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Product Brochure

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TSP Scanner

Overview



TSP Scanner is an integrated platform based on all-standard scanner and analysis software. It is used for automatically sweeping and scanning signals at high speed, such as GSM, CDMA2000/EVDO, TD-SCDMA, WCDMA, FDD/TD-TE signals. The output results include cell coverage parameters, broadcast channel system messages and spectrum displayed intuitively by various means. The instrument can be widely applied in network survey, planning, building, optimization, etc.

Key Facts

- Support full-frequency tests within 2MHz-3GHz.
- Support CW test
- Support simultaneous tests of multi-system and multi-frequency GSM, CDMA/EVDO, TD-SCDMA, WCDMA, TDD-LTE, FDD-LTE signals.

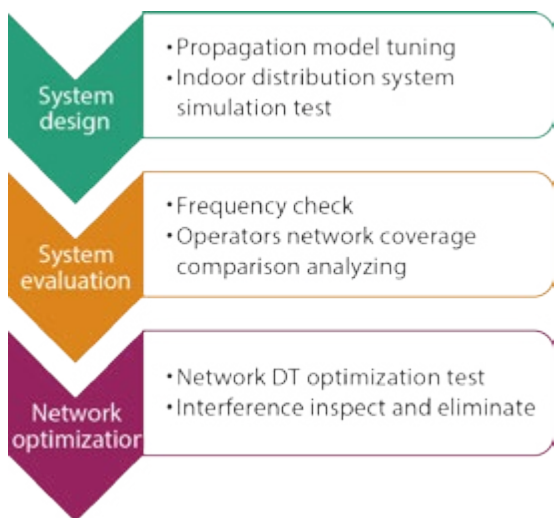
LTE test: reports RSSI, RP, RQ, Timing, CellID and other parameters. The instrument supports MIMO, time slot, RB measurement.

WCDMA test: supports multi-frequency simultaneous test and report of Peak Ec/Io, Peak Ec and Aggregate Ec/Io Pilot Delay, Delay Spread, SIR, etc.

GSM test: supports CCH testing and reporting of cell BCCH, BSIC, RxLev, C/I, etc.

- The scanning speed is adjustable to adapt to various applications, such as high-speed railway, highway, ordinary road and indoor tests.
- LTE Top N Scan Dynamic Range: 25dB.
- Support high-speed SIB decoding where decoding success rate is more than 90% if CINR is more than 0.
- Support automatic testing without PC. Test states can be remotely monitored, and data can be automatically transmitted back to the server with built-in 8GB memory.

Innovative Features & Benefits



Product features

- 2MHz-3GHz spectrum and multi-system demodulation
- High-speed measurement for various scenes.
- Powerful common-frequency capabilities.
- Efficient SIB decoding.
- Automatic testing
- Uplink time slot interference test.

Typical applications

- Propagation model tuning test
- Indoor distribution system emulation test.
- Frequency check
- Network DT optimization test
- Operators network coverage comparison analyzing.
- Interference check

Solution Highlights



Product features

2MHz-3GHz spectrum and multi-system demodulation

A single TSP Scanner device is applicable to cell demodulation tests of all standard networks and 2MHz-3GHz spectrum tests. Test modes can be freely combined to improving multi-network test efficiency.

High-speed measurement for various scenes

TSP Scanner has the 100ms-level measurement rate, meeting the dotting requirements of limitations in various scenes, such as indoor, ordinary road, highway and high-speed railway tests.

Common-frequency cell test capability

TSP Scanner, with common-frequency cell test capability better than 25dB, is able to test single sample points in a deeper manner and demonstrate the coverage more accurately. It is applicable to be the solution to various network coverage, adjacent cell and interference problems. Thus, it is suitable for optimize LTE overlapping coverage.





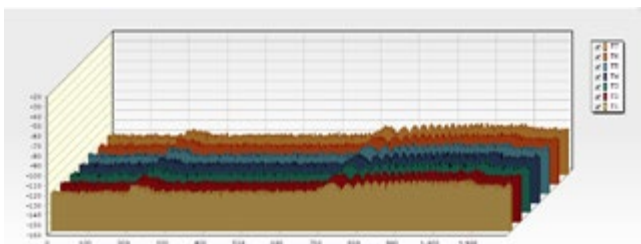
Efficient SIBs decoding

The SIBs decoding success rate of TSP Scanner is more than 90% when CINR is more than 0dB. User can determine cell configuration and assignment more accurately. TSP Scanner is applicable to competition analysis of multiple operators, understanding of competition trends and learning of competition advantages.



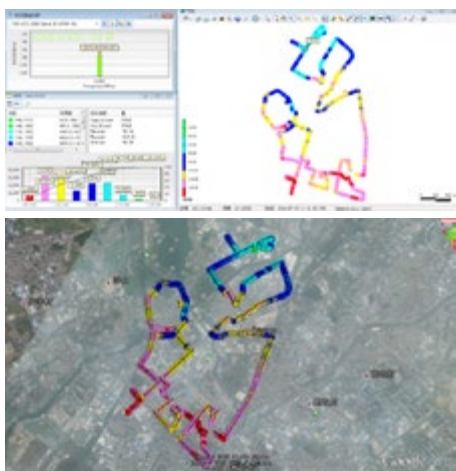
Automatic test

As scanner tests of TSP Scanner are unattended, labor costs are saved. At the same time, remote monitoring of equipment states or sending of new test commands can be achieved. Data can be transmitted automatically without manual intervention, thus avoiding manual operation errors. Mass data are subject to centralized processing, facilitating follow-up in-depth digging and intelligent analysis. Potential problems can be predicted.



Uplink time slot interference test

TSP Scanner with the RB measurement is able to check TDD-LTE uplink time slot interference. Without blocking the base station, test is accurate to RB. The RB block in the uplink time slot can be selected to demonstrate spectrum interference.

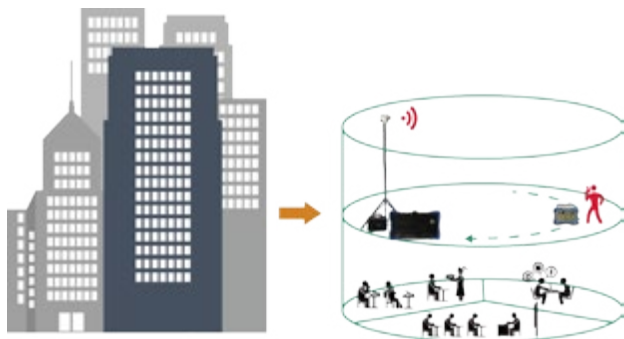


Typical applications

Propagation model tuning

The propagation model correct test is necessary to network planning. When test phone fails as a result of limitations, scanner is required. In the test process, Eagle transmitter is used for transmitting CW or pilot signals, and TSP Scanner, is used for scanning the fading and transmission distance. Data can be directly used for model tuning in planning software.

Solutions: TSP Scanner is used for receiving pilot or CW signals from the transmitter, collecting signal parameters including geographic information by DT testing, and importing data into the planning software to adjust model parameters.

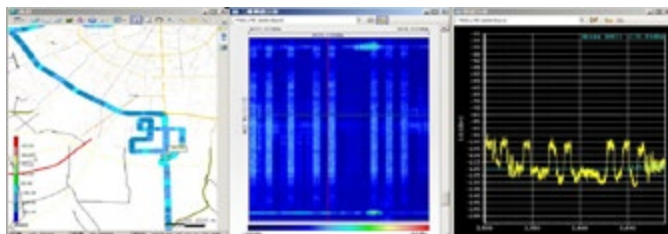


Micro base station planing test

Micro base station planing test

Background: The propagation model correct test is necessary to network planning. When test phone fails as a result of limitations, scanner is required. In the test process, TSP transmitter is used for transmitting CW or pilot signals, and TSP Scanner, is used for scanning the fading and transmission distance. Data can be directly used for model correction in planning software.

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Frequency check

Frequency check

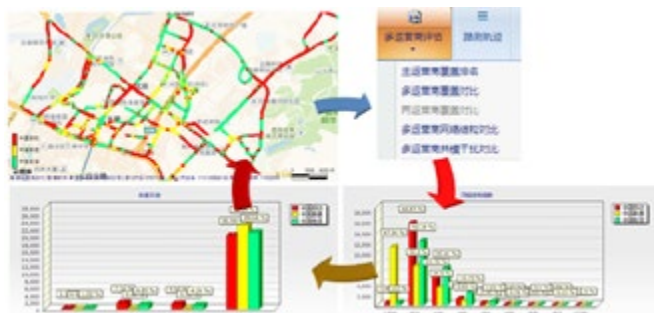
Solutions: The frequency check test should be performed within the planned frequency range before network planning and building, to know whether the frequency range is occupied or interfered. When TSP Scanner is used in the spectrum mode, the specific interference and occupation within the planned frequency range of urban roads can be analyzed based on spectrum , to evaluate whether the frequency range meet the operating requirements



Network DT optimization test

Network DT optimization test

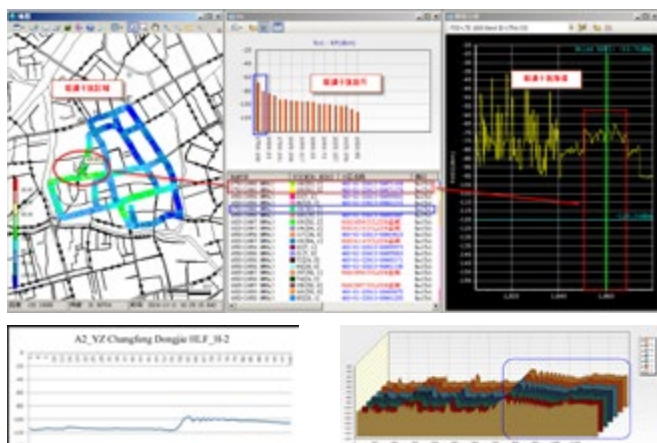
Solution: TSP Scanner can be used for collecting important parameters that cannot be collected by the mobile phone, such as cell parameters outside the planned adjacent cells that cannot be swept by the mobile phone. Thus, strong assistance is provided for the user to rapidly find and solve wireless problems of network coverage, interference and adjacent cells.



Operators network coverage comparison analyzing

Operators network coverage comparison analyzing

Solutions: TSP Scanner is able to obtain network coverage of various operators by means of one test, distinguish the attributes of various operators based on the frequency or MNC, rank the coverage, network structure and interference indexes, evaluate the 4G network coverage and interference indicators of each operator, and demonstrate the problem areas an duty cycles in the form of statistical chart and trajectory chart. Understand the trends of competitors and highlight network optimization.



Interference inspect and eliminate

Interference inspect and eliminate

Solutions: TSP Scanner is able to receive RSSI to indicate the interference. When connected with a beam antenna, interference can be located and inspected. For TDD-LTE time-division system, the uplink time slot interference testing function of TSP Scanner captures the RB power of the uplink, compare it with the reverse spectrum and approach the interference source by testing multiple points with beam antenna.

Specifications

Performance		
FDD/TD-LTE	Measurement mode	P-SCH/S-SCH, RS, and RB
	Data mode	RSSI, RS, RQ, CINR, Timing, Cell ID, Cyclic Prefix, CFO, Delay Spread,
	Channel bandwidth	1.4 / 3 / 5 / 10 / 15 / 20 MHz
	Antenna skills	SISO, MISO, MIMO (4x2)
	Measurement rate @ (20MHz)	>40channel/sec
	SIB decoding success rate	90% @ CINR > 0 dB
	Common-frequency cell test capability	>25 dB
	Dynamic range (CINR) @ 20 MHz:P-SCH/S-SCH	-20 to +40 dB
	Dynamic range (CINR) @ 20 MHz: RS	-23 to +40 dB
Test sensitivity: RS RP	-135 dBm (RSRP@ 20 MHz)	
UMTS [WCDMA/HSPA(+)]	Measurement mode	Top N Pilot
	Data mode	Io, Ec/Io, Aggregate Ec/Io, SIR, Rake Finger Count, Time Offset, Delay Spread
	Channel bandwidth	200 kHz / 3.84 MHz
	Measurement rate	20 channel/sec
	SIB decoding rate	200ms/Single Cell
	CPICH dynamic test range (Ec/Io)	-21dB
	Sensitivity	-110 dBm
GSM	Measurement mode	Color Code
	Data mode	BSIC, C/I, RSSI
	Channel bandwidth	30 kHz / 200 kHz
	Measurement rate	≥80Channel Decodes/sec
	SIB decoding rate	20s/ 95 Carriers; 30s/ 125Carriers
	Dynamic range	+2 dB C/I @ 90% BSIC Detection
	Sensitivity	-114 dBm
CDMA	Measurement mode	Top N PN
	Data mode	Ec, Io, Ec/Io, Aggregate Ec/Io, Pilot Delay, Delay Spread
	Channel bandwidth	30 kHz / 1.25 MHz
	Measurement rate	70 channel/sec
	Dynamic range	-7dB to -25dB
	Sensitivity	-114dB
TD-SCDMA	Measurement mode	Top N DWPTS, PCCPCH
	Data mode	Channel, Midamble Code, Sync-DL, RSCP, C/I, SIR, ISCP, Ec/Io, RSSI,
	Channel bandwidth	200 kHz / 1.28 MHz
	Measurement rate	30 channel/sec
	SIB decoding rate	4s/ 9 Carriers
	Dynamic range	-15 dB
	Sensitivity	-110dBm
Power measurement	CW measurement	
	Measurement rate	>800 Channel/sec
	Spectrum measurement	
	Measuring range	>90dB
RF features	Measurement rate	>3G/sec
	Internal spurious response	-114 dBm
	Operation level	-15 dBm Max.
	Safety input level	≤ 10 dBm
Frequency accuracy	± 0.05 ppm (GPS Locked); ± 0.1 ppm (GPS Unlocked)	

Physical	Maximum Power (+8 ~ +16 VDC)	24W
	RF Operating Range: In - Band	-15 dBm Max.
	Temperature Range	Operating: 0°C ~ + 50°C; Storage: - 40°C ~ + 85°C
	Host Data Communications Interface	LAN
	RF Input	RF: SMA Female(50Ω); GPS: Male(50Ω) SMB

Ordering List

Model	Description
T2627A	LTE scanner(include TD-LTE FDD-LTE)
TSPS-AS010	GSM license
TSPS-AS011	CDMA /EVDO license
TSPS-AS012	TD-SCDMA license
TSPS-AS013	WCDMA license
Accessories Model	Description
TSPS-AS001	RF omni-directional antenna 700-2700 MHz
TSPS-AS002	GPS antenna
TSPS-AS003	Data Cable (3m)
TSPS-AS007	Portable box
TSPS-AS008	COEAG USB softdog
TSPS-AS009	Power adapter
TSPS-S001	Data collecting and analyzing software
TSPS-S002	Analyzing software of operators network coverage comparison
TSPS-S003	Uplink time slot interference test function
TSPS-H001	Automatic test model
TSPS-H002	Uplink time slot interference test antenna

Keep innovating for excellence!

About us

Transcom Instrument Co., Ltd. founded in 2005 and headquartered in Shanghai, is a leading manufacturer and provider of RF and wireless communication testing instruments and overall solutions in China. Based on its independent brands and a wide range of core patented technologies, Transcom became national high-tech enterprise with independent intelligent property rights and has been listed into Shanghai Enterprise Recognition Award for High Growth SMEs in Technology.

Transcom is backed by a experienced and dedicated research team in mobile communication, radio frequency and microwave, and network optimization testing instrument. Through "Industry-University-Research" cooperation with universities, Transcom founded Southeast University-Transcom Electronic Measurement Technology Center at Southeast University to further ensure technology and talent reserve, and secure future visionary and sustainable technology development.

Transcom's product portfolios focus 4 areas: cellular network critical communication planning/maintenance/optimization, Manufacturing testing solution, educational instrument/equipment, spectrum monitoring sensor for system integration.



ISO14001



ISO9001

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Company Profile