EMC Compliance Management Group
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Competent Body Approval #: 14082
NVLAP Lab code: 200068-0

EMC TEST CERTIFICATION REPORT

On Models: 412 & 413
Prepared for Trine Products Corporation

According to FCC Part 15 Class B

FCC ID#: *H8A-412TX*

Prepared by: *Arcelia Maldonado*

QC Manager: *Michael J. Azar*

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ADMINISTRATIVE DATA

Test Sample	*: Wireless Door Chime*
Part Number	*: N/A*
Manufacturer	*: Smart Hero Enterprise Ltd.*
Applicant	*: Trine Products Corporation* *1430 Ferris Place* *Bronx, NY 10461-3699 USA*
Telephone	*: (718) 829-4796*
Fax	*: (718) 792-9127*

EUT Description

Trine Products Corporation models 412 & 413 (referred to as the EUT in this report) are a Wireless Door Chime.

Model Differences

1. *Transmitter model 412 has same circuit as model 413 but with different programmed software in the IC chip.*

2. *Transmitter model 412 can activate the receivers to produce a 2-note musical sound output.*

3. *Transmitter model 413 can activate the receivers to produce a 8-note musical sound output.*

Test Summary

The Electromagnetic Compatibility requirements on Models 413 for this test are stated below. All results listed in this report relate exclusively to this above-mentioned model as the Equipment Under Test. This report confers no approval or endorsement upon any other component, host or subsystem used in the test set-up.

Radiated Emission Tests			
Specifications	***Test Results***	***Test Point***	***Remark***
CFR 47 Part 15 Section 15.231(a)	***Fundamental Frequency of Transmitter (30MHz to 1,000MHz on Quasi-peak)*** *Passed by 13.04 dB of QP* ***Fundamental Frequency of Transmitter (30MHz to 1,000MHz on Quasi-peak)*** *Passed by 39.83 dB of QP*	*Enclosure*	*Attachment 1*
CFR 47 Part 15 Section 15.231(b)	***Center Frequency of the Emission is 314.142 (313.642MHz to 314.642MHz)*** *Passed by 355kHz (bandwidth limit)*	*Enclosure*	*Attachment 2*

Test Location

EMC Compliance Management Group is located at 670 National Ave., Mountain View, CA 94043, USA.

Accreditation Bodies

EMC Compliance Management Group is a fully accredited Test Laboratory for ITE, ISM and Telecommunications Products.

Laboratory Assessment #: *14082, Approved by Assessment Services, A U. K. Competent Body, as meeting the requirements of EN45001and ISO Guide 25.*

In compliance with the site registration requirements of Section 2.948 of the FCC Rules to perform EMI measurements for the general public.

Accredited by the National Voluntary Laboratory Accreditation Program for the specific scope of accreditation under Lab Code # 200068-0.

Registered in accordance with Japanese VCCI Regulations.

Equipment Modification

Any modifications installed previous to testing by Trine Products Corporation will be incorporated in each production model sold or leased in United States.

There were no modifications installed by EMC Compliance Management Group.

Test System Details

EUT	
Model Number:	*413*
Description:	*Wireless Door Chime*
Manufacturer:	*Smart Hero Enterprises Ltd.*
Support Equipment	
None	

Configuration of Tested System

EUT

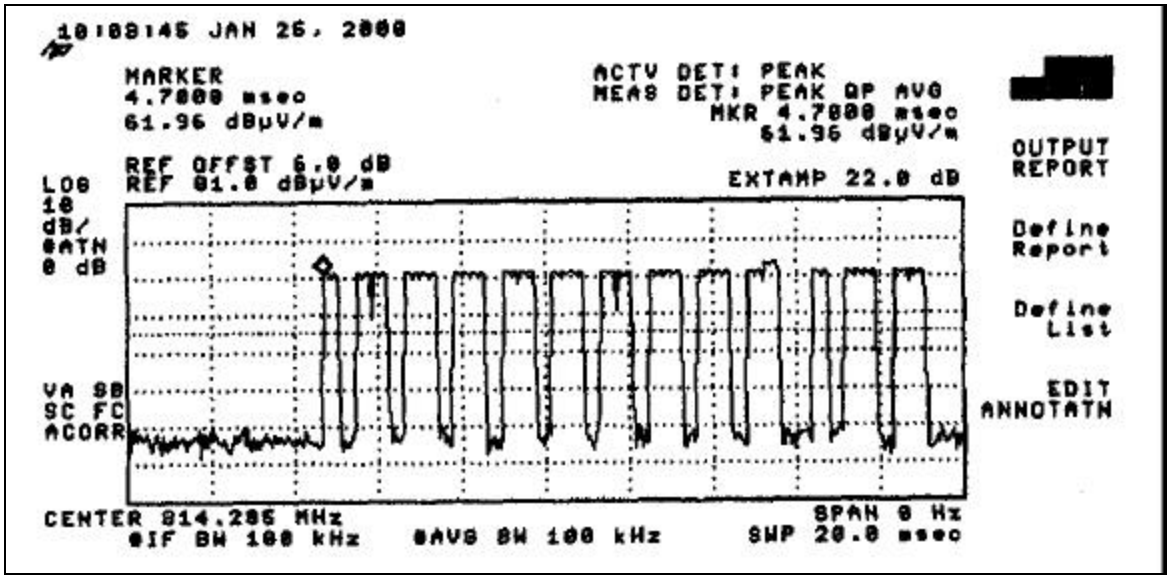
ATTACHMENT 1 - RADIATED EMISSION TEST RESULTS (204-R-01)

CLIENT:	Trine Products Corporation	**TEST REFERENCE:**	FCC Part 15.231(a)
EUT MODEL:	413	**PRODUCT:**	Wireless Door Chime (Transmitter)
SERIAL NO.:	N/A	**EUT DESIGNATION:**	Home Use
TEMPERATURE:	15° C	**HUMIDITY:**	48%
ATM PRESSURE:	1017 Mbar	**GROUNDING:**	N/A
TESTED BY:	Robert Li	**DATE OF TEST:**	2000 Feb 12

SETUP METHOD:	ANSI C63.4:1992, CISPR 16-1:1993
TEST PROCEDURE:	The EUT was set up according to the guidelines of ANSI C63.4:1992 for radiated emissions. An EMI receiver peak scan was made at the frequency measurement range (pre-scan) in an Anechoic chamber. Signal discrimination was then performed and the significant peaks marked. These peaks are then quasi-peaked from 30 MHz to 1GHz at an Anechoic chamber. The following data lists the significant emission frequencies, measured levels, correction factors (including cable and antenna correction factors), and the corrected readings against the limits. Explanation of the Correction Factor are given as follows: FS= RA + AF + CF - AG – M% Where: FS = Field Strength RA = Receiver Amplitude AF = Antenna Factor CF = Cable Attenuation Factor AG = Amplifier Gain M% = Modulation Percentage
TESTED RANGE:	30MHz to 1,000MHz on Quasi-peak
TEST VOLTAGE:	12VDC

RESULTS:	• **Fundamental Frequency Of Transmitter**: The EUT meets the requirements of test reference for Radiated Emissions on horizontal polarization by 13.04 dB at 314.2845MHz. The reading shown on the data table has been calculated by modification percentage by the original value. • **Spurious emissions Of Transmitter**: The EUT meets the requirements of test reference for Radiated Emissions on horizontal polarization by 39.83 dB at 942.8535MHz. The reading show on the data table has been calculated by modification percentage by the original value. **The test results relate only to the equipment under test provided by client.**
CHANGES OR MODIFICATIONS:	There were no modifications installed by EMC Compliance Management Group test personnel.
M. UNCERTAINTY:	Freq. $\pm$ 2x10^{-7} x Center Freq., Amp $\pm$ 2.6 dB

Fundamental Frequency Of Transmitter						
Frequency [MHz]	**Antenna Polarization [V/H]**	**Corrected Reading [dBµV/m]**	**Modulation [%]**	**Delta, QP [dB]**	**3 Meters Limits [dBµV/m]**	**Correction Factors [dB/m]**
Set-up/Configuration: ANSI C63.4:1992						
314.2845	H	61.14	55.67	-13.04	74.18	15.40
314.2850	V	43.44	55.67	-30.74	74.18	15.40
Comments: None						
Note: All readings are quasi-peak unless stated otherwise, using a QPA bandwidth of 120kHz, with a 30 ms sweep time. A video filter was not used.						



Modulation Percentage
M%=(t1+t2+t3+……+tn)/T*100%
=55.67%

Spurious Emissions Of Transmitter					
Frequency [MHz]	**Antenna Polarization [V/H]**	**Corrected Reading [dBµV/m]**	**Delta, QP [dB]**	**3Meters Limits [dBµV/m]**	**Correction Factors [dB/m]**
Set-up/Configuration: ANSI C63.4:1992					
942.8535	H	22.16	-39.83	61.93	24.6
942.8550	V	19.75	-42.18	61.93	24.6
628.5690	H	17.13	-44.80	61.93	21.4
628.5700	V	16.44	-45.49	61.93	21.4
Comments: None					
Note: All readings are quasi-peak unless stated otherwise, using a QPA bandwidth of 120kHz, with a 30 ms sweep time. A video filter was not used.					

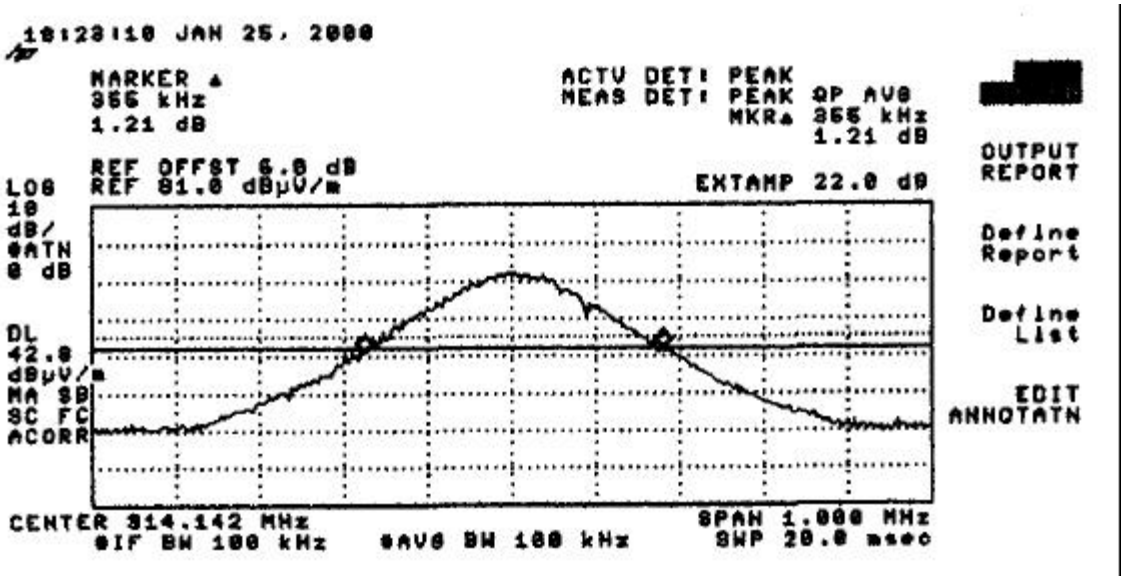
Test Equipment	**Manufacturer/ Model**	**Serial No.**	**Last Cal.**	**Cal. Due Date**
EMI Receiver	HP 85462A	3650A00363	05/21/99	05/21/00
RF Filter	HP 85460A	3704A00349	05/21/99	05/21/00
Antenna	CHASE CBL6112A	2274	11/15/99	11/15/00
Note: All testing were performed using internationally recognized standards. All test instruments were calibrated and traceable to the National Institute of Standards and Technology (NIST).				

SIGNED: _____ **REVIEWED:** _____

ATTACHMENT 2 - RADIATED EMISSION TEST RESULTS (204-R-01)

CLIENT:	Trine Products Corporation	**TEST REFERENCE:**	FCC Part 15.231(b)
EUT MODEL:	413	**PRODUCT:**	Wireless Door Chime (Transmitter)
SERIAL NO.:	N/A	**EUT DESIGNATION:**	Home Use
TEMPERATURE:	15° C	**HUMIDITY:**	48%
ATM PRESSURE:	1017 Mbar	**GROUNDING:**	N/A
TESTED BY:	Robert Li	**DATE OF TEST:**	2000 Feb 12

SETUP METHOD:	ANSI C63.4:1992, CISPR 16-1:1993
TEST PROCEDURE:	The EUT was set up according to the guidelines of ANSI C63.4:1992 for radiated emissions. An EMI receiver peak scan was made at the frequency measurement range (pre-scan) in an Anechoic chamber. Signal discrimination was then performed and the significant peaks marked. These peaks are then quasi-peaked from 30 MHz to 1GHz at an Anechoic chamber. Setup the EMI receiver To IF Bandwidth 100kHz and AVG Bandwidth 100kHz, And measure the center frequency at the maxim position to calculate the bandwidth limit for fundamental frequency. The bandwidth of the emission shall not be wider then 0.25% of the center frequency, and should be determined at the points 20dB down from the modulated carrier.
TESTED RANGE:	313.642MHz – 314.642MHz
TEST VOLTAGE:	12VDC
RESULTS:	The center frequency Of the emission was 314.142MHz. After calculating, the bandwidth limit was 785.355kHz, and EUT meets the requirements of test reference for bandwidth limit horizontal polarization by 355kHz. **The test results relate only to the equipment under test provided by client.**
CHANGES OR MODIFICATIONS:	There were no modifications installed by EMC Compliance Management Group test personnel.
M. UNCERTAINTY:	Freq. $\pm$ 2x10^{-7} x Center Freq., Amp $\pm$ 2.6 dB



Bandwidth Photograph

Test Equipment	Manufacturer/ Model	Serial No.	Last Cal.	Cal. Due Date
EMI Receiver	HP 85462A	3650A00363	05/21/99	05/21/00
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Note: All testing were performed using internationally recognized standards. All test instruments were calibrated and traceable to the National Institute of Standards and Technology (NIST).				

SIGNED: _____ **REVIEWED:** _____