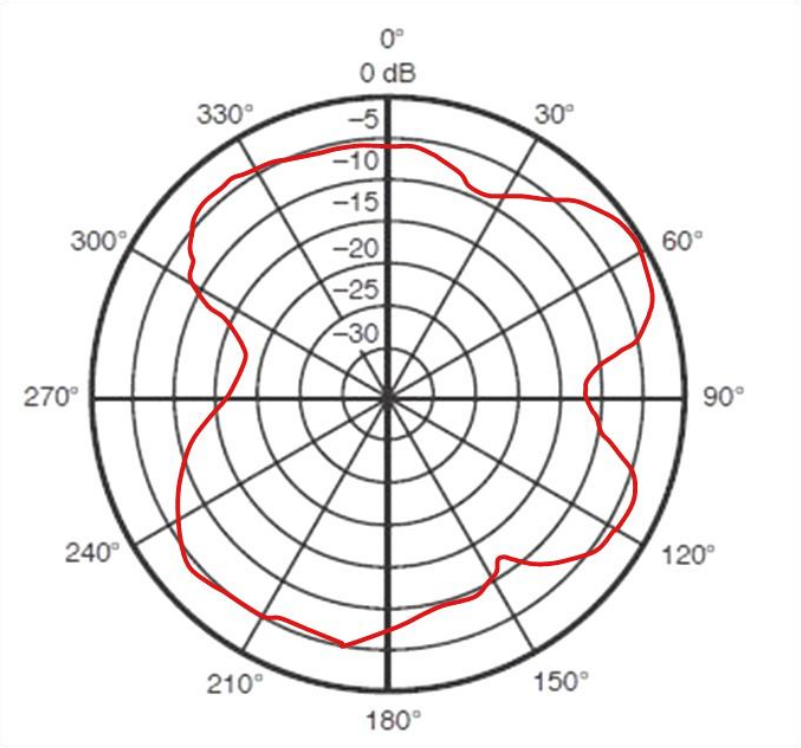

Figure 8: E-PLANE Radiation Pattern

5. Mechanical Drawing

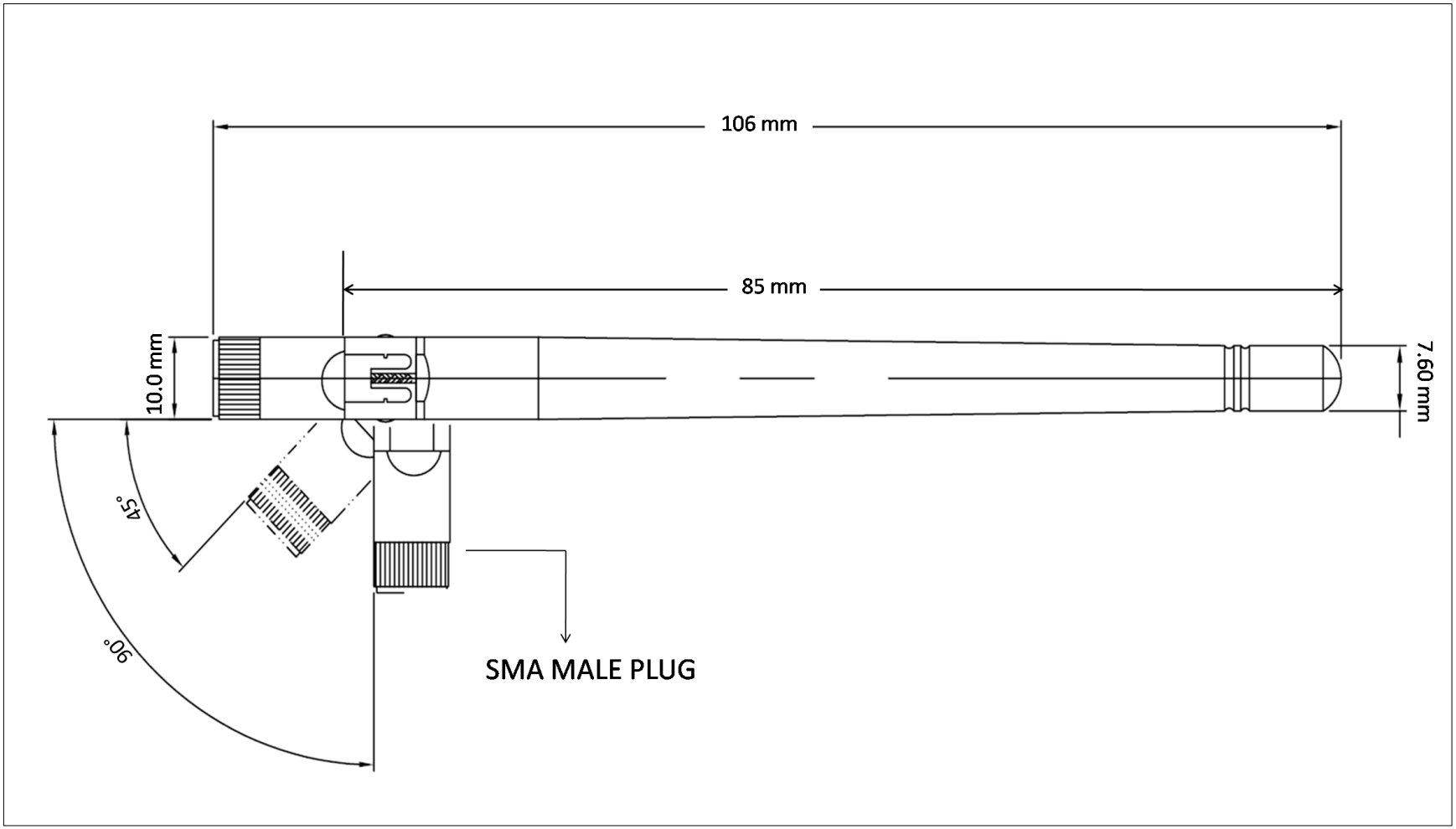

Figure 9: Antenna Drawing with Dimensions

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	10/12/2017	Wi2Wi	Added graphs

WACC-MHF4-SMAF-100-113 Datasheet

Antenna Connector Cable (SMA Female, MHF4 IPEX Female)

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Oct 13, 2017

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1. Overview

WACC-MHF4-SMAF-100-113 is an antenna connector cable with a SMA Female port on one end and a MHF4 IPEX (HSC compliant) Female port on the other end.

The length of this connector cable is 100 mm with diameter of 1.13 mm

Figure 1: WACC-MHF4-SMAF-100-113

Figure 2: SMA Female Port

Figure 3: MHF4 IPEX Female Port

2. Performance Graphs

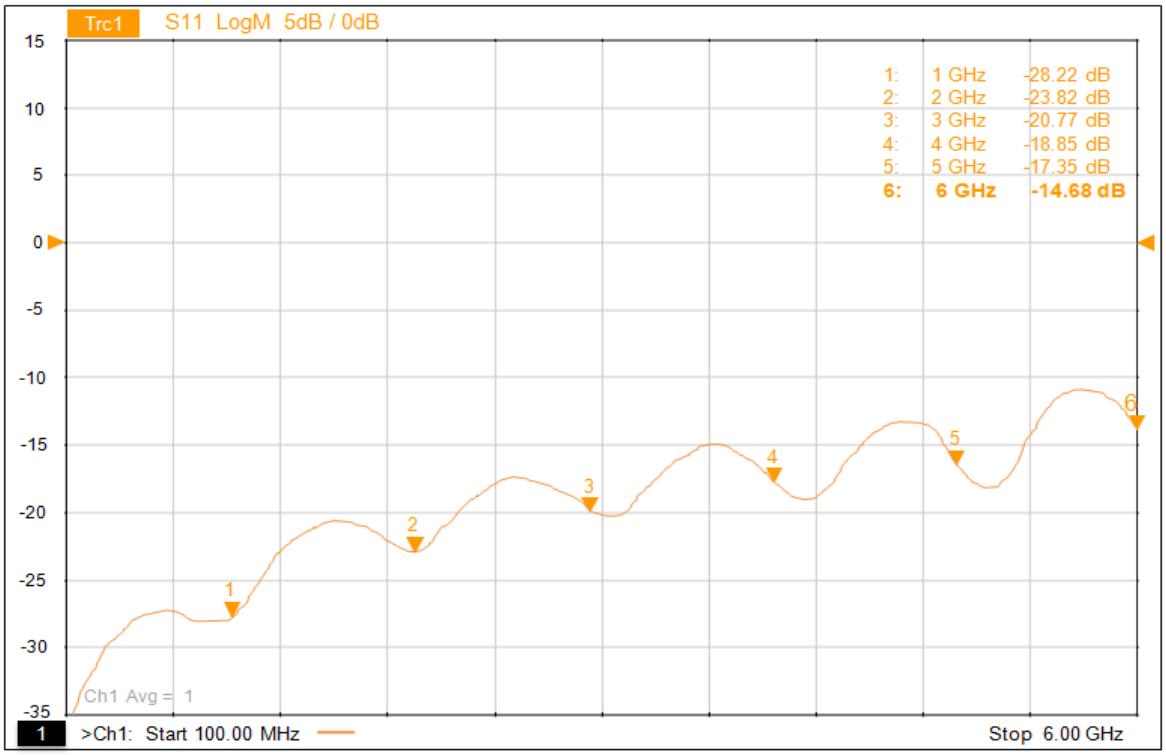

Figure 4: Reflection Coefficient vs Frequency

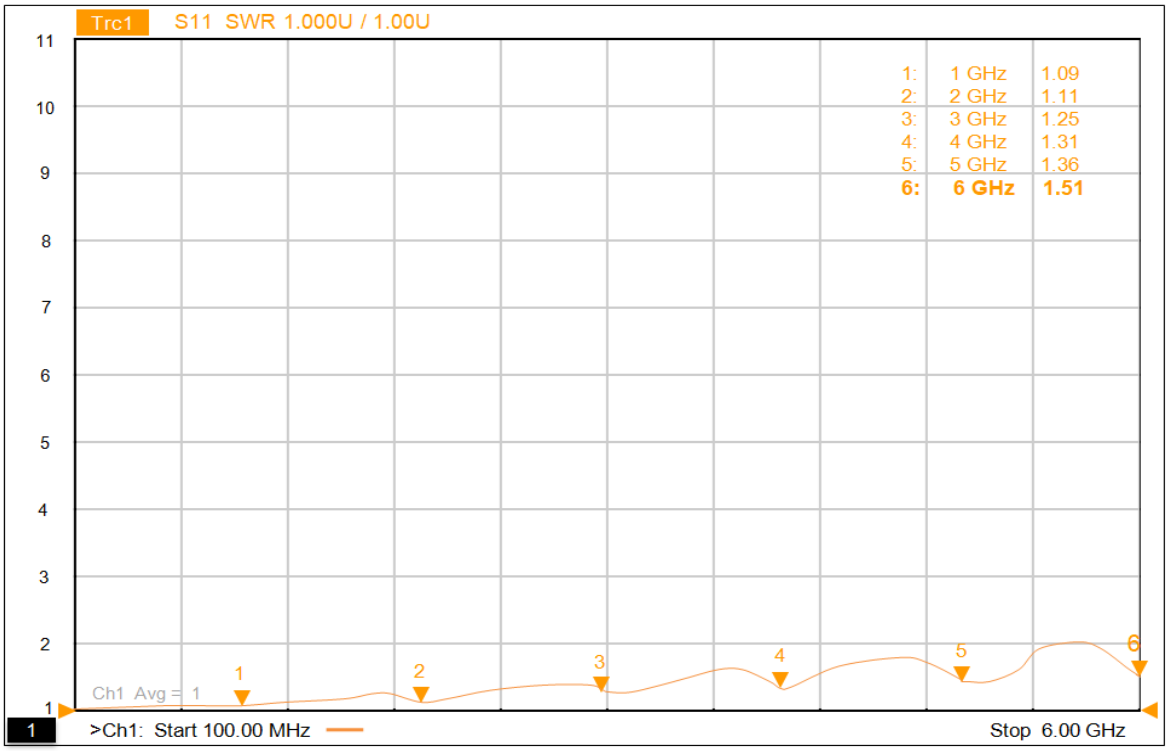

Figure 5: VSWR vs Frequency

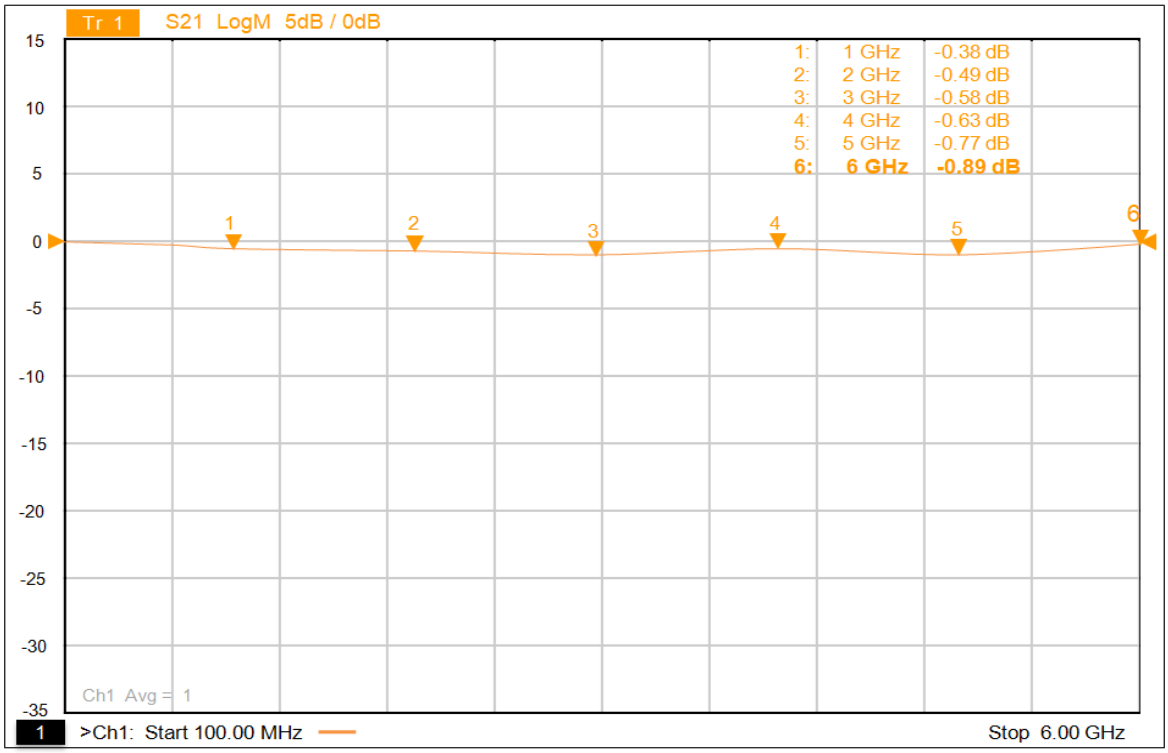

Figure 6: Insertion Loss vs Frequency

3. Mechanical Dimensions

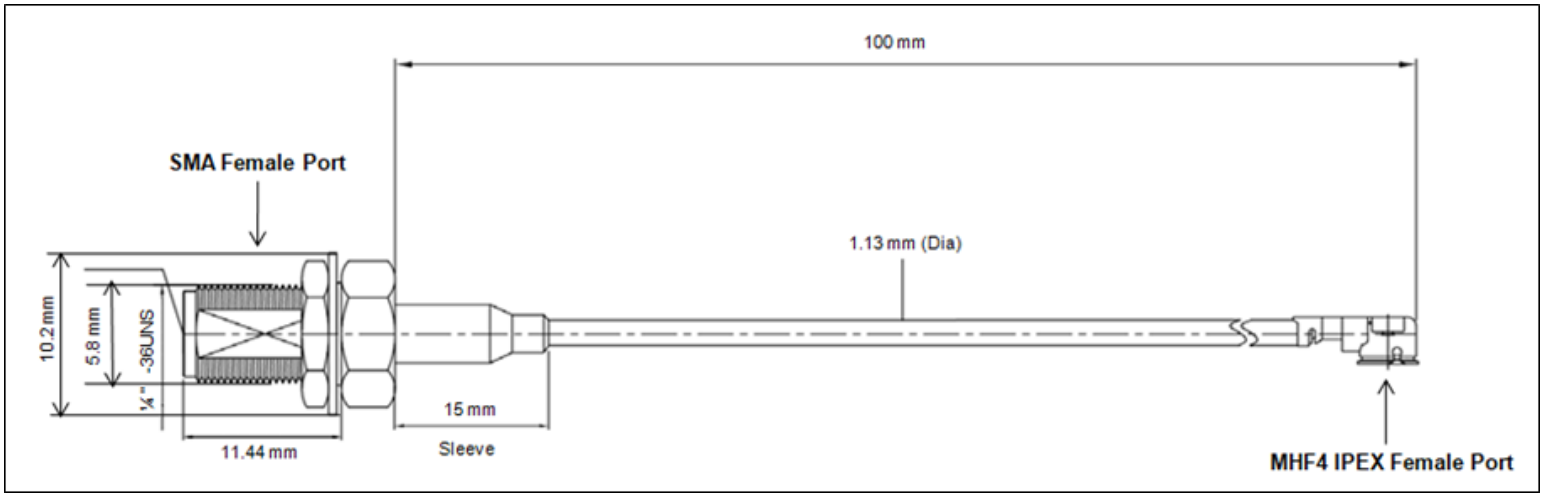

Figure 7: Connector Cable Drawing with Dimensions

4. Part Ordering

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WACC-MHF4-SMAF-100-113	Antenna Connector Cable, MHF4-Female, SMA-Female Length = 100 mm, Diameter = 1.13 mm

5. Revision History

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