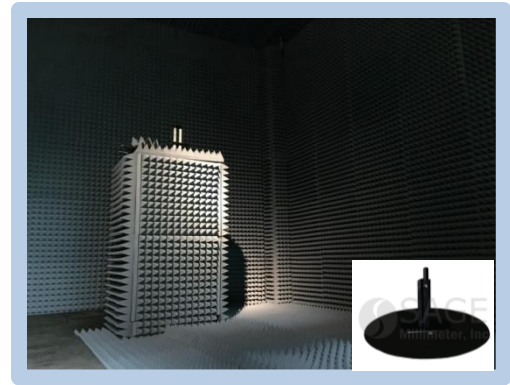




## Low Cost Antenna Pattern Measurement System

### Description:

**Model STY-120-S1** is a low-cost antenna pattern measurement system. The system is designed for customers in R&D or production environments who need performance antenna pattern measurements with limited capital expenditure. The system includes a high precision 360° computer-controllable turn table, a SAGE Millimeter developed control and data collection software, National Instrument GPIB-USB adapter, and four commonly used antenna fixtures for millimeter wave standard flange mounting from 18 GHz to 1 THz. The antenna pattern system is designed for far-field range application. It measures E and H patterns in 2D form with angular resolution as low as 0.025°. It also delivers the 3 dB beamwidth automatically and can be used for gain measurement with additional hardware offered by SAGE Millimeter. The antenna pattern measurement system is a low cost resource for antenna pattern measurement.



### Features:

- Low Cost
- High Angular Resolution
- Light Weight Antenna Measurement
- Low Gain Antenna Measurement
- Easy Installation and Setup

### Model Includes Following Item:

- 2D Turn Table with Controller
- Turn Table Control/Data Collection Software
- National Instrument GPIB-USB Adapter
- Antenna Holding Fixtures, 4 Pieces
- Magnet Base, 1 Piece
- Control Cable, 1 Piece & RF Cable, 2 Pieces

### Specifications:

Parameter	Minimum	Typical	Maximum
Frequency Range	LF to 110 GHz		
Drive System	Precision Step Motor (STY-SM-2100-U2)		
Turn Table Size	Ø12" Steel Table (STY-PS-11613-U2)		
Turn Table Angular Resolution	0.025°	0.05°	
Turn Table Repeatability		0.025°	
Turn Table Speed			50°/Second
Turn Table Load Capacity			25 Lbs
Turn Table Cable (USB to RS232)	20 Foot Cable (STY-CW-URS232-U2)		
Antenna Mounts	SAX-MT1125-C1; SAX-MT0750-C1; SAX-MT0750-S1; SAX-MT0880-S1		
RF Cable (SMA(M), DC to 18 GHz)	4 Foot Cable, 2 Pieces (SCW-SMSM048-F1)		
GPIB-USB Adapter	National Instruments GPIB-USB Adapter (STY-CW-UGPIB-U2)		
AC Power	100 – 240 VAC/ 2A		
Application Limits	In Door		

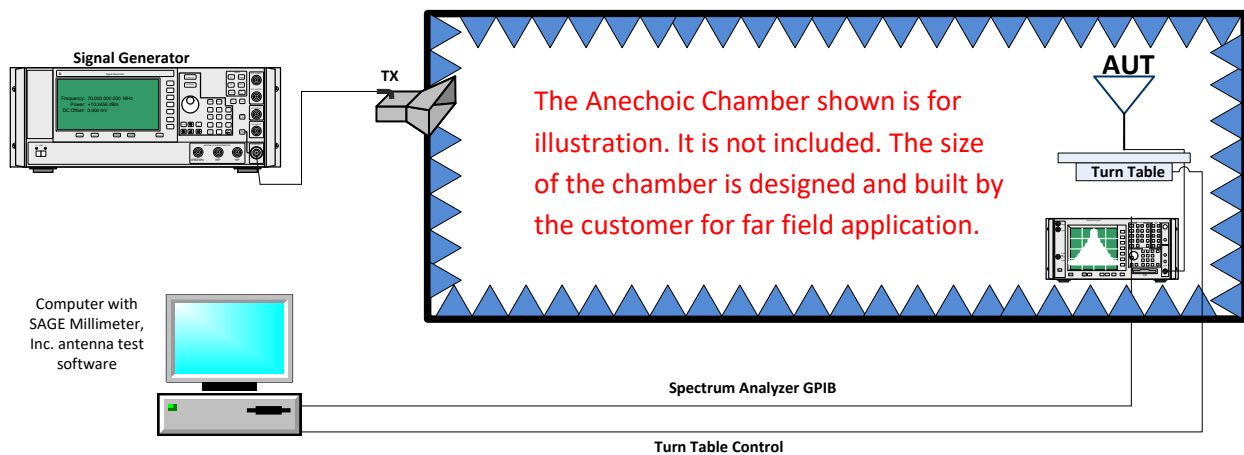


## Low Cost Antenna Pattern Measurement System

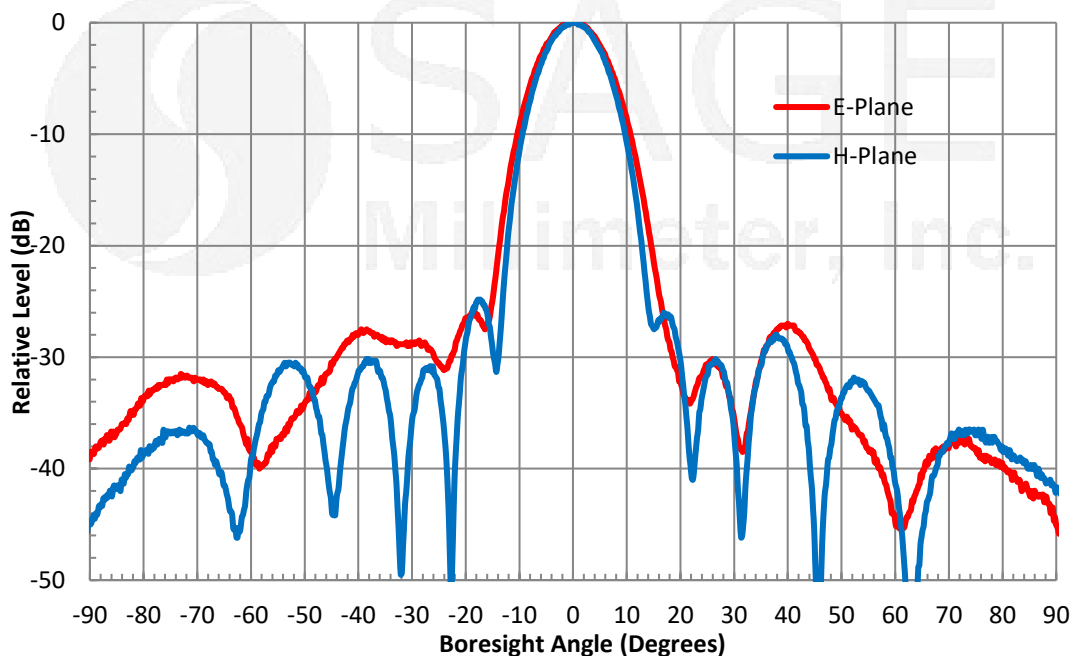
### Recommended Supporting Equipment (Depended on the Frequency Range):

Equipment Name	Possible Model Number
Spectrum Analyzer	Keysight
Synthesized Signal Generator	Anritsu
Standard Gain Horns	SAGE Millimeter SAZ series
Frequency Extender	SAGE Millimeter STE series (mmW Band)
Harmonic Mixer	SAGE Millimeter STF series (mmW Band)

### System Setup Illustration (Note: The supporting equipment is not included.)



### Measured Antenna Pattern Example (8 x 8 Microstrip Antenna Array, 24 GHz)

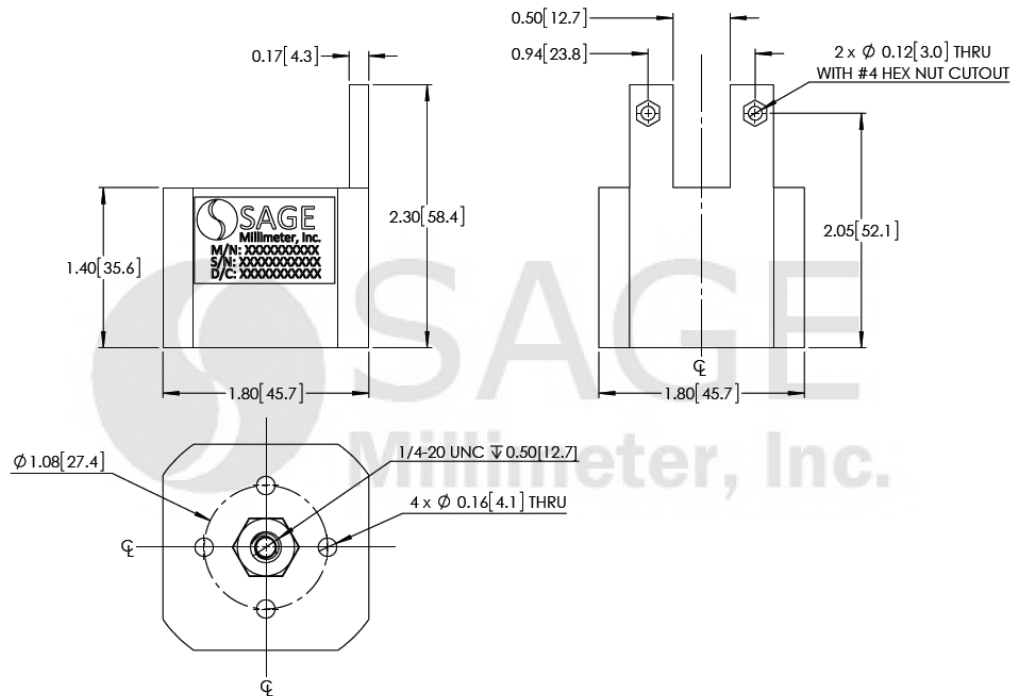




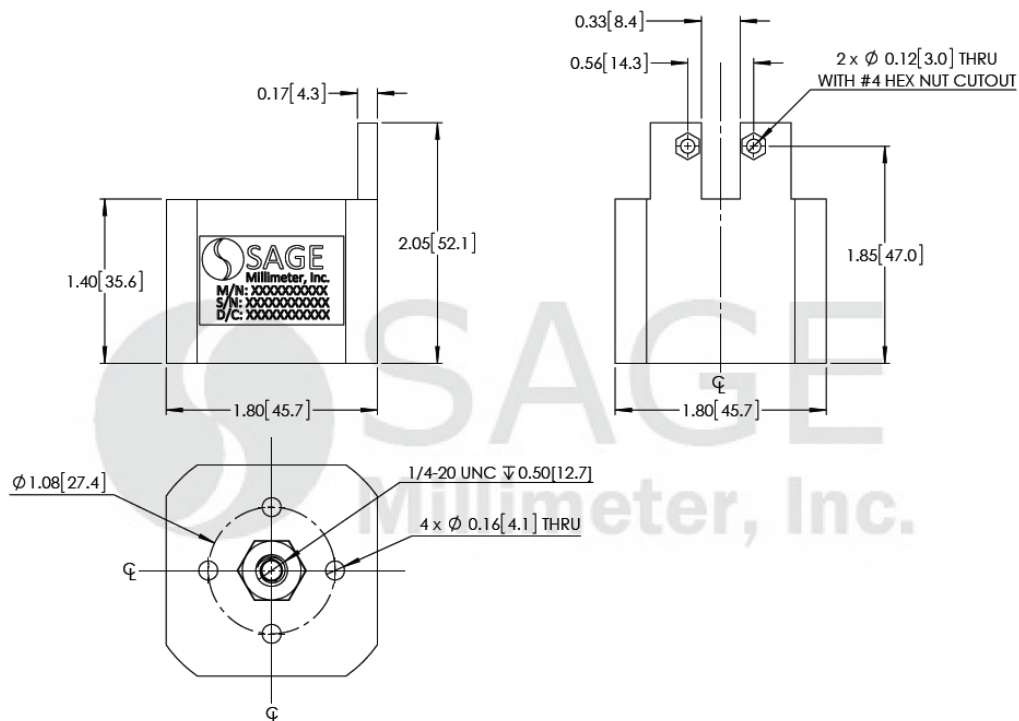
## Low Cost Antenna Pattern Measurement System

**Mechanical Outlines:** (Unless otherwise specified, all dimensions are in inches[millimeters])

**SAX-MT1125-C1:** (FOR UG-383/U FLANGES)



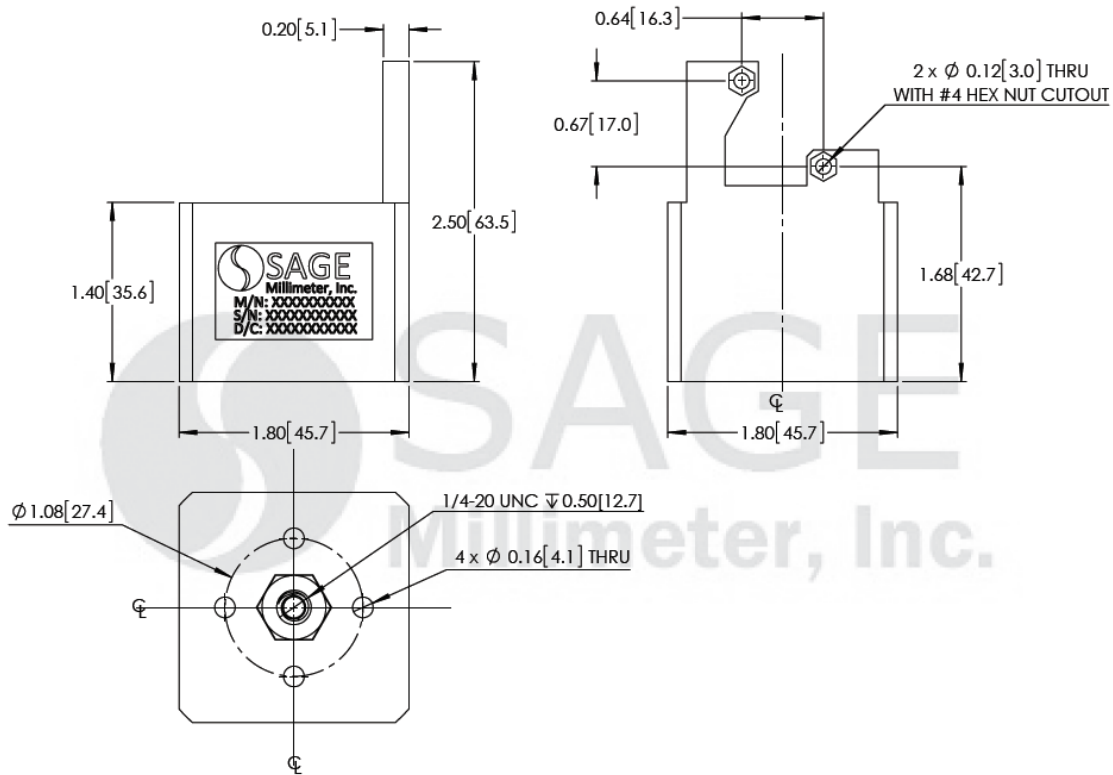
**SAX-MT0750-C1:** (FOR UG-385 & UG-387 FLANGES)



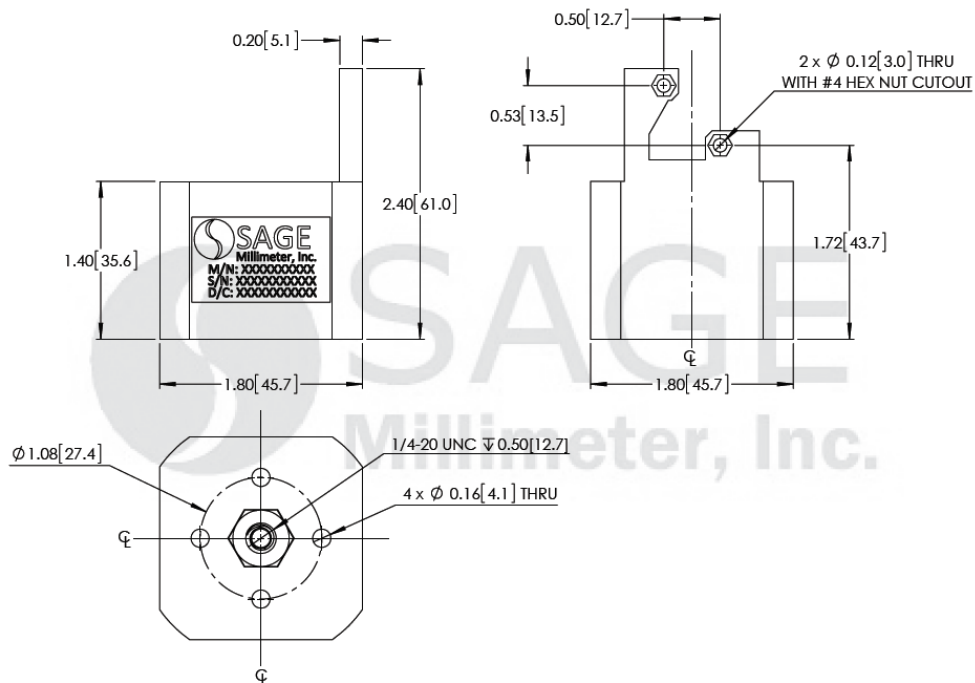


## Low Cost Antenna Pattern Measurement System

### SAX-MT0880-S1: (FOR UG-595 FLANGES)

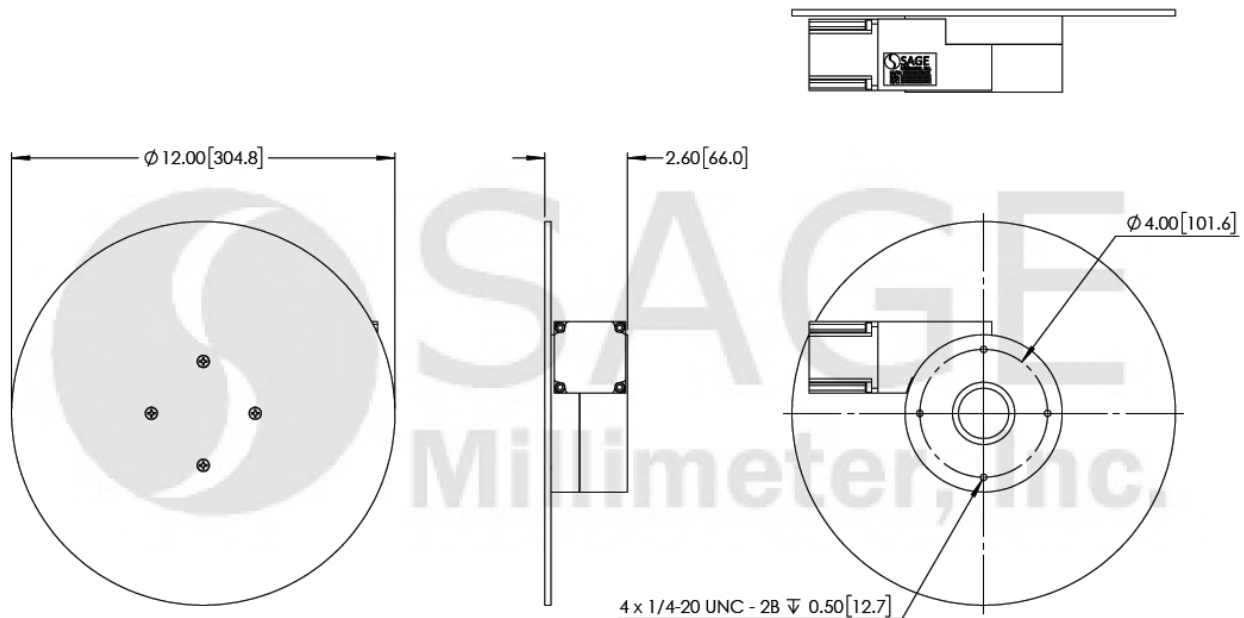


### SAX-MT0750-S1: (FOR UG-599 FLANGES)



## Low Cost Antenna Pattern Measurement System

STY-RT-0536-U2 + STY-SM-2100-U2 + STY-PS-11613-U2: (Rotary Table Assembly)



**Note:**

- The Antenna Pattern Measurement System frequency range is supporting RF equipment dependent. SAGE Millimeter, Inc. fabricates the standard gain horns, waveguide to coax adapters, harmonic mixers, and frequency extenders to extend standard 20 GHz equipment to millimeter wave bands.
- SAGE Millimeter, Inc. reserves the right to change the information presented without notice.

**Caution:**

- The antenna pattern measurement system is for indoor use only.

