



CALIBRATION LABORATORIES

NVLAP LAB CODE: 100428-0

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

<p>Panasonic Corporation Panasonic EMC Standard Site 231-1 Yashiro Sasayama-City, Hyogo 669-2356 JAPAN Mr. Kazuo Ogasawara Phone: 81-79-552-5681 Fax: 81-79-552-5682 E-Mail: ogasawara.kazuo@jp.panasonic.com</p>	<p>Parameter(s) of Accreditation Electromagnetics – RF/Microwave</p> <p>This laboratory is compliant to ANSI/NCSL Z540-1-1994; Part 1. (NVLAP Code: 20/A01)</p>
<p>When international, national, or commercial / engineering – society methods or standards are cited, such references apply only to the specific equipment, parameters and conditions listed in this scope of accreditation, and do not imply compliance to other requirements that may appear within the cited documents.</p>	

CALIBRATION AND MEASUREMENT CAPABILITIES (CMC) ^{Notes 1,2}

Measured Parameter or Device Calibrated	Range	Uncertainty ($k=2$) ^{Note 3}	Remarks	
ELECTROMAGNETICS – RF/Microwave				
NVLAP Code: 20/R08				
ANTENNA PARAMETERS				
Biconical Antenna				
Horizontal Antenna Factor				
D = 3 m, H = 1 m	30 MHz to 300 MHz	0.86 dB	Standard Site Method (three antenna method) per ANSI C63.5-2006	
D = 3 m, H = 2 m	30 MHz to 300 MHz	0.86 dB		
D = 10 m, H = 1 m	30 MHz to 300 MHz	0.87 dB		
D = 10 m, H = 2 m	30 MHz to 300 MHz	0.87 dB		
Vertical Antenna Factor				
D = 3 m, H = 1 m	30 MHz to 300 MHz	0.95 dB		
D = 3 m, H = 1.5 m	30 MHz to 300 MHz	0.96 dB		
D = 10 m, H = 1 m	30 MHz to 300 MHz	0.93 dB		
D = 10 m, H = 1.5 m	30 MHz to 300 MHz	0.93 dB		
Horizontal Antenna Factor				
D = 3 m, H = 1 m	30 MHz to 300 MHz	0.52 dB	Standard Site Method (two identical antenna method) per ANSI C63.5-2006	
D = 3 m, H = 2 m	30 MHz to 300 MHz	0.52 dB		
D = 10 m, H = 1 m	30 MHz to 300 MHz	0.53 dB		
D = 10 m, H = 2 m	30 MHz to 300 MHz	0.53 dB		
Vertical Antenna Factor				
D = 3 m, H = 1 m	30 MHz to 300 MHz	0.59 dB		
D = 3 m, H = 1.5 m	30 MHz to 300 MHz	0.59 dB		
D = 10 m, H = 1 m	30 MHz to 300 MHz	0.56 dB		

2012-08-28 through 2013-09-30

Effective dates

For the National Institute of Standards and Technology



**National Voluntary
Laboratory Accreditation Program**



CALIBRATION LABORATORIES

NVLAP LAB CODE: 100428-0

CALIBRATION AND MEASUREMENT CAPABILITIES (CMC) ^{Notes 1,2}

Measured Parameter or Device Calibrated	Range	Uncertainty ($k=2$) ^{Note 3}	Remarks
D = 10 m, H = 1.5 m Log.-periodic Antenna	30 MHz to 300 MHz	0.56 dB	Standard Site Method (three antenna method) per ANSI C63.5-2006
Horizontal Antenna Factor			
D = 3 m, H = 1 m	300 MHz to 1 GHz	1.1 dB	
D = 3 m, H = 2 m	300 MHz to 1 GHz	1.1 dB	
D = 10 m, H = 1 m	300 MHz to 1 GHz	0.94 dB	
D = 10 m, H = 2 m	300 MHz to 1 GHz	0.94 dB	
Vertical Antenna Factor			
D = 3 m, H = 1 m	300 MHz to 1 GHz	1.1 dB	
D = 3 m, H = 1.5 m	300 MHz to 1 GHz	1.1 dB	
D = 10 m, H = 1 m	300 MHz to 1 GHz	1.0 dB	
D = 10 m, H = 1.5 m	300 MHz to 1 GHz	1.0 dB	
Horizontal Antenna Factor			
D = 3 m, H = 1 m	300 MHz to 1 GHz	0.62 dB	
D = 3 m, H = 2 m	300 MHz to 1 GHz	0.61 dB	
D = 10 m, H = 1 m	300 MHz to 1 GHz	0.57 dB	
D = 10 m, H = 2 m	300 MHz to 1 GHz	0.57 dB	
Vertical Antenna Factor			
D = 3 m, H = 1 m	300 MHz to 1 GHz	0.62 dB	
D = 3 m, H = 1.5 m	300 MHz to 1 GHz	0.62 dB	
D = 10 m, H = 1 m	300 MHz to 1 GHz	0.60 dB	
D = 10 m, H = 1.5 m	300 MHz to 1 GHz	0.59 dB	
Dipole Antenna			
Horizontal Antenna Factor			
D = 10 m, H = 2.5 m - 4 m	30 MHz to 1 GHz	1.3 dB	Reference Antenna Method per ANSI C63.5-2006
END			

2012-08-28 through 2013-09-30

Effective dates

For the National Institute of Standards and Technology



Notes

Note 1: A Calibration and Measurement Capability (CMC) is a description of the best result of a calibration or measurement (result with the smallest uncertainty of measurement) that is available to the laboratory's customers under normal conditions, when performing more or less routine calibrations of nearly ideal measurement standards or instruments. The CMC is described in the laboratory's scope of accreditation by: the measurement parameter/device being calibrated, the measurement range, the uncertainty associated with that range (see note 3), and remarks on additional parameters, if applicable.

Note 2: Calibration and Measurement Capabilities are traceable to the national measurement standards of the U.S. or to the national measurement standards of other countries and are thus traceable to the internationally accepted representation of the appropriate SI (Système International) unit.

Note 3: The uncertainty associated with a measurement in a CMC is an expanded uncertainty using a coverage factor, k = 2, with a level of confidence of approximately 95 %. Units for the measurand and its uncertainty are to match. Exceptions to this occur when marketplace practice employs mixed units, such as when the artifact to be measured is labeled in non-SI units and the uncertainty is given in SI units (Example: 5 lb weight with uncertainty given in mg).

Note 3a: The uncertainty of a specific calibration by the laboratory may be greater than the uncertainty in the CMC due to the condition and behavior of the customer's device and specific circumstances of the calibration. The uncertainties quoted do not include possible effects on the calibrated device of transportation, long term stability, or intended use.

Note 3b: As the CMC represents the best measurement results achievable under normal conditions, the accredited calibration laboratory shall not report smaller uncertainty of measurement than that given in a CMC for calibrations or measurements covered by that CMC.

Note 3c: As described in Note 1, CMCs cover calibrations and measurements that are available to the laboratory's customers under normal conditions. However, the laboratory may have the capability to offer special tests, employing special conditions, which yield calibration or measurement results with lower uncertainties. Such special tests are not covered by the CMCs and are outside the laboratory's scope of accreditation. In this case, NVLAP requirements for the labeling, on calibration reports, of results outside the laboratory's scope of accreditation apply. These requirements are set out in Annex A.1.h. of NIST Handbook 150, Procedures and General Requirements.

Note 4: Uncertainties associated with field service calibration may be greater as they incorporate on-site environmental contributions, transportation effects, or other factors that affect the measurements. (This note applies only if marked in the body of the scope.)

Note 5: Values listed with percent (%) are percent of reading or generated value unless otherwise noted.

Note 6: NVLAP accreditation is the formal recognition of specific calibration capabilities. Neither NVLAP nor NIST guarantee the accuracy of individual calibrations made by accredited laboratories.

Note 7: See NIST Handbook 150 for further explanation of these notes.

2012-08-28 through 2013-09-30

Effective dates

For the National Institute of Standards and Technology