



ACCREDITATION NO: 1135

## Agilent Technologies Australia Pty Ltd

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**Facilities:** Public testing service  
**Modified:** 17-OCT-05

### This laboratory complies with the requirements of ISO/IEC 17025 (1999)

Includes compliance with AS 3912.1 for the following classes of test :

#### 3.02 Resistors, resistance boxes and potential dividers

.01 Precision resistors, resistance boxes and conductance boxes

Decade values only

with least uncertainties of measurement of -

0.01% at 0.1  $\Omega$

60 ppm at 1 and 10  $\Omega$

20 ppm at 100  $\Omega$  to 1 M  $\Omega$

50 ppm at 10 M  $\Omega$

#### 3.04 Capacitors

.01 Precision capacitors

Three terminal decade values only at 1 kHz

with least uncertainties of measurement of -

0.2% at 1 pF

0.02% at 10 pF to 1  $\mu$ F

#### 3.06 Inductors and transformers

.02 Ratio transformers

At 1 kHz

with least uncertainties of measurement of -

10 ppm of input for ratios from 0 to 1

#### 3.07 Voltage standards

.01 Standard cells

with least uncertainties of measurement of -

5  $\mu$ V

.11 Electronic e.m.f. reference devices

with least uncertainties of measurement -

8  $\mu$ V at 1 V

5  $\mu$ V at 1.018 V

40  $\mu$ V at 10 V

### 3.08 Precision transfer instruments

- .01 A.C./D.C. transfer instruments  
with least uncertainties of measurement -
  - 0.25% from 1 mV to 1 V at 20 Hz to 20 kHz
  - 0.02% from 1 to 1000 V at 20 Hz to 50 kHz
  - 0.1% from 1 to 100 V at 50 kHz to 100 kHz
  - 0.1% from 1 to 10 V at 100 kHz to 1 MHz
  - 3% from 1 to 3 V at 1 to 100 MHz

### 3.09 Instrument calibrators with least uncertainties of measurement of - As under classes 3.10, 3.08 and 3.02 where appropriate for -

- .01 D.C. voltage
- .02 A.C. voltage
- .11 D.C. current
- .12 A.C. current
- .51 Resistance

### 3.10 Indicating and recording instruments

- .01 D.C. voltmeters  
with least uncertainties of measurement of -
  - 8  $\mu$ V up to 1 V
  - 8 ppm from 1 to 10 V
  - 11 ppm from 10 to 100 V
  - 23 ppm from 100 to 1000 V
- .02 A.C. voltmeters  
with least uncertainties of measurement of -
  - 0.25% from 1 mV to 1 V at 20 Hz to 20 kHz
  - 0.02% from 1 to 1 000 V at 20 Hz to 50 kHz
  - 0.1% from 1 to 100 V at 50 kHz to 100 kHz
  - 0.1% from 1 to 10 V at 100 kHz to 1 MHz
  - 3% from 1 to 3 V at 1 to 100 MHz
- .03 D.C. ammeters  
with least uncertainties of measurement of -
  - 1% + 5 nA up to 1  $\mu$ A
  - 0.01% from 1 to 10  $\mu$ A
  - 30 ppm from 10  $\mu$ A to 10 mA
  - 0.01% from 10 mA to 1 A
  - 0.023% from 1 to 10 A
- .04 A.C. ammeters  
with least uncertainties on measurement of -
  - 0.017% from 5 mA to 10 A and 10 to 100 Hz
  - 0.007% from 5 mA to 10 A and 100 to 1000 Hz
  - 0.007% from 5 to 500 mA and 1 to 10 kHz
  - 0.014% from 0.5 to 10 A and 1 to 10 kHz
  - 0.008% from 5 to 50 mA and 10 to 50 kHz
- .09 Ohmmeters
- .81 Graphic recording instruments

### 3.12 Frequency and time measuring instruments and standards

#### .01 Frequency meters

with least uncertainties of measurement of -  
0.03% over the range 1 to 26.5 GHz

#### .02 Wavemeters

with least uncertainties of measurement of -  
As for class 3.12.01

#### .11 Counters

with least uncertainties of measurement of -  
5 in  $10^{12}$

#### .12 Time interval meters

with least uncertainties of measurement of -  
5 in  $10^{12}$  or 1 ns (whichever is the greater) for periods up to  $10^5$  s

#### .21 Frequency standards

Atomic and crystal oscillators

with least uncertainties of measurement of -  
As for class 3.12.11

### 3.13 Waveform measuring instruments

#### .01 Frequency characteristics

#### .02 Input characteristics

#### .03 Timing characteristics

Time base from 20 ps to 10 s full sweep

#### .04 Distortion

### 3.21 Power supplies and stabilisers

#### .01 Power supplies

### 3.22 Signal sources

#### .01 Frequency characteristics

Carrier frequencies of signal generators

with least uncertainties of measurement of -  
1 in  $10^5$  to 5 in  $10^{11}$  depending on frequency in the range 1 Hz to 26.5 GHz

#### .02 Output characteristics

with least uncertainties of measurement of -  
As for class 3.25.08 and 3.25.09

#### .03 Modulation characteristics

Amplitude modulation over the carrier frequency range 100 kHz to 18 GHz  
and modulating frequencies of 20 Hz to 100 kHz

with least uncertainties of measurement of -

1% over the modulating range 10 to 90%

5% over the modulating range 90 to 99%

Frequency modulation over the carrier frequency range 500 kHz to 26 GHz  
with least uncertainties of measurement of -

1% for modulating frequencies 0 to 10 MHz up to a peak deviation range of  
20 times the modulating frequency or 1% of carrier frequency, whichever is  
the lesser

### 3.25 Communications equipment

#### .05 Impedance and reflection measuring equipment

Reflection coefficient measurement in 50  $\Omega$  systems in the frequency range 1 MHz to 18 GHz

with least uncertainties of measurement of -  
0.015 for reflection coefficients from 0 to 0.35

#### .06 Spectrum analysis measuring equipment

with least uncertainties of measurement of -  
As for class 3.12, 3.25.08 and 3.25.09

#### .08 Power measuring equipment

For equipment measuring +20 to -70 dBm  
with least uncertainties of measurement of -  
1% at 1 mW and 50 MHz

2.1% from 100 to 300 kHz

1.3% from 300 kHz to 300 MHz

1.5% from 300 MHz to 1 GHz

1.9% from 1 to 13 GHz

2% from 13 to 15 GHz

2.5% from 15 to 17 GHz

3% from 17 to 50 GHz

#### .09 Attenuators and amplifiers

Insertion loss in 50  $\Omega$  systems

At 1 kHz

with least uncertainties of measurement of -

0.01 dB from 0 to 10 dB;

0.01/10dB from 10 to 90 dB;

0.15 dB from 90 to 100 dB;

0.5 dB from 100 to 110 dB;

1 dB from 110 to 120 dB

From 100 kHz to 2.5 MHz

0.01 dB from 0 to 10 dB;

0.01/10dB from 10 to 90 dB;

From 2.5 MHz to 1.3 GHz

0.04 dB from 0 to 10 dB;

0.04 + 0.03/10 dB from 10 to 100 dB;

0.5 dB from 100 to 110 dB;

1 dB from 110 to 120 dB

From 1.3 to 18 GHz;

0.06 dB from 0 to 20 dB;

0.06 + 0.025/10 dB from 20 to 90 dB;

0.35 dB from 90 to 100 dB

#### .11 Waveguide and coaxial components

Reflection coefficient in 50  $\Omega$  systems

with least uncertainties of measurement of -

As for classes 3.25.05