STEINEL GMBH

5.8 GHz Homodyne Doppler Radar Module

Model: HFLUM2-102

16 April 2010 Report No.: SL10010801-SAI-001 Rev3.0 (This report supersedes: SL10010801-SAI-001 Rev2.0)



Modifications made to the product : None	
This Test Report is Issued Under the Authority of	
and .	Nai-
Choon Sian Ooi	Leslie Bai
Test Engineer	Engineering Reviewer

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0 | Ssue 7: 20 To: FCC Part 15.249 & RSS 21 SIEMIC, INC.



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Laboratory Introduction

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Country/Region	Accreditation Body	Scope
USA	FCC, A2LA	EMC , RF/Wireless , Telecom
Canada	IC, A2LA, NIST	EMC, RF/Wireless , Telecom
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Hong Kong	OFTA , NIST	RF/Wireless ,Telecom
Australia	NATA, NIST	EMC, RF, Telecom , Safety
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Japan	VCCI, JATE, TELEC, RFT	EMI, RF/Wireless, Telecom
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Europe	A2LA, NIST	EMC, RF, Telecom , Safety

Accreditations for Conformity Assessment

Accreditations for Product Certifications

Country	Accreditation Body	Scope
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1

Accessing global markets RF Test Report of STEINEL GmbH Model : HFLUM2-102 FCC 15.249 2009 & RSS-210 Issue 7 : 2007

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Executive Summary & EUT information

The purpose of this test programme was to demonstrate compliance of the STEINEL GmbH Model:HFLUM2-102 against the current Stipulated Standards. The 5.8 GHz Homodyne Doppler Radar Module have demonstrated compliance with the FCC 15.249 2009 & RSS-210 Issue 7 : 2007.

EUT Information

EUT Description	:	5.8 GHz Homodyne Doppler Radar Module
Model No	:	HFLUM2-102
Serial No	:	N/A
Input Power	:	120-277 VAC, 50/60 Hz
Classification Per Stipulated Test Standard	:	Low Power Communication Device Transmitter / Device



SIEMIC, INC. Accessing global markets RF Test Report of STEINEL GmbH Model : HFLUM2-102 FCC 15.249 2009 & RSS-210 Issue 7 : 2007

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2 TECHNICAL DETAILS

Purpose	Compliance testing of 5.8 GHz Homodyne Doppler Radar Module with stipulated standard
Applicant / Client	STEINEL GmbH
Manufacturer	STEINEL GmbH Dieselstrasse 80-84 33442 Herzebrock-Clarholz
Laboratory performing the tests	SIEMIC Laboratories
Test report reference number	SL10010801-SAI-001 Rev3.0
Date EUT received	14 January 2010
Standard applied	FCC 15.249 2009 & RSS-210 Issue 7 : 2007
Dates of test (from – to)	14 January 2010- 15 March 2010
No of Units:	3
Equipment Category:	DXX
Trade Name:	STEINEL GmbH
Model :	HFLUM2-102
RF Operating Frequency (ies)	5.728 GHz to 5.873 GHz
Number of Channels :	1
Modulation :	No Modulation
FCC ID :	W818303
IC ID :	8529A-8303



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3 MODIFICATION

NONE



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4 TEST SUMMARY

The product was tested in accordance with the following specifications. All testing has been performed according to below product classification:

Low Power Communication Device Transmitter / Device

Test S	Standard	Description	Pass / Fai
47 CFR Part 15.245: 2008	RSS 210 Issue 7: 2007		
15.203		Antenna Requirement	Pass
15.207(a)		AC Line Conducted Emissions Voltage	Pass
15.249 (a)	RSS210(A2.9)	Field Strength Emissions	Pass
15.209;15.249(d)	RSS210(A2.9)	Radiated Spurious Emissons	Pass
	RSS Gen(4.8)	Receiver Spurious Emissions	N/A

Test Results Summarv



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5 MEASUREMENTS, EXAMINATION AND DERIVED RESULTS

5.1 Antenna Requirement

Requirement(s): 47 CFR §15.203

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

Antenna requirement must meet at least one of the following:

- a) Antenna must be permanently attached to the device.
- b) Antenna must use a unique type of connector to attach to the device.
- c) Device must be professionally installed. Installer shall be responsible for ensuring that the correct antenna is employed with the device.
- 1) The EUT antenna is attached permanently to the device which meets the requirement.



5.2 Conducted Emissions Voltage

	Conducted limit (dBµV)		
Frequency of emission (MHz)	Quasi-peak	Average	
0.15–0.5	66 to 56*	56 to 46*	
0.5–5	56	46	
5–30	60	50	

*Decreases with the logarithm of the frequency.

Procedures:

Requirement:

- All possible modes of operation were investigated. Only the 6 worst case emissions measured, using the correct CISPR and Average detectors, are reported. All other emissions were relatively insignificant.
- 2. A "-ve" margin indicates a PASS as it refers to the margin present below the limit line at the particular frequency.
- 3. Conducted Emissions Measurement Uncertainty
- All test measurements carried out are traceable to national standards. The uncertainty of the measurement at a confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2, in the range 9kHz 30MHz (Average & Quasi-peak) is ±3.86dB.
- 4. Environmental Conditions Temperature Relative Humidity Atmospheric Pressure

25°C 50% 1019mbar

Test Date : January 14 to 15, 2010 Tested By : Choon Sian Ooi

Test Result: Pass

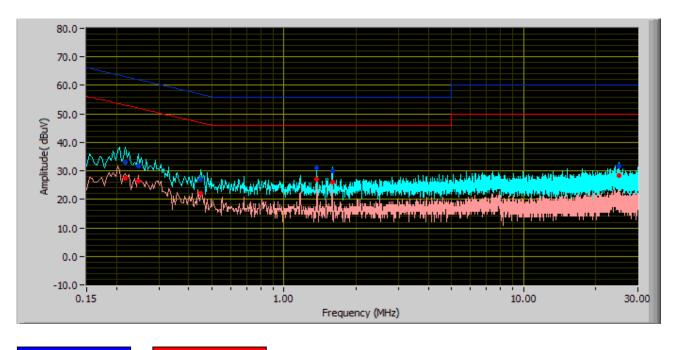


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Quasi-Peak Limit

Average Limit

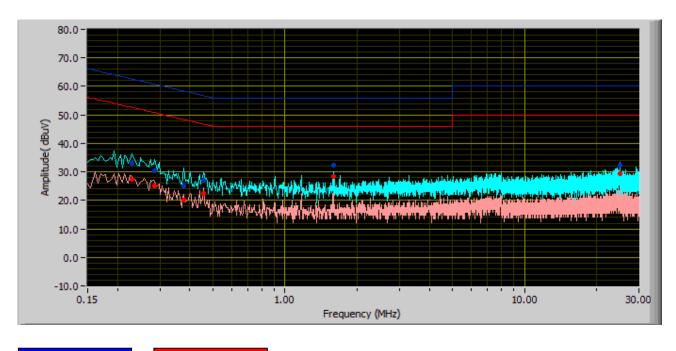
Frequency (MHz)	QP Value (dBµV)	Class B Limit (dB)	Pass / Fail	Margin (dB)	Avg Value (dBμV)	Class B Limit (dB)	Pass / Fail	Margin (dB)	Line
0.22	32.95	63.02	PASS	-30.08	27.31	53.02	PASS	-25.72	Phase
1.59	29.98	56.00	PASS	-26.02	25.97	46.00	PASS	-20.03	Phase
1.37	31.03	56.00	PASS	-24.97	27.08	46.00	PASS	-18.92	Phase
0.25	31.70	62.00	PASS	-30.30	26.26	52.00	PASS	-25.74	Phase
0.45	27.13	56.89	PASS	-29.76	22.07	46.89	PASS	-24.82	Phase
25.06	31.59	60.00	PASS	-28.41	28.32	50.00	PASS	-21.68	Phase

Phase Line Plot at 120Vac, 60Hz



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Quasi-Peak Limit

Average Limit

Frequency (MHz)	QP Value (dBµV)	Class B Limit (dB)	Pass / Fail	Margin (dB)	Avg Value (dBµV)	Class B Limit (dB)	Pass / Fail	Margin (dB)	Line
1.59	32.43	56.00	PASS	-23.57	28.54	46.00	PASS	-17.46	Neutral
0.23	33.08	62.57	PASS	-29.49	27.31	52.57	PASS	-25.26	Neutral
0.29	30.43	60.73	PASS	-30.30	25.07	50.73	PASS	-25.65	Neutral
25.06	32.41	60.00	PASS	-27.59	29.26	50.00	PASS	-20.74	Neutral
0.46	27.13	56.74	PASS	-29.61	22.52	46.74	PASS	-24.22	Neutral
0.38	25.10	58.36	PASS	-33.26	20.00	48.36	PASS	-28.37	Neutral

Neutral Line Plot at 120Vac, 60Hz



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5.3 Radiated Spurious Emission Test Results

- Requirement(s): 47 CFR §15.209; 47 CFR §15.249 (d)
- Procedures: Radiated emissions were measured according to ANSI C63.4. The EUT was set to transmit at the highest output power. The EUT was set 3 meter away from the measuring antenna. The Log Periodic Antenna was positioned 1 meter above the ground from the centre of the loop. The measuring bandwidth was set to 100 kHz. (Note: During testing the receive antenna was raise from 1~4 meters to maximize the emission from the EUT.)
- 1. All possible modes of operation were investigated. Only the 6 worst case emissions measured, using the correct CISPR detectors, are reported. All other emissions were relatively insignificant.
- 2. A "-ve" margin indicates a PASS as it refers to the margin present below the limit line at the particular frequency.
- Radiated Emissions Measurement Uncertainty: All test measurements carried out are traceable to national standards. The uncertainty of the measurement at a confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2, is +/-6dB
- 4. Environmental Conditions Temperature 25°C Relative Humidity 50% Atmospheric Pressure 1019mbar Test Date : January 14 to 15, 2010

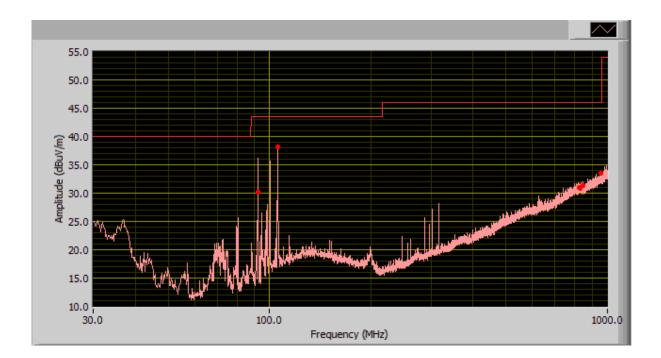
Test Date : January 14 to 15, 2010 Tested By : Choon Sian Ooi

Test Result: Pass



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Test result complying for FCC 15.249 (d) & 15.209



30MHz ~1000MHz

Frequency (MHz)	Quasi-Peak (dBµV/m) @ 3m	Antenna height (cm)	Turntable position (deg)	Polarity	Limit (dBµV/m)	Margin (dB)
846.14	31.41	164.00	112.00	V	46.00	-14.59
105.68	38.25	230.00	220.00	V	43.50	-5.25
828.86	30.89	299.00	69.00	V	46.00	-15.11
824.72	30.92	235.00	336.00	V	46.00	-15.08
92.30	30.22	155.00	27.00	V	43.50	-13.28
954.11	33.52	381.00	349.00	Н	46.00	-12.48

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5.4 Radiated Fundamental & Spurious Emissions

Requirement(s): 47 CFR §15.209; 47 CFR §15.249 (a); ; 47 CFR §15.249 (d)

Procedures: Radiated emissions were measured according to ANSI C63.4. The EUT was set to transmit at the highest output power. The EUT was set 3 meter away from the measuring antenna. The Horn Antenna (1-18GHz) was positioned 1 meter above the ground from the centre of the loop to measure the fundamental and 18-40GHz for Harmonics spurious emission (Note: During testing the receive antenna was raise from 1~4 meters to maximize the emission from the EUT.)

The limit is converted from microvolts/meter to decibel microvolts/meter.

Sample Calculation: Corrected Amplitude = Raw Amplitude (dBµV/m) + ACF (dB) + Cable Loss (dB) – Pre-Amp.

- 1. All possible modes of operation were investigated
- 2. A "-ve" margin indicates a PASS as it refers to the margin present below the limit line at the particular frequency.
- Radiated Emissions Measurement Uncertainty: All test measurements carried out are traceable to national standards. The uncertainty of the measurement at a confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2, is +/-6dB

4.	Environmental Conditions	Temperature Relative Humidity	25°C 50%
	Test Date : March 1/ to 15, 2010	Atmospheric Pressure	1019mbar

Test Date : March 14 to 15, 2010 Tested By : Choon Sian Ooi

5.4.1 Test Result: Pass

Frequency GHz	Reading (dBuV/m)	Direction Degree	Height Meter	Polar H / V	Antenn a Loss (dB)	Cable loss (dB)	Amplifier (dB)	Corrected Reading (dBuV/m)	15.249 Limit (dBuV/m)	15.249 Margin	Detector (pk/avg)
5.728	79.57	290	154	V	33.4	4.56	32.48	85.05	114	-28.95	Peak
5.728	79.64	211	126	Н	33.4	4.56	32.48	85.12	114	-28.88	Peak
5.728	59.04	290	154	V	33.4	4.56	32.48	64.52	94	-29.48	Ave
5.728	60.47	211	126	Н	33.4	4.56	32.48	65.95	94	-28.05	Ave

Radiated Emissions Field Strength of Fundamental- Low Channel

Radiated Emissions Field Strength of Harmonics- Low Channel

Frequency GHz	Reading (dBuV/m)	Direction Degree	Height Meter	Polar H / V	Antenn a Loss (dB)	Cable loss (dB)	Amplifier (dB)	Corrected Reading (dBuV/m)	15.249 Margin	15.249 Comments	Detector (pk/avg)
11.456	40.69	306	100	Н	40.4	7.17	32.70	55.56	74	-18.44	Peak
11.456	39.69	164	100	V	40.4	7.17	32.70	54.56	74	-19.44	Peak
11.456	23.26	306	100	Н	40.4	7.17	32.70	38.13	54	-15.87	Ave
11.456	23.43	164	100	V	40.4	7.17	32.70	38.30	54	-15.70	Ave



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Radiated Emissions Field Strength of Fundamental- Mid Channel

Frequency GHz	Reading (dBuV/m)	Direction Degree	Height Meter	Polar H / V	Antenn a Loss (dB)	Cable loss (dB)	Amplifier (dB)	Corrected Reading (dBuV/m)	15.245 Margin	15.245 Comments	Detector (pk/avg)
5.813	79.41	290	154	V	33.4	4.56	32.48	84.89	114	-29.11	Peak
5.813	79.45	200	149	Н	33.4	4.56	32.48	84.93	114	-29.07	Peak
5.813	60.15	290	154	V	33.4	4.56	32.48	65.63	94	-28.37	Ave
5.813	59.99	200	149	Н	33.4	4.56	32.48	65.47	94	-28.53	Ave

Radiated Emissions Field Strength of Harmonics- Mid Channel

Frequency GHz	Reading (dBuV/m)	Direction Degree	Height Meter	Polar H / V	Antenn a Loss (dB)	Cable loss (dB)	Amplifier (dB)	Corrected Reading (dBuV/m)	15.245 Margin	15.245 Comments	Detector (pk/avg)
11.620	38.21	95	100	Н	40.7	7.42	32.51	53.82	74	-20.18	Peak
11.620	38.11	327	100	V	40.7	7.42	32.51	53.71	74	-20.29	Peak
11.620	22.91	94	101	Н	40.7	7.42	32.51	38.51	54	-15.49	Ave
11.620	22.90	327	100	V	40.7	7.42	32.51	38.51	54	-15.49	Ave

Radiated Emissions Field Strength of Fundamental- High Channel

Frequency GHz	Reading (dBuV/m)	Direction Degree	Height Meter	Polar H / V	Antenn a Loss (dB)	Cable loss (dB)	Amplifier (dB)	Corrected Reading (dBuV/m)	15.245 Margin	15.245 Comments	Detector (pk/avg)
5.873	80.26	340	113	V	33.4	4.56	32.48	85.74	114	-28.26	Peak
5.873	79.51	115	181	Н	33.4	4.56	32.48	84.99	114	-29.01	Peak
5.873	61.21	340	113	V	33.4	4.56	32.48	66.69	94	-27.31	Ave
5.873	60.53	115	181	Н	33.4	4.56	32.48	66.01	94	-27.99	Ave

Radiated Emissions Field Strength of Harmonics- High Channel

Frequency GHz	Reading (dBuV/m)	Direction Degree	Height Meter	Polar H / V	Antenn a Loss (dB)	Cable loss (dB)	Amplifier (dB)	Corrected Reading (dBuV/m)	15.245 Margin	15.245 Comments	Detector (pk/avg)
11.746	38.59	299	100	Н	40.7	7.415	32.51	54.20	74	-19.80	Peak
11.746	37.78	56	100	V	40.7	7.415	32.51	53.39	74	-20.62	Peak
11.746	22.67	299	100	Н	40.7	7.415	32.51	38.27	54	-15.73	Ave
11.746	22.50	56	100	V	40.7	7.415	32.51	38.10	54	-15.90	Ave



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5.5 Receiver Spurious Emissions

1.	Conducted Measurement		
	EUT was set for low , mid, high channed	el with modulated mode and highest RF	output power.
	The spectrum analyzer was connected	to the antenna terminal.	
2	Conducted Emissions Measurement U	<u>ncertainty</u>	
	All test measurements carried out are t	raceable to national standards. The ur	ncertainty of the measurement at a
	confidence level of approximately 95%	(in the case where distributions are no	rmal), with a coverage factor of 2, in the
	range 30MHz – 40GHz is ±1.5dB.		
3	Environmental Conditions	Temperature	23°C
		Relative Humidity	50%
		Atmospheric Pressure	1019mbar
4	Test Date : January 14 to 15, 2010		
	Tested By : Choon Sian Ooi		

Standard Requirement: RSSGen(4.8)

Procedures: The conducted spurious emissions were measured conducted using a spectrum analyzer at mid channels. the search for spurious emissions shall be from the lowest frequency internally generated or used in the receiver (e.g. local oscillator, intermediate or carrier frequency), or 30 MHz, whichever is the higher, to at least 3 times the highest tuneable or local oscillator frequency, whichever is the higher, without exceeding 40 GHz. Receiver spurious emissions at any discrete frequency shall not exceed 2 nanowatts in the band 30-1000 MHz, or 5 nanowatts above 1 GHz.

Test Result: N/A



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Annex A. TEST INSTRUMENT & METHOD

Annex A.i. TEST INSTRUMENTATION & GENERAL PROCEDURES

Instrument	Model	Calibration Due
AC Conducted Emissions		
R&S EMI Test Receiver	ESIB40	04/25/2010
R&S LISN	ESH2-Z5	04/24/2010
CHASE LISN	MN2050B	04/24/2010
Radiated Emissions		
Spectrum Analyzer	8564E	04/26/2010
EMI Receiver	ESIB 40	04/25/2010
R&S LISN	ESH2-Z5	04/24/2010
CHASE LISN	MN2050B	04/24/2010
Antenna(1 ~18GHz)	3115	04/01/2010
Antenna (30MHz~2GHz)	JB1	04/01/2010
Chamber	3m	04/18/2010
Pre-Amplifier(1 ~ 26GHz)	8449	04/24/2010
Horn Antenna (18~40GHz)	AH-840	03/19/2010
Microwave Pre-Amp (18~40GHz)	PA-840	03/19/2010*



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CONDUCTED EMISSIONS TEST DESCRIPTION Annex A.ii.

Test Set-up

- 1. The EUT and supporting equipment were set up in accordance with the requirements of the standard on top of a 1.5m x 1m x 0.8m high, non-metallic table, as shown in Annex B.
- 2. The power supply for the EUT was fed through a $50\Omega/50\mu$ H EUT LISN, connected to filtered mains.
- 3. The RF OUT of the EUT LISN was connected to the EMI test receiver via a low-loss coaxial cable.
- 4. All other supporting equipments were powered separately from another main supply.

Test Method

- 1. The EUT was switched on and allowed to warm up to its normal operating condition.
- 2. A scan was made on the NEUTRAL line (for AC mains) or Earth line (for DC power) over the required frequency range using an EMI test receiver.
- 3. High peaks, relative to the limit line, were then selected.
- 4. The EMI test receiver was then tuned to the selected frequencies and the necessary measurements made with a receiver bandwidth setting of 10 KHz. For FCC tests, only Quasi-peak measurements were made; while for CISPR/EN tests, both Quasi-peak and Average measurements were made.
- 5. Steps 2 to 4 were then repeated for the LIVE line (for AC mains) or DC line (for DC power).

Sample Calculation Example

At 20 MHz	limit = 250 μ V = 47.96 dB μ V				
Transducer factor of LISN, pulse limiter & cable loss at 20 MHz = 11.20 dB					
Q-P reading obtained directly from EMI Receiver = 40.00 dBµV (Calibrated for system losses)					
Therefore, Q-P margin = 47.96 – 40.00 = 7.96	i.e. 7.96 dB below limit				



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Annex A. iii RADIATED EMISSIONS TEST DESCRIPTION

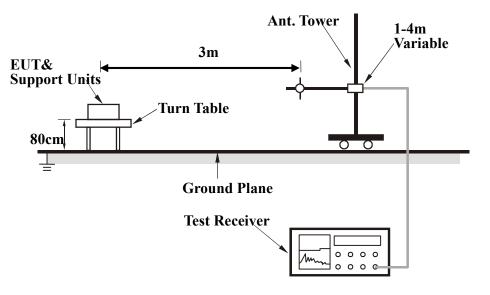
EUT Characterisation

EUT characterisation, over the frequency range from 30MHz to 10th Harmonic, was done in order to minimise radiated emissions testing time while still maintaining high confidence in the test results.

The EUT was placed in the chamber, at a height of about 0.8m on a turntable. Its radiated emissions frequency profile was observed, using a spectrum analyzer /receiver with the appropriate broadband antenna placed 3m away from the EUT. Radiated emissions from the EUT were maximised by rotating the turntable manually, changing the antenna polarisation and manipulating the EUT cables while observing the frequency profile on the spectrum analyzer / receiver. Frequency points at which maximum emissions occurred, clock frequencies and operating frequencies were then noted for the formal radiated emissions test at the Open Area Test Site (OATS).

Test Set-up

- 1. The EUT and supporting equipment were set up in accordance with the requirements of the standard on top of a 1.5m X 1.0m X 0.8m high, non-metallic table.
- 2. The filtered power supply for the EUT and supporting equipment were tapped from the appropriate power sockets located on the turntable.
- 3. The relevant broadband antenna was set at the required test distance away from the EUT and supporting equipment boundary.





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Test Method

The following procedure was performed to determine the maximum emission axis of EUT:

1. With the receiving antenna is H polarization, rotate the EUT in turns with three orthogonal axes to determine the axis of maximum emission.

2. With the receiving antenna is V polarization, rotate the EUT in turns with three orthogonal axes to determine the axis of maximum emission.

3. Compare the results derived from above two steps. So, the axis of maximum emission from EUT was determined and the configuration was used to perform the final measurement.

Final Radiated Emission Measurement

1. Setup the configuration according to figure 1. Turn on EUT and make sure that it is in normal function.

2. For emission frequencies measured below 1 GHz, a pre-scan is performed in a shielded chamber to determine the accurate frequencies of higher emissions will be checked on a open test site. As the same purpose, for emission frequencies measured above 1 GHz, a pre-scan also be performed with a 1 meter measuring distance before final test.

3. For emission frequencies measured below and above 1 GHz, set the spectrum analyzer on a 100 kHz and 1 MHz resolution bandwidth respectively for each frequency measured in step 2.

4. The search antenna is to be raised and lowered over a range from 1 to 4 meters in horizontally polarized orientation. Position the highness when the highest value is indicated on spectrum analyzer, then change the orientation of EUT on test table over a range from 0 • to 360 • with a speed as slow as possible, and keep the azimuth that highest emission is indicated on the spectrum analyzer. Vary the antenna position again and record the highest value as a final reading.

5. Repeat step 4 until all frequencies need to be measured were complete.

6. Repeat step 5 with search antenna in vertical polarized orientations.

During the radiated emission test, the Spectrum Analyzer was set with the following configurations:

Frequency Band (MHz)	Function	Resolution bandwidth	Video Bandwidth
30 to 1000	Peak	100 kHz	100 kHz
Above 1000	Peak	1 MHz	1 MHz
0001 9000A	Average	1 MHz	10 Hz

Sample Calculation Example

The field strength is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain (if any) from the measured reading. For the limit is employed average value, therefore the peak value can be transferred to average value by subtracting the duty factor. The basic equation with a sample calculation is as follows:

Peak = Reading + Corrected Factor

where

Corr. Factor = Antenna Factor + Cable Factor - Amplifier Gain (if any) And the average value is Average = Peak Value + Duty Factor or

Set RBW = 1MHz, VBW = 10Hz.

Note :

If the measured frequencies are fall in the restricted frequency band, the limit employed must be quasi peak value when frequencies are below or equal to 1 GHz. And the measuring instrument is set to quasi peak detector function.



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Annex B EUT AND TEST SETUP PHOTOGRAPHS

Please see the attachment

Annex C. TEST SETUP AND SUPPORTING EQUIPMENT

EUT TEST CONDITIONS

Annex C. i. SUPPORTING EQUIPMENT DESCRIPTION

The following is a description of supporting equipment and details of cables used with the EUT.

Equipment Description (Including Brand Name)	Model & Serial Number	Cable Description (List Length, Type & Purpose)
-	-	-

NOTE: No special supporting equipment are used or needed during testing to achieve compliance.



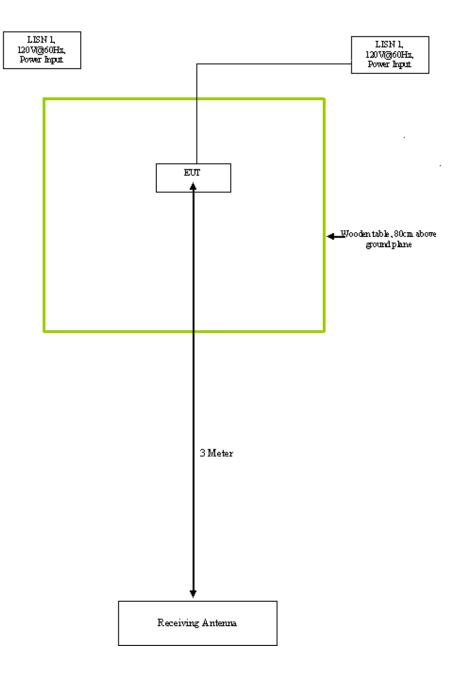
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Block Configuration Diagram for Radiated Emission





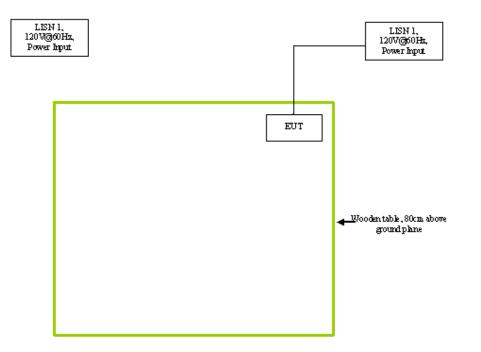
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Block Configuration Diagram for Conducted Emission





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Annex C.ii. EUT OPERATING CONDITIONS

The following is the description of how the EUT is exercised during testing.

Test	Description Of Operation
Emissions Testing	The EUT was controlled by itself.
Others Testing	The EUT was controlled by itself.



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Annex D USER MANUAL, BLOCK & CIRCUIT DIAGRAM

Please see attachment



Title

To

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Annex E. SIEMIC ACCREDITATION CERTIFICATES

ACCREDITATION DETAILS: A2LA Certificate Number: 2742.01





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	SIEMIC INC.
	2206 Ringwood Ave
	San Jose, CA 95131
Mr. Snell Leong (Author	rized Representative) Phone: 408 526 1188 www.siemie.com
PRODUCT CERTIFICATIO	N CONFORMITY ASSESSMENT BODY (CAB)
Valid to September 30, 2010	Certificate Number: 2742.02
evaluation including the US Federal Conn	n of the A2LA Certification Body Accreditation Program intuications Commission (FCC), hidustry Canada (IC) and cated types of product certifications, accreditation is granted to product certification schemes.
Economy	Scope
Federal Communication Commission - ((FCC)
Unlicensed Radio Frequency Devices	ÁI, Á2, A3, Á4
Licensed Radio Frequency Devices	B1 B2 B3 B4
Telephone Terminal Equipment	c
*Please refer to FCC TCB Program Roles and roles and responsibilities. <u>http://www.dcc.gov/c</u>	l Responsibilities, v04, released February 1d, 2009 detailing scope indea/FCC-Overview-ICB-Program.pdf
Industry Canada - (IC)	
Radio	All Radio Standards Specifications (RSS) in Category J Equipment Standards List Radio
Please refer to Industry Canada (IC) website	at: http://www.ie.ge.cu/epicsulocsml-git.nsf/en/h_u01542c.nmal
IDA - Stugapore	
Line Terminal Equipment	All Technical Specifications for Line Terminal
and the second se	Equipment - Table 1 of IDA MRA Recognition
	Scheme 2008, Annex 2
Radio-Communication Equipment	All Technical Specifications for Radio-Communication
the second se	Equipment - Table 2 of IDA MRA Recognition
	Scheme: 2008, Annex 2
Please refer to Info-Communication Develops	
Little Change Life and Robber Posting 69, Stanilly, 7	ORegulation/Policies and Regulation Level2/20080509145118/MR
RacSelvene.2dl	
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SIEMIC ACCREDITATION DETAILS: FCC Test Site Registration No. 783147

FEDERAL COMMUNICATIONS COMMISSION

Laboratory Division 7435 Oakland Mills Road Columbia, MD 21046

December 20, 2007

Registration Number: 783147

SIEMIC Laboratories 2206 Ringwood Avenue, San Jose, CA 95131

Attention: Leslie Bai

Measurement facility located at San Jose 3 & 10 meter site Date of Renewal: December 20, 2007

Dear Sir or Madam:

Re:

Your request for renewal of the registration of the subject measurement facility has been received. The information submitted has been placed in your file and the registration has been renewed. The name of your organization will remain on the list of facilities whose measurement data will be accepted in conjunction with applications for Certification under Parts 15 or 18 of the Commission's Rules. Please note that the file must be updated for any changes made to the facility and the registration must be renewed at least every three years.

Measurement facilities that have indicated that they are available to the public to perform measurement services on a fee basis may be found on the FCC website <u>www.fcc.gov</u> under E-Filing, OET Equipment Authorization Electronic Filing, Test Firms.

Sincerely,

Phyllis Parrish Industry Analyst



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SIEMIC ACCREDITATION DETAILS: Industry of Canada CAB ID : US0160



UNITED STATES DEPARTMENT OF COMMERCE National Institute of Standards and Technology Gaithersburg, Maryland 20899-

March 4, 2009

Mr. Leslie Bai SIEMIC, Inc. 2206 Ringwood Avenue San Jose, CA 95131

Dear Mr. Bai:

NIST is pleased to inform you that your laboratory has been recognized by Industry Canada (IC), under the Asia Pacific Economic Cooperation for Telecommunications Equipment Mutual Recognition Arrangement (APEC Tel MRA). Your laboratory is now designated to act as a Conformity Assessment Body (CAB) under Appendix B, Phase I Procedures, of the APEC Tel MRA. The pertinent information about your laboratory's designation is as follows:

CAB Name:	SIEMIC, Inc.
Physical Location:	2206 Ringwood Avenue, San Jose, CA 95131 USA
Identification No .:	US0160
Recognized Scope:	CS-03 Part I, II, V, VI, VII and VIII

You may submit test data to IC to verify that the equipment to be imported into Canada satisfies the applicable requirements. The designation of your organization will remain in force as long as its accreditation for the designated scope remains valid and comply with the designation requirements.

Recognized CABs are listed on the NIST website at http://ts.nist.gov/mra. Please contact Ms. Ramona Saar at (301) 975-5521 or ramona.saar@nist.gov if you have any questions.

Sincerely,

Paris In Alde

David F. Alderman Group Leader, Standards Coordination and Conformity Group Standards Services Division

Enclosure

cc: CAB Program Manager





Title

To

RF Test Report of STEINEL GmbH Model : HFLUM2-102 FCC 15.249 2009 & RSS-210 Issue 7 : 2007

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OUR FILE: 46405-4842

Submission No: 126429

SIEMIC ACCREDITATION DETAILS: Industry of Canada Test Site Registration No. 4842-1

Canada Canada

May 23rd, 2008

Siemic Inc. 2206 Ringwood Ave. San Jose CA 95131 USA

Attention: Leslie Bai

Dear Sir/Madame:

The Bureau has received your application for the registration / renewal of a 3/10m OATS. Be advised that the information received was satisfactory to Industry Canada. The following number(s) is now associated to the site(s) for which registration / renewal was sought (4842A-1). Please reference the appropriate site number in the body of test reports containing measurements performed on the site. In addition, please be informed that the Bureau is now utilizing a new site numbering scheme in order to simplify the electronic filing process. Our goal is to reduce the number of secondary codes associated to one particular company. The following changes have been made to your record.

- Your primary code is: 4842

- The company number associated to the site(s) located at the above address is: 4842A

- The table below is a summary of the changes made to the unique site registration number(s):

New Site	Obsolete Site	Description of Site	Expiry Date	
Number	Number		(YYYY-MM-DD)	
4842A-1	4842-1	3m Chamber	2010-05-23	

Furthermore, to obtain or renew a unique site number, the applicant shall demonstrate that the site has been accredited to ANSI C63.4-2003 or later. A scope of accreditation indicating the accreditation by a recognized accreditation body to ANSI C63.4-2003 shall be accepted. Please indicate in a letter the previous assigned site number if applicable and the type of site (example: 3 meter OATS or 3 meter chamber). If the test facility is not accredited to ANSI C63.4-2003 or later, the test facility shall submit test data demonstrating full compliance with the ANSI standard. The Bureau will evaluate the filing to determine if recognition shall be granted.

The frequency for re-validation of the test site and the information that is required to be filed or retained by the testing party shall comply with the requirements established by the accrediting organization. However, in all cases, test site re-validation shall occur on an interval not to exceed two years. There is no fee or form associated with an OATS filing. OATS submissions are encouraged to be submitted electronically to the Bureau using the following URL: http://strategis.ic.gc.ca/epic/internet/inceb-bhst.nsf/en/h_tt00052e.html.

If you have any questions, you may contact the Bureau by e-mail at certification bureau(a ic ge c Please reference our file and submission number above for all correspondence.

Yours sincerely.

S. Prods Test & Measurment Specialist Certification and Engineering Bureau 3701 Carling Ave., Bailding 94 Ottawa, Ontagin K211 882



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SIEMIC ACCREDITATION DETAILS: FCC DOC CAB Recognition : US1109

	Laboratory Division	
	7435 Oakland Mills Road	
	Columbia, MD 21046	
	August 28, 2008	
Siemic Labo	ratories	
2206 Ringwo	ood Ave.,	
San Jose, CA	A 95131	
Attention:	Leslie Bai	ų
Re:	Accreditation of Siemic Laboratories	27
	Designation Number: US1109	
	Test Firm Registration #: 540430	
Dear Sir or M	Madam:	
	in notified by American Association for Laboratory Accreditation that Siemic Laboratories has been s a Conformity Assessment Body (CAB).	
At this time	Siemic Laboratories is hereby designated to perform compliance testing on equipment subject to	
Declaration	Of Conformity (DOC) and Certification under Parts 15 and 18 of the Commission's Rules.	
This designa	tion will expire upon expiration of the accreditation or notification of withdrawal of designation.	
	Sincerely,	
	George Tanahill	
	George Tannahill	
	Electronics Engineer	
	Electronics Engineer	



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SIEMIC ACCREDITATION DETAILS: Australia CAB ID : US0160



UNITED STATES DEPARTMENT OF COMMERCE National Institute of Standards and Technology Gaithersburg, Maryland 20899-

November 20, 2008

Mr. Leslie Bai SIEMIC, Inc. 2206 Ringwood Avenue San Jose, CA 95131

Dear Mr. Bai:

NIST is pleased to inform you that your laboratory has been recognized by the Australian Communications and Media Authority (ACMA) under the Asia Pacific Economic Cooperation for Telecommunications Equipment Mutual Recognition Arrangement (APEC Tel MRA). Your laboratory is now designated to act as a Conformity Assessment Body (CAB) under Appendix B, Phase I Procedures, of the APEC Tel MRA. The pertinent information about your laboratory's designation is as follows:

CAB Name: Siemic, Inc. Physical Location: 2206 Ringwood Avenue, San Jose, CA 95131 Identification No.: US0160 Recognized Scope: EMC: AS/NZS 4251.1 (until 5/31/2009), AS/NZS 4251.2 (until 5/31/2009), AS/NZS CISPR 11, AS/NZS CISPR 14.1, AS/NZS CISPR 22, AS/NZS 61000.6.3, AS/NZS 61000.6.4 Radiocommunications: AS/NZS 4281, AS/NZS 4268, AS/NZS 4280.1, AS/NZS 4280.2, AS/NZS 4295, AS/NZS 4582, AS/NZS 4583, AS/NZS 4769.1, AS/NZS 4769.2, AS/NZS 4770, AS/NZS 4771 Telecommunications: AS/ACIF S002:05, AS/ACIF S003:06, AS/ACIF S004:06, AS/ACIF S006:01, AS/ACIF S016:01, AS/ACIF S031:01, AS/ACIF S038:01, AS/ACIF \$040:01, AS/ACIF \$041:05, AS/ACIF \$043.2:06, AS/NZS 60950.1

You may submit test data to ACMA to verify that the equipment to be imported into Australia satisfies the applicable requirements. The designation of your organization will remain in force as long as its accreditation for the designated scope remains valid and comply with the designation requirements. Recognized CABs are listed on the NIST website at http://ts.nist.gov/mra. Please contact Ms. Ramona Saar, at (301) 975-5521 or ramona.saar@nist.gov if you have questions.

Sincerely,

Daniel I. alder

David F. Alderman Group Leader, Standards Coordination and Conformity Group Standards Services Division

Enclosure

Snell Leong, Siemic, Inc.; Ramona Saar, NIST cc:





Accessing good markets RF Test Report of STEINEL GmbH Model : HFLUM2-102 FCC 15.249 2009 & RSS-210 Issue 7 : 2007

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 www.siemic.com

SIEMIC ACCREDITATION DETAILS: Korea CAB ID: US0160



UNITED STATES DEPARTMENT OF COMMERCE National Institute of Standards and Technology Gaithersburg, Maryland 20899-

October 1, 2008

Mr. Leslie Bai SIEMIC, Inc. 2206 Ringwood Avenue San Jose, CA 95131

Dear Mr. Bai:

NIST is pleased to inform you that your laboratory has been recognized by the Radio Research Agency (RRA) Korea Communications Commission (KCC) under the Asia Pacific Economic Cooperation for Telecommunications Equipment Mutual Recognition Arrangement (APEC Tel MRA). Your laboratory is now designated to act as a Conformity Assessment Body (CAB) under Appendix B, **Phase I** Procedures, of the APEC Tel MRA. The pertinent information about your laboratory's designation is as follows:

CAB Name: Physical Location: Identification No.: Recognized Scope: SIEMIC, Inc.
2206 Ringwood Avenue, San Jose, CA 95131
US0160
EMI: KCC Notice 2008-39, RRL Notice 2008-3: CA Procedures for EMI KN22: Test Method for EMI
EMS: KCC Notice 2008-38, RRL Notice 2008-4: CA Procedures for EMS KN24, KN-61000-4-2, -4-3, -4-4, -4-5, -4-6, -4-8, -4-11: Test Method for EMS
Wireless: RRL Notice 2008-26, RRL Notice 2008-2, RRL Notice 2008-10, RRL Notice 2007-49, RRL Notice 2007-20, RRL Notice 2007-21, RRL Notice 2007-80, RRL Notice 2004-68
Wired: President Notice 20664, RRL Notice 2007-30, RRL Notice 2008-7 with attachments 1, 3, 5, 6
President Notice 20664, RRL Notice 2008-7 with attachment 4

You may submit test data to RRA/KCC to verify that the equipment to be imported into Korea satisfies the applicable requirements. The designation of your organization will remain in force as long as its accreditation for the designated scope remains valid and comply with the designation requirements.

Recognized CABs are listed on the NIST website at http://ts.nist.gov/mra. If you have any questions please contact Ramona Saar at (301) 975-5521 or ramona.saar@nist.gov.

Sincerely,

I alde Par

David F. Alderman Group Leader, Standards Coordination and Conformity Group Standards Services Division

Enclosure

cc: Ramona Saar





SIEMIC, INC. Accessing global markets RF Test Report of STEINEL GmbH Model : HFLUM2-102 FCC 15.249 2009 & RSS-210 Issue 7 : 2007

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SIEMIC ACCREDITATION DETAILS: Taiwan BSMI Accreditation No. SL2-IN-E-1130R

		UNITED STATES DEPARTMENT OF COMMERCE National Institute of Standards and Technology Gethersburg, Mayland 20995
May 3, 2006		
Mr. Leslie Bai SIEMIC Laboratories 2206 Ringwood Avenue San Jose, CA 93131		
Dear Mr. Bai:		
Bareau of Standards, Metrole Cooperation (APEC) Mutual designated to act as a Confor Procedures, of the APEC Te equipment to be imported in designation of your organiza	ogy, and Inspection () Recognition Arrange mity Assessment Bou I MRA. You may sel to Chinese Taipei sati tion will remain in fo lid and comply with t	as been recognized by the Chinese Taipei's BSMI) under the Asia Pacific Economic ement (MRA). Your laboratory is now dy (CAB) under Appendix B. Phase I emit test data to BSMI to verify that the aftest the applicable requirements. The ree as long as its accreditation for the he designation requirements. The pertinent
 BSMI number: U.S Identification No: Scope of Designation: Authorized signatory: 	SL2-IN-E-1130R (US0160 CNS 13438 Mr. Leslie Bai	Must be applied to the test reports)
The names of all recognized If you have any questions, pl continued interest in our inte	lease contact Mr. Dhi	on the NIST website at http://ts.nist.gov/asra. llon at 301-975-5521. We appreciate your assessment activities.
Sincerely, Nand Z.a.	ch-	
David F. Alderman Group Leader, Standards Co	ordination and Corfe	mity Group
ee: Jogindar Dhillion		
		NIST



SIEMIC, INC. Accessing global markets RF Test Report of STEINEL GmbH Model : HFLUM2-102 FCC 15.249 2009 & RSS-210 Issue 7 : 2007

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SIEMIC ACCREDITATION DETAILS: Taiwan NCC CAB ID: US0160

		(È)	UNITED STATES National Institut Gathersburg, Maryl	e of Standards a	
			61 - E	325	15
November 25, 2008					
Mr. LeslieBai					
SIEMIC, Inc. 2206 Ringwood Ave	911.0°				
San Jose, CA 95131					
Dear Mr. Bai:					
NIST is pleased to it Communications Co Economic Cooperati (APEC Tel MRA). under Appendix B, I your laboratory's der	mmission (NCC) on for Telecomm Your laboratory is Phase I Procedure	for the reque unications Ec designated t s, of the APE	sted scope expansio quipment Mutual Re to act as a Conformit	n under the Asia l cognition Arrange y Assessment Bo	ement dy (CAB)
CAB Name:	SIEMIC, Inc.				
Physical Location: Identification No.:	2206 Ringwood US0160	Avenue, Sa	n Jose, CA 95131		
Current Scope:	LP0002				
Additional Scope:	PSTN01, ADSI	.01, ID0002,	1S6100 and CNS 14	336	
You may submit test applicable requirement accreditation for the	ents. The designat	tion of your o	organization will ren	nain in force as lo	ng as its
Recognized CABs at please contact Ramo					ny questions
Cinocealai	25 C 27		이번 영화 관계		
Sincerely,	CONSTRUCTION OF A DAY 1				
	ud-				
Paril Z.	u.				
	ards Coordination	n and Confor	mity Group		
Paril Z. C David F. Alderman Group Leader, Stand	ards Coordination	n and Confor	mity Group		
Parid 7. 10 David F. Alderman Group Leader, Stand Standards Services I	ards Coordination	n and Confor	mity Group		
Parid 72.0 David F. Alderman Group Leader, Stand Standards Services I Enclosure	ards Coordination	and Confor	mity Group		
Parid 72.0 David F. Alderman Group Leader, Stand Standards Services I Enclosure	ards Coordination	and Confor	mity Group		NIST



SIEMIC, INC. Accessing global markets RF Test Report of STEINEL GmbH Model · HFI UM2-102

Model : HFLUM2-102 FCC 15.249 2009 & RSS-210 Issue 7 : 2007 Serial# SL10010801-SAI-001 Rev3.0 Issue Date 16 April 2010 Page 38 of 44 www.siemic.com

SIEMIC ACCREDITATION DETAILS: Mexico NOM Recognition

Laboratorio Valentin V. Rivero CANIETI CAMARIN NACIONAL BELAINDUSTRA ESECTIONALA, DE TUSECOMUNICACIÓNES DINECOMUNICACIÓNES DINECOMUNICACIÓNES Maxico D F. a 16 de octubre de 2006 LESLIE BAI DIRECTOR OF CERTIFICATION SIEMIC LABORATORIES, INC. ACCESSING GLOBAL MARKETS PRESENTE En contestación a su escrito de fecha 5 de septiembre del año en curso, le comento que estamos muy interesados en su intención de firmar un Acuerdo de Reconocimiento Mutuo, para lo cual adjunto a este escrito encontrara el Acuerdo en idioma ingles y español prellemado de los cuales le pido sea revisado y en su caso sorregido, para que si esta de acuerdo poder firmario para mandario con las autoridades Mexicanas para su visto bueno y así poder ejercer dicho acuerdo Aprovecho este escillo para mencionarle que nuestro intermediano gestor será la empresa ladel de México. S. A. de C. V., empresa que ha colaborado durante mucho tiempo con resobros en lo relacionado a la evaluación de la conformidad y que cuenta con amplia experiencia en la gestoria de la cartificación de cumplimiento con Normas. Oficiales Mexicanas de producto en Mexico. Me despido de usted enviándole un condial seludo y esperando sus comentanos al Acuerdo que nos ocupa Atentamente: Ing. Fausting-Bornez González Gerente-Ferrico del Laboratorio de GANIER CARAGES ?? Filmingreen Consista Seriin Maseor, D.F. Sciss-2008 con 12 Atom Pas 5204 doint



Accessing social markets RF Test Report of STEINEL GmbH Model : HFLUM2-102 FCC 15.249 2009 & RSS-210 Issue 7 : 2007

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SIEMIC ACCREDITATION DETAILS: Hong Kong OFTA CAB ID : US0160



UNITED STATES DEPARTMENT OF COMMERCE National Institute of Standards and Technology Gaithersburg, Maryland 20899-

December 8, 2008

Mr. Leslie Bai SIEMIC, Inc. 2206 Ringwood Avenue San Jose, CA 95131

Dear Mr. Bai:

NIST is pleased to inform you that your laboratory has been recognized by the Office of the Telecommunications Authority (OFTA) under the Asia Pacific Economic Cooperation for Telecommunications Equipment Mutual Recognition Arrangement (APEC Tel MRA). Your laboratory is now designated to act as a Conformity Assessment Body (CAB) under Appendix B, **Phase I** Procedures, of the APEC Tel MRA. The pertinent information about your laboratory's designation is as follows:

CAB Name:	SIEMIC, Inc.
Physical Location:	2206 Ringwood Avenue, San Jose, California 95131 USA
Identification No .:	US0160
Recognized Scope:	Radio: HKTA 1002, 1007, 1008, 1010, 1015, 1016, 1020, 1022, 1026,
	1027, 1029, 1030, 1031, 1032, 1033, 1034, 1035, 1036, 1037, 1039, 1041,
	1042, 1043, 1044, 1046, 1047, 1048, 1049, 1051
	Telecom: HKTA 2011, 2012, 2013, 2014, 2017, 2018, 2022, 2024, 2026,
	2027, 2028, 2029, 2030, 2031, 2032, 2033

You may submit test data to OFTA to verify that the equipment to be imported into Hong Kong satisfies the applicable requirements. The designation of your organization will remain in force as long as its accreditation for the designated scope remains valid and comply with the designation requirements.

Recognized CABs are listed on the NIST website at http://ts.nist.gov/mra. If you have any questions please contact Ramona Saar at (301) 975-5521 or ramona.saar@nist.gov.

Sincerely,

David I. alden

David F. Alderman Group Leader, Standards Coordination and Conformity Group Standards Services Division

Enclosure

cc: Ramona Saar





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SIEMIC ACCREDITATION DETAILS: Australia ACMA CAB ID: US0160



UNITED STATES DEPARTMENT OF COMMERCE National Institute of Standards and Technology Gaithersburg, Maryland 20899-

November 20, 2008

Mr. Leslie Bai SIEMIC, Inc. 2206 Ringwood Avenue San Jose, CA 95131

Dear Mr. Bai:

NIST is pleased to inform you that your laboratory has been recognized by the Australian Communications and Media Authority (ACMA) under the Asia Pacific Economic Cooperation for Telecommunications Equipment Mutual Recognition Arrangement (APEC Tel MRA). Your laboratory is now designated to act as a Conformity Assessment Body (CAB) under Appendix B, Phase I Procedures, of the APEC Tel MRA. The pertinent information about your laboratory's designation is as follows:

CAB Name: Siemic, Inc. Physical Location: 2206 Ringwood Avenue, San Jose, CA 95131 Identification No.: US0160 Recognized Scope: EMC: AS/NZS 4251.1 (until 5/31/2009), AS/NZS 4251.2 (until 5/31/2009), AS/NZS CISPR 11, AS/NZS CISPR 14.1, AS/NZS CISPR 22, AS/NZS 61000.6.3, AS/NZS 61000.6.4 Radiocommunications: AS/NZS 4281, AS/NZS 4268, AS/NZS 4280.1, AS/NZS 4280.2, AS/NZS 4295, AS/NZS 4582, AS/NZS 4583, AS/NZS 4769.1, AS/NZS 4769.2, AS/NZS 4770, AS/NZS 4771 Telecommunications: AS/ACIF S002:05, AS/ACIF S003:06, AS/ACIF S004:06, AS/ACIF S006:01, AS/ACIF S016:01, AS/ACIF S031:01, AS/ACIF S038:01, AS/ACIF \$040:01, AS/ACIF \$041:05, AS/ACIF \$043.2:06, AS/NZS 60950.1

You may submit test data to ACMA to verify that the equipment to be imported into Australia satisfies the applicable requirements. The designation of your organization will remain in force as long as its accreditation for the designated scope remains valid and comply with the designation requirements. Recognized CABs are listed on the NIST website at http://ts.nist.gov/mra. Please contact Ms. Ramona Saar, at (301) 975-5521 or ramona saar@nist.gov if you have questions.

Sincerely,

David F. aldum

David F. Alderman Group Leader, Standards Coordination and Conformity Group Standards Services Division

Enclosure

CC: Snell Leong, Siemic, Inc.; Ramona Saar, NIST



SIEMIC, INC. Accessing global mariets

Title: To RF Test Report of STEINEL GmbH Model : HFLUM2-102 FCC 15.249 2009 & RSS-210 Issue 7 : 2007
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SIEMIC ACCREDITATION DETAILS: Australia NATA Recognition

NATA	
1	
× .	
Leshe Bai SEMIC Inc.	
2200 Ringwood Avenue Sam Japa. CA 95131	November 4, 2008
(ACMA) has determined the National Ass an accreditation body as per Section 409()	the Australian Communications and Media Authority sociation of Testing Authorities. Australia (NATA) as 1) of the Telecommunications Act 1997 (Cth). Pursuant ons Act 1997 (Cth), Tam pleased to advise that your gaused Testing Authority (RTA).
2742.01 and the Mutual Recognition Agre	basis of your accreditation by A2LA accreditation no. eement between NATA and A2LA. It is effective from the following standards and is contingent upon their come of accreditation.
AS/ACIF \$002, AS/ACIF \$003, AS/ACI	
AS/ACIF 8006, AS/ACIF 5016, AS/ACI	
AS/ACIF S038, AS/ACIF S041 and AS/ACIF S043.2	
As an RTA, your laboratory has the follow 1, the laboratory shall continue to meet all	
	aratory shall notify NATA of changes to the staff or
operations of the laboratory which would laboratory has been determined.	affect the performance of the tests for which the
The second se	rted on test reports bearing the A2LA logo endorsement.
Current information on the Australian Cor	nimumications and Media Authority and regulatory
	ducts within Australia can be obtained from the
gained by visiting "http://www.nata.asn.m	<u>ov.an</u> " Further information about NATA may be <u>u</u> ".
Please note that AS/ACIF \$040 and New	Zenland standards do not form part of the RTA scheme.
Your RTA listing will appear on the NAT	A website shortly
Kind Regards	
Chris Norton,	
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Τo

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