

FCC PART 18 TEST REPORT

For

American Tack & Hardware Co., Inc

Saddle River Executive Centre One Route 17 South Saddle River, NJ 07458, USA

FCC ID: XDE-FAES413

Report Type: Original Report	Product Type: Cabinet Fixture
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Report Number: RSZ121012550-00	
Report Date: 2013-03-07	
Reviewed By: EMC Leader	<i>Dick Zhang</i>
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Note: This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. This report **must not** be used by the customer to claim product certification, approval, or endorsement by NVLAP*, or any agency of the Federal Government.

* This report may contain data that are not covered by the NVLAP accreditation and shall be marked with an asterisk "★"

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *American Tack & Hardware Co., Inc.*'s model: *FAES413* (FCC ID: *XDE-FAES413*) (or the "EUT") in this report are *Cabinet Fixtures*, which were measured approximately: 31.5 cm (L) x 7.0 cm (W) x 3.0 cm (H), rated with input voltage: AC 120V/60Hz. The highest operating frequency is 31 kHz.

Note: the model FAES413 is the basic model and maybe followed by alphanumeric suffixes for packaging and color differences, and please refer to the attached declaration letter.

** All measurement and test data in this report was gathered from production sample serial number: 1210003 (Assigned by BACL, Shenzhen). The EUT supplied by applicant was received on 2012-10-12.*

Objective

This report is prepared on behalf of *American Tack & Hardware Co., Inc* in accordance with Part 2-Subpart J, and Part 18-Subparts A, B and C of the Federal Communication Commissions rules and regulations.

The objective of the manufacturer is to determine the compliance of EUT with FCC Part 18 limits.

Related Submittal(s)/Grant(s)

No related submittal(s).

Test Methodology

All measurements contained in this report were conducted with MP-5, FCC Methods of Measurements of Radio Noise Emissions from ISM Equipment, February 1986. All measurement was performed at Bay Area Compliance Laboratories Corp. The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Test Facility

The test site used by Bay Area Compliance Laboratories Corp. (Shenzhen) to collect test data is located on the 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China.

Test site at Bay Area Compliance Laboratories Corp. (Shenzhen) has been fully described in reports submitted to the Federal Communication Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on December 06, 2010. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2009.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 382179. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

Additionally, Bay Area Compliance Laboratories Corp. (Shenzhen) is an ISO/IEC 17025 accredited laboratory, and is accredited by National Voluntary Laboratory Accredited Program (Lab Code 200707-0).



The current scope of accreditations can be found at <http://ts.nist.gov/Standards/scopes/2007070.htm>

SYSTEM TEST CONFIGURATION

Justification

The system was configured for testing in a typical fashion (as normally used by a typical user).

EUT Exercise Software

No exercise software was used.

Special Accessories

No special accessory was used.

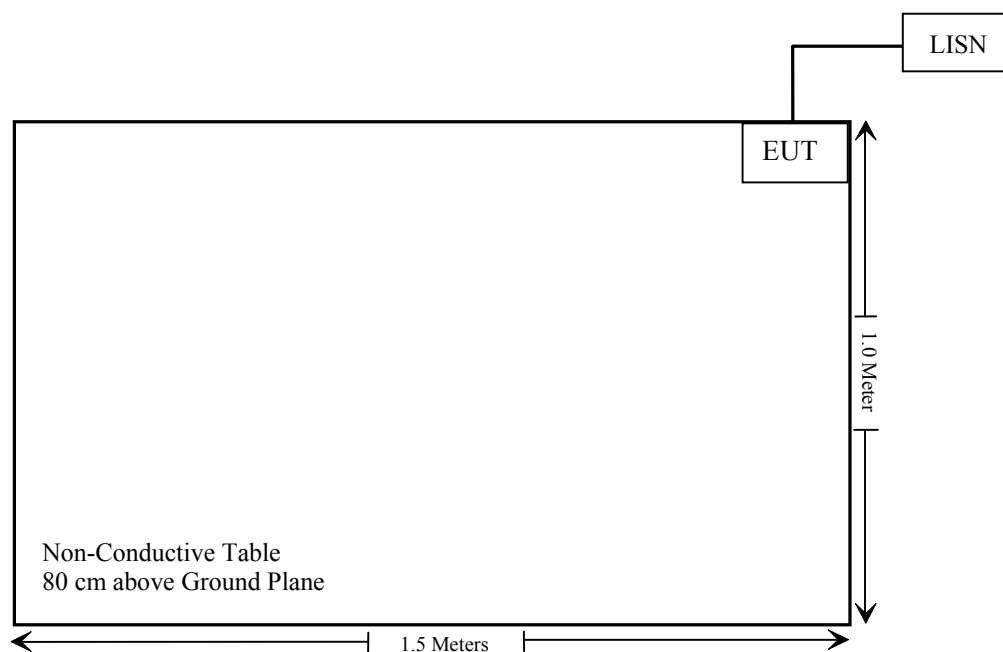
Equipment Modifications

No modifications were made to the EUT tested.

External I/O Cable

Cable Description	Length (m)	From/Port	To
Unshielded Detachable AC Power Cable	1.0	EUT	LISN

Block Diagram of Test Setup



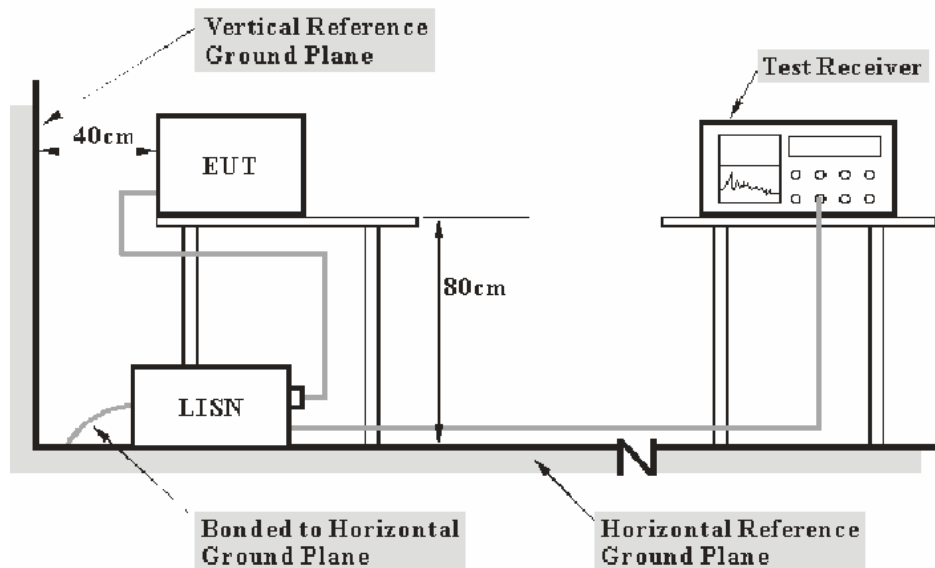
FCC §18.307 - AC LINE CONDUCTED EMISSIONS

Applicable Standard

Conduction limits. For the following equipment, when designed to be connected to the public utility (AC) power line the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies shall not exceed the limits in the following tables. Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal using a 50 μ H/50 ohms line impedance stabilization network (LISN).

Frequency (MHz)	Maximum RF line voltage measured with a 50 μ H/50 ohm LISN (μ V)
Non-consumer equipment	
0.45 to 1.6	1000
1.6 to 30	3000
Consumer equipment	
0.45 to 2.51	250
2.51 to 3.0	3000
3.0 to 30	250

EUT Setup



- Note: 1. Support units were connected to second LISN.
 2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The setup of EUT is according with MP-5: 1986 measurement procedure. Specification used was with the FCC Part 18 limits.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The EUT was connected to a 120 VAC/60 Hz power source.

EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 450 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	IF B/W
450 kHz – 30 MHz	9 kHz

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCS30	100176	2011-11-24	2012-11-23
Rohde & Schwarz	L.I.S.N.	ESH2-Z5	892107/021	2011-11-17	2012-11-16
Rohde & Schwarz	Pulse limiter	ESH3Z2	DE25985	2012-07-08	2013-07-07
BACL	CE Test software	BACL-CE	V1.0	-	-

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to National Primary Standards and International System of Units (SI).

Test Procedure

During the conducted emission test, the EUT was connected to the outlet of the LISN.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All data was recorded in the Quasi-Peak detection mode.

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Part 18, with the worst margin reading of:

18.72 dB at 29.995 MHz in the Line conducted mode

Test Data

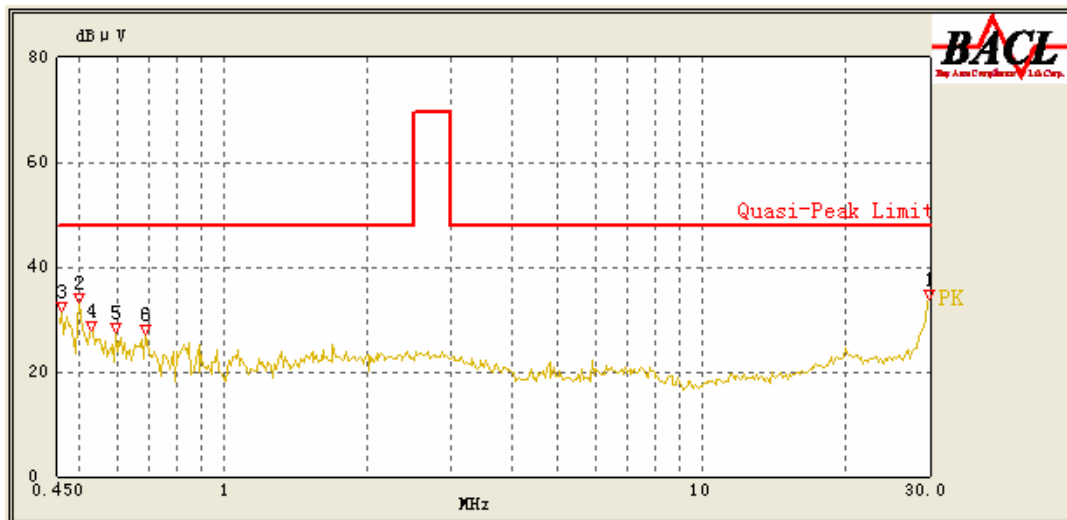
Environmental Conditions

Temperature:	25 °C
Relative Humidity:	48 %
ATM Pressure:	100.0 kPa

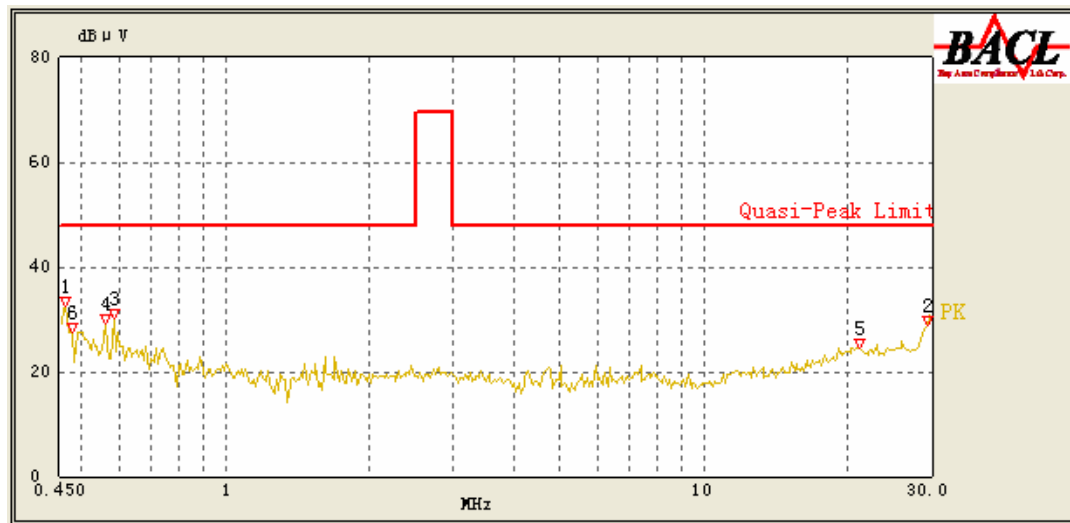
Testing was performed by Andrew Shu on 2012-10-15.

Test Mode: On

AC 120V/60 Hz, Line:



Conducted Emissions		FCC Part 18		
Frequency (MHz)	Corrected Amplitude (dBμV)	Correction Factor (dB)	Limit (dBμV)	Margin (dB)
29.995	29.28	11.53	48.00	18.72
0.460	27.93	10.26	48.00	20.07
0.500	25.37	10.25	48.00	22.63
0.530	24.62	10.25	48.00	23.38
0.690	20.73	10.22	48.00	27.27
0.595	20.65	10.24	48.00	27.35

AC 120V/ 60 Hz, Neutral:

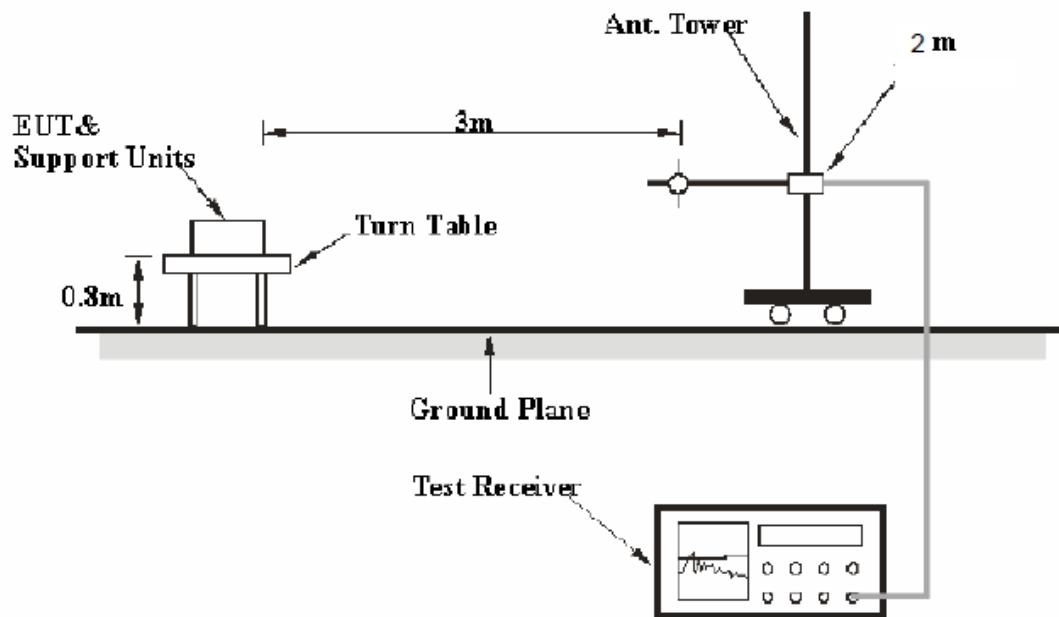
Conducted Emissions		FCC Part 18		
Frequency (MHz)	Corrected Amplitude (dBμV)	Correction Factor (dB)	Limit (dBμV)	Margin (dB)
0.465	25.74	10.25	48.00	22.26
0.585	25.23	10.23	48.00	22.77
29.320	22.98	11.12	48.00	25.02
0.480	22.45	10.25	48.00	25.55
0.560	20.81	10.23	48.00	27.19
21.210	16.94	12.44	48.00	31.06

FCC §18.305 – FIELD STRENGTH

Applicable Standard

FCC §18.305(b)

EUT Setup



The radiated emission tests were performed in the 3 meters chamber test site, using the setup accordance with the FCC MP - 5.

The EUT was connected to 120 VAC/60 Hz power source.

EMI Test Receiver Setup

The system was investigated from 9 kHz to 30 MHz.

During the radiated emission test, the EMI test receiver and Spectrum Analyzer were set with the following configurations:

Frequency Range	RBW	Video B/W	IF B/W	Detector
9 kHz – 150 kHz	200 Hz	1 kHz	200 Hz	QP
150 kHz – 30 MHz	9 kHz	30 kHz	9 kHz	QP

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
ETS-LINDGREN	Passive Loop Antenna	6512	00029604	2011-11-30	2014-11-29
Rohde & Schwarz	EMI Test Receiver	ESCI	101122	2012-08-08	2013-08-07

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to National Primary Standards and International System of Units (SI).

Test Procedure

For the radiated emissions test, the EUT was connected to the AC floor outlet.

Maximizing procedure was performed on the six (6) highest emissions to ensure that the EUT complied with all installation combinations.

All data was recorded in the Quasi-peak detection mode from 9 kHz to 30 MHz.

Corrected Amplitude Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Loss from the Meter Reading. The basic equation is as follows:

$$\text{Corrected Amplitude} = \text{Meter Reading} + \text{Antenna Factor} + \text{Cable Loss}$$

The “**Margin**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7 dB below the limit. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Limit} - \text{Corrected Amplitude}$$

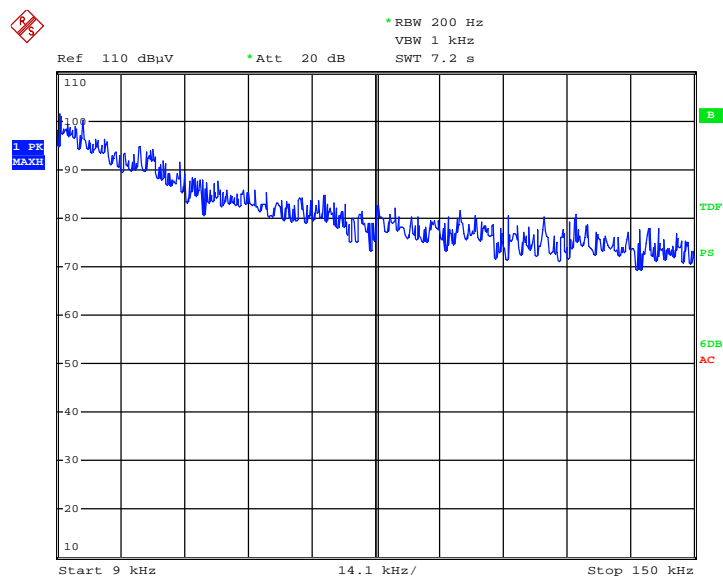
Test Data**Environmental Conditions**

Temperature:	25 °C
Relative Humidity:	46 %
ATM Pressure:	100.0 kPa

The testing was performed by Andrew Shu on 2013-03-07.

Test Mode: On

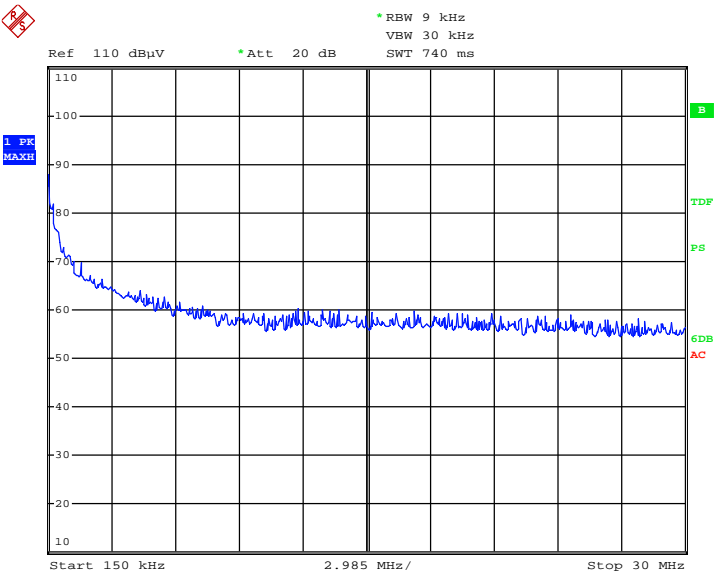
Frequency (MHz)	Corrected Amplitude (dB μ V/m)	Detector (PK/QP/Ave.)	Direction (Degree)	Height (m)	Correction Factor (dB/m)	Limit (dB μ V/m)	Margin (dB)
0.015	94.83	QP	154	2	85.48	103.52	8.69
0.028	92.38	QP	167	2	79.43	103.52	11.14
0.035	88.19	QP	98	2	77.18	103.52	15.33
0.068	82.64	QP	136	2	69.96	103.52	20.88
0.150	81.24	QP	74	2	63.48	103.52	22.28
0.124	79.48	QP	264	2	64.63	103.52	24.04

9 kHz-150 kHz

EUT

Date: 7.MAR.2013 09:37:28

150 kHz-30 MHz



EUT
Date: 7.MAR.2013 09:36:21

DECLARATION LETTER

American Tack& Hardware Co., Inc

Add: Saddle River Executive Centre One Route 17 South Saddle River, NJ 07458,
USA

Tel: (201) 934-3224

Fax : (201) 825-3511

Different Declaration

We, American Tack& Hardware Co., Inc, declare that the Cabinet
Fixture, The model FAES413 was tested by BACL.

FAES413 is the basic model and maybe followed by alphanumeric
suffixes for packaging and color differences.

The specific naming rules of the model number are as follows:

Part number format is FAES413XYZZZZ

X is the color of the product X= H White

 X = L Black

 X = K Nickel

Y is product package Y= B Blister Pack

ZZZZ made by 1 to four letters as below:

CC = Cut case (No AM in front of CC represents Westek Brand by Default)

AM = Amarelle brand

AMP = Amarelle brand in customers proprietary packaging.

AM4= Amarelle brand4 lights (Blister packed) in a box.

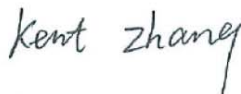
AMCC = Amarelle brand in a cut case

Thank you!

2013-2-25

Sincerely,

Signature:



Kent Zhang

Sourcing Program Manager

****END OF REPORT****