

Honeywell

OneWireless Adapter for wired HART Devices, Model: OWA 100

Report No. HONE0057.3

Report Prepared By



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1-888-EMI-CERT

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EMC Test Report

Revision Number	Description	Date	Page Number
00	None		

Barometric Pressure

The recorded barometric pressure has been normalized to sea level.



Northwest EMC Locations



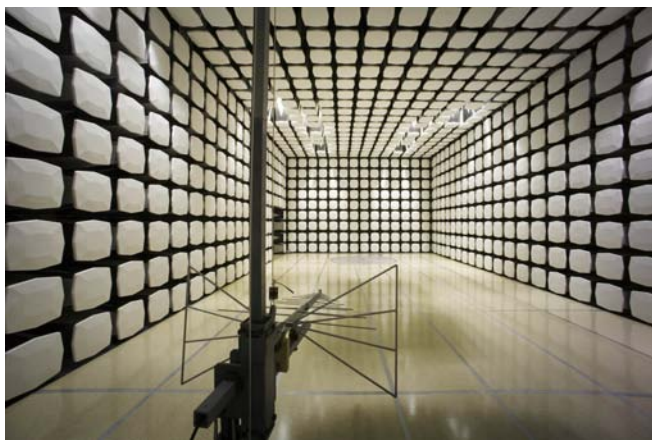
Oregon
Labs EV01-EV12
22975 NW Evergreen Pkwy
Suite 400
Hillsboro, OR 97124
(503) 844-4066

California
Labs OC01-OC13
41 Tesla
Irvine, CA 92618
(949) 861-8918

Minnesota
Labs MN01-MN08
9349 W Broadway Ave.
Brooklyn Park,
MN 55445
(763) 425-2281

Washington
Labs SU01-SU07
14128 339th Ave. SE
Sultan, WA 98294
(360) 793-8675

New York
Labs WA01-WA04
4939 Jordan Rd.
Elbridge, NY 13060
(315) 685-0796



Party Requesting the Test

Company Name:	Honeywell
Address:	2500 W. Union Hills Road
City, State, Zip:	Phoenix, AZ 85027
Test Requested By:	David Shipley
Model:	OneWireless Adapter for wired HART Devices, Model: OWA 100
First Date of Test:	October 18, 2010
Last Date of Test:	October 18, 2010
Receipt Date of Samples:	September 16, 2010
Equipment Design Stage:	Production
Equipment Condition:	No Damage

Information Provided by the Party Requesting the Test**Functional Description of the EUT (Equipment Under Test):**

OneWireless Adapter for wired HART Devices

Testing Objective:

To provide antenna polar plots as requested by the client.

CONFIGURATION 1 HONE0057**EUT**

Description	Manufacturer	Model/Part Number	Serial Number
OneWireless Adapter for wired HART Devices	Honeywell	Model: OWA 100	None

Cables

Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
Ground Strap	Yes	3m	No	OneWireless Adapter for wired HART Devices	Ground
PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.					

Equipment modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	10/18/2010	Absolute Gain	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

MODES OF OPERATION

10dBm by Signal Generator

FREQUENCY RANGE INVESTIGATED

Start Frequency	2405	Stop Frequency	2475
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FREQUENCIES TESTED

2405 MHz, 2440 MHz, 2475 MHz

SAMPLE CALCULATIONS

Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Antenna, Horn	EMCO	3115	AHB	9/11/2009	24
Signal Generator	Agilent	E8257D	TGU	12/20/2008	24
Antenna, Horn	ETS	3117	AHQ	2/26/2010	24
OC10 Cables	N/A	1-8GHz RE Cables	OCJ	3/26/2010	13
Spectrum Analyzer	Agilent	E4446A	AAY	1/15/2010	12

MEASUREMENT BANDWIDTHS

Frequency Range	Peak Data	Quasi-Peak Data	Average Data
(MHz)	(kHz)	(kHz)	(kHz)
0.01 - 0.15	1.0	0.2	0.2
0.15 - 30.0	10.0	9.0	9.0
30.0 - 1000	100.0	120.0	120.0
Above 1000	1000.0	N/A	1000.0

Measurements were made using the bandwidths and detectors specified. No video filter was used.

MEASUREMENT UNCERTAINTY

A measurement uncertainty estimation has been performed for each test per our internal quality document WP 342. The estimation is used to compare the measured result with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. The measurement uncertainty estimation is available upon request.

TEST DESCRIPTION

The single antenna to be used with the EUT was tested. Testing was performed using the high, mid and low channels.

A reference scan was made with a reference antenna at a three meter test distance. A signal generator was connected to the reference antenna and CW signal was used to obtain a reference scan polar plot.

The Antenna Under Test (AUT) was then put into the chamber in place of the reference antenna. The AUT was connected to the signal generator using the same cable and connector setup. A polar plot was then done at the antenna height of maximum field strength. This plot was then compared to the reference antenna scan, and, using the antenna gain (dBi) of the reference antenna the absolute gain of the AUT was calculated.

ABSOLUTE GAIN DATA SHEET

EUT:	OneWireless Adapter for wired HART Devices, Model: OWA 100	Work Order:	HONE0057
Serial Number:	None	Date:	10/18/10
Customer:	Honeywell	Temperature:	22.42 °C
Attendees:	David Shipley	Humidity:	44%
Project:	None	Barometric Pres.:	1011.2
Tested by:	Jaemi Suh	Power:	24VDC
		Job Site:	OC10

TEST SPECIFICATIONS

Test Method

TEST PARAMETERS

Antenna Height(s) (m)		Test Distance (m)	3
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COMMENTS

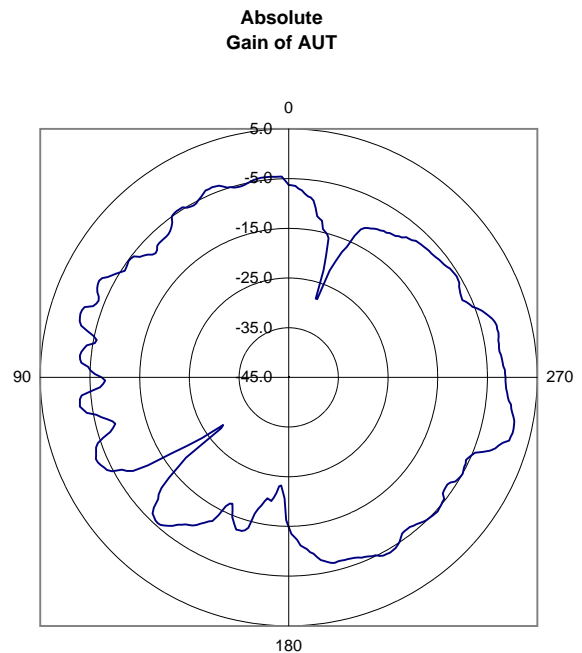
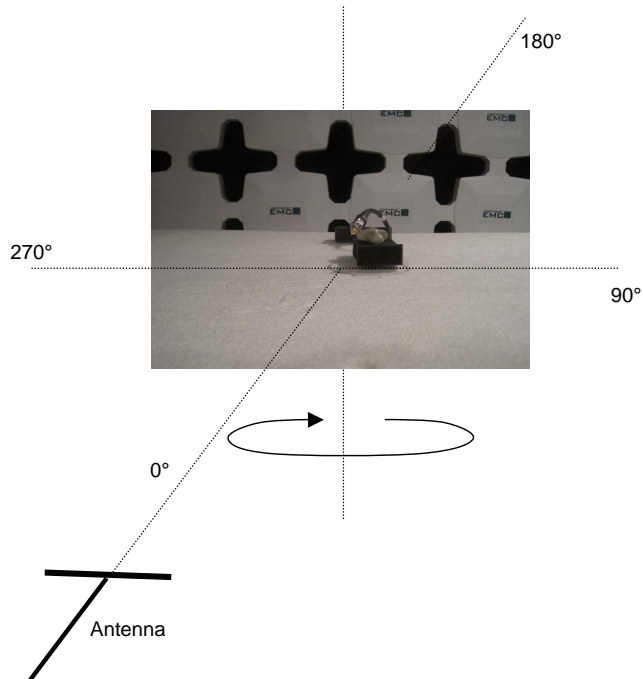
Antenna only powered by signal generator.

EUT OPERATING MODES

10dBm by Signal Generator

DEVIATIONS FROM TEST STANDARD

Run #	13	Signature 
Configuration #	1	
Results		



Frequency	2405.00
Absolute Gain of Reference Antenna (dBi)	9.13
Reference Antenna Relative Gain Max (dBuV/m)	106.80
AUT Relative Gain Max (dBuV/m)	99.10
Difference (Reference Antenna - AUT) (dB)	7.70
AUT Setup Loss (dB)	0.00
Maximum Absolute Gain of AUT (dBi)	1.43
Correction Factor (Convert From Relative to Absolute Gain) (dB)	97.67
Measurement Antenna Polarity	Horizontal
Antenna Under Test (AUT) Polarity	Horizontal

ABSOLUTE GAIN DATA SHEET

EUT:	OneWireless Adapter for wired HART Devices, Model: OWA 100	Work Order:	HONE0057
Serial Number:	None	Date:	10/18/10
Customer:	Honeywell	Temperature:	22.42 °C
Attendees:	David Shipley	Humidity:	44%
Project:	None	Barometric Pres.:	1011.2
Tested by:	Jaemi Suh	Power:	24VDC
		Job Site:	OC10

TEST SPECIFICATIONS

Test Method

TEST PARAMETERS

Antenna Height(s) (m)		Test Distance (m)	3
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COMMENTS

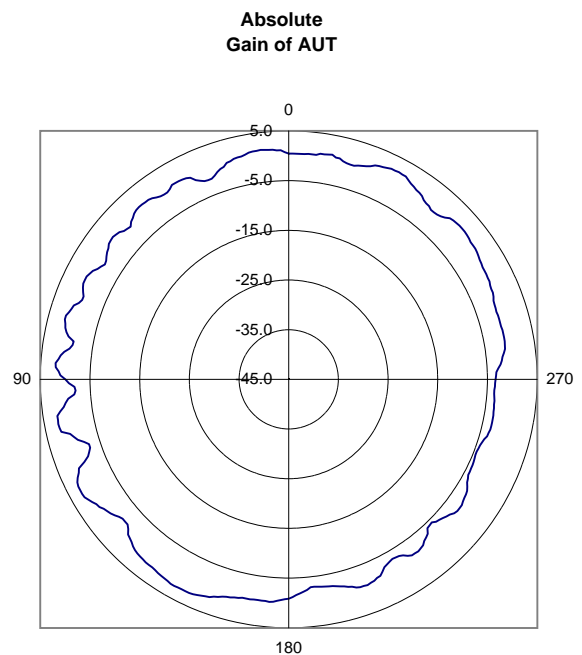
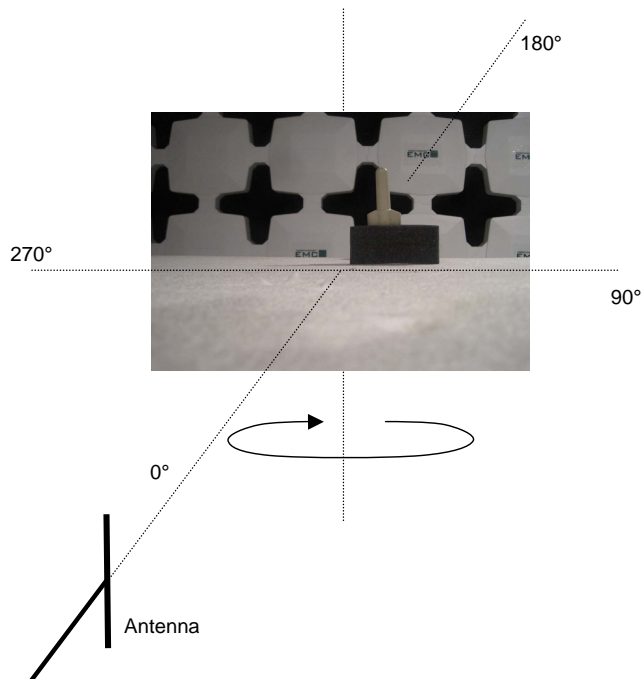
Antenna only powered by signal generator.

EUT OPERATING MODES

10dBm by Signal Generator

DEVIATIONS FROM TEST STANDARD

Run #	14	Signature 
Configuration #	1	
Results		



Frequency	2405.00
Absolute Gain of Reference Antenna (dBi)	9.13
Reference Antenna Relative Gain Max (dBuV/m)	106.60
AUT Relative Gain Max (dBuV/m)	100.00
Difference (Reference Antenna - AUT) (dB)	6.60
AUT Setup Loss (dB)	0.00
Maximum Absolute Gain of AUT (dBi)	2.53
Correction Factor (Convert From Relative to Absolute Gain) (dB)	97.47
Measurement Antenna Polarity	Vertical
Antenna Under Test (AUT) Polarity	Vertical

ABSOLUTE GAIN DATA SHEET

EUT:	OneWireless Adapter for wired HART Devices, Model: OWA 100	Work Order:	HONE0057
Serial Number:	None	Date:	10/18/10
Customer:	Honeywell	Temperature:	22.42 °C
Attendees:	David Shipley	Humidity:	44%
Project:	None	Barometric Pres.:	1011.2
Tested by:	Jaemi Suh	Power:	24VDC
		Job Site:	OC10

TEST SPECIFICATIONS

Test Method

TEST PARAMETERS

Antenna Height(s) (m)		Test Distance (m)	3
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COMMENTS

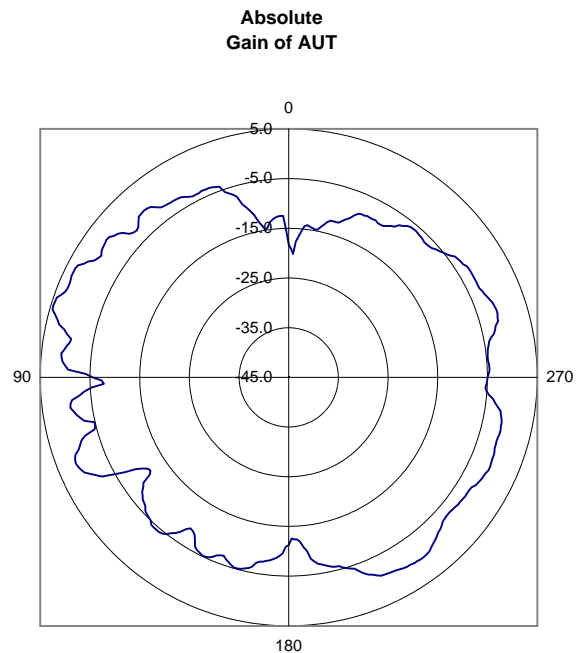
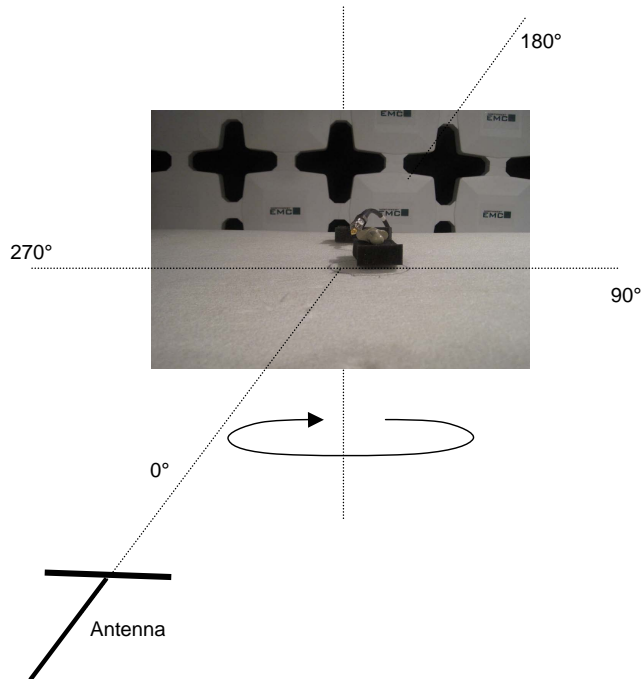
Antenna only powered by signal generator.

EUT OPERATING MODES

10dBm by Signal Generator

DEVIATIONS FROM TEST STANDARD

Run #	12	Signature 
Configuration #	1	
Results		



Frequency	2440.00
Absolute Gain of Reference Antenna (dBi)	9.23
Reference Antenna Relative Gain Max (dBuV/m)	105.70
AUT Relative Gain Max (dBuV/m)	101.00
Difference (Reference Antenna - AUT) (dB)	4.70
AUT Setup Loss (dB)	0.00
Maximum Absolute Gain of AUT (dBi)	4.53
Correction Factor (Convert From Relative to Absolute Gain) (dB)	96.47
Measurement Antenna Polarity	Horizontal
Antenna Under Test (AUT) Polarity	Horizontal

ABSOLUTE GAIN DATA SHEET

EUT:	OneWireless Adapter for wired HART Devices, Model: OWA 100	Work Order:	HONE0057
Serial Number:	None	Date:	10/18/10
Customer:	Honeywell	Temperature:	22.42 °C
Attendees:	David Shipley	Humidity:	44%
Project:	None	Barometric Pres.:	1011.2
Tested by:	Jaemi Suh	Power:	24VDC
		Job Site:	OC10

TEST SPECIFICATIONS

Test Method

TEST PARAMETERS

Antenna Height(s) (m) Test Distance (m) 3

COMMENTS

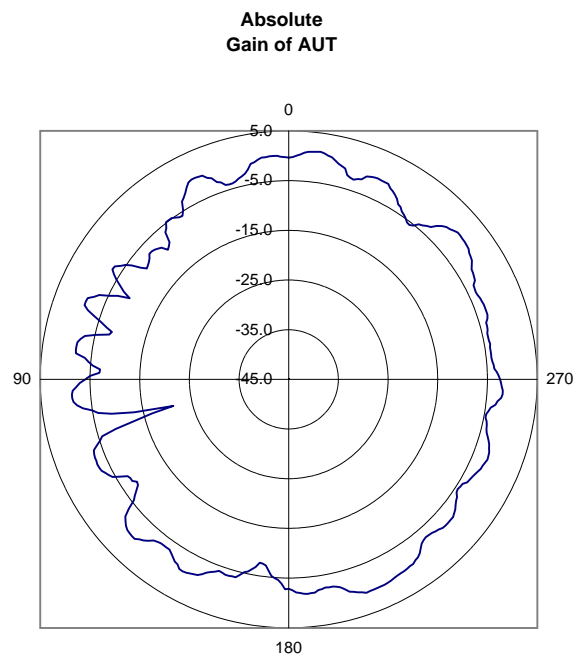
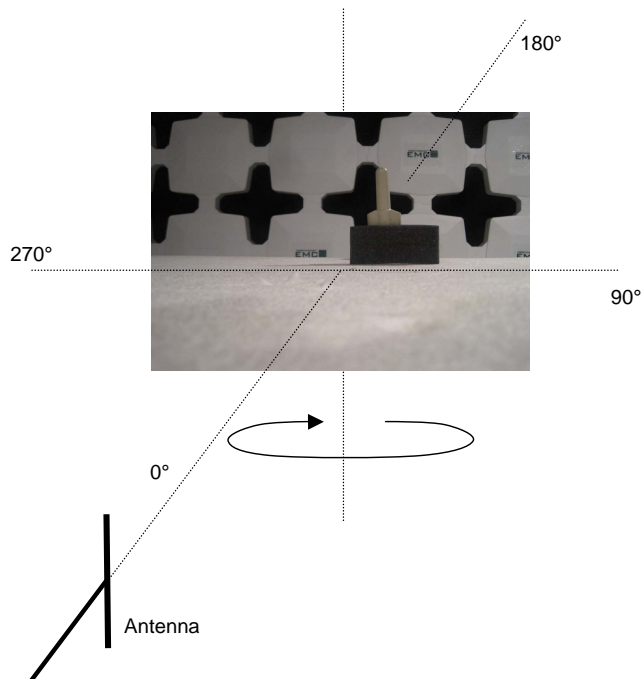
Antenna only powered by signal generator.

EUT OPERATING MODES

10dBm by Signal Generator

DEVIATIONS FROM TEST STANDARD

Run #	9	Signature 
Configuration #	1	
Results		



Frequency	2440.00
Absolute Gain of Reference Antenna (dBi)	9.23
Reference Antenna Relative Gain Max (dBuV/m)	106.10
AUT Relative Gain Max (dBuV/m)	98.10
Difference (Reference Antenna - AUT) (dB)	8.00
AUT Setup Loss (dB)	0.00
Maximum Absolute Gain of AUT (dBi)	1.23
Correction Factor (Convert From Relative to Absolute Gain) (dB)	96.87
Measurement Antenna Polarity	Vertical
Antenna Under Test (AUT) Polarity	Vertical

ABSOLUTE GAIN DATA SHEET

EUT:	OneWireless Adapter for wired HART Devices, Model: OWA 100	Work Order:	HONE0057
Serial Number:	None	Date:	10/18/10
Customer:	Honeywell	Temperature:	22.42 °C
Attendees:	David Shipley	Humidity:	44%
Project:	None	Barometric Pres.:	1011.2
Tested by:	Jaemi Suh	Power:	24VDC
		Job Site:	OC10

TEST SPECIFICATIONS

Test Method

TEST PARAMETERS

Antenna Height(s) (m) Test Distance (m) 3

COMMENTS

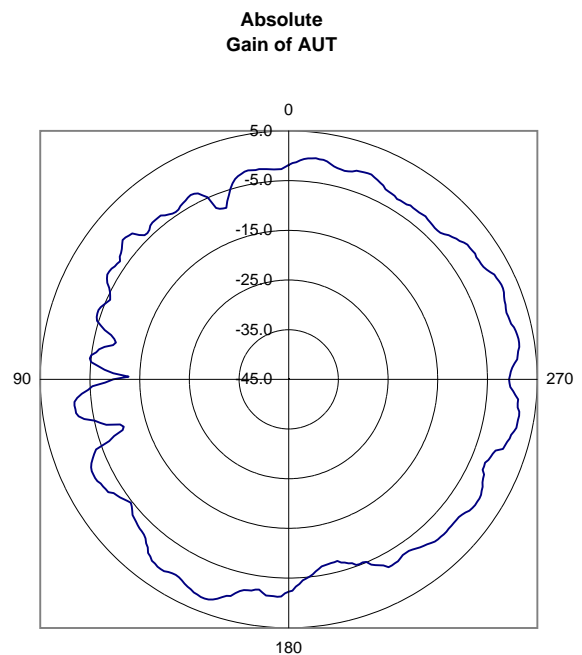
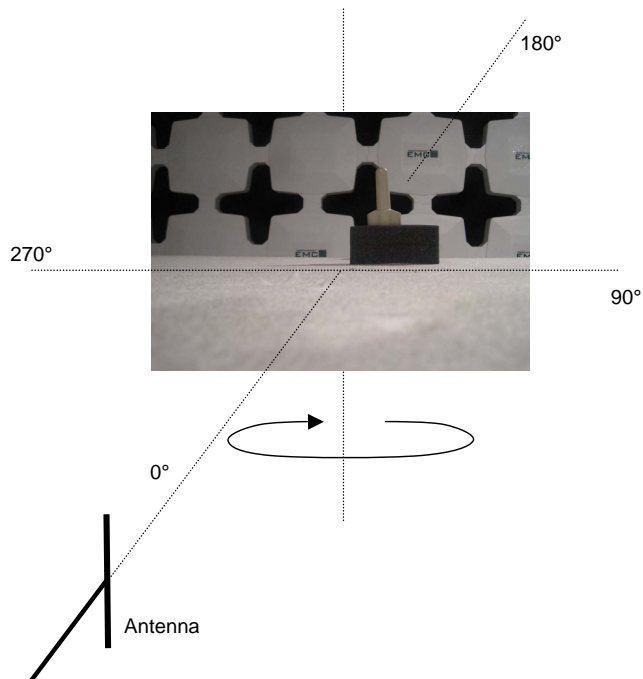
Antenna only powered by signal generator.

EUT OPERATING MODES

10dBm by Signal Generator

DEVIATIONS FROM TEST STANDARD

Run #	10	 Signature
Configuration #	1	
Results		



Frequency	2475.00
Absolute Gain of Reference Antenna (dBi)	9.33
Reference Antenna Relative Gain Max (dBuV/m)	106.10
AUT Relative Gain Max (dBuV/m)	99.00
Difference (Reference Antenna - AUT) (dB)	7.10
AUT Setup Loss (dB)	0.00
Maximum Absolute Gain of AUT (dBi)	2.23
Correction Factor (Convert From Relative to Absolute Gain) (dB)	96.77
Measurement Antenna Polarity	Vertical
Antenna Under Test (AUT) Polarity	Vertical

ABSOLUTE GAIN DATA SHEET

EUT:	OneWireless Adapter for wired HART Devices, Model: OWA 100	Work Order:	HONE0057
Serial Number:	None	Date:	10/18/10
Customer:	Honeywell	Temperature:	22.42 °C
Attendees:	David Shipley	Humidity:	44%
Project:	None	Barometric Pres.:	1011.2
Tested by:	Jaemi Suh	Power:	24VDC
		Job Site:	OC10

TEST SPECIFICATIONS

Test Method

TEST PARAMETERS

Antenna Height(s) (m)		Test Distance (m)	3
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COMMENTS

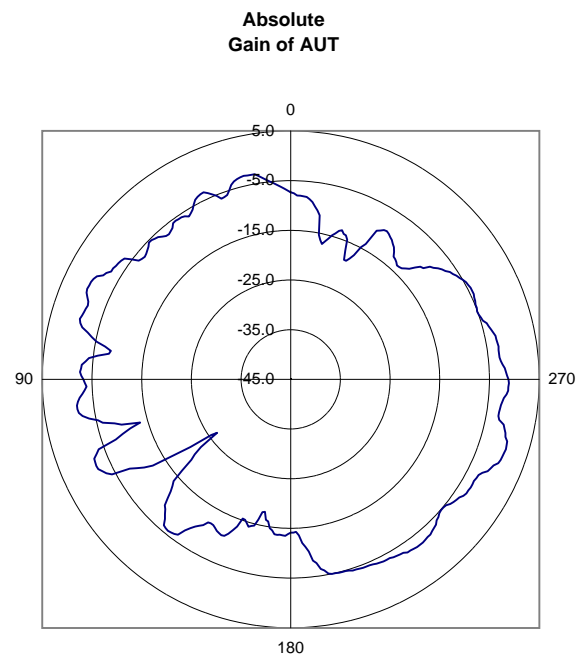
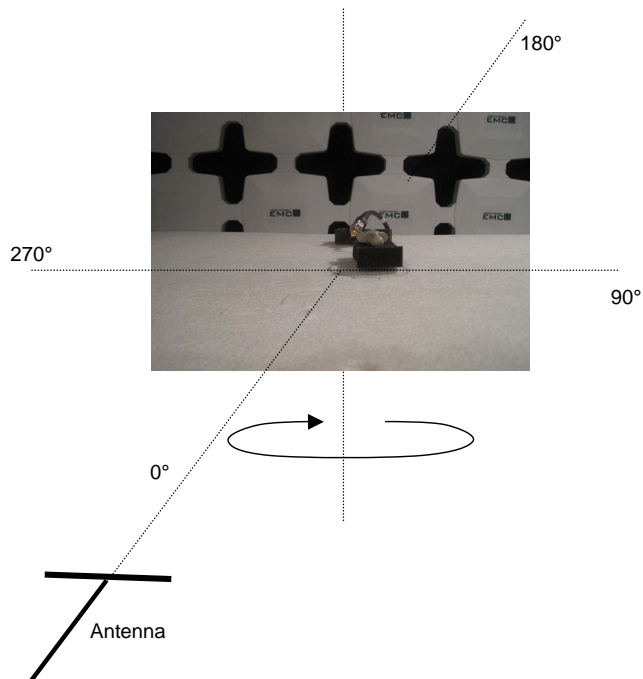
Antenna only powered by signal generator.

EUT OPERATING MODES

10dBm by Signal Generator

DEVIATIONS FROM TEST STANDARD

Run #	11	Signature 
Configuration #	1	
Results		



Frequency	2475.00
Absolute Gain of Reference Antenna (dBi)	9.33
Reference Antenna Relative Gain Max (dBuV/m)	106.00
AUT Relative Gain Max (dBuV/m)	97.20
Difference (Reference Antenna - AUT) (dB)	8.80
AUT Setup Loss (dB)	0.00
Maximum Absolute Gain of AUT (dBi)	0.53
Correction Factor (Convert From Relative to Absolute Gain) (dB)	96.67
Measurement Antenna Polarity	Horizontal
Antenna Under Test (AUT) Polarity	Horizontal

