

JDSU

JD785B

The JDSU JD785B CellAdvisor is a comprehensive field-testing solution designed for the installation and maintenance of modern wireless base stations. Combining cable and antenna analysis, spectrum analysis, and power measurements into a single lightweight, ruggedized hand-held instrument, it offers coverage of up to 8 GHz for RF analysis and 6 GHz for cable and antenna testing.

SPECIFICATIONS

General

Interfaces	2x USB Host (Type A), 1x USB Device (Mini-B), LAN (RJ-45, 10/100 Mbps), External Trigger Input (BNC), External Reference Input (BNC), GPS Antenna Input (SMA), Headphone Jack (3.5 mm)
Display	8.0-inch color transfective TFT touchscreen, 800 x 600 resolution (SVGA)
Supported Languages	English, French, German, Spanish, Russian, Simplified Chinese, Traditional Chinese, Japanese, Korean

Physical

Power Supply	AC/DC Adapter: 100 to 240 V AC, 50 to 60 Hz input; 19 V DC, 3.42 A output. Power Consumption: 29 W
Operating Temperature	-10 to 55 °C °C
Dimensions (W×H×D)	290 mm x 188 mm x 95 mm mm
Weight	3.7 kg (including battery) kg

Frequency and System Specifications

Spectrum Analyzer Frequency Range	9 kHz to 8 GHz
Cable and Antenna Analyzer Frequency Range	5 MHz to 6 GHz
Frequency Resolution	1 Hz (Spectrum Analyzer), 10 kHz (Cable and Antenna Analyzer)
Frequency Accuracy	±1.0 ppm
Frequency Aging per Year	±1.0 ppm
Temperature Stability	±1.0 ppm (-10 °C to 55 °C)
External Reference Input Frequency	10 MHz

Cable and Antenna Analyzer (CAA) Measurements

Measurement Modes	Reflection (Return Loss, VSWR), Distance-to-Fault (DTF), Cable Loss, 2-Port Transmission
Data Points	126, 251, 501, 1001, 2001
Reflection/Return Loss Resolution	0.01 dB
VSWR Measurement Range	1.0 to 65.0
Cable Loss Measurement Range	0 to 30 dB
Distance-to-Fault (DTF) Range	Up to 1,500 m (4,921 ft)
System Corrected Directivity	> 42 dB (after full 1-port calibration)
Interference Immunity Level	+13 dBm (at carrier frequency), +22 dBm (channel offset)
2-Port Transmission Dynamic Range	100 dB (5 MHz to 4 GHz), 90 dB (4 GHz to 6 GHz)
Port Output Power (High)	-15 dBm (typical)
Port Output Power (Low)	-30 dBm (typical)

Spectrum Analyzer Performance

Maximum Continuous Input Level	+30 dBm (1 W) average continuous, ± 50 V DC
Resolution Bandwidth (RBW) Range	1 Hz to 3 MHz (1-3-10 sequence)
Video Bandwidth (VBW) Range	1 Hz to 3 MHz (1-3-10 sequence)
RBW Accuracy	$\pm 10\%$
DANL (Preamp Off, 10 MHz to 3 GHz)	-145 dBm/Hz
DANL (Preamp On, 10 MHz to 3 GHz)	-163 dBm/Hz
DANL (Preamp Off, 3 GHz to 6 GHz)	-142 dBm/Hz
DANL (Preamp On, 3 GHz to 6 GHz)	-160 dBm/Hz
DANL (Preamp Off, 6 GHz to 8 GHz)	-137 dBm/Hz
DANL (Preamp On, 6 GHz to 8 GHz)	-155 dBm/Hz
SSB Phase Noise (10 kHz Offset)	<-100 dBc/Hz (at 1 GHz carrier)
SSB Phase Noise (100 kHz Offset)	<-105 dBc/Hz (at 1 GHz carrier)
SSB Phase Noise (1 MHz Offset)	<-115 dBc/Hz (at 1 GHz carrier)
Sweep Time (Span > 10 Hz)	Min 10 ms, Max 1000 s
Sweep Time (Zero Span)	Min 10 μ s, Max 1000 s
Third-Order Intercept (TOI)	+15 dBm (typical, at 2 GHz)
Second Harmonic Distortion	<-70 dBc (at 3.2 GHz carrier)
Spectrum Analyzer Attenuator Range	0 to 55 dB in 5 dB steps

RF Power Meter Specifications

Internal Power Meter Frequency Range	10 MHz to 8 GHz
Internal Power Meter Display Range	-120 to +30 dBm
External Power Sensor Compatibility	JDSU JD730 series (Directional/Terminating Power Sensors)

Connectivity and Interfaces

RF Port 1 Connector	Type-N female, 50 ohm
RF Port 2 Connector	Type-N female, 50 ohm
External Reference Input Connector	BNC female
External Trigger Input Connector	BNC female
GPS Antenna Connector	SMA female
Audio Jack Type	3.5 mm stereo jack

Display and User Interface

Display Size and Type	8.0-inch (20.3 cm) color transfective TFT LCD
Display Resolution	800 x 600 pixels (SVGA)
Touchscreen Technology	Resistive Touchscreen

Data Storage and Software

Internal Memory Capacity	> 1 GB
External Storage Support	USB Flash Drive
Companion PC Software	JDViewer, JDMapCreator

Power and Battery System

Battery Type	Rechargeable Lithium-Ion (Li-Ion)
Battery Operating Time	> 3.0 hours (typical)
Battery Charging Time (Instrument Off)	3.0 hours
Battery Charging Time (Instrument On)	5.0 hours

Physical and Environmental Characteristics

Relative Humidity	95% RH (non-condensing)
Shock and Vibration Compliance	MIL-PRF-28800F Class 2
Operating Altitude	4,600 m

Certifications and Calibration

Electromagnetic Compatibility (EMC)	EN 61326-1
Safety Standards Compliance	EN 61010-1
Recommended Calibration Interval	1 Year

Connectivity

USB Host Ports	2x USB Type A
USB Client Port	1x USB Mini-B
LAN Port	1x RJ-45, 10/100 Base-T
CPRI Optical Port	SFP (Small Form-factor Pluggable) slot for CPRI RF analysis

Power Specifications

AC Adapter Input	100 to 240 V AC, 50 to 60 Hz
AC Adapter Output	19 V DC, 4.7 A (90 W)
Battery Nominal Voltage	14.8 V
Battery Capacity	7.4 Ah

CPRI RF Analysis

CPRI Line Rates	614.4 Mbps (Rate 1), 1228.8 Mbps (Rate 2), 2457.6 Mbps (Rate 3), 3072.0 Mbps (Rate 4), 4915.2 Mbps (Rate 5), 6144.0 Mbps (Rate 6), 9830.4 Mbps (Rate 7) (option dependent)
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Signal Analysis

Supported Wireless Standards	LTE-A FDD, LTE-A TDD, LTE FDD, LTE TDD, WCDMA/HSDPA, GSM/GPRS/EDGE, CDMA2000, 1xEV-DO, TD-SCDMA, Mobile WiMAX (option dependent)
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RF Characteristics

RF Input Impedance	50 Ω
Spectrum Analyzer Input VSWR	< 1.5:1 (10 MHz to 8 GHz)
Spectrum Analyzer Attenuation Steps	5 dB

Frequency Reference

Frequency Accuracy with GPS Lock	± 0.02 ppm
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Internal Bias Tee (Option 001)

Bias Tee Voltage Range	12 V to 32 V
Bias Tee Voltage Resolution	1 V
Bias Tee Maximum Current	450 mA

Power and Electrical

Power Consumption (Operating and Charging)	< 60 W
Power Consumption (Operating only)	24 W (typical)

RF Input Security

Maximum RF Input Level (Port 2)	+30 dBm (1 W)
Maximum Input DC Voltage (Port 2)	± 50 VDC
Maximum RF Input Level (Port 1)	+30 dBm (1 W)
Maximum Input DC Voltage (Port 1)	± 50 VDC

TECHNOLOGY

RF and Microwave Field Testing

APPLICATIONS

Cellular Base Station Installation and Maintenance

