

- Automated software based quartz crystal temperature test system
- Holds up to 1280 devices per run
- Standard sizes available include:

TYPE	DISC CAPACITY	TOTAL CHAMBER CAPACITY
SMD 5 x 7mm	140	560
SMD 4.5 x 8mm	140	560
SMD 3.5 x 6mm	160	640
SMD 3.2 x 5mm	160	640
SMD 2.5 x 4mm	160	640
SMD HC-49USMD	100	400
LEADED HC-45/49	100	400

- Custom SMD sizes available
- High speed fan mounted inside the chamber cover provides fast temperature soak time
- Disc pallet platform can be easily integrated into S&A 901A machine for automatic unloading / loading SMD devices



- Measures over 75 different parameters
- Parameter and curve fit characteristics checked against easy to define QC limits
- Crystals of different frequencies tested in a single temperature run
- All data published in a *Microsoft Access*[™] database and can be exported to *Microsoft Excel*[™] for custom data analysis
- Printouts are generated using *Crystal Reports*[®]

SPECIFICATIONS

250B-1 Frequency Range:	15 KHz to 220 MHz
250C Frequency Range:	15 KHz to 500 MHz
Frequency Correlation:	± 1 ppm* at series (typical)
Crystal power:	1 nW to 1000 uW (1 MHz to 50 MHz) 1 nW to 500 uW (>50 MHz to 200 MHz)
Temperature Stability:	± 0.1°
Example Throughput:	5 temperature points (-20 0 25 50 85) 1200 parts per hour

* Proprietary measurement and calibration algorithms provide correlation to industry standard crystal measurement equipment.

Roditi International Corp. Ltd,

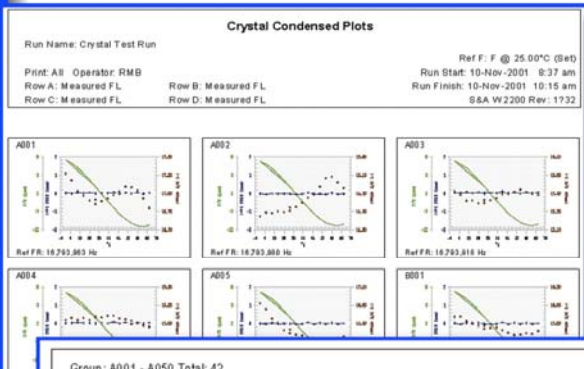
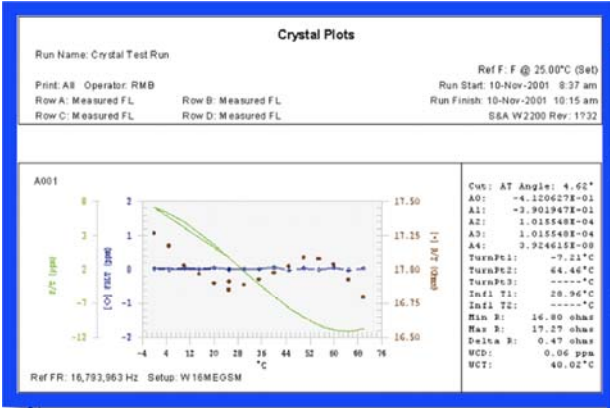
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SYSTEM CONFIGURATION

- S&A 250B-1 or 250C Network Analyzer
- Two S&A 2451 Switch Controllers
- Two S&A 4220 Temperature Test Chambers (LCO₂, LN₂, or Mechanical Refrigeration Cooling)
- Two IEC-444 Pi-Network Test Heads

- **Windows[®]** based System Software
- **Printer (Optional)**
- **Computer Requirements:**
Minimum 500 MHz Pentium III
One full PCI slot with +3.3V & 5V power,
Windows 98[®]

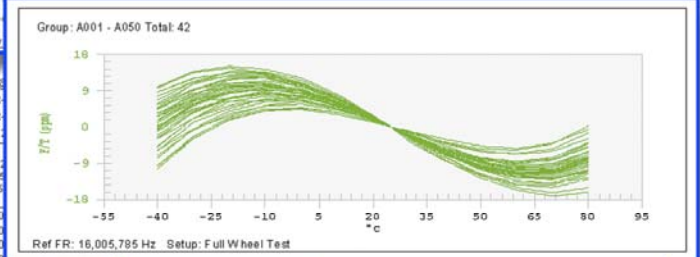
SAMPLE REPORTS



Crystal Tabular

Run Name: Example Run	Ref F: F @ 25.00°C (Set)
Print: All Operator: RMB	Run Start: 10-Nov-2001 8:37 am
Row A: Measured FL	Row B: Measured FL
Row C: Measured FL	Row D: Measured FL
S&A W2200 Rev: 1732	

A001 <2a001>	A002 <2a002>	A003 <2a003>	A004 <2a004>	A005 <2a005>								
Setup: 12megw2	Setup: 12megw2	Setup: 12megw2	Setup: 12megw2	Setup: 5								
Ref F: 12,795,174 Hz	Ref F: 12,795,955 Hz	Ref F: 12,795,917 Hz	Ref F: 12,795,942 Hz	Ref F: 5								
°C	FR ppm	R	°C	FR ppm	R	°C	FR ppm	R	°C	FR ppm	R	
25.01	0.00	4.92	25.03	0.00	18.71	25.02	0.00	12.39	25.01	0.00	11.97	25.00
0.01	0.01	5.13	0.01	0.00	21.44	0.00	3.28	12.96	-0.01	3.74	12.49	0.00
5.02	0.33	4.90	5.00	6.79	20.77	4.98	3.16	12.82	4.99	3.52	12.38	5.00
9.98	0.44	5.03	10.00	5.24	20.39	10.00	2.68	12.83	10.00	2.94	12.39	9.99
15.02	0.50	5.03	15.01	3.60	10.81	15.00	3.07	13.68	14.99	3.33	13.33	14.99
20.00	0.36	5.02	20.00									
25.00	0.09	5.05	25.01	-0								
30.02	-0.12	5.04	30.01	-2								
34.99	-0.39	5.03	35.00	-3								
40.02	-0.55	5.04	40.02	-5								
45.03	-0.52	5.06	45.02	-7								
49.99	-0.20	5.00	49.99	-8								
54.99	0.33	4.98	55.00	-9								
59.99	1.33	5.05	59.99	-9								



Crystal Curvfit Summary

Run Name: Example Run	Ref F: F @ 25.00°C (Set)
Print: All Operator: RMB	Run Start: 26-Oct-2001 4:51 pm
Row A: Measured FL	Row B: Measured FL
Row C: Measured FL	Row D: Measured FL
S&A W2200 Rev: 1725	

Crystal Curvfit Tabular

Run Name: Example Run	Ref F: F @ 25.00°C (Set)
Print: All Operator: RMB	Run Start: 26-Oct-2001 4:51 pm
Row A: Measured FL	Row B: Measured FL
Row C: Measured FL	Row D: Measured FL
S&A W2200 Rev: 1725	

Crystal Setup File Parameters

Run Name: Example Run	Ref F: F @ 25.00°C (Set)
Print: All Operator: RMB	Run Start: 26-Oct-2001 4:51 pm
Row A: Measured FL	Row B: Measured FL
Row C: Measured FL	Row D: Measured FL
S&A W2200 Rev: 1725	

Setup: 12megw2	Reference F: 12,795,900 Hz	Cl: 0.00 pF	Power: 100.00 mW	Into: 12.00 Ohms	Measure: FR/T				
STATUS	FR	CO	DR	Q	Cl	L	PWR	TEMP	F/T
	ppm	pF	Ohms	k	FF	mW	mW	°C	ppm
	10.0	3.0	25.0		13.0	13.00			
	-10.0	2.8			12.0	11.00			
	Delta	WCD	K/F	CUT	ANG				
	Ohms	ppm	Ohms	*					
			25.0						

A001 <2a001>	Pass	Fail	FR	Lo	-56.74	4.64	4.9	119	21.3	7.26	77	25.01	-4
A002 <2a002> <td>Pass</td> <td></td> <td>4.3</td> <td>2.7</td> <td>16.7</td> <td>54</td> <td>12.3</td> <td>12.55</td> <td>134</td> <td>25.03</td> <td>-9</td> <td></td> <td></td>	Pass		4.3	2.7	16.7	54	12.3	12.55	134	25.03	-9		
A003 <2a003> <td>Pass</td> <td></td> <td>1.3</td> <td>2.6</td> <td>12.4</td> <td>82</td> <td>12.2</td> <td>12.65</td> <td>122</td> <td>25.02</td> <td>-4</td> <td></td> <td></td>	Pass		1.3	2.6	12.4	82	12.2	12.65	122	25.02	-4		
A004 <2a004> <td>Pass</td> <td></td> <td>3.3</td> <td>2.7</td> <td>12.0</td> <td>85</td> <td>12.1</td> <td>12.73</td> <td>121</td> <td>25.01</td> <td>-5</td> <td></td> <td></td>	Pass		3.3	2.7	12.0	85	12.1	12.73	121	25.01	-5		

Crystal Failures Only

Run Name: Example Run	Ref F: F @ 25.00°C (Set)
Print: All Operator: RMB	Run Start: 26-Oct-2001 4:51 pm
Row A: Measured FL	Row B: Measured FL
Row C: Measured FL	Row D: Measured FL
S&A W2200 Rev: 1725	

Crystal #	Serial #	Setup File Parameters	Crystal Data	Curvfit Parameter
A001	<2a001>	Full FR Low		

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