

◆ Product Description

Micable SA-07-16B023050E is a high performance 16x16 butler matrix, covering the frequency of 2.3-5GHz. It can transfer the signal reciprocally from any of 16 ports to any of other 16 ports, with super phase accuracy, amplitude balance, very small insertion loss and high port to port isolation. The system comes housed in a compact, 2U height, 19-inche rack-mountable chassis with all RF connections (SMA connectors) easily accessible on the front pannel. Because the high performance passive components and cables are used inside, the system has very stable, repeatable performance.

◆ Key Features

Feature	Advantage
Super phase accuracy	The system has typical 15° phase accuracy over optimized frequency range, it can be used as accurate phase feed network to realize ideal beamforming performance of phase array.
Excellent amplitude balance	The system has typical 1.2dB amplitude balance over optimized frequency range, it can help realize the ideal vector combination of the signal and beamforming.
Low insertion loss	The system has very low 19.5dB max insertion loss (including theoretical 12dB loss), it can help test system increase the dynamic range.
High port to port isolation	This can reduce the interference between the adjacent channel signals.
Low VSWR	Can better match the 50Ω system, reduce the reflection of the signal and energy loss.
High Power	Every port can accept the input signal with CW power of 5W, it is good for big signal measurement.
Excellent performance stability and repeatability	Maintain the consistent system performance, reduce the need of calibration.

◆ Specifications

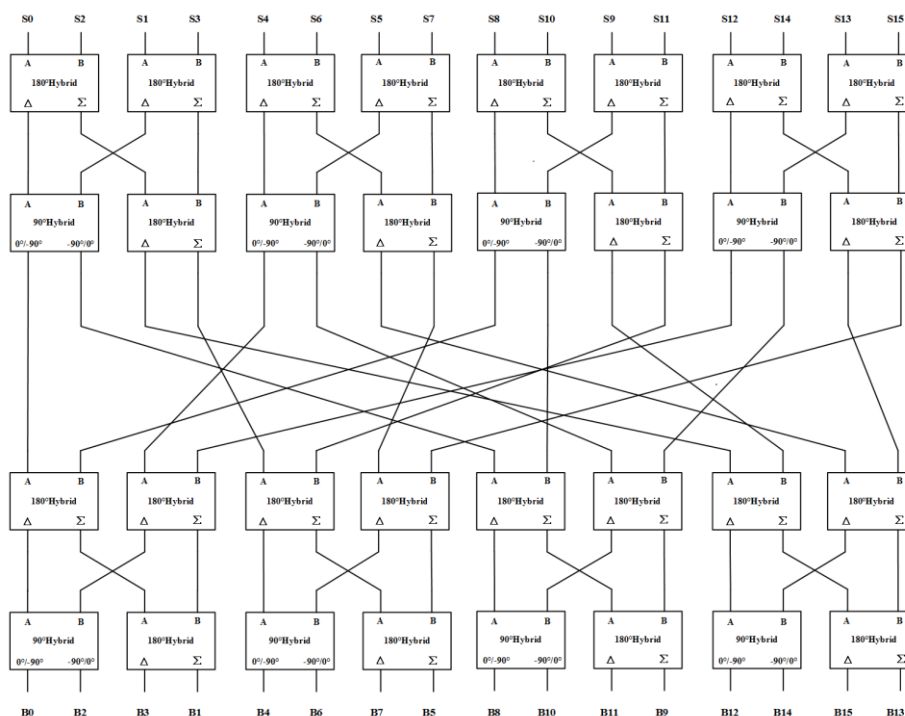
Frequency Range	GHz	2.3-2.7		4.4-5	
		Full	Any Given 100 MHz	Full	Any Given 100 MHz
VSWR for all RF ports	(Max.)	1.6	1.6	1.7	1.7
Insertion Loss	dB/(Max.)	17.5	17.5	19.5	19.5
Amplitude Balance	dB/(Max.)	±1.6	±1.2	±1.6	±1.2
Amplitude Flatness per path	dB/(Max.)	±1.2	±0.8	±1.2	±0.8
Phase Accuracy	Deg./ (Max.)	±16	±14	±18	±16
Isolation	dB/(Min.)	10	10	8	8

- **Average Power:** 5W Max (single Input-Port);
- **Connector:** SMA[F];
- **Case Style:** 2U height, 19 inch rack-mountable chassis;
- **Weight(max.):** TBD;

◆ Phase Table

Input output	S0	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S13	S14	S15
B0	180	90	0	-90	90	0	-90	180	0	-90	180	90	-90	180	90	0
B1	90	0	-90	180	90	0	-90	180	90	0	-90	180	90	0	-90	180
B2	90	0	-90	180	180	90	0	-90	-90	180	90	0	0	-90	180	90
B3	180	90	0	-90	0	-90	180	90	180	90	0	-90	0	-90	180	90
B4	90	90	90	90	0	0	0	0	-90	-90	-90	-90	180	180	180	180
B5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B6	0	0	0	0	90	90	90	90	180	180	180	180	-90	-90	-90	-90
B7	90	90	90	90	-90	-90	-90	-90	90	90	90	90	-90	-90	-90	-90
B8	90	180	-90	0	0	90	180	-90	-90	0	90	180	180	-90	0	90
B9	0	90	180	-90	0	90	180	-90	0	90	180	-90	0	90	180	-90
B10	0	90	180	-90	90	180	-90	0	180	-90	0	90	-90	0	90	180
B11	90	180	-90	0	-90	0	90	180	90	180	-90	0	-90	0	90	180
B12	180	0	180	0	90	-90	90	-90	0	180	0	180	-90	90	-90	90
B13	90	-90	90	-90	90	-90	90	-90	90	-90	90	-90	90	-90	90	-90
B14	90	-90	90	-90	180	0	180	0	-90	90	-90	90	0	180	0	180
B15	180	0	180	0	0	180	0	180	180	0	180	0	0	180	0	180

◆ Schematic Diagram



◆ Outline Drawing

