

# DPO7RFK1, DPO7RFK2, DPO7RFK3, DPO7RFC1, DPO7RFC2, and DPO7RFC3

## Signal Path Solutions Datasheet

The DPO7RF Signal Path Solutions kits provide you with preconfigured kits of components you can use to optimize measurement performance in your ultra-high bandwidth applications. Kits include attenuators, adapters, DC Blocks, power divider, cleaning swabs, color marking bands, S-parameters and documentation.

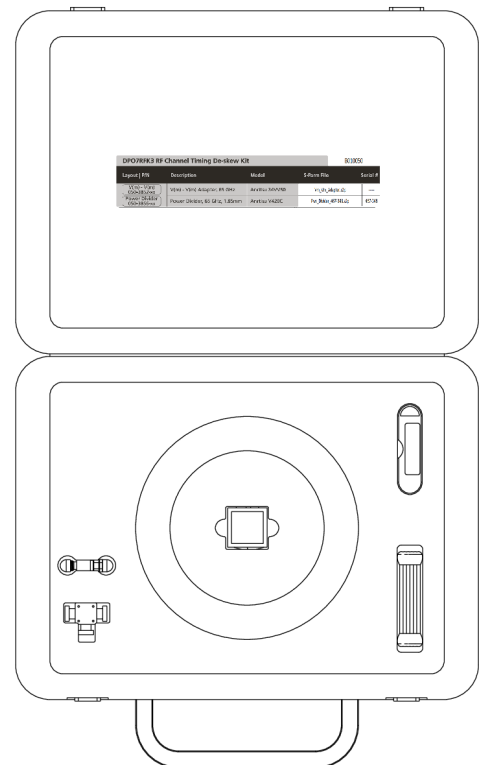
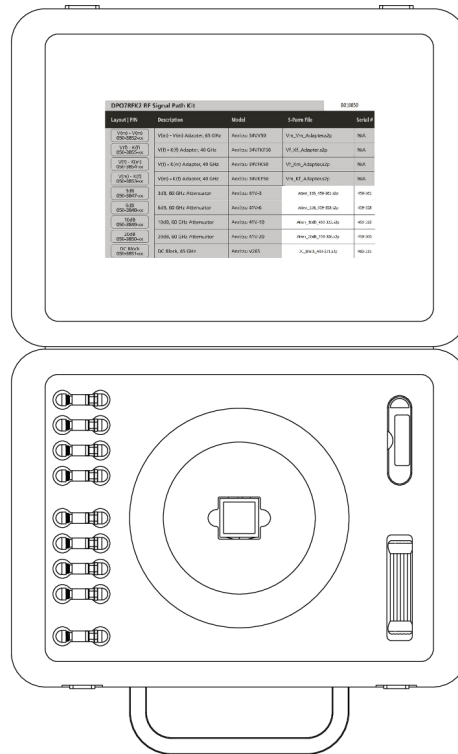
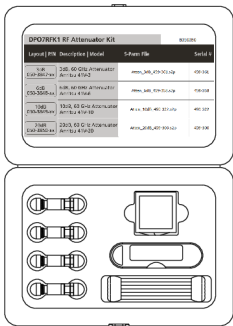
### Key performance specifications

- 3 dB, 6 dB, 10 dB, 20 dB attenuators
- 65 GHz 1.85 mm male - 1.85 mm male adapter
- 40 GHz 1.85 mm male - 2.92 mm female adapter
- 40 GHz 1.85 mm female - 2.92 mm male adapter
- 40 GHz 1.85 mm female - 2.92 mm female adapter
- 65 GHz 1.85 mm female to female DC Block

- 65 GHz 1.85 mm female Power divider
- 70 GHz S-parameter files provided

### Key features

- Kits and cables include S-parameter files and documentation on a USB memory stick
- Kits include signal path marking accessories
- Kits include cleaning swabs for proper maintenance of sensitive RF components



### **DPO7RFK1, 60 GHz RF attenuator kit, 1.85 mm**

This kit provides (4) attenuators (3 dB, 6 dB, 10 dB, 20 dB) with 1.85 mm connectors, characterized to 70 GHz. This kit extends the input range of ATI channels from a maximum of 300 mV full scale to 420 mV, 600 mV, 950 mV and 3 V respectively. S-parameter data specifically for each serial numbered attenuator is provided on a memory stick for de-embedding purposes using SDLA.

### **DPO7RFK2, 60 GHz RF signal path kit, 1.85 mm**

This kit includes all elements of the attenuator kit plus 4 adapters and a DC Block. This kit covers the majority of signal path configurations found in high performance data comm and enterprise computing applications. Adapters address conversion needs when routing 2.92 mm fixture connections to 1.85 mm ATI inputs. To remove DC levels from your signals, a DC Block is provided.

### **DPO7RFK3, 65 GHz RF channel timing de-skew kit, 1.85 mm**

This kit includes a high performance power divider (65 GHz, 1.85 mm) and a 65 GHz, 1.85 mm male-male adapter. Use these components to perform channel timing de-skew using the final device under test (DUT) connection cables for device under test (DUT) connection. Having timing de-skewed with the final device connections ensures the most accurate measurements.

### **DPO7RFC1, 67 GHz matched cable pair, 1.85 mm, male-male, 24 inch**

This kit provides a high performance set of 67 GHz, 24 inch Gore Phase-Flex cables (male-male) matched to  $\leq 2$  ps. Use these cables to facilitate timing de-skew and provide connection to a DUT. S-parameter data to 70 GHz is provided for de-embedding cable effects.

### **DPO7RFC2, 67 GHz phase-stable coaxial cable, 1.85 mm, male-male, 24 inch**

A 67 GHz, 24 inch Gore Phase-Flex cable with 1.85 mm male connectors on both ends. S-parameter data to 70 GHz is provided for de-embedding cable effects.

### **DPO7RFC3, 67 GHz phase-stable coaxial cable, 1.85 mm, male-male, 36 inch**

A 67 GHz, 36 inch Gore Phase-Flex cable with 1.85 mm male connectors on both ends. S-parameter data to 70 GHz is provided for de-embedding cable effects.

# Specifications

## Anritsu Gold Line attenuator specifications

Model <sup>1</sup>	Attenuation (dB)	Attenuation Accuracy				SWR				
		DC - 18 GHz	15 to 26.5 GHz	26.5 - 40 GHz	40 - 60 GHz	DC - 12 GHz	12 - 18 GHz	18 - 26.5 GHz	26.5 - 40 GHz	40 - 60 GHz
41V-3	3	±0.5	±0.6	±0.9	±1.50	±1.15	±1.20	±1.30	±1.50	±1.90
41V-6	6	±0.5	±0.6	±0.9	±1.50	±1.15	±1.20	±1.25	±1.40	±1.90
41V-10	10	±0.5	±0.6	±0.9	±1.50	±1.15	±1.20	±1.25	±1.40	±1.90
41V-20	20	±0.5	±0.6	±0.9	±1.50	±1.15	±1.20	±1.25	±1.40	±1.90

### Temperature

Operating temperature range -55 °C to +85 °C

Temperature shock -55 °C to +150 °C

### Humidity

95% at 40 °C, 96 hours, test 103B, condition B

### Shock

100 G peak sawtooth, method 213, condition B

### Vibration

Random: 50 Hz to 2000 Hz, 11.6 Grms, Power spectral density 0.1 Grms 2 Hz, method 214, test condition 1, letter D

### Salt spray

5% concentration for 48 hours, method 101D, condition B

### Voltage withstand

500 Vac RMS, 60 seconds, method 301

### Connectors

V-Connector® Male and female compatible with 2.4 mm

## DC Block

Model <sup>2</sup>	Frequency range	Insertion loss	Rise time	Group delay	Max DC voltage	Max RF power	Connectors
V261	50 kHz to 65 GHz	<2.0 dB typical	<5 ps typical	113 ±1 ps typical	16 V DC	1 W	RF in: V(m) RF out: V(f)

<sup>1</sup> Usable to 70 GHz

<sup>2</sup> Specifications apply over the temperature range of 0 °C to +70 °C.

Coaxial adapters

Model <sup>3</sup>	Frequency range	Connectors	SWR
34VKF50	DC to 40 GHz	V(m) to K(f)	1.12
34VFK50	DC to 40 GHz	V(f) to K(m)	1.3
34VFKF50	DC to 40 GHz	V(f) to K(f)	1.3
34VV50	DC to 65 GHz	V(m) to V(m)	1.5

Power divider

Model	Frequency range	Impedance	Connectors	Maximum input power	Temperature range
V240C	DC to 65 GHz	50 Ω	V(f)	1 W	0 °C to +70 °C

Frequency range	Tracking of outputs		Insertion loss (max)	SWR
	Amplitude	Phase		
DC to 6 GHz	±0.3 dB	±2°	7 dB	1.22
6 to 18 GHz	±0.3 dB	±3°	7.5 dB	1.44
18 to 26.5 GHz	±0.6 dB	±4°	8 dB	1.58
26.5 to 40 GHz	±0.6 dB	±6°	8.5 dB	1.79
40 to 65 GHz	±0.8 dB	±18°	10 dB	3.11

<sup>3</sup> Temperature range: -55 °C to +125 °C.

## Ordering information

### Models

DPO7RFK1	3 dB, 6 dB, 10 dB, and 20 dB attenuator kit with 1.85 mm connectors, characterized to 70 GHz. Includes serial numbers and S-parameters for each attenuator.
DPO7RFK2	Includes the contents of the DPO7RFK1 plus a DC Block and 4 adapters for connecting to 1.85 and 2.92 mm fixtures.
DPO7RFK3	RF channel timing de-skew kit, 65 GHz, 1.85 mm. Kit includes a high performance power divider and 1.85 mm male-male adapter.
DPO7RFC1	Matched cable pair, 67 GHz, 1.85 mm, male-male, 24 inch, characterized to 70 GHz with provided S-parameters.
DPO7RFC2	Phase-stable coaxial cable, 67 GHz, 1.85 mm, male-male, 24 inch. Kit includes S-parameter data to 70 GHz.
DPO7RFC3	Phase-stable coaxial cable, 67 GHz, 1.85 mm, male-male, 36 inch. Kit includes S-parameter data to 70 GHz.

### Standard accessories

Kit	Quantity	Part number	Description
DPO7RFK1			RF Attenuator kit
	1	050-3847-00	60 GHz, 3 dB V Fixed Atten W/Data
	1	050-3848-00	60 GHz, 6 dB Fixed Atten W/Data
	1	050-3849-00	60 GHz, 10 dB V Fixed Atten W/Data
	1	050-3850-00	60 GHz, 20 dB V Fixed Atten W/Data
	3	016-1948-00	Marking band sets
	20	006-8323-00	Cleaning swabs
	1	-- --	Documentation memory stick

Kit	Quantity	Part number	Description
DPO7RFK2			RF Signal Path kit
	1	050-3847-00	60 GHz, 3 dB V Fixed Atten W/Data
	1	050-3848-00	60 GHz, 6 dB Fixed Atten W/Data
	1	050-3849-00	60 GHz, 10 dB V Fixed Atten W/Data
	1	050-3850-00	60 GHz, 20 dB V Fixed Atten W/Data
	1	050-3852-00	65 GHz 1.85 mm male - 1.85 mm male adapter
	1	050-3853-00	40 GHz 1.85 mm male - 2.92 mm female adapter
	1	050-3854-00	40 GHz 1.85 mm female - 2.92 mm male adapter
	1	050-3855-00	40 GHz 1.85 mm female - 2.92 mm female adapter
	1	050-3851-00	DC Block V(m-f) W/Data
	6	016-1948-00	Marking band sets
	20	006-8323-00	Cleaning swabs
	1	-- --	Documentation memory stick

Kit	Quantity	Part number	Description
DPO7RFK3			RF Channel Timing and De-skew kit
	1	020-3175-00	Power Divider V (f)
	1	050-3852-00	65 GHz 1.85 mm male - 1.85 mm male adapter
	3	016-1948-00	Marking band sets
	20	006-8323-00	Cleaning swabs
	1	-- --	Documentation memory stick

**DPO7RFC1, DPO7RFC2, and DPO7RFC3**

Kit	Quantity	Description
DPO7RFC1	1	Phase-matched cable pair, 67 GHz, 1.85 mm, male-male, 24 inch
DPO7RFC2	1	Phase-stable coaxial cable, 67 GHz, 1.85 mm, male-male, 24 inch
DPO7RFC3	1	Phase-stable coaxial cable, 67 GHz, 1.85 mm, male-male, 36 inch

**Certifications**



Tektronix is registered to ISO 9001 and ISO 14001 by SRI Quality System Registrar.