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S5700A (2MHz to 4.4GHz)
S5700B (2MHz to 6.0GHz)
Field Comm Analyzer

S5700 Series Field Comm Analyzer combines the highest performance operating specifications and multi-functional measurements such as cable and antenna system analysis, fiber inspection, spectrum analysis, cellular signal demodulation, interference analysis, signal coverage mapping and RF/optical power measurements in a single instrument.

As a multi-functional instrument, the S5700 series can be configured to meet your specific test needs at the time of purchasing or can be upgraded in the future need. Additional option measurement functionality can be added on the fly in the field in a matter of seconds.

Designed specifically for wireless communication field engineers and technicians who is performing installation, maintaining and troubleshooting of the wireless communication sites, the S5700 series was developed to get the job done right with multiple cutting edge features that deliver accurate measurement, improve productivity and reduce OPEX and CAPEX.

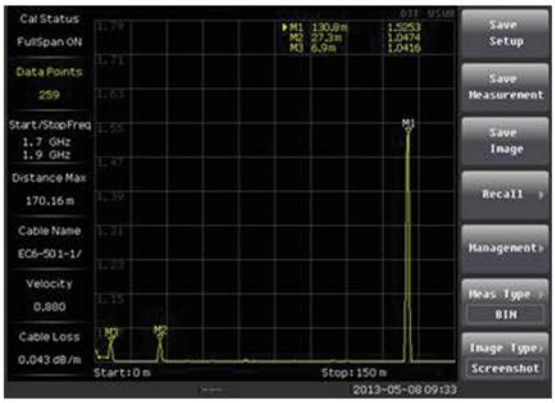
Key Benefits

- Cable and Antenna Analyzer: 2MHz - 4.4GHz/ 6.0GHz
- Spectrum Analyzer: 9kHz - 4.4GHz/ 6.0GHz
- Return Loss, Cable Loss, VSWR, Distance-To-Fault, Smith Chart, 1-Port Phase
- RF, fiber and wireless signal quality testing in a single instrument
- Perform traditional RF feedline tests, inspect fiber connectors with auto pass/fall results and measure RF/Optical power
- Perform comprehensive spectrum and signal analysis for complete site profile and monitoring of signal environment
- Test MIMO 4x4 antenna performance
- Detect signal degradation and system performance over time with trace overlay
- Handheld, lightweight, field-proven design withstands harsh environments and lighting conditions

Main Features

Distance-to-Fault (DTF) identifies the fault location of impairments within the cell-site transmission cable system. Fault location impairments and discontinuities can be detected by either DTF-Return Loss or DTF-VSWR measurements.

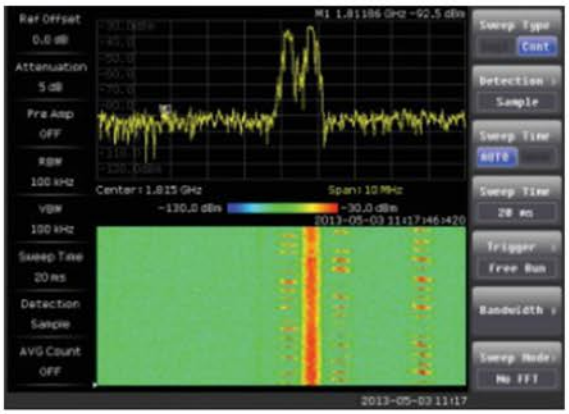
- Idenatify faults up to 5,000 feet (1,524m).
- High resolution enables up to 2,065 data points for locating pesky faults.
- Includes over 100 different cable types with the ability to add more.
- User definable limit-line automatically indicates pass/fail condition.
- Up to 6 markers can be set for detailed analysis.



Fiber Inspection eliminates the most common fiber link problems by verifying that fiber optic connectors are not contaminated, letting users quickly inspect and clean fiber connector connections with a clear pass/fail indication.

Visual Fault Location checks that fiber for continuity and detects damaged fibers or splices, including fiber breaks, excessive bends and brakes. Can also trace the path of fiber through multiple connections and identify the correct fibers for loss test.

Cellular Signal Analysis provides detailed insight to LTE- FDD, LTE-TDD, WCDMA/HSDPA, TD-SCDMA, CDMA/EV-DO,GSM/GPRS/EDGE signals and modulation quality.



Interference Analysis can detect signal as low as -152 dBm and supports spectrogram display, RSSI, signal strength and signal ID capabilities.

- Spectrogram display features a three-dimensional display of frequency, power and time of spectrum activity enabling identification of intermittent signal interference, tracking these signals over time. The dual display screen allows for easy, simultaneous viewing of both the spectrum and spectrogram analysis.
- Received Signal Strength Indicator (RSSI) observes and reports the signal strength of a single frequency over time.
- Signal strength meter helps to locate interfering signals with the use of a directional antenna.

RF/ Optical Power Meter measures true RMS power for both CW and digitally modulated signals with an external power sensor.

- Users can set minimum and maximum power limits to indicate pass/fail status automatically.

Additional Benefits

- **Reduces maintenance time** with a complete multifunctional toolset that performs spectrum analysis, interference analysis, coverage mapping, cellular signal demodulation quality, RF/Fiber-Based feedline analysis and RF/Optical Power measurements in a single instrument.
- **Ensure optimal performance of fiber** with fiber connector inspection, visual fault location and optical power measurements.
- **Quickly identify and locate** Cable & Antenna signal reflections and faults and take two-port measurements for insertion gain/loss tests of amplifiers, filters, and antenna isolation measurements.
- **Ensure RF metrics and modulation quality** of any cellular technology including LTE-FDD, LTE-TDD, cdma2000/EV-DO, WCDMA/HSDPA, TD-SCDMA and GSM/GPRS/EDGE with the signal analysis measurement function.
- **Perform channel scanner measurements** to measure channel power up to 20 carriers in a single test.
- **Assess non-intrusive PIM detection** across the complete frequency spectrum in a signal instrument.
- **Quickly identify signal interference** with the interference analysis measurement function to detect and locate the position of interference through automatic triangulation and mapping.
- **Trace Overlay** enables users to easily detect signal and system degradation over time.
- **Multiple Display Modes** enables users to set the display to lighting condition. Modes include standard view, nighttime, high contrast.
- **Measurement Center Software** provides users with all the necessary functionality to manage measurements and increase the instruments, including:
  - Quickly exchange data via USB or LAN connection
  - Retrieve or save measurements results
  - Export measurement results
  - Analyze measurement results and activate multiple markers and limit lines
  - Compare measurement results
  - Create and export new cable types, frequency bands and test setups
  - Generate and print reports

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Specifications

Cable & Antenna Analyzer

Model	S5700A	S5700B
Frequency		
Frequency range	2MHz - 4.4GHz	2MHz - 6GHz
Resolution	1kHz	
Measurement Speed		
Reflection	< 0.8 ms/point	
DTF	< 1 ms/point	
Data Points	130, 259, 517, 1033, 2065	
Measurement Accuracy		
Corrected Directivity	42 dB (typical, after standard OSL calibration) 38 dB (typical, after E-cal calibration)	
Output Power		
0dBm (Nominal)		
Interference Immunity		
On-channel	+20 dBm @ >1 MHz of carrier frequency	
Off-channel	+10 dBm within ± 10 kHz of carrier frequency	
Measurements		
Return Loss	0 to 60dB (resolution 0.01 dB)	
VSWR	1:1 to 65:1 (resolution 0.01)	
Cable Loss	0 to 30dB (resolution: 0.01 dB)	
DTF Range (Distance)	1500 meters (4921 feet)	
Connectors		
RF Out	Type N, female, 50Ω	
RF Out Damage Level	25 dBm, ± 50 VDC peak	
Impedance	50Ω	

Spectrum Analyzer

Model	S5700A	S5700B
Frequency		
Frequency range	9kHz - 4.4GHz	9kHz - 6GHz
Turning Resolution	1Hz	
Aging	< ± 1.0ppm/yr	
Frequency Span	1 kHz to 4 GHz in 1-2-5 sequence (automode), and 0 Hz (zero span)	
Bandwidth		
Resolution Bandwidth (RBW)	10Hz to 3MHz in 1-3 sequence (auto or manually selectable)	
Video Bandwidth (VBW)	10Hz to 3MHz in 1-3 sequence (auto or manually selectable)	
Spectral Purity (Phase Noise)		
@1 kHz Offset from carrier	-90 dBc/Hz	
@10 kHz Offset from carrier	-100 dBc/Hz	
@100 kHz Offset from carrier	-105 dBc/Hz	
Amplitude		
Dynamic Range	> 100 dB	
Measurement Range	DANL to maximum safe input level	
Max. Safe Input Level	+30dBm (peak power, input attenuation > 15dB), 50VDC	
Amplitude Accuracy	≤ ±1.0 dB	
Attenuator Range	0dB to 55dB in 5dB steps	
DANL		
(Input terminated, RBW = 1 Hz, Attn = 0 dBm, Avg Detector)		
Preamp Off	≤ -144 dBm, typical (1MHz – 1GHz) ≤ -138 dBm, typical (1GHz – 4GHz)	
Preamp On	≤ -158 dBm, typical (1MHz – 1GHz) ≤ -154 dBm, typical (1GHz – 4GHz)	

Optical Measurement

Model	S5700A	S5700B
Optical Microscope		
Field of View	680 mm x 510 mm	
Resolution	0.5mm	
Focus Control	Adjustable	
Dimension	175 mm x 435 mm	
Weight	200g	
Optical Power Meter		
Accuracy	±0.25dB	
Probe Type	InGaAs Φ300μm	
Dynamic Range	-50dBm to +27dBm	
Resolution	0.01 dBm, mW, uW, nW	
Wavelength	850/ 980/ 1300/ 1310/ 1490/ 1550/ 1610 nm	
Adapter	FC/SC/ST	
VFL		
Output Power	10mW	
Adapter	FC/PC	

RF Power Meter

Model	S5700A	S5700B
USB Smart RF Power Sensor		
Frequency Range	1kHz - 6GHz	
Measurement Range	1μW - 100mW (-30dBm to +20dBm)	
VSWR	1.1	
Resolution	1dB, 0.1dB, 0.01dB, 0.001dB	
Accuracy	±0.2dB (typ.)	
Dimension	124 x 44 x 24 mm	
Weight	250g	
Inline RF Power Meter		
Frequency Range	300MHz - 4GHz	
Measurement Range	0.15W - 150W	
Insert Loss	0.1dB	
VSWR	1.1	
Directivity	30dB	
Accuracy	±4%±0.05W(+15 to +35°C), ±7%±0.05W(-10 to +50°C)	
Connector	Type N(f), 50 Ω	

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General Information

Model	S5700A	S5700B
Connectors		
RF In	Type N, female, 50 Ω	
RF In Damage	+30 dBm, +50 VDC	
Connectivity		
USB Host	Type A, 1-Port (connect flash drive for data transfer)	
USB Client	5-pin mini-B (connect to PC for data transfer)	
LAN	10M/100M LAN Port	
Display		
Type / Size	TFT LCD / 8.4'' (800 x 600)	
Data Storage		
Internal	1 GB, >2000 saved measurement files	
External	Limited by size of USB flash drive	
Battery		
Type	Li-Ion, 11.1V, 5.2AH	
Operation Time	> 6.0 hours, continuous; 8.0 hrs, idle (CA mode) > 4.0 hours, continuous; 8.0 hrs, idle (SA mode)	
Environmental		
Operating Temperature	-10°C to + 55 °C	
Storage Temperature	-40 °C to + 75 °C	
Shock	Mil-PRF-28800F Class 2	
EMC		
European EMC	IEC/EN 61326-1:2006	
AC Power		
AC Adapter Output	15 -19 VDC	
AC Adapter Input	100 – 240 VAC, 50-60 Hz	
Size & Weight		
Size	258mm x 173mm x 74 mm (10.2 x 6.8 x 2.9 in)	
Weight	3 kg	

Ordering Information

Model No.	Item	Description
Main Machine		
S5700A	Field Comm Analyzer	CA: 2MHz - 4.4GHz, SA: 9kHz - 4.4GHz
S5700B	Field Comm Analyzer	CA: 2MHz - 6.0GHz, SA: 9kHz - 6.0GHz
Option		
S5700-01	RF Power Meter (Software)	Providing true RMS measurements with accurate measurements for both CW and complex digitally modulated signals.
S5700-02	In-line Bi-Directional RF High Power Sensor	300 MHz to 4GHz, 2mW to 150W, N(f) 50Ω
S5700-03	Terminal RF Power Sensor	1MHz to 6GHz, -30dBm to +20dBm, N(m), 50Ω
S5700-04	Interference Location Analysis	Add Spectrogram, RSSI, Signal ID, Signal Strength, Interference Location Mapping, Delta Spectrum and DPS measurement applications to the spectrum analyzer. (Need directional log periodic antenna)
S5700-05	Signal Coverage Mapping	Allowing users to map RSSI and ACPR
		measurements. (Need option S5700-06)
S5700-06	GPS Module (USB)	/
S5700-07	Signal Analysis	LTE,WCDMA,TDSCDMA,GSM,CDMA
S5700-08	GPS Module (Internal Built-in)	/
S5700-09	Optical Power Meter and VFL	Using for all optical power measurements, such as optical fiber loss measurement and optical device performance evaluation.
S5700-10	802.11 a/b/g WiFi Module	Internal Built-in
S5700-11	2-Port Transmission Measurement	Providing the capability to perform 2-port measurements.
S5700-12	Channel Scanner	/
S5700-13	Directional Active Log Periodic Antenna	Frequency range: 9 kHz to 20MHz
S5700-14	Directional Active Log Periodic Antenna	Frequency range: 20MHz to 200MHz
S5700-15	Directional Active Log Periodic Antenna	Frequency range: 200MHz to 500MHz
S5700-16	Directional Active Log Periodic Antenna	Frequency range: 500MHz to 3GHz
S5700-17	Directional Active Log Periodic Antenna	Frequency range: 500MHz to 8GHz
S5700-18	Antenna Handle with GPS and Electronics Compass	/
Accessories		
Standard	AC/DC Adapter	/
Standard	Rechargeable Li-ion Battery	11.1V / 5200mAh
Standard	Vehicle Plug-in Lighter Adapter	12V/DC (<0.5Ω)
Standard	"Y" OSL Calibration Device	/
Standard	1.5m Test Port Extension Cable	/
Standard	Soft Carrying Case	/
Standard	CD	Site Workbench Software and Manual