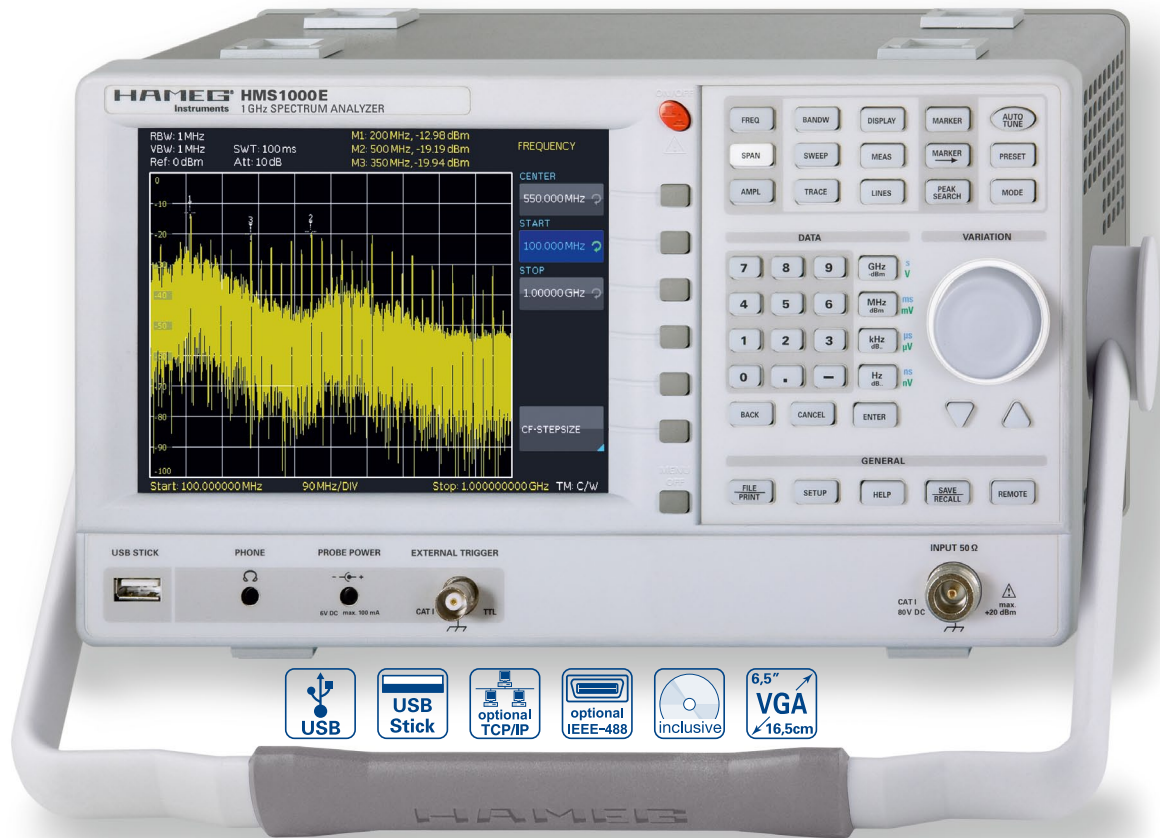


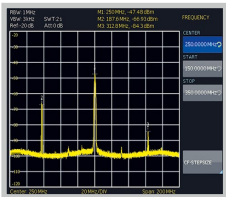
1GHz Spectrum Analyzer HMS1000E



HMS1000E



Comfortable automatic measurement functions with up to 8 markers



1GHz EMI Near Field Probe Set HZ530



Ethernet/USB-interface H0730 (Option)



- ✓ Frequency Range 100kHz...1GHz
- ✓ Amplitude Measurement Range -104...+20dBm
- ✓ Sweep Time 20ms...1000s
- ✓ Resolution Bandwidth 10kHz...1MHz in 1-3 Steps, 200kHz (-3dB)
- ✓ Spectral Purity <-100dBc/Hz (@100kHz)
- ✓ Video Bandwidth 1kHz...1MHz in 1-3 Steps
- ✓ Integrated AM and FM Demodulator (Phone and int. Speaker)
- ✓ Detectors: Auto-, Min-, Max-Peak, Sample, RMS
- ✓ 8 Marker with Delta Marker, miscellaneous Peak Functions
- ✓ Crisp 16.5cm (6.5") TFT VGA Display
- ✓ 3 x USB for Mass-Storage, Printer and Remote Control, optional IEEE-488 (GPIB) or Ethernet/USB Interface

1 GHz Spectrum Analyzer HMS1000E

All data valid at 23 °C after 30 minute warm-up.

Frequency

Frequency range:	100 kHz...1 GHz
Temperature stability:	±2 ppm (0...30 °C)
Aging:	±1 ppm/year
Span setting range:	0 Hz (zero span) and 1 MHz...1 GHz
Spectral purity, SSB phase noise:	
100 kHz from carrier (500 MHz, +20...30 °C)	<-100 dBc/Hz
1 MHz from carrier (500 MHz, +20...30 °C)	<-120 dBc/Hz
Sweep time:	
Span = 0 Hz	20 ms...100 s
Span > 0 Hz	20 ms...1000 s, min. 20 ms/600 MHz
Resolution bandwidths (-3 dB):	10 kHz...1 MHz in 1-3 steps, 200 kHz
Tolerance:	
≤300 kHz	±5 % typ.
1 MHz	±10 % typ.
Video bandwidths:	1 kHz...1 MHz in 1-3 steps

Amplitude

Display range:	Average noise level displayed up to +20 dBm
Amplitude measurement range:	Typ. -104...+20 dBm
Max. permissible DC at HF input:	80 V
Max. power at HF input:	20 dBm, 30 dBm for max. 3 Min.
Intermodulation free range:	
TOI products, 2x -20 dBm (-10 dBm ref. level)	66 dB typ. (typ. +13 dBm third-order intercept)
(at distance between signals ≤2 MHz)	60 dB typ. (+10 dBm TOI)
(at distance between signals >2 MHz)	66 dB typ. (typ. +13 dBm TOI)
DANL (Displayed average noise level): (RBW 10 kHz, VBW 1 kHz, ref. level ≤-30 dBm 10 MHz...1 GHz)	-95 dBm, typ. -104 dBm
Inherent spurious: (ref. level ≤-20 dBm, f >30 MHz, RBW ≤100 kHz)	<-80 dBm
Input related spurious: (Mixer level ≤-40 dBm, carrier offset >1 MHz)	-70 dBc typ.
2 nd harmonic receive frequency: (mixer level -40 dBm)	-60 dBc typ.
Level display:	
Reference level	-80...+20 dBm in 1 dB steps
Display range	100 dB, 50 dB, 20 dB, 10 dB
Logarithmic display scaling	dBm, dBμV, dBmV
Measured curves:	1 curve and 1 memory curve
Trace mathematics:	A-B (curve-stored curve), B-A
Detectors:	Auto-, Min-, Max-Peak, Sample, RMS, Average
Failure of level display: (ref. level -50 dBm, 20...30 °C)	<1.5 dB, typ. 0.5 dB

Marker/Deltamarker

Number of marker:	8
Marker functions:	Peak, next peak, minimum, center = marker, frequency, reference level = marker level, all marker on peak
Marker displays:	Normal (level & log.), delta marker, noise marker

Inputs/Outputs

HF Input	N socket
Input Impedance:	50 Ω
VSWR (10 MHz...1 GHz):	<1.5 typ.
Trigger input:	BNC female
Trigger voltage	TTL
Ext. reference input/output:	BNC females
Reference frequency	10 MHz
Essential level (50 Ω)	10 dBm
Supply output for field probes:	6 V _{dc} , max. 100 mA (2.5 mm DIN jack)
Audio output (Phone):	3.5 mm DIN jack
Demodulation	AM and FM (internal speaker)

Miscellaneous

Display:	16.5 cm (6.5") TFT Color VGA Display
Save/Recall memory:	10 complete device settings
Trigger:	Free run, Single Trigger, external Trigger
Interfaces:	Dual-Interface USB/RS-232 (H0720), USB-Stick (frontside), USB-Printer (rear side)
Power supply:	105...253 V, 50...60 Hz, CAT II
Power consumption:	Max. 40 W at 230 V, 50 Hz
Protection class:	Safety class I (EN61010-1)
Operating temperature:	+5...+40 °C
Storage temperature:	-20...+70 °C
Rel. humidity:	5...80 % (non condensing)
Dimensions (W x H x D):	285 x 175 x 220 mm
Weight:	3.6 kg

Accessories supplied: Line cord, Operating manual, HZ21 Adapter plug, N plug to BNC socket, CD, Software

Recommended accessories:

H0730	Dual-Interface Ethernet/USB
H0740	Interface IEEE-488 (GPIB), galvanically isolated
HZ13	Interface cable (USB) 1.8 m
HZ14	Interface cable (serial) 1:1
HZ20	Adapter, BNC to 4 mm banana
HZ33	Test cable 50 Ω, BNC/BNC, 0.5 m
HZ34	Test cable 50 Ω, BNC/BNC, 1 m
HZ46	4RU 19" Rackmount Kit
HZ72	GPIB-Cable 2 m
HZ99	Carrying Case for protection and transport
HZ520	Plug-in Antenna with BNC connection
HZ525	50 Ω-Termination, N plug
HZ530	Near-Field Probe Set 1 GHz for EMV diagnostics
HZ540/550	Near-Field Probe Set 3 GHz for EMV diagnostics
HZ540L/550L	Near-Field Probe Set 3 GHz for EMV diagnostics
HZ560	Transient limiter
HZ575	75/50 Ω Converter
HZ030	active probe 1 GHz (0.9 pF, 1 MΩ, including many accessories)