Agilent E6381A

8935 Series TDMA Base Station Test Set

Specifications

- **Cellular and PCS frequency coverage in one box**
- **Analog and TDMA test capabilities**
- **Built-in average power meter with ±7.5% accuracy**
- **Dedicated, one-button user interface keys**
- **Firmware upgradeable (via PCMCIA to flash memory)**
- **Automation software to increase measurement repeatability and enhance technician efficiency**

The Agilent Technologies 8935 Series E6381A TDMA base station test set is a full-featured, one-box test set designed to meet the needs of installation teams, service providers, and network equipment manufacturers.

Building on the success of our previous generations of base station test equipment, the E6381A heavily incorporates feedback from PCS and Cellular users. For example, the E6381A utilizes a large, bright, easy-to-read, electroluminescent display. A convenient connector section on the side of the test set allows unobtrusive, out-of-the-way hook up, as well as protects the connectors from damage. A suitcase form factor provides better portability.

The "rugged" design includes a reliable membrane keypad, a gasketed display, and filtered airflow to resist dirt and moisture. The unit's enclosure provides for stand up operation, and helps protect itself from bumps and shocks.

The E6381A incorporates a user-friendly interface with one-key measurement execution. This interface, coupled with the test set's fast measurement speed and automated software for Ericsson, Lucent, and Nortel base stations, results in less off-line time and improved system performance. Errors due to test variability are reduced, and measurement data can be output to a printer or to the PC memory card. Additionally, new features and capabilities can be added to the E6381A without returning the unit to a service center. The test set's firmware is user upgradeable via a PC card to Flash Memory.

To complete the TDMA parametric test solution, Agilent also offers a new TDMA technician training program to provide install teams and service providers with a comprehensive understanding of base station test.

For more information about the E6381A, refer to the 8935 series configuration guide on our Web site at: www.agilent.com/find/assist

Agilent Technologies

Innovating the HP Way

Agilent 8935 Series
E6381A TDMA Base Station Test Set
Specifications

Specifications describe the instrument's warranted performance and are valid over the entire operating/environmental range unless otherwise noted.

Supplemental Characteristics are intended to provide additional information useful in applying the instrument by giving typical, but non-warranted performance parameters. These characteristics are shown in italics or labeled as "typical," "usable to," or "nominal."

TDMA Signal Generator Specifications

Frequency Range: 824 MHz to 894 MHz, and 1.850 GHz to 1.910 GHz (usable 800 MHz to 1000 MHz, 1.7 GHz to 2.0 GHz)

Output Level Range

RF IN/OUT: –127 dBm to –40 dBm

Level Accuracy: ±1.0 dB, (level >–127 dBm); if RF analyzer is also connected add ±0.1 dB

Typically ±1.0 dB for levels below –127 dBm

DUPLEX OUT: –125 dBm to –10 dBm

Level Accuracy: ±1.5 dB

Typically ±1.0 dB

Residual Error Vector Magnitude: <3.5% 824 MHz to 894 MHz and 1.850 GHz to 1.910 GHz, *Typically <2.5%*

Residual Phase Error: <3.5°

Residual Magnitude Error: <3.5%

IQ Origin Offset: <–30 dBc within ±15 °C of the temperature of the last calibration

Frequency Error: ±4 Hz plus frequency reference

TDMA Analyzer Specifications

Frequency Range: 30 MHz to 1000 MHz, and 1.7 GHz to 2.0 GHz

Input Level Range

RF IN/OUT: 3.2 mW to 60 W (5 dBm to +47.8 dBm)

ANT IN: 0.5 µW to 31.6 mW (–33 dBm to +15 dBm)

Residual Error Vector Magnitude: <1.5%

Error Vector Magnitude Measurement Accuracy: 0.4% +2% of reading for measured EVM values >3%

Residual Phase Error: <1.5°

Residual Magnitude Error: <1.4%

IQ Origin Offset Accuracy: ±0.5 dB for values greater than –40 dBc

Frequency Error Accuracy: ±2 Hz plus frequency reference

Average Power Measurement

Input Frequency Range: 30 MHz to 1000 MHz, and 1.7 GHz to 2.0 GHz

Input Connector: RF IN/OUT only

Measurement Bandwidth: Provides an accurate measure of the total power for signals within ±100 kHz of the operating frequency. If other signals are present outside this frequency range, reduced measurement accuracy will result.

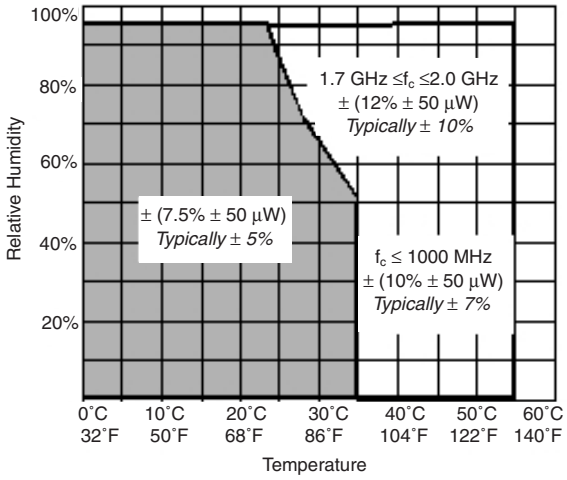
Maximum Input Level: 60 W average for TDMA signals

Measurement Range

4 mW to 60 W for f >100 MHz (+6 dBm to +48 dBm)

4 mW to 1 W for f <100 MHz (+6 dBm to +30 dBm)

Accuracy:



Channel Power Measurement (30 kHz)

Input Frequency Range: 30 MHz to 1000 MHz, and 1.7 to 2.0 GHz

Measurement Bandwidth: Measures the total average power in a 30 kHz bandwidth centered on the selected frequency

Measurement Range

RF IN/OUT: 7.9 nW to 60 W average (–51 to +47.8 dBm)

Antenna: *Typically, 1.25 pW to 31.6 mW average (–89 to +15 dBm)*

Measurement Accuracy (Within five minutes of calibration [user initiated] and within the 7.5% average power environmental window)

RF IN/OUT: ±(0.75 dB ±1.9 nW)

Antenna: *Typically, ±(0.75 dB ±0.5 pW)*

CDPD Signal Generator

(CDPD module is optional)

Frequency Range: 824 MHz to 894 MHz

Frequency Accuracy: ±500 Hz, *typically ±50 Hz*

Output

RF IN/OUT Connector

Level Range: –137 dBm to –40 dBm into 50 Ω
Level Accuracy: ±1.0 dB (level >–127 dBm); if CDPD analyzer is also connected add ±0.1 dB.
Typically ±1.0 dB for levels below –127 dBm

Reverse Power: 100 W continuous, temperature <40 °C, 75 W continuous for temperatures <55 °C

DUPLEX OUT Connector

Level Range: –125 dBm to –10 dBm into 50 Ω
Level Accuracy: ±1.5 dB, *typically ±1.0 dB for all levels*. If CDPD analyzer is also connected add ±0.1 dB.
Reverse Power: 200 mW max

Modulation Type: GMSK with BT=0.5

Modulation Accuracy: <5% error in modulation index

CDPD Analyzer

(CDPD Module is optional)

RF Frequency Range: 869 MHz to 894 MHz

Input Level Range

RF IN/OUT: 3.2 mW to 60 W (+5 dBm to 47.78 dBm)
ANT IN: 0.5 mW to 31.6 µW (–33 dBm to +15 dBm)

RF Power Measurement

Frequency Range: 30 MHz to 1 GHz, 1.7 to 2.0 GHz
Accuracy: Same as graph on page 4.
Measurement Range RF IN/OUT: To achieve the specified accuracy when measuring power at the RF In/Out port, the internal signal generator level must be 60 dB below the measured power or less than –20 dBm at the Duplex port.
100 MHz < f_C <2.0 GHz: 4 mW to 100 W continuous, temperatures <40 °C, 75 W continuous, for temperatures <55 °C
30 MHz < f_C <100 MHz: 4 mW to 1 W continuous

Supplemental Characteristics
Resolution: *Three digits (Example: resolution of 10 mW for powers <10 W and >1 W)*
Frequency Error Accuracy: *±1 Hz plus frequency reference*
Modulation Index Accuracy: *<0.1% error in modulation index*
Adjacent Channel Power Measurement Floor: *Typically –45 dBc*
Alternate and Second Alternate Channel Power Measurement Noise Floor 4: *Typically –60 dBc*

Signal Generator Specifications

RF Frequency

Range: 400 kHz to 1000 MHz, and 1.7 GHz to 2.0 GHz
Accuracy and Stability: ±(0.065 Hz plus reference oscillator accuracy)

Output

RF IN/OUT Connector

Level Range: –137 dBm to –40 dBm into 50 Ω
Level Accuracy: ±1.0 dB (level >–127 dBm); if RF Analyzer is also connected add ±0.1 dB.
Typically ±1.0 dB for levels below –127 dBm

DUPLEX OUT Connector

Level Range: –125 dBm to +3 dBm into 50 Ω
Level Accuracy: ±1.5 dB, *typically ±1.0 dB for all levels*

Reverse Power: 200 mW max

SWR: <1.7:1

Supplemental Characteristics
Resolution: 0.1 dB

Spectral Purity

(For output levels of <–10 dBm at DUPLEX OUT or <–40 dBm at RF IN/OUT)

Harmonics: <–25 dBc

Non-Harmonic Spurious (>5 kHz from carrier):

250 kHz	≤f_C	<249 MHz	<–45 dBc
249 MHz	≤f_C	≤1000 MHz	<–60 dBc
1700 MHz	≤f_C	≤2000 MHz	<–55 dBc

Residual FM (rms, CCITT filter):

250 kHz	≤f_C	<249 MHz	<7 Hz
249 MHz	≤f_C	<501 MHz	<4 Hz
501 MHz	≤f_C	≤1000 MHz	<7 Hz
1700 MHz	≤f_C	≤2000 MHz	<14 Hz

Supplemental Characteristics
SSB Phase Noise (20 kHz offset):

f_C <1 GHz	*<–116 dBc/Hz*
1.7 GHz < f_C <2.0 GHz	*<–90 dBc/Hz*

FM

FM Deviation Maximum (for rates >25 Hz):

400 kHz	<f_C	<249 MHz	100 kHz
249 MHz	<f_C	<501 MHz	50 kHz
501 MHz	<f_C	<1000 MHz	100 kHz
1.7 GHz	<f_C	<2.0 GHz	100 kHz

[FM not specified for (f_C minus FM dev) <400 kHz]

FM Rate (1 kHz reference):

Internal: dc to 25 kHz (1 dB BW)
External:
AC Coupled: *20 to 75 kHz (typically 3 dB BW)*
DC Coupled: *dc to 75 kHz (typically 3 dB BW)*

FM Accuracy (1 kHz rate):
<10 kHz dev: ±3.5% of setting ±50 Hz,
>10 kHz dev: ±3.5% of setting ±500 Hz

FM Distortion (THD + noise, in a 0.3 to 3 kHz BW):
<0.5% at >3 kHz dev. and 1 kHz rate, f_C <1000 MHz,
<1.0% at >3 kHz dev. and 1 kHz rate, 1.7 GHz < f_C <2.0 GHz

Center Frequency Accuracy in DC FM Mode (external source impedance <1k Ω):
±500 Hz (after DC FM zero), *typically ±50 Hz*

Supplemental Characteristics
External Modulation Input Impedance: *600 Ω nominal*
Resolution:
50 Hz for <10 kHz deviation
500 Hz for >10 kHz deviation

AM

Supplemental Characteristics
AM Depth: *0 to 60%*
External Modulation Input Impedance: *600 Ω nominal*

RF Analyzer Measurements

SWR

RF IN/OUT Port: <1.5:1
ANT IN Port: <1.6:1, except <1.8:1 for 0 dB attenuation in 1.7 GHz to 2.0 GHz band

RF Frequency Measurements

Measurement Range: 400 kHz to 1 GHz, 1.7 GHz to 2.0 GHz

Level Range

RF IN/OUT: 1 mW to 100 W continuous, temperatures <40 °C; 75 W continuous, temperatures <55 °C
ANT IN: –38 dBm to +15 dBm

Accuracy: ±1 Hz plus frequency reference

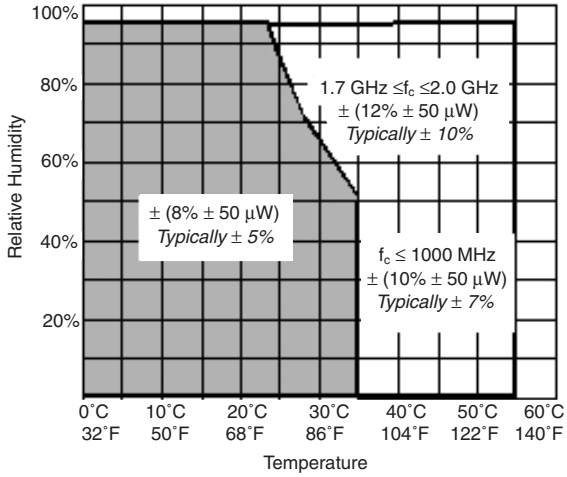
Supplemental Characteristics
Frequency Resolution: *1 Hz*
The user must set the instrument within 15 kHz of the signal under test.

1. To achieve the specified accuracy when measuring power at the RF IN/OUT port, the internal signal generator level must be 60 dB below the measured power or less than –20 dBm at the Duplex port.

RF Power Measurements

Frequency Range: 30 MHz to 1 GHz, 1.7 GHz to 2.0 GHz

Accuracy:



Measurement Range RF IN/OUT[1]

100 MHz <f_C <2.0 GHz:
4mW to 100 W continuous, temperatures <40 °C,
75 W continuous, for temperatures <55 °C

30 MHz <f_C <100 MHz:
4 mW to 1 W continuous

Supplemental Characteristics
Resolution: *3 digits (Example: Resolution of 10 mW for powers <10 W and >1 W)*

FM Measurement

Frequency Range: 5 MHz to 1 GHz (Usable to 400 kHz), and 1.7 GHz to 2.0 GHz

Deviation: 20 Hz to 75 kHz

Sensitivity: 4 µV for 12 dB SINAD, (30 kHz IF BW, high sensitivity mode, 0.3 to 3 kHz BW)
Typically: <2 µV (12 dB SINAD, f_C >10 MHz)

Accuracy: ±4% of reading plus residual FM and noise contribution (20 Hz to 25 kHz rates, deviation <25 kHz, 230 kHz IF BW)

Bandwidth (3 dB): 2 Hz to 70 kHz

THD + Noise: <1% rms (for deviation >5 kHz and at a rate of 1 kHz in a 0.3 to 3 kHz BW, 230 kHz IF BW)

Input Level Range for Specified Accuracy:
–6 dBm to +50 dBm at RF IN/OUT
–44 dBm to +12 dBm at ANT IN

Residual FM and Noise (0.3 to 3 kHz, rms):
<7 Hz, for f_C <1000 MHz
<14 Hz, for 1.7 GHz <f_C <2.0 GHz

Supplemental Characteristics
Resolution: *1 Hz, f <10 kHz ; 10 Hz, f >10 kHz*

AM Measurement

Frequency Range: 10 MHz to 1 GHz (usable to 400 kHz), 1.7 GHz to 2.0 GHz

Depth: 0 to 95%

Input Level Range (levels in PEP):
–6 dBm to +52 dBm at RF IN/OUT
–44 dBm to +14 dBm at ANT IN

Supplemental Characteristics
Accuracy: *±5% of reading ±1.5% AM (50 Hz to 10 kHz rates, modulation <80%)*
THD + Noise: *<2% rms for modulation <80% AM (at 1 kHz rate in a 0.3 to 3 kHz bandwidth)*
Residual AM: *<0.2% in a 0.3 to 3 kHz bandwidth*
Resolution: *0.1%*

Spectrum Analyzer

Frequency Range: 400 kHz to 1 GHz, 1.4 GHz to 2.0 GHz

Frequency Span/Resolution Bandwidth (coupled)

Span	Bandwidth
<50 kHz	300 Hz
<200 kHz	1 kHz
<1.5 MHz	3 kHz
<18 MHz	30 kHz
>18 MHz	300 kHz

Span Capability:[2] Full span capability 1 GHz

Display: Log with 1, 2, and 10 dB per division

Display Range: 80 dB or 8 divisions

Reference Level Range: +50 dBm to –50 dBm

Residual Responses: <–70 dBm (ANT IN port, no input signal, 0 dB attenuation)

Image rejection: >50 dB

Supplemental Characteristics
Non-Harmonic Spurious Responses:
>65 dB down (for input signals ≥50 MHz, <–30 dBm),
>55 dB down (for input signals <50 MHz, <–30 dBm).
Log Scale Linearity: *±2 dB (for input levels <–30 dBm within 6 divisions of reference level*
Displayed Average Noise Level: *<–114 dBm, for <50 kHz span, –50 dBm reference level*
Level Accuracy (at center frequency and within one division of reference level): *±2.5 dB*

2. Center frequency must be <1.0 GHz or between 1.7 GHz to 2.0 GHz. Portions of the 1 GHz span which are outside of the analyzer's frequency range are truncated.

Tracking Generator

Tracking Generator Frequency Range: 400 kHz to 1 GHz, 1.7 GHz to 2.0 GHz

Frequency Offset: Frequency span endpoints ± frequency offset cannot be <400 kHz or >1 GHz in the 1 GHz band and cannot be <1.7 GHz or >2.0 GHz in the 2 GHz band.

Output Level Range: Same as signal generator on page 3.

Sweep Modes: Normal and inverted

Oscilloscope Specifications

Frequency Range: 2 Hz to 50 kHz (3 dB BW)

Scale/Division: 10 mV to 10 V

Amplitude Accuracy: ±1.5 % of reading ±0.1 division (20 Hz to 10 kHz)

Time/Division: 10 µsec to 100 msec

Trigger Delay: 20 µsec to 3.2 seconds

Supplemental Characteristics
3 dB Bandwidth: *Typically >100 kHz*
Internal DC Offset: *<0.1 div (>50 µV/div sensitivity)*

AF Analyzer Specifications

Frequency Measurement

Measurement Range: 20 Hz to 400 kHz

Accuracy: ±0.02% plus 0.1 Hz plus timebase accuracy

External Input: 20 mV to 30 Vrms

Supplemental Characteristics
Resolution: *0.01 Hz, f <10 kHz; 0.1 Hz, f <100 kHz; and 1 Hz for f >100 kHz*

AC Voltage Measurement

Measurement Range: 0 to 30 Vrms

Accuracy: ±3% of reading (20 Hz to 15 kHz, inputs >1 mV)

Residual Noise: 150 µV (15 kHz LPF) 450 µV (>99 kHz LPF)

Supplemental Characteristics
3 dB Bandwidth: *Typically 2 Hz to 100 kHz*
Nominal Input Impedance: *Switchable between 1 MΩ in parallel with 95 pF or 600 Ω floating*
Minimum Resolution: *4 digits for inputs >100 mV; 3 digits for inputs <100 mV*

DC Voltage Measurement

Voltage Range: 100 mV to 42 V

Accuracy: ±1.0% of reading ±45 mV

DC Offset: ±25 mV

Supplemental Characteristics
Resolution: *1 mV*

Distortion Measurement

Frequency Range: 300 Hz to 10 kHz ±5%

Input Level Range: 30 mV to 30 Vrms

Display Range: 0.1% to 100 %

Accuracy:
±1 dB (0.5 to 100% distortion) for tones from 300 Hz to 1500 Hz measured with the 15 kHz LPF.

±1.5 dB (1.5 to 100% distortion) for tones from 300 Hz to 10 kHz measured with the >99 kHz LPF.

Residual THD + Noise: –60 dB or 150 µV, whichever is greater, for tones from 300 Hz to 1500 Hz measured with the 15 kHz LPF.

Typically –52 dB or 450 µV, whichever is greater, for tones from 300 Hz to 10 kHz measured with >99 kHz LPF.

Supplemental Characteristics
Resolution: *0.1% distortion*

SINAD Measurement

Frequency Range: 300 Hz to 10 kHz, ±5%

Input Level Range: 30 mV to 30 Vrms

Display Range: 0 to 60 dB

Accuracy: ±1 dB (0 to 46 dB SINAD) for tone from 300 Hz to 1500 Hz measured with the 15 kHz LPF.

±1.5 dB (0 to 36 dB SINAD) for tones from 300 Hz to 10 kHz measured with the >99 kHz LPF.

Residual THD + Noise: –60 dB or 150 µV, whichever is greater, for tones from 300 Hz to 1500 Hz measured with the 15 kHz LPF.

Typically –52 dB or 450 µV, whichever is greater, for tones from 300 Hz to 10 kHz measured with >99 kHz LPF.

Supplemental Characteristics
Resolution: *0.01 dB*

Audio Filters

Standard Fixed: <20 Hz HPF, 50 Hz HPF, 300 Hz HPF, 300 Hz LPF, 3 kHz LPF, 15 kHz LPF, >99 kHz LPF, 750 µsec de-emphasis, 6 kHz BPF, and C-Message

Variable Frequency Notch Filter:
Frequency Range: 300 Hz to 10 kHz
Notch Depth: >60 dB
Notch Width: *Typically ±5%*

Audio Detectors

RMS, Pk+, Pk–, Pk+hold, Pk–hold, Pk±/2, Pk±/2 hold, Pk± max and Pk± max hold

Audio Source Specifications

(Applicable to both internal sources)

Frequency

Range: dc to 25 kHz

Accuracy: 0.025% of setting

Supplemental Characteristics
Minimum Resolution: *0.1 Hz*

Output Level

Range: 0.1 mV to 4 Vrms

Maximum Output Current: 20 mA peak

Output Impedance: <1.5 Ω (1 kHz)

Accuracy: ±2% of setting plus step size

Residual Distortion: 0.125% (THD plus noise, for amplitudes >200 mVrms), for tones 20 Hz to 25 kHz measured in an 80 kHz BW

Supplemental Characteristics
Step Size:
Level <0.01V: ±50 µV pk
Level <0.1V: ±0.5 mV pk
Level <1V: ±5 mV pk
Level <10V: ±50 mV pk
Offset in DC Coupled Mode: *<50 mV*

General Specifications

Dimensions (H x W x D): 8.75 x 15.6 x 21.5 inches (222 x 396 x 546 mm)

Weight: 50 lbs. (22.7 kgs)

Operating Temperature: 0 °C to +55 °C

Operating Humidity: <95% relative humidity, 0 °C to 40 °C

Storage Temperature: –40 °C to +70 °C

Power: 100 Vac to 240 Vac ±10%, 50 Hz to 60 Hz, nominally 210 VA

Display Size: 9.7 cm x 13 cm, electroluminescent display (EL)

Calibration Interval: Two years

Leakage: Conducted and radiated interference meets CISPR 11

Supplemental Characteristics
Minimum Frequency Resolution: *1 Hz*
Switching Speed: *<150 ms to be within 100 Hz of the carrier frequency*

Leakage: *At RF generator output levels <–40 dBm, typical radiated leakage is <10 µV induced in a resonant dipole antenna 25 mm (1 inch) away from any surface. Spurious leakage levels are typically <10 µV in a resonant dipole antenna 25 mm (1 inch) away from any surface.*

Side Panel Connectors

10 MHz REF OUT
Output Frequency: 10 MHz
Output Level: >0.5 Vrms
Waveform: Sine wave

ANT IN (Used for analyzing low power RF signals):
Input Impedance: 50 Ω

AUDIO IN:
HI: Audio input connection
LO: Audio signal reference
Input Impedance: Switchable between 1 MΩ and 600 Ω

AUDIO MONITOR OUT (External output from AF analyzer):
Output Impedance: <1 kΩ

AUDIO OUT (External output from AF generators):
Output Impedance: <1 Ω
Maximum Output Current: 20 mA peak
Maximum Reverse Voltage: 12 V peak

CDPD MOD OUT: (Optional) Provides signal used in CDPD testing

DIGITAL MUX OUT: Used for service diagnostics

DUPLEX OUT (RF generator and tracking generator output):
Output Impedance: 50 Ω

EXT SCOPE TRIG IN: External trigger input for Oscilloscope

FRAME CLOCK OUT:
Output Frequency: 25 Hz square wave
Output Level: 0 to 5 V

GENERATOR DATA IN (Data input for internal IQ modulator):
Input Level Range: TTL
Data Rate: 48.6 kbits/sec

GPIB: One GPIB port is available.

MODULATION INPUT: External modulation connection for RF Generator

PARALLEL PORT: Two parallel ports are available.

RF IN/OUT: Input for RF Analyzer and output for RF Generator

SERIAL PORT: Three serial ports are available.

SYNTHESIZER REFERENCE IN:
Input Frequencies: 1, 2, 3, 4.8, 5, 10, and 15 MHz
Input Level: >0.15 Vrms

TDMA ANALYZER INPUTS: Reserved for future enhancements

TDMA OUTPUTS: Provides signals used with automation software

TDMA REFERENCE IN: (External reference for TDMA analyzer)
Input Level Range: TTL
Input Frequencies: 25 Hz, 50 Hz, 24.3 kHz, 48.6 kHz, or 10 MHz

VIDEO OUT: Provides a signal for using an external multisync monitor (15.7 kHz)

RF Tools Measurements

(All specifications are typical and assume the use of the E6554A RF Tools Accessories Kit.)

Swept Insertion Loss Test
Frequency Range: *0.4 to 1000 MHz, 1.7 to 2.0 GHz*
Swept Signal Level: *–54 dBm to +10 dBm*
Insertion Loss Accuracy: *±0.75 dB*

Swept Gain Test
Frequency Range: *0.4 to 1000 MHz, 1.7 to 2.0 GHz*
Swept Signal Level: *–54 dBm to +10 dBm*

Swept Return Loss Test:
Frequency Range: *0.4 to 1000 MHz, 1.7 to 2.0 GHz*
Swept Signal Level: *–54 dBm to +10 dBm*
Swept Return Loss Accuracy: *±2 dB ±10% of reading, for readings between 0 dB and 30 dB*

Cable Fault Test
Cable Types Tested: *Heliax, RG, Custom*
Cable Length Range: *0 to 1000 feet, 0 to 300 meters*
Distance Accuracy: *±5% of the cable length value entered by the user*

Remote Programming

Functions Implemented: SH1, AH1, T6, L4, SR1, RL1, LE0, TE0, PP0, DC1, DT1, C4, C11, E2

RS-232: Three serial ports through DB-9 connectors used for serial data in and out

Rates: 150, 300, 600, 1200, 2400, 4800, 9600, 19200, 38400, 57600, and 115200 Baud

Standard User Memory, RAM

Approximately 928 Kbytes of RAM are available for nonvolatile **save/recall** of settings. This will typically allow >500 sets of instrument settings to be saved.

Reference Oscillator

Standard OCXO: (Oven-controlled crystal oscillator)

Temperature: 0.02 ppm (0 °C to +60 °C)

Aging: <0.1 ppm/year

Warm-Up Time: <15 minutes to be within ±0.05 ppm of final frequency

Option AY5 Rubidium Timebase:

Temperature: 3 x 10^{-11} (–5 °C to +50 °C)
Aging: 2 x 10^{-9} per year
Warm-Up Time: <4 minutes to lock at 25 °C

Memory Card Specifications

Card Compatibility: Single industry standard PCMCIA slot accepts Type I or Type II SRAM and ROM memory cards.

Storage Capability: Allows for the storage and retrieval of IBASIC program parameters and results, input of new calibration data, and long-term storage of Store/Recall information.

Firmware Upgrades: Accepts PCMCIA flash memory cards (4 Mbytes) to allow automatic loading of new firmware from the front panel. Upgrade time is about eight minutes.

Ordering Number

Agilent 8935 Series
TDMA Cellular/PCS Base Station Test Set **E6381A**

Agilent Technologies' Test and Measurement Support, Services, and Assistance

Agilent Technologies aims to maximize the value you receive, while minimizing your risk and problems. We strive to ensure that you get the test and measurement capabilities you paid for and obtain the support you need. Our extensive support resources and services can help you choose the right Agilent products for your applications and apply them successfully. Every instrument and system we sell has a global warranty. Support is available for at least five years beyond the production life of the product. Two concepts underlie Agilent's overall support policy: "Our Promise" and "Your Advantage."

Our Promise

"Our Promise" means your Agilent test and measurement equipment will meet its advertised performance and functionality. When you are choosing new equipment, we will help you with product information, including realistic performance specifications and practical recommendations from experienced test engineers. When you use Agilent equipment, we can verify that it works properly, help with product operation, and provide basic measurement assistance for the use of specified capabilities, at no extra cost upon request. Many self-help tools are available.

Your Advantage

"Your Advantage" means that Agilent offers a wide range of additional expert test and measurement services, which you can purchase according to your unique technical and business needs. Solve problems efficiently and gain a competitive edge by contracting with us for calibration, extra-cost upgrades, out-of-warranty repairs, and on-site education and training, as well as design, system integration, project management, and other professional services. Experienced Agilent engineers and technicians worldwide can help you maximize your productivity, optimize the return on investment of your Agilent instruments and systems, and obtain dependable measurement accuracy for the life of those products.

Get assistance with all your test and measurement needs at:

www.agilent.com/find/assist

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Agilent Technologies
Innovating the HP Way