



J7211A/B/C attenuation control units

The J7211A/B/C attenuation control units are standalone portable instruments that offer a user-defined attenuation sweep function. This feature allows setting of desired attenuation range, step size, number of cycles, and attenuation configuration based on user application's requirements.

J7211A/B/C are designed in a way which make them suitable for benchtop and ATE testing for applications such as base station transceivers (BTS) test, WLAN, WIMAX™, MIMO and WCDMA. Exceptional insertion loss repeatability and excellent attenuation accuracy and flatness over 5 million cycles operating life ensure precise measurements and reduce calibration intervals reducing cost of test.

The features and functions of attenuation control units are easily accessible via front panel using soft keys and the rotary knob. J7211A/B/C are LXI Class C compliant instruments which provides GPIB, USB and LAN connectivity for easy remote control and triggering through a full-featured graphical web interface. These attenuation control units also allow relative attenuation to any values by selecting relative attenuation step function. Calibration data is stored in the instrument's memory for fast, simple and easy retrieval.

Key features of J7211A/B/C

Attenuation sweep function

Excellent insertion loss repeatability < 0.1dB typical throughout 5 million cycles operating life

GPIB, USB, LAN (LXI Class C)

Relative attenuation step function

Keypads and rotary knob

Calibration data storage

Specifications

Model	J7211A	J7211B	J7211C
Frequency range	DC to 6 GHz	DC to 18 GHz	DC to 26.5 GHz
Attenuation range	0 to 121 dB	0 to 121 dB	0 to 101 dB
Attenuation step size	1, 5 and 10 dB	1, 5 and 10 dB	1, 5 and 10 dB
Insertion loss (at 0 dB)	2.5 dB	DC to 6 GHz: 2.5 dB 6 to 18 GHz: 5.0 dB	DC to 6 GHz: 2.5 dB 6 to 18 GHz: 4.0 dB 18 to 26.5 GHz: 5.0 dB
Return loss (VSWR)	14 dB (1.50)	DC to 6 GHz: 14 dB (1.50) 6 to 18 GHz: 10 dB (1.90)	DC to 6 GHz: 16 dB (1.35) 6 to 18 GHz: 11 dB (1.78) 18 to 26.5 GHz: 7 dB (2.61)
RF repeatability per section	0.03 dB	0.03 dB	0.05 dB
Maximum power input	1 W (+30 dBm)	1 W (+30 dBm)	1 W (+30 dBm)
Switching speed	20 ms	20 ms	20 ms
Operating life	5 million cycles (guaranteed)	5 million cycles (guaranteed)	5 million cycles (guaranteed)
Connectivity	GPIB, USB, LAN (LXI Class C)	GPIB, USB, LAN (LXI Class C)	GPIB, USB, LAN (LXI Class C)
Connector type	SMA/type-N	SMA/type-N	3.5 mm

J7211A/B/C Supplemental Specifications and Characteristics

Supplemental characteristics are intended to provide useful information. They are typical but non-warranted performance parameters.

J7211A/B/C attenuation control units	
Power	100 to 240 VAC, automatic selection, 50/60 Hz
	50 VA maximum
	Main supply voltage fluctuations do not exceed 10 percent of the nominal supply voltage

Connector type	Pin depth specifications		Specifications
	(mm)	(inches)	
Type-N 50 Ω female	4.750 to 5.258	0.187 to 0.207	MIL-C-39012
SMA female	0.000 to – 0.254	0.000 to – 0.010	MIL-C-39012
3.5 mm female	0.000 to – 0.076	0.000 to – 0.003	IEEE STD 287 GPC

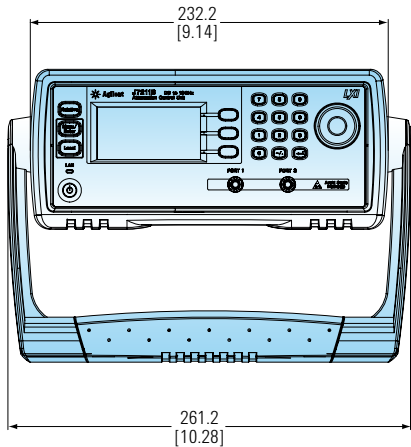
Attenuation Accuracy

(\pm dB; referenced from 0 dB setting)

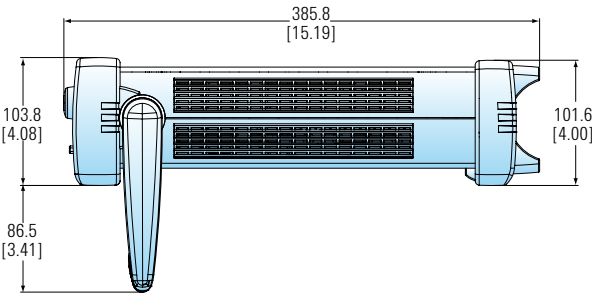
J7211A/B		
Attenuation setting for step ranges (dB)	DC to 6 GHz	6 to 18 GHz
1 to 2	0.3	0.7
3 to 4	0.4	0.7
5 to 6	0.5	0.8
7 to 10	0.6	0.8
11 to 20	0.7	1.4
21 to 40	1.2	2
41 to 60	1.8	2.8
61 to 80	2.4	3.6
81 to 100	3	4.4
101 to 121	3.3	5.3

J7211C		
Attenuation setting for step ranges (dB)	DC to 6 GHz	6 to 18 GHz
1 to 2	0.35	0.4
3 to 6	0.55	0.7
7 to 10	0.7	0.8
11 to 20	1.2	1.4
21 to 40	1.4	1.6
41 to 60	1.9	2.5
61 to 80	2.5	2.7
81 to 101	3.7	4.0

J7211A/B/C Attenuation Control Units



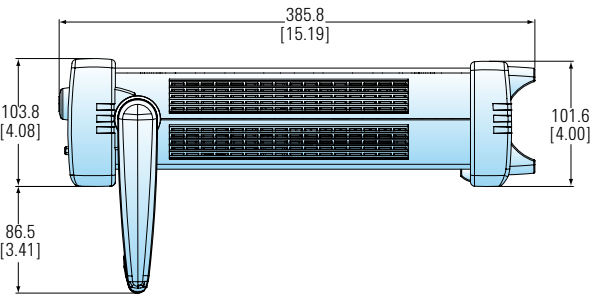
J7211A/B (SMA (f) Connectors) and J7211C (3.5 mm (f) Connector)



Product dimensions for J7211A/B (SMA connectors)

J7211A/B product dimensions (SMA (f) connectors ¹)	
Net weight	3.8 kg (8.4 lbs)
Dimension (H x W x D) with handle and rubber bumper	103.8 mm x 232.2 mm x 385.7 mm (4.1 inches x 9.1 inches x 15.2 inches)
Dimension (H x W x D) without handle and rubber bumper	88.3 mm x 212.7 mm x 362.0 mm (3.5 inches x 8.4 inches x 14.2 inches)

¹ Only available for J7211A/B

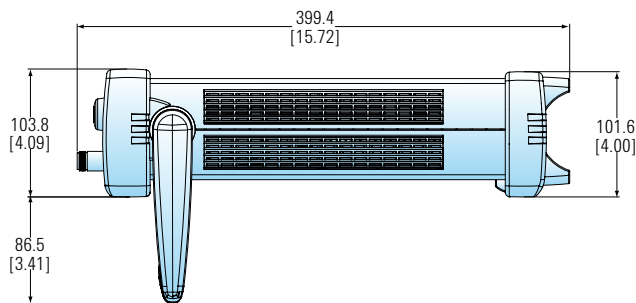


Product dimension for J7211C (3.5 mm connector)

J7211C product dimensions (3.5 mm (f) connector ²)	
Net weight	3.8 kg (8.4 lbs)
Dimension (H x W x D) with handle and rubber bumper	103.8 mm x 232.2 mm x 385.7 mm (4.1 inches x 9.1 inches x 15.2 inches)
Dimension (H x W x D) without handle and rubber bumper	88.3 mm x 212.7 mm x 362.0 mm (3.5 inches x 8.4 inches x 14.2 inches)

² Only available for J7211C

J7211A/B (Type-N (f) Connectors)



Product dimensions for J7211A/B (Type-N connectors)

J7211A/B product dimensions (type-N (f) connectors ¹)	
Net weight	3.8 kg (8.4 lbs)
Dimension (H x W x D) with handle and rubber bumper	103.8 mm x 232.2 mm x 398.4 mm (4.1 inches x 9.1 inches x 15.7 inches)
Dimension (H x W x D) without handle and rubber bumper	88.3 mm x 212.7 mm x 374.7 mm (3.5 inches x 8.4 inches x 14.6 inches)

¹ Only available for J7211A/B

Ordering Information

- J7211A attenuation control unit, DC to 6 GHz, 0 to 121 dB
 - J7211A-001 type-N (f) connector
 - J7211A-002 SMA (f) connector
 - J7211A-UK6 commercial calibration certificate with test data
- J7211B attenuation control unit, DC to 6 GHz, 0 to 121 dB
 - J7211B-001 type-N (f) connector
 - J7211B-002 SMA (f) connector
 - J7211B-UK6 commercial calibration certificate with test data
- J7211C¹ attenuation control unit, DC to 26.5 GHz, 0 to 101 dB
 - J7211C-UK6 commercial calibration certificate with test data

¹ 3.5 mm (f) connectors only

Related Literature

- J7211A/B/C attenuation control units technical overview, part number 5989-8323EN
- J7211A/B/C attenuation control unit operating and service manual, part number J7211-90001

Web Link

www.agilent.com/find/mta