

## JD720 Series

### CellAdvisor™ Cable and Antenna Analyzers



#### Key Features

- Favorite and Quick Save keys for easier and faster testing
- Broadband calibration for maximum test time
- Trace Overlay
- Dual display layout and Zoom Zones for faster analysis
- Dual Display Layout
- Alternate Sweep in DTF
- Limit Lines
  - Indicates pass/fail for limit line, alarm, and signal message
  - Multisegment trace (MST)
  - Window limit
- Fiber inspection and test
- Optical power measurements
- Save an event
- Help function

#### Applications

- Cable and antenna system for cell sites
- Cellphone antenna manufacturers
- NFC antenna manufacturers (RFID and security equipment)
- Fiber-based alternative infrastructure

#### Key Measurements

- Reflection — VSWR/Return Loss
- DTF — VSWR/Return Loss
- 1-Port Cable Loss
- Smith Chart
- 1-Port Phase
- RF Power Meter
- Optical Power Meter
- Fiber Inspection

#### Key Benefits

- Designed for easy field use with an intuitive user interface and touch screen that is clearly visible both indoors and outdoors
- Market-leading 0.8 ms/point sweep time
- Measures RF power
- Unique fiber inspection and power measurements:
  - Inspect Before You Connect pass/fail analysis with P5000i Microscope
  - Measure optical power via USB optical power meters
- Battery operates continuously for 7.5 hours
- Hibernate mode maximizes battery test time
- RF port protection up to 40 dBm (10 W)
- Free Windows-based analysis and control applications:
  - JDViewer adds post-process, report generation, and personalized settings
  - JDRemote adds full instrument remote control through a software client
- Supports StrataSync™ cloud-enabled management and analysis

The majority of problems in mobile networks occur in the base station's infrastructure, consisting of the antenna system, RF and fiber cables, and connectors. To properly service and install cell sites requires suitable test equipment. The JDSU JD720C-Series Cable and Antenna Analyzers are optimal test solutions for characterizing cell-site infrastructure because of their handheld design, ease of use, and rich functionality.

The JD720C-series analyzers offer the measurement functions necessary to accurately verify a site's transmission line and antenna system from signal reflections (voltage standing wave ratio [VSWR] or return loss) to RF or optical transmission power.

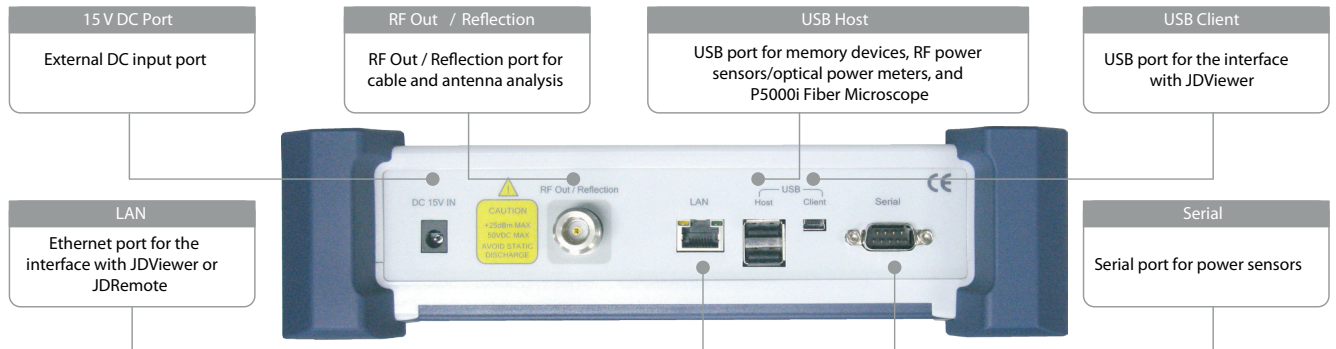
In addition, the JD720C-series analyzers accurately measure the distance to fault (DTF) for proper identification of its location.

The instrument's touch-panel operation and 7-inch-wide thin-film transistor (TFT) color display for easier measurements and display. Also, its application-specific software for easier measurement comparison and analysis and for generating professional reports.

The optional fiber inspection microscope and optical power sensors ensure you have all the tools you need in a single instrument to test both RF and fiber cell sites.

## 2

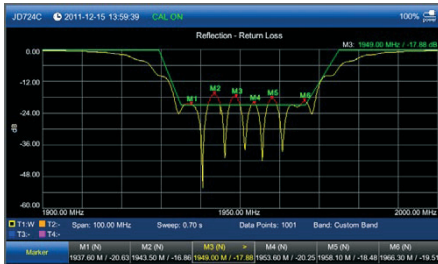
## Top view



## Front view



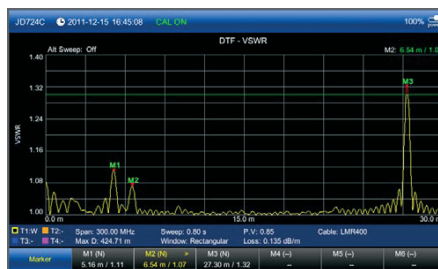
## Key Measurements



Reflection — Return Loss

**Reflection** measures the impedance performance of the cell-site transmission line across the frequency range of interest in VSWR or return loss.

- More than 80 wireless frequency bands are included in the instrument's database
- Additional frequency bands can be added
- User-definable limit line automatically indicates pass/fail status
- Users can set up to 6 markers for trace analysis



DTF — VSWR

**Distance to Fault (DTF)** identifies fault locations in the cell site transmission system indicating signal discontinuities using VSWR or return loss.

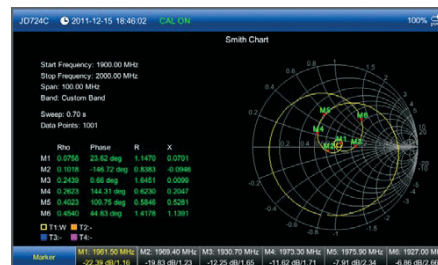
- Measurement distance: up to 1,500 m (4,921 ft)
- High Resolution mode with 2001 data points
- More than 95 cable types are included in the instrument's database
- Additional cable types can be added
- User-definable limit line automatically indicates pass/fail status
- Users can set up to 6 markers for trace analysis



1-Port Cable Loss

**1-Port Cable Loss** measures the signal loss through cables or other devices over a defined frequency range.

- User-definable limit line automatically indicates pass/fail status
- Users can set up to 6 markers for trace analysis



Smith Chart

**Smith Charts** can be used to display impedance matching characteristics in cable and antenna systems as well RF devices.

Users can set up to 6 markers for trace analysis.

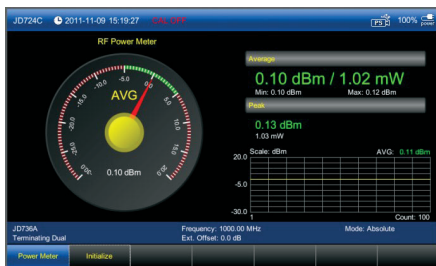
## Key Measurements (Cont'd.)



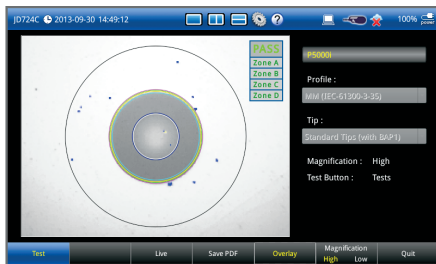
1-Port Phase



Power sensors



Power Meter



Fiber inspection

**1-Port phase** measures  $S_{11}$  phase to tune antennas and phase-match cables.

Users can set up to 6 markers for trace analysis.

Optional **power meter** functions enable easy, comprehensible power measurements using external power sensors and meters.

- JD72450551/2: Economic RF power sensors via serial connection
- JD730 Series: High-precision RF power sensors via USB connection
- MP-60A/MP-80A: Optical Power Sensors via USB connection

The optional **power meter** displays either the RF/optical power level in two formats: as a real-time power level value in an analog meter and as a power level trend through time in a histogram chart. Its configurable settings include display range, maximum and minimum limits, and power units in dBm or watts.

Users can set minimum and maximum power limits to automatically indicate pass/fail status.

**Fiber Inspection** — Contaminated fiber ends cause most of the fiber problems. Uniquely the CellAdvisor JD720C Cable and Antenna Analyzer can also quickly and easily troubleshoot and certify fiber connection quality and cleanliness. Connecting the optional P5000i Fiber Microscope lets users quickly inspect and clean fiber connections with a clear pass/fail indication. The free FiberChekPRO™ application can be used on a PC/laptop with the P5000i microscope to perform the same fiber analysis in parallel using the instrument to test RF and the PC/laptop to test fiber. Users also can inspect, test, and certify any fiber connector and instantly generate comprehensive pass/fail summary reports.

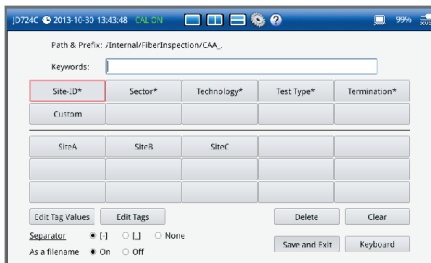




Outdoor Display mode provides easier reading in direct sunlight



Favorite



Key words

## Key Benefits

### Designed for Field Use

The compact, lightweight JD720C-series analyzers are especially convenient for users performing measurements in the field. The analyzers weigh less than 2.35 kg fully loaded and include a Li ion battery that can last more than 7.5 hours. Its portability lets users take it anywhere, even to the top of a tower.

Its transfective display can be set for outdoor mode for viewing measurements in direct sunlight. Also, its backlit key panel with night-display mode makes it easy to use in the dark.

The JD720C-series analyzers can operate in temperatures ranging from  $-10$  to  $55^{\circ}\text{C}$ ; and its rugged bumper design protects it if dropped or if it receives an external impact that exceeds the MIL-PRF-28800F class 2 specification.

### Quickly Sweeps

Capable of performing measurements in less than 0.8 ms/point making it the fastest cable and antenna analyzers on the market. This fast sweep speed is uncompromised in dual-display mode.

### Easy to Use

- Favorite keys capability provides convenient access or a shortcut to the most frequently used measurements. Instead of configuring different measurements every time, users can create favorite measurements to more quickly perform certain tasks.
- Users can add editable key words to quickly create unique file names.

### Multilanguage User Interface

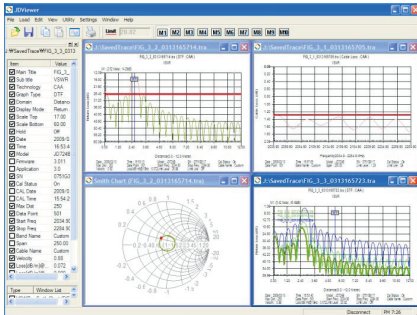
The instruments' architecture allows for the menu structure to incorporate different languages for localization worldwide.

## Key Benefits (Cont'd.)

### JDViewer Features

The JDViewer application software provides all of the necessary tools to operate these instruments more conveniently including:

- Quickly exchange data via USB or LAN connection
- Retrieve or save measurements
- Export measurement results
- Analyze measurement results, assigning multiple markers and limit lines
- Register or edit user-definable frequency bands and cable types
- Easily compare measurement results
- Convert VSWR-DTF
- Available report templates
- Ability to generate and print reports



JDViewer VSWR, DTF, cable loss, and Smith chart



Analyzer with JDRemote



MP-60A/MP-80A



P5000i Microscope



### Expand Capabilities with Essential Fiber Handling Tools

- Optical power meter (MP series)
- Inspection and pass/fail analysis with P5000i Fiber Microscope

### StrataSync

The CellAdvisor JD720C Cable and Antenna Analyzer is compatible with the JDSU StrataSync cloud lets you to manage your instrument inventory so that you can locate all of your valuable equipment and identify which engineer is using it. StrataSync also helps you keep your instruments current with remote upgrades to ensure all instruments have the latest firmware. It also centralizes configuration setting distribution so that all engineers are using the same instrument settings for consistent measurements. Once testing is complete, the trace files can be uploaded into StrataSync for secure storage and sharing. Engineers who are unable to resolve a problem can share trace files with an expert who can then help analyze them from anywhere without having to be at the instrument via StrataSync with our free JDViewer application to resolve problems even faster.

- Asset inventory management
- Remotely distribute instrument upgrades
- Centralized configuration sharing
- Test data management
  - Trace files
  - Screenshots
  - Remote analysis

## Key Features

### Trace Overlay

Lets users compare analyses of up to four traces by superimposing them onto one measurement display.

Additionally, users can set up to 6 markers on any trace independently.

### Zoom Zones

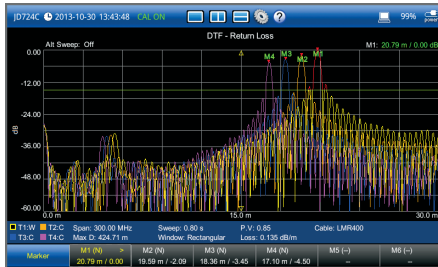
User-definable zones on frequency sub-bands let users visually identify uplink and downlink frequencies to verify compliance within a single measurement window for closer analysis of user-definable zones in separate windows.

### Alternate Sweep in DTF

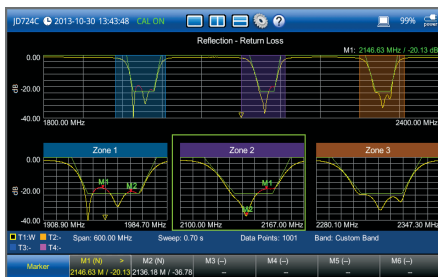
Users can perform two independent sweeps; for example, a reflection measurement and a DTF measurement.

### Dual Display

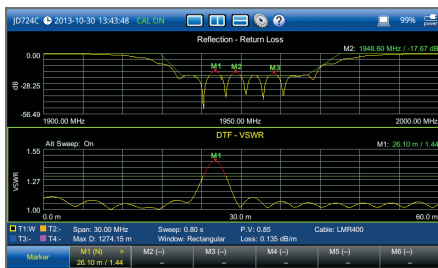
Users can display two measurements simultaneously, even when performed independently, to reduce test time.



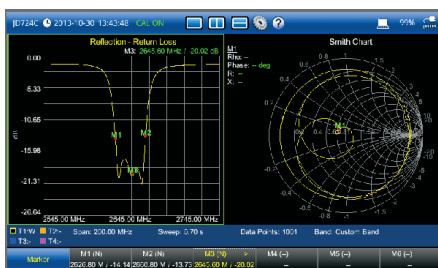
Trace Overlay



Zoom Zones

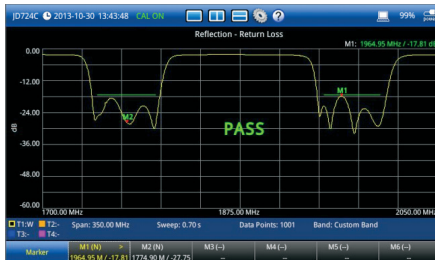


Alternate Sweep

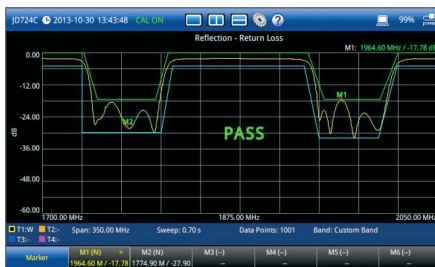


Dual Display

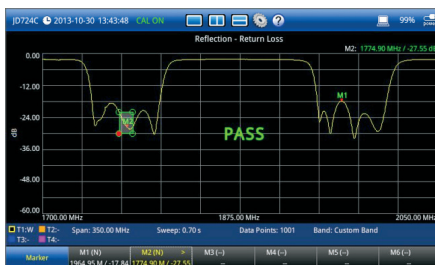
## Key Features (Cont'd.)



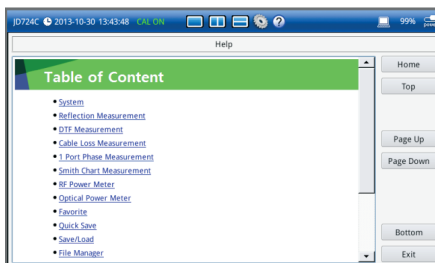
Straight line with gap



Multisegment limit line with upper and lower



Window limit



Help

### Limit Lines

Limit lines let users set variable thresholds to control the parameters that define whether a test passes or fails. Either exceeding the set limit or falling below it will result in the test failing. Users can set a user-defined limit as well and any measurements that fall outside of the area defined will fail.

#### Standard limit line

- The standard limit line extends over the full signal spectrum and can be configured to indicate a fail when the measurement exceeds the threshold.
- Also, users can set this limit line to measure only specific sections of the spectrum. If any of these sections exceed the set threshold it will indicate a fail.

#### Multisegment limit line (MSL)

- MSL lines let users set upper- and lower-level parameter limit lines on both sides of the spectral signal, providing more flexibility than a single straight line. Measurements that fall within the boundaries of these lines will pass, while measurements that exceed the upper line or fall below the lower one will fail.

#### Window Limit

Users can define an area on the chart shown with a rectangle to help refine the test criteria, measurements that fall within the rectangle pass. However, moving the measurement Marker 2 outside of the rectangle's range will result in a fail. This capability is useful for tuning devices or antennas in real time, because it lets users see how adjustments affect the signal on the screen.

### Help Function

The Help function provides users with task-based information in real time. They can easily browse or search for specific information improving productivity and reducing the number of inquiries.



## Specifications\*

## Frequency

|            |                    |
|------------|--------------------|
| Range      |                    |
| JD723C     | 100 MHz to 2.7 GHz |
| JD724C     | 5 MHz to 4 GHz     |
| Resolution | 10 kHz             |
| Accuracy   | < ±25 ppm at 25°C  |

## Data points

126, 251, 501, 1001, 2001

## Measurement speed

|            |                |
|------------|----------------|
| Reflection | < 0.7 ms/point |
| DTF        | < 0.8 ms/point |

## Measurement accuracy

|                        |  |
|------------------------|--|
| Corrected directivity  | 40 dB (typical)                                  |
| Reflection uncertainty | $\pm(0.3 +  20\log(1 + 10^{-EP/20}) )$ (typical) |
|                        | EP = directivity – measured return loss          |

## Output power

0 dBm (nominal)

## Interference immunity

|              |                   |
|--------------|-------------------|
| On channel   | +17 dBm (nominal) |
| On frequency | +0 dBm (nominal)  |

## Measurements

## Reflection (VSWR)

|                   |            |
|-------------------|------------|
| VSWR range        | 1 to 65    |
| Return loss range | 0 to 60 dB |
| Resolution        | 0.01       |

## DTF

|                            |   |
|----------------------------|---|
| Vertical VSWR range        | 1 to 65   |
| Vertical return loss range | 0 to 60 dB  |
| Vertical resolution        | 0.01  |
| Horizontal range           | 0 to (# of data points – 1) x horizontal resolution<br>Maximum = 1500 m (4921 ft)   |
| Horizontal resolution      | $(1.5 \times 10^8) \times (V_p)/\Delta f$<br>$V_p$ = propagation velocity<br>$\Delta f$ = stop frequency – start frequency (Hz) |

## Cable Loss (1 Port)

|            |             |
|------------|-------------|
| Range      | 0 to –30 dB |
| Resolution | 0.01 dB     |

## 1-Port Phase

|       |               |
|-------|---------------|
| Range | –180 to +180° |
|-------|---------------|

## Smith Chart

|            |      |
|------------|------|
| Resolution | 0.01 |
|------------|------|

## RF Power Meter

## General Parameter

|               |                                  |
|---------------|----------------------------------|
| Display range | –80 to +120 dBm                  |
| Offset range  | 0 to 60 dB                       |
| Resolution    | 0.01 dB or 0.1 x W (x = m, u, p) |

## External RF Power Sensors

## JD731B Directional Power Sensor

|                  |   |
|------------------|---|
| Frequency range  | 300 MHz to 3.8 GHz                                      |
| Dynamic range    | 0.15 to 150 W (average)<br>4 to 400 W (peak)            |
| Connector type   | Type-N female on both ends                              |
| Measurement type | Forward/reverse average power, forward peak power, VSWR |
| Accuracy         | $\pm(4\% \text{ of reading} + 0.05 \text{ W})^{1,2}$    |

## JD733A Directional Power Sensor

|                  |   |
|------------------|---|
| Frequency range  | 150 MHz to 3.5 GHz                                      |
| Dynamic range    | 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, forward peak power, VSWR |
| Accuracy         | $\pm(4\% \text{ of reading} + 0.05 \text{ W})^{1,2}$    |

## JD732B Terminating Power Sensor

|                  |                   |
|------------------|-------------------|
| Frequency range  | 20 MHz to 3.8 GHz |
| Dynamic range    | –30 to +20 dBm    |
| Connector type   | Type-N male       |
| Measurement type | Average           |
| Accuracy         | $\pm 7\%^1$       |

## JD734B Terminating Power Sensor

|                  |                   |
|------------------|-------------------|
| Frequency range  | 20 MHz to 3.8 GHz |
| Dynamic range    | –30 to +20 dBm    |
| Connector type   | Type-N male       |
| Measurement type | Peak              |
| Accuracy         | $\pm 7\%^1$       |

## JD736B Terminating Power Sensor

|                  |                   |
|------------------|-------------------|
| Frequency range  | 20 MHz to 3.8 GHz |
| Dynamic range    | –30 to +20 dBm    |
| Connector type   | Type-N male       |
| Measurement type | Average and peak  |
| Accuracy         | $\pm 7\%^1$       |

## Optical Power Meter

|               |                   |
|---------------|-------------------|
| Display range | –100 to +100 dBm  |
| Offset range  | 0 to 60 dB        |
| Resolution    | 0.01 dB or 0.1 mW |

\*Cable and antenna analyzer specifications apply under these conditions:

- Cable and antenna measurement applies after calibrating to the OSL standard.
- The instrument is operating within a valid calibration period.
- Data with no tolerance are considered typical values.
  - **Typical value:** Expected instrument performance operating under 20 to 30°C at 15 minutes sustained
  - **Nominal value:** A general, descriptive term or parameter.

**Specifications** *continued***External Optical Power Meters****MP-60A Optical Power Meter**

|                            |                           |
|----------------------------|---------------------------|
| Wavelength range           | 780 to 1650 nm            |
| Max. permitted input level | +10 dBm                   |
| Connector input            | Universal 2.5 and 1.25 mm |
| Accuracy                   | ±5%                       |

**MP-80A Optical Power Meter**

|                            |                           |
|----------------------------|---------------------------|
| Wavelength range           | 780 to 1650 nm            |
| Max. permitted input level | +23 dBm                   |
| Connector input            | Universal 2.5 and 1.25 mm |
| Accuracy                   | ±5%                       |

**General information****Reflection/RF out**

|              |                                 |
|--------------|---------------------------------|
| Connector    | Type-N(f)                       |
| Impedance    | 50 Ω (nominal)                  |
| Damage level | > +40 dBm, > ±50 V DC (nominal) |

**Connectivity****USB**

|                         |                               |
|-------------------------|-------------------------------|
| USB host <sup>1</sup>   | Type A, 2 ports               |
| USB client <sup>2</sup> | Mini B, 1 port                |
| LAN                     | RJ45, 10/100Base-T            |
| Serial                  | 9-pin D-SUB male <sup>3</sup> |

**Display**

|            |   |
|------------|---|
| Type       | Resistive touch screen                  |
| Size       | 7-inch, LED backlight, transfective LCD |
| Resolution | 800 x 480                               |

**Speaker**

Built-in speaker

**Power**

|                   |  |
|-------------------|--|
| External DC input | 12 to 15 V DC                          |
| Power consumption | 12 W                                   |
|                   | 37.5 W maximum (when charging battery) |

**External AC power adapter**

|        |                    |
|--------|--------------------|
| Input  | 100 to 250 V       |
|        | 50 to 60 Hz, 1.2 A |
| Output | 15 V DC, 3 A       |

**Battery**

|                                  |                                  |
|----------------------------------|----------------------------------|
| Type                             | 10.8 V, 7800 mA/hr (LiION)       |
| Operation time                   | >7.5 hours                       |
| Charge time                      | 3 hr (80%), 5 hr (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 <sup>4</sup> | 0 to 25°C (32 to 77°F)           |
|                                  | ≤85% RH (noncondensing)          |

**Data storage**

|                       |                                    |
|-----------------------|------------------------------------|
| Internal <sup>5</sup> | Minimum 120 MB                     |
| External <sup>6</sup> | Limited by size of USB flash drive |

**Environmental**

|                                  |  |
|----------------------------------|--|
| 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 <sup>7</sup> | –40 to 80°C (–40 to 176°F)               |

**EMC**

IEC/EN 61326-1:2006 (complies with European EMC)

**Weight and size (with battery)**

|                       |   |
|-----------------------|---|
| Size (W x H x D)      | 260 x 190 x 60 mm (10.2 x 7.5 x 2.4 in) |
| Weight (with battery) | < 2.35 kg (5.18 lb)                     |

**Warranty**

2 years

**Calibration cycle**

2 years

1. Connects flash drive, power sensor, or P5000i
2. Connects to PC/laptop for data transfer
3. For JD72450551/50552
4. 20 to 85% RH, store battery pack in low-humidity environment; extended exposure to temperatures above 45°C could significantly degrade battery performance and life
5. Up to 3800 traces
6. Supports USB 2.0 compatible memory devices
7. With the battery pack removed

## Ordering Information

### Basic Model<sup>1</sup>

| Description        | Part Number |
|--------------------|-------------|
| 100 MHz to 2.7 GHz | JD723C      |
| 5 MHz to 4 GHz     | JD724C      |

### Options

NOTE: Upgrade options for the JD720C use the designation JD720CU before the respective last three-digit option number.

### Standard Accessories

| Description   | Part Number |
|---|-------------|
| JD720C soft carrying case <sup>2</sup>                    | JD720S0541  |
| AC/DC power adapter <sup>2</sup>                          | GC72450522  |
| Cross LAN cable (1.5 m) <sup>2</sup>                      | G710550335  |
| USB A to Mini B cable (1.8 m)                             | GC72450536  |
| > 1 GB USB memory <sup>2</sup>                            | GC72450518  |
| Automotive cigarette lighter/12 V DC adapter <sup>2</sup> | GC72450523  |
| Rechargeable LiON battery <sup>2</sup>                    | G710550325  |
| Stylus <sup>2</sup>                                       | G710550316  |
| JD720C-Series user's manual and application software CD   | JD720S0561  |

### Optional Calibration Kits

| Description                                       | Part Number |
|---|-------------|
| Y - Calibration Kit, Type-N(m), DC to 4 GHz, 50 Ω | JD72450509  |
| Y - Calibration Kit, DIN(m), DC to 4 GHz, 50 Ω    | JD72450510  |

### Optional RF Cables

| Description  | Part Number |
|--|-------------|
| 1.0 m (3.28 ft) RF cable, DC to 18 GHz, Type-N(m) to Type-N(m), 50 Ω | G710050530  |
| 1.5 m (4.92 ft) RF cable, DC to 18 GHz, Type-N(m) to Type-N(f), 50 Ω | G710050531  |
| 3.0 m (9.84 ft) RF cable, DC to 18 GHz, Type-N(m) to Type-N(f), 50 Ω | G710050532  |

### Optional RF Power Sensors

| Description   | Part Number |
|---|-------------|
| Directional power sensor (peak and average), 300 MHz to 3.8 GHz, average 0.15 to 150 W, peak 4 to 400 W | JD731B      |
| Directional power sensor (peak and average), 150 MHz to 3.5 GHz, average/peak 0.1 to 50 W               | JD733A      |
| Terminating power sensor (average), 20 MHz to 3.8 GHz, -30 to +20 dBm                                   | JD732B      |
| Terminating power sensor (peak), 20 MHz to 3.8 GHz, -30 to +20 dBm                                      | JD734B      |
| Terminating power sensor (peak and average), 20 MHz to 3.8 GHz, -30 to +20 dBm                          | JD736B      |
| Terminating power sensor (average), 40 MHz to 3 GHz, -30 to 0 dBm                                       | JD72450551  |
| Terminating power sensor (peak), 40 MHz to 4 GHz, -40 to 0 dBm  | JD72450552  |

### Optional RF Adapters

| Description                                       | Part Number |
|---|-------------|
| Adapter Type-N(m) to DIN(f), DC to 4 GHz, 50 Ω    | G710050571  |
| Adapter DIN(m) to DIN(m), DC to 4 GHz, 50 Ω       | G710050572  |
| Adapter Type-N(m) to SMA(f), DC to 18 GHz, 50 Ω   | G710050573  |
| Adapter Type-N(m) to BNC(f), DC to 1.5 GHz, 50 Ω  | G710050574  |
| Adapter Type-N(f) to Type-N(f), DC to 4 GHz, 50 Ω | G710050575  |
| Adapter Type-N(m) to DIN(m), DC to 4 GHz, 50 Ω    | G710050576  |
| Adapter Type-N(f) to DIN(f), DC to 4 GHz, 50 Ω    | G710050577  |
| Adapter Type-N(f) to DIN(m), DC to 4 GHz, 50 Ω    | G710050578  |
| Adapter DIN(f) to DIN(f), DC to 4 GHz, 50 Ω       | G710050579  |

### Optional Optical Power Meters and Fiber Inspection Scopes

| Description  | Part Number |
|--|-------------|
| USB Optical Power Meter with software, 2.5 mm and 1.25 mm interfaces, 30-inch USB extender, and carrying pouch   | MP-60A      |
| USB Optical Power Meter — High power, with software, 2.5 mm and 1.25 mm interfaces, 30-inch USB extender, and carrying pouch   | MP-80A      |
| KIT: FBP-P5000i Digital Probe, FiberChekPRO software, case, and tips (FBPT-SC, FBPT-LC, FBPT-U25M, FBPT-U12M)  | FBP-SD101   |
| KIT: FBP-P5000i Digital Probe, FiberChekPRO software, case, and tips (FBPT-SC, FBPT-SC/APC, FBPT-FC, FBPT-LC, FBPT-U25M, FBPT-U25MA, FBPT-U12M)                        | FBP-MTS-101 |
| KIT: FBP-P5000i Digital Probe, MP60A USB Power Meter, FiberChekPRO software, case, tips, and adapters (FBPT-SC, FBPT-LC, FBPT-U25M, FBPT-U12M)                         | FIT-SD103   |
| KIT: FBP-P5000i Digital Probe, MP60A USB Power Meter, FiberChekPRO software, case, tips, and adapters (FBPT-SC, FBPT-LC, FBPT-U25M, FBPT-U12M), and cleaning materials | FIT-SD103-C |
| KIT: FBP-P5000i Digital Probe, MP60A USB Power Meter, FiberChekPRO software, case, tips, and adapters (FBPT-SC, FBPT-LC, FBPT-U25M, FBPT-U12M)                         | FIT-SD113   |

### Optional Accessories

| Description   | Part Number |
|---|-------------|
| Attenuator 40 dB, 100 W, DC to 4 GHz (unidirectional) | G710050581  |
| JD720 hard carrying case                              | JD72350542  |
| Backpack carrying case                                | JD74050343  |
| External battery charger                              | G710550324  |
| JD720C-series user's manual - printed version         | JD720C362   |

### StrataSync

| Description  | Part Number               |
|--|---------------------------|
| StrataSync Asset Management Annual Subscription for CellAdvisor CAA                  | STRATASYNC-AM-CA-CAA-1Yr  |
| StrataSync Test Data Management Annual Subscription for CellAdvisor CAA <sup>3</sup> | STRATASYNC-TDM-CA-CAA-1Yr |

1. Requires a calibration kit
2. Standard accessories can be purchased separately.
3. Requires STRATASYNC-AM-CA-CAA-1Yr

## Network and Service Enablement Regional Sales

|   |  |   |   |  |
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