## KH1800 / KH1820

## PI - network Crystal Measurement System



- High Accuracy IEC60444-5 & IEC60444-6 PI-Network Measurement.
- Supports "Direct Impedance Measurement" and "Physical Load Capacitance" methods for FL measurement.
- Full Network Analyser Configuration with built-in Frequency synthesizer and Vector-voltmeter.
- Supports two types of user interface for production mode and engineering mode Production
- Ultra high speed spurious scan & drive level dependence (DLD) measurement.
- High speed PASS/FAIL measurement and sorting up to 5 bins (sorting results displayed on screen).
- All sorting limits of each bin are individually programmable by operator.
- Flexible data storage (Supports data storage in Excel worksheet format) and printing features.
- Support multilingual: simplified Chinese, traditional Chinese and English.
- Optional Test Fixture for Tuning Fork Crystal, SMD crystal etc
- Optional connectivity with third party automatic machines: Hardware I/O control mode or software remote control mode are available for interfacing the KH1800 with any automatic machines.
- External time base interface.
- Frequency Range: KH1800: 1-120MHz

KH1820 : 20KHz - 400KHz, 500KHz - 240MHz

- Drive Level: 1nW 1mW into 25 Ohm.
- Measurement capabilities (more than 48 parameters): Fr, Fs, FL, Rr, Rs, RL, CL, C0, C1, L1, Q, Ts, C0/C1, DF1, DF2, FL1, FL2, DLD-F, DLD-R, DLD-γ (gamma : IEC444-6 standard), spurious scan.
- Repeatability: Fs ≤ ± Time base error ±1 ppm.

FL  $\leq$  ± Time base error ±1 ppm ± (0.2pF × Ts of crystal).

Rs  $\leq \pm 8\% \pm 1\Omega$ .

• Time Base error : ex-factory calibration ≤ 1 ppm

aging for 1st year  $\leq$  2 ppm aging for 2nd year and thereafter  $\leq$  1 ppm

- Calibration Method : 3 terms (open, short and load) calibration with standard resistor (provided with system).
- Requirements on personal computer supplied by user:

For optimum performance, the following configuration is recommended: Intel Core 2 Duo E4500 2.2GHz with 1G RAM, USB, PCI slot,, **PCI bus (for full size card) with +3.3V and +5V power is essential**, Microsoft Windows® XP /Windows 7/ Win10 (32/64 Bits)

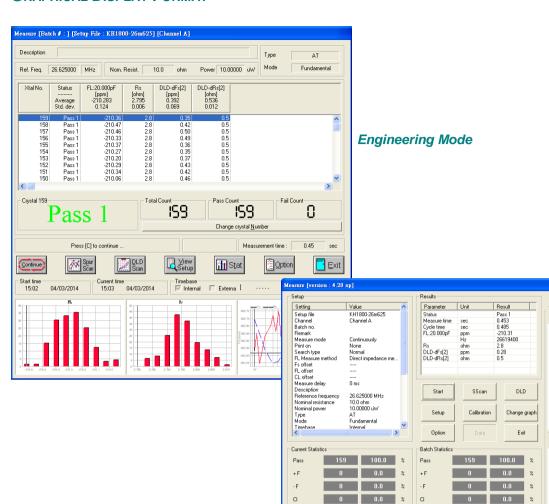


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## **GRAPHICAL DISPLAY FORMAT**



Not Osc

Total Count 159

Crystal Status

Production mode

0 0.0

Cl Status 🔵

Not Osc

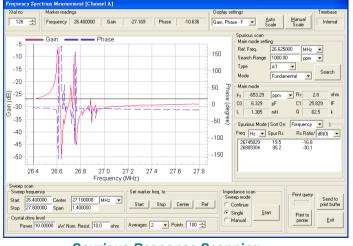
Freq Status 🔵

Drive Level Dependency [Channel A]

Total Count

Mean = -210.47

3 \* SD = 0.35



Spurious Response Scanning

99.04 ppm ▼ Delta Fs -0.88 0.00010 Rs 6.0 Delta Rs Fs + Rs measurement in Log mode Single
 Manual 108 4.5 4.0 104 -3.5 -3.0 ਨੂੰ Signal A Signal B €102 €100 -2.5 (g) -2.0 (3) ○ Fs ○ Rs ○ Fr ○ Rr ι<sup>ω</sup> 98 Manual 96 1.5 Sweep power (uW)
Start 0.0001 Step mode 94 -1.0 -0.5 92 — € Log Stop 10.00000 0.0 10<sup>1</sup> 90 10<sup>-2</sup> Power (uW) Point 50 Nominal settings Print query Ref. Freq. 26.605000 MHz ▼ Type AT ▼ Power 10.00000 uW Search Range ± 1000.00 Mode Fundamental Vom. Resist. 10.0 ohm ppm 🔻 Exit

Drive Level Dependence (DLD)

Specifications are subject to change without prior notice. Photo shown is for reference only. Windows is a registered trademark of Microsoft Corp.



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