110 GHz 1×16 High-Density Multi-Coax Cable Assembly

TW90 Multiport Interface to 16 × 1.0 mm Male Coaxial Ends

P/N: VST-L-TW90MF116-XXX

PRODUCT OVERVIEW

A 16-channel (1×16) precision RF cable assembly that routes independent 50 Ω coaxial paths from a compact TW90 multiport interface to individual 1.0 mm male terminations. Configurable lengths and channel mapping support high-density RF, mmWave and high-speed measurement systems.



DC–110 GHz	16 / 1×16	2.54 mm	1.0 mm
FREQUENCY	CHANNELS	CONTACT PITCH	MALE COAXIAL ENDS

KEY FEATURES

- TW Series: 224G PAM4 / 448G PAM6
- Blind-mate, field-replaceable interface
- Custom lengths and channel assignments
- Phase matching: ±1 ps
- TW family supports up to 32 channels
- RF test report supplied with each assembly

TECHNICAL SPECIFICATIONS

ELECTRICAL	
Frequency range	DC–110 GHz
Nominal impedance	50 Ω per channel
Return loss	≥ 10 dB
Insertion loss, dB	≤ 15 × L / 1000 + 1.8
Phase matching	±1 ps

MECHANICAL / ENVIRONMENTAL	
Channel arrangement	1×16 / 16 channels
Multiport interface	TW90
Coaxial terminations	16 × 1.0 mm male
Contact pitch	2.54 mm
Mating durability	≥ 500 cycles
Operating temperature	0 °C to +85 °C

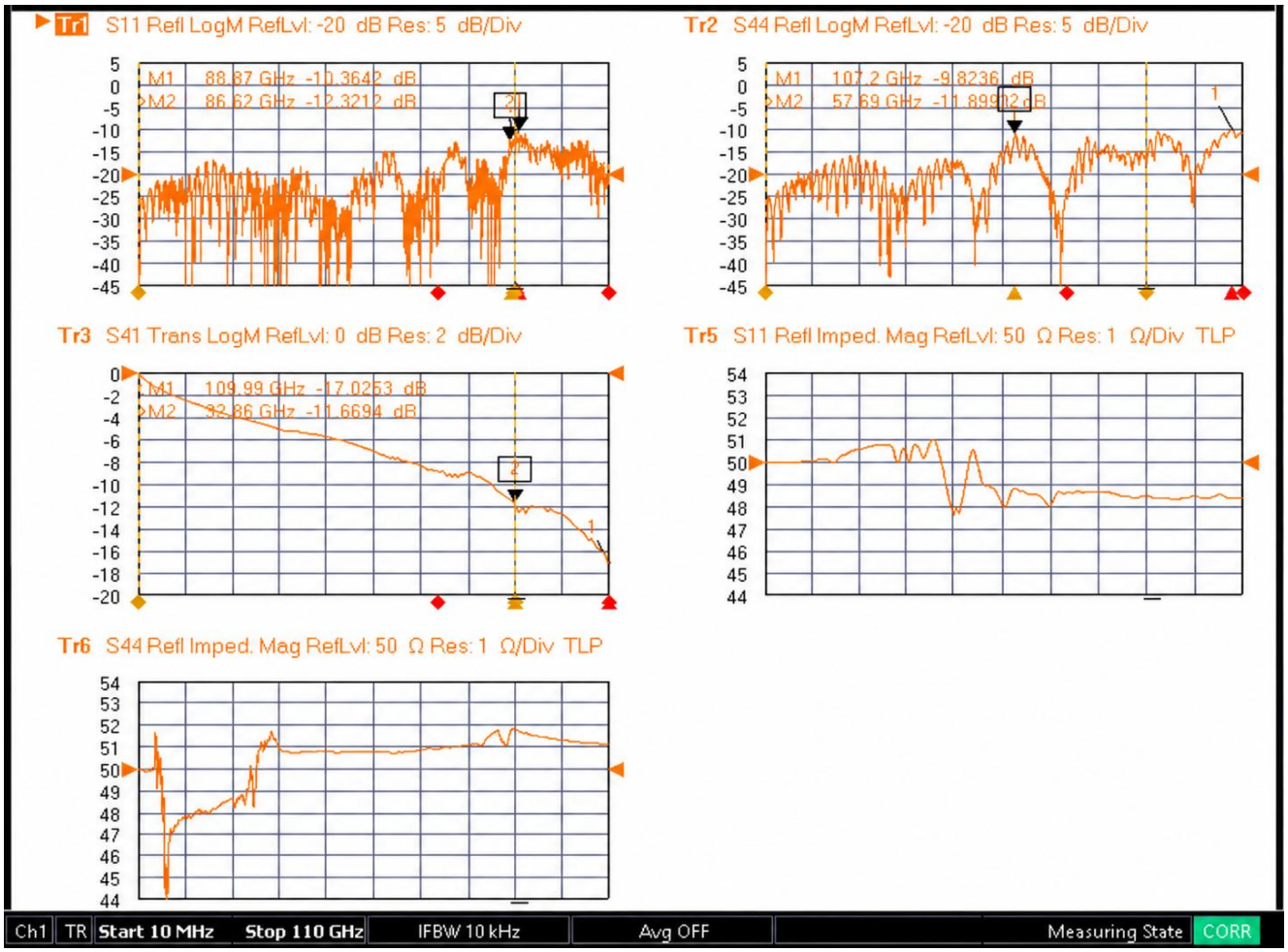
L = specified assembly length in mm.

CONSTRUCTION

Anodized aluminum TW90 housing · PTFE / PEEK insulators · Gold-plated beryllium-copper signal contacts

REPRESENTATIVE MEASURED RF PERFORMANCE

TWS90J-16 + TW90MF116-XXX | 10 MHz–110 GHz | S11 / S44 / S41



PERFORMANCE OBSERVATIONS

- S41: Broadly continuous transmission response, without a pronounced narrowband null.
- S11 / S44: Frequency-dependent reflection; the upper-band markers approach −10 dB.
- Impedance: Responses remain near nominal 50 Ω, with localized deviations.

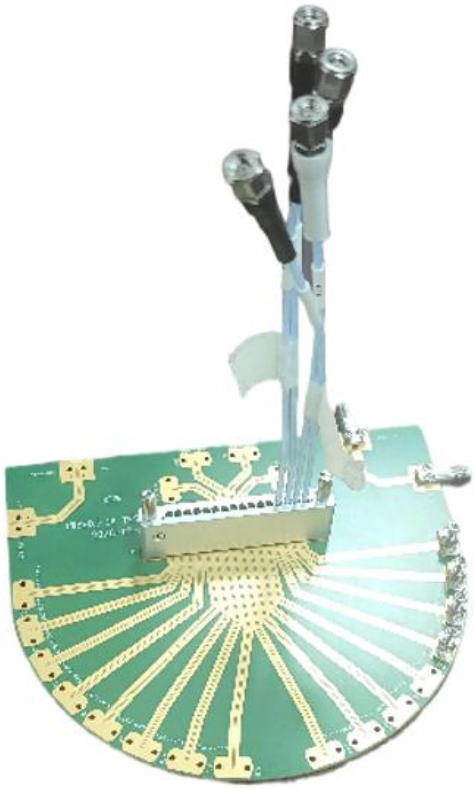
SELECTED S41 READINGS	−11.67 dB @ 32.86 GHz	−17.03 dB @ 109.99 GHz

MEASUREMENT CONTEXT

The measured path includes the TWS90J-16 PCB test board, mating connector and cable assembly. The chart therefore represents system-level transmission, reflection and impedance, not cable-only loss.

TYPICAL BOARD-LEVEL CONFIGURATION

TW90 1×16 interface with independent precision-coax breakout leads



Representative board-level test assembly

CONFIGURATION

A 16-channel TW90 connector group mates to a PCB fixture, with independent 1.0 mm male terminations providing access to RF instruments and test paths.

APPLICATIONS

- Semiconductor & RFIC test fixtures
- RF / mmWave measurement & validation
- Automated test equipment (ATE)
- PCB, module & fixture interconnects

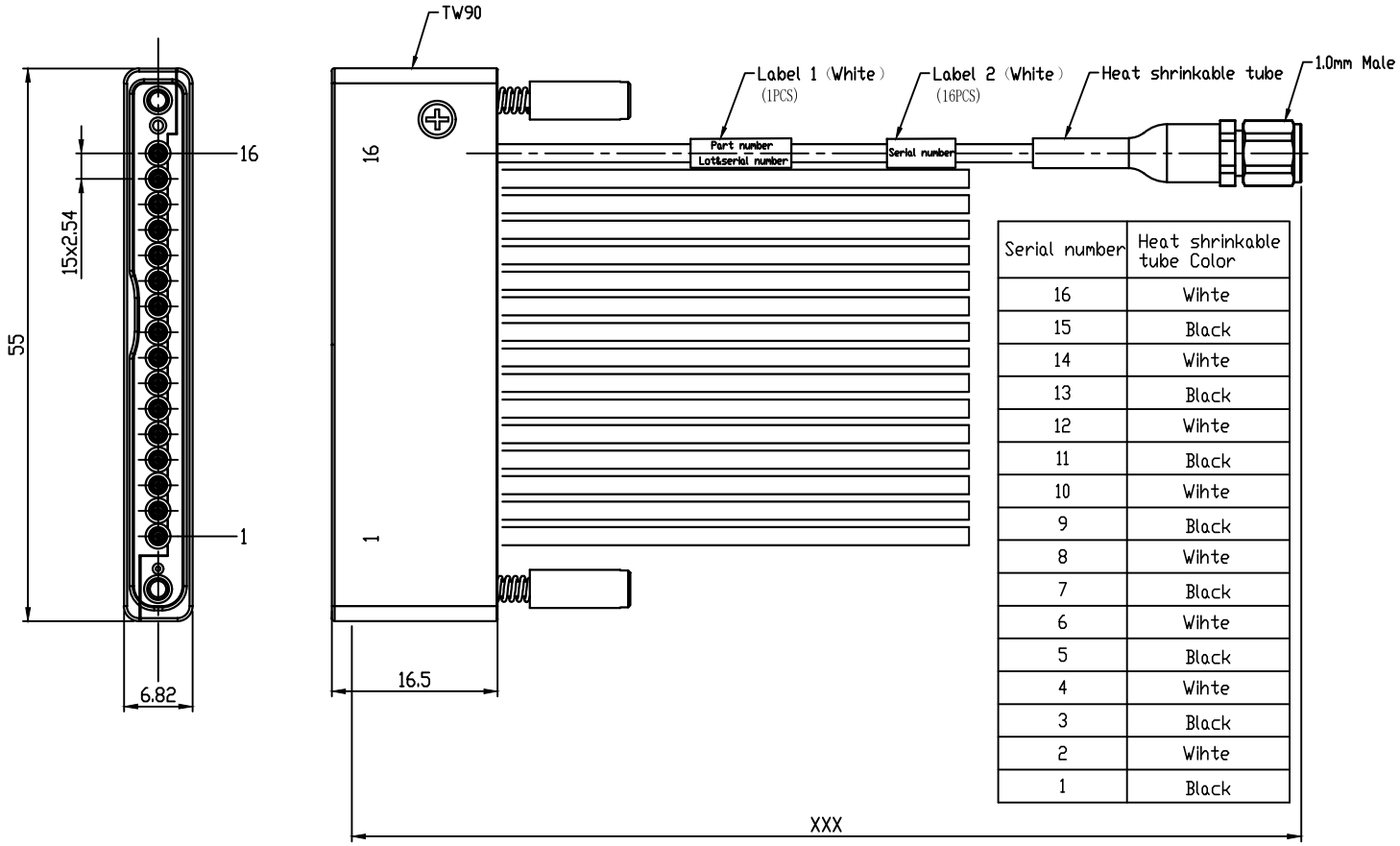
ORDERING & CONFIGURATION

For a configuration-specific quotation, specify:

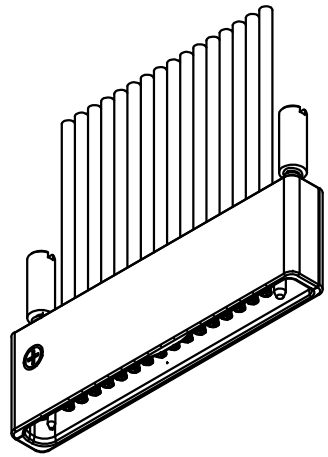
CABLE LENGTH	Required length / reference datum
CHANNEL MAPPING	Port numbering and assignment
MATING INTERFACE	TW90 mating connector and mounting layout
RF REQUIREMENTS	Operating band, phase and loss objectives

Other TW Series layouts and channel counts are available by configuration.

Rev.	Description	Drawn by	Approved by	Date
V1.0	First issues	T.FL	C.G	2024.12.26
V2.0	Second issues	T.FL	C.G	2025.08.08



Serial number	Heat shrinkable tube Color
16	Wihte
15	Black
14	Wihte
13	Black
12	Wihte
11	Black
10	Wihte
9	Black
8	Wihte
7	Black
6	Wihte
5	Black
4	Wihte
3	Black
2	Wihte
1	Black



1. Electricals data
   - 1.1 Impedance: 50 Ω
   - 1.2 Frequency range: DC to 110 GHz
   - 1.3 Return loss: ⩾10 dB
   - 1.4 Insertion loss: ⩽ 15/1000*L+1.8 dB
   - 1.5 Phase mating: ±20°

2. Mechanical data
   - 2.1 Mechanical life:⩾ 500 cycles
   - 2.2 Cable radius: 1.8mm

3. Environment data
   - 3.1 Working temperature: 0 ℃ to +85 ℃
   - 3.2 RoHS: Compliant

No.	Description	Material	Finish
TW90	Other parts	Stainless steel	Passivated
	Insulator	PTFE	NA
	Center contact	Beryllium copper	Gold
	Outer contact	Beryllium copper	Gold
	Shell	Aluminium	Anodized
1.0mm	Other parts	Stainless steel	Passivated
	Insulator	PEEK	NA
	Center contact	Beryllium copper	Gold
	Outer contact	Stainless steel	Passivated

Dimension: MM

General tolerance
Unless Otherwise Specified
0 Places: ±0.2
1 Places: ±0.2
2 Places: ±0.2
3 Places:
4 Places:
Angles:

Weight: --

Projection:

Series: /

Cable: /

Product Spec:

Assembly Instr.:

Drawn:

Checked:

Approved:

CUSTOMER DRAWING

This drawing is a controlled document

Vinstronics

Title: Cable assembly, 1x16 Channel

Part Number:

Drawing Number: TW90MF116-XXX

Rev. V2.0

Scale: 10:1

Remark:

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