CellAdvisor™

JD785A Base Station Analyzer

Spectrum Analyzer (standard)

Frequency		
Frequency range	9 kHz to 8 GHz	
Internal 10 MHz Frequency Reference		
Accuracy	±0.05 ppm + aging (0 to 50°C)	
Aging	±0.5 ppm/year	
Frequency Span		
Range	0 Hz (zero span) 10 Hz to 8 GHz	
Resolution	1 Hz	
Resolution Bandwidth (RBW)		
–3 dB bandwidth	1 Hz to 3 MHz	1-3-10 sequence
Accuracy	±10% (nominal)	
Video Bandwidth (VBW)		
–3 dB bandwidth	1 Hz to 3 MHz	1-3-10 sequence
Accuracy	±10% (nominal)	
Single Sideband (SSB) Phase Noise		
Fc 1 GHz, RBW 10 kHz, VBW 1 kHz, RMS detector		
Carrier Offset 30 kHz 100 kHz 1 MHz	 –100 dBc/Hz (–102 dBc/Hz, typical) –105 dBc/Hz (–112 dBc/Hz, typical) –115 dBc/Hz (–120 dBc/Hz, typical)	
Measurement Range		
	DANL to +25 dBm	
Input attenuator range	0 to 55 dB, 5 dB steps	
Maximum Input Level		
Average continuous power	+25 dBm	
DC voltage	±50 V DC	

*All specifications are subject to change without notice.

Spectrum Analyzer: 9 kHz to 8 GHz

Cable and Antenna Analyzer: 5 MHz to 6 GHz

Power Meter: 10 MHz to 8 GHz

Specification* Conditions

The JD785A specifications apply under these conditions:

- The instrument has been turned on for at least 15 minutes
- The instrument is operating within a valid calibration period
- Data with no tolerance are considered typical values
- Cable and antenna measurements apply after calibration to the OSL standard
- Typical and nominal values are defined as:
  - Typical: expected performance of the instrument operating at 20 to 30°C after being at this temperature for 15 minutes
  - Nominal: a general, descriptive term or parameter

Displayed Average Noise Level (DANL)		
1 Hz RBW, 1 Hz VBW, 50 Ω termination, 0 dB attenuation, RMS detector		
Preamplifier Off		
10 MHz to 3 GHz	–140 dBm (–145 dBm, typical)	
>3 GHz to 5 GHz	–138 dBm (–142 dBm, typical)	
>5 GHz to 7 GHz	–135 dBm (–138 dBm, typical)	
>7 GHz to 8 GHz	–132 dBm (–135 dBm, typical)	
Preamplifier On		
10 MHz to 3 GHz	–160 dBm (–165 dBm, typical)	
>3 GHz to 5 GHz	–158 dBm (–162 dBm, typical)	
>5 GHz to 7 GHz	–155 dBm (–158 dBm, typical)	
>7 GHz to 8 GHz	–152 dBm (–155 dBm, typical)	
Display Range		
Log scale and units (10 divisions displayed)	1 to 20 dB/division in 1 dB steps dBm, dBV, dBmV, dBµV	
Linear scale and units (10 divisions displayed)	V, mV, mW, W	
Detectors	Normal, positive peak, sample, negative peak, RMS	
Number of traces	6	
Trace functions	Clear/write, maximum hold, minimum hold, capture, load view on/off	
Total Absolute Amplitude Accuracy		
Preamplifier off, power level >–50 dBm, auto-coupled		
1 MHz to 8 GHz	±1.3 dB (±0.5 dB typical)	20 to 30°C
	Add ±1.0 dB	–10 to 55°C after 60-minute warm up
Reference Level		
Setting range	–120 to +100 dBm	
Setting Resolution		
Log scale	0.1 dB	
Linear scale	1% of reference level	
Markers		
Marker types	Normal, delta, delta pair, noise, frequency count marker	
Number of markers	6	
Marker functions	Peak, next peak, peak left, peak right, minimum search marker to center/start/stop	
RF Input VSWR		
1 MHz to 8 GHz	1.5:1 (typical)	Atten >20 dB
Second Harmonic Distortion		
Mixer level	–25 dBm	
50 MHz to 2.6 GHz	<–65 dBc (typical)	
>2.6 GHz to 8 GHz	<–70 dBc (typical)	
Third-Order Inter-Modulation (Third-Order Intercept: TOI)		
200 MHz to 3 GHz	+10 dBm (typical)	
>3 GHz to 8 GHz	+12 dBm (typical)	

Spurious		
Inherent residual response		
Input terminated, 0 dB attenuation, preamplifier off, RBW at 10 kHz, Sweep mode	–90 dBm (nominal)	
Exceptions	–85 dBm at 164.1 MHz, 2.57264, 3.2, and 4.5 GHz –80 dBm at 4.8/7.8 GHz –75 dBm at 85.6 MHz and 428 MHz –70 dBm at 256.8 MHz	
Input-related spurious	<–70 dBc (nominal)	
Dynamic Range		
2/3 (TOI-DANL) in 1 Hz RBW	>104 dB	at 2 GHz
Sweep Time		
Range	0.4 ms to 200 s 24 µs to 200 s	 Span = 0 Hz (zero span)
Accuracy	±2%	Span = 0 Hz (zero span)
Mode	Continuous, single	
Gated Sweep		
Trigger source	External, video, and GPS	
Gate length	1 µs to 100 ms	
Gate delay	0 to 100 ms	
Trigger		
Trigger source	Free run, video, external	
Trigger Delay		
Range	0 to 200 s	
Resolution	6 µs	
Measurements*		
Channel power		
Occupied bandwidth		
Spectrum emission mask		
Adjacent channel power		
Spurious emissions		
Field strength		
AM/FM audio demodulation		
Route map		
PIM detection		
Dual spectrum		

* CW signal generator (Option 003) can be set up simultaneously.

Cable and Antenna Analyzer (standard)

Frequency	
Range	5 MHz to 6 GHz
Resolution	10 kHz
Accuracy	±1 ppm
Data Points	
126, 251, 501, 1001, 2001	
Measurement Speed	
Reflection/DTF	1.0 ms/point (typical)
Measurement Accuracy	
Corrected directivity	40 dB
Reflection uncertainty	±(0.3 + |20log (1+10-EP/20)|) (typical) EP = directivity – measured return loss
Output Power	
High	5 MHz to 5.5 GHz, 0 dBm (typical) 5.5 GHz to 6 GHz, –5 dBm (typical)
Low	5 MHz to 6 GHz, –30 dBm (typical)
Dynamic Range	
Reflection	60 dB
Maximum Input Level	
Average continuous power	+25 dBm (nominal)
DC voltage	±50 V DC
Interference Immunity	
On channel	+17 dBm at >1.4 MHz from carrier frequency (nominal)
On frequency	0 dBm within ±10 kHz from the carrier frequency (nominal)
Measurements	
Reflection (VSWR)	
VSWR range	1 to 65
Return loss range	0 to 60 dB
Resolution	0.01
Distance to Fault (DTF)	
Vertical VSWR range	1 to 65
Vertical return loss range	1 to 60 dB
Vertical resolution	0.01
Horizontal range	0 to (# of data points – 1) x horizontal resolution Maximum = 1500 m (4921 ft)
Horizontal resolution	$(1.5 \times 10^8) \times (V_p)$/delta V_p = propagation velocity Delta = stop freq – start freq (Hz)
Cable Loss (1-port)	
Range	0 to 30 dB
Resolution	0.01 dB
1-Port Phase	
Range	–180 to +180°
Resolution	0.01°
Smith Chart	
Resolution	0.01

RF Power Meter (standard)

General Parameters			
Display range	100 to +100 dBm		
Offset range	0 to 60 dB		
Resolution	0.01 dB or 0.1 x W (x = m, u, p)		
Internal RF Power Sensor			
Frequency range	10 MHz to 8 GHz		
Span	1 kHz to 100 MHz		
Dynamic range	–120 to +25 dBm		
Maximum power	+25 dBm		
Accuracy	Same as spectrum analyzer		
External RF Power Sensors			
Directional	***JD731B***	***JD733A***	
Frequency range	300 MHz to 3.8 GHz	150 MHz to 3.5 GHz	
Dynamic range	0.15 to 150 W (average) 4 to 400 W (peak)	0.1 to 50 W (average) 0.1 to 50 W (peak)	
Connector type	Type-N female on both ends		
Measurement type	Forward/reverse average power, forward peak power, VSWR		
Accuracy	±(4% of reading + 0.05 W)[1,2]		
Terminating	***JD732B***	***JD734B***	***JD736B***
Frequency range	20 MHz to 3.8 GHz		
Dynamic range	–30 to +20 dBm		
Connector type	Type-N male		
Measurement type	Average	Peak	Average and peak
Accuracy	±7%[1]		

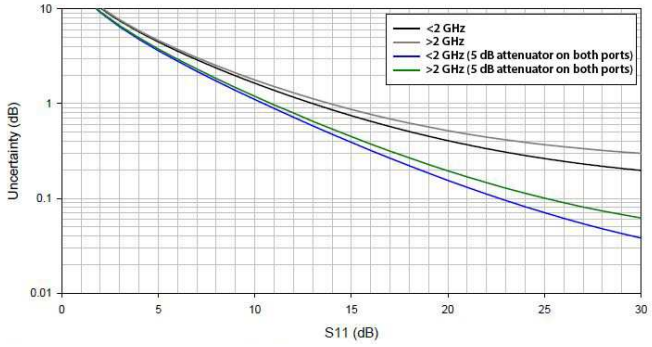
Optical Power Meter (standard)

Optical Power Meter		
Display range	–100 to +100 dBm	
Offset range	0 to 60 dB	
Resolution	0.01 dB or 0.1 mW	
External Optical Power Sensors		
	MP-60A	***MP-80A***
Wavelength range	780 to 1650 nm	
Max permitted input level	+10 dBm	+23 dBm
Connector type	Type-N female on both ends	
Connector input	Universal 2.5 and 1.25 mm	
Accuracy	±5%	

1. CW condition at 25°C ±10°C
2. Forward power

2-Port Transmission Measurements (Option 001)

Frequency		
Frequency range	5 MHz to 6 GHz	
Frequency resolution	10 kHz	
Transmission uncertainty		



Use 5 dB attenuators on both ports to lessen uncertainty.

Output Power		
High	5 MHz to 5.5 GHz, 0 dBm (typical) 5.5 GHz to 6 GHz, –5 dBm (typical)	
Low	5 MHz to 6 GHz, –30 dBm (typical)	
Measurement Speed		
Vector	1.6 ms/point (typical)	
Scalar	3.4 ms/point (typical)	
Dynamic Range		
Vector	5 MHz to 3 GHz, 80 dB >3 GHz to 6 GHz, 75 dB	at average 5 at average 5
Scalar	5 MHz to 4.5 GHz, >110 dB 4.5 GHz to 6 GHz, >105 dB	
Measurements		
Insertion Loss/Gain Range Resolution	 –120 to 100 dB 0.01 dB	
2-Port Phase Range Resolution	 –180 to +180° 0.01°	

Bias-Tee (Option 002)

Voltage	
Voltage range	+12 to +32 V
Voltage resolution	0.1 V
Power	
8 W Max	

CW Signal Generator (Option 003)

Frequency	
Frequency range	5 MHz to 6 GHz
Frequency reference	<±1 ppm maximum
Frequency resolution	10 kHz
Output Power	
Range	5 MHz to 5.5 GHz, –60 to 0 dBm >5.5 to 6 GHz, –60 to –5 dBm
Step	1 dB
Accuracy	±1.5 dB (20 to 30°C)

GPS Receiver and Antenna (Option 010)

GPS Indicator		
	Latitude, longitude, altitude	
High-Frequency Accuracy		
Spectrum, interference, and signal analyzer		
GPS lock	±25 ppb	
Hold over (for 3 days)	±50 ppb (0 to 50°C)	15 minutes after satellite locked
Connector	SMA, female	

Interference Analyzer (Option 011)

Measurements	
Spectrum analyzer	Sound indicator, AM/FM audio demodulation, interference ID, spectrum recorder
Spectrogram	Collect up to 72 hours of data
RSSI	Collect up to 72 hours of data
Interference finder	
Spectrum replayer	
Dual spectrogram	

Channel Scanner (Option 012)

Frequency Range	
	1 MHz to 8 GHz
Measurement Range	
	110 to +25 dBm
Measurements	
Channel scanner	1 to 20 channels
Frequency scanner	1 to 20 frequencies
Custom scanner	1 to 20 channels or frequencies

GSM/GPRS/EDGE Signal Analyzer (Options 022 and 042)

General Parameters		
Frequency range	450 MHz to 500 MHz 820 MHz to 965 MHz 1.705 GHz to 1.995 GHz	
Input signal range	–40 to +25 dBm	
Burst power	±1.0 dB	
Frequency error	±10 Hz + ref freq accuracy	99% confidence level
GMSK modulation quality		
Phase RMS Accuracy Residual error Phase peak accuracy 8 PSK modulation quality	 ±1.0 degrees 0.7 degrees (typical) ±2.0 degrees	 (0 < Phase RMS < 8) (0 < Phase peak < 30)
EVM Accuracy Residual error RF power vs. time	±1.5% 2.5% ±0.25 symbol	(2% < EVM < 8%)
Connector	SMA, female	

Measurements

Option 022

Channel Power	***Spectrum Emission Mask***	***Power vs. Time (slot)***	Frequency error	***Auto Measure***	Phase error RMS
Channel power	Reference power	Burst power	Phase error RMS	Channel power	Phase error peak
Spectral density	Peak level at defined range	Max/min point	Phase error peak	Occupied bandwidth	EVM RMS*
Peak to average power		***Power vs. Time (frame)***	I/Q origin offset*	Spectrum emission mask	EVM Peak*
Occupied Bandwidth	***Spurious Emissions***	Frame average power	TSC	Spurious emission mask	I/Q origin offset
Occupied bandwidth	Peak frequency at defined range	Burst power (Slot 0 to 7)	BSIC	Burst power	C/I*
Integrated power		TSC (Slot 0 to 7)	C/I*	PvsT – Mask	
Occupied power	Peak level at defined range	***Constellation***	EVM RMS*	Frame average power	
		Burst power	EVM Peak*	Frequency error	
		Modulation type	EVM 95th*		

Option 042

Channel/Frequency Scanner	Group (traffic, control)	***Multipath Profile***	***Modulation Analyzer***	Frame average power	Burst power
	BSIC (NCC, BCC)	(10 strongest)	Frame avg power trend	BSIC, frame no. and time	Modulation type
Channels or frequencies		Frame average power	C/I trend	C/I, frequency error	
Absolute power		SNR, delay			

Longitude, latitude, and satellite in all screens

* Measurements performed for 8PSK modulation signals (edge) only.

WCDMA/HSPA+ Signal Analyzer (Options 023 and 043)

General Parameters		
Frequency range	Band 1 to 14, 19 to 22, 25, 26	
Input signal range	–40 to +25 dBm	
RF channel power accuracy	±1.0 dB, ±0.7 dB (typical)	
Occupied bandwidth accuracy	±100 kHz	
Adjacent channel leakage ratio (ACLR)	<–56 dB, ±0.7 dB at 5 MHz offset, <–58 dB, ±0.8 dB at 10 MHz offset	
WCDMA modulation	QPSK	
HSPA+ modulations	QPSK, 16 QAM, 64 QAM	
Frequency error	±10 Hz + ref freq accuracy	99% confidence level
EVM accuracy	±2.0%	2% ≤ EVM ≤ 20%
Residual EVM	2.5% (typical)	
Code domain power	±0.5 dB relative power ±1.5 dB absolute power	Code channel power >–25 dB Code channel power >–25 dB
CPICH power accuracy	±0.8 dB (typical)	

Measurements

Option 023

Channel Power	***ACLR***	***Constellation***	Max, avg active power	***Codogram***	***Auto Measure***
Channel power	Reference power	CPICH power	Max, avg inactive power	Code utilization	Channel power
Spectral density	Abs power at defined range	Rho, EVM	Scramble code	***RCSI***	Occupied bandwidth
Peak to average power		Peak CDE	***Relative Code Domain Error***	CPICH, P-CCPCH, S-CCPCH, PICH, P-SCH, S-SCH	Spectrum emission mask
Occupied Bandwidth	Rel power at defined range	Frequency error			ACLR
Occupied bandwidth		Time offset	Abs/Rel code power	***CDP Table***	Multi-ACLR
Integrated power	***Multi-ACLR***	Carrier feed-through	Code error	Reference power	Spurious emission mask
Occupied power	Lowest reference power	Scramble code	Individual code EVM, RCDE, and its constellation	Code utilization	Frequency error
Spectrum Emission Mask	Highest reference power	***Code Domain Power***		Code, spreading factor	EVM
Reference power	Abs power at defined range	Abs/Rel code power		Allocation (channel type)	Peak CDE
Peak level at defined range		Individual code EVM and its constellation	Channel power	EVM, modulation type	Carrier feed-through
	Rel power at defined range		Power bar graph (Abs/Rel/Delta power) CPICH, P-CCPCH, S-CCPCH, PICH, P-SCH, S-SCH	Relative, absolute power	CPICH absolute power
		Channel power			CPICH relative power
	Spurious Emissions	Power bar graph (Abs/Rel/Delta power) CPICH, P-CCPCH, S-CCPCH PICH, P-SCH, S-SCH			Max inactive power
	Peak frequency at defined range				Scramble code
			Avg RCDE QPSK, 16 QAM, 64 QAM		***Power Statistics CCDF***
	Peak level at defined range				

Option 043

Channel Scanner (up to 6)	***Scramble Scanner (up to 6)***	***Multipath Profile***	***Code Domain Power***	Max, avg active power	Amplifier capacity
		Channel, multipath power	Abs/Rel code power	Max, avg inactive power	Peak amplifier capacity
Frequencies or channels	Channel power	Ec/Io, delay	Individual code EVM	Frequency error	Average amplifier capacity
Channel power, scramble code, CPICH power, Ec/Io	CPICH dominance		Channel power	Time offset, Rho	
	Scramble code		Scramble code	Carrier feed-through	Code, peak utilization
	Ec/Io, CPICH power, delay		CPICH, P-CCPCH, S-CCPCH, PICH, P-SCH, S-SCH	(Composite) EVM	Average utilization
				CPICH EVM, P-CCPCH EVM	***Route Map***
					CPICH power, Ec/Io

Longitude, latitude, and satellite in all screens

cdmaOne/cdma2000® Signal Analyzer (Options 020 and 040)

General Parameters		
Frequency range	Band 0 to 10	
Input signal level	–40 to +25 dBm	
RF channel power accuracy	±1.0 dB (typical)	
CDMA compatibility	cdmaOne and cdma2000	
Frequency error	±10 Hz + ref freq accuracy	99% confidence level
Rho accuracy	±0.005	0.9 < Rho < 1.0
Residual Rho	>0.995 (typical)	
PN offset	1 x 64 chips	
Code domain power	±0.5 dB relative power ±1.5 dB absolute power	Code channel power >–25 dB Code channel power >–25 dB
Pilot power accuracy	±1.0 dB (typical)	
Time offset	±1.0 µs, ±0.5 µs (typical)	External trigger

Measurements

Option 020

Channel Power	***ACPR***	***Spurious Emissions***	***Code Domain Power***	***RCSI***	***Auto Measure***
Channel power	Reference power	Peak freq at defined range	Abs/Rel code power	Pilot, Paging, Sync, Q-Paging	Channel power
Spectral density	Abs power at defined range	Peak level at defined range	Channel power		Occupied bandwidth
Peak to average power		***Constellation***	Power bar graph (Abs/Rel)	***CDP Table***	Spectrum emission mask
Occupied Bandwidth	Rel power at defined range	Pilot power	Pilot, Paging, Sync, Q-Paging	Reference power	ACPR
Occupied bandwidth		Rho		Code utilization	Multi-ACPR
Integrated power	***Multi-ACPR***	EVM	Max, avg active power	Code, spreading factor	Rho
Occupied power	Lowest reference power	Frequency error	Max, avg inactive power	Allocation (channel type)	Frequency error
Spectrum Emission Mask	Highest reference power	Time offset	PN offset	Relative, absolute power	Time offset
Reference power	Abs power at defined range	Carrier feed-through	***Codogram***		Carrier feed-through
Peak level at defined range		PN offset	Code utilization		Pilot power
	Rel power at defined range				Max inactive power
					PN offset
					Power Statistics CCDF

Option 040

Channel Scanner (up to 6)	***PN Scanner (up to 6)***	***Multipath Profile***	***Code Domain Power***	Frequency error	Code utilization
	Channel power	Channel power	Abs/Rel code power	Time offset, Rho, EVM	Peak utilization
Frequencies or channels	Pilot dominance	Multipath power	Channel power	Carrier feed-through	Average utilization
Channel power, PN offset	PN offset	Ec/Io, delay	PN offset	Amplifier capacity	***Route Map***
Pilot power, Ec/Io	Ec/Io, pilot power, delay		Pilot, Paging, Sync, Q-Paging power	Peak amplifier capacity	Pilot power
				Average amplifier capacity	Ec/Io
			Max, avg active power		
			Max, avg inactive power		

Longitude, latitude, and satellite in all screens

EV-DO Signal Analyzer (Options 021 and 041)

General Parameters		
Frequency range	Band 0 to 10	
Input signal level	–40 to +25 dBm	
RF channel power accuracy	±1.0 dB (typical)	
EV-DO compatibility	Rev 0, Rev A and Rev B	
Frequency error	±10 Hz + ref freq accuracy	99% confidence level
Rho accuracy	±0.005	0.9 < Rho < 1.0
Residual Rho	>0.995 (typical)	
PN offset	1 x 64 chips	
Code domain power	±0.5 dB relative power ±1.5 dB absolute power	Code channel power >–25 dB Code channel power >–25 dB
Pilot power accuracy	±1.0 dB (typical)	
Time offset	±1.0 µs, ±0.5 µs (typical)	External trigger

Measurements

Option 021

Channel Power	***ACPR***	***Power vs. Time (idle and active slot)***	***Constellation (pilot, MAC 64/128, and data)***	***Code Domain Power (data)***	***Auto Measure***
Channel power	Reference power				Channel power
Spectral density	Abs power at defined range	Slot average power	Channel power	Data channel power	Occupied bandwidth
Peak to average power		On/off ratio	Rho, EVM, peak CDE	Slot average power	Spectrum emission mask
Occupied Bandwidth	Rel power at defined range	Idle activity	Frequency error	Max, avg active power	ACPR
Occupied bandwidth		Pilot, MAC, data power	Time offset	Max, avg inactive power	Multi-ACPR
Integrated power	***Multi-ACPR***	***Constellation (composite 64/128)***	Carrier feed-through	PN offset	Pilot, MAC, data power
Occupied power	Lowest reference power		PN offset	***MAC Codogram***	On/off ratio
Spectrum Emission Mask	Highest reference power	Channel power	Modulation type*	Code utilization	PvsT mask (idle slot) or PvsT mask (active slot)
	Abs power at defined range	Rho, EVM, Peak CDE	***Code Domain Power (pilot and MAC 64/128)***	***RCSI***	
Reference power		Frequency error		Slot, pilot, MAC, data	Frequency error
Peak level at defined range	Rel power at defined range	Time offset	Pilot/MAC channel power	***MAC CDP Table***	Time offset
		Carrier feed-through	Slot average power	Reference power	Carrier feed-through
	Spurious Emissions	PN offset	Max active I/Q power	Code utilization	Pilot, MAC, data Rho
	Peak frequency at defined range	Pilot, MAC, data power	Avg active I/Q power	Code, spreading factor	Max inactive I/Q power
		Pilot, MAC, data EVM	Max inactive I/Q power	Allocation (channel type)	PN offset
	Peak level at defined range		Avg inactive I/Q power	Relative, absolute power	***Power Statistics CCDF***
			PN offset		

Option 041

Channel Scanner (up to 6)	***PN Scanner (up to 6)***	***Multipath Profile***	***Code Domain Power***	Frequency error	Peak utilization
	Channel power	Channel power	Slot average power	Time offset	Average utilization
Frequencies or channels	Pilot dominance	Multipath power	PN offset	Carrier feed-through	***Route Map***
PN offset	PN offset	Ec/Io, delay	Pilot, MAC, data power	Max active I/Q power	Pilot power
Pilot, MAC, data power	Ec/Io, pilot power, delay		Pilot, MAC, data Rho	Avg active I/Q power	Ec/Io
			(Composite) EVM	Code utilization	

Longitude, latitude, and satellite in all screens

*Measurement is performed in Data Constellation only.

TD-SCDMA Signal Analyzer (Options 025 and 045)

General Parameters		
Frequency range	1.785 GHz to 2.22 GHz	
Input signal level	–40 to +25 dBm	
Channel power (RRC) accuracy	±1.0 dB (typical)	
Modulations	QPSK, 8 PSK, 16 QAM, 64 QAM	
Frequency error	±10 Hz + ref freq accuracy	99% confidence level
Residual EVM (RMS)	2.0% (typical)	P-CCPCH slot and 1 channel
Code domain power	±0.5 dB relative power ±1.5 dB absolute power	Code channel power >–25 dB Code channel power >–25 dB
Time error (Tau)	±0.2 µs (typical)	External trigger
Spreading factor	Auto (DL, UL), 1, 2, 4, 8, 16	

Measurements

Option 025

Channel Power	***Multi-ACLR***	***Power vs. Time (frame)***	***Midamble Power***	***Code Error***	***Auto Measure***
Channel power	Lowest reference power	Slot power	Slot power	Code power and error	Channel power
Spectral density	Highest reference power	(TS [0 to 6], DwPTS, UpPTS)	DwPTS power	Individual code EVM and its constellation	Occupied bandwidth
Peak to average power	Abs power at defined range	Data power left	Midamble power (1 to 16)		Spectrum emission mask
Occupied Bandwidth		(TS [0 to 6], DwPTS, UpPTS)	***Code Power***	Data format	ACLR
Occupied bandwidth	Rel power at defined range	***Midamble Power***	Abs/Rel code power	Slot, DwPTS power	Multi-ACLR
Integrated power		(TS [0 to 6], DwPTS, UpPTS)	Individual code EVM and its constellation	No. of active code	Slot power
Occupied power	***Spurious Emissions***	Data power right		Scramble code	DwPTS power
Spectrum Emission Mask	Peak frequency at defined range	(TS [0 to 6], DwPTS, UpPTS)	Data format	Max active code power	UpPTS power
Reference power		Time offset	Slot power, DwPTS power	Avg active code power	On/off slot ratio
Peak level at defined range	Peak level at defined range	(TS [0 to 6], DwPTS, UpPTS)	No. of active code	Max inactive code power	Frequency error
ACLR		***Power vs. Time (mask)***	Scramble code	Avg inactive code power	EVM RMS
Reference power	***Power vs. Time (slot)***	Slot power	Max active code power	Peak CDE and peak active CDE	Peak CDE
Abs power at defined range	Slot power	On/off slot ratio	Avg active code power		Max inactive power
	DwPTS power	Off power	Max inactive code power		Scramble code
Rel power at defined range	UpPTS power	***Timogram***	Avg inactive code power		
	On/off slot ratio	***Constellation***			
	Slot PAR	Rho			
	DwPTS code	EVM RMS, EVM peak			
		Peak CDE			
		Frequency error			
		I/Q origin offset			
		Time offset			

Option 045

Sync-DL ID Scanner (32)	***Sync-DL ID vs. Tau (up to 6)***	***Sync-DL ID Multipath***	***Sync-DL ID Analyzer***	Pilot dominance	***Route Map***
Scramble code group		Ec/Io, Tau	DwPTS power, Ec/Io trend	EVM, frequency error	DwPTS Power
Ec/Io, Tau	ID, power, Ec/Io, Tau	DwPTS power	DwPTS power	Ec/Io, CINR	
DwPTS power	DwPTS power	Pilot dominance			
Pilot dominance	Pilot dominance				

Longitude, latitude, and satellite in all screensTD-SCDMA Signal Analyzer (Option 025)

Mobile WiMAX Signal Analyzer (Options 026 and 046)

General Parameters		
Frequency range	2.1 GHz to 2.7 GHz 3.4 GHz to 3.85 GHz	
Input signal level	–40 to +25 dBm	
Channel power accuracy	±1.0 dB (typical)	
Supported bandwidth	7 MHz, 8.75 MHz, and 10 MHz	
Frequency error	±10 Hz + ref freq accuracy	99% confidence level
Residual EVM (RMS)	1.5% (typical)	

Measurements

Option 026

Channel Power	***Spurious Emissions***	***Constellation***	***EVM vs. Subcarrier***	***Auto Measure***	Time offset
Channel power	Peak frequency at defined range	Channel power	RCE RMS, RCE peak	Channel power	I/Q origin offset
Spectral density		RCE RMS, RCE peak	EVM RMS, EVM peak	Occupied bandwidth	Spectral flatness
Peak to average power	Peak level at defined range	EVM RMS, EVM peak	Segment ID, cell ID	Spectrum emission mask	Frequency error
Occupied Bandwidth	***Power vs. Time (frame)***	Frequency error	Preamble index	Spurious emission mask	RCE RMS
Occupied bandwidth	Channel power	Time offset	***EVM vs. Symbol***	Preamble power	RCE peak
Integrated power	Frame average power	Segment ID, cell ID	RCE RMS, RCE peak	DL burst power	EVM RMS
Occupied power	Preamble power	Preamble index	EVM RMS, EVM peak	UL burst power	EVM peak
Spectrum Emission Mask	DL burst power	***Spectral Flatness***	Segment ID, cell ID	Frame average power	***Power Statistics CCDF***
Reference power	UL burst power	Average subcarrier power	Preamble index		
Peak level at defined range	I/Q origin offset	Subcarrier power variation			
	Time offset				
		Max, min, avg power			

Option 046

Preamble Scanner (up to 6)	***Multipath Profile***	***Preamble Power Trend***	Frame avg power	Preamble	***Route Map***
	Total preamble power	Relative power trend	Relative power	Cell ID, sector ID	Preamble power
Total preamble power	Multipath power	Preamble power	C/I	Time offset	
Preamble, relative power	Relative power, delay				
Cell ID, sector ID	Preamble power trend				
Time offset					

Longitude, latitude, and satellite in all screens

LTE/LTE-Advanced—FDD Signal Analyzer (Options 028/030 and 048)

General Parameters		
Frequency range	Band 1 to 14, 17 to 26	
Input signal level	–40 to +25 dBm	
Channel power accuracy	±1.0 dB (typical)	
Supported bandwidths	1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, and 20 MHz	
Frequency error	±10 Hz + ref freq accuracy	99% confidence level
Residual EVM (RMS)	2.0% (typical)	Data EVM

Measurements

Option 028/030

Channel Power	***Power vs. Time (frame)***	***Control Channel***	Data EVM RMS, peak	Antenna 1 RS power and EVM	PDSCH/Data* 64 QAM EVM
Channel power	Frame average power	Control channel summary (P-SS, S-SS, PBCH, PCFICH, PHICH, PDCCH, RS, MBSFN*)	RS EVM RMS, peak		
Spectral density	Subframe power		Cell, group, sector ID	Antenna 2 RS power and EVM**	Data EVM RMS, peak
Peak to average power	First slot power		***Frame***		RS, P-SS, S-SS EVM
Occupied Bandwidth	Second slot power		MBSFN*	Antenna 3 RS power and EVM**	RS, P-SS, S-SS power
Occupied bandwidth	Cell ID, I/Q origin offset	EVM, relative or absolute power, modulation type	Frame summary table (P-SS, S-SS, PBCH, PCFICH, PHICH, PDCCH, RS, MBSFN*, PDSCH/Data* QPSK, PDSCDH/Data* 16 QAM, PDSCH/Data* 64 QAM)		PBCH power
Integrated power	Time offset			***Data Allocation Map***	Subframe power
Occupied power	***Constellation***	Each control channels'		Data allocation vs frame	OFDM power
Spectrum Emission Mask	MBSFN*	I/Q diagram		Resource block power	Time error
	RS TX power	Modulation format		OFDM symbol power	I/Q origin offset
Reference power	PDSCH/Data* QPSK EVM	Frequency error		Data utilization	***Carrier Aggregation****
Peak level at defined range	PDSCH/Data* 16 QAM EVM	I/Q origin offset	EVM, relative or absolute power, modulation type	Data allocation vs subframe	Component carriers: up to 5
ACLR	PDSCH/Data* 64 QAM EVM	EVM RMS, EVM peak		Resource block power	
Reference power	Data EVM RMS	***Subframe***	Frame average power	Data utilization	Subframe power
Abs power at defined range	Data EVM peak	MBSFN*	OFDM symbol power	***Auto Measure***	P-SS, S-SS, PBCH, RS power and EVM
	Frequency error	Subframe summary table (P-SS, S-SS, PBCH, PCFICH, PHICH, PDCCH, RS, MBSFN*, PDSCH/Data* QPSK, PDSCH/Data* 16 QAM, PDSCH/Data* 64 QAM)	Frequency error	Channel power	
Rel power at defined range	Time error		I/Q origin offset	Occupied bandwidth	PDSCH/Data* QPSK power and EVM
Multi-ACLR	***Data Channel***		EVM RMS, peak	Spectrum emission mask	
Lowest reference power	MBSFN*		Data EVM RMS, peak	ACLR	PDSCH/Data* 16 QAM power and EVM
Highest reference power	Resource block power		Cell, group, sector ID	Multi-ACLR	
Abs power at defined range	I/Q diagram		***Time Alignment Error***	Spurious emission mask	PDSCH/Data* 64 QAM power and EVM
	RB power	EVM, relative or absolute power, modulation type	Time alignment error trend	Frame average power	
Rel power at defined range	Modulation format			Time alignment error	Cell ID
Spurious Emissions	I/Q origin offset	Subframe power	Time alignment error	Frequency error	Frequency error
Peak frequency at defined range	EVM RMS, EVM peak	OFDM symbol power	RS power difference	MBSFN*	Time alignment error
		Frequency, time error	Antenna 0 RS power and EVM	PDSCH/Data* QPSK EVM	Antenna port
Peak level at defined range				PDSCH/Data* 16 QAM EVM	***Power Statistics CCDF***

Option 048

Channel Scanner (up to 6)	***ID Scanner (up to 6)***	***Multipath Profile***	Control channel table	PMCH subframe power*	***Route Map***
Frequency or channels	RSRP/RSRQ dominance	Cell, group, sector ID	(P-SS, S-SS, PBCH, PCFICH, RS 0, RS 1, RS 2**, RS 3**, MBSFN RS*)	Time alignment error	RSRP
Cell, group, sector ID	S-SS RSSI dominance	Ant 0 RS Ec/Io, delay		Time offset	RSRQ
Channel power	S-SS Ec/Io dominance	Ant 1 RS Ec/Io, delay		***Datagram***	RS-SINR
RSRP/RSRQ	Cell, group, sector ID	Ant 2 RS Ec/Io**, delay**	Absolute power	Datagram	S-SS RSSI
RS-SINR	RSRP/RSRQ	Ant 3 RS Ec/Io**, delay**	Relative power	Resource block power	P-SS/S-SS Power
Antenna port	RS-SINR/S-SS RSSI	***Control Channel***	EVM RSM, phase	Data utilization	S-SS Ec/Io
	P-SS/S-SS Power	RS power trend	Frequency error		
	S-SS Ec/Io	Cell, group, sector ID			

Longitude, latitude, and satellite in all screens

*Measurement is performed when MBMS is enabled.

**Measurement is performed when option 030 is enabled.

LTE/LTE-Advanced— TDD Signal Analyzer (Option 029/031 and 049)

General Parameters		
Frequency range	Band 33 to 43	
Input signal level	–40 to +25 dBm	
Channel power accuracy	±1.0 dB (typical)	
Supported bandwidth	1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, and 20 MHz	
Frequency error	±10 Hz + ref freq accuracy	99% confidence level
Residual EVM (RMS)	2.0% (typical)	Data EVM

Measurements

Option 029/031

Channel Power	***Spurious Emissions***	Data EVM peak	***Subframe***	Antenna 3 RS power and EVM**	PDSCH/Data* 64 QAM EVM
Channel power	Peak frequency at defined range	Frequency error	MBSFN*		
Spectral density		Time error	Subframe summary table (P-SS, S-SS, PBCH, PCFICH, PHICH, PDCCH, RS, MBSFN*, PDSCH/Data* QPSK, PDSCH/Data* 16 QAM, PDSCH/Data* 64 QAM)	Cell, group, sector ID	Data EVM RMS, peak
Peak to average power	Peak level at defined range	***Data Channel***		***Data Allocation Map***	RS, P-SS, S-SS EVM
Occupied Bandwidth		MBSFN*		Data allocation vs frame	RS, P-SS, S-SS power
Occupied bandwidth	***Power vs. Time (frame)***	Resource block power		Resource block power	PBCH power
Integrated power	Frame average power	I/Q diagram		OFDM symbol power	Subframe power
Occupied power	Subframe power	RB power		Data utilization	OFDM power
Spectrum Emission Mask	First slot power	Modulation format	EVM, relative or absolute power, modulation type	Data allocation vs subframe	Time error
Reference power	Second slot power	I/Q origin offset			I/Q origin offset
Peak level at defined range	Cell ID, I/Q origin offset	EVM RMS, EVM peak	Subframe power	Resource block power	***Carrier Aggregation****
	Time offset	***Control Channel***	OFDM symbol power	Data utilization	Component carriers: up to 5
ACLR	***Power vs. Time (slot)***	Control channel summary (P-SS, S-SS, PBCH, PCFICH, PHICH, PDCCH, RS, MBSFN*)	Frequency, time error	***Auto Measure***	
Reference power	Slot average power		Data EVM RMS, peak	Channel power	Subframe power
Abs power at defined range	Transient period length		RS EVM RMS, peak	Occupied bandwidth	P-SS, S-SS, PBCH, RS power and EVM
	Off power		Cell, group, sector ID	Spectrum emission mask	
Rel power at defined range	***Constellation***	EVM, relative or absolute power, modulation type	***Time Alignment Error***	ACLR	PDSCH/Data* QPSK power and EVM
	MBSFN*		Time alignment error trend	Mult-ACLR	
Multi-ACLR	RS TX power	Each control channels'	Time alignment error	Spurious emission mask	PDSCH/Data* 16 QAM power and EVM
Lowest reference power	PDSCH/Data* QPSK EVM	I/Q diagram	RS power difference	Slot average power	
Highest reference power	PDSCH/Data* 16 QAM EVM	Modulation format	Antenna 0 RS power and EVM	Off power	PDSCH/Data* 64 QAM power and EVM
Abs power at defined range		Frequency error		Transition period	
	PDSCH/Data* 64 QAM EVM	I/Q origin offset	Antenna 1 RS power and EVM	Time alignment error	Cell ID
Rel power at defined range		EVM RMS, EVM peak		MBSFN*	Frequency error
	Data EVM RMS		Antenna 2 RS power and EVM**	PDSCH/Data* QPSK EVM	Time alignment error
				PDSCH/Data* 16 QAM EVM	Antenna port
					Power Statistics CCDF

Option 049

Channel Scanner (up to 6)	***ID Scanner (up to 6)***	***Multipath Profile***	***Control Channel***	EVM RSM, phase	***Route Map***
	RSRP/RSRQ dominance	Cell, group, sector ID	RS power trend	Frequency error	RSRP
Frequency or channels	S-SS RSSI dominance	Ant 0 RS Ec/Io, delay	Cell, group, sector ID	PMCH subframe power*	RSRQ
Cell, group, sector ID	S-SS Ec/Io dominance	Ant 1 RS Ec/Io, delay	Control channel table (P-SS, S-SS, PBCH, PCFICH, RS 0, RS 1, RS 2**, RS 3**, MBSFN RS*)	Time alignment error	RS-SINR
Channel power	Cell, group, sector ID	Ant 2 RS Ec/Io**, delay**		Time offset	S-SS RSSI
RSRP/RSRQ	RSRP/RSRQ	Ant 3 RS Ec/Io**, delay**		***Datagram***	P-SS, S-SS power
RS-SINR	RS-SINR/S-SS RSSI			Datagram	S-SS Ec/Io
Antenna port	P-SS/S-SS power		Absolute power	Resource block power	
	S-SS Ec/Io		Relative power	Data utilization	

Longitude, latitude, and satellite in all screens

*Measurement is performed when MBMS is enabled.

**Measurement is performed when option 031 is enabled.

E1 Analyzer (Option 004)

Electrical Interface	
Connectors RX/TX	RJ45 (120 Ω)
Output	0 dB, –6 dB (ITU-T Rec.G.703)
Line code	AMI, HDB3
Impedance	Term, monitor 120 Ω, bridge >1000 Ω
Input	
Term/bridge/monitor	0 to –20 dB Transmitter and Receiver
Framing	PCM-30, PCM-30 with CRC PCM-31, PCM-31 with CRC
Channel formats	Full E1
Test pattern	1-4, 1-8, ALL1, ALL0, 0101
Additional Functions	
Reference clock	Received or internal
Event log capability	Internal memory
Error insertion	1, 1E–3, 1E–4, 1E–5
Error rate count	CRC, Frame, Code, Bit
Measurements	
Monitoring	***BERT***
Indicators E1 signal Frame sync Pattern sync Code sync FAS RAI AIS HDB3 Bit error[2]	Indicators E1 signal Frame sync Pattern sync Code sync FAS RAI AIS HDB3 Bit error[2]
Error Count/Rate	***Error Count/Rate***
Frame error Code error Bit error[2]	CRC error[1] Frame error Code error Bit error[2]
Alarm Count	***Alarm Count***
FAS AIS	FAS AIS
Loss Count	***Loss Count***
Frame sync	
Pattern sync	Frame sync
Pattern sync	

1. When CRC-4 is set to On.
2. When PCM31 is set to On.

T1 Analyzer (Option 005)

Electrical Interface	
Connectors RX/TX	RJ45 (120 Ω)
Output	0 dB, –7.5 dB, –15 dB
Line code	AMI, B8ZS
Impedance	100 Ω or 1000 Ω (bridge)
Input	
Term/bridge/monitor	0 to –20 dB
Transmitter and Receiver	
Framing	D4, ESF
Channel formats	Full T1
Test pattern	1–8, 1–16, ALL1, ALL0, 0101 2E–24, QRSS, 2E–23, 2E–15, 2E–23 inverse, 2E–15 inverse
Additional Functions	
Reference clock	Received or internal
Event log capability	Internal memory
Error insertion	1, 1E–3, 1E–4, 1E–5
Alarm insertion	AIS, RAI
Error/alarm count	Bit RAI, AIS, BPV, BER
Loopback modes	Self, CSU, NIU, line, network
Measurements	
Monitoring/BERT/Loop Test	***RX Signal Level***
Indicators T1 signal Frame sync Pattern sync B8ZS Red alarm RAI (yellow alarm) AIS (blue alarm) BPV indicator	Indicators T1 signal Frame sync Pattern sync B8ZS Red alarm RAI (yellow alarm) AIS (blue alarm) BPV indicator
Loss Count	V_{p-p}
Signal loss	V_{p-p} Max
Frame sync loss	V_{p-p} Min
Patten sync loss	dB_{dsx}
Alarm Count	
RAI	
AIS	
BPV	
Error Rate	
Bit error rate	
Bit error count	

Bluetooth Connectivity (Option 006)

Personal area network (PAN)
File transfer profile (FTP)

General Information

Inputs and Outputs		
RF in	Spectrum analyzer	
Connector	Type-N, female	
Impedance	50 Ω (nominal)	
Damage level	>+33 dBm, ±50 V DC (nominal), 3 min	
Reflection/RF out	Cable and antenna analyzer	
Connector	Type-N, female	
Impedance	50 Ω (nominal)	
Damage level	>+40 dBm, ±50 V DC (nominal), 3 min	
RF in	Cable and antenna analyzer	
Connector	Type-N, female	
Impedance	50 Ω (nominal)	
Damage level	>+25 dBm, ±50 V DC (nominal)	
External trigger, GPS		
Connector	SMA, female	
Impedance	50 Ω (nominal)	
External ref		
Connector	SMA, female	
Impedance	50 Ω (nominal)	
Input frequency	10 MHz, 13 MHz, 15 MHz	
Input range	–5 to +5 dBm	
USB		
USB host[1]	Type A, 1 port	
USB client[2]	Type B, 1 port	
LAN	RJ45, 10/100Base-T	
E1/T1	RJ45	
Audio jack	3.5 mm headphone jack	
External power	5.5 mm barrel connector	
Speaker	Built-in speaker	
Display		
Type	Resistive touch screen	
Size	8 inch, LED backlight, transflective LCD with anti-glare coating	
Resolution	800 x 600	
Power		
External DC input	12 to 19 V DC	
Power consumption	37 W	49 W maximum (when charging battery)

Battery	
Type	10.8 V, 7800 mA/hr (Lithium ion)
Operating time	>3 hours (typical)
Charge time	2.5 hours (80%), 5 hours (100%)
Charging temperature	0 to 45°C (32 to 104°F) ≤85% RH
Discharging temperature	–20 to 55°C (4 to 131°F) ≤85% RH
Storage temperature[3]	0 to 25°C (32 to 77°F)
Data Storage	
Internal[4]	Maximum 100 MB
External[5]	Limited by size of USB flash drive
Environmental	
Operating temperature	
AC Power	0 to 40°C (32 to 104°F) with no derating
Battery	0 to 40°C (32 to 104°F) at charging –10 to 55°C (14 to 131°F) at discharging
Maximum humidity	95% RH (noncondensing)
Shock and vibration	MIL-PRF-28800F class 2
Storage temperature[6]	–30 to 71°C (–22 to 160°F)
EMC	
IEC/EN 61326-1:2006 (complies with European EMC)	
CISPR11:2009 +A1:2010	
ESD	
IIEC/EN 61000-4-2	
Size and Weight (standard configuration)	
Weight (with battery)	<4.3 kg (9.5 lb)
Size (W x H x D)	295 x 195 x 82 mm (11.6 x 7.7 x 3.2 in)
Warranty	
2 years	
Calibration Cycle	
1 year	

1. Connects flash drive and power sensor.
2. Connects to PC for data transfer.
3. 20 to 85% RH, store battery pack in low-humidity environment; extended exposure to temperature above 45°C could significantly degrade battery performance and life.
4. Up to 3800 traces.
5. Supports USB 2.0 compatible memory devices.
6. With the battery pack removed.

Ordering Information

Description	Part Number
Standard CellAdvisor Base Station Analyzer	
9 kHz to 8 GHz spectrum analyzer 5 MHz to 6 GHz cable and antenna analyzer[1] 10 MHz to 8 GHz RF power meter (internal mode)	JD785A
Options NOTE: Upgrade options for the JD785A use the designation JD785AU before the respective last three-digit option number.	
2-port transmission measurement[2]	JD785A001
Bias-tee[3]	JD785A002
CW signal generator	JD785A003
E1 analyzer[4]	JD785A004
T1 analyzer[4]	JD785A005
Bluetooth connectivity[5]	JD785A006
GPS receiver and antenna	JD785A010
Interference analyzer[6,7]	JD785A011
Channel scanner	JD785A012
LTE-FDD RAN Performance Indicator[8]	JD785A014
LTE-TDD RAN Performance Indicator[9]	JD785A015
cdmaOne/cdma2000 signal analyzer	JD785A020
EV-DO signal analyzer[10]	JD785A021
GSM/GPRS/EDGE signal analyzer	JD785A022
WCDMA/HSPA+ signal analyzer	JD785A023
TD-SCDMA signal analyzer	JD785A025
Mobile WiMAX signal analyzer	JD785A026
LTE-FDD signal analyzer	JD785A028
LTE-TDD signal analyzer	JD785A029
LTE-Advanced—FDD signal analyzer[11]	JD785A030
LTE-Advanced—TDD signal analyzer[12]	JD785A031
cdmaOne/cdma2000 OTA analyzer[13]	JD785A040
EV-DO OTA analyzer[13]	JD785A041
GSM/GPRS/EDGE OTA analyzer[13]	JD785A042
WCDMA/HSPA+ OTA analyzer[13]	JD785A043
TD-SCDMA OTA analyzer[13]	JD785A045
Mobile WiMAX OTA analyzer[13]	JD785A046
LTE-FDD OTA analyzer[13]	JD785A048
LTE-TDD OTA analyzer[13]	JD785A049
Standard Accessories	
AC/DC power adapter[14]	G710550326
Cross LAN cable (1.5 m)[14]	G710550335
USB A to B cable (1.8 m)[14]	GC73050515
>1 GB USB memory[14]	GC72450518
Rechargeable lithium ion battery[14]	G710550325
Automotive cigarette lighter 12 V DC adapter[14]	G710550323
Stylus[14]	G710550316
JD780A series user's manual and application software — CD	JD780A361

Description	Part Number
Optional Calibration Kits	
Y-calibration kit, Type-N(m), DC to 6 GHz, 50 Ω	JD78050509
Dual-port Type-N calibration kit, 50 Ω Y-calibration kit, Type-N(m), DC to 6 GHz, 50 Ω Two adapters Type-N(f) to Type-N(f), DC to 18 GHz, 50 Ω Two 1 m RF test cables, Type-N(m) to Type-N(m), DC to 8 GHz, 50 Ω	JD78050507
Optional RF Cables	
1.5 m (4.92 ft) RF cable, DC to 18 GHz, Type-N(m) to SMA(m), 50 Ω	G710050533
1.5 m (4.92 ft) RF cable, DC to 18 GHz, Type-N(m) to QMA(m), 50 Ω	G710050534
1.5 m (4.92 ft) RF cable, DC to 18 GHz, Type-N(m) to SMB(m), 50 Ω	G710050535
RF cable DC to 6 GHz Type-N(m) to DIN(f), 1.5 m	G710050536
RF cable DC to 8 GHz Type-N(m) to Type-N(m), 1.0 m	G700050530
RF cable DC to 8 GHz Type-N(m) to Type-N(f), 1.5 m	G700050531
RF cable DC to 8 GHz Type-N(m) to Type-N(f), 3.0 m	G700050532
Phase-stable RF cable with grip DC to 6 GHz Type-N(m) to Type-N(f), 1.5 m	G700050540
Phase-stable RF cable with grip DC to 6 GHz Type-N(m) to DIN(f), 1.5 m	G700050541
Optional Omni Antennas	
RF omni antenna Type-N(m), 806 MHz to 896 MHz	G700050353
RF omni antenna Type-N(m), 870 MHz to 960 MHz	G700050354
RF omni antenna Type-N(m), 1.71 GHz to 2.17 GHz	G700050355
RF omni antenna Type-N(m), 720 MHz to 800 MHz	G700050356
RF omni antenna Type-N(m), 2.3 GHz to 2.7 GHz	G700050357
Optional Yagi Antennas	
RF Yagi antenna Type-N(f), 806 MHz to 896 MHz, 10.2 dBd[15]	G700050364
RF Yagi antenna Type-N(f), 866 MHz to 960 MHz, 10.2 dBd[15]	G700050365
RF Yagi antenna Type-N(f), 1.75 GHz to 2.39 GHz, 9.8 dBd[15]	G700050363
RF Yagi antenna Type-SMA(f), 700 MHz to 4 GHz, 1.85 dBd[16]	G700050366
Optional RF Power Sensors	
Directional power sensor (peak and average power) Frequency: 300 MHz to 3.8 GHz Power: average 0.15 to 150 W, peak 4 to 400 W	JD731B
Directional power sensor (peak and average power) Frequency: 150 MHz to 3.5 GHz Power: average/peak 0.1 to 50 W	JD733A
Terminating power sensor (average power) Frequency: 20 MHz to 3.8 GHz Power: –30 to +20 dBm	JD732B
Terminating power sensor (peak power) Frequency: 20 MHz to 3.8 GHz Power: –30 to +20 dBm	JD734B
Terminating power sensor (peak and average power) Frequency: 20 MHz to 3.8 GHz Power: –30 to +20 dBm	JD736B

Ordering Information

Description	Part Number
Optional Optical Power Meters and Fiber Microscope Kits	
USB optical power meter with software, 2.5 and 1.25 mm interfaces, 30-inch USB extender, and carrying pouch	MP-60A
USB optical power meter—high power with software, 2.5 and 1.25 mm interfaces, 30-inch USB extender, and carrying pouch	MP-80A
KIT: FBP-P5000i Digital Probe, FiberChekPRO software, case, and tips	FBP-SD101
KIT: FBP-P5000i Digital Probe, FiberChekPRO software, case, and tips	FBP-MTS-101
KIT: FBP-P5000i Digital Probe, MP-60A USB power meter, FiberChekPRO software, case, tips, and adapters	FIT-SD103
KIT: FBP-P5000i Digital Probe, MP-60A USB power meter, FiberChekPRO software, case, tips, and adapters, and cleaning materials	FIT-SD103-C
KIT: FBP-P5000i Digital Probe, MP-60A USB power meter, FiberChekPRO software, case, tips, and adapters	FIT-SD113
Optional RF Adapters	
Adapter Type-N(m) to DIN(f), DC to 7.5 GHz, 50 Ω	G700050571
Adapter DIN(m) to DIN(m), DC to 7.5 GHz, 50 Ω	G700050572
Adapter Type-N(m) to SMA(f) DC to 18 GHz, 50 Ω	G700050573
Adapter Type-N(m) to BNC(f), DC to 4 GHz, 50 Ω	G700050574
Adapter Type-N(f) to Type-N(f), DC to 18 GHz 50 Ω	G700050575
Adapter Type-N(m) to DIN(m), DC to7.5 GHz, 50 Ω	G700050576
Adapter Type-N(f) to DIN(f), DC to 7.5 GHz, 50 Ω	G700050577
Adapter Type-N(f) to DIN(m), DC to 7.5 GHz, 50 Ω	G700050578
Adapter DIN(f) to DIN(f), DC to 7.5 GHz, 50 Ω	G700050579
Adapter Type-N(m) to Type-N(m), DC to 11 GHz 50 Ω	G700050580
Adapter N(m) to QMA(f), DC to 6.0 GHz, 50 Ω	G700050581
Adapter N(m) to QMA(m), DC to 6.0 GHz, 50 Ω	G700050582
Optional E1/T1 Test Cables	
RJ45 to Y bantam cable	G710050317
RJ45 to Y BNC cable	G710050318
RJ45 to 4 alligator clips	G710050319

Description	Part Number
Optional Miscellaneous	
Attenuator 40 dB, 100 W, DC to 4 GHz (unidirectional)	G710050581
Soft carrying case	JD74050341
Hard carrying case	JD71050342
Hard carrying case with wheels	JD70050342
CellAdvisor backpack carrying case	JD70050343
RF directional coupler, 700 MHz to 4 GHz, 30 dB, input/output; Type-N(m) to Type-N(f), tap off; Type-N(f)[17]	G710050585
RF Combiner, 700 MHz to 4 GHz, Type-N(f) to Type-N(m)[17]	G710050586
4x1 RF combiner 700 MHz to 4 GHz, Type-N(f) to Type-N(m)[18]	G710050587
External battery charger	G710550324
JD780A series user's manual – printed version	JD780A362
StrataSync™	
StrataSync Asset Management Annual Subscription for CA BSA	StrataSync-AM-CA-BSA-1Yr
StrataSync Test Data Management Annual Subscription for CA BSA	StrataSync-TDM-CA-BSA-1Yr[19]
Warranty and Calibration	
Warranty extension of 1 year for Asia and North America	JD788A200
Warranty extension of 1 year for Latin America and EMEA	JD788A201
Calibration service for Asia and North America	JD788A250
Calibration service for Latin America and EMEA	JD788A251

1. Requires calibration kit.
2. Requires dual-port calibration kit.
3. Requires Option 01.
4. Requires test cable.
5. Includes a pair of Bluetooth USB dongles with 5 dBi dipole antenna (JD70050006).
6. Recommend adding GPS receiver JD785A010.
7. Recommend adding antennas G70005035x and/or G70005036x0.
8. Requires RANAdvisor TureSite, Option 013 and Option 28.
9. Requires RANAdvisor TureSite, Option 013 and Option 29.
10. Requires Option 20.
11. Requires Option 28.
12. Requires Option 29.
13. Requires Option 10.
14. Standard accessory that can be purchased separately.
15. Requires RF cable G700050530.
16. Requires RF cable G710050533.
17. Recommended for LTE testing.
18. Recommended for LTE-Advanced testing.
19. Requires STRATASYNC-AM-CA-BSA-1Yr.

JDSU

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