Product Description

MIcable SA-07-8B020060 is a high performance 8x8 butler matrix, covering the frequency of 2-6GHz. It can transfer the signal reciprocally from any of 8 ports to any of other 8 ports, with super phase accuracy, amplitude balance, very small insertion loss and high port to port isolation. The system comes housed in a compact, 205.7x233.8x16.5mm cavity. 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 9° 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 0.8dB 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 12dB max insertion loss (including theoretical 9dB 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

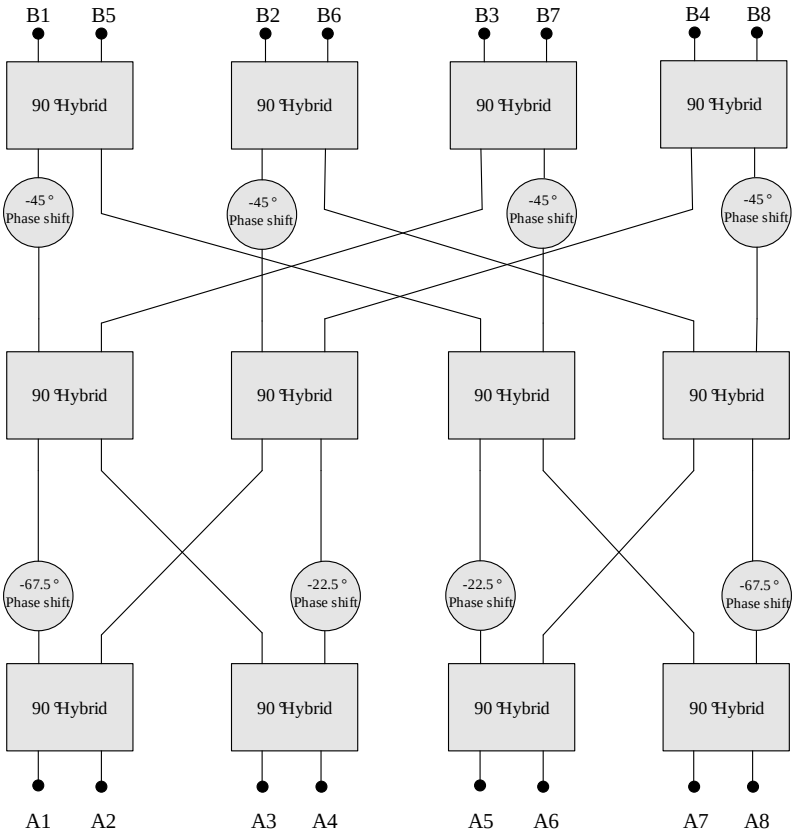
Frequency Range	GHz	2-6	2.4-2.5	5.18-5.83
VSWR for all RF ports	(Typ.)	1.4	1.3	1.4
	(Max.)	1.6	1.5	1.6
Insertion Loss	dB/(Typ.)	11	10.4	10.9
	dB/(Max.)	12	11.4	12
Amplitude Balance	dB/(Typ.)	±0.8	±0.5	±0.6
	dB/(Max.)	±1.2	±0.7	±0.9
Amplitude Flatness per path	dB/(Typ.)	±0.8	±0.3	±0.4
	dB/(Max.)	±1.2	±0.5	±0.6
Phase Accuracy	Deg./(Typ.)	±9	±6	±7
	Deg./(Max.)	±12	±8	±10
Isolation	dB/(Typ.)	15	17	16
	dB/(Min.)	12	13	12

- **Average Power:** 5W Max (single Input-Port);
- **Connector:** SMA[F];
- **Case Style:** 205.7x233.8x16.5mm;
- **Weight(max.):** TBD;

Phase Table

input / output	A1	A2	A3	A4	A5	A6	A7	A8
B1	-112.5	-202.5	-135	-225	-112.5	-202.5	-180	-270
B2	-135	-45	-247.5	-157.5	-180	-90	-337.5	-247.5
B3	-157.5	-247.5	0	-90	-247.5	-337.5	-135	-225
B4	-180	-90	-112.5	-22.5	-315	-225	-292.5	-202.5
B5	-202.5	-292.5	-225	-315	-22.5	-112.5	-90	-180
B6	-225	-135	-337.5	-247.5	-90	0	-247.5	-157.5
B7	-247.5	-337.5	-90	-180	-157.5	-247.5	-45	-135
B8	-270	-180	-202.5	-112.5	-225	-135	-202.5	-112.5

Schematic Diagram



Outline Drawing