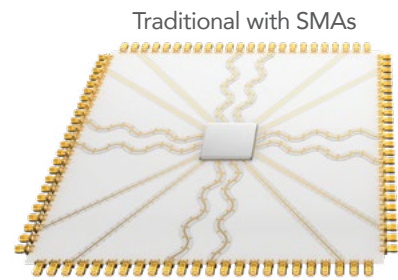


HIGH-PERFORMANCE TEST ASSEMBLIES TO 90 GHz

FEATURES & BENEFITS

The Bulls Eye® high-performance test assembly features a high-density, space-saving design that enables smaller evaluation boards and shorter trace lengths in test and measurement applications to 90 GHz.

- Compression mounts to the board for placement directly adjacent to the SerDes being characterized
- Solderless design improves cost and is easy to use within a lab setting
- End 2 connection to instrumentation: 1.00 mm, 1.35 mm, 1.85 mm, 2.40 mm or 2.92 mm
- High-density, space-saving design
- Single row or double row
- Complete list of applications: SerDes characterization, clock/data recovery (CDR), mmWave radar, automated test equipment, FR2 5G networks



Bulls Eye®



DC TO
90
GHz

PAM 4
224
G b p s

HIGH-DENSITY & SPACE-SAVING

Enables smaller evaluation boards and shorter trace lengths.



PRODUCT FAMILY CROSS REFERENCE GUIDE

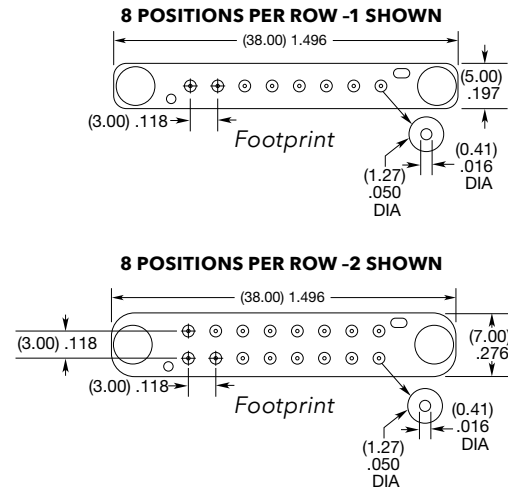
ASSEMBLY	90 GHz	70 GHz	50 GHz	40 GHz	TEST ASSEMBLY	SERDES CHARACTERIZATION
Block Bottom View					BE90A, 90 GHz	<p>PAM 4</p> <p>224 G b p s</p>
End 2 Connector	1.00 & 1.35 mm	1.85 mm	2.40 mm	2.92 mm		
Samtec Series	BE90A	BE70A	BE40A			
Cable Type	.047	.086	MWC-2350CU-01		BE70A, 70 GHz	<p>PAM 4</p> <p>112 G b p s</p>
Cable Management	Yes					
PCB Transition	Microstrip/CPW or Stripline					
Bulls Eye® Connector Design	Spring-Loaded Contact; 360° Grounding		Pogo-Pin for Signal & Ground			
No. of Rows	Single or Double		Double			
No. of Positions	1x: 2, 4, 8, 12 2x: 4, 8, 12, 16	1x: 2, 4, 8, 12 2x: 3, 4, 6, 8, 10, 12, 14, 16	2x: 3, 4, 6, 8, 10, 12, 14, 16		BE40A, 50 GHz	<p>PAM 4</p> <p>56 G b p s</p>
Impedance	50 Ω					
FPGA Development Kit	-		Xilinx® Zynq® UltraScale+™ RFSoc ZCU1275			
SI Evaluation Kit	-	70 GHz: REF-213864-01	50 GHz: REF-213497-01			

90 GHz ASSEMBLIES

BE90A	TRANSMISSION TYPE	END 2	PHASE MATCHING	ROW OPTION	POSITIONS PER ROW	OVERALL LENGTH
	-S = Stripline -M = Microstrip	-10BJ = 1.00 mm Straight Jack -10SP = 1.00 mm Straight Plug -13BJ = 1.35 mm Straight Jack -13SP = 1.35 mm Straight Plug	-1 = 1.0 Pico-second -2 = 2.0 Pico-second -5 = 5.0 Pico-second -N = No Phase Matching	-1 = Single Row (-02, -04, -08 & -12 positions only) -2 = Double Row (-04, -08, -12 & 16 positions only)	-02, -04, -08, -12, -16	-"XXXX" = Overall length in millimeters -0152 (152 mm) 5.984" minimum

BE90A

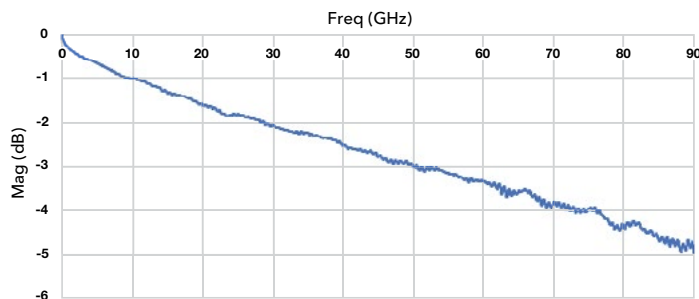
End 2 Connectors:
1.00 mm, 1.35 mm



BE90A, 2 X 4 FOOTPRINT

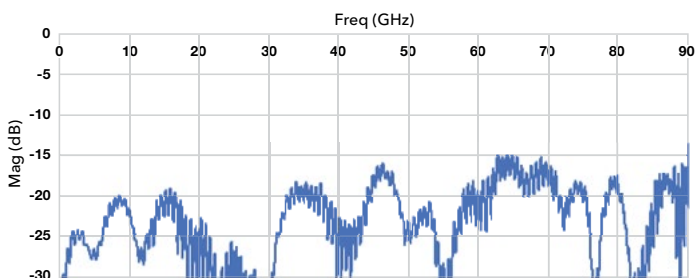
Performance was measured using 50 Ohm coplanar waveguide (CPW) transmission line and 6 layer PCB (Isola Tachyon). The BE90A DUT consisted of a 2 row x 4 position -M (CPW/microstrip) block, 6-inch (152 mm) low-loss microwave cable and 1.00 mm end 2 connectors. Results include the breakout region and BE90A cable assembly. All other effects have been removed by de-embedding (AFR technique).

Insertion Loss Performance



MEASURED: BREAKOUT REGION + BE90A

Return Loss Performance



MEASURED: BREAKOUT REGION + BE90A