MF6900A
Fading Simulator
All-in-One Full Digital Fading Simulator
Supporting LTE 2×2 MIMO 2-cell and 4×2 MIMO

The introduction of the LTE next-generation communication standard makes MIMO evaluation in a fading environment much more complex. Connecting the MF6900A Fading Simulator to the MD8430A Signalling Tester via dedicated digital interface to simulate a BTS greatly simplifies 3GPP LTE 2×2 MIMO and 4×2 MIMO fading tests.

Key Features
• High reproducibility and maintainability due to full digital baseband processing
• All-in-one unit supports LTE 4×2 MIMO or LTE 2×2 MIMO↔W-CDMA/HSPA dual environment
• Easy fading settings using dedicated interface with MD8430A/MD8480C Signalling Tester
• Highly extendible hardware platform

Main Uses
• Coding and Decoding Tests (RF/Baseband)
• Throughput Tests (Performance Tests)
• Intra-RAT/Inter-RAT Handover Tests
• LTE Pre-conformance/Conformance Tests
• LTE Carrier UE Acceptance Tests
• Fault Troubleshooting

Functions

■ With MD8430A (LTE)
  • 8 channels max. (MIMO)
  • 1×1 SISO, 1×2 SIMO, 2×1 MISO, 2×2 MIMO (2 cells max.)
  • 4×1 MISO, 4×2 MIMO (1 cell max.)
  • Birth-Death/Moving/CQI/HST (2 cells max.)
  • Correlation Matrix Setting (MIMO)

■ With MD8480C (W-CDMA/HSPA)
  • 4 channels max.
  • 1×1 SISO (4 cells max.)
  • Birth-Death/Moving/HST (4 cells max.)
  • Tx/TRx Diversity (2 cells max.)
  • MBMS

■ Common Functions
  • Path Parameter Edit (12 paths/channel)
  • Parameter Saving and Reading
  • Slow Clock Tests
  • External Control
  • Clipping

MF6900A
Fading Simulator
High Reproducibility and Maintainability due to Full Digital Baseband Processing

The MF6900A simulates fading using full digital baseband processing. As a result, high-reproducibility results are obtained using the same settings and complex MIMO power control settings are extremely easy and accurate. Moreover, complete elimination of all analog circuits supports easy maintenance and calibration-free stability.

All-in-One Unit Supports LTE 4×2 MIMO or LTE 2×2 MIMO ↔ W-CDMA/HSPA Dual Environment

One unit supports LTE 2×2 MIMO 2-cell or 4×2 MIMO tests and combination with the MD8430A Signalling Tester offers a simple test setup for intra-system LTE 2×2 MIMO handover or 4×2 MIMO tests.

The MD8480C Signalling Tester for W-CDMA supports all-in-one LTE/W-CDMA inter-system handover tests (with MF6900A-001 option installed).

Easy Fading Setting using Dedicated Interface with MD8430A/MD8480C

The MF6900A Fading Simulator uses a dedicated digital connection with the MD8430A/MD8480C. Elimination of internal RF circuits eliminates power control settings, and the simple display supports intuitive use.

In addition, fading setting is made easy just by calling preset fading profiles from MD8430A and MD8480C test scenarios, allowing chipset and UE protocol developers to run tests transparently without a deep understanding of fading settings.

Moreover, auto-synchronization at MD8430A and MD8480C slow clock operation eliminates repeated fading setting.

Expandable Hardware Platform

The maximum number of input and output ports can be extended to four each to support 4×2 MIMO, 2×2 MIMO with 2 cells and dual RAT between W-CDMA/HSPA. Moreover, the MF6900A has GCF/PTCRB certification with the ME7873F/ME7873L used commonly as an RF conformance test system, and can be used as a future RF conformance test system.
Panel Layout

- Front Panel

1. **Power Switch**  
   AC power On switches Standby to Power On;  
   LED orange at Standby and green at Power On

2. **Hard Disc Access Lamp**  
   On at hard disk access

3. **Copy Key**  
   Saves screen dump of display to files

4. **Recall Key**  
   Recalls parameter files

5. **Save Key**  
   Saves parameter files

6. **Local Key**  
   Switches from remote to local mode using GPIB, USB,  
   and Ethernet and enables panel setting

7. **Remote Ramp**  
   On at remote control

8. **Preset Key**  
   Resets parameters to defaults

9. **Function Key**  
   Selects and executes function displayed on right (Menu  
   contents change between screens and levels)

10. **Shift Key**  
    Toggles function of blue keys;  
    press until LED is green and press required key.

11. **Main Function Key**  
    For connecting USB memory or USB keyboard and  
    mouse

12. **Rotary Knob/Cursor Key/Enter Key/Cancel Key**  
    Select and change settings of displayed items

13. **Numerical Keypad**  
    Sets parameters

14. **USB Connector (Type A)**  
    For connecting USB flash memory, USB keyboard or  
    mouse
**Rear Panel**

- **Port 1, 2, 3, 4 (LVDS)**
  Input and output IQ signals. Connect with MD8480C BTS board LVDS connector or MD8430A Fading Simulator Interface LVDS connector using attached LVDS cable. Standard configuration connects to two ports. Adding MF6900A-001 option supports maximum of four port connections.

- **AC Inlet**
  For connecting power cord

- **Monitor Out**
  For connecting external display

- **USB**
  For connecting USB flash memory, USB keyboard or mouse

- **LAN**
  For connecting external controller (PC) or Ethernet network

- **USB (Remote)**
  For connecting external controller over USB

- **GPIB**
  For connecting external controller over GPIB

- **Aux**
  For future function expanded functions

- **Sampling Clock**
  For connecting MD8480C Clock Output to input timing Clock; Sampling Clock 1 and 2 can be selected for each port.

- **Sync Start**
  For connecting Sync Output MD8480C or MD8430A to input Data output trigger. Sync Start 1 and 2 can be selected for each port.

- **Trigger Input**
  For future function expanded functions
**Fading Profile**

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<tr>
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<th>1×2 SIMO</th>
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<th>2×2 HST/1×2 HST/1×1 HST</th>
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<tr>
<td>Case1, Case2, Case3, Case4, Case5, Case6, Case8, VA3, VA30, VA120, PA3, PB3</td>
<td>EPA, EVA, ETU [3GPP TS 25.101 V8.9.0 (2009-12), TS 34.121-1 V8.9.0 (2009-12)]</td>
<td>EPA, EVA, ETU [3GPP TS 36.101 V8.8.0 (2009-12)]</td>
<td>EPA, EVA, ETU [3GPP TS 36.101 V8.8.0 (2009-12)]</td>
<td>Fading conditions for CQI tests [3GPP TS 36.101 V8.8.0 (2009-12)]</td>
<td>HST [3GPP TS 25.101 V8.9.0 (2009-12), TS 34.121-1 V8.9.0 (2009-12)] [3GPP TS 36.101 V8.8.0 (2009-12)]</td>
<td>Moving propagation conditions [3GPP TS 25.101 V8.9.0 (2009-12)]</td>
<td>Birth-Death propagation conditions [3GPP TS 25.101 V8.9.0 (2009-12)]</td>
<td>Case1, Case2, Case3, Case4, Case5, Case6, Case8, VA3, VA30, VA120, PA3, PB3 [3GPP TS 25.101 V8.8.0 (2009-12), TS 34.121-1 V8.9.0 (2009-12)]</td>
</tr>
</tbody>
</table>

*1: Requires MX690010A 2×2 MIMO option
*2: Requires MX690010A 2×2 MIMO and MX690010A-001 4×2 MIMO option
*3: Requires MX690011A Propagation for CQI test option
*4: Requires MX690030A High Speed Train option
*5: Requires MX690020A WCDMA Extended model option

**Options/Software**

**Options**

**MF6900A-001 Additional LVDS Interface**
- Hardware option to add two rear LVDS interface ports
- Required when using 2 cells with MD8430A and 3 or more cells with MD8480C

**MF6900A-101 Additional LVDS Interface Retrofit**
- For MF6900A-001 retrofit at Anritsu plant

**Software Options**

**MX690010A 2×2 MIMO**
- Software installed in main frame to use LTE MIMO functions

**MX690010A-001 4×2 MIMO**
- Software installed option adding 4×2 MIMO capability

**MX690011A Propagation for CQI test**
- Software installed option adding test conditions specified by 3GPP TS 36.521-1 Chapter 9.3 CQI Reporting under fading conditions and Chapter 9.4 Reporting of Precoding Matrix Indicator (PMI)

**MX690020A WCDMA Extended Model**
- Software installed in main frame to use Moving, Birth-Death, Tx/TRx Diversity functions
  - Connection with MD8480C requires MU848072C-40 MF6900 interface or MU848072E BTS Evolution option

**MX690030A High Speed Train**
- Software installed option adding High Speed Train (HST) Scenario that is one of the mobility condition specified by 3GPP

<table>
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<tr>
<th>Standard configuration</th>
<th>MX690010A</th>
<th>MX690020A</th>
<th>Max. No. of LTE BS (MD8430A)</th>
<th>Max. No. of W-CDMA BS (MD8480C)</th>
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<tbody>
<tr>
<td>SISO (Standard)</td>
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<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>LTE MIMO, MISO, SIMO</td>
<td>–</td>
<td>√</td>
<td>–</td>
<td>1</td>
</tr>
<tr>
<td>LTE Diversity</td>
<td>–</td>
<td>√</td>
<td>–</td>
<td>1</td>
</tr>
<tr>
<td>LTE 2×2 MIMO Handover</td>
<td>–</td>
<td>–</td>
<td>√</td>
<td>1</td>
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<tr>
<td>LTE, W-CDMA/HSPA Inter-RAT</td>
<td>–</td>
<td>√</td>
<td>–</td>
<td>1</td>
</tr>
<tr>
<td>Birth-Death</td>
<td>–</td>
<td>–</td>
<td>√</td>
<td>1</td>
</tr>
<tr>
<td>Moving</td>
<td>–</td>
<td>–</td>
<td>√</td>
<td>2</td>
</tr>
<tr>
<td>W-CDMA/HSPA Diversity</td>
<td>–</td>
<td>–</td>
<td>√</td>
<td>1</td>
</tr>
<tr>
<td>W-CDMA MBMS</td>
<td>√</td>
<td>–</td>
<td>–</td>
<td>2</td>
</tr>
</tbody>
</table>

* Requires MX6900A-001 Additional LVDS Interface option
## Specifications

### MF6900A Fading Simulator

#### Connector

- **Digital I/F**: I/F (Rear panel) for exchanging signals between MF6900A and MD8480C or MF6900A and MD8430A with one connector supporting both input and output
- **No. of I/O Ports**: 2 ports (Standard), 4 ports (with MF6900A-001 Additional LVDS Interface (Opt-001))
- **Sampling Clock**: I/F for adjusting timing between MF6900A and MD8480C with two system settings (Sampling Clock1, Sampling Clock2)
  - **Electrical Characteristics**: Connector: BNC-J (Rear panel)
  - **Input level**: LV TTL
- **Sync Start**: I/F for synchronizing between MF6900A and MD8480C, or between MF6900A and MD8430A with two settings (Sync Start1, Sync Start2)
  - **Electrical Characteristics**: Connector: BNC-J (Rear panel)
  - **Input level**: LV TTL
- **External Controller**: Supports control from external controller (except Power Supply)
  - **Ethernet (10/100/1000 BASE-T)**: Connector: RJ-45 (Rear panel)
  - **GPIB**: Supports IEEE488.2
    - **Connector**: IEEE bus connector (Rear panel)
    - **Interface functions**: SH1, AH1, T6, L4, SR1, RL1, PP0, DC1, DT0, C0, E2
  - **USB (B)**: Supports USB2.0
    - **Connector**: USB-B (Rear panel)
- **USB**: For connecting external USB devices to save mainframe parameters
  - **Supports USB2.0**
  - **Connector**: USB-A (Front panel: 2 ports, Rear panel: 2 ports)
- **Monitor Out**: Connector: Mini D-Sub 15 pins, VGA compatible (Rear panel)
- **Display**: XGA color LCD (Resolution: 1024 × 768)
  - **8.4 inches (213 mm diagonal)**

#### Common Parameter

- **Defined by Digital I/F**
- **RF Frequency**: 100 MHz to 6000 MHz, Resolution: 1 Hz (except 1×1 HST/1×2 HST/2×2 HST)
  - 89.937737 MHz to 36154.970475 MHz, Resolution: 1 Hz (1×1 HST/1×2 HST/2×2 HST, Display only)
- **Sampling Frequency**: 10 MHz to 80 MHz, Resolution: 1 Hz (except 1×1 HST/1×2 HST/2×2 HST)
  - 19.2 MHz, 30.72 MHz (1×1 HST/1×2 HST/2×2 HST)
- **Port Gain**: –50 to 0 dB, Resolution: 0.1 dB, Setting accuracy: 0.05 dB, each port can be set
- **Relative Channel Gain**: –50 to 0 dB, Resolution: 0.1 dB, Setting accuracy: 0.05 dB, each channel can be set
- **Doppler Frequency**: 0 or 0.1 Hz to 20 kHz, Resolution: 0.01 Hz (except 1×1 HST/1×2 HST/2×2 HST)
  - 50 Hz to 3350 Hz, Resolution: 1 Hz (1×1 HST/1×2 HST/2×2 HST)
- **Moving Speed**: 0 km/h to $v_{max}$ km/h, Resolution: 0.01 km/h (except 1×1 HST/1×2 HST/2×2 HST)
  - where $v_{max}$ found as: $v_{max} = \frac{c}{f_d}$
  - $f_d$: Frequency, $c$: Velocity of light in vacuum ($1.07925825 \times 10^8$ km/h), $f_d$: Maximum doppler frequency at 20 kHz
  - 100 km/h to 600 km/h, Resolution: 100 km/h (1×1 HST/1×2 HST/2×2 HST)

#### Channel Configuration (SISO)

- **Defined by Digital I/F**
- **Number of Port**: 2 (Standard), 4 (with Opt-001)
- **Number of Channel**: 2 (Standard), 4 (with Opt-001)
- **Number of Path**: 12 paths/channel
- **Relative Path Delay**: 0 to 600 μs, Resolution: 0.1 ns, Setting accuracy: ±0.1 ns
  - * Based on delay 0, when connecting MD8430A or MD8480C
- **Relative Path Gain**: –50 to 0 dB, Resolution: 0.1 dB, Setting accuracy: 0.05 dB
- **Fading Type**: Constant Phase, Pure Doppler, Rayleigh model, Rice model
  - * Pure Doppler and Rice model can only be set for 1 path at 1 channel
- **Phase Shift**: Constant Phase
  - 0 to 359.9°, Resolution: 0.1°, Setting accuracy: 0.1°
- **Rice K Factor**: Rice model
  - +30 to –30 dB, Resolution: 0.1 dB
- **Angle of Arrival**: Pure Doppler or Rice model
  - 0 to 359.9°, Resolution: 0.1°
- **Standard Fading Profile**: Case1, Case2, Case3, Case4, Case5, Case6, Case8, VA3, VA30, VA120, PA3, PB3
  - [3GPP TS 25.101 V8.9.0 (2009-12), TS 34.121-1 V8.9.0 (2009-12)], EPA, EVA, ETU [3GPP TS 36.101 V8.8.0 (2009-12)]
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<th>Channel Configuration (Moving)</th>
<th>Enabled with MX690020A, Defined by Digital I/F</th>
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<tbody>
<tr>
<td>Number of Port</td>
<td>2 (Standard), 4 (with Opt-001)</td>
</tr>
<tr>
<td>Number of Channel</td>
<td>2 (Standard), 4 (with Opt-001)</td>
</tr>
<tr>
<td>Standard Fading Profile</td>
<td>Moving Propagation conditions [3GPP TS 25.101 V8.9.0 (2009-12)]</td>
</tr>
<tr>
<td>Delay Variation</td>
<td>0.5 μs to 10 μs, Resolution: 0.1 μs, Setting accuracy: 2 ns</td>
</tr>
<tr>
<td>Delay Offset</td>
<td>0 to 50 μs, Resolution: 0.1 μs, Setting accuracy: 0.1 ns</td>
</tr>
<tr>
<td>Angular Frequency (ω)</td>
<td>0.01 rad/s to 0.4 rad/s, Resolution: 0.001 rad/s, Setting accuracy: 0.0001 rad/s</td>
</tr>
<tr>
<td>Variation Period</td>
<td>15.708 s to 628.318 s, Resolution: 0.001 s (Display only)</td>
</tr>
<tr>
<td>Relative Path Delay</td>
<td>0 to 50 μs, Resolution: 0.01 μs, Setting accuracy: ±0.1 μs</td>
</tr>
<tr>
<td>Relative Path Gain</td>
<td>−50 to 0 dB, Resolution: 0.1 dB, Setting accuracy: 0.05 dB</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Channel Configuration (Birth-Death)</th>
<th>Enabled with MX690020A, Defined by Digital I/F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Port</td>
<td>2 (Standard), 4 (with Opt-001)</td>
</tr>
<tr>
<td>Number of Channel</td>
<td>2 (Standard), 4 (with Opt-001)</td>
</tr>
<tr>
<td>Standard Fading Profile</td>
<td>Birth-Death propagation conditions [3GPP TS 25.101 V8.9.0 (2009-12)]</td>
</tr>
<tr>
<td>Maximum Delay</td>
<td>1 μs to 600 μs, Resolution: 0.1 ns</td>
</tr>
<tr>
<td>Delay Resolution</td>
<td>0.1 μs to 60 μs, Resolution: 0.1 μs, Setting accuracy: 0.1 ns</td>
</tr>
<tr>
<td>where Delay resolution: ΔT (μs) and Maximum delay: T_{max} (μs) found as; 10*ΔT = T_{max}</td>
<td></td>
</tr>
<tr>
<td>Dwell Time</td>
<td>0.1 ms to 2000 ms, Resolution: 0.1 ms, Setting accuracy: 0.05 μs</td>
</tr>
<tr>
<td>Relative Path Gain</td>
<td>−50 to 0 dB, Resolution: 0.1 dB, Setting accuracy: 0.05 dB</td>
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<table>
<thead>
<tr>
<th>Channel Configuration (Tx/Trx diversity)</th>
<th>Enabled with MX690020A and when MD8480C connected, Defined by Digital I/F</th>
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<tr>
<td>Number of Port</td>
<td>2 (Standard), 4 (with Opt-001)</td>
</tr>
<tr>
<td>Number of Channel</td>
<td>Tx Diversity: 2 (Standard), 2+2 (with Opt-001)</td>
</tr>
<tr>
<td>Trx Diversity</td>
<td>Trx Diversity: 4 (Standard), 4+4 (with Opt-001)</td>
</tr>
<tr>
<td>Number of Path</td>
<td>12 paths/channel</td>
</tr>
<tr>
<td>Relative Path Delay</td>
<td>0 to 600 μs, Resolution: ±0.1 ns, Setting accuracy: ±0.1 ns</td>
</tr>
<tr>
<td>where Based on delay 0, when connecting MD8480C</td>
<td></td>
</tr>
<tr>
<td>Relative Path Gain</td>
<td>−50 to 0 dB, Resolution: 0.1 dB, Setting accuracy: 0.05 dB</td>
</tr>
<tr>
<td>Fading Type</td>
<td>Constant Phase, Pure Doppler, Rayleigh model, Rice model</td>
</tr>
<tr>
<td>Phase Shift</td>
<td>Constant Phase, Pure Doppler and Rice model can only be set for 1 path at 1 channel</td>
</tr>
<tr>
<td>Rice K Factor</td>
<td>Rice model</td>
</tr>
<tr>
<td>+30 to −30 dB, Resolution: 0.1 dB</td>
<td></td>
</tr>
<tr>
<td>Angle of Arrival</td>
<td>Pure Doppler or Rice model</td>
</tr>
<tr>
<td>Relative Path Gain</td>
<td>0 to 359.9°, Resolution: 0.1°, Setting accuracy: 0.1°</td>
</tr>
<tr>
<td>Standard Fading Profile</td>
<td>Case1, Case2, Case3, Case4, Case5, Case6, Case8, VA3, VA30, VA120, PA3, PB3 [3GPP TS 25.101 V8.9.0 (2009-12), TS 34.121-1 V8.9.0 (2009-12)]</td>
</tr>
</tbody>
</table>
Enabled with MF6900A-001, MX690010A, MX690010A-001 and when MD8430A connected. Defined by Digital I/F

### Channel Configuration (4×2 MIMO/4×1 MISO)

- **Number of Port**: 4
- **Number of Channel**: 4×2 MIMO: 8, 4×1 MISO: 4
- **Number of Path**: 12 paths/channel
- **Relative Path Delay**: 0 to 600 μs, Resolution: 0.1 ns, Setting accuracy: ±0.1 ns
  - Based on delay 0, when connecting MD8430A
- **Relative Path Gain**: −50 to 0 dB, Resolution: 0.1 dB, Setting accuracy: 0.05 dB
- **Fading Type**: Constant Phase, Pure Doppler, Rayleigh model, Rice model
  - Pure Doppler and Rice model can only be set for 1 path at 1 channel
- **Phase Shift**: Constant Phase
  - 0 to 359.9°, Resolution: 0.1°, Setting accuracy: 0.1°
- **Rice K Factor**: Rice model
  - +30 to −30 dB, Resolution: 0.1 dB
- **Angle of Arrival**: Pure Doppler or Rice model
  - 0 to 359.9°, Resolution: 0.1°
- **Correlation Coefficient**: −0.99 to 0.99, Resolution: 0.01
- **Correlation Matrix**: 8×8 (4×2 MIMO), 4×4 (4×1 MISO)
  - 4×2 High Correlation, 4×2 Medium Correlation, 4×2 Low Correlation
  - * when using Scaling factor
  - Arbitrary correlation matrix can be set by following correlation coefficient range
    - −1.00000 to 1.00000, Resolution: 0.00001 (Display only)
- **Standard Fading Profile**: EPA, EVA, ETU [3GPP TS 36.101 V8.8.0 (2009-12)]

### Channel Configuration (2×2 HST/1×2 HST/1×1 HST)

- **Number of Port**: 2 (Standard), 4 (with Opt-001)
- **Number of Channel**: 2×2 HST: 4 (Standard), 4+4 (with Opt-001)
  - 1×2 HST/1×1 HST: 2 (Standard), 2+2 (with Opt-001)
- **Number of Path**: 12 paths/channel
- **D_s**: 100 m to 600 m, Resolution: 1 m
  - * Unit of each found as:
    - $D_s$ (m), $D_{min}$ (m), ν (m/s), t (s)
  - $D_{max}$ found as above
- **T**: 1.2000 s to 43.2000 s, Resolution: 0.1 ms (Display only)
  - * $D_s$, Moving Speed and Variation Period found as $D_s$ (m), ν (km/h), t (s)
  - $T = \frac{2 \times D_s \times \nu}{1000 \times 3600}$
- **Standard Fading Profile**: High Speed Train Scenario [3GPP TS 25.101 V8.9.0 (2009-12), 3GPP TS 34.121-1 V8.9.0 (2009-12), and 3GPP TS 36.101 V8.8.0 (2009-12)]

### Channel Configuration (1×2 CQI/1×1 CQI)

- **Number of Port**: 2 (Standard), 4 (with Opt-001)
- **Number of Channel**: 2 (Standard), 2+2 (with Opt-001)
- **Relative Path Delay**: 0.2 ns to 600 μs, Resolution: 0.1 ns, Setting accuracy: ±0.1 ns
  - Based on delay 0, when connecting MD8430A or MD8480C
- **Fading Type**: Path 1: Constant Phase
  - Path 2: Pure Doppler
- **Phase Shift**: Constant Phase
  - 0 to 359.9°, Resolution: 0.1°, Setting accuracy: 0.1°
- **Angle of Arrival**: Pure Doppler or Rice model
  - 0 to 359.9°, Resolution: 0.1°
- **Standard Fading Profile**: Conditions for CQI tests [3GPP TS 36.101 V8.8.0 (2009-12)]

### Dimension/Mass

- **340 (W) × 200 (H) × 448 (D) mm (excluding protrusions)**
- **≤15 kg (with Opt-001)**

### Power Supply

- **Voltage**: 100 V (ac) to 120 V (ac) / 200 V (ac) to 240 V (ac) (~15/+10%, Maximum voltage: 250 V)
  - Frequency: 50 Hz/60 Hz (~±5%)
  - Power consumption: ≤350 VA (Maximum value)

### Temperature/Humidity

- **Operating**: Temperature: +5° to +45°C, Humidity: 20 to 80%, (no condensation)
  - **Storage**: Temperature: −20° to +60°C, Humidity: 90% or less, (no condensation)

### EMC

- **EN61326-1, EN61000-3-2**

### LVD

- **EN61010-1**
## Ordering Information

Please specify the model/order number, name and quantity when ordering.

The names listed in the chart below are Order Names.

The actual name of the item may differ from the Order Name.

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<th>Name</th>
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<tr>
<td>J1416A</td>
<td>– Standard accessories –</td>
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<td>Coaxial Code, 2.0 m (BNC-P-RG55A/U+BNC-P)</td>
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<tr>
<td>P0031A</td>
<td>USB Memory (&gt;256 MB, USB2.0 Flash Driver)</td>
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<tr>
<td>Z0541A</td>
<td>Install CD-R (with manual)</td>
</tr>
<tr>
<td>MF6900A-001</td>
<td>– Option – Additional LVDS Interface*</td>
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<td>MF6900A-201</td>
<td>– Retrofit option – Additional LVDS Interface Retrofit*</td>
</tr>
<tr>
<td>MX690001A</td>
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</tr>
<tr>
<td>MX690011A</td>
<td>Propagation for CQI test</td>
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<tr>
<td>MX690020A</td>
<td>WCDMA Extended Model</td>
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<tr>
<td>MX690030A</td>
<td>High Speed Train</td>
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<tr>
<td>MF6900A-ES210</td>
<td>– Warranty service –</td>
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<tr>
<td>MF6900A-ES310</td>
<td>2 Years Extended Warranty Service</td>
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<tr>
<td>MF6900A-ES510</td>
<td>3 Years Extended Warranty Service</td>
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<tr>
<td>MF6900A-ES510</td>
<td>5 Years Extended Warranty Service</td>
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<tr>
<td>J1416A</td>
<td>– Application parts –</td>
</tr>
<tr>
<td>J0093B</td>
<td>Coaxial Code, 1.0 m (BNC-P-RG55A/U+BNC-P)</td>
</tr>
<tr>
<td>J0093C</td>
<td>Coaxial Code, 2.0 m (BNC-P-RG55A/U+BNC-P)</td>
</tr>
<tr>
<td>J1261A</td>
<td>Ethernet Cable (Shield type, Straight cable, 1.0 m)</td>
</tr>
<tr>
<td>J1261B</td>
<td>Ethernet Cable (Shield type, Straight cable, 3.0 m)</td>
</tr>
<tr>
<td>J1261C</td>
<td>Ethernet Cable (Shield type, Cross cable, 1.0 m)</td>
</tr>
<tr>
<td>J1261D</td>
<td>Ethernet Cable (Shield type, Cross cable, 3.0 m)</td>
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<tr>
<td>J0008</td>
<td>GPIB Cable, 2.0 m</td>
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<tr>
<td>B0606A</td>
<td>Rack Mount Kit</td>
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<tr>
<td>Z0975A</td>
<td>Keyboard (USB)</td>
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</table>

*LVDS Cable is not included.

Please make order for separate J1416A LVDS Cable in the Application parts.
Note: