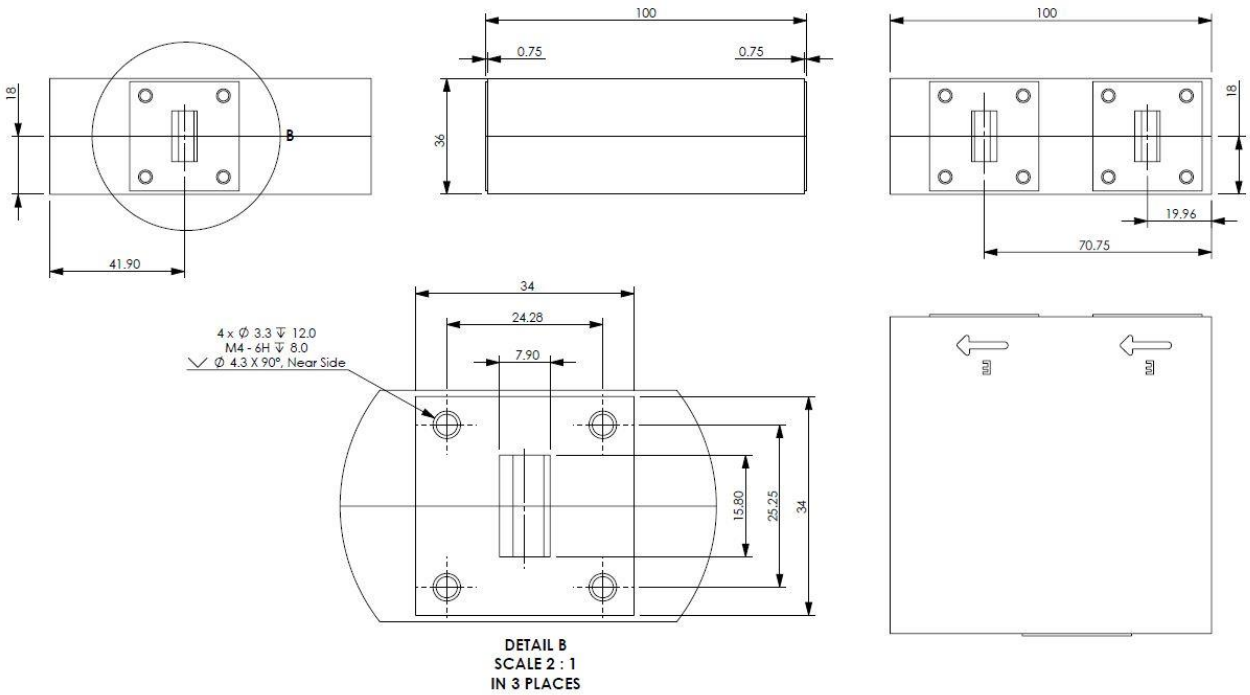


### KEY FEATURES

- Low dissipated loss
- Excellent amplitude & phase tracking between paths
- High peak handling power 3kW
- Isolation across the band >22dB
- Integral termination
- Bespoke Power Combiner Design. Typical parameters for this unit are shown below. Other designs covering other bands and using different flange types can be accommodated on request





## Specification

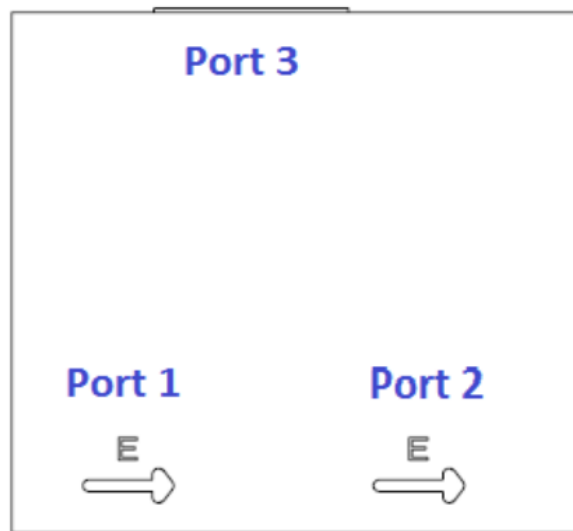
| Parameter                                  | Value      | Units   |
|--|------------|---------|
| Operating frequency                        | 15 to 17   | GHz     |
| Nominal Splitter / Combiner loss           | 3          | dB      |
| Dissipated power loss*                     | > 0.25     | dB      |
| Amplitude Tracking / Balance between paths | +/-0.5     | dB      |
| Phase Tracking / Balance between paths     | +/-3       | Degrees |
| Return loss (all ports)                    | > 22       | dB      |
| Port to Port Isolation                     | > 22       | dB      |
| Peak Power Handling                        | >3         | kW      |
| Average Power Handling                     | >30        | W       |
| Flanges                                    | UBR140     |         |
| Inside Coating                             | Surtec 650 |         |
| Operating Temperature                      | -10 To +60 | °C      |
| Weight                                     | 0.95 max   | Kg      |
| Interface Control Diagram                  | 004658-ICD |         |

$$\text{Dissipated loss} = 10 \text{ Log}_{10} ( |S_{31}|^2 + |S_{23}|^2 )$$

Where S31 = input (Port 1), to combined output (Port 3)

S23 = input (Port 2), to combined output (Port 3)

Typically <0.1dB see following plots

**Typical Combiner Configuration**

Port 1, input 1

Port 2, input 2

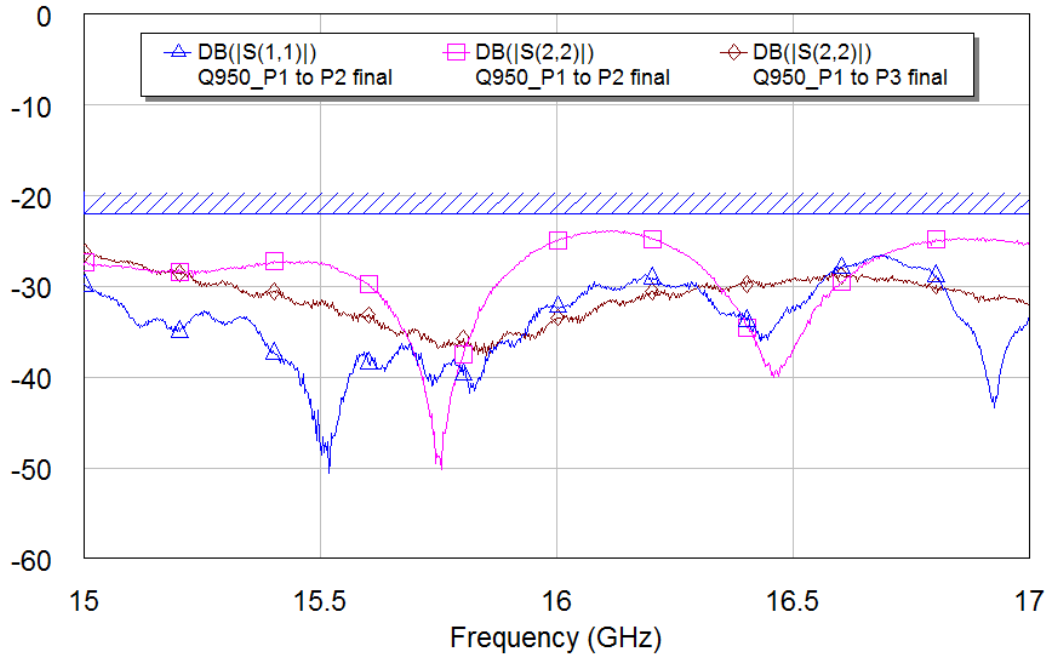
Port 3, combined output

**Important**

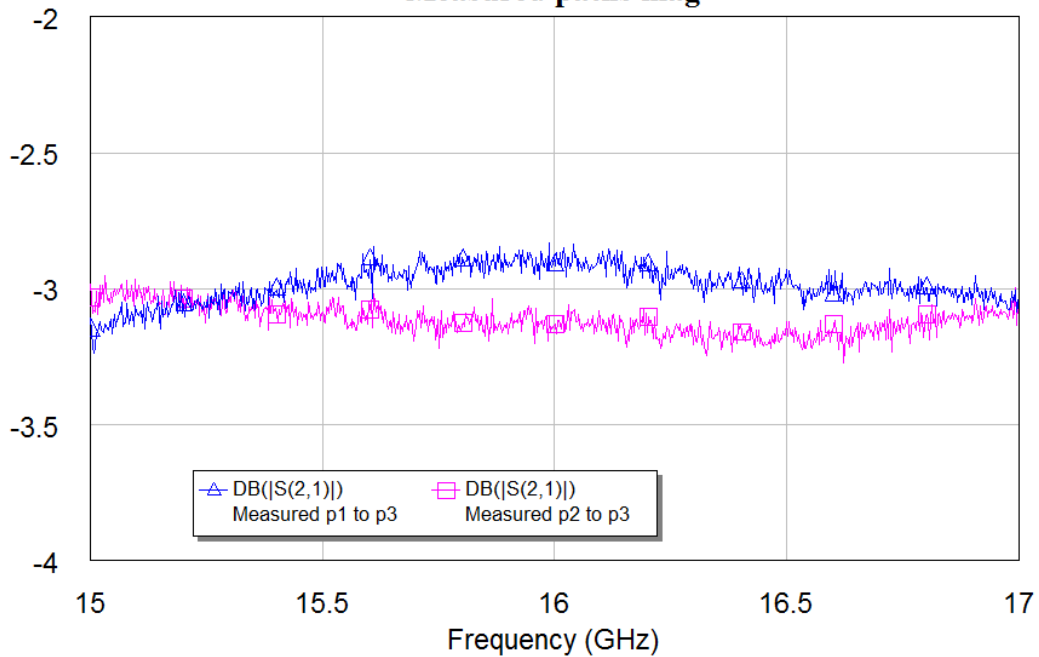
The arrows show the direction of the waveguide E Field polarisation of the inputs. These must be the same for both ports 1 and 2 otherwise an additional 180 Degree offset will be introduced.

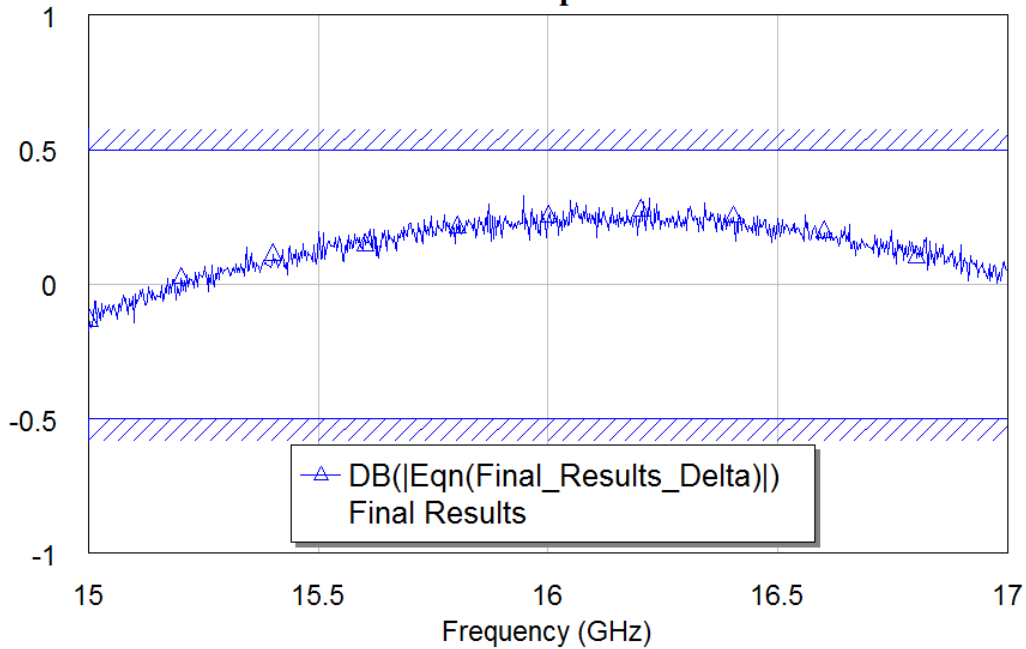
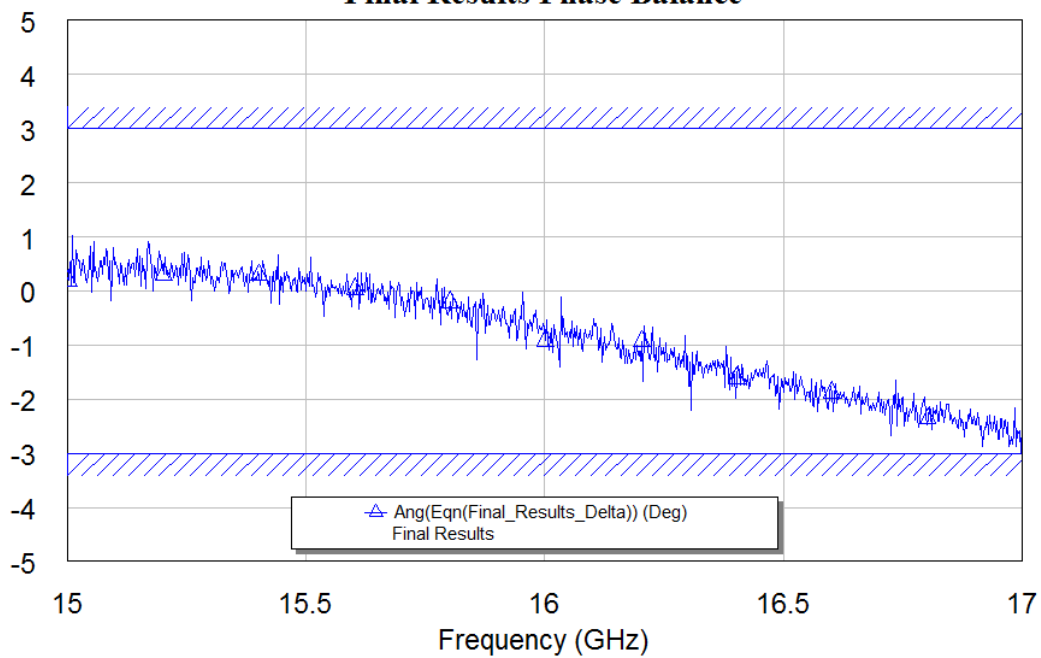
**Measured Results**

**Final Results Port Return Losses**

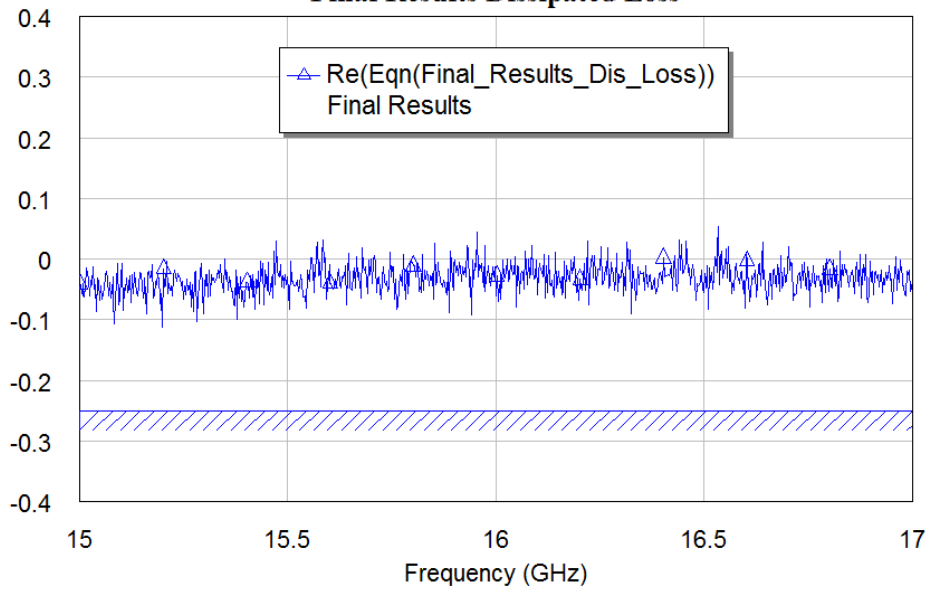


**Measured paths mag**



**Final Results Amplitude Balance****Final Results Phase Balance**

**Final Results Dissipated Loss**



**Final Results Port to Port Isolation**

