



ADDRESS: P.O.BOX 3152,Road Town,Tortola,
British Virgin Islands.

Super Technology Inc.

CERTIFICATE OF COMPLIANCE

EUT : 1U 19" Widescreen LCD Keyboard / KVM Drawer or 1U 19"
Widescreen SUN LCD Keyboard / KVM Drawer or 7U 19" Widescreen
LCD Display or 1U 19" Widescreen LCD Display

MODEL NO. : NW119 Series / NPW119 Series / NPW719 Series / SNW119

Receipt Date : 07/11/2013 Final Test Date: 07/19/2013

REPORT # : EBAU9107Ver13-1

APPLICANT : iTech Company LLC

ADDRESS : 41758 Christy Street Fremont, CA 94538 USA

Measurement procedure used:

EMI: EN 55022 Class A (2010)

EN 61000-3-2 (2006) + A2(2009) , EN 61000-3-3 (2008)

EMS: EN 55024 (2010) :

IEC 61000-4-2 (2008), IEC 61000-4-3 (2006) + A1(2007) + A2(2010),

IEC 61000-4-4 (2004) + A1(2010), IEC 61000-4-5 (2005), IEC 61000-4-6 (2008),

IEC 61000-4-11(2004)

We hereby show that:

The measurements shown in this test report were made in accordance with the procedures given in **EUROPEAN COUNCIL DIRECTIVE 2004/108/EC**, and the energy emitted by the equipment was found to be within the limits applicable.

This test result of this report applies to above tested sample only.

This test report shall not be reproduced in part without written approval of **Super Technology Inc.**

PREPARED BY : ANNY DATE : 07/19/2013

CHECK BY : GEORGE DATE : 07/19/2013

APPROVED BY : Joe DATE : 2013/07/19
Managing Director

Model Differences

Main Model List :

- a. **NW119 Series** (Power Adapter or DC12V/ 24V/ 48V Power Input)
- b. **SNW119 Series** (SUN , Power Adapter or DC12V/ 24V/ 48V Power Input)
- c. **NPW119 Series** (Power Adapter or DC12V/ 24V/ 48V Power Input)
- d. **NPW719 Series** (Power Adapter or DC12V/ 24V/ 48V Power Input)

Model circumstances

NW119 Series

NW119xxxxx	
First x	“-“ + KVM Type or blank
Second x	Keyboard Type or blank
Third x	“-“ + Connector Type or blank
Fourth x	“-“ + Screen Type or blank
Fifth x	“-“ + Option Type or blank

Connect Type	Keyboard Type	KVM Type	Screen Type	Option Type	
VGA	G/N Keyboard + Touch Pad	N/A	N/A	N/A	
BNC				SDI	
RCA	G/N Keyboard + Trackball	Matrix KVM	TRS Touch Screen	MCS	
DVI		Combo KVM	TCS Touch Screen	QD	
DC	Mac Keyboard + Touch Pad	PS /2 KVM	TRB Touch Screen	MIL- Type CONNECT	
Audio		DVI KVM	TCB Touch Screen	Lockable CONNECT	
HDMI	Mac Keyboard + Trackball		TIRx	Auto Dimming	
TV			TPCx	Dimming Switch	
S-Video	c Keyboard + Trackball	USB HUB	Protective Glass	RADAR	

SNW119 Series

SNW119xxxx

First x	"-“ + KVM Type or blank
Second x	Keyboard Type or blank
Third x	"-“ + Connector Type or blank
Fourth x	"-“ + Screen Type or blank
Fifth x	"-“ + Option Type or blank

Connect Type	Keyboard Type	KVM Type	Screen Type	Option Type
VGA	SUN Keyboard + Touch Pad	N/A	N/A	N/A
BNC				SDI
RCA			TRS Touch Screen	MCS
DVI		Matrix KVM	TCS Touch Screen	QD
DC			TRB Touch Screen	MIL- Type CONNECT
Audio	SUN Keyboard + Trackball	Combo KVM	TCB Touch Screen	Lockable CONNECT
HDMI			TIRx	Auto Dimming
TV		DVI KVM	TPCx	Dimming Switch
S-Video			USB HUB	Protective Glass
				RADAR

NPW119 series / NPW719 series

NPW119xxx / NPW719xxx

First x	"-“ + Connector Type or blank
Second x	"-“ + Screen Type or blank
Third x	"-“ + Option Type or blank

Connect Type	Screen Type	Option Type
VGA	N/A	N/A
BNC		SDI
RCA	TRS Touch Screen	MCS
DVI	TCS Touch Screen	QD
DC	TRB Touch Screen	MIL- Type CONNECT
Audio	TCB Touch Screen	Lockable CONNECT
HDMI	TIRx	Auto Dimming
TV	TPCx	Dimming Switch
S-Video	Protective Glass	RADAR

KVM Type List :

Matrix KVM	
Model	Connector Type
MU1602	16 Port Cat6 + 1x Cascade + 1x Remote Cat6 Console + Local console 1 x DB15 + 2 x USB
MU1603	16 Port Cat6 + 1x Cascade + 2X Remote Cat6 Console + Local console 1 x DB15 + 2 x USB
MU1604	16 Port Cat6 + 1x Cascade + 3X Remote Cat6 Console + Local console 1 x DB15 + 2 x USB
MU3202	32 Port Cat6 + 1x Cascade + 1x Remote Cat6 Console + Local console 1 x DB15 + 2 x USB
MU3203	32 Port Cat6 + 1x Cascade + 2X Remote Cat6 Console + Local console 1 x DB15 + 2 x USB
MU3204	32 Port Cat6 + 1x Cascade + 3X Remote Cat6 Console + Local console 1 x DB15 + 2 x USB
MUIP1613	16 Port Cat6 + 1x Cascade + 1X Remote Cat6 Console + Local console 1 x DB15 + 2 x USB + 1X IP Console(1 x Cat5 + 1 x DB-9 + 1 x USB)
MUIP1614	16 Port Cat6 + 1x Cascade + 2X Remote Cat6 Console + Local console 1 x DB15 + 2 x USB + 1X IP Console(1 x Cat5 + 1 x DB-9 + 1 x USB)
MUIP1624	16 Port Cat6 + 1x Cascade + 1X Remote Cat6 Console + Local console 1 x DB15 + 2 x USB + 2X IP Console(2 x Cat5 + 2 x DB-9 + 2 x USB)
MUIP3213	32 Port Cat6 + 1x Cascade + 1X Remote Cat6 Console + Local console 1 x DB15 + 2 x USB + 1X IP Console(1 x Cat5 + 1 x DB-9 + 1 x USB)
MUIP3214	32 Port Cat6 + 1x Cascade + 2X Remote Cat6 Console + Local console 1 x DB15 + 2 x USB + 1X IP Console(1 x Cat5 + 1 x DB-9 + 1 x USB)
MUIP3224	32 Port Cat6 + 1x Cascade + 1X Remote Cat6 Console + Local console 1 x DB15 + 2 x USB + 2X IP Console(2 x Cat5 + 2 x DB-9 + 2 x USB)
M802	8 Port VGA + 1x Cascade + 1 x Remote Cat6 Console + Local console 1 x DB15 + 2 x USB
M803	8 Port VGA + 1x Cascade + 2x Remote Cat6 Console + Local console 1 x DB15 + 2 x USB
M804	8 Port VGA + 1x Cascade + 3x Remote Cat6 Console + Local console 1 x DB15 + 2 x USB
M1602	16 Port VGA + 1x Cascade + 1 x Remote Cat6 Console + Local console 1 x DB15 + 2 x USB
M1603	16 Port VGA + 1x Cascade + 2x Remote Cat6 Console + Local console 1 x DB15 + 2 x USB
M1604	16 Port VGA + 1x Cascade + 3x Remote Cat6 Console + Local console 1 x DB15 + 2 x USB
MIP813	8 Port VGA + 1x Cascade + 1X Remote Cat6 Console + Local console 1 x DB15 + 2 x USB + 1X IP Console(1 x Cat5 + 1 x DB-9 + 1 x USB)
MIP814	8 Port VGA + 1x Cascade + 2X Remote Cat6 Console + Local console 1 x DB15 + 2 x USB + 1X IP Console(1 x Cat5 + 1 x DB-9 + 1 x USB)
MIP824	8 Port VGA + 1x Cascade + 1X Remote Cat6 Console + Local console 1 x DB15 + 2 x USB + 2X IP Console(2 x Cat5 + 2 x DB-9 + 2 x USB)
MIP1613	16 Port VGA + 1x Cascade + 1X Remote Cat6 Console + Local console 1 x DB15 + 2 x USB + 1X IP Console(1 x Cat5 + 1 x DB-9 + 1 x USB)
MIP1614	16 Port VGA + 1x Cascade + 2X Remote Cat6 Console + Local console 1 x DB15 + 2 x USB + 1X IP Console(1 x Cat5 + 1 x DB-9 + 1 x USB)
MIP1624	16 Port VGA + 1x Cascade + 1X Remote Cat6 Console + Local console 1 x DB15 + 2 x USB + 2X IP Console(2 x Cat5 + 2 x DB-9 + 2 x USB)

Model	Connector Type
Combo KVM	
U801	8 Port Cat6 + 1x DB15 Cascade + Local console 1 x DB15 + 2 x USB Power Adapter
U802	8 Port Cat6 + 1x DB15 Cascade + 1x Remote Cat6 Console + Local console 1 x DB15 + 2 x USB Power Adapter
U1601	16 Port Cat6 + 1x DB15 Cascade + Local console 1 x DB15 + 2 x USB Power Adapter
U1602	16 Port Cat6 + 1x DB15 Cascade + 1x Remote Cat6 Console + Local console 1 x DB15 + 2 x USB Power Adapter
U3201	32 Port Cat6 + 1x DB15 Cascade + Local console 1 x DB15 + 2 x USB Power Adapter
U3202	32 Port Cat6 + 1x DB15 Cascade + 1x Remote Cat6 Console + Local console 1 x DB15 + 2 x USB Power Adapter
UIP802	8 Port Cat6 + 1x DB15 Cascade + Local console 1 x DB15 + 2 x USB + 1X IP Console(1 x Cat5 + 1 x DB-9 + 1 x USB) interior Power Adapter
UIP1602	16 Port Cat6 + 1x DB15 Cascade + Local console 1 x DB15 + 2 x USB + 1X IP Console(1 x Cat5 + 1 x DB-9 + 1 x USB) Power Adapter
UIP3202	32 Port Cat6 + 1x DB15 Cascade + Local console 1 x DB15 + 2 x USB + 1X IP Console(1 x Cat5 + 1 x DB-9 + 1 x USB) Power Adapter
S801	8 Port DB15 + 1x DB15 Cascade + Local console 1 x DB15 + 2 x USB Power Adapter
S1601	16 Port DB15 + 1x DB15 Cascade + Local console 1 x DB15 + 2 x USB Power Adapter
802	8 Port DB15 + 1x Remote Cat6 Console + 1x DB15 Cascade + Local console 1 x DB15 + 2 x USB Power Adapter
1602	16 Port DB15 + 1x Remote Cat6 Console + 1x DB15 Cascade + Local console 1 x DB15 + 2 x USB Power Adapter
IP802	8 Port DB15 + 1x DB15 Cascade + Local console 1 x DB15 + 2 x USB + 1X IP Console(1 x Cat5 + 1 x DB-9 + 1 x USB) Power Adapter
IP1602	16 Port DB15 + 1x DB15 Cascade + Local console 1 x DB15 + 2 x USB + 1X IP Console(1 x Cat5 + 1 x DB-9 + 1 x USB) Power Adapter
PS/2 KVM	
801	8 Port DB15 + 1x DB15 Cascade + Local console 1 x DB15 + 2 x PS/2
1601	16 Port DB15 + 1x DB15 Cascade + Local console 1 x DB15 + 2 x PS/2
USB HUB	
801H	8 Port DB15 + 1x Local console(1 x DB15 Port + 2 x USB Port) + 2 x USB
1601H	16 Port DB15 + 1x Local console(1 x DB15 Port + 2 x USB Port) + 2 x USB
802H	8 Port DB15 + 1x Local console(1 x DB15 Port + 2 x USB Port) + 2 x USB + 1 x RJ45 Port
1602H	16 Port DB15 + 1x Local console(1 x DB15 Port + 2 x USB Port) + 2 x USB + 1 x RJ45 Port
IP802H	8 Port DB15 + 1x Local console(1 x DB15 Port + 2 x USB Port) + 2 x USB + IP Console (1 x RJ45 Port)
IP1602H	16 Port DB15 + 1x Local console(1 x DB15 Port + 2 x USB Port) + 2 x USB + IP Console (1 x RJ45 Port)
DVI KVM	
1201D	12 Port DVI + 12 Port USB 3.0 + 1 x Audio Port

TABLE OF CONTENTS	1
GENERAL INFORMATION	4
MODIFICATION LIST.....	9
CONDUCTED POWER LINE TEST	10
1 TEST INSTRUMENTS & FACILITIES	10
2 TEST PROCEDURE.....	10
3 TEST SETUP	11
4 CONFIGURATION OF THE EUT	12
5 EUT OPERATING CONDITION.....	13
6 LIMIT OF CONDUCTED POWER LINE EMISSION CLASS B	14
7 RESULT OF CONDUCTED POWER LINE TEST	14
RADIATED EMISSION TEST	15
1 TEST INSTRUMENTS & FACILITIES	15
2 TEST PROCEDURE.....	15
3 CONFIGURATION OF THE EUT	16
4 EUT OPERATING CONDITION.....	16
5 LIMIT OF RADIATED EMISSION CLASS B	16
6 RESULT OF RADIATED EMISSION TEST.....	16
HARMONICS TEST	17
1 TEST INSTRUMENTS & FACILITIES	17
2 TEST PROCEDURE.....	17
3 CONFIGURATION OF THE EUT	17
4 OPERATION CONDITION OF EUT	17
5 TEST DATA & LIMIT.....	17
VOLTAGE FLUCTUATIONS TEST	18
1 TEST INSTRUMENTS & FACILITIES	18
2 TEST PROCEDURE.....	18
3 CONFIGURATION OF THE EUT	18
4 OPERATION CONDITION OF EUT	18
5 TEST DATA & LIMIT.....	18
ELECTROSTATIC DISCHARGE IMMUNITY TEST (ESD).....	19
1 TEST INSTRUMENTS & FACILITIES	19
2 TEST PROCEDURE.....	19
3 CONFIGURATION OF THE EUT	19
4 EUT OPERATION CONDITION.....	19
5 TEST CONDITION.....	19
6 PERFORMANCE CRITERIA.....	20
7 TEST RESULT.....	20

RADIO FREQUENCY ELECTROMAGNETIC FILE IMMUNITY TEST(RS)	21
1 TEST INSTRUMENTS & FACILITIES	21
2 TEST PROCEDURE.....	21
3 CONFIGURATION OF THE EUT	21
4 OPERATION CONDITION OF EUT	21
5 TEST CONDITION	22
6 PERFORMANCE CRITERIA.....	22
7 TEST RESULT.....	23
ELECTRICAL FAST TRANSIENT/BURST IMMUNITY TEST (EFT).....	24
1 TEST INSTRUMENTS & FACILITIES	24
2 TEST PROCEDURE.....	24
3 CONFIGURATION OF THE EUT	24
4 OPERATION CONDITION OF EUT	24
5 TEST CONDITION	24
6 PERFORMANCE CRITERIA.....	25
7 TEST RESULT.....	25
SURGE IMMUNITY TEST	26
1 TEST INSTRUMENTS & FACILITIES	26
2 TEST PROCEDURE.....	26
3 TEST LEVELS.....	26
4 CONFIGURATION OF THE EUT	26
5 EUT OPERATION CONDITION.....	26
6 CONDITIONS DURING TESTING.....	27
7 PERFORMANCE CRITERIA.....	27
8 TEST RESULT.....	28
IMMUNITY TEST TO CS CONDUCTED DISTURBANCE.....	29
1 TEST INSTRUMENTS & FACILITIES	29
2 TEST PROCEDURE.....	29
3 TEST LEVELS.....	29
4 CONFIGURATION OF THE EUT	30
5 EUT OPERATION CONDITION.....	30
6 CONDITIONS DURING TESTING.....	30
7 PERFORMANCE CRITERIA.....	30
8 TEST RESULT.....	31
VOLTAGE DIPS, SHORT INTERRUPTIONS IMMUNITY TEST	32
1 TEST INSTRUMENTS & FACILITIES	32
2 TEST PROCEDURE.....	32
3 TEST LEVELS.....	33
4 CONFIGURATION OF THE EUT	33
5 EUT OPERATION CONDITION.....	33

6	CONDITIONS DURING TESTING.....	33
7	PERFORMANCE CRITERIA.....	34
8	TEST RESULT.....	34

APPENDIX A

PHOTOS OF EUT

GENERAL INFORMATION

1 APPLICANT	: <u>iTech Company LLC</u>
2 ADDRESS	: <u>41758 Christy Street Fremont, CA 94538 USA</u>
<hr/>	
3 MANUFACTURER	: <u>iTech Company LLC</u>
4 ADDRESS	: <u>41758 Christy Street Fremont, CA 94538 USA</u>
<hr/>	
5 DESCRIPTION OF EUT	
EUT	: <u>1U 19" Widescreen LCD Keyboard / KVM Drawer or 1U 19"</u>
	: <u>Widescreen SUN LCD Keyboard / KVM Drawer or 7U 19"</u>
	: <u>Widescreen LCD Display or 1U 19" Widescreen LCD Display</u>
Model Number	: <u>NW119 Series / SNW119 Series / NPW119 Series / NPW719 Series</u>
<hr/>	
Serial #	: <u>N/A</u>
<hr/>	

5.1 The EUT were investigated with Full Load Mode operation as below:

The PCB Layout is similar.

The worst case of EMC test Model is Full Load Mode of **NW119**

And the final test data were shown on this test report.

5.2 This is in response to 2012regulations, as well as the 2013 products adding new model

Model Differences

Main Model List :

- NW119 Series** (Power Adapter or DC12V/ 24V/ 48V Power Input)
- SNW119 Series** (SUN , Power Adapter or DC12V/ 24V/ 48V Power Input)
- NPW119 Series** (Power Adapter or DC12V/ 24V/ 48V Power Input)
- NPW719 Series** (Power Adapter or DC12V/ 24V/ 48V Power Input)

Model circumstances

NW119 Series

NW119xxxxx	
First x	"-“ + KVM Type or blank
Second x	Keyboard Type or blank
Third x	"-“ + Connector Type or blank
Fourth x	"-“ + Screen Type or blank
Fifth x	"-“ + Option Type or blank

Connect Type	Keyboard Type	KVM Type	Screen Type	Option Type	
VGA	G/N Keyboard + Touch Pad	N/A	N/A	N/A	
BNC				SDI	
RCA	G/N Keyboard + Trackball	Matrix KVM	TRS Touch Screen	MCS	
DVI		Combo KVM	TCS Touch Screen	QD	
DC	Mac Keyboard + Touch Pad	PS /2 KVM	TRB Touch Screen	MIL- Type CONNECT	
Audio		DVI KVM	TCB Touch Screen	Lockable CONNECT	
HDMI	Mac Keyboard + Trackball		TIRx	Auto Dimming	
TV			TPCx	Dimming Switch	
S-Video	c Keyboard + Trackball	USB HUB	Protective Glass	RADAR	

SNW119 Series
SNW119xxxxx

First x	"-“ + KVM Type or blank
Second x	Keyboard Type or blank
Third x	"-“ + Connector Type or blank
Fourth x	"-“ + Screen Type or blank
Fifth x	"-“ + Option Type or blank

Connect Type	Keyboard Type	KVM Type	Screen Type	Option Type	
VGA	SUN Keyboard + Touch Pad	N/A	N/A	N/A	
BNC			SDI		
RCA		Matrix KVM	TRS Touch Screen	MCS	
DVI			TCS Touch Screen	QD	
DC		Combo KVM	TRB Touch Screen	MIL- Type CONNECT	
Audio	SUN Keyboard + Trackball		TCB Touch Screen	Lockable CONNECT	
HDMI			TIRx	Auto Dimming	
TV	DVI KVM	TPCx	Dimming Switch		
S-Video		Protective Glass	RADAR		

NPW119 series / NPW719 series
NPW119xxx / NP-W719xxx

First x	"-“ + Connector Type or blank
Second x	"-“ + Screen Type or blank
Third x	"-“ + Option Type or blank

Connect Type	Screen Type	Option Type
VGA	N/A	N/A
BNC		SDI
RCA	TRS Touch Screen	MCS
DVI	TCS Touch Screen	QD
DC	TRB Touch Screen	MIL- Type CONNECT
Audio	TCB Touch Screen	Lockable CONNECT
HDMI	TIRx	Auto Dimming
TV	TPCx	Dimming Switch
S-Video	Protective Glass	RADAR

KVM Type List :

Matrix KVM	
Model	Connector Type
MU1602	16 Port Cat6 + 1x Cascade + 1x Remote Cat6 Console + Local console 1 x DB15 + 2 x USB
MU1603	16 Port Cat6 + 1x Cascade + 2X Remote Cat6 Console + Local console 1 x DB15 + 2 x USB
MU1604	16 Port Cat6 + 1x Cascade + 3X Remote Cat6 Console + Local console 1 x DB15 + 2 x USB
MU3202	32 Port Cat6 + 1x Cascade + 1x Remote Cat6 Console + Local console 1 x DB15 + 2 x USB
MU3203	32 Port Cat6 + 1x Cascade + 2X Remote Cat6 Console + Local console 1 x DB15 + 2 x USB
MU3204	32 Port Cat6 + 1x Cascade + 3X Remote Cat6 Console + Local console 1 x DB15 + 2 x USB
MUIP1613	16 Port Cat6 + 1x Cascade + 1X Remote Cat6 Console + Local console 1 x DB15 + 2 x USB + 1X IP Console(1 x Cat5 + 1 x DB-9 + 1 x USB)
MUIP1614	16 Port Cat6 + 1x Cascade + 2X Remote Cat6 Console + Local console 1 x DB15 + 2 x USB + 1X IP Console(1 x Cat5 + 1 x DB-9 + 1 x USB)
MUIP1624	16 Port Cat6 + 1x Cascade + 1X Remote Cat6 Console + Local console 1 x DB15 + 2 x USB + 2X IP Console(2 x Cat5 + 2 x DB-9 + 2 x USB)
MUIP3213	32 Port Cat6 + 1x Cascade + 1X Remote Cat6 Console + Local console 1 x DB15 + 2 x USB + 1X IP Console(1 x Cat5 + 1 x DB-9 + 1 x USB)
MUIP3214	32 Port Cat6 + 1x Cascade + 2X Remote Cat6 Console + Local console 1 x DB15 + 2 x USB + 1X IP Console(1 x Cat5 + 1 x DB-9 + 1 x USB)
MUIP3224	32 Port Cat6 + 1x Cascade + 1X Remote Cat6 Console + Local console 1 x DB15 + 2 x USB + 2X IP Console(2 x Cat5 + 2 x DB-9 + 2 x USB)
M802	8 Port VGA + 1x Cascade + 1 x Remote Cat6 Console + Local console 1 x DB15 + 2 x USB
M803	8 Port VGA + 1x Cascade + 2x Remote Cat6 Console + Local console 1 x DB15 + 2 x USB
M804	8 Port VGA + 1x Cascade + 3x Remote Cat6 Console + Local console 1 x DB15 + 2 x USB
M1602	16 Port VGA + 1x Cascade + 1 x Remote Cat6 Console + Local console 1 x DB15 + 2 x USB
M1603	16 Port VGA + 1x Cascade + 2x Remote Cat6 Console + Local console 1 x DB15 + 2 x USB
M1604	16 Port VGA + 1x Cascade + 3x Remote Cat6 Console + Local console 1 x DB15 + 2 x USB
MIP813	8 Port VGA + 1x Cascade + 1X Remote Cat6 Console + Local console 1 x DB15 + 2 x USB + 1X IP Console(1 x Cat5 + 1 x DB-9 + 1 x USB)
MIP814	8 Port VGA + 1x Cascade + 2X Remote Cat6 Console + Local console 1 x DB15 + 2 x USB + 1X IP Console(1 x Cat5 + 1 x DB-9 + 1 x USB)
MIP824	8 Port VGA + 1x Cascade + 1X Remote Cat6 Console + Local console 1 x DB15 + 2 x USB + 2X IP Console(2 x Cat5 + 2 x DB-9 + 2 x USB)
MIP1613	16 Port VGA + 1x Cascade + 1X Remote Cat6 Console + Local console 1 x DB15 + 2 x USB + 1X IP Console(1 x Cat5 + 1 x DB-9 + 1 x USB)
MIP1614	16 Port VGA + 1x Cascade + 2X Remote Cat6 Console + Local console 1 x DB15 + 2 x USB + 1X IP Console(1 x Cat5 + 1 x DB-9 + 1 x USB)
MIP1624	16 Port VGA + 1x Cascade + 1X Remote Cat6 Console + Local console 1 x DB15 + 2 x USB + 2X IP Console(2 x Cat5 + 2 x DB-9 + 2 x USB)

Model	Connector Type
Combo KVM	
U801	8 Port Cat6 + 1x DB15 Cascade + Local console 1 x DB15 + 2 x USB Power Adapter
U802	8 Port Cat6 + 1x DB15 Cascade + 1x Remote Cat6 Console + Local console 1 x DB15 + 2 x USB Power Adapter
U1601	16 Port Cat6 + 1x DB15 Cascade + Local console 1 x DB15 + 2 x USB Power Adapter
U1602	16 Port Cat6 + 1x DB15 Cascade + 1x Remote Cat6 Console + Local console 1 x DB15 + 2 x USB Power Adapter
U3201	32 Port Cat6 + 1x DB15 Cascade + Local console 1 x DB15 + 2 x USB Power Adapter
U3202	32 Port Cat6 + 1x DB15 Cascade + 1x Remote Cat6 Console + Local console 1 x DB15 + 2 x USB Power Adapter
UIP802	8 Port Cat6 + 1x DB15 Cascade + Local console 1 x DB15 + 2 x USB + 1X IP Console(1 x Cat5 + 1 x DB-9 + 1 x USB) interior Power Adapter
UIP1602	16 Port Cat6 + 1x DB15 Cascade + Local console 1 x DB15 + 2 x USB + 1X IP Console(1 x Cat5 + 1 x DB-9 + 1 x USB) Power Adapter
UIP3202	32 Port Cat6 + 1x DB15 Cascade + Local console 1 x DB15 + 2 x USB + 1X IP Console(1 x Cat5 + 1 x DB-9 + 1 x USB) Power Adapter
S801	8 Port DB15 + 1x DB15 Cascade + Local console 1 x DB15 + 2 x USB Power Adapter
S1601	16 Port DB15 + 1x DB15 Cascade + Local console 1 x DB15 + 2 x USB Power Adapter
802	8 Port DB15 + 1x Remote Cat6 Console + 1x DB15 Cascade + Local console 1 x DB15 + 2 x USB Power Adapter
1602	16 Port DB15 + 1x Remote Cat6 Console + 1x DB15 Cascade + Local console 1 x DB15 + 2 x USB Power Adapter
IP802	8 Port DB15 + 1x DB15 Cascade + Local console 1 x DB15 + 2 x USB + 1X IP Console(1 x Cat5 + 1 x DB-9 + 1 x USB) Power Adapter
IP1602	16 Port DB15 + 1x DB15 Cascade + Local console 1 x DB15 + 2 x USB + 1X IP Console(1 x Cat5 + 1 x DB-9 + 1 x USB) Power Adapter
PS/2 KVM	
801	8 Port DB15 + 1x DB15 Cascade + Local console 1 x DB15 + 2 x PS/2
1601	16 Port DB15 + 1x DB15 Cascade + Local console 1 x DB15 + 2 x PS/2
USB HUB	
801H	8 Port DB15 + 1x Local console(1 x DB15 Port + 2 x USB Port) + 2 x USB
1601H	16 Port DB15 + 1x Local console(1 x DB15 Port + 2 x USB Port) + 2 x USB
802H	8 Port DB15 + 1x Local console(1 x DB15 Port + 2 x USB Port) + 2 x USB + 1 x RJ45 Port
1602H	16 Port DB15 + 1x Local console(1 x DB15 Port + 2 x USB Port) + 2 x USB + 1 x RJ45 Port
IP802H	8 Port DB15 + 1x Local console(1 x DB15 Port + 2 x USB Port) + 2 x USB + IP Console (1 x RJ45 Port)
IP1602H	16 Port DB15 + 1x Local console(1 x DB15 Port + 2 x USB Port) + 2 x USB + IP Console (1 x RJ45 Port)
DVI KVM	
1201D	12 Port DVI + 12 Port USB 3.0 + 1 x Audio Port

MODIFICATION LIST

THE FOLLOWING ACCESSORIES WERE ADDED TO THE EUT DURING TESTING :

NO MODIFICATION BY SUPER TECHNOLOGY INC.

CONDUCTED POWER LINE TEST

1 TEST INSTRUMENTS & FACILITIES

The following test Instruments was used during the conducted test :

Item	Instruments/ Facilities	Specification	Manufacturer	Model #	Date Of Cal.
1	EMI Receiver	9KHz ~ 30MHz	ROHDE & SCHWARZ	ESHS 30 844827/007	MAR/2014
2	LISN (for EUT)	50Ω/50uH/100A 150KHz ~ 30MHz	SCHWARZ BECK	NNLK 8121 8121370	OCT/2013
3	LISN (for Support Unit)	50Ω/50uH/10A 9KHz ~ 30MHz	ROHDE & SCHWARZ	ESH3-Z5 846128/007	FEB/2014
4	Terminator	50Ω	N/A	N/A	NOV/2013
5	Attenuation	50Ω/10dB	Mini-Circuit	NAT-10 AT-002	JUL/2014
6	Cable	5.4m	SUHNER	RG-223 CON2-001	AUG/2013
7	ESXS-K1 (software)	Version 2.03b 9KHz ~ 30MHz	ROHDE & SCHWARZ	1082.9678.02 840.913/246	N/A

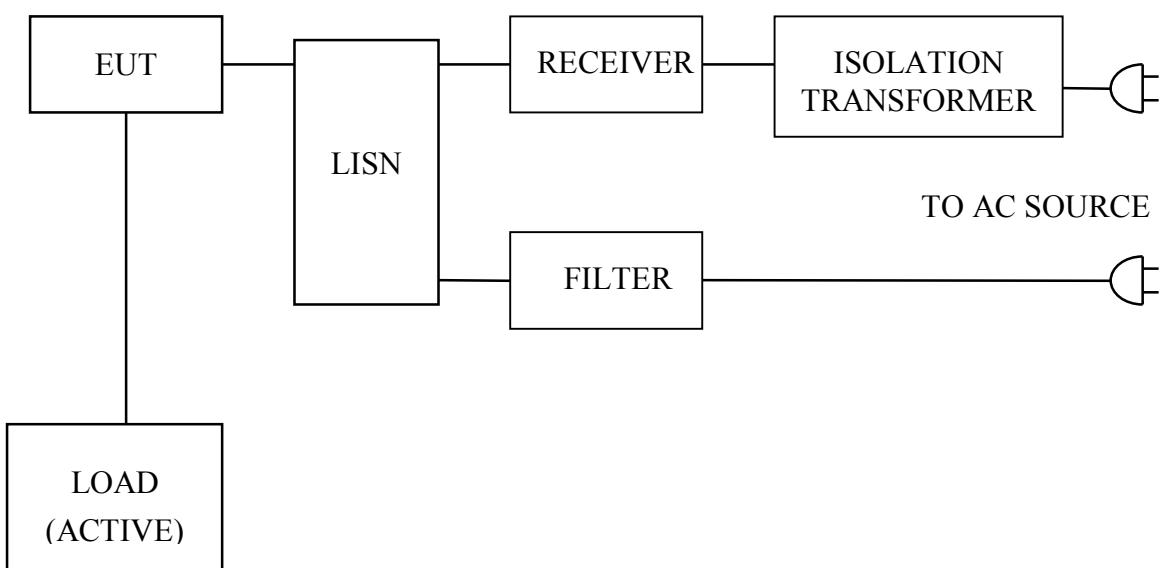
Note : Items 1 ~ 6 were calibrated within period of 1 year.

2 TEST PROCEDURE

- 2.1 The EUT was tested according to **EN55022 Class A**.
- 2.2 The EUT was placed 0.4 meter from the conducting wall of shielding room and kept at least 0.8 meter from any other grounded conducting surface.
- 2.3 The frequency range form 0.15 MHz to 30 MHz was investigated.
- 2.4 The LISN used was 50 Ohm / 50 uHenry as specified by **EN55022**.
- 2.5 All the support peripherals are connect to the other LISN.
- 2.6 Cables and peripherals were moved to find the maximum emission levels for each frequency.

3 TEST SETUP

3.1 Block Diagram Of Conducted Test



Load

4 CONFIGURATION OF THE EUT

The EUT was configured according to **EN55022**. All I/O ports were connected to the appropriate peripherals. All peripherals and cables are listed below (including internal device) :

4.1 EUT

EUT Type : Proto Type Engineer Type Mass Production

Condition when received : Good Damage :

Applicant : iTechCompany LLC

Manufacturer : iTechCompany LLC

Devices : 1U 19" Widescreen LCD Keyboard / KVM Drawer or 1U 19" Widescreen SUN LCD Keyboard / KVM Drawer or 7U 19" Widescreen LCD Display or 1U 19" Widescreen LCD Display

Model Number : NW119 Series / SNW119 Series / NPW119 Series / NPW719 Series /

Serial Number : N/A

FCC ID : N/A

Power Cord (AC) : Un-Shielded, 3pin, 1.6 m

Power Cord (DC) : N/A

Power Supply Cord : Switching

4.2 Peripheral

Host Personal Computer

Manufacturer : LENOVO

Model Number : M4600C

Serial Number : NS04619689NS16052619

FCC ID :

Data Cable · Shielded

Power Cord :Un-Shielded. 1.8 m

Monitor

Manufacturer :ViewSonic



Super Technology Inc.

Model Number : VP201b
Serial Number : 7A2105042549
FCC ID : N/A
Data Cable : Shielded, 1.5 m, Connected to the VGA port
Power Cord : Un-Shielded, 1.8 m

Printer

Manufacturer : EPSON
Model Number : P310B
Serial Number : C41344000NK02520275
FCC ID :
Data Cable : Shielded
Power Cord : Un-Shielded, 1.8 m

Modem

Manufacturer : ACEEX
Model Number : MODEM-1414
Serial Number : 9013591
FCC ID : IFXDM1414
Data Cable : Shielded, 1.5 m,
Power Cord : Un-Shielded, 1.8 m

4.3 REMARK : N/A

5 EUT OPERATING CONDITION

- 5.1 The frequency of the EUT is 50 KHz.
- 5.2 Configure the EUT according to the **EN 55022**.
- 5.3 Execute the EUT and performance the EMI testing procedures, and measure the maximum emission noise.

6 LIMIT OF CONDUCTED POWER LINE EMISSION CLASS A

Frequency Range	Quasi Peak	Average
0.15 ~ 0.5 MHz	79 dBuV	66 dBuV
0.5 ~ 5 MHz	73 dBuV	60 dBuV
5 ~ 30 MHz	73 dBuV	60 dBuV

7 RESULT OF CONDUCTED POWER LINE TEST

- 7.1 The frequency range from 0.15 MHz to 30 MHz was investigated. All readings are quasi-peak values and average.
- 7.2 IF bandwidth : 9 kHz, Meas Time : 1 sec.
- 7.3 Temperature : 23.7 °C, Humidity : 32 % RH.
- 7.4 Deviations from the test standards and rules : None.
- 7.5 The conducted test result were gained by following procedures :
Level = Reading Level + Insertion Loss of LISN + Cable Loss
(All calculation were done by ESHS30 EMI test receiver.)
- 7.6 Result : **PASSED**



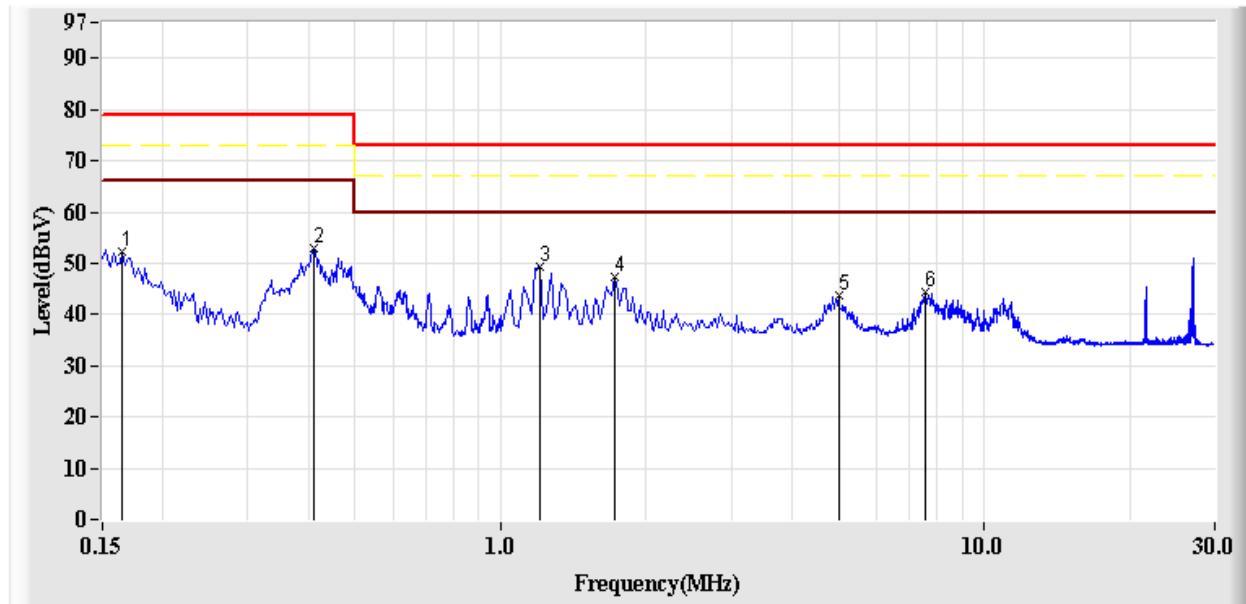
VICTRONIC TECHNOLOGY CORPORATION

DATE: 06-08-2013

TIME: 14:48:34

EMI TESTING DATA

EUT : 1U 19" Widescreen LCD Keyboard POLARIZATION: Line
CLIENT: AUSTIN TEST DISTANCE:
MODEL: W119 Serial No.:
RATING: 230vac FILE/DATA#: 2013-06-08new.emi/5
TEMPERATURE: 22.0 °C OPERATOR: nick
HUMIDITY : 55 % TEST SITE:
LIMIT : CISPR22_A CE (QP).LMT



COMMENT: Paint+notepad+EMITEST+MYHWIN
1280*1024

	Frequency	Level	Margin	Limit	Read	Total	Antenna	Cable	Other
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	dB	dB
1	0.164875	52.33	-26.67	79.00	35.43	16.90	0.28	0.62	-16.00
2	0.409250	52.83	-26.17	79.00	36.00	16.83	0.21	0.62	-16.00
3	1.202500	49.45	-23.55	73.00	32.63	16.82	0.20	0.62	-16.00
4	1.720000	47.47	-25.53	73.00	30.65	16.82	0.20	0.62	-16.00
5	5.005000	43.59	-29.41	73.00	26.75	16.84	0.22	0.62	-16.00
6	7.547500	44.29	-28.71	73.00	27.44	16.85	0.23	0.62	-16.00



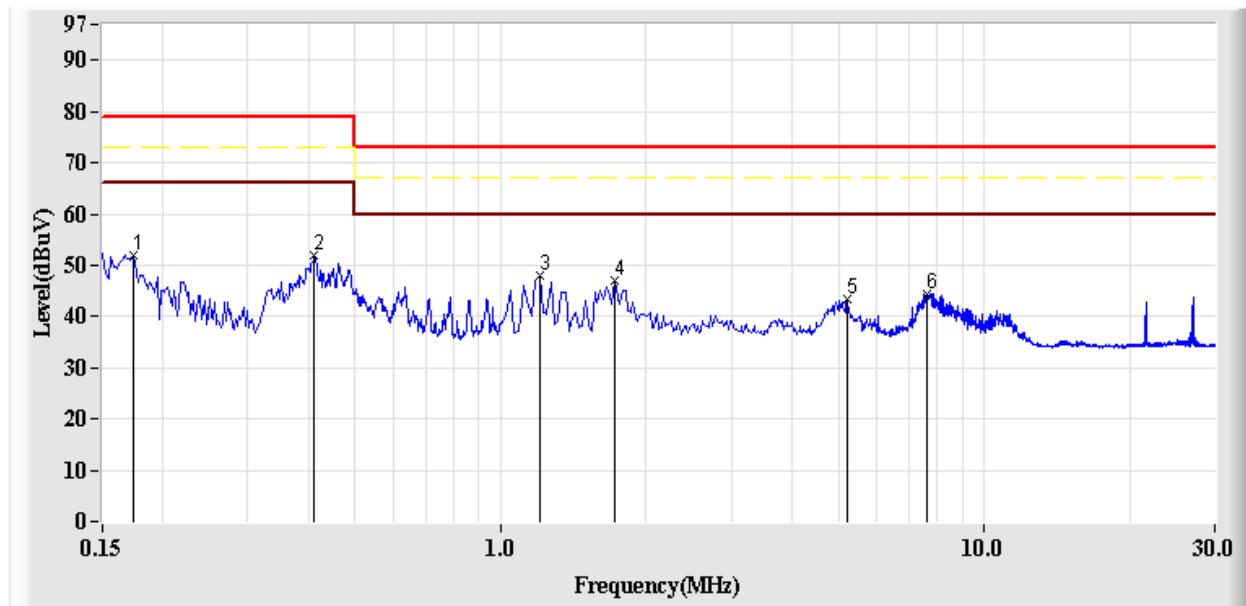
VICTRONIC TECHNOLOGY CORPORATION

DATE: 06-08-2013

TIME: 14:56:59

EMI TESTING DATA

EUT : 1U 19" Widescreen LCD Keyboard POLARIZATION: Neutral
CLIENT: AUSTIN TEST DISTANCE:
MODEL: W119 Serial No.:
RATING: 230vac FILE/DATA#: 2013-06-08new.emi/7
TEMPERATURE: 22.0 °C OPERATOR: nick
HUMIDITY : 55 % TEST SITE:
LIMIT : CISPR22_A CE (QP).LMT



COMMENT: Paint+notepad+EMITEST+MYHWIN
1280*1024

	Frequency	Level	Margin	Limit	Read	Total	Antenna	Cable	Other
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	dB	dB
1	0.173375	51.93	-27.07	79.00	35.04	16.89	0.27	0.62	-16.00
2	0.411375	51.91	-27.09	79.00	35.09	16.82	0.20	0.62	-16.00
3	1.202500	48.04	-24.96	73.00	31.23	16.81	0.19	0.62	-16.00
4	1.720000	47.16	-25.84	73.00	30.35	16.81	0.19	0.62	-16.00
5	5.207500	43.24	-29.76	73.00	26.40	16.84	0.22	0.62	-16.00
6	7.637500	44.29	-28.71	73.00	27.44	16.85	0.23	0.62	-16.00

RADIATED EMISSION TEST

1 TEST INSTRUMENTS & FACILITIES

The following test Instruments was used during the radiated emission test :

Item	Instruments /facilities	Specification	Manufacturer	Model # / S/N#	Date of Cal.
1	OPEN AREA TEST SITE	<input checked="" type="checkbox"/> OATS 3			JAN/2014
2	EMI TEST RECEIVER	20Hz ~ 26.5GHz	ROHDE & SCHWARZ	ESMI 845442/006	SEP/2013
3	PRE-AMPLIFIER	9KHz ~ 3000MHz	ADVANTEST	BB525C 90081001	OCT/2013
4	ANTENNA (BI-LOG)	25MHz ~ 2GHz	SCHAFFNER	CBL6112B S/N : 2611	MAY/2014
5	Attenuation	50Ω/6dB	JYE BAO	FAT-N(M-F) 001	JUL/2014
6	Cable	10m	SUHNER	RG214/U OS3-003	DEC/2013
7	Cable	14m	BELDEN	9913 OS3-001	DEC/2013
8	EMI 32 (software)	N/A	AUDIX	19991013-0923	N/A

Note : Items 1 ~ 7 were calibrated within period of 1 year.

2 TEST PROCEDURE

2.1 The EUT was test according to **EN55022**.

2.2 The radiated test was performed at Super Lab's Open Site III.

2.3 The frequency range from 30 MHz to 1 GHz, the measurement were made at 10 meters, with a BI-log antenna.

3 CONFIGURATION OF THE EUT

Same as “Conducted Power Line test”, section 4

4 EUT OPERATING CONDITION

- 4.1 Same as “Conducted Power Line test”, section 5
- 4.2 The radiated emission in the frequency range from 30 MHz - 1000 MHz was test in a horizontal and vertical polarization at Super Lab’s open site III.

5 LIMIT OF RADIATED EMISSION CLASS A

Frequency (MHz)	Measurement Distance	Limit (dBuV/m)
30 - 230	10 (M)	40
230 - 1000	10 (M)	47

6 RESULT OF RADIATED EMISSION TEST

- 6.1 The frequency range from 30 MHz to 1 GHz was investigated.
- 6.2 All readings below or equal 1 GHz are quasi-peak or peak values with resolution bandwidth of 120 KHz.
- 6.3 The measurements were made at 10 meters of Super Lab’s open site III.
- 6.4 Temperature : 22.1 °C, Humidity : 33 % RH.
- 6.5 Deviation form the test standards and rules : None.
- 6.6 The radiated emission result were gained by the following method :

Level = Reading Level + Probe Factor (Antenna Factor) + Cable Loss – Preamp Factor
 Over Limit = Level – Limit Line
- 6.7 The radiated mission test was passed at minimum margin :
 Vertical 211.875 MHz/ 36.85 dBuV/m, Antenna Height 1.2 Meter,
 Turn Table 145 degree, The Model : W119
- 6.8 Result : **PASSED**

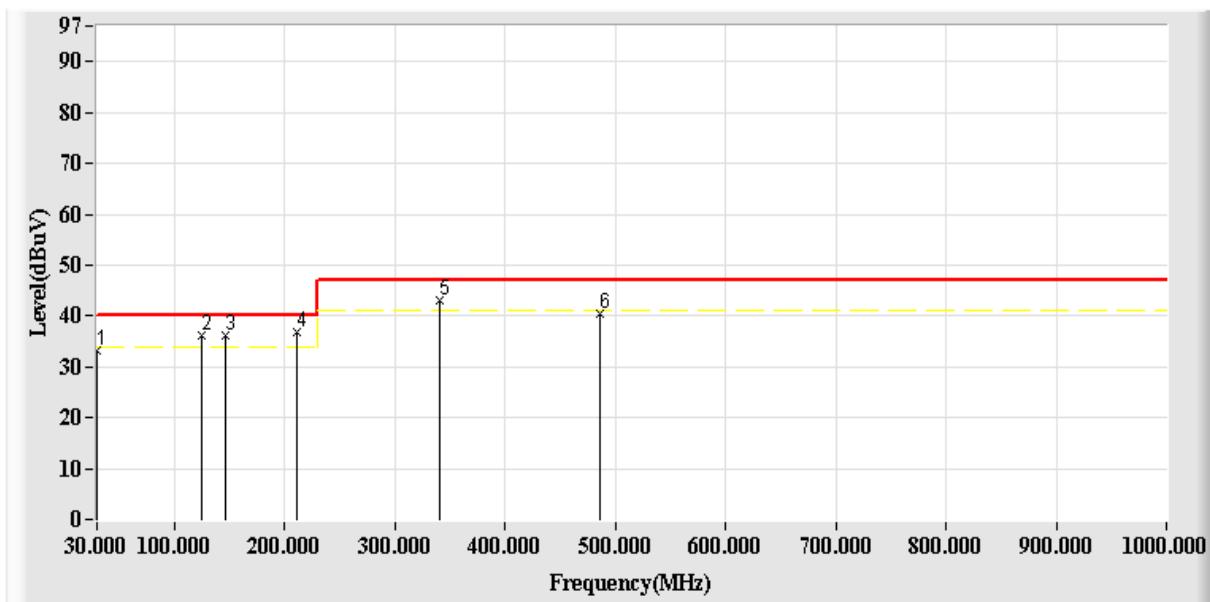


VICTRONIC TECHNOLOGY CORPORATION

DATE: 03-28-2013

TIME: 13:06:36

EMI TESTING DATA



COMMENT: Paint+Notepad+MYHWIN+EMITEST
1280*1024

	Frequency	Level	Margin	Limit	Read	Total	Antenna	Cable	Other	Table	Antenna	Det.
	MHz	dBuV	dB	dBuV	dBuV	dB	Factor	Factor	Factor	Posi.	Posi.	Mode
1	30.000000	33.23	-6.77	40.00	21.47	11.76	11.30	0.46	0.00	0.0	0	QP
2	124.575000	36.03	-3.97	40.00	23.88	12.15	11.25	0.90	0.00	0.0	0	QP
3	146.400000	36.25	-3.75	40.00	24.51	11.74	10.74	1.00	0.00	0.0	0	QP
4	211.875000	36.85	-3.15	40.00	24.24	12.61	11.46	1.15	0.00	0.0	0	QP
5	340.400000	43.14	-3.86	47.00	26.51	16.63	15.15	1.48	0.00	0.0	0	QP
6	485.900000	40.47	-6.53	47.00	20.17	20.30	18.48	1.82	0.00	0.0	0	QP

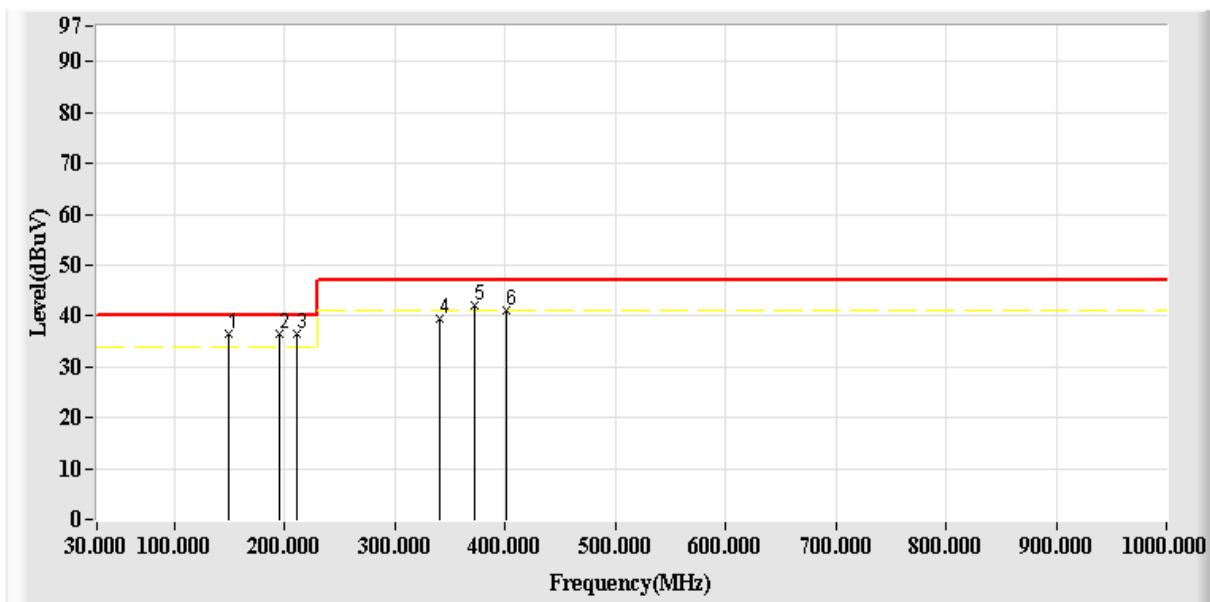


VICTRONIC TECHNOLOGY CORPORATION

DATE: 03-28-2013

TIME: 13:03:38

EMI TESTING DATA



COMMENT: Paint+Notepad+MYHWIN+EMITEST
1280*1024

	Frequency	Level	Margin	Limit Level	Read Level	Total Factor	Antenna Factor	Cable Factor	Other Factor	Table Posi.	Antenna Posi.	Det. Mode
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	dB	dB		cm	---
1	148.825000	36.51	-3.49	40.00	24.85	11.66	10.65	1.01	0.00	0.0	0	QP
1	194.900000	36.52	-3.48	40.00	24.35	12.17	11.07	1.10	0.00	0.0	0	QP
1	211.875000	36.55	-3.45	40.00	23.94	12.61	11.46	1.15	0.00	0.0	0	QP
4	340.400000	39.43	-7.57	47.00	22.80	16.63	15.15	1.48	0.00	0.0	0	QP
1	371.925000	41.93	-5.07	47.00	24.60	17.33	15.79	1.54	0.00	0.0	0	QP
6	401.025000	40.97	-6.03	47.00	23.07	17.90	16.32	1.58	0.00	0.0	0	QP

HARMONICS TEST

1 TEST INSTRUMENTS & FACILITIES

Instruments/ facilities	Manufacturer	Model # Serial #	Date of Cal.
HARMONICS/ VOLTAGE FLUCTUATIONS TEST	EMC-PARTNER	HAR1000-1P	OCT/2013
CONTROL PC	KB TECH	KB P586/133	N/A

2 TEST PROCEDURE

According to **EN 61000-3-2 (2006) + A2(2009)**

3 CONFIGURATION OF THE EUT

Same as “Conducted Power Line test”, section 4

4 OPERATION CONDITION OF EUT

Same as “Conducted Power Line test”, section 5

5 TEST DATA & LIMIT

5.1 Temperature : 21.9 °C

5.2 Humidity : 35 % RH

VOLTAGE FLUCTUATIONS TEST

1 TEST INSTRUMENTS & FACILITIES

Instruments/ facilities	Manufacturer	Model # Serial #	Date of Cal.
HARMONICS/ VOLTAGE FLUCTUATIONS TEST	EMC-PARTNER	HAR1000-1P	OCT/2013
CONTROL PC	KB TECH	KB P586/133	N/A

2 TEST PROCEDURE

According to **EN 61000-3-3 (2008)**

3 CONFIGURATION OF THE EUT

Same as “Conducted Power Line test”, section 4

4 OPERATION CONDITION OF EUT

Same as “Conducted Power Line test”, section 5

5 TEST DATA & LIMIT

5.1 Temperature : 21.9 °C

5.2 Humidity : 35 % RH

ELECTROSTATIC DISCHARGE IMMUNITY TEST (ESD)**1 TEST INSTRUMENTS & FACILITIES**

Instruments/ Facilities	Manufacturer	Model # Serial #	Data Of Cal.
ESD TESTER	NOISEKEN	ESS-100L (A)	OCT/2013
VCP	SUPER	--	--

2 TEST PROCEDURE

According to **IEC 61000-4-2 (2008)**

According to **EN 55024 (2010)**

3 CONFIGURATION OF THE EUT

Same as "Conducted Power Line test", section 4

4 EUT OPERATION CONDITION

Same as "Conducted Power Line test", section 5

5 TEST CONDITION

5.1 Test Level :

(A) ±2, 4, 8KV for air discharge.

(B) ±2, 4KV for contact discharge.

5.2 Number of test : 10 Discharges / Test point / Polarity / Level

Particular requirements : at least 200 discharges, 100 each at negative and positive polarity, at a minimum of four test points.

5.3 Time between test : 1 sec.

5.4 Temperature : 21.7 °C

5.5 Humidity : 36 % RH.

6 PERFORMANCE CRITERIA

A. The apparatus shall continue to operate as intended during and after the test. No degradation

of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended.

- B. The apparatus shall continue to operate as intended after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended. The performance level may be replaced by a permissible loss of performance. During the test, degradation of performance is however allowed.
- C. Temporary loss of function is allowed, provided the function is self-recoverable or can be restored by the operation of the controls.

7 TEST RESULT

Test Point	Air Discharge	Contact Discharge	Performance Criteria	Result
HCP	±2, 4, 8KV	±2, 4KV	B	PASSED
VCP	±2, 4, 8KV	±2, 4KV	B	PASSED
CASE	±2, 4, 8KV	±2, 4KV	B	PASSED
LED	±2, 4, 8KV	±2, 4KV	B	PASSED
AC SOCKET	±2, 4, 8KV	±2, 4KV	B	PASSED
DC SOCKET	±2, 4, 8KV	±2, 4KV	B	PASSED

RADIO FREQUENCY ELECTROMAGNETIC FILE IMMUNITY TEST (RS)**1 TEST INSTRUMENTS & FACILITIES**

Item	Instruments Facilities	Manufacturer	Model # Serial #	Data Of Cal.
1	SIGNAL GENERATOR	ROHDE & SCHWARZ	SMY02 845181/025	MAR/2014
2	AMPLIFIER	AMPLIFIER RESEARCH	100W1000M1A	N/A
3	FIELD SENSOR	AMPLIFIER RESEARCH	FP2000	AUG/2013
4	FIELD MONITOR	AMPLIFIER RESEARCH	FM2000	AUG/2013
5	RF VOLTMETER	BOONTON	9200C 361701AA	MAR/2014
6	RF PROBE	BOONTON	952001B 37082	MAR/2014
7	DIRECTION COUPLER	AMPLIFIER RESEARCH	DC6180 20521	N/A
8	ANTENNA	EMCO	3142B S/N: 1789	N/A
9	CONTROL PC	KB TECH	KB P586/133	--

Note : Items 3 ~ 4 were calibrated with two years and verified before testing.

2 TEST PROCEDURE

According to **IEC 61000-4-3 (2006) + A1(2007) + A2(2010)**

According to **EN 55024 (2010)**

3 CONFIGURATION OF THE EUT

Same as “Conducted Power Line test”, section 4

4 OPERATION CONDITION OF EUT

Same as “Conducted Power Line test”, section 5

5 TEST CONDITION

5.1 Frequency Range : 80 MHz ~ 1000 MHz

(Frequency Range : 1.4 GHz ~ 2.0 GHz is not applicable for EN55024:1998+A1:2001)

5.2 Filed Strength : 3 V / M (1KHz 80% Modulation)

5.3 Frequency Step : 1 %, 3 sec. / each step size

5.4 Antenna Polarity : HORIZONTAL & VERTICAL

5.5 The four sides of EUT are tested

(FRONT, REAR, RIGHT, LEFT)

5.6 Temperature : 20.9 °C

5.7 Humidity : 35 % RH

6 PERFORMANCE CRITERIA

- A. The apparatus shall continue to operate as intended during and after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended.
- B. The apparatus shall continue to operate as intended after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended. The performance level may be replaced by a permissible loss of performance. During the test, degradation of performance is however allowed.
- C. Temporary loss of function is allowed, provided the function is self-recoverable or can be restored by the operation of the controls.

7 TEST RESULT

ANT SIDE	HORIZONTAL	VERTICAL	RESULT
FRONT	A	A	PASSED
REAR	A	A	PASSED
RIGHT	A	A	PASSED
LEFT	A	A	PASSED

ELECTRICAL FAST TRANSIENT/BURST IMMUNITY TEST (EFT)

1 TEST INSTRUMENTS & FACILITIES

Instruments/ Facilities	Manufacturer	Model # Serial #	Data Of Cal.
BURST-TESTER	HAEFELY	PEFT/JUNIOR	FEB/2014
CONTROL PC	KB TECH	KB P586/133	--

2 TEST PROCEDURE

According to **IEC 61000-4-4 (2004) + A1(2010)**

According to **EN 55024 (2010)**

3 CONFIGURATION OF THE EUT

Same as “Conducted Power Line test”, section 4

4 OPERATION CONDITION OF EUT

Same as “Conducted Power Line test”, section 5

5 TEST CONDITION

5.1 Pulse Rise time & Duration : 5 nS / 50 nS

5.2 Pulse Repetition : 5 kHz

5.3 Polarity : POSITIVE / NEGATIVE

5.4 Test Voltage of Power Line : ±0.5KV, ±1KV

5.5 Coupling of power line :

L, N,PE, L+N, L+PE, N+PE, L+N+PE.

5.6 Temperature : 22.3 °C

5.7 Humidity : 32 % RH

6 PERFORMANCE CRITERIA

A. The apparatus shall continue to operate as intended during and after the test. No degradation

of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended.

- B. The apparatus shall continue to operate as intended after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended. The performance level may be replaced by a permissible loss of performance. During the test, degradation of performance is however allowed.
- C. Temporary loss of function is allowed, provided the function is self-recoverable or can be restored by the operation of the controls.

7 TEST RESULT

Power Line :

TEST VOLTAGE	L	N	PE	L+N	N+PE	L+PE	L+N+PE
±0.5KV	B	B	B	B	B	B	B
±1KV	B	B	B	B	B	B	B

7.1 Model : **NW119**

7.2 Final Result : **PASSED**

7.3 Remark :

SURGE IMMUNITY TEST

1 TEST INSTRUMENTS & FACILITIES

Instruments/ Facilities	Manufacturer	Model # Serial #	Data Of Cal.
SURGER-TESTER	HAEFELY	PSURGE 4010 583334-38	FEB/2014
CONTROL PC	KB TECH	KB P586/133	--

2 TEST PROCEDURE

According To **IEC 61000-4-5 (2005)**

According To **EN 55024 (2010)**

3 TEST LEVELS

- Input and Output AC Power Ports.
- DC Input and DC Output Power Ports.

Environmental Phenomena	Test Specification		Units	Performance Criteria
	AC	DC		
Surges	1.2 / 50 (8/20)		Tr /Th us	
Line to Line	±1	±0.5	KV (Charge Voltage)	B
Line to Earth	±2		KV (Charge Voltage)	B

4 CONFIGURATION OF THE EUT

Same as “Conducted Power Line test”, section 4

5 EUT OPERATION CONDITION

Same as “Conducted Power Line test”, section 5

6 CONDITIONS DURING TESTING

6.1 Coupling of power line :

- (A) Line to Line $\pm 1\text{KV}$ (AC) or $\pm 0.5\text{KV}$ (DC)
- (B) Line to Earth $\pm 2\text{KV}$ (AC)

6.2 Polarity : POSITIVE / NEGATIVE

6.3 Phase shifting in a range between 0° to 360°

6.4 Repetition rate at least 1 per min

6.5 Temperature : 22.7 °C ($15^\circ\text{C} \sim 35^\circ\text{C}$)

Humidity : 34 % RH.($10\% \sim 75\%$)

7 PERFORMANCE CRITERIA

- A. The apparatus shall continue to operate as intended during and after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended.
- B. The apparatus shall continue to operate as intended after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended. The performance level may be replaced by a permissible loss of performance. During the test, degradation of performance is however allowed.
- C. Temporary loss of function is allowed, provided the function is self-recoverable or can be restored by the operation of the controls.

8 TEST RESULT

Environmental Phenomena	Test Specification	Units	Performance
Line to Line	± 1	KV (Charge Voltage)	B
Line to Earth	± 2	KV (Charge Voltage)	B

8.1 Model : **NW119**

8.2 Final Result : **PASSED**

8.3 Remark :

IMMUNITY TEST TO CS CONDUCTED DISTURBANCE

1 TEST INSTRUMENTS & FACILITIES

Instruments/ Facilities	Manufacturer	Model # Serial #	Date Of Cal.
SIGNAL GENERATOR	ROHDE & SCHWARZ	SMY02 845181/025	MAR/2014
AMPLIFIER	AMPLIFIER RESEARCH	75A250 25680	N/A
RF VOLTMETER	BOONTON	9200C 361701AA	MAR/2014
RF PROBE	BOONTON	952001B 37082	MAR/2014
DIRECTION COUPLER	AMPLIFIER RESEARCH	DC2600 20508	N/A
COUPLING DECOUPLING NETWORK	FCC	FCC-801-M3-25A 9993	MAR/2014
CONTROL PC	KB TECH	KB P586/133	--

2 TEST PROCEDURE

According To **IEC 61000-4-6 (2008)**

According To **EN 55024 (2010)**

3 TEST LEVELS

- Ports for signal lines and control lines.
- DC input and DC output power ports.
- Input and Output AC Power Ports.
- Functional earth Ports.

Environmental	Test Specification	Units	Performance
Radio-frequency	0.15 - 80	MHz	
Common mode	3	V	A
	80	% AM (1KHz)	

4 CONFIGURATION OF THE EUT

Same as “Conducted Power Line test”, section 4

5 EUT OPERATION CONDITION

Same as “Conducted Power Line test”, section 5

6 CONDITIONS DURING TESTING

6.1 The EUT tested type :

- Single unit
- Multiple unit

6.2 Dwell time : < 1%

6.3 Temperature : 23.1 °C (15°C ~ 35°C)

Humidity : 32 % RH.(10 % ~ 75%)

7 PERFORMANCE CRITERIA

- A. The apparatus shall continue to operate as intended during and after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended.
- B. The apparatus shall continue to operate as intended after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended. The performance level may be replaced by a permissible loss of performance. During the test, degradation of performance is however allowed.
- C. Temporary loss of function is allowed, provided the function is self-recoverable or can be restored by the operation of the controls.

8 TEST RESULT

TEST Specification	Unit	Performance Criteria
0.15 – 80	MHz	
3	V	A
80	% AM (1KHz)	

8.1 Model : **NW119**

8.2 Final Result : **PASSED**

8.3 Remark :

VOLTAGE DIPS, SHORT INTERRUPTIONS IMMUNITY TEST

1 TEST INSTRUMENTS & FACILITIES

Instruments/ Facilities	Manufacturer	Model # Serial #	Data Of Cal.
LINE INTERFERENCE -TESTER	HAEFELY	PLINE 1610 080166-10	MAR/2014
CONTROL PC	KB TECH	KB P586/133	--

2 TEST PROCEDURE

According To **IEC 61000-4-11 (2004)**

According To **EN 55024 (2010)**

3 TEST LEVELS

Input and Output AC Power Ports.

- Voltage Dips.
- Voltage Interruptions.

Class ^a	Test level and durations for voltage dips				
Class 1	Case-by-case according to the equipment requirements				
Class 2	0 % during 1/2 cycle	0 % during 1 cycle	70 % during 25/30 ^c cycles		
Class 3	0 % during 1/2 cycle	0 % during 1 cycle	40 % during 10/12 ^c cycles	70 % during 25/30 ^c cycles	80 % during 250/300 ^c cycles

a: Classes as per IEC 61000-2-4.

b: To be defined by product committee. For equipment connected directly or indirectly to the public network, the levels must not be less severe than Class 2.

c: "25/30 cycles" means "25 cycles for 50 Hz test" and "30 cycles for 60 Hz test".

Class ^a	Test level and durations for short interruptions (t_s) (50Hz / 60Hz)
Class 1	Case-by-case according to the equipment requirements
Class 2	0 % during 250/300 ^c cycles
Class 3	0 % during 250/300 ^c cycles
Class X ^b	X

a: Classes as per IEC 61000-2-4.

b: To be defined by product committee. For equipment connected directly or indirectly to the public network, the levels must not be less severe than Class 2.

c: "250/300 cycles" means "250 cycles for 50 Hz test" and "300 cycles for 60 Hz test".

* According to the specification of EUT, Class 2 is applied.

4 CONFIGURATION OF THE EUT

Same as "Conducted Power Line test", section 4

5 EUT OPERATION CONDITION

Same as "Conducted Power Line test", section 5

6 CONDITIONS DURING TESTING

6.1 Temperature : 23.0 °C (15°C ~ 35°C)

Humidity : 30 % RH.(25 % ~ 75%)

7 PERFORMANCE CRITERIA

- A. The apparatus shall continue to operate as intended during and after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended.
- B. The apparatus shall continue to operate as intended after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended. The performance level may be replaced by a permissible loss of performance. During the test, degradation of performance is however allowed.
- C. Temporary loss of function is allowed, provided the function is self-recoverable or can be restored by the operation of the controls.

8 TEST RESULT

Environmental Phenomena	Test Specification	Units	Perform Criteria
Voltage Dips	0 1/2	% during Cycle	A
	0 1	% during Cycle	C
	70 25	% during Cycles	C
	0 250	% during Cycles	C
Voltage Short Interruptions			

8.1 Model : NW119

8.2 Final Results : PASSED

8.3 Remark :

Appendix A

PHOTOS OF EUT



EBAU9107Ver13-1







EBAU9107Ver13-1

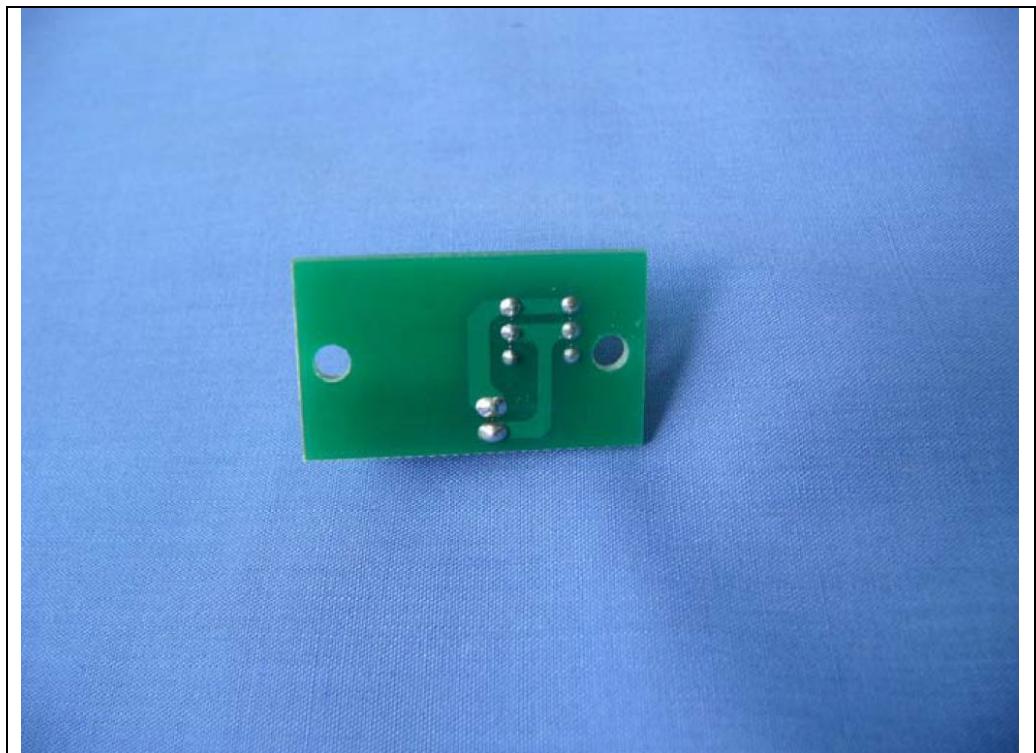
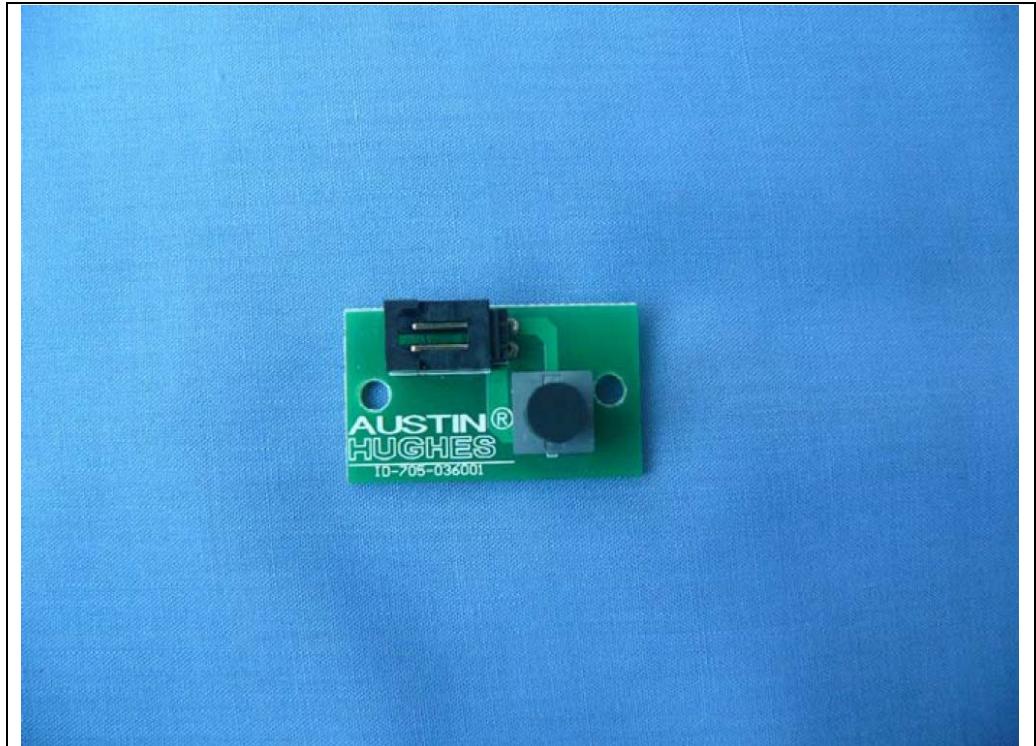


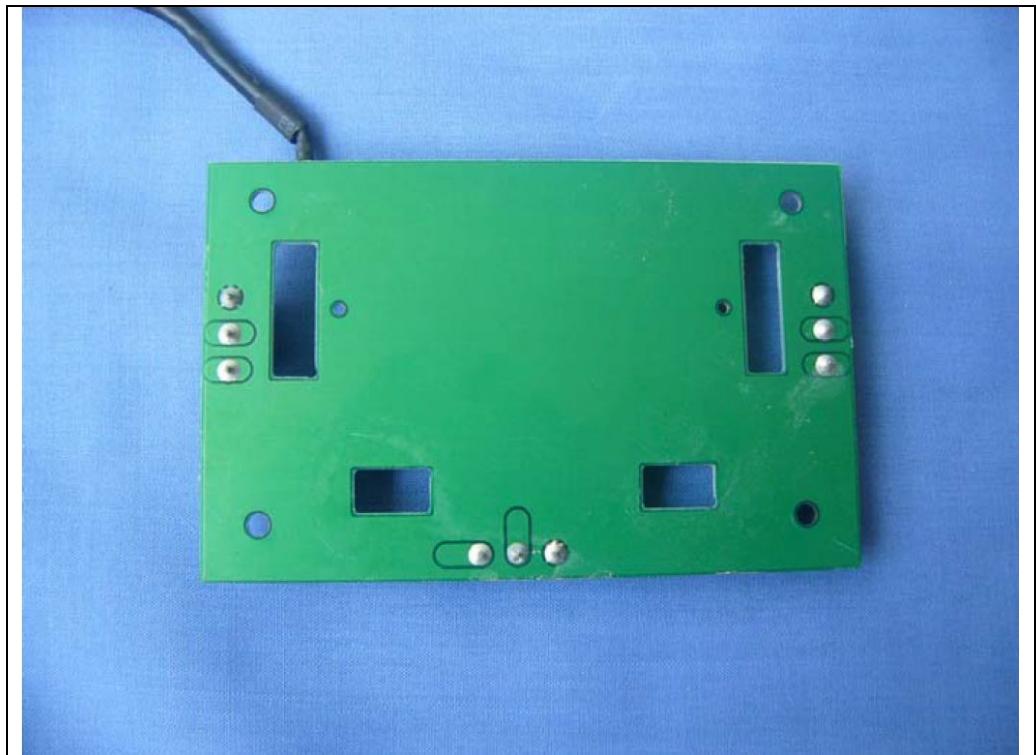
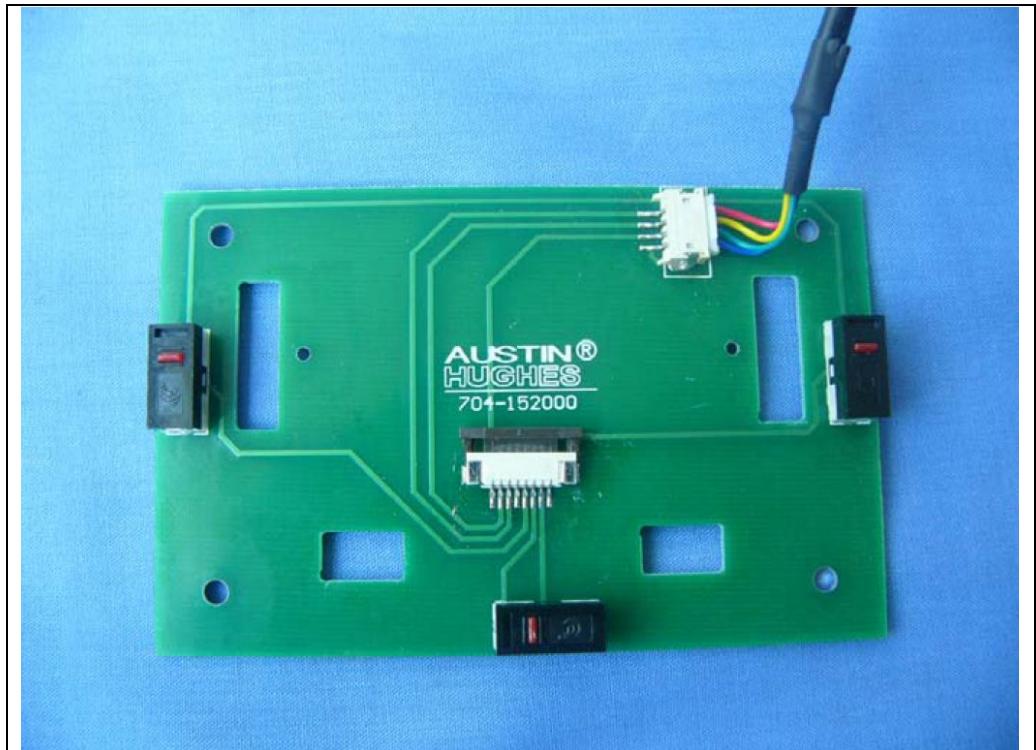
EBAU9107Ver13-1

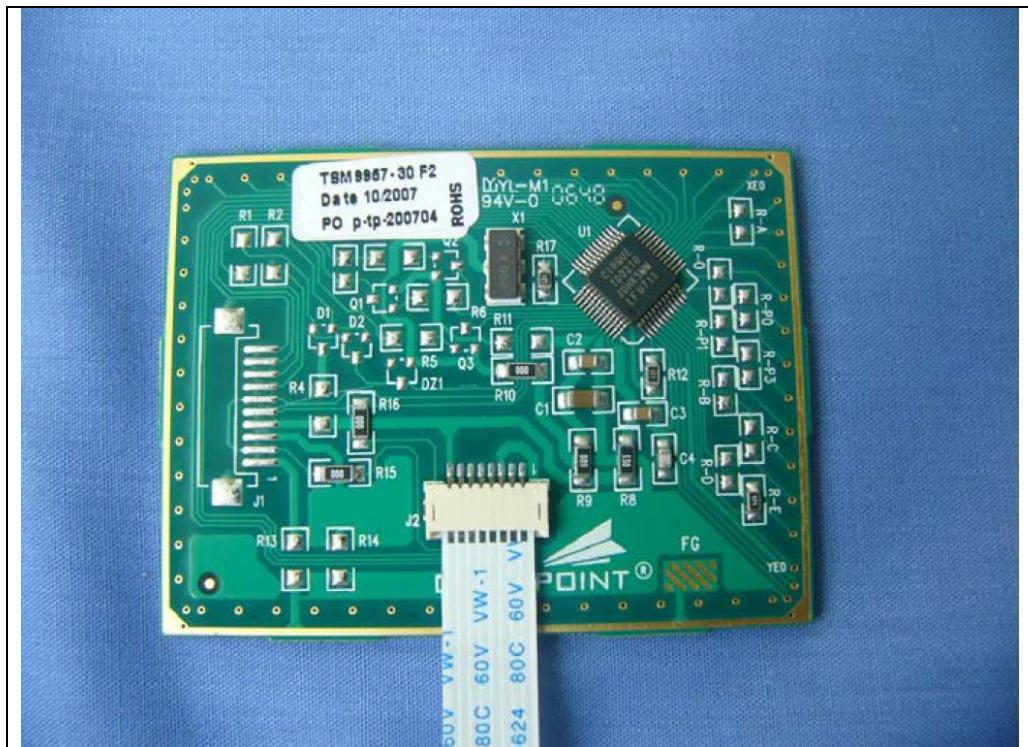




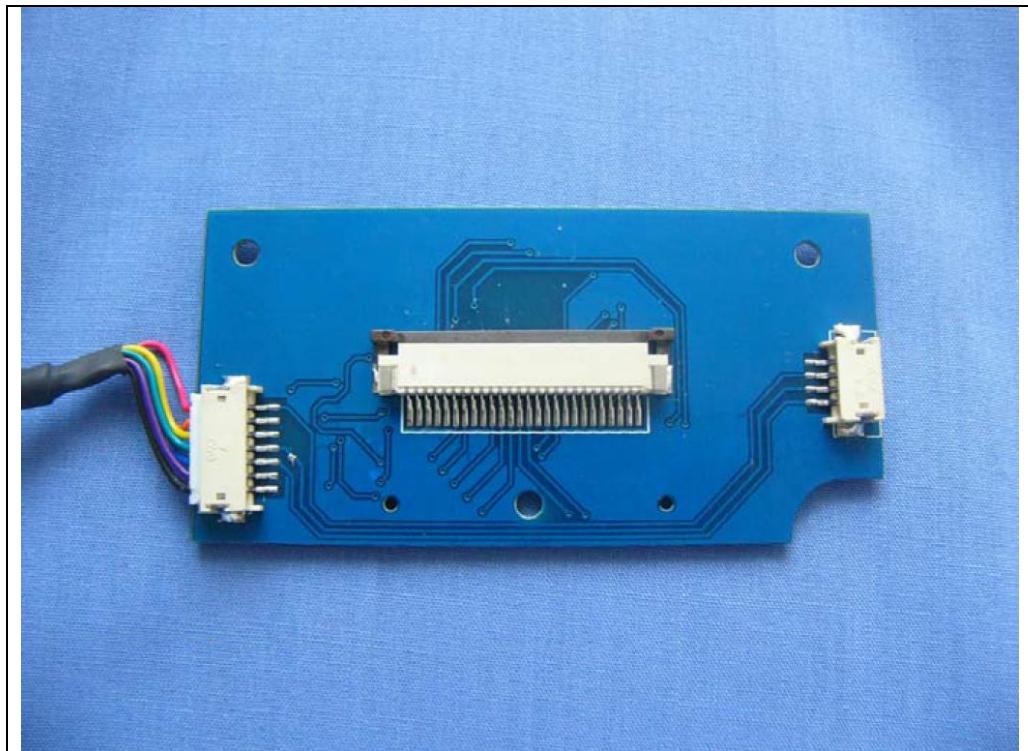
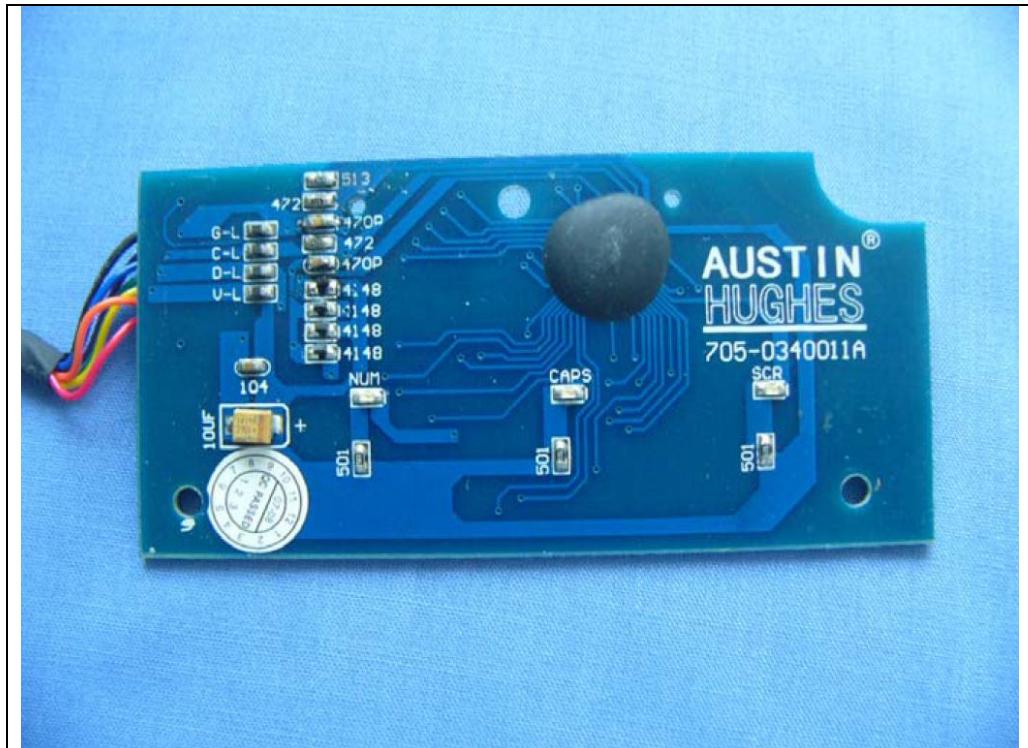
EBAU9107Ver13-1

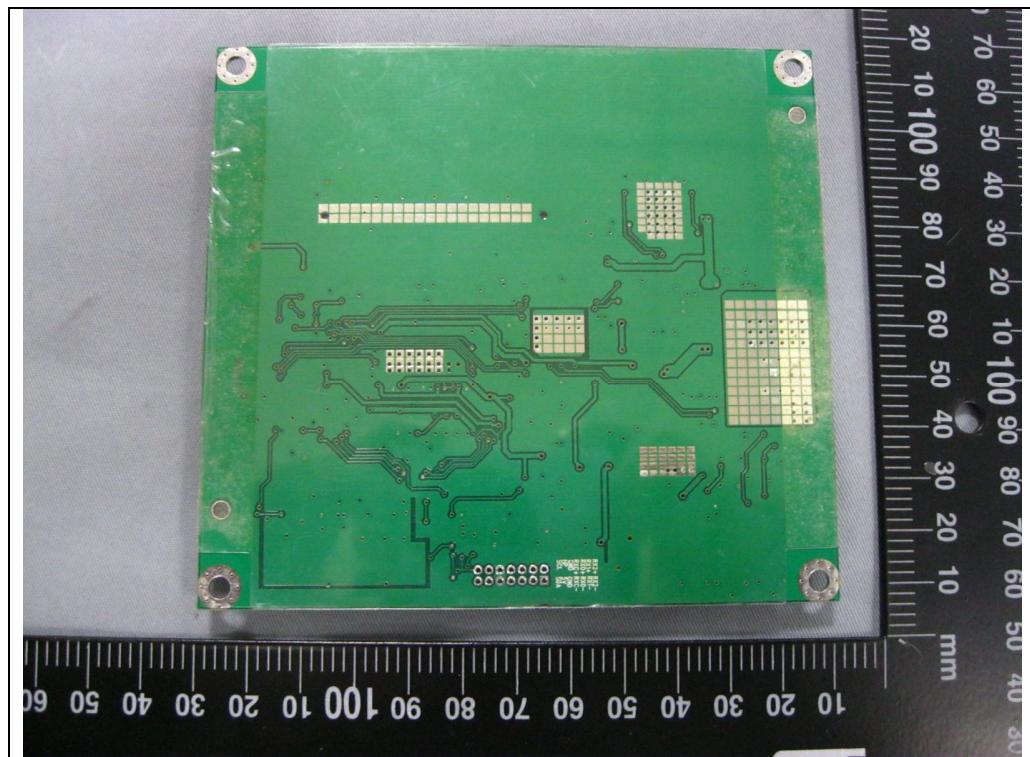
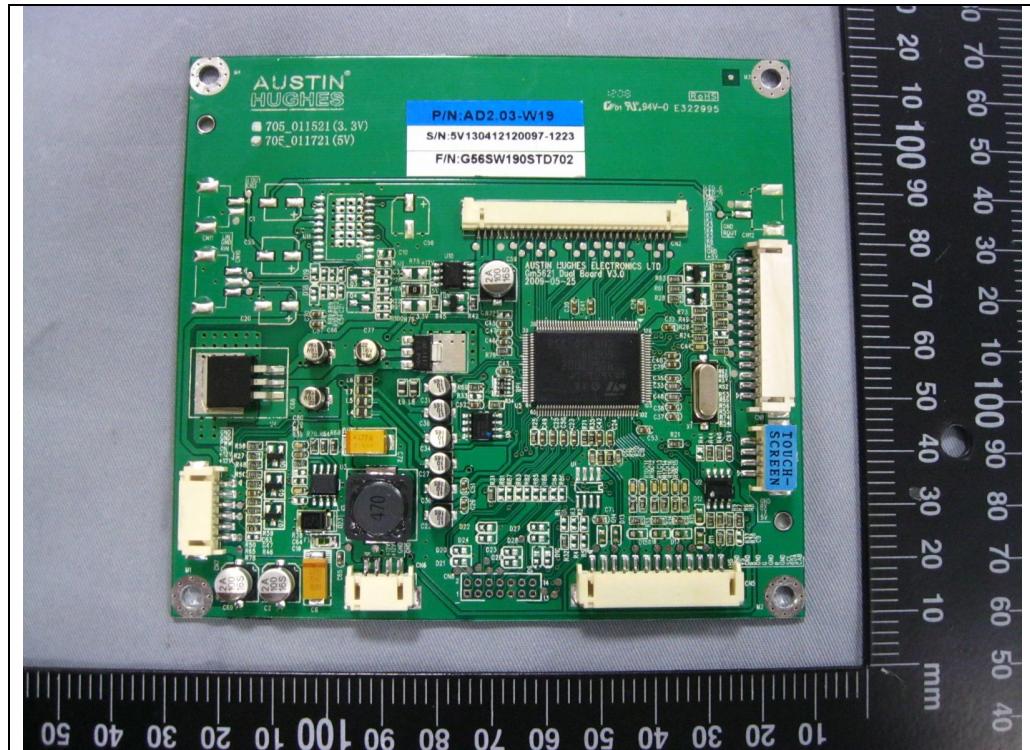


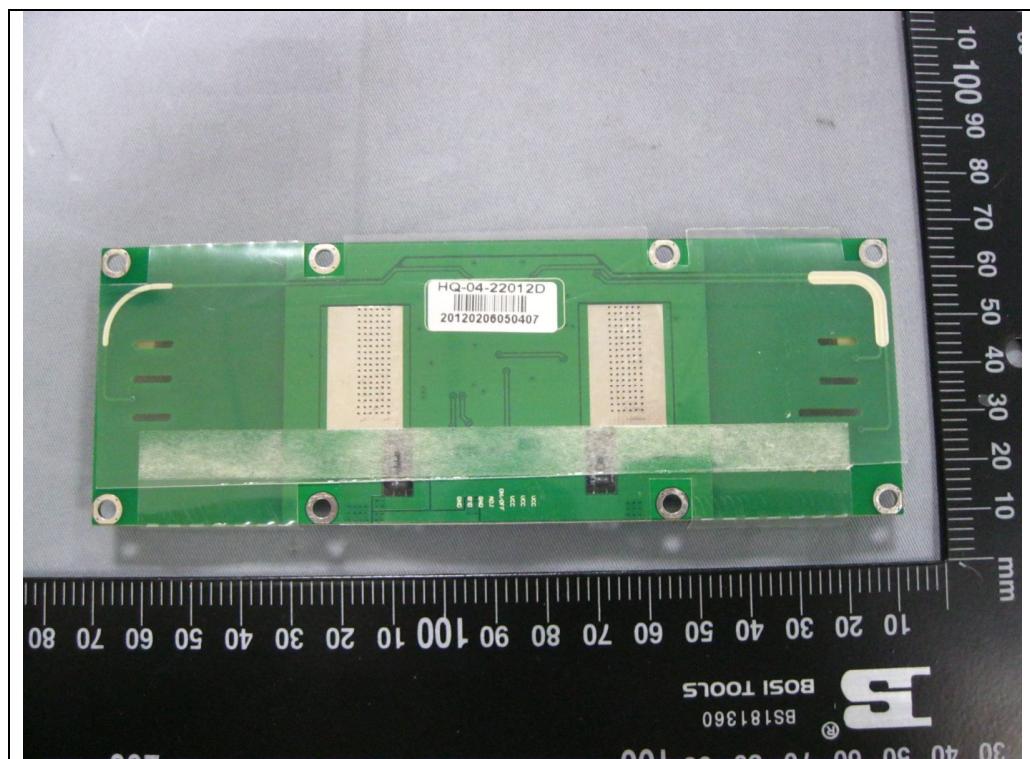
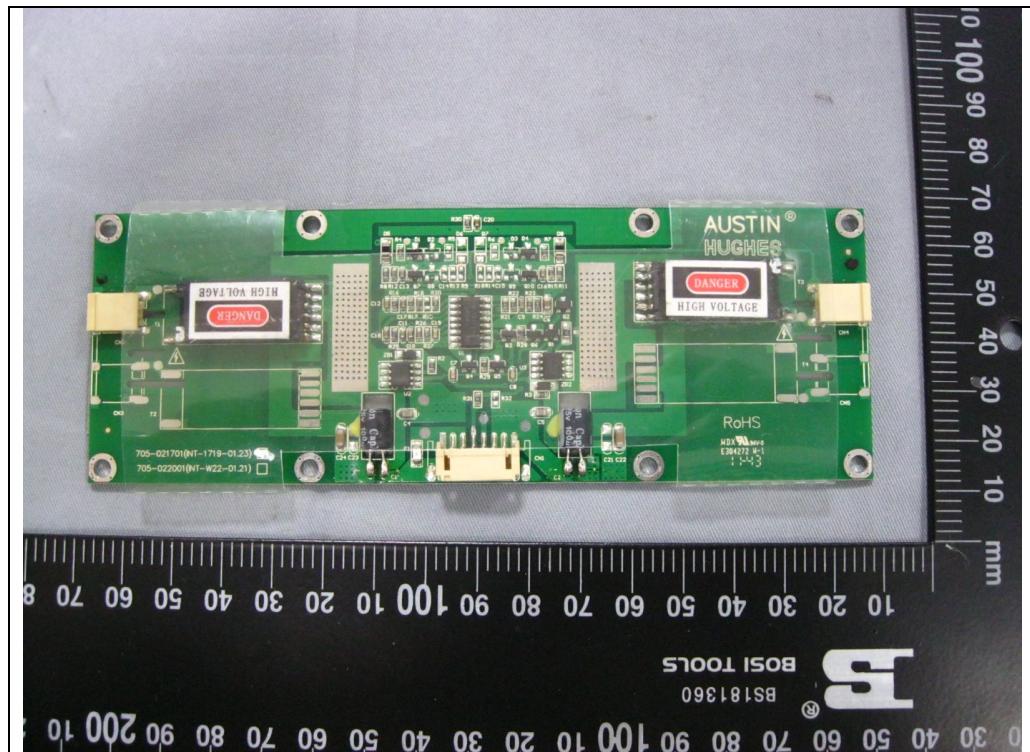




EBAU9107Ver13-1







EBAU9107Ver13-1

