OPTiSmart T&M

OPTiSmart TEST & MEASUREMENT EQUIPMENT

BRAND OF OPTIFAB INTERNATIONAL LTD.
MILTON KEYNES, UK

# Portable Microwave Spectrum Analyser

## OPTiSmart Series

## FEATURES

- High measurement speeds
- Various measurement functions
- Supports both linear sweep and list sweep
- English menu
- Battery power, convenient for field service
- Built-in large capacity memory and USB external memory supported
- Intelligent battery management function, giving 4 hours battery life

## DESCRIPTION

OSSA7000 Portable Microwave Spectrum Analyzer is the new generation portable microwave spectrum analyzer developed by OPTiSmart, using broadband microwave component integration design technology, microwave multilayer PCB design technology, efficient voltage transformation system design technology and multi-band sweep & individual thread processing technology. Compared with previous generation products, frequency range is increased by 5 times, display average noise level decreases by 20dB, single sideband phase noise decreases by 20dB and measuring speed increases by 4 times.

Broad frequency bands, high performance index, small size, light weight, flexible power supply and easy handling makes the unit idea for use in the field. Available in frequency ranges 1MHz ~ 18GHz, OSSA7000 offers measurement from short-wave through to wave band Ku. OSSA7000 uses menu style operation interfaces and graphical measurement displays. It has internal large-capacity FLASH memory and supports USB external memory, meaning results can be stored for subsequent analysis and processing.

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## SPECIFICATIONS

| Model | OSSA7000 |
|---|---|
| Frequency Range | 1MHz ~ 18GHz |
| Reference Frequency | Nominal frequency: 10MHz<br>Aging rate: ±1*10$^{-8}$/day, ±1*10$^{-6}$/year<br>Temperature stability: ±1*10$^{-6}$ (0~50°C, relative to 25°C) |
| Frequency Readout Accuracy | Frequency readout accuracy＝±(Frequency readout * Frequency reference error +5%*Frequency span+25%*Resolution bandwidth) |
| Sweep Width | 1MHz~18GHz or 0Hz |
| Resolution Bandwidth | 1Hz ~ 3MHz (step by 1, 3, 10) |
| Video Bandwidth | 1Hz ~ 3MHz (step by 1, 3, 10) |
| Noise Sideband | <-80dBc/Hz (carrier of 18GHz, 1kHz offset)<br><-89dBc/Hz (carrier of 18GHz, 10kHz, 20kHz, 30kHz offset)<br><-91dBc/Hz (carrier of 18GHz, 100kHz offset)<br><-100dBc/Hz (carrier of 18GHz, 1MHz offset) |
| Residential Response | ≤-82dBm (the preamplifier is off)<br>≤-95dBm (the preamplifier is on,10MHz ~ 4GHz) |
| Display Average Noise Level | ≤-153dBm (10MHz ~ 4GHz,the preamplifier is on)<br>≤-133dBm (10MHz ~ 7GHz,the preamplifipreamplifier is off)<br>≤-127dBm (7GHz ~ 18GHz) |
| 1dB Compression Point | ≥-5dBm |
| Second-order Harmonic Distortion | ≤-43dBc (50MHz ~ 4GHz)<br>≤-58dBc (4GHz ~ 18GHz) |
| Third-order Intermodulation | ≥4dBm typical (50MHz ~ 4GHz)<br>≥8dBm typical (4GHz ~ 18GHz) |
| Sweep Time | 1ms ~ 100s (at zero-span)<br>100ms ~ 100s (at non zero-span) |
| Overall-level Uncertainty | ±2.7dB (0°C~ 50°C, preheated for 30m) |
| Input Attenuation Range | 0 ~ 30dB, 10dB step |
| Maximum Safety Input Level | +27dBm |
| Standing Wave Ratio of Input Port Voltage | ≤1.8:1 (<13GHz, typical)<br>≤2.0:1 (13GHz~18GHz, typical) |
| Power Consumption | <28W |
| Power Supply Mode | DC, rechargeable battery |
| Battery Service Life | ≥2 hours |
| Input Interface | N-female, 50Ω resistance |
| Dimension | Length * width * depth=313mm * 211mm * 87mm |
| Weight | Lighter than 7kg |