

Driven by advances in new materials and ultrafast technologies, terahertz technology is rapidly expanding across semiconductor testing, medical imaging, security screening, and astronomy. To support these demanding applications, Verotronic delivers reliable directional transmission solutions with high-performance coaxial cables and precision adapters engineered for terahertz systems.

Applications

- Lab test & measurement
- IC R & D and testing
- Semiconductor material research
- ICT system connection
- Security check system connection

Features

- Soft and durable, support repeated bending IC R & D and testing
- Armored assembly optional, compressing and torsion resistant
- High precision connectors available, providing high test precision
- Unique structure, ensure test stable and consistent

THz Product Series

VP145S

DC-145 GHz



VP110S VP110

DC-110 GHz



VN110

DC-110 GHz



VTD047-TP

DC-110 GHz



VU110

DC-110 GHz

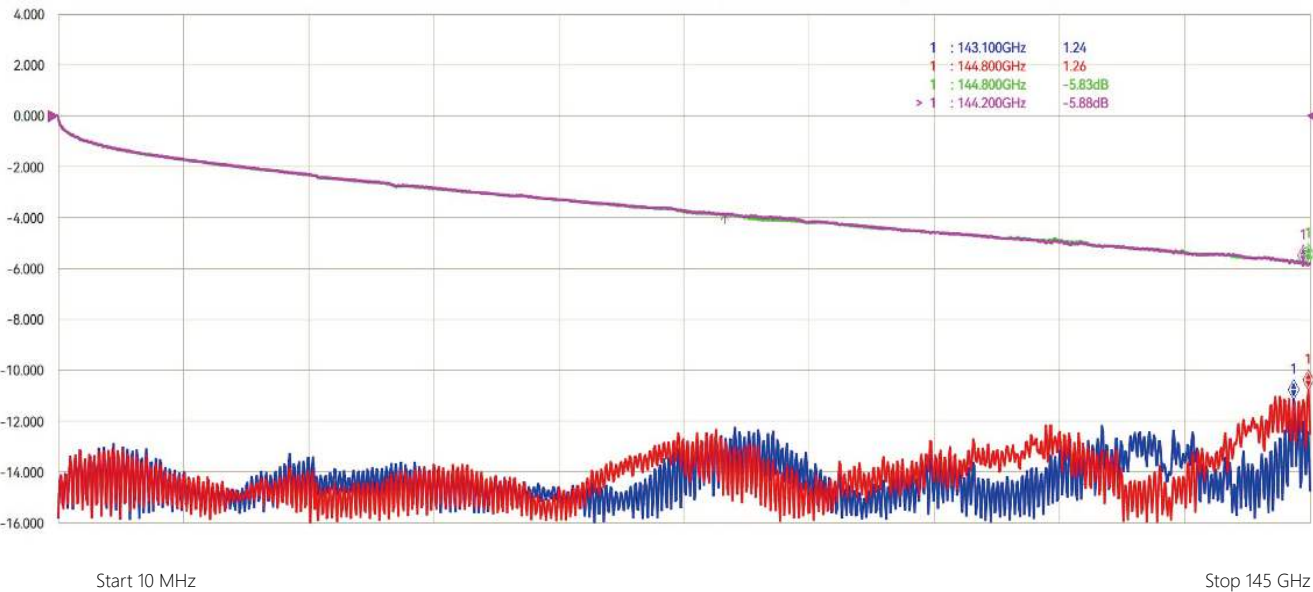


Adapter/Connector

DC-145 GHz



Test Report



THz Cable Specifications

Electrical Specifications

Cable Type	VN110	VP145S	VP110	VP110S	VU110	VTD047-TP
Impedance (Ohms)	50					
Operating Frequency(GHz)	110	145	110	110	110	110
VSWR	≤ 1.45	≤ 1.50	≤ 1.45	≤ 1.45	≤ 1.45	≤ 1.45
Amplitude Stability(dB@ max Freq)	±0.20	±0.30	±0.20	±0.20	±0.20	±0.20
Phase Stability(°@ max Freq)	±20	±30	±20	±15	±20	±15
Shielding Effectiveness(dB)	100	100	100	100	90	90
Velocity of Propagation	70%	76%	70%	76%	70%	76%
IL(Cable, dB/m@max Freq)	16.9	21.87	15.81	13.3	15.81	13.3

Mechanical Specifications

Overall Diameter(mm)	8.80	4.00	4.00	4.00	1.80	1.19
Min. Bend Radius: Installation (mm)	44	10	20	10	12	5
Min. Bend Radius: Repeated(mm)	88	/	40	/	20	/
Weight(g/m)	/	/	38	/	9	6

Enviromental Specifications

Temperature Range(°C)	-55 to 105
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Connector Selection

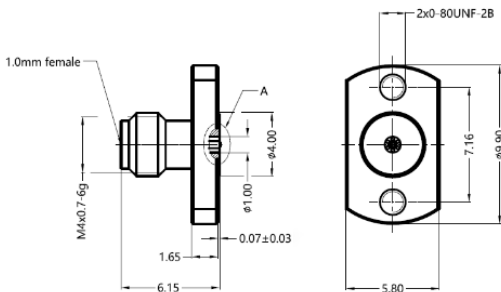
Cable Type			VN110	VP145S	VP110	VP110S	VU110	VTD047-TP
Connector Type	Connector Code	OD (mm) Freq.(GHz)	4.0 mm	4.0 mm	4.0 mm	4.00 mm	1.80 mm	1.19 mm
0.8 mm female	XMF	DC-145		•				
0.8 mm male	XMM	DC-145		•				
1.0 mm female	WMF	DC-110			•	•	•	•
1.0 mm male	WMM	DC-110			•	•	•	•
NMD 1.0 mm female	NWF	DC-110	•					
APC 1.0 mm female	PWF	DC-110	•					
NMD 1.0 mm male	NWM	DC-110	•					

Tips

- 1. Maintain and dispose the connector interface correctly. Use a magnifying glass or CCD equipment to check the connector interface to avoid using it when the connector section is dirty;
- 2. Do not over-tighten the nut during fixing to avoid damage to the connector thread and internal contacts. It is recommended to use a torque wrench to tighten it after manual tightening;
- 3. It is recommended that professional operators perform the operation, test and maintain in accordance with the recommended standards in the specification, and follow the rules of use.



PCB Connector



Frequency	DC - 110 GHz
VSWR	≤ 1.45
Durability	≥ 500 Cycles
Insertion Loss	<0.1x V F(GHz) dB
Temperature	-40 °C to +85 °C



Adapter

Performance

Temperature Range (°C)	-55 to +85
Impedance (Ohms)	50
Frequency (GHz)	DC -145
Mating Cycles	500

Product Name	Connector 1	Connector 2	Description	Frequency	VSWR
ADT110-WMM-WMM-07	1.0 mm male	1.0 mm male	1.0 mm male to 1.0 mm male	DC-110 GHz	1.35
ADT110-WMM-WMF-07	1.0 mm male	1.0 mm female	1.0 mm male to 1.0 mm female	DC-110 GHz	1.35
ADT110-WMF-WMF-07	1.0 mm female	1.0 mm female	1.0 mm female to 1.0 mm female	DC-110 GHz	1.35
ADT110-XMM-WMM-01	0.8 mm male	1.0 mm male	0.8 mm male to 1.0 mm male	DC-110 GHz	1.35
ADT110-XMM-WMF-02	0.8 mm male	1.0 mm female	0.8 mm male to 1.0 mm female	DC-110 GHz	1.35
ADT110-XMF-WMF-02	0.8 mm female	1.0 mm female	0.8 mm female to 1.0 mm female	DC-110 GHz	1.35
ADT145-XMM-XMM-01	0.8 mm male	0.8 mm male	0.8 mm male to 0.8 mm male	DC-145 GHz	1.50
ADT145-XMM-XMF-01	0.8 mm male	0.8 mm female	0.8 mm male to 0.8 mm female	DC-145 GHz	1.50
ADT145-XMF-XMF-01	0.8 mm female	0.8 mm female	0.8 mm female to 0.8 mm female	DC-145 GHz	1.50
ADT90-WMM-EMM-02	1.0 mm male	1.35 mm male	1.0 mm male to 1.35 mm male	DC-90 GHz	1.40
ADT90-WMM-EMF-02	1.0 mm male	1.35 mm female	1.0 mm male to 1.35 mm female	DC-90 GHz	1.35
ADT90-WMF-EMM-01	1.0 mm female	1.35 mm male	1.0 mm female to 1.35 mm male	DC-90 GHz	1.35
ADT90-WMF-EMF-02	1.0 mm female	1.35 mm female	1.0 mm female to 1.35 mm female	DC-90 GHz	1.35
ADT110-NWM-WMM-01	NMD 1.0 mm male	1.0 mm male	NMD 1.0 mm male to 1.0 mm male	DC-110 GHz	1.30

*Material/Plating: Center Contact: Be-Cu/ Gold; Body: Stainless Steel/ Passivation; Coupling Nut: Stainless Steel/ Passivation; Insulator: PEI.