Site Master S332E المواصفات الفنية لجهاز الفحص

Measuring device (site master S332E) supports the following measurement functions:

a- Cable and Antenna Analyzer, 2 MHz to 4 GHz.
b- Spectrum Analyzer, 100 kHz to 4 GHz.
c- Power Meter.
d- Interference Analyzer.
e- Channel Scanner .
f- GPS Receiver .
g- High Accuracy Power Meter.

Cable and antenna analyzer

1- **Measurements**.
VSWR_ Return Loss_ Cable Loss_ Distance-to-Fault (DTF) Return Loss_ Distance-to-Fault (DTF) VSWR_ 1-Port Phase_ Smith Chart.

2- **Frequency**.
Frequency Range 2MHz TO 4GHz.
Frequency Accuracy ≤ ± 2.5 ppm @ 25 °C
Frequency Resolution 1kHz, (RF immunity low) 100 kHz, (RF Immunity high)

3- **Output Power.**
High 0 dBm ,typical.
Low -30dBm,typical.

4- **Interference Immunity**.
On-Channel +17 dBm @ > 1.0 MHz from carrier frequency
On-Frequency 0 dBm within ± 10 kHz of the carrier frequency

5- **Return Loss**.
Measurement Range 0 to 60 dB
Resolution 0.01 dB

6- **VSWR**.
Measurement Range 0 to 65
Resolution 0.01

7- **Cable Loss.**
Measurement Range 0 to 30dB
Resolution 0.01 dB

8- **Distance-to-Fault**.
Vertical Range Return Loss 0 to 60 dB.
Vertical Range VSWR 1 to 65.

Fault Resolution (meters) (1.5 x 108 x vp)/ΔF (vp = velocity propagation constant, ΔF is F2-F1 in Hz).

Horizontal Range (meters) 0 to (Data Points-1) x Fault Resolution, to a maximum of 1500 meters (4921 ft).

9- **1-Port Phase**.

Measurement Range –180° to +180°

Resolution 0.01°

10-Smith Chart.

Resolution 0.01

11-Measurement Accuracy.

Corrected Directivity > 42 dB, OSL Calibration
> 38 dB, InstaCal™ Calibration

Spectrum Analyzer

1- Measurements.

Field Strength - Occupied Bandwidth - Channel Power - ACPR - AM/FM/SSB Demodulation - Coverage Mapping - C/I - Emission Mask.

2- Frequency.

Frequency Range 100 kHz to 4 GHz,

Frequency Reference Aging: ± 1.0 ppm/year
Accuracy: ± 1.5 ppm (25 °C ± 25 °C)

Frequency Span 10 Hz to 4 GHz including zero span

Sweep Time Minimum 100 ms, 10 µs to 600 seconds in zero span

Sweep Time Accuracy ± 2% in zero span

3- Bandwidth.

Resolution Bandwidth (RBW) 10 Hz to 3 MHz in 1–3 sequence ± 10%

Video Bandwidth (VBW) 1 Hz to 3 MHz in 1–3 sequence

RBW with Quasi-Peak Detection 200 Hz, 9 kHz, 120 kHz

VBW with Quasi-Peak Detection Auto VBW is On, RBW/VBW = 1

4- Amplitude Ranges.

Dynamic Range > 95 dB (2.4 GHz), 2/3 (TOI-DANL) in 10 Hz RBW

Measurement Range DANL to +26 dBm

Display Range 1 to 15 dB/div in 1 dB steps, ten divisions displayed

Reference Level Range –120 dBm to +30 dBm

Attenuator Range 0 to 55 dB, 5.0 dB steps

Maximum Continuous Input +43 dBm

Amplitude Units Log Scale: dBm, dBV, dBmv, dBµV
Linear Scale: nV, µV, mV, V, kV, nW, µW, mW, W, Kw

5- Amplitude Accuracy.

100 kHz to 4.0 GHz ± 1.25 dB, ± 0.5 dB typical

6- Markers.

Marker types Normal, noise marker

Number of markers or delta markers 6.
Marker functions Peak, next peak, peak left, peak right, marker to center, minimum search.

7- Displayed Average Noise Level (DANL).

10 Hz RBW, 10 Hz VBW, 50 ohm termination on input, 0 dB attenuation, average detector.

Preamplifier OFF

20 to 30 °C

10 MHz to 2.4 GHz -130 dBm (typical).
> 2.4 GHz to 5.0 GHz -125 dBm (typical).

Preamplifier ON

20 to 30 °C

10 MHz to 2.4 GHz -148 dBm (typical).
> 2.4 GHz to 5.0 GHz -145 dBm (typical).

-10 to 55 °C

10 MHz to 2.4 GHz < -141 dBm.
> 2.4 GHz to 5 GHz < -138 dBm.

8- Spurs.

Residual responses

Input terminated, 0 dB attenuation, preamplifier off, RBW ≤ 1 kHz, VBW auto-coupled.

20 MHz to 3 GHz -90 dBm (nominal).
> 3 GHz to 6 GHz -85 dBm (nominal).

Spurious responses

Input mixer level -30 dBm

RFsig = RFtune + 417 MHz -70 dBc (nominal).
RFsig = RFtune + 1.716 GHz -80 dBc (nominal).

Input mixer level -10 dBm, first IF image response

RFsig = RFtune – 2 x 0.8346 GHz,
for RFtune 5.7 to 6.0 GHz -50 dBc (nominal).

Sidebands -80 dBc (nominal).
-60 dBc (nominal) when battery charging,
260 kHz offset

Power Meter.

Frequency Center/Start/Stop, Span, Frequency Step, Signal Standard, Channel Full Band.
Amplitude Maximum, Minimum, Offset, Relative On/Off, Units, Auto Scale.
Average Acquisition Fast/Med/Slow, # of Running Averages.
Limits Limit On/Off, Limit Upper/Lower
Frequency Range 10 MHz to 4 GHz
Span 1 kHz to 100 MHz

Display Range –140 dBm to +30 dBm, ≤ 40 dB span
Measurement Range –120 dBm to +30 dBm
Offset Range 0 to +100 dB
VSWR 1.5:1 typical.
Maximum Continuous Input +43 dBm without attenuator.
Accuracy Same as Spectrum Analyzer.
Application Options Impedance (50 Ω, 75 Ω, Other).

Interference Analyzer

Measurements Spectrum
Field Strength
Occupied Bandwidth
Channel Power
Adjacent Channel Power (ACPR)
AM/FM/SSB Demodulation
Carrier-to-Interference ratio (C/I)
Spectrogram (Collect data up to 72 hours)
Signal Strength
Received Signal Strength Indicator (RSSI)
Signal ID (up to 12 signals)
Center Frequency
Bandwidth
Signal Type (FM, GSM, W-CDMA, CDMA, Wi-Fi, LTE)
Closest Channel Number
Number of Carriers
Signal-to-Nose Ratio (SNR) > 10 dB
Interference Mapping
Triangulate location of interference with on display maps **Application Options** Bias-Tee (On/Off), Impedance (50 Ω, 75 Ω, Other).

Channel Scanner.

Number of Channels 1 to 20 Channels (Power Levels)
Measurements Graph/Table, Max Hold (On/5 sec/Off), Freq/Channel, Current/Max, Single/Dual Color
Scanner Scan Channels, Scan Frequencies, Scan Customer List, Scan Script Master™ .
Amplitude Reference Level, Scale
Custom Scan Signal Standard, Channel, # of Channels, Channel Step Size, Custom Scan
Frequency Range 100 kHz to 4 GHz (S332E)
Frequency Accuracy ± 10 Hz + Time base error
Measurement Range –110 dBm to +26 dBm
Application Options Bias-Tee (On/Off), Impedance (50 Ω, 75 Ω, Other)

GPS Receiver .

Setup	On/Off, Antenna Voltage 3.3/5.0 V, GPS Info
GPS Time/Location Indicator	Time, Latitude, Longitude and Altitude on display Time, Latitude, Longitude and Altitude with trace Storage.
High Frequency Accuracy	Spectrum Analyzer, Interference Analyzer, CW Signal Analyzers.
when GPS Antenna is connected	< ± 50 ppb with GPS On, 3 minutes after satellite lock in selected mode.
Connector	SMA, Female.

General Specifications.

1-Connectors

RF Out Type N, female, 50 Ω
RF Out Damage Level 23 dBm, ± 50 VDC
RF In Type N, female, 50 Ω
RF In Damage Level +43 dBm peak, ± 50 VDC
GPS SMA(f)
External Power 5.5 mm barrel connector, 12.5 VDC to 15 VDC, < 4.0 Amps
USB Interface (2) Type A, Connect USB Flash Drive and Power Sensor
USB Interface 5-pin mini-B, Connect to PC for data transfer
Headset Jack 2.5 mm mini-phone plug
External Reference In BNC, female, 50 Ω, Maximum Input +10 dBm 1 MHz, 5 MHz, 10 MHz, 13 MHz
External Trigger/Clock Recovery BNC, female, 50 Ω, Maximum Input ± 50 VDC.

2- Display.

Type Resistive Touchscreen
Size 8.4" daylight viewable color LCD
Resolution 800 x 600

3- Battery.

Type Li-Ion
Battery Operation 4.0 hours,

4- POWER.

Power supply External DC input 12 to 16 VDC.
External AC power adapter **Input** 100 to 290 VAC, 50 to 60 Hz; 1.25 to 0.56 A.
Output 12 VDC, 5 A.

5- EMC.

Complies with European EMC Directive 2004/108/EC.

IEC/EN 61326-2-1).
CISPR Pub 11 Group 1, Class A.
AS/NZS CISPR 11.
ICES/NMB-001.

6- Safety.

Complies with European Low Voltage Directive 2006/95/EC
IEC/EN 61010-1 2nd Edition
Canada: CSA C22.2 No. 61010-1-04
USA: UL 61010-1 2nd Edition**.**

7- Environmental.

Meets MIL-PRF-28800F Class 2 specification
Humidity 95% at 40 °C
Operating Temperature –10 ºC to 55 ºC
Storage –40 ºC to 71 ºC

8- Weight & size.

Weight < 4 Kg.
Size < 300mm × 200mm × 100mm.

9- ESD.

IEC/EN 61000-4-2, functional up to 20 kV test**.**

10- Internal storage.

Internal Trace/Setup Memory 2,000 traces, 2,000 Setups.

11- Languages.

English, Chinese, French, Spanish, Russian, German.

12- **Manufacturing country.**

These Devices & Accessories must be manufactured in USA or United Kingdom.

Line Sweep Tools.

1-Trace Capture.

Browse to Instrument View and copy traces from the test equipment to our PC using Windows Explorer
Open legacy files Open DAT files captured with Hand Held Software Tools.
Open Current files Open VNA or DAT files
Capture plots to The Line Sweep Tools screen, DAT files, Database, or JPEG

2- Traces.

Trace Types Return Loss, VSWR, DTF-RL, DTF-VSWR, Cable Loss, Smith
Trace formats DAT, VNA, CSV, PNG, BMP, JPG, HTML, Data Base, and PDF.

3- Connectivity.

Connections Connect to PC using USB, Ethernet, or Serial.
Firmware Updates Product Update: download latest firmware version **.**

The Accessories.

no	Accessories name	quantity	Part number description
1	Calibration components .50Ω	3	InstaCal™ Calibration Module, 2 MHz to 4.0 GHz, N(m), 50 Ω.
2	Attenuators	3	30 dB, 150 W, DC to 3 GHz, N(m) to N(f)
3	Power sensors	3	High Accuracy RF Power Sensor, 50 MHz to 4 GHz, +23 dBm
3	Directional antenna	3	690MHz to 950 MHz, N(f), 10 dBd, Yagi
4	Adapters	3	7/16 DIN(f) to N(m), DC to 7.5 GHz, 50 Ω
		3	7/16 DIN(m) to N(m), DC to 7.5 GHz, 50 Ω
		3	SMA(m) to N(m), DC to 18 GHz, 50 Ω
		3	SMA(f) to N(m), DC to 18 GHz, 50 Ω
5	Phase-Stable Test Port Cables,	3	1.5 m, DC to 6 GHz, N(m) to N(f), 50 Ω
6	Miscellaneous Accessories	3	GPS Antenna, SMA(m)
		3	8 GB USB Flash Drive