◆ Product Description

MPAC-240400-50E is a 24-40GHz high accuracy programmable phase & amplitude controller. It can change phase and amplitude of RF signal with minimum step 1° and 0.1dB, dynamic range 360° and 50dB. The absolute accuracy is ±2° and ±0.2dB Max. from ideal setup of any phase and amplitude combination at any frequency. The product size is 227x114x50mm with 100-240 VAC. It can be controlled through USB and Ethernet with user-friendly GUI. The unit provides DLL for users to program.

The applications include 5G signal simulator, massive MIMO channel simulation, 5G Antenna OTA test, accurate beamforming producing and algorithm research, phase array antenna test, complicated signals environment producing etc.

Besides 24-40GHz system, there are different models can cover 0.5-2GHz, 1.7-6GHz, 6-18GHz and 18~40GHz respectively.
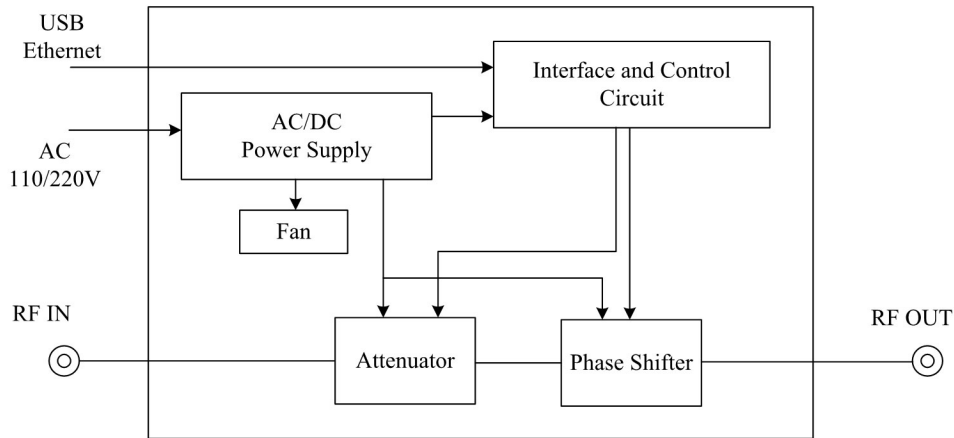
◆ Key Features

➢ Wide frequency range, one unit covers 24 to 40 GHz

➢ Fine resolution, phase 1° and amplitude 0.1dB

➢ Super high absolute accuracy, phase ±2° Max, ±1° Typ., amplitude ±0.2dB Max., ±0.1dB Typ.

➢ Low insertion loss: 27dB Max.

➢ USB/Ethernet control, Easy to install and use

➢ User friendly Graphical User Interface for any Windows® 32 or 64 bit computer

◆ Specifications

Electrical Specifications at 23±3℃					
Parameter	Frequency Range	Conditions	Min.	Typ.	Max.
Attenuation Range[1]	24-40 GHz	0.1 dB Step	0 dB		50 dB
Attenuation Step			0.1 dB		
Attenuation Accuracy		@ 0-50 dB Att		±0.2 dB	±0.4 dB
Phase Shift Range		1° Step	0°		360°
Phase Shift Step		0-360°	1°		
Phase Accuracy				±1°	±2°
Insertion Loss		@ 0 dB Att			27 dB
VSWR					2.5:1
Input Power of Input / Output Port					20/10 dBm
Survival Input Power of Input / Output Port					30/23 dBm
Supply Voltage			100 VAC		240 VAC
Control Mode	USB / Ethernet				
RF In / Out Connector	2.92mm-F				
Size	227 x 114 x 50 mm				
Operating Temperature	0°C to 50°C				
Storage Temperature	-20°C to 70°C				

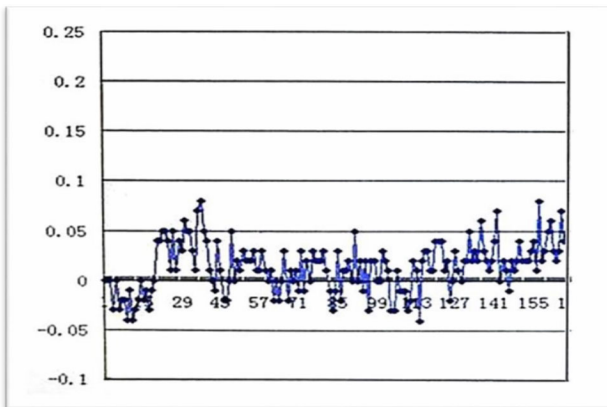Note 1: Attenuation range can be customized up to 120dB Max.
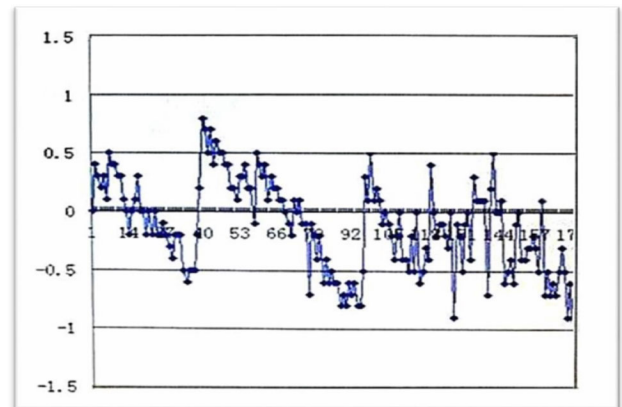
◆ Schematic Diagram

The input and output is reciprocal

◆ Typical Tested Curve
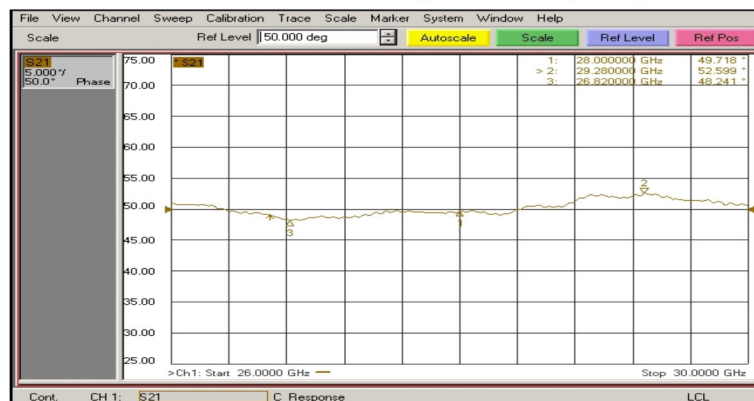
Phase & Amplitude Control Accuracy

Amplitude accuracy tested data@ 28GHz，
Any combination of phase & attenuation
among 0~50dB & 0~360°

Phase accuracy tested data@28GHz，
Any combination of phase & attenuation
among 0~50dB & 0~360 °

The X-coordinate shows the number of random sampled points within 0~50 dB & 0-360°

26~40GHz Phase Change over Frequency

Amplitude & Phase Set: 0dB, 50°
Phase Tested（Max: 52.599° Min: 48.241° Max-Min: 4.358°）