

Agilent Wireless 3G Connected Solutions for 3G

Configuration Guide



Introduction

This guide will help you determine the design tools and test equipment needed to configure a connected solution that best fits your 3G product development needs. Options for a W-CDMA experimental system configuration are included. As 3G standards evolve, Agilent Technologies' set of design tools and test equipment (and their connected capabilities) will also evolve to provide powerful solutions for W-CDMA, cdma2000, and EDGE.



Design tools

Agilent Advanced Design System (ADS)

- Required suites (select at least one):
 - DSP Designer (E8821A/AN)
 - □ Communications System Designer Pro (E8851A/AN)
 - □ Communications System Designer Premier (E8852A/AN)

Required option:

UW-CDMA design library (E8855A/AN) Recommended option:

CDMA design library (E8857A/AN)

Test equipment

Agilent ESG-D or ESG-DP series digital RF signal generator (select one):

| □ E4432B | 3 GHz digital RF signal gener- | |
|--------------------------|--|--|
| | ator | |
| □ E4433B | 4 GHz digital RF signal gener- | |
| | ator | |
| □ E4436B | 3 GHz digital RF signal gener- | |
| | ator with high spectral purity | |
| □ E4437B | 4 GHz digital RF signal gener- | |
| | ator with high spectral purity | |
| Required options: | | |
| Option UND | Internal dual arbitrary wave- | |
| | form generator | |
| □ Option 1E5 | High-stability timebase | |
| Recommended options: | | |
| □ Option UN8 | Real-time $\ensuremath{\mathrm{I/Q}}\xspace$ baseband gener- | |
| | ator with TDMA standards | |
| | and 1M RAM | |
| □ Option UN5 | Multi-carrier, multi-channel | |
| | CDMA personality | |
| □ Option 100 | Multi-channel W-CDMA per- | |
| | sonality | |
| □ Option 101 | Multi-channel cdma2000 per- | |
| | sonality | |
| □ Option 202 | EDGE personality | |
| D Option H99 | Improved ACP performance for | |
| | TETRA, CDMA, and W-CDMA | |

- Agilent 89400 series vector signal analyzer: **🗆** 89441A Vector signal analyzer **Required options:** □ Option B73 W-CDMA code domain power for experimental system □ Option B79 ARIB 1.0-1.2 W-CDMA Analysis □ Option AYA Vector modulation analysis □ Option AY9 Extended time capture □ Option UTH 20 Mbytes extended RAM **Recommended options:** □ Option AYJ Adaptive equalization to AYA □ Option B7A Enhanced Data rates for GSM Evolution (EDGE)
 - □ Option UG7 Advanced LAN support (remote displays)

Platform (for Agilent Advanced Design System)

Select one platform, then a corresponding operating system and interface card.

| in a constant and intenf | and and | Windows NT® 4.0 | |
|------------------------------------|----------------------------|------------------------------|----------------------------|
| ing system and interface card. | | | |
| | | Interface: | DOOFOA |
| \square B/C/J-class workstations | | \Box LAN/GPIB | E2050A |
| Operating system: | | LI ISA/EISA | 82341C/D |
| \Box HPUX 10.2 | | \Box PCI | National Instruments PCI- |
| Interface: | | | GPIB for Windows NT |
| □ LAN/GPIB | E2050A | | |
| \Box PCI | E2078A | \Box PCMCIA | National Instruments PCM- |
| \Box ISA/EISA | E2071D | | CIA-GPIB for Windows NT |
| □ ISA/EISA | National Instruments GPIB- | | |
| | 700-EISA | \Box EISA/ISA/AT | ۲ National Instruments AT- |
| □ HPUX 11.0 | | | GPIB/TNT for Windows NT |
| Interface: | | | |
| □ LAN/GPIB | $E2050A^{1}$ | □ Windows [®] 98/95 | |
| / | | Interface: | |
| □ IBM workstation | | □ LAN/GPIB | E2050A |
| Operating system: | | □ ISA/EISA | 82341C/D |
| \square AIX 4 2 4 3 | | \square PCI | National Instruments PCI- |
| Interface | | | GPIB for Windows 98/95 |
| $\square LAN/GPIB$ | E2050A1 | \square PCMCIA | National Instruments PCM- |
| | | | CIA-GPIB for Windows |
| \Box SUN workstation | | | 98/95 |
| Operating system: | | \Box EISA/ISA/A7 | National Instruments AT- |
| \Box Solaria 2.5. 2.6 | | | CPIB/TNT for Windows |
| Interface: | | | 02/05 |
| | F2050A1 | | 30/30 |
| \square LAN/ GFID | Notional Instruments CDID | | |
| L SDUS | CDDC D | | |
| | SPRU-B | | |
| | National Instruments PCI- | | |
| | GPIB for Sun SPARCstation | | |

□ PC workstation

Operating system:

1. Requires Agilent Advanced Design System release 1.3

Related Literature

3G Solutions

Pub. number 5968-5031E 5968-5860E

Advanced Design System

Connected Solutions for 3G

| Advanced Design System | 5966-2870E |
|------------------------------------|------------|
| $Communications\ System\ Designer$ | 5966-0670E |
| DSP Designer | 5966-2869E |
| W-CDMA Design Library | 5967-5624E |
| CDMA Design Library | 5968-1611E |
| Advanced Design System | |
| Release 1.0 | 5966-2190E |

ESG series **RF** signal generators

| RF Digital and Analog Signal | |
|-----------------------------------|--------------|
| Generators | 5968-4313E |
| Options for the ESG family | 5968-2807E |
| Configuration Guide | 5965-4973E |
| Data Sheet | 5965 - 3096E |
| Generating and Downloading | |
| Data to the ESG-D RF | |
| Signal Generator for Digital | |
| Modulation | 5966-1010E |
| Generating Digital Modulation | |
| with the ESG-D Series Dual | |
| Arbitrary Waveform Generator | 5966-4097E |
| Customize Digital Modulation with | |
| ESG-D Series Real-Time I/Q | |
| Baseband Generator, Option UN8 | 5966-4096E |

Agilent 89400 series vector signal analyzers

| Powerful Solutions for Complex | |
|--------------------------------|------------|
| Measurement Problems | 5965-8554E |
| W-CDMA, EDGE and Bluetooth | |
| Technology–Developing Next- | |
| Generation Communications | |
| with the Agilent 89400 Series | 5968-7347E |
| Data Sheet | 5965-5425E |

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