

## **Exhibit C: AC Powerline Conducted Emissions**

**FCC ID: CGGAA2**

**Justification**

The individuals and/or the organization requesting the test provided the modes, configurations and settings available to evaluate. While scanning the radiated emissions, all of the EUT parameters listed below were investigated. This includes, but may not be limited to, antennas, tuned transmit frequency ranges, operating modes, and data rates.

**Channels in Specified Band Investigated:**

Single

**Operating Modes Investigated:**

Typical

**Data Rates Investigated:**

Typical

**Output Power Setting(s) Investigated:**

N/A

**Power Input Settings Investigated:**

In typical use, 12VDC from alarm panel. For testing, EUT powered from DC power supply that was connected to 120 V, 60 Hz.

**Other Settings Investigated:**

RCR-A (35ft range)

RCR-50 (50ft range)

**Frequency Range Investigated**

Start Frequency	450 kHz	Stop Frequency	30 MHz
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**Software\Firmware Applied During Test**

Exercise software	Standard Production Software	Version	RCR Build 8
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**Description**

Firmware

**Equipment Modifications**

No EMI suppression devices were added or modified. The EUT was tested as delivered.

## EUT and Peripherals

Description	Manufacturer	Model/Part Number	Serial Number
EUT #2	Interlogix Inc.	RCR-50	n/a
EUT #1	Interlogix Inc.	RCR-A	n/a
DC Power Supply	Topward	TPS-2000	946425

## Cables

Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
DC Power	No	2.0	No	EUT	Power Supply

PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.

## Measurement Equipment

Description	Manufacturer	Model	Identifier	Last Cal	Interval
Spectrum Analyzer	Hewlett-Packard	8566B	AAL	03/19/2002	12 mo
Quasi-Peak Adapter	Hewlett-Packard	85650A	AQF	03/19/2002	12 mo
LISN	Solar	9752-50-R-24-BNC	LIM	03/26/2002	12 mo
High Pass Filter	TTE	H97-100k-50-720B	HFC	12/11/2001	12 mo

## Test Description


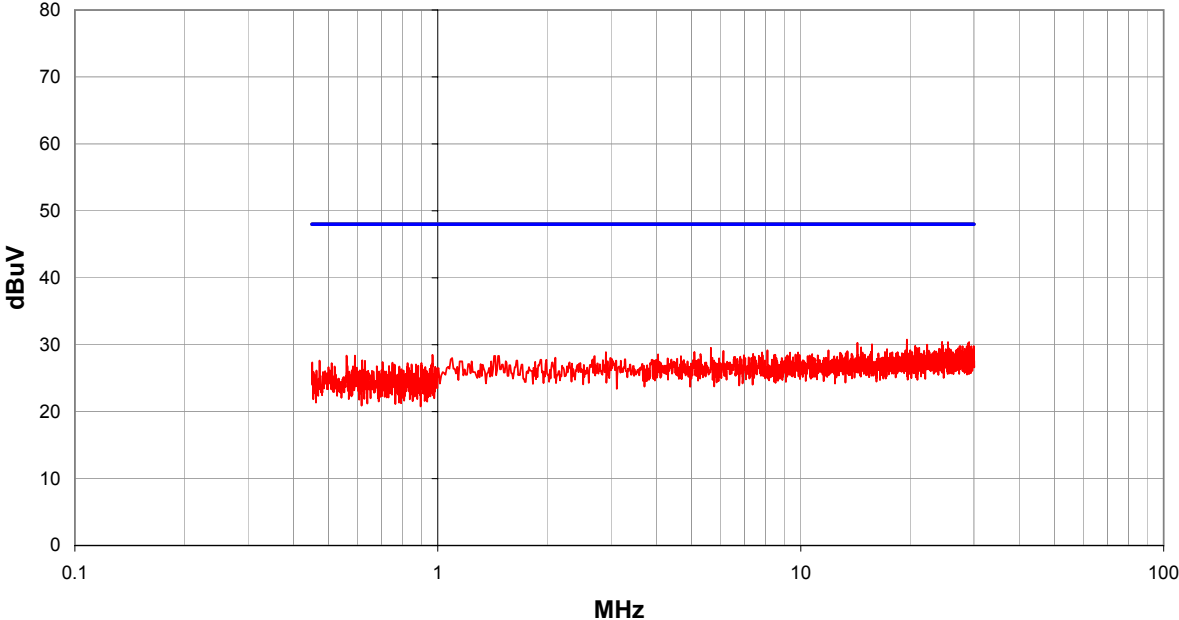
**Requirement:** Per 47 15.207(d), if the EUT is connected to the AC powerline indirectly, obtaining its power from another device, which is connected, to the AC powerline, then it should be tested to demonstrate compliance with the conducted limits of 15.207.


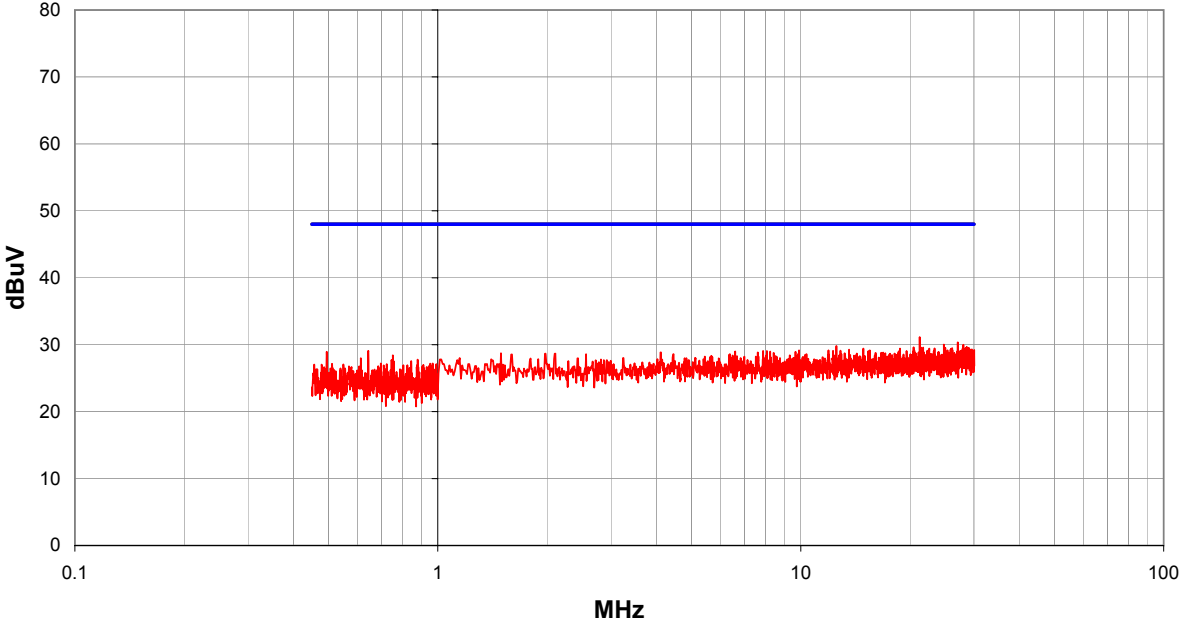
**Configuration:** The EUT will be powered from a alarm panel that could be connected to the AC power line. Therefore, in accordance with OET laboratory policy, the measurements were made on the laboratory DC power supply used to power the EUT.


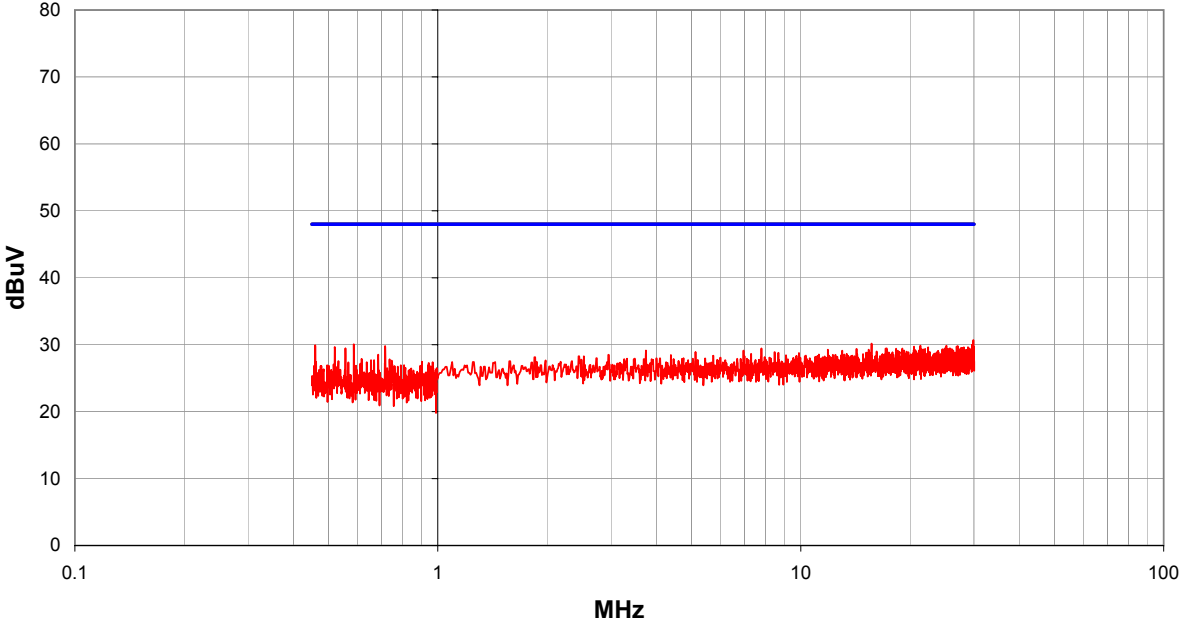
The AC powerline conducted emissions were measured with the EUT operating in a mode typical of normal operation. The spectrum was scanned from 450 kHz to 30 MHz. The test setup and procedures were in accordance with ANSI C63.4-1992.


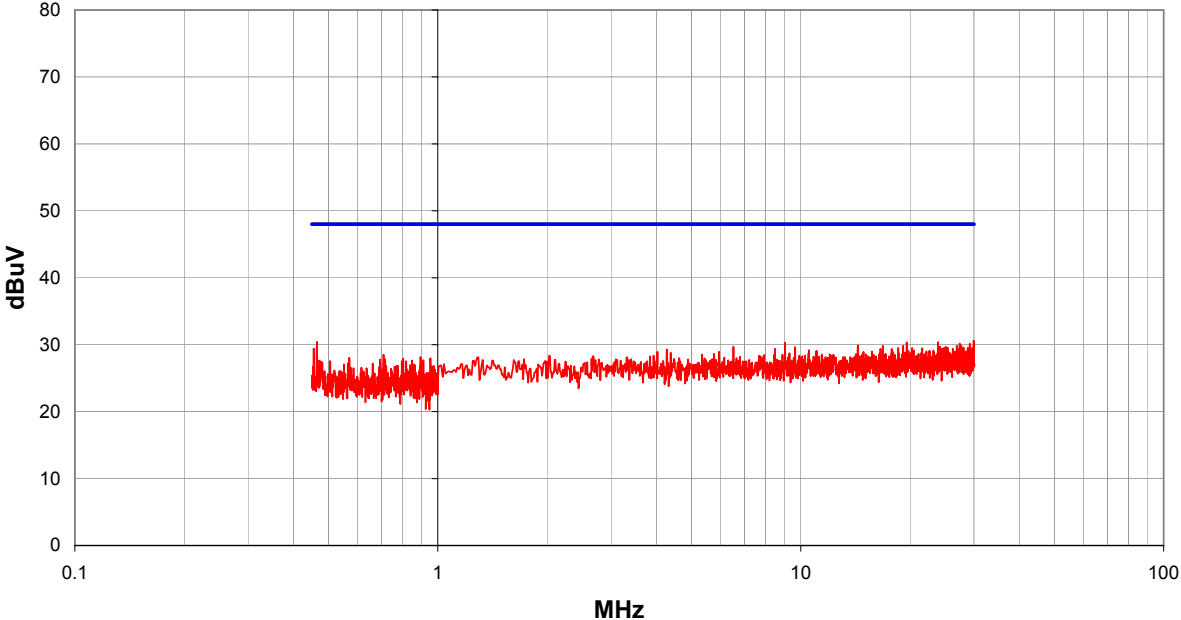
Completed by:



NORTHWEST EMC		CONDUCTED EMISSIONS DATA SHEET				REV df1.87 03/21/2002						
EUT: RCR-50		Work Order: ILGX0247										
Serial Number: n/a		Date: 4/19/02 17:36										
Customer: Interlogix Inc.		Temperature: 72										
Attendees: Fred Eggers, Feng Tang		Tested by: Greg Kiemel		Humidity: 0%								
Cust. Ref. No.: 274		Power: 12 Vdc		Job Site: EV01								
TEST SPECIFICATIONS												
Specification: FCC Part 15 Class B				Year: 2000								
Method: ANSI C63.4				Year: 1992								
SAMPLE CALCULATIONS												
Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation												
Conducted Emissions: Adjusted Level = Measured Level + Transducer Factor + Cable Attenuation Factor + External Attenuator												
COMMENTS												
Powered from DC supply that is connected to 120 V, 60 Hz												
EUT OPERATING MODES												
DEVIATIONS FROM TEST STANDARD												
No deviations.												
RESULTS				Line	Run #							
Pass				L1	1							
Other				 Tested By:								
												
Freq (MHz)	Amplitude (dBuV)			Transducer (dB)	Cable (dB)	External Attenuation (dB)		Detector (blank equal peaks [PK] from scan)		Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
19.618	9.4			0.0	1.4	20.0				30.8	48.0	-17.2
24.518	8.8			0.0	1.6	20.0				30.4	48.0	-17.6
25.452	8.7			0.0	1.7	20.0				30.4	48.0	-17.6
29.106	8.5			0.0	1.9	20.0				30.4	48.0	-17.6
14.332	9.2			0.0	1.1	20.0				30.3	48.0	-17.7
28.883	8.4			0.0	1.8	20.0				30.2	48.0	-17.8
15.719	8.9			0.0	1.2	20.0				30.1	48.0	-17.9
22.305	8.5			0.0	1.5	20.0				30.0	48.0	-18.0
24.619	8.3			0.0	1.6	20.0				29.9	48.0	-18.1
20.681	8.4			0.0	1.4	20.0				29.8	48.0	-18.2
29.979	7.9			0.0	1.9	20.0				29.8	48.0	-18.2
27.908	8.0			0.0	1.8	20.0				29.8	48.0	-18.2
29.512	7.9			0.0	1.9	20.0				29.8	48.0	-18.2
27.543	8.0			0.0	1.8	20.0				29.8	48.0	-18.2
27.401	8.0			0.0	1.8	20.0				29.8	48.0	-18.2
28.659	7.9			0.0	1.8	20.0				29.7	48.0	-18.3
30.081	7.7			0.0	1.9	20.0				29.6	48.0	-18.4
14.673	8.5			0.0	1.1	20.0				29.6	48.0	-18.4
21.209	8.1			0.0	1.4	20.0				29.5	48.0	-18.5
5.656	8.9			0.0	0.6	20.0				29.5	48.0	-18.5
20.884	8.1			0.0	1.4	20.0				29.5	48.0	-18.5

NORTHWEST EMC		CONDUCTED EMISSIONS DATA SHEET				REV df1.87 03/21/2002						
EUT: RCR-50		Work Order: ILGX0247										
Serial Number: n/a		Date: 4/19/02 17:38										
Customer: Interlogix Inc.		Temperature: 72										
Attendees: Fred Eggers, Feng Tang		Tested by: Greg Kiemel		Humidity: 0%								
Cust. Ref. No.: 274		Power: 12 Vdc		Job Site: EV01								
TEST SPECIFICATIONS												
Specification: FCC Part 15 Class B				Year: 2000								
Method: ANSI C63.4				Year: 1992								
SAMPLE CALCULATIONS												
Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation												
Conducted Emissions: Adjusted Level = Measured Level + Transducer Factor + Cable Attenuation Factor + External Attenuator												
COMMENTS												
Powered from DC supply that is connected to 120 V, 60 Hz												
EUT OPERATING MODES												
DEVIATIONS FROM TEST STANDARD												
No deviations.												
RESULTS				Line	Run #							
Pass				L2	2							
Other												
				 Tested By: _____								
												
Freq (MHz)	Amplitude (dBuV)			Transducer (dB)	Cable (dB)	External Attenuation (dB)		Detector (blank equal peaks [PK] from scan)		Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
21.270	9.7			0.0	1.4	20.0				31.1	48.0	-16.9
27.076	8.6			0.0	1.7	20.0				30.3	48.0	-17.7
24.802	8.4			0.0	1.6	20.0				30.0	48.0	-18.0
28.071	8.2			0.0	1.8	20.0				30.0	48.0	-18.0
12.543	8.8			0.0	1.0	20.0				29.8	48.0	-18.2
28.659	7.8			0.0	1.8	20.0				29.6	48.0	-18.4
20.458	8.2			0.0	1.4	20.0				29.6	48.0	-18.4
21.737	8.1			0.0	1.5	20.0				29.6	48.0	-18.4
21.452	8.1			0.0	1.5	20.0				29.6	48.0	-18.4
29.005	7.7			0.0	1.8	20.0				29.5	48.0	-18.5
25.025	7.9			0.0	1.6	20.0				29.5	48.0	-18.5
28.436	7.7			0.0	1.8	20.0				29.5	48.0	-18.5
26.142	7.8			0.0	1.7	20.0				29.5	48.0	-18.5
23.361	7.9			0.0	1.6	20.0				29.5	48.0	-18.5
29.025	7.6			0.0	1.8	20.0				29.4	48.0	-18.6
18.774	8.1			0.0	1.3	20.0				29.4	48.0	-18.6
22.610	7.9			0.0	1.5	20.0				29.4	48.0	-18.6
14.874	8.3			0.0	1.1	20.0				29.4	48.0	-18.6
27.929	7.6			0.0	1.8	20.0				29.4	48.0	-18.6
25.980	7.7			0.0	1.7	20.0				29.4	48.0	-18.6
28.375	7.5			0.0	1.8	20.0				29.3	48.0	-18.7

NORTHWEST EMC		CONDUCTED EMISSIONS DATA SHEET				REV dfl.87 03/21/2002						
EUT: RCR-A		Work Order: ILGX0247										
Serial Number: n/a		Date: 4/19/02 17:41										
Customer: Interlogix Inc.		Temperature: 72										
Attendees: Fred Eggers, Feng Tang		Tested by: Greg Kiemel		Humidity: 0%								
Cust. Ref. No.: 274		Power: 12 Vdc		Job Site: EV01								
TEST SPECIFICATIONS												
Specification: FCC Part 15 Class B				Year: 2000								
Method: ANSI C63.4				Year: 1992								
SAMPLE CALCULATIONS												
Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation												
Conducted Emissions: Adjusted Level = Measured Level + Transducer Factor + Cable Attenuation Factor + External Attenuator												
COMMENTS												
Powered from DC supply that is connected to 120 V, 60 Hz												
EUT OPERATING MODES												
DEVIATIONS FROM TEST STANDARD												
No deviations.												
RESULTS				Line	Run #							
Pass				L1	3							
Other												
				 Tested By:								
												
Freq (MHz)	Amplitude (dBuV)			Transducer (dB)	Cable (dB)	External Attenuation (dB)		Detector (blank equal peaks [PK] from scan)		Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
29.898	8.8			0.0	1.9	20.0				30.7	48.0	-17.3
15.678	9.0			0.0	1.2	20.0				30.2	48.0	-17.8
0.587	9.8			0.0	0.3	20.0				30.1	48.0	-17.9
29.634	8.1			0.0	1.9	20.0				30.0	48.0	-18.0
0.459	9.7			0.0	0.2	20.0				29.9	48.0	-18.1
21.371	8.4			0.0	1.5	20.0				29.9	48.0	-18.1
25.208	8.2			0.0	1.7	20.0				29.9	48.0	-18.1
0.716	9.5			0.0	0.3	20.0				29.8	48.0	-18.2
27.076	8.0			0.0	1.7	20.0				29.7	48.0	-18.3
26.893	8.0			0.0	1.7	20.0				29.7	48.0	-18.3
20.518	8.3			0.0	1.4	20.0				29.7	48.0	-18.3
29.979	7.8			0.0	1.9	20.0				29.7	48.0	-18.3
0.520	9.4			0.0	0.3	20.0				29.7	48.0	-18.3
28.903	7.8			0.0	1.8	20.0				29.6	48.0	-18.4
22.447	8.1			0.0	1.5	20.0				29.6	48.0	-18.4
28.152	7.8			0.0	1.8	20.0				29.6	48.0	-18.4
27.827	7.7			0.0	1.8	20.0				29.5	48.0	-18.5
25.756	7.8			0.0	1.7	20.0				29.5	48.0	-18.5
27.604	7.7			0.0	1.8	20.0				29.5	48.0	-18.5
0.557	9.2			0.0	0.3	20.0				29.5	48.0	-18.5
29.147	7.6			0.0	1.9	20.0				29.5	48.0	-18.5

NORTHWEST		CONDUCTED EMISSIONS DATA SHEET				REV dfl.87 03/21/2002						
EMC												
EUT: RCR-A		Work Order: ILGX0247										
Serial Number: n/a		Date: 4/19/02 17:43										
Customer: Interlogix Inc.		Temperature: 72										
Attendees: Fred Eggers, Feng Tang		Tested by: Greg Kiemel		Humidity: 0%								
Cust. Ref. No.: 274		Power: 12 Vdc		Job Site: EV01								
TEST SPECIFICATIONS												
Specification: FCC Part 15 Class B				Year: 2000								
Method: ANSI C63.4				Year: 1992								
SAMPLE CALCULATIONS												
Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation												
Conducted Emissions: Adjusted Level = Measured Level + Transducer Factor + Cable Attenuation Factor + External Attenuator												
COMMENTS												
Powered from DC supply that is connected to 120 V, 60 Hz												
EUT OPERATING MODES												
DEVIATIONS FROM TEST STANDARD												
No deviations.												
RESULTS				Line	Run #							
Pass				L2	4							
Other												
				Tested By: 								
												
Freq (MHz)	Amplitude (dBuV)			Transducer (dB)	Cable (dB)	External Attenuation (dB)		Detector (blank equal peaks [PK] from scan)		Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
29.959	8.7			0.0	1.9	20.0				30.6	48.0	-17.4
0.464	10.2			0.0	0.2	20.0				30.4	48.0	-17.6
23.909	8.8			0.0	1.6	20.0				30.4	48.0	-17.6
19.598	9.0			0.0	1.4	20.0				30.4	48.0	-17.6
9.059	9.5			0.0	0.8	20.0				30.3	48.0	-17.7
27.421	8.4			0.0	1.8	20.0				30.2	48.0	-17.8
29.228	8.3			0.0	1.9	20.0				30.2	48.0	-17.8
14.392	8.8			0.0	1.1	20.0				29.9	48.0	-18.1
27.685	8.1			0.0	1.8	20.0				29.9	48.0	-18.1
26.914	8.1			0.0	1.7	20.0				29.8	48.0	-18.2
19.156	8.5			0.0	1.3	20.0				29.8	48.0	-18.2
16.844	8.6			0.0	1.2	20.0				29.8	48.0	-18.2
24.193	8.1			0.0	1.6	20.0				29.7	48.0	-18.3
6.525	9.0			0.0	0.7	20.0				29.7	48.0	-18.3
9.656	8.8			0.0	0.8	20.0				29.6	48.0	-18.4
25.117	8.0			0.0	1.6	20.0				29.6	48.0	-18.4
28.091	7.8			0.0	1.8	20.0				29.6	48.0	-18.4
14.352	8.5			0.0	1.1	20.0				29.6	48.0	-18.4
25.330	7.9			0.0	1.7	20.0				29.6	48.0	-18.4
28.863	7.7			0.0	1.8	20.0				29.5	48.0	-18.5
24.843	7.9			0.0	1.6	20.0				29.5	48.0	-18.5