PASTERNACK®
an INFINITE brand

The Engineer's Immediate RF Source

2022 Test & Measurement Components

Testing and Calibration Made Easy with a Complete Range of Components

Pasternack offers one of the industry's most extensive portfolios of in-stock and ready-to-ship test and measurement components. Whether you require high-end VNA test cables, engineering-grade calibration kits, tools, or other testing and calibration products, Pasternack has the parts you need. Our test and measurement catalog satisfies both 50 Ohm and 75 Ohm systems and includes test cables that perform up to 110 GHz.

All T&M components can be viewed online at **www.pasternack.com**, with real-time pricing, inventory, and comprehensive datasheets that include typical performance graphs and detailed CAD drawings. Applications engineers are available to answer any of your technical questions and can assist with selecting the right product for your specific application.

Calibration Kits and Components

Bench Type Calibration Kits

PE P/N	Connector Series	Impedance (Ohms)	Freequency Range (GHz)	Cal Type
PE5CK1015	2.4mm	50	DC to 50	SOL
PE5CK1016	2.4mm	50	DC to 50	SOLT
PE5CK1017	2.92mm	50	DC to 40	SOL
PE5CK1018	2.92mm	50	DC to 40	SOLT
PE5CK1001	3.5mm	50	DC to 8.5	SOLT
PE5CK1000	3.5mm	50	DC to 26.5	SOLT
PE5CK1019	3.5mm	50	DC to 26.5	SOL
PE5CK1020	3.5mm	50	DC to 26.5	SOLT
PE5CK1021	7/16 DIN	50	DC to 7.5	SOL
PE5CK1022	7/16 DIN	50	DC to 7.5	SOLT
PE5CK1023	7mm	50	DC to 18	SOL
PE5CK1024	BNC	50	DC to 10	SOL
PE5CK1025	N	50	DC to 18	SOL
PE5CK1026	N	50	DC to 18	SOL
PE5CK1002	F	75	DC to 3	SOLT
PE70MP5000	F	75	DC to 3	SOLT

4-in-1 Calibration Kits

- Lightweight portable 4-in-1 package
- Precision 3.5mm connectors
- Gold plated Short Open Load Thru
- Supports 26.5 GHz SOLT calibration
- Calibration coefficients on datasheet

Pasternack's portable calibration kits consist of two models, both with a compact, lightweight, 4-in-1 design package. These short-open-load-through (SOLT) calibration kits have a 26.5 GHz calibration capability and feature precision 3.5mm connectors, a gold plated short-open-load-thru, and a handy lanyard.

These SOLT calibration kits have an impedance level of 50 Ohms nominal. They also have a phase deviation of +/-2 degrees maximum and return loss of 30 dB minimum. They are ideal for telecommunications, military electronics, automotive, medical, aerospace and consumer electronics applications.

These SOLT calibration kits are available off-the-shelf and can be shipped immediately.

PE P/N	Connector 1	Impedance (Ohms)	Frequency Range (GHz)	Weight (lbs)
PE5CK1012	3.5mm Female Short Open Load Thru	50	DC to 26.5	2.752
PE5CK1013	3.5mm Male Short Open Load Thru	50	DC to 26.5	2.752

Interchangeable Connectors

PE P/N	Impedance (Ohms)	Connector Series	Polarity	Gender	Frequency Range (GHz)
PE45398	50	3.5mm	Standard	Female	DC - 26.5
PE45502	50	N	Standard	Female	DC - 18
PE45505	50	N	Standard	Male	DC - 18

Coaxial RF Probes & Probe Positioning Hardware

PCB RF Probe Positioner (PE5TL1000)

- RF PCB probe positioner holds coaxial probes
- Magnetic mounting plate
- On-off positioner switch
- Articulated joints
- Multi-axis positioner control

Coaxial RF Microwave GS and GSG Probe Series (PE2PB1000-PE2PB1003)

- Max. operating frequency of 20 GHz
- RF probe return loss better than 10 dB
- GS and GSG probes feature gold plated contacts
- Compliant coaxial GSG (or GS) pogo pins

Pasternack's coaxial RF probes and positioner are perfect for use with signal integrity measurements. Other RF microwave coaxial GSG and GS probe applications are coplanar waveguide, chip evaluations, substrate characterization, test fixtures and gigabit SERDES applications.

Our RF coaxial GSG and GS probe series provides return loss better than 10 dB and a maximum operating frequency of 40 GHz. Pasternack coaxial RF microwave GS and GSG probe components feature 2.92mm and 3.5mm female interfaces, a pitch of 800 or 1500 microns, and capability for cable mounting. Additional features include gold-plated contacts and compliant coaxial GSG (or GS) pogo pins that allow for a broad range of probing angles. These coax printed circuit board RF probes can be used by hand, with or without a probe positioner.

The PCB probe positioner can hold coaxial GS / GSG probes, has articulated joints, and delivers multi-axis positioner control. This PCB RF probe positioner also features a magnetic mounting plate with an on-off positioner switch.

As with our other over 40,000 RF, microwave and mmWave components, this GS and GSG RF microwave coaxial PCB probe series and positioner are in-stock. They also ship the same day they are purchased. Pasternack is an excellent source for coaxial-cable-based GSG and GS PCB probe and positioner components.

PE P/N	Probe Tip Config	Number of Ground)	Pitch 1 (µm)	Pitch 2 (µm)	Connector 1	Impedance (Ohms)	Frequency Max. (GHz)	Return Loss Max (dB)	Insertion Loss Max. (dB)
PE2PB1006	GS	1	800		2.92mm Female	50	40	10	0.5
PE2PB1002	GS	1	800		3.5mm Female	50	20	10	0.5
PE2PB1007	GS	2	1500	2,500	2.92mm Female	50	40	10	0.5
PE2PB1003	GS	2	1500	2,500	3.5mm Female	50	20	10	0.5

Coaxial RF Probes & Probe Positioning Hardware Continued

PE P/N	Probe Tip Config	Number of Ground)	Pitch 1 (µm)	Pitch 2 (µm)	Connector 1	Impedance (Ohms)	Frequency Max. (GHz)	Return Loss Max (dB)	Insertion Loss Max. (dB)
PE2PB1004	GSG	2	800		2.92mm Female	50	40	10	0.5
PE2PB1000	GSG	2	800		3.5mm Female	50	20	10	0.5
PE2PB1005	GSG	4	1500	2,500	2.92mm Female	50	40	10	0.5
PE2PB1001	GSG	4	1500	2,500	3.5mm Female	50	20	10	0.5

Test Cable Assemblies

40 GHz and 67 GHz Skew Matched Cables

- Delay match as low as 1 ps
- Excellent VSWR of 1.4:1
- 100% tested up to 67 GHz
- Extremely flexible
- Polarity indicators on cable ends

Pasternack's skew matched cables consist of seven models that are extremely flexible and have delay match as low as 1 ps. These cables deliver excellent VSWR of 1.4:1 and are 100% tested for skew match. They also include polarity indicators and restraint bands to keep them paired up.

These delay matched cables have a frequency range of DC to 67 GHz, covering two channels with 50 Ohms nominal impedance. They are made of micro porous PTFE cable dielectric and feature double- or triple-shielded outer conductors, 1.85mm or 2.92mm male connectors, and finger-grip coupling nuts.

Skew matched cables are ideal for networking, semiconductor test and supercomputing industries where skew match is important.

Pasternack's skew matched cable pairs are in-stock and ready for immediate shipment with no minimum order quantity.

PE P/N	Connector 1	Connector 2	Frequency Max (GHz)	VSWR Max	Insertion Loss Typ. (dB/ft)
PE3CA2517-12	2.92mm Male	2.92mm Male	40	1.3:1	-1
PE3CA2517-24	2.92mm Male	2.92mm Male	40	1.3:1	-1.8
PE3CA2517-36	2.92mm Male	2.92mm Male	40	1.3:1	-2.5
PE3CA2517-48	2.92mm Male	2.92mm Male	40	1.3:1	-3.3
PE3C5835-12	1.85mm Male	1.85mm Male	67	1.4:1	3.2
PE3C5835-24	1.85mm Male	1.85mm Male	67	1.4:1	5
PE3C5835-36	1.85mm Male	1.85mm Male	67	1.4:1	6.7
PE3C5835-48	1.85mm Male	1.85mm Male	67	1.4:1	8.2

Ruggedized Test Cable Assemblies

26.5 GHz and 40 GHz Test Cables

- Rugged VNA test port extenders
- Torsion resistant connector heads
- Max. phase variation +/- 2˚ with flexure to 18 GHz
- Max. phase variation +/- 3˚ with flexure to 26.5 GHz
- Max. phase variation +/- 5˚ with flexure to 40 GHz
- 5,000 mating cycles minimum
- 75,000 flexure cycles minimum
- Each cable is serialized and comes with RF test data
- SMA, Type-N, 2.92mm and 2.4mm configurations available

High performance precision VNA test cables designed to provide highly accurate repeatable test results.

Pasternack's ruggedized VNA test cables are designed to provide customers with repeatable accurate VNA measurements. These test cables have excellent electrical properties including low insertion loss, low VSWR and phase stability of +/- 2˚ to 18 GHz with flexure. Torsion resistant connector heads are directly attached to stainless steel conduit style armoring, providing a rugged design for up to 5,000 mating cycles with proper care. The cable armoring enhances amplitude and phase stability by preventing stress due to over bending while maintaining the flexibility required for testing in a lab environment. When used with the appropriate calibration kits, these test cables effectively extend the test port of the VNA, allowing accurate measurement of devices that cannot be directly connected to a Network Analyzer test port.

PE P/N	Connector 1	Connector 2	Frequency Max (GHz)	Impedance (Ohms)	VSWR	Insertion Loss @fmax (dB/ft)	Length (in)
PE3VNA2603	3.5mm Male	3.5mm Male	26.5	50	1.25	0.64	Various
PE3VNA2604	3.5mm Female	3.5mm Female	26.5	50	1.3	0.64	Various
PE3VNA2605	2.92mm Male	2.92mm Male	26.5	50	1.25	0.64	Various
PE3VNA4001	2.92mm Male	2.92mm Male	40	50	1.38	0.83	Various
PE3VNA4002	2.92mm Female	2.92mm Female	40	50	1.38	0.83	Various
PE3VNA4004	2.4mm Male	2.4mm Male	40	50	1.38	0.83	Various
PE3VNA4005	2.4mm Female	2.4mm Female	40	50	1.38	0.83	Various

VNA Test Cable Kit

Vector network analyzer (VNA) test cable kit from Pasternack Enterprises. Our VNA cable kit is for Agilent, Anritsu and other vector network analyzer test equipment. This cable kit for VNA testing uses 3.5mm NMD connector ports.

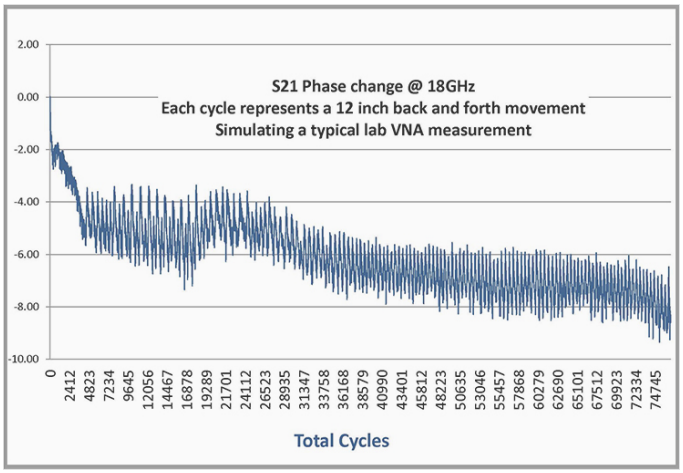
VNA test cable kit includes highly flexible test cable construction that has excellent electrical characteristics with outstanding phase and amplitude stability. This Pasternack VNA cable kit incorporates a unique interchangeable head design with a 3.5mm NMD connector port. These vector network analyzer test cable connector optional components are precision models of 7mm, type N, 3.5mm and 2.92mm connectors.

PE P/N	Type	Impedance (Ohms)	Connector Series	Polarity	Gender	Frequency Range (GHz)
PE310-KIT	Cable for Interchangeable Connectors	50	3.5mm NMD Female	Standard	Interchangeable	DC to 26.5

The Need for Amplitude and Phase Stable VNA Cables

Amplitude and phase variation post Vector Network Analyzer (VNA) calibration can cause inaccurate S-Parameter measurements. As a result, amplitude and phase stable cables should be used to make accurate VNA measurements. During normal use, a set of VNA test cables acting as test port extenders are part of the calibration procedure, and the test equipment's reference plane is moved to the connectors of the VNA test cables. After calibration, the cables will be moved into position and connected to the Device Under Test (DUT). It is during this movement that phase variations can occur, affecting the algorithm used by the VNA to accurately measure a DUT connected to the calibrated reference plane at the end of the test cables. For this reason, a quality phase stable test cable is essential to make repeatable, accurate VNA measurements. Without high-quality cables, it is also likely that errors in insertion loss will be seen as a result of amplitude changes during flexure, which can greatly affect precise VNA measurements.

Pasternack's ruggedized VNA test cables have a maximum phase change of +/- 2 degrees at 18 GHz with typical calibration procedures. The measurements to the right show the phase change at 18 GHz as a result of continuously flexing the cable back and forth 12 inches, simulating connecting and disconnecting movements typical in lab testing, where the VNA test cable needs to be moved to connect a DUT. In this accelerated life cycle test, the phase variation window stayed consistent beyond 75,000 movement cycles. A typical VNA test setup will be re-calibrated often, daily in most cases, and will mitigate the absolute phase change over the life of the cable. For this reason, Pasternack's new amplitude and phase stable ruggedized VNA test cables will provide the reliable and repeatable, accurate test results users require. It is also important to note that new cables may require some minor usage before settling into their ideal state, but with re-calibration they will remain stable.



50 and 67 GHz Test Cable Assemblies

- Highly flexible VNA test cables up to 50 and 67 GHz
- Max. phase variation +/- 6˚ to 50 GHz and +/- 8˚ to 67 GHz with flexure
- VSWR of 1.3:1 to 50 GHz and 1.4:1 to 67 GHz
- Rated up to 5,000 mating cycles
- Up to 100,000 flex cycles
- Swept right angle connector options available
- Highly flexible stainless steel braided armoring
- Designed for accurate and repeatable measurements

PE P/N	Connector 1	Connector 2	Frequency Max (GHz)	Impedance (Ohms)	VSWR	Insertion Loss (dB/ft @ fmax)	Insertion Loss (dB/m @ fmax)	Phase Stability with Flexure (Degrees)	Flex Cycles	Jacket Material	Jacket Diameter (in)
PE3TC0500	2.4mm Male	2.4mm Male	50	50	1.300	1.65	5.41	6.00	100,000	Nomex	0.270
PE3TC0500-24	2.4mm Male	2.4mm Male	50	50	1.300	3.7	12.14	6.00	100,000	Nomex	0.270
PE3TC0500-48	2.4mm Male	2.4mm Male	50	50	1.300	7	22.96	6.00	100,000	Nomex	0.270
PE3TC0600	2.4mm Male	2.4mm Female	50	50	1.300	1.65	5.41	6.00	100,000	Nomex	0.270
PE3TC0600-24	2.4mm Male	2.4mm Female	50	50	1.300	3.7	12.14	6.00	100,000	Nomex	0.270
PE3TC0600-48	2.4mm Male	2.4mm Female	50	50	1.300	7	22.96	6.00	100,000	Nomex	0.270
PE3TC0700	2.4mm Male	2.4mm Male RA	50	50	1.300	1.65	5.41	6.00	100,000	Nomex	0.270

50 and 67 GHz Test Cable Assemblies Continued

PE P/N	Connector 1	Connector 2	Frequency Max (GHz)	Impedance (Ohms)	VSWR	Insertion Loss (dB/ft @ fmax)	Insertion Loss (dB/m @ fmax)	Phase Stability with Flexure (Degrees)	Flex Cycles	Jacket Material	Jacket Diameter (in)
PE3TC0700-24	2.4mm Male	2.4mm Male RA	50	50	1.300	3.7	12.14	6.00	100,000	Nomex	0.270
PE3TC0700-48	2.4mm Male	2.4mm Male RA	50	50	1.300	7	22.96	6.00	100,000	Nomex	0.270
PE3TC0800	1.85mm Male	1.85mm Male	67	50	1.400	1.95	6.4	8.00	100,000	Nomex	0.270
PE3TC0800-24	1.85mm Male	1.85mm Male	67	50	1.400	4.3	14.1	8.00	100,000	Nomex	0.270
PE3TC0800-48	1.85mm Male	1.85mm Male	67	50	1.400	8.2	26.9	8.00	100,000	Nomex	0.270
PE3TC0900	1.85mm Male	1.85mm Female	67	50	1.400	1.95	6.4	8.00	100,000	Nomex	0.270
PE3TC0900-24	1.85mm Male	1.85mm Female	67	50	1.400	4.3	14.1	8.00	100,000	Nomex	0.270
PE3TC0900-48	1.85mm Male	1.85mm Female	67	50	1.400	8.2	26.9	8.00	100,000	Nomex	0.270
PE3TC1000	1.85mm Male	1.85mm Male RA	67	50	1.400	1.95	6.4	8.00	100,000	Nomex	0.270
PE3TC1000-24	1.85mm Male	1.85mm Male RA	67	50	1.400	4.3	14.1	8.00	100,000	Nomex	0.270
PE3TC1000-48	1.85mm Male	1.85mm Male RA	67	50	1.400	8.2	26.9	8.00	100,000	Nomex	0.270

110 GHz 1.0mm Flexible VNA Precision Cables

- Operating to 110 GHz
- Lightweight, protective armoring
- Precision 1.0mm stainless steel connectors
- Excellent amplitude and phase stability with flexure
- Non-conductive protective Nomex® outer sleeve
- Each serialized assembly includes test data

Pasternack's high-performance, flexible VNA test cables operate at up to 110 GHz and deliver precise results for testing using a coaxial cable and 1.0 mm stainless steel connector interface. The coaxial cable is covered by a non-conductive Nomex® outer sleeve. In addition to Nomex, a light-duty armoring protects the cable, while maintaining a 0.27-inch diameter and improving stability during flexure. These cables feature 50 Ohm impedance, a maximum VSWR of 1.5:1 and excellent phase/amplitude stability under flexure.

Our flexible 1.0 mm VNA test cables operate over a wide range of temperatures from -65°C to +125°C. They are RoHS and REACH compliant. Each cable assembly is fully tested and comes with serialized test data. These cables are available in standard 6-inch and 12-inch lengths with male-to-male or male-to-female configurations. These VNA test cables are designed to deliver precision testing results for Vector Network Analyzer (VNA) testing, semiconductor probe testing, automotive radar testing and military radar testing.

PE P/N	Connector 1	Connector 2	Length (in)	Frequency Max (GHz)	Impedance (Ohms)	VSWR	Insertion Loss Max (dB)	Outer Diameter (in)
PE3TC1220-6	1.0mm Male	1.0mm Male	6.0	110	50	1.5	3.12	0.27
PE3TC1220-12	1.0mm Male	1.0mm Male	12.0	110	50	1.5	5.62	0.27
PE3TC1221-6	1.0mm Male	1.0mm Female	6.0	110	50	1.5	3.12	0.27
PE3TC1221-12	1.0mm Male	1.0mm Female	12.0	110	50	1.5	5.62	0.27

Handheld RF Analyzer Rugged Phase Stable Cable Assemblies

- Designed for in-field measurements with handheld or portable analyzers
- Excellent VSWR as low as 1.2:1
- Excellent phase stability with flexure as low as 1.5 degrees
- Rugged armor provides 1200 p.s.i crush resistance plus torque resistance
- UV resistance jacket
- Each assembly is serialized and includes test data

Pasternack's line of test cables for handheld RF analyzers consists of 19 models designed to deliver optimal amplitude and phase stability with flexure. The portable radio frequency analyzer cable series boasts VSWR as low as 1.2:1 and maximum operating frequency of 27 GHz, depending on the configuration. These rugged RF handheld portable analyzer test cables feature crush resistance of 1200 psi and operating temperature range of -55°C to +105°C.

Our portable analyzer test cables are made with silver-plated copper cable conductors, stainless steel-body connectors, a UV-resistant jacket, and a rugged, multi-layer armor for crush and torque resistance. These testing cables for handheld RF analyzers are offered with 7/16, N, SMA, TNC or 3.5mm connector options. Each analyzer cable is serialized and includes test data.

The Pasternack handheld portable radio frequency analyzer cable series can be used as direct replacements for popular RF testing equipment. Compatible RF analyzer test equipment includes: FieldFox®, Site Master, CellAdvisor® and Sitehawk® handheld portable RF analyzers.

Typical applications for these rugged portable analyzer cables include field testing, tower measurements, base station analyzers, handheld network analyzers, portable spectrum analyzers, distance-to-fault measurements and site maintenance. As with the other over 40,000 RF, microwave and mmWave Pasternack products, this portable handheld radio frequency analyzer cable assembly series is in-stock. Not only are these compatible cables in-stock, they also ship the same day they are purchased.

PE P/N	Connector 1	Connector 2	Frequency Max (GHz)	Impedance (Ohms)	VSWR	Insertion Loss @fmax (dB/ft)	Phase Stability with Flexure (Degrees)	Length (in)
PE3C4000-60	N Male	7/16 DIN Male	7	50	1.2:1	2.16	1.5	60.0
PE3C4000-144	N Male	7/16 DIN Male	7	50	1.2:1	4.92	1.5	144.0
PE3C4001-60	N Male	7/16 DIN Female	7	50	1.2:1	2.16	1.5	60.0
PE3C4001-144	N Male	7/16 DIN Female	7	50	1.2:1	4.92	1.5	144.0
PE3C4002-60	N Male	N Male	9	50	1.2:1	2.52	1.5	60.0
PE3C4002-144	N Male	N Male	9	50	1.2:1	5.74	1.5	144.0
PE3C4003-60	N Male	N Male Right Angle	9	50	1.2:1	2.52	1.5	60.0
PE3C4003-144	N Male	N Male Right Angle	9	50	1.2:1	5.74	1.5	144.0
PE3C4004-60	N Male	N Female	9	50	1.2:1	2.52	1.5	60.0
PE3C4004-144	N Male	N Female	9	50	1.2:1	5.74	1.5	144.0
PE3C4005-100CM	N Male	N Male	18	50	1.3:1	2.66	2.0	39.4
PE3C4006-100CM	N Male	N Male Right Angle	18	50	1.3:1	2.66	2.0	39.4
PE3C4007-100CM	N Male	N Female	18	50	1.3:1	2.66	2.0	39.4
PE3C4008-60	N Male	SMA Male	18	50	1.3:1	3.89	2.0	60.0
PE3C4009-60	N Male	SMA Female	18	50	1.3:1	3.89	2.0	60.0
PE3C4010-60	N Male	TNC Male	18	50	1.3:1	3.89	2.0	60.0
PE3C4011-60	N Male	TNC Female	18	50	1.3:1	3.89	2.0	60.0
PE3C4012-100CM	3.5mm Male	3.5mm Female	27	50	1.3:1	3.46	4.0	39.4
PE3C4013-100CM	3.5mm Female	3.5mm Female	27	50	1.3:1	3.46	4.0	39.4

Phase Stable Test Cable Assemblies-50 Ohm

PE-TC195 Series Phase Stable Test Cable Assemblies

- Phase and amplitude stability with flexure
- Small diameter, lighter weight and lower profile for high density test applications
- Phase change with flexure +/-2° to 18 GHz
- Excellent for multi-port test equipment
- Very flexible and durable cable with a min. bend radius of 1 inch
- Excellent VSWR and insertion loss
- Extra strain relief for extended connector body with booting to enhance stability and longevity
- Each serialized assembly comes with matching test data
- 5,000 mating cycles when properly mated
- In-stock and ready to ship

PE P/N	Connector 1	Connector 2	Frequency Max (GHz)	Impedance (Ohms)	VSWR	Insertion Loss (dB/ft @ fmax)	Insertion Loss (dB/m @ fmax)	Phase Stability with Flexure (Degrees)	Flex Cycles	Jacket Material	Jacket Diameter (in)
PE3TC0104-24	N Male	N Female	18	50	1.25:1	0.68	2.23	2	75000	FEP	0.195
PE3TC0103-24	N Male	N Male	18	50	1.25:1	0.68	2.23	2	75000	FEP	0.195
PE3TC0105-24	SMA Male	N Male	18	50	1.25:1	0.68	2.23	2	75000	FEP	0.195
PE3TC0102-24	SMA Male	SMA Female	18	50	1.25:1	0.68	2.23	2	75000	FEP	0.195
PE3TC0202-24	SMA Male	SMA Female	27	50	1.25:1	2.06	6.76	3	75000	FEP	0.195
PE3TC0101-24	SMA Male	SMA Male	18	50	1.25:1	0.68	2.23	2	75000	FEP	0.195
PE3TC0201-24	SMA Male	SMA Male	27	50	1.25:1	2.06	6.76	3	75000	FEP	0.195

PE-TC151 Series Phase Stable Test Cable Assemblies

- Phase and amplitude stability with flexure
- Small diameter, lighter weight and lower profile for high density test applications
- Phase change with flexure +/-5° to 18 GHz
- Excellent for multi-port test equipment
- Very flexible and durable cable with a min. bend radius of 0.75”
- Excellent VSWR and insertion loss
- Extra strain relief for extended connector body with booting to enhance stability and longevity
- Each serialized assembly comes with matching test data
- 5,000 mating cycles when properly mated
- In-stock and ready to ship

PE P/N	Connector 1	Connector 2	Frequency Max (GHz)	Impedance (Ohms)	VSWR	Insertion Loss (dB/ft @ fmax)	Insertion Loss (dB/m @ fmax)	Phase Stability with Flexure (Degrees)	Flex Cycles	Jacket Material	Jacket Diameter (in)
PE3TC0302-24	N Male	N Male	18	50	1.3:1	0.85	2.79	5	75000	Polyurethane	0.151
PE3TC0302-24	N Male	N Male	18	50	1.3:1	0.85	2.79	5	75000	Polyurethane	0.151
PE3TC0303-24	SMA Male	N Male	18	50	1.3:1	0.85	2.79	5	75000	Polyurethane	0.151
PE3TC0301-24	SMA Male	SMA Male	18	50	1.3:1	0.85	2.79	5	75000	Polyurethane	0.151
PE3TC0401-24	SMA Male	SMA Male	27	50	1.3:1	0.85	2.79	5	75000	Polyurethane	0.151

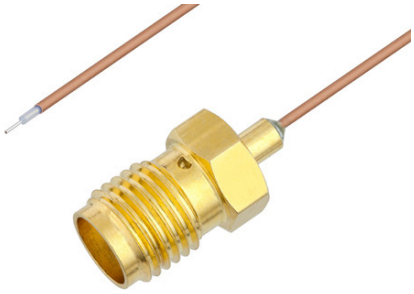
Phase Stable Test Cable Assemblies-75 Ohm

- Phase and amplitude stability with flexure
- Small diameter, lighter weight and lower profile for high density test applications
- Very flexible and durable cable with a min. bend radius of 0.75 inches
- Each serialized assembly comes with matching test data

PE P/N	Connector 1	Connector 2	Frequency Max (GHz)	Impedance (Ohms)	VSWR	Insertion Loss (dB/ft @ fmax)	Insertion Loss (dB/m @ fmax)	Phase Stability with Flexure (Degrees)	Flex Cycles	Jacket Material	Jacket Diameter (in)
PE3CA1031-60cm	N Male	F Male	3	75	1.16:1	0.193	0.63	5	100000	PVC	0.3
PE3CA1032-60cm	N Male	N Male	3	75	1.16:1	0.193	0.63	5	100000	PVC	0.3

Semi-Rigid Pigtail Test Probes

- Operating to 6 GHz and 18 GHz
- SMA Female connectors
- Excellent VSWR of 1.35:1 and 1.4:1
- Straight-cut and pre-stripped probe ends available



PE P/N	Connector 1	Cable	Lead	Frequency Max (GHz)	Impedance (Ohms)	VSWR	Insertion Loss @fmax (dB/ft)	Length (in)
PE3CA1107-3	SMA Female	PE-020SR	Straight Cut Lead	6	50	1.35:1	0.43	3.0
PE3CA1104-3	SMA Female	PE-020SR	Trimmed Lead	6	50	1.35:1	0.43	3.0
PE3CA1102-3	SMA Female	PE-034SR	Straight Cut Lead	6	50	1.35:1	0.28	3.0
PE3CA1107-3	SMA Female	PE-020SR	Straight Cut Lead	6	50	1.35:1	0.43	3.0
PE3CA1104-3	SMA Female	PE-020SR	Trimmed Lead	6	50	1.35:1	0.43	3.0
PE3CA1102-3	SMA Female	PE-034SR	Straight Cut Lead	6	50	1.35:1	0.28	3.0
PE3CA1105-3	SMA Female	PE-034SR	Trimmed Lead	6	50	1.35:1	0.28	3.0
PE3CA1103-3	SMA Female	PE-047SR	Straight Cut Lead	6	50	1.35:1	0.20	3.0
PE3CA1106-3	SMA Female	PE-047SR	Trimmed Lead	6	50	1.35:1	0.20	3.0
PE3C0643-3	SMA Female 2 Hole Flange	PE-SR047FL	Straight Cut Lead	18	50	1.4:1		3.0
PE3C1057-3	SMA Female	PE-SR047FL	Straight Cut Lead	18	50	1.4:1		3.0
PE3C1545-3	SMA Female 4 Hole Flange	PE-SR405FL	Straight Cut Lead	18	50	1.5:1		3.0
PE3C8133-3	SMA Female	PE-SR047FL	Trimmed Lead	18	50	1.4:1		3.0
PE3C8134-3	SMA Female 2 Hole Flange	PE-SR047FL	Trimmed Lead	18	50	1.4:1		3.0
PE3C8135-3	SMA Female 4 Hole Flange	PE-SR047FL	Trimmed Lead	18	50	1.4:1		3.0
PE3C8136-3	SMA Female 4 Hole Flange	PE-SR047FL	Straight Cut Lead	18	50	1.4:1		3.0
PE3C8137-3	SMA Male	PE-SR047FL	Trimmed Lead	20	50	1.4:1		3.0
PE3C8138-3	SMA Male	PE-SR047FL	Straight Cut Lead	20	50	1.4:1		3.0

Semi-Rigid Pigtail Test Probes Continued

PE P/N	Connector 1	Cable	Lead	Frequency Max (GHz)	Impedance (Ohms)	VSWR	Insertion Loss @fmax (dB/ft)	Length (in)
PE3C8139-3	SMA Female	PE-SR405FL	Trimmed Lead	18	50	1.4:1		3.0
PE3C8140-3	SMA Female	PE-SR405FL	Straight Cut Lead	18	50	1.4:1		3.0
PE3C8141-3	SMA Female 2 Hole Flange	PE-SR405FL	Trimmed Lead	18	50	1.4:1		3.0
PE3C8142-3	SMA Female 2 Hole Flange	PE-SR405FL	Straight Cut Lead	18	50	1.4:1		3.0
PE3C8143-3	SMA Female 4 Hole Flange	PE-SR405FL	Trimmed Lead	18	50	1.5:1		3.0
PE3C8144-3	SMA Male	PE-SR405FL	Trimmed Lead	18	50	1.4:1		3.0
PE3C8145-3	SMA Female	PE-SR405FLJ	Trimmed Lead	18	50	1.4:1		3.0
PE3C8146-3	SMA Female	PE-SR405FLJ	Straight Cut Lead	18	50	1.4:1		3.0
PE39395-3	SMA Male	PE-SR405FL	Straight Cut Lead	18	50	1.4:1		3.0

Tools

Torque Wrenches

PE P/N	Type	Bit Hex Size	Preset Torque (in.-lbs)	Design
PE5019-16	1.0mm	5/16 inch	4	Break-Over
PE5019-1A	3.5mm, 2.92mm	5/16 inch	8	Break-Over
PE5020	4.3-10	5/8 inch	44.3	Break-Over
PE5021	4.3-10	7/8 inch	44.3	Break-Over
PE5019-21	7/16 DIN	27 mm	20	Break-Over
PE5011-3	7mm, N	5/16 inch	14	Click Type
PE5019-3	N	1/4 inch	8	Break-Over
PE5019-5	N	1/4 inch	8	Break-Over
PE5011-7	N	25/32 inch	14	Click Type
PE5019-6	N	5/32 inch	14	Break-Over
PE5019-4	N, 7mm	1/4 inch	14	Break-Over
PE5011-6	N, SC	20 mm	14	Click Type
PE5019-7	N, SC	5/8 inch	8	Break-Over
PE5019-8	N, SC	5/8 inch	14	Break-Over
PE5022	NEX10	7/16 inch	26.5	Break-Over
PE5019-19A	SMA	5/16 inch	5	Break-Over
PE5011-1	SMA, 2.92mm	15/64 inch	8	Click Type
PE5019-11	SMC	13/16 inch	3	Break-Over
PE5011-2	SMC	5/16 inch	3	Click Type
PE5019-13	SSMA	13/16 inch	5	Break-Over
PE5011-5	SSMA	20 mm	8	Click Type
PE5019-14	SSMA	5/16 inch	8.1	Break-Over

Torque Wrenches Continued

PE P/N	Type	Bit Hex Size	Preset Torque (in.-lbs)	Design
PE5019-12	SSMC	13/16 inch	2	Break-Over
PE5019-17	TNC	1/4 inch	6	Break-Over
PE5019-18	TNC	15/64 inch	6	Break-Over
PE5019-10	TNC	3/4 inch	12	Break-Over
PE5011-8	TNC	3/4 inch	13	Click Type
PE5011-4	TNC	3/4 inch	14	Click Type
PE5019-9	TNC	5/8 inch	12	Break-Over

Filters

Tunable Filters

PE P/N	Design	Frequency Band (GHz)	Bandwidth (%)	No. of Sections	Connector Type	ECCN
PE8728 	Band Pass	125 MHz - 250 MHz	5	5	N	EAR99
PE8729 	Band Pass	250 MHz - 500 MHz	5	5	N	EAR99
PE8730 	Band Pass	500 MHz - 1	5	5	N	EAR99
PE8731 	Band Pass	750 MHz - 1.5	5	5	N	EAR99
PE8732 	Band Pass	1 - 2	5	5	N	EAR99
PE8733 	Band Pass	1.5 - 3	5	5	N	EAR99
PE8734 	Band Reject	100 MHz - 200 MHz	1	3	N	EAR99
PE8735 	Band Reject	200 MHz - 400 MHz	1	3	N	EAR99
PE8736 	Band Reject	250 MHz - 500 MHz	1	3	N	EAR99
PE8738 	Band Reject	1 - 2	1	3	N	EAR99

Attenuators

Precision Fixed Attenuators

PE P/N	Maximum Power (Watts)	Connector Input	Connector Output	Maximum Frequency (GHz)	Construction Material	Maximum VSWR	Bi-Directional
PE7403-xx* 	1	1.85mm Male	1.85mm Female	65	Passivated Stainless Steel	1.65:1	
PE7089-xx* 	1	2.4mm Male	2.4mm Female	50	Passivated Stainless Steel	1.75:1	Bidirectional
PE7430-xx* 	2	2.92mm Male	2.92mm Female	40	Passivated Stainless Steel	1.35:1	
PE7094-xx* 	2	N Male	N Female	18	Passivated Stainless Steel	1.5:1	
PE7AP4009-xx* 	10	2.92mm Male	2.92mm Female	40	Black Anodized Aluminum Heatsink	1.4:1	Directional
PE7424-xx* 	100	N Male	N Female	18	Black Anodized Aluminum Heatsink	1.45:1	Directional
PE7AP418-xx* 	500	N Male	N Female	3	Black Anodized Aluminum Heatsink	1.4:1	Directional

* Multiple attenuation levels available

Programmable Attenuators, Bench Top and USB

PE P/N	Type	Frequency Range (GHz)	Attenuation Range (dB)	Insertion Loss (dB)	Step Resolution (dB)	Switching Speed (µs)	Power Rating (Watts)	Connector	Mechanical Dimensions L(in) x W(in) x H(in)
PE70A4000 	TTL Controlled	DC - 13	0 - 31.5	5.5	0.5	45	0.16	SMA	1.035 x 0.68 x 0.36
PE70A5012 	TTL Controlled	5 MHz - 2.15	0 - 63	5.25	1	5,000	30	F	
PE70A5004 	TTL Controlled	30 MHz - 3	0 - 31.75	2.5	0.25	1,000	0	SMA	
PE70A5006 	TTL Controlled	30 MHz - 3	0 - 63	4	1	1,000	0	SMA	
PE70A5005 	TTL Controlled	30 MHz - 3	0 - 63.5	4	0.5	1,000	0	SMA	
PE70A5007 	TTL Controlled	30 MHz - 3	0 - 95	6	1	1,000	0	SMA	

Programmable Attenuators, Bench Top and USB Continued

PE P/N	Type	Frequency Range (GHz)	Attenuation Range (dB)	Insertion Loss (dB)	Step Resolution (dB)	Switching Speed (µs)	Power Rating (Watts)	Connector	Mechanical Dimensions L(in) x W(in) x H(in)
PE70A5000 	TTL Controlled	30 MHz - 6	0 - 60	4	0.25	50,000	0.1	SMA	2 x 1.8 x 0.5
PE70A5001 	TTL Controlled	100 MHz - 18	0 - 30	5	1	1	0.25	2.92mm	2 x 1.8 x 0.5
PE70A5002 	TTL Controlled	100 MHz - 40	0 - 30	8	1	1	0.25	2.92mm	2 x 1.8 x 0.5
PE70A5009 	TTL Controlled	200 MHz - 6	0 - 63	5.5	1	1,000	0	SMA	
PE70A5013 	Bench-Top TTL Controlled	200 MHz - 6	0 - 95	8	1	1,000	0	SMA	
PE70A5010 	TTL Controlled	200 MHz - 6	0 - 95	8	1	1,000	0	SMA	
PE70A5011 	TTL Controlled	450 MHz - 2.15	0 - 127	4.5	1	2,000	0	F	
PE70A6000 	TTL Controlled	500 MHz - 18	0 - 60	4.5	0.06	1	1	SMA	2 x 1.8 x 0.5
PE70A5008 	TTL Controlled	700 MHz - 3	0 - 127	6	1	5,000	0	SMA	
PE70A6001 	TTL Controlled	18 - 40	0 - 30		0.03	1	0.25	2.4mm	2 x 1.8 x 0.5
PE70A3900 	USB Controlled	100 MHz - 18	0 - 30	5	1		0.1	SMA	2.25 x 1 x 0.33
PE70A3901 	USB Controlled	100 MHz - 40	0 - 30		1		0.1	2.92mm	2.25 x 1 x 0.33
PE70A3902 	USB Controlled	200 MHz - 6	0 - 95	8	1	1,000	0	SMA	
PE70A5003 	CMOS Controlled	DC - 13	0 - 31.5	5	0.5		0.32	SMA	1.035 x 0.68 x 0.34
PE70A8001 	Relay Controlled	DC - 1	0 - 31.5	1.5	0.5	6,000,000	1	SMA	

Programmable Attenuators, Bench Top and USB Continued

PE P/N	Type	Frequency Range (GHz)	Attenuation Range (dB)	Insertion Loss (dB)	Step Resolution (dB)	Switching Speed (µs)	Power Rating (Watts)	Connector	Mechanical Dimensions L(in) x W(in) x H(in)
PE70A8000 	Relay Controlled	DC - 1	0 - 63	1.5	1	6,000,000	0.5	SMA	
PE70A8003 	Relay Controlled	DC - 1	0 - 63	2.2	1	6,000,000	1	F	
PE70A8004 	Relay Controlled	DC - 1	0 - 127	2.5	1	6,000,000	1	F	
PE70A8005 	Relay Controlled	DC - 1.5	0 - 127	3.2	1	6,000,000	1	SMA	
PE70A8002 	Relay Controlled	DC - 2	0 - 63.75		0.25	6,000,000	0.5	SMA	

Step Attenuators-Rotary

PE P/N	Maximum Power (Watts)	Connector Input	Connector Output	Frequency Range (GHz)	Construction Material	Maximum VSWR	Attenuation Range (dB)	Step Size (dB)
PE70A1024 	2	BNC Female	BNC Female	DC - 2.2	Aluminum	DC - 1: 1.2:1 1 - 2.2: 1.4:1	0 - 10	1.0
PE70A1022 	2	BNC Female	BNC Female	DC - 2.2	Aluminum	DC - 1: 1.2:1 1 - 2.2: 1.4:1	0 - 70	10.0
PE70A1033 	2	N Female	N Female	DC - 3	Brass Nickel Plated, Aluminum	DC - 3: 1.5:1	0 - 100	1.0
PE70A1034 	2	SMA Female	SMA Female	DC - 3	Brass Nickel Plated, Aluminum	DC - 3: 1.5:1	0 - 100	1.0
PE70A1035 	2	SMA Female	SMA Female	DC - 3	Brass Nickel Plated	DC - 1: 1.2:1 1 - 2: 1.25:1 2 - 3: 1.4:1	0 - 10	1.0
PE70A1036 	2	N Female	N Female	DC - 3	Brass Nickel Plated, Aluminum	DC - 3: 1.5:1	1 - 30	1.0
PE70A1037 	2	SMA Female	SMA Female	DC - 3	Brass Nickel Plated, Aluminum	DC - 1: 1.3:1 1 - 2: 1.4:1 2 - 3: 1.5:1	1.5 - 30	1.0
PE70A1038 	2	SMA Female	SMA Female	DC - 3	Brass Nickel Plated, Aluminum	DC - 1: 1.3:1 1 - 2: 1.4:1 2 - 3: 1.5:1	1.5 - 70	1.0

Amplifiers

Bench-Top Amplifiers

PE P/N	Amplifier Type	Frequency Band (GHz)	Gain (dB)	Gain Variation +/-(dB)	NF (dB)	P1dB (dBm)	DC Power (Optional DC In) (Volts)	AC Power (Voltage/Cycle)	Mechanical Dimensions L(in) x W(in) x H(in)	Connector Type	ECCN
PE15A3037 	Bench-Top, Broadband, High Rel	10 MHz - 15	12	0.3	4	28	16 / 360		4.23 x 1.7 x 1.68	SMA	EAR99
PE15A3500 	Bench-Top, High Gain, High Rel	1 - 20	60	3	5	10		115 / 60	4.92 x 4.92 x 2.1	SMA	EAR99
PE15A3512 	Bench-Top, High Gain, High Rel	1 - 20	60	3	5	10		100 /	4.92 x 4.92 x 2.1	SMA	EAR99
PE15A3513 	Bench-Top, High Gain, High Rel	1 - 20	60	3	5	10		220 /	4.92 x 4.92 x 2.1	SMA	EAR99
PE15A3514 	Bench-Top, High Gain, High Rel	1 - 40	40	2.5	5	10	12 /	100 /	4.92 x 4.92 x 2.26	2.92mm	EAR99
PE15A3515 	Bench-Top, High Gain, High Rel	1 - 40	40	2.5	5	10	12 /	220 /	4.92 x 4.92 x 2.1	2.92mm	EAR99
PE15A3595 	Bench-Top, High Gain, High Rel	1 - 40	40	2.5	5	22	12 /	120 / 60	4.92 x 4.92 x 2.1	2.92mm	EAR99
PE15A3508 	Bench-Top, High Gain, High Rel	20 - 40	30	2	5	10		100 / 60	4.92 x 4.92 x 2.26	2.92mm	EAR99
PE15A3509 	Bench-Top, High Gain, High Rel	20 - 40	30	2	5	10		220 /	4.92 x 4.92 x 2.26	2.92mm	EAR99
PE15A3510 	Bench-Top, High Gain, High Rel	20 - 40	60	3	5	10		100 /	4.92 x 4.92 x 2.26	2.92mm	EAR99
PE15A3511 	Bench-Top, High Gain, High Rel	20 - 40	60	3	5	10		220 /	4.92 x 4.92 x 2.26	2.92mm	EAR99

Variable Gain Amplifiers

PE P/N	Amplifier Type	Frequency Band (GHz)	Gain (dB)	Gain Variation +/-(dB)	NF (dB)	Atten. Range (dB)	Step Size (dB)	P1dB (dBm)	AC Power (VAC)	Mechanical Dimensions L(in) x W(in) x H(in)	Connector Type	ECCN
PE15A7000 	Variable Gain, High Rel	100 MHz - 18	50	2	6.5	0 - 60	1	14	120	19 x 10.79 x 1.73	SMA	EAR99
PE15A7001 	Variable Gain	500 MHz - 2	45	2	3.5			18		0 x 0 x 0	SMA	EAR99
PE15A7002 	Variable Gain	500 MHz - 4	43	2	4			18		0 x 0 x 0	SMA	EAR99
PE15A7009 	Variable Gain	1 - 18	48	3	3.5			17		0 x 0 x 0	SMA	EAR99
PE15A7010 	Variable Gain	1 - 26.5	43	4	5.5			11		1.39 x 1.4 x 0.4	SMA	EAR99
PE15A7011 	Variable Gain	1 - 40	45	5	5			10		1.39 x 1.4 x 0.4	2.92mm	EAR99
PE15A7003 	Variable Gain	2 - 6	42	2	2			16		0 x 0 x 0	SMA	EAR99
PE15A7004 	Variable Gain	2 - 8	43	3	2.5			16		0 x 0 x 0	SMA	EAR99
PE15A7005 	Variable Gain	4 - 12	47	3	3.5			17		0 x 0 x 0	SMA	EAR99
PE15A7006 	Variable Gain	6 - 18	45	3	3			16		0 x 0 x 0	SMA	EAR99
PE15A7007 	Variable Gain	18 - 26.5	45	3	5.5			15		1.4 x 1.39 x 0.4	SMA	EAR99
PE15A7012 	Variable Gain	18 - 40	48	5	5			11		1.4 x 1.39 x 0.4	2.92mm	EAR99
PE15A7008 	Variable Gain	26.5 - 40	46	4	5			11		1.4 x 1.39 x 0.4	2.92mm	EAR99

USB Controlled Broadband Amplifiers

PE P/N	Amplifier Type	Frequency Band (GHz)	Gain (dB)	NF (dB)	P1dB (dBm)	Control	Mechanical Dimensions L(in) x W(in) x H(in)	Connector Type	ECCN
PE15A3900 	USB, USB	50 MHz - 18	12	4.5	10	USB	2.25 x 1 x 0.33	SMA	EAR99
PE15A3901 	USB, USB	50 MHz - 40	12	5	10	USB	2.25 x 1 x 0.33	2.92mm	EAR99

High Isolation USB Controlled PIN Diode Switches

PE P/N	Switch Type	Switch Design	Frequency Band (GHz)	Insertion Loss (dB)	Isolation (dB)	Power Handling (dBm)	Mechanical Dimensions L(in) x W(in) x H(in)	Connector	ECCN
PE71S3900 	USB 2.0	SPDT	500 MHz - 18	6	60	20	2.25 x 1 x 0.33	SMA Female	EAR99
PE71S3901 	USB 2.0	SPDT	500 MHz - 40	6	60	20	2.25 x 1 x 0.33	2.92mm Female	EAR99

Positive Slope Equalizers

PE P/N	Frequency Range (GHz)	Typical Equalizing Value (dB)	Typical Small Signal Insertion Loss (dB)	Typical Input-Output VSWR	Maximum RF Input Power (dBm)	Input-Output Connectors (Field Replaceable)
PE70A9000 	500 MHz - 2	2	1.4	1.8:1	+30	SMA Female
PE70A9001 	500 MHz - 2	4	1	1.8:1	+30	SMA Female
PE70A9002 	500 MHz - 2	6	1.8	1.8:1	+30	SMA Female
PE70A9003 	1 - 18	4	1	1.8:1	+30	SMA Female
PE70A9004 	1 - 18	6	1	1.8:1	+30	SMA Female

Positive Slope Equalizers Continued

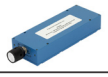
PE P/N	Frequency Range (GHz)	Typical Equalizing Value (dB)	Typical Small Signal Insertion Loss (dB)	Typical Input-Output VSWR	Maximum RF Input Power (dBm)	Input-Output Connectors (Field Replaceable)
PE70A9005 	1 - 18	8	1.5	1.8:1	+30	SMA Female
PE70A9006 	2 - 6	2	1	1.8:1	+30	SMA Female
PE70A9007 	2 - 6	4	1.5	1.8:1	+30	SMA Female
PE70A9008 	2 - 12	4	1.5	1.8:1	+30	SMA Female
PE70A9009 	2 - 12	8	1.5	1.8:1	+30	SMA Female
PE70A9010 	6 - 18	2	1.5	1.8:1	+30	SMA Female
PE70A9011 	6 - 18	4	1.5	1.8:1	+30	SMA Female
PE70A9012 	6 - 18	6	2	1.8:1	+30	SMA Female
PE70A9013 	6 - 18	8	1.5	1.8:1	+30	SMA Female
PE70A9014 	18 - 40	2	2	1.8:1	+30	2.92mm Female
PE70A9015 	18 - 40	4	2	2:1	+30	2.92mm Female
PE70A9016 	18 - 40	6	2	2:1	+30	2.92mm Female
PE70A9017 	26.5 - 40	4	3	2:1	+30	2.92mm Female
PE70A9018 	26.5 - 40	5	2.5	2:1	+30	2.92mm Female

Phase Shifters

8 Bit Programmable Phase Shifters

PE P/N	Connector	Gender	Frequency Range (GHz)	Deg. Phase Adjustment per GHz (Degrees)	Maximum Insertion Loss (dB)	Maximum VSWR
PE82P5003 	2.92mm	Female	32 - 37	360		2.3:1
PE82P5000 	SMA	Female	500 MHz - 2	360	13	
PE82P5002 	SMA	Female	6 - 18	360	12	2:1

Adjustable Phase Shifters

PE P/N	Connector	Gender	Frequency Range (GHz)	Power Rating (Watts)	Maximum Insertion Loss (dB)	Maximum VSWR
PE82P1000 	2.92mm	Female	18 - 40	100	2.5	2:1
PE8243 	SMA	Female	DC - 2,300	100	0.5	1.5:1
PE8244 	SMA	Female	DC - 4,300	100	0.5	1.5:1
PE8245 	SMA	Female	DC - 8,200	100	0.6	1.5:1
PE8246 	SMA	Female	DC - 12,700	100	0.7	1.5:1
PE8247 	SMA	Female	DC - 18	100	1	1.6:1
PE8253 	SMA	Female	18 - 26,500 MHz	100	1.5	1.8:1

Analog Phase Shifters

PE P/N	Connector	Gender	Frequency Range (GHz)	Deg. Phase Adjustment per GHz (Degrees)	Maximum Insertion Loss (dB)
PE82P2000 	SMA	Female	5 - 18	40	12
PE82P2001 	SMA	Female	6 - 15	120	10

Digital TTL Control Modules

PE P/N	Voltage (Volts)	DC Current (Amps)	Programmable Interface	Command Control Bits	Ethernet Speed (Mb)	Ethernet Interface Socket	Digital TTL Output Connector
PE70A7000 	6	1	TTL	18 x 2	10 - 100	RJ-45	2 x 25 Pin D-Sub
PE70A7001 	5	0.15	TTL	18	10 - 100	RJ-45	25 Pin D-Sub

Waveguide Antennas

Probe Waveguide Antennas

PE P/N	Waveguide Type	RF Frequency Range (GHz)	Gain (dB)	Flange Type	ECCN
PEWAN1124 	WR-6	110 - 170	6.5	Round Cover UG-387/U-Mod	EAR99
PEWAN1125 	WR-8	90 - 140	6.5	Round Cover UG-387/U-Mod	EAR99
PEWAN1126 	WR-10	75 - 110	6.5	Round Cover UG-387/U-Mod	EAR99
PEWAN1127 	WR-12	60 - 90	6.5	Round Cover UG-387/U	EAR99
PEWAN1128 	WR-15	50 - 75	6.5	Round Cover UG-385/U	EAR99
PEWAN1129 	WR-19	40 - 60	6.5	Round Cover UG-383/U-Mod	EAR99

Probe Waveguide Antennas Continued

PE P/N	Waveguide Type	RF Frequency Range (GHz)	Gain (dB)	Flange Type	ECCN
PEWAN1130 	WR-22	33 - 50	6.5	Round Cover UG-383/U	EAR99
PEWAN1131 	WR-28	26.5 - 40	6.5	Square Cover UG-599/U	EAR99
PEWAN1132 	WR-34	22 - 33	6.5	Square Cover UG-1530/U	EAR99

Specialty Waveguide Antennas

PE P/N	Waveguide Type	RF Frequency Range (GHz)	Gain (dB)	Flange Type	ECCN
PE9887-11 	Broadband	1 - 18	11 dBi	SMA Connectors	EAR99
PE9888-11 	Broadband	1 - 18	11 dBi	N Connectors	EAR99

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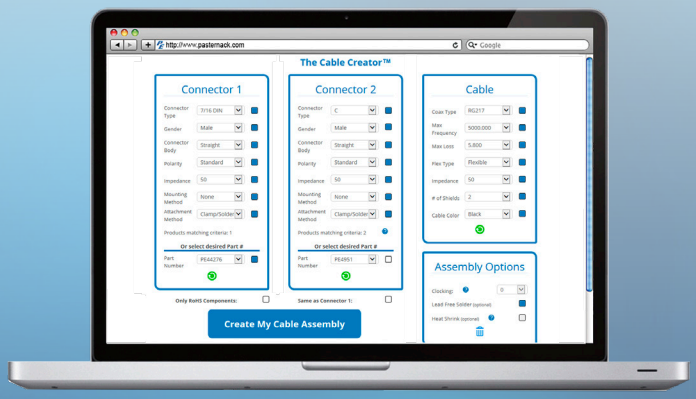

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