



# CellAdvisor™

## JD786B RF 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)<br>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 dBc/Hz (-102 dBc/Hz, typical) |                 |
| 100 kHz                                       | -105 dBc/Hz (-112 dBc/Hz, typical) |                 |
| 1 MHz   | -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 VDC                            |                 |

\*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 JD786B 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

| <b>Displayed Average Noise Level (DANL)</b>                                 |  |  |
|---|--|--|
| 1 Hz RBW, 1 Hz VBW, 50 $\Omega$ termination, 0 dB attenuation, RMS detector |  |  |
| <b>Preamplifier Off</b>   |  |  |
| 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)   |  |
| <b>Preamplifier On</b>  |  |  |
| 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)   |  |
| <b>Display Range</b>  |  |  |
| Log scale and units<br>(10 divisions displayed)                             | 1 to 20 dB/division in 1 dB steps<br>dBm, dBV, dBmV, dB $\mu$ V                    |  |
| Linear scale and units<br>(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                 |  |
| <b>Total Absolute Amplitude Accuracy</b>                                    |  |  |
| Preamplifier off, power level >-50 dBm, auto-coupled                        |  |  |
| 1 MHz to 8 GHz  | $\pm 1.3$ dB<br>( $\pm 0.5$ dB typical)  | 20 to 30°C                             |
|   | Add $\pm 1.0$ dB   | -10 to 55°C after<br>60-minute warm up |
| <b>Reference Level</b>  |  |  |
| Setting range   | -120 to +100 dBm   |  |
| <b>Setting Resolution</b>   |  |  |
| Log scale   | 0.1 dB   |  |
| Linear scale  | 1% of reference level  |  |
| <b>Markers</b>  |  |  |
| 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 |  |
| <b>RF Input VSWR</b>  |  |  |
| 1 MHz to 8 GHz  | 1.5:1 (typical)  | Atten >20 dB                           |
| <b>Second Harmonic Distortion</b>   |  |  |
| Mixer level   | -25 dBm  |  |
| 50 MHz to 2.6 GHz   | <-65 dBc (typical)   |  |
| >2.6 GHz to 8 GHz   | <-70 dBc (typical)   |  |
| <b>Third-Order Inter-Modulation (third-order intercept: TOI)</b>            |  |  |
| 200 MHz to 3 GHz  | +10 dBm (typical)  |  |
| >3 GHz to 8 GHz   | +12 dBm (typical)  |  |

| <b>Spurious</b>   |  |                       |
|---|--|-----------------------|
| 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<br>-80 dBm at 4.8/7.8 GHz<br>-75 dBm at 85.6 MHz and 428 MHz<br>-70 dBm at 256.8 MHz |                       |
| Input-related spurious  | <-70 dBc (nominal)   |                       |
| <b>Dynamic Range</b>  |  |                       |
| 2/3 (TOI-DANL) in 1 Hz RBW  | >104 dB  | at 2 GHz              |
| <b>Sweep Time</b>   |  |                       |
| Range   | 0.4 ms to 1000 s<br>24 $\mu$ s to 200 s  | Span=0 Hz (zero span) |
| Accuracy  | $\pm 2\%$  | Span=0 Hz (zero span) |
| Mode  | Continuous, single   |                       |
| <b>Gated Sweep</b>  |  |                       |
| Trigger source  | External, video, and GPS   |                       |
| Gate length   | 1 $\mu$ s to 100 ms  |                       |
| Gate delay  | 0 to 100 ms  |                       |
| <b>Trigger</b>  |  |                       |
| Trigger source  | Free run, video, external  |                       |
| <b>Trigger Delay</b>  |  |                       |
| Range   | 0 to 200 s   |                       |
| Resolution  | 6 $\mu$ s  |                       |
| <b>Measurements*</b>  |  |                       |
| Channel power   |  |                       |
| Occupied bandwidth  |  |                       |
| Spectrum emission mask  |  |                       |
| Adjacent channel power  |  |                       |
| Spurious emissions  |  |                       |
| Field strength  |  |                       |
| AM/FM audio demodulation  |  |                       |
| Route map   |  |                       |
| PIM detection   |  |                       |
| Dual spectrum   |  |                       |

\* High-Power 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         | $\pm(0.3 +  20\log(1 + 10 - EP/20) )$ (typical)<br>EP = directivity – measured return loss                        |
| Output Power                   |   |
| High                           | 5 MHz to 5.5 GHz, 0 dBm (typical)<br>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 VDC   |
| 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                   |   |
| <b>Reflection (VSWR)</b>       |   |
| VSWR range                     | 1 to 65   |
| Return loss range              | 0 to 60 dB  |
| Resolution                     | 0.01  |
| <b>Distance to Fault (DTF)</b> |   |
| 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          | $(1.5 \times 10^9) \times (V_p)/\Delta$<br>$V_p$ = propagation velocity<br>$\Delta$ = stop freq – start freq (Hz) |
| <b>Cable Loss (1-Port)</b>     |   |
| Range                          | 0 to 30 dB  |
| Resolution                     | 0.01 dB   |
| <b>1-Port Phase</b>            |   |
| Range                          | -180 to +180°   |
| Resolution                     | 0.01°   |
| <b>Smith Chart</b>             |   |
| 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 |  |   |                  |
| <i>Directional</i>        | <i>JD731B</i>  | <i>JD733A</i>                               |                  |
| Frequency range           | 300 MHz to 3.8 GHz   | 150 MHz to 3.5 GHz                          |                  |
| Dynamic range             | 0.15 to 150W (average)<br>4 to 400 W (peak)                | 0.1 to 50 W (average)<br>0.1 to 50 W (peak) |                  |
| Connector type            | Type-N female on both ends                                 |   |                  |
| Measurement type          | Forward/reverse average power,<br>forward peak power, VSWR |   |                  |
| Accuracy                  | ±(4% of reading + 0.05 W) <sup>1,2</sup>                   |   |                  |
| <i>Terminating</i>        | <i>JD732B</i>  | <i>JD734B</i>                               | <i>JD736B</i>    |
| 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% <sup>1</sup>   |   |                  |

### 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 |                            |               |
|                                | <i>MP-60A</i>              | <i>MP-80A</i> |
| 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  |                              |
| Output Power         |   |                              |
| High                 | 5 MHz to 5.5 GHz, 0 dBm (typical)<br>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<br>>3 GHz to 6 GHz, 75 dB                         | at average 5<br>at average 5 |
| Scalar               | 5 MHz to 4.5 GHz, >110 dB<br>4.5 GHz to 6 GHz, >105 dB                  |                              |
| Measurements         |   |                              |
| Insertion Loss/Gain  |   |                              |
| Range                | -120 to 100 dB  |                              |
| Resolution           | 0.01 dB   |                              |
| 2-Port Phase         |   |                              |
| Range                | -180 to +180°   |                              |
| Resolution           | 0.01°   |                              |

**Bias-Tee (Option 002)**

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

**High Power CW Signal Generator (Option 003)**

| Frequency            |  |
|----------------------|--|
| Frequency range      | 10 MHz to 5500 MHz   |
| Frequency reference  | <±1 ppm maximum  |
| Frequency resolution | 10 kHz   |
| Output Power         |  |
| Range                | 10 MHz to 3.5 GHz, -60 to +10 dBm<br>3.5 GHz to 5.5 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 |

**Bluetooth Connectivity (Option 006)**

|                             |
|-----------------------------|
| Personal Area Network (PAN) |
| File Transfer Profile (FTP) |

**RfCPRI/Interference Analyzer (Option 008, 060, 061, 062, 063, 064, and 065)**

| <b>General Parameters</b>         |   |                                |                                    |                                    |   |
|-----------------------------------|---|--------------------------------|------------------------------------|------------------------------------|---|
| Optical interface                 | Dual SFP/SFP+ (supports all MSA compliant SFP modules)                              |                                |                                    |                                    |   |
| Line rates                        | 614.4 Mbps (1x), 1228.8 Mbps (2x)   | Option 008 and 060             |                                    |                                    |   |
|                                   | 2457.6 Mbps (4x)  | Option 008 and 061             |                                    |                                    |   |
|                                   | 3072.0 Mbps (5x)  | Option 008 and 062             |                                    |                                    |   |
|                                   | 4915.2 Mbps (8x)  | Option 008 and 063             |                                    |                                    |   |
|                                   | 6144.0 Mbps (10x)   | Option 008 and 064             |                                    |                                    |   |
|                                   | 9830.4 Mbps (16x)   | Option 008 and 065             |                                    |                                    |   |
| <b>Resolution Bandwidth (RBW)</b> |   |                                |                                    |                                    |   |
| -3 dB bandwidth                   | 1 kHz to 10 kHz (span ≤ 3.84 MHz)<br>1 KHz to 100 kHz (3.84 MHz < span < 30.86 MHz) | 1-3-10 sequence                |                                    |                                    |   |
| Accuracy                          | ±10% (nominal)  |                                |                                    |                                    |   |
| <b>VBW</b>                        |   |                                |                                    |                                    |   |
| -3 dB bandwidth                   | 1 Hz to 100 KHz   | 1-3-10 sequence                |                                    |                                    |   |
| Accuracy                          | ±10% (nominal)  |                                |                                    |                                    |   |
| <b>CPRI Parameter</b>             |   |                                |                                    |                                    |   |
| IQ Sample width                   | 4 – 20 (step 1)   |                                |                                    |                                    |   |
| Mapping method                    | 1 and 3   |                                |                                    |                                    |   |
| TX clock                          | Internal/external/recovered   |                                |                                    |                                    |   |
| Port type                         | Master/slave  |                                |                                    |                                    |   |
| Map position                      | AxC#0 – AxC#7   |                                |                                    |                                    |   |
| Bandwidth                         | 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz                                       |                                |                                    |                                    |   |
| <b>Measurements</b>               |   |                                |                                    |                                    |   |
| <b>Layer-2 Monitoring</b>         |   | <b>Layer-2 Term</b>            |                                    | <b>Interference analyzer</b>       |   |
| <b>Port 1</b>                     | <b>Port 2</b>   | <b>Port 1 or 2 (exclusive)</b> |                                    | Spectrum                           | Sound indicator, AM/FM audio demodulation, interference ID, spectrum recorder |
| LOS                               | LOS   | LOS                            | SDI                                |                                    |   |
| LOF                               | LOF   | LOF                            | RAI                                |                                    |   |
| SDI                               | SDI   | Optic RX level                 | dBm                                | Spectrogram                        | Collect up to 72 hr of data   |
| RAI                               | RAI   | Protocol version               | 1 to 10                            |                                    |   |
| Optic RX level                    | Optic RX level  | C and M HDLC rate (kbps)       | No HDLC, 240, 480, 960, 1920, 2400 | RSSI                               | Collect up to 72 hr of data   |
| <b>SFP Information</b>            | <b>SFP Information</b>  |                                |                                    | C and M Ethernet subchannel number | 20 to 63  |
| Wavelength                        | Wavelength  | <b>Alarm Injection</b>         |                                    |                                    |   |
| Vendor                            | Vendor  |                                |                                    | Single carrier                     |   |
| Vendor PN                         | Vendor PN   | PIM calculator                 |                                    |                                    |   |
| Vendor rev                        | Vendor rev  |                                |                                    | R-LOS                              | Single  |
| Power level type                  | Power level type  | R-LOF                          | Single                             |                                    |   |
| Diagnostic byte                   | Diagnostic byte   | <b>Error Injection</b>         |                                    |                                    |   |
| Nominal rate                      | Nominal rate  | Code                           | Single/rate                        |                                    |   |
| Min rate                          | Min rate  | K30.7                          | Single/rate                        |                                    |   |
| Max RX level                      | Max RX level  | Error rate                     | 1E-3 to 1E-9                       |                                    |   |
| Max TX level                      | Max TX level  |                                |                                    |                                    |   |

## General Information

| Inputs and Outputs           |   |                                      |
|------------------------------|---|--------------------------------------|
| <b>RF in</b>                 | Spectrum analyzer   |                                      |
| Connector                    | Type-N, female  |                                      |
| Impedance                    | 50 Ω (nominal)  |                                      |
| Damage level                 | >+33 dBm, ±50 VDC (nominal), 3 min                              |                                      |
| <b>Reflection/RF out</b>     | Cable and antenna analyzer                                      |                                      |
| Connector                    | Type-N, female  |                                      |
| Impedance                    | 50 Ω (nominal)  |                                      |
| Damage level                 | >+40 dBm, ±50 VDC (nominal), 3 min                              |                                      |
| <b>RF in</b>                 | Cable and antenna analyzer                                      |                                      |
| Connector                    | Type-N, female  |                                      |
| Impedance                    | 50 Ω (nominal)  |                                      |
| Damage level                 | >+25 dBm, ±50 VDC (nominal)                                     |                                      |
| <b>External trigger, GPS</b> |   |                                      |
| Connector                    | SMA, female   |                                      |
| Impedance                    | 50 Ω (nominal)  |                                      |
| <b>External ref</b>          |   |                                      |
| Connector                    | SMA, female   |                                      |
| Impedance                    | 50 Ω (nominal)  |                                      |
| Input frequency              | 10 MHz, 13 MHz, 15 MHz  |                                      |
| Input range                  | -5 to +5 dBm  |                                      |
| <b>USB</b>                   |   |                                      |
| USB host <sup>1</sup>        | Type A, 1 port  |                                      |
| USB client <sup>2</sup>      | Type B, 1 port  |                                      |
| <b>SFP Cage</b>              |   |                                      |
| Port 1                       | RFoFiber (with option 008)                                      |                                      |
| Port 2                       | SFP/SFP+ compatible   |                                      |
| LAN                          | RJ45, 10/100Base-T  |                                      |
| Audio jack                   | 3.5 mm headphone jack   |                                      |
| External power               | 5.5 mm barrel connector   |                                      |
| Speaker                      | Built-in speaker  |                                      |
| <b>Display</b>               |   |                                      |
| Type                         | Resistive touch screen  |                                      |
| Size                         | 8 inch, LED backlight, transfective LCD with anti-glare coating |                                      |
| <b>Power</b>                 |   |                                      |
| External DC input            | 18 to 19 VDC  |                                      |
| Power consumption            | 42 W  | 54 W maximum (when charging battery) |

| Battery  |   |
|--|---|
| Type   | 10.8 V, 7800 mA/hr (Lithium ion)  |
| Operating time                                   | >3 hr (typical)<br>>1.4 hr (RFoCPRI)  |
| Charge time                                      | 3 hr (while not operating)<br>9 hr (while operating)  |
| 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 <sup>3</sup>                 | 0 to 25°C (32 to 77°F)  |
| <b>Data Storage</b>                              |   |
| Internal <sup>4</sup>                            | Maximum 512 MB  |
| External <sup>5</sup>                            | Limited by size of USB flash drive  |
| <b>Environmental</b>                             |   |
| <b>Operating Temperature</b>                     |   |
| AC Power   | 0 to 40°C (32 to 104°F) with no derating  |
| Battery  | 0 to 40°C (32 to 104°F) at charging<br>-10 to 55°C (14 to 131°F) at discharging<br>-10 to 50°C (14 to 122°F) at discharging with Option 008 |
| Maximum humidity                                 | 95% RH (noncondensing)  |
| Shock and vibration                              | MIL-PRF-28800F class 2  |
| Storage temperature <sup>6</sup>                 | -30 to 71°C (-22 to 160°F)  |
| <b>EMC</b>                                       |   |
| IEC/EN 61326-1:2006 (complies with European EMC) |   |
| CISPR11:2009+A1:2010                             |   |
| <b>ESD</b>                                       |   |
| IEC/EN 61000-4-2                                 |   |
| <b>Size and Weight (standard configuration)</b>  |   |
| Weight (with battery)                            | <4.4 kg (9.7 lb)  |
| Size (W x H x D)                                 | 295 x 195 x 82 mm   |
| <b>Warranty</b>                                  |   |
| 2 years  |   |
| <b>Calibration Cycle</b>                         |   |
| 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         |
|--|---------------------|
| <b>Standard CellAdvisor RF Analyzer</b>  |                     |
| 9 kHz to 8 GHz spectrum analyzer<br>5 MHz to 6 GHz cable and antenna analyzer <sup>1</sup><br>10 MHz to 8 GHz RF power meter (internal mode) | JD786B <sup>1</sup> |
| <b>Options</b>   |                     |
| NOTE: Upgrade options for the JD786B use the designation JD786BU before the respective last three-digit option number.                       |                     |
| 2-port transmission measurement <sup>2</sup>   | JD786B001           |
| Bias-tee <sup>3</sup>  | JD786B002           |
| High-power CW signal generator   | JD786B003           |
| Optical hardware <sup>4</sup>  | JD786B008           |
| GPS receiver and antenna   | JD786B010           |
| Interference analyzer <sup>6,7</sup>   | JD786B011           |
| Channel scanner  | JD786B012           |
| Bluetooth connectivity <sup>5</sup>  | JD786B013           |
| RFoCPRI 614 Mbps and 1.2 Gbps interference analyzer <sup>12</sup>  | JD786B060           |
| RFoCPRI 2.4 Gbps Interference analyzer <sup>12</sup>   | JD786B061           |
| RFoCPRI 3.1 Gbps interference analyzer <sup>12</sup>   | JD786B062           |
| RFoCPRI 4.9 Gbps interference analyzer <sup>12</sup>   | JD786B063           |
| RFoCPRI 6.1 Gbps interference analyzer <sup>12</sup>   | JD786B064           |
| RFoCPRI 9.8 Gbps interference analyzer <sup>12</sup>   | JD786B065           |
| <b>Standard Accessories</b>  |                     |
| AC/DC power adapter <sup>8</sup>   | G710550326          |
| Cross LAN cable (1.5 m) <sup>8</sup>   | G710550335          |
| USB A to B cable (1.8 m) <sup>8</sup>  | GC73050515          |
| >1 GB USB memory <sup>8</sup>  | GC72450518          |
| Rechargeable lithium ion battery <sup>8</sup>  | G710550325          |
| Automotive cigarette lighter 12V DC adapter <sup>8</sup>   | G710550323          |
| <b>Optional Calibration Kits</b>   |                     |
| Y-calibration kit Type-N(m), DC to 6 GHz, 50 Ω   | JD78050509          |
| Y-calibration kit DIN(m), DC to 6 GHz, 50 Ω  | JD78050510          |
| Dual port Type-N 6 GHz calibration kit   | JD78050507          |
| Dual port DIN 6 GHz calibration kit  | JD78050508          |
| <b>Optional RF Cables</b>  |                     |
| 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          |
| RF cable DC to 18 GHz Type-N(m) to SMA(m), 1.5 m   | G710050533          |
| RF cable DC to 18 GHz Type-N(m) to QMA(m), 1.5 m   | G710050534          |
| RF cable DC to 18 GHz Type-N(m) to SMB(m), 1.5 m   | G710050535          |
| RF cable DC to 6 GHz Type-N(m) to DIN(f), 1.5 m  | G710050536          |
| 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          |

| Description  | Part Number |
|--|-------------|
| <b>Optional Omni Antennas</b>  |             |
| RF omni antenna Type-N(m), 806 to 896 MHz  | G700050353  |
| RF omni antenna Type-N(m), 870 to 960 MHz  | G700050354  |
| RF omni antenna Type-N(m), 1710 to 2170 MHz  | G700050355  |
| RF omni antenna Type-N(m), 720 to 800 MHz  | G700050356  |
| RF omni antenna Type-N(m), 2300 to 2700 MHz  | G700050357  |
| <b>Optional Yagi Antennas</b>  |             |
| RF Yagi antenna Type-N(f), 1750 to 2390 MHz, 10.2 dBd <sup>9</sup>   | G700050363  |
| RF Yagi antenna Type-N(f), 806 to 896 MHz, 10.2 dBd <sup>9</sup>   | G700050364  |
| RF Yagi antenna Type-N(f), 866 to 960 MHz, 9.8 dBd <sup>9</sup>  | G700050365  |
| RF Yagi antenna SMA(f), 700 to 4000 MHz, 1.85 dBd <sup>10</sup>  | G700050366  |
| <b>Optional RF Power Sensors</b>   |             |
| Directional power sensor, peak and average power 300 to 3800 MHz   | JD731B      |
| Terminating power sensor, average power 20 to 3800 MHz   | JD732B      |
| Directional power sensor, peak and average power 150 to 3500 MHz   | JD733A      |
| Terminating power sensor, peak power 20 to 3800 MHz  | JD734B      |
| Terminating power sensor, dual (average/peak) power 20 to 3800 MHz   | JD736B      |
| <b>Optional Optical Power Meters and Fiber Microscope Kits</b>   |             |
| 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   |

**Ordering Information (continued)**

| Description   | Part Number    |
|---|----------------|
| <b>Optional RF Adapters</b>                                   |                |
| 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 to 7.5 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     |
| <b>Optional Miscellaneous</b>                                 |                |
| Soft carrying case  | JD74050341     |
| Hard carrying case  | JD71050342     |
| Hard carrying case with wheels                                | JD70050342     |
| CellAdvisor backpack carrying case                            | JD70050343     |
| External battery charger                                      | G71050324      |
| Attenuator 40 dB, 100 W, DC to 4 GHz (Unidirectional)         | G710050581     |
| JD700B series user's guide — printed version                  | JD700B362      |
| USB Bluetooth dongle and dipole antenna 5 dBi                 | JD70050006     |
| <b>Optional TAP</b>   |                |
| Optical nTAP, three-channel, 50 μm, MM, LC, 50/50 split ratio | TO3-M5-LC-55-K |
| Optical nTAP, three-channel, 9 μm, SM, LC, 50/50 split ratio  | TO3-SM-LC-55-K |

| Description  | Part Number              |
|--|--------------------------|
| <b>Optional SFP Transceiver</b>  |                          |
| SFP 4/2/1 G Fibre Channel and 1 G Ethernet, 850 nm, 150 – 500 m, SX<br>3.072/2.4/1.2 Gbps, 614 Mbps CPRI; 3.072/1.5 Gbps, 768 Mbps OBSAI | CSFP-4G-8-1              |
| SFP 4G/2G/1G Fibre Channel and 1 G Ethernet, 1310 nm, 5 km, LX<br>3.072/2.4/1.2 Gbps, 614 Mbps CPRI; 3.072/1.5 Gbps, 768 Mbps OBSAI      | CSFP-4G-3-1              |
| SFP 4G/2G/1G Fibre Channel and 1 G Ethernet, 1310 nm, 20 km, LX<br>3.072/2.4/1.2 Gbps, 614 Mbps CPRI; 3.072/1.5 Gbps, 768 Mbps OBSAI     | CSFP-4G-3-2              |
| SFP+ 8/4/2 G Fibre Channel, 6/4.9 Gbps CPRI 850 nm mm multirate<br>4.9/3.072/2.4 Gbps CPRI and 6/3.072 Gbps OBSAI                        | CSFPPLUS-8G-8-1          |
| SFP+ 8/4/2 G Fibre Channel, 6/4.9 Gbps CPRI 1310 nm SM, 10 km<br>4.9/3.072/2.4 Gbps CPRI and 6/3.072 Gbps OBSAI                          | CSFPPLUS-8G-3-1          |
| SFP+ 1/10 G Ethernet, 1/10 G Fiber Channel 1310 nm SM 10 km<br>1000BASE-LX 1G and 10GBASE-LR/LW, 1/10 G Fibre Channel and 9.8 Gbps CPRI  | SFPPLUS-1GE-10GE-3-1     |
| SFP+ 1/10 G Ethernet 1310 nm SM 10 km<br>1000BASE-LX 1G and 10GBASE-LR/LW, 1/10 G Fibre Channel and 9.8 Gbps CPRI                        | SFPPLUS-1GE-10GE-3-1     |
| <b>Optional StrataSync™</b>  |                          |
| StrataSync asset management annual subscription for CellAdvisor RF analyzer  | StrataSync-AM-CA-RFA-1YR |
| StrataSync test data management annual subscription for CellAdvisor RF analyzer <sup>11</sup>  | StrataSync-TDMCA-RFA-1YR |
| <b>Optional Warranty and Calibration</b>   |                          |
| Warranty extension of 1 year for Asia and North America  | JD786B200                |
| Warranty extension of 1 year for Latin America and EMEA  | JD786B201                |
| Calibration service for Asia and North America   | JD786B250                |
| Calibration service for Latin America and EMEA   | JD786B251                |

1. Requires calibration kit.
2. Requires dual-port calibration kit.
3. Requires Option 001.
4. Requires SFP/SFP+ and optical cable.
5. Includes a pair of Bluetooth USB dongles with 5 dBi dipole antenna (JD70050006).
6. Recommend adding Option 010.
7. Recommend adding antennas G70005035x and/or G70005036x0.
8. Standard accessory that can be purchased separately.
9. Requires RF cable G700050530.
10. Requires RF cable G710050533.
11. Requires STRATASYNC-AM-CA-RFA-1YR.
12. Requires Option 008.



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