

◆ Product Description

Micable SA-07-16B051060E is a high performance 16x16 butler matrix, covering the frequency of 5.1-6GHz. 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 7° 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 0.7dB 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 16.7dB 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

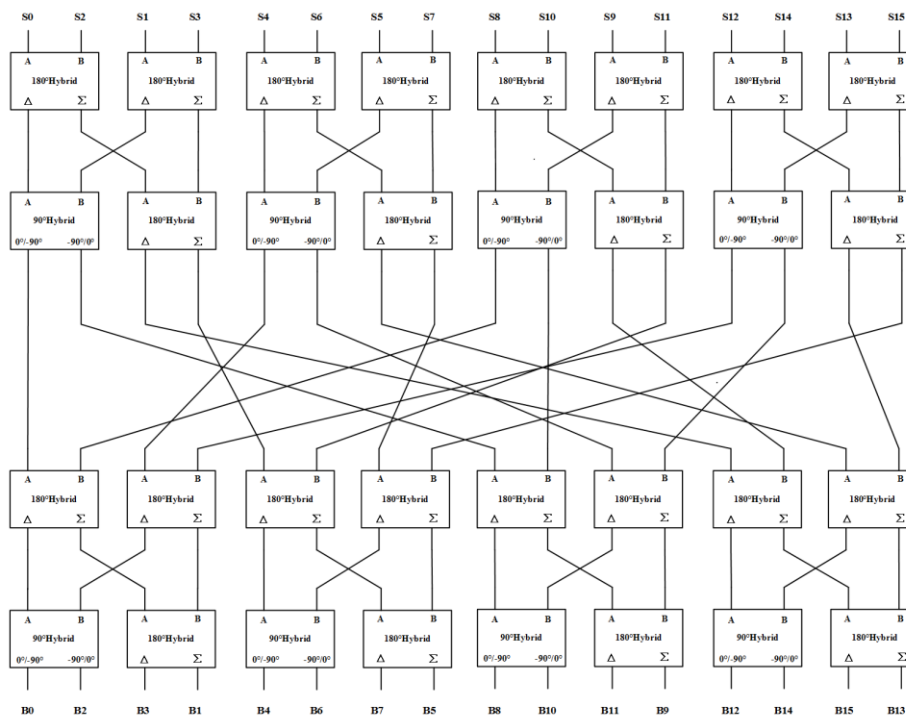
| Frequency Range | GHz | 5.1-6 | |
|-----------------------------|--------------|-------|-------------------|
| | | Full | Any Given 100 MHz |
| VSWR for all RF ports | (Max.) | 1.6 | 1.6 |
| Insertion Loss | dB/(Max.) | 16.7 | 16.7 |
| Amplitude Balance | dB/(Max.) | ±1 | ±0.8 |
| Amplitude Flatness per path | dB/(Max.) | ±1.3 | ±0.9 |
| Phase Accuracy | Deg./ (Max.) | ±10 | ±8 |
| Isolation | dB/(Min.) | 11 | 11 |

- **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

