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ELECTROMAGNETIC COMPATIBILITY TESTS

SHARE 2 + REMOTE

Presented to:
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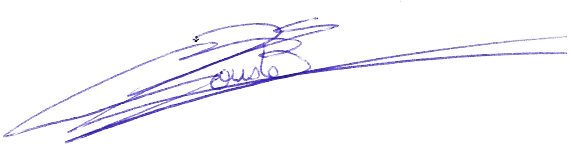

ACCREDITED
Test Lab
Cert 3583.01

Test Report TR-0816-601_R1
Issued : 2016-09-02
Revision 01: 2016-09-16

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1 INTRODUCTION

The following test report describes:

- tests in compliance with electromagnetic compatibility directive 2014/30/EU as part of the requirements leading to the CE marking of the product SHARE 2 & SHARE REMOTE
- tests in compliance with FCC part 15 subpart B

The directive 2014/30/EU calls for:

- EN55022 (2010) product standard relative to Information Technology Equipment - Radio disturbance characteristics
- EN55032 (2012) product standard relative Multimedia Equipment
- EN55024 (2010) A1 (2015) product standard relative to Information Technology Equipment - Immunity characteristics

2 ACRONYMS

N/A : Not Applicable / Not Available
NCR : No Calibration Required
EMC : Electromagnetic Compatibility
EUT : Equipment Under Test
AE : Auxiliary Equipment
LISN : Line Impedance Stabilisation Network
AM : Amplitude Modulation
CDN : Coupling/Decoupling Network
EM Clamp : Electromagnetic Clamp
I/O : Inputs/Outputs
PE : Protective Earth
HCP : Horizontal Coupling Plane
VCP : Vertical Coupling Plane
ESD : Electrostatic Discharge
EFT : Electrical Fast Transient
Pst : short-term flicker
Plt : long-term flicker
PSU : Power Supply Unit
AC : Alternating Current
DC : Direct Current
Un: Nominal Voltage

3 PROJECT DATES

RECEPTION DATE(S) (yyyy-mm-dd)	2016-08-23 (LABCEM#1137, #1138, #1140)
TESTS DATE(S) (yyyy-mm-dd)	From 2016-08-23 to 2016-08-25 (LABCEM#1137, #1138, #1140)

4 DESCRIPTION OF EQUIPMENT UNDER TEST

4.1 EUT

PRODUCT NAME :	SHARE 2	
MANUFACTURER :	Dextera Labs Inc.	
TYPE :		
LABCEM NUMBER :	LABCEM#1137	LABCEM#1140
PART NUMBER :	SHARE 2	SHARE 2
SERIAL NUMBER :	SH1603007	SH1603008
VOLTAGE RATING :	Wall mount PSU Mega Electronics Inc. PN:MJSW1201200N5636 SERIAL:MJSW1201200N-5636 Model:FJ-SW1201200N Input 100-240V~ 50/60Hz 0.6A Max Output12Vdc 1200mA	Wall mount PSU Mega Electronics Inc. PN:MJSW1201200N5636 SERIAL:MJSW1201200N-5636 Model:FJ-SW1201200N Input 100-240V~ 50/60Hz 0.6A Max Output12Vdc 1200mA
FIRMWARE :	1.10	1.10
HIGHEST INTERNAL FREQUENCY:	145MHz	145MHz

Photo 1 : EUT – Front

Photo 2 : EUT – Rear

Photo 3 : EUT – S/N: SH1603007

Photo 4 : EUT – S/N: SH1603008

Photo 5 : PSU

Photo 6 : PSU – S/N

PRODUCT NAME :	SHARE REMOTE
MANUFACTURER :	Dextera Labs Inc.
TYPE :	Remote
LABCEM NUMBER :	LABCEM#1138
PART NUMBER :	SHARE2 REMOTE
SERIAL NUMBER :	KP0000000
VOLTAGE RATING :	Internal PSU 5Vdc
FIRMWARE :	10.3
HIGHEST INTERNAL FREQUENCY:	145MHz

Photo 7 : EUT – Front

Photo 8 : EUT – Rear

4.2 AE

PRODUCT NAME :	Personal Monitor 6301B
MANUFACTURER :	Fostex
TYPE :	Speaker
SERIAL NUMBER :	1225576
VOLTAGE RATING :	120Vac
FIRMWARE :	N/A

Photo 9 : AE

PRODUCT NAME :	N/A
MANUFACTURER :	Logitech
TYPE :	Headset
SERIAL NUMBER :	N/A
VOLTAGE RATING :	N/A
FIRMWARE :	N/A

Photo 10 : AE

4.3 Support Equipment

EUT was exercised with support equipment supplied by client.

Photo 11 : Support Equipment (Camera In HDMI Video Source)

Photo 12 : Support Equipment (Laptop)

Photo 13 : Support Equipment (Content In VGA Video Source)

4.4 EUT Setup Diagram

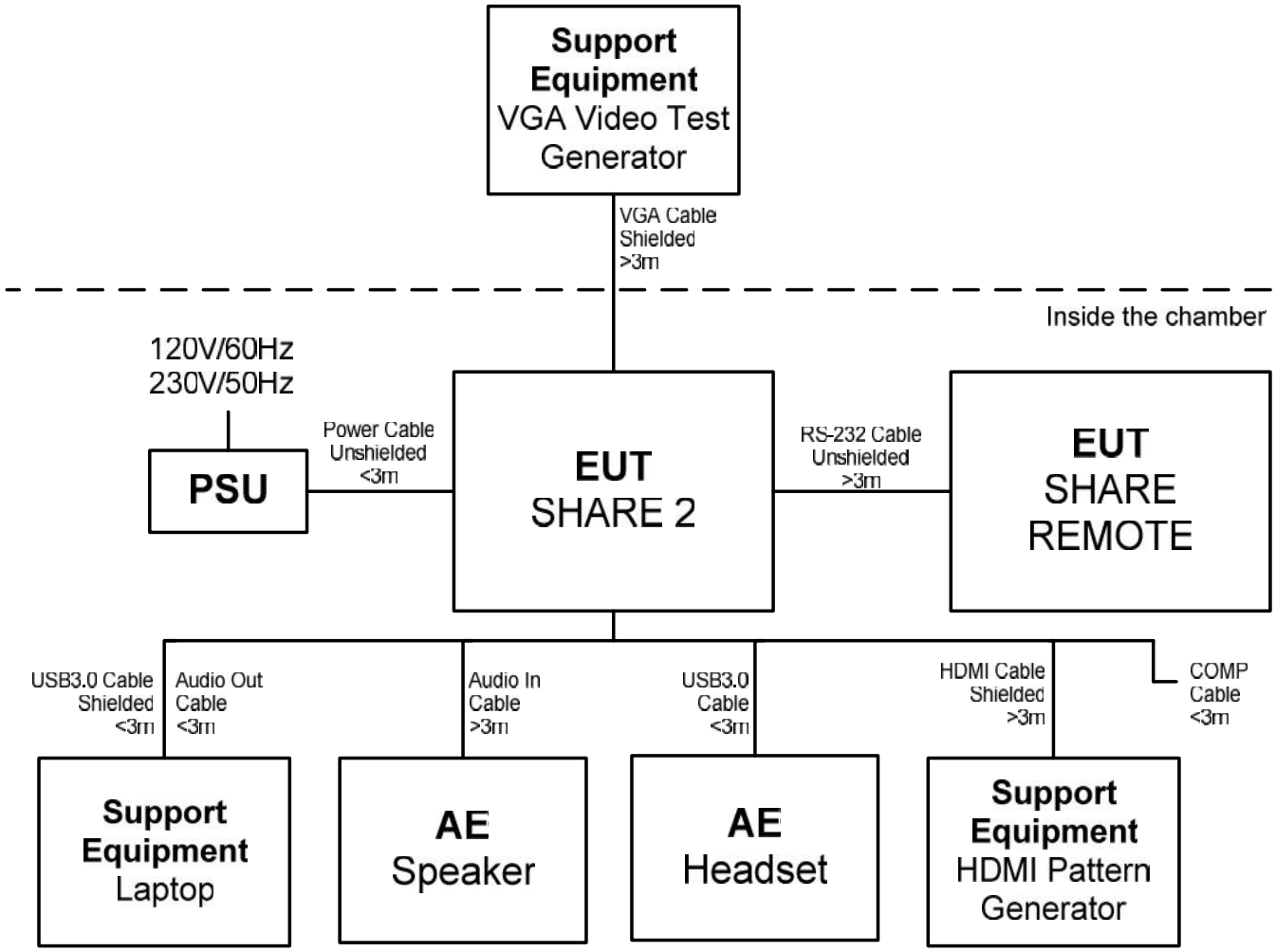
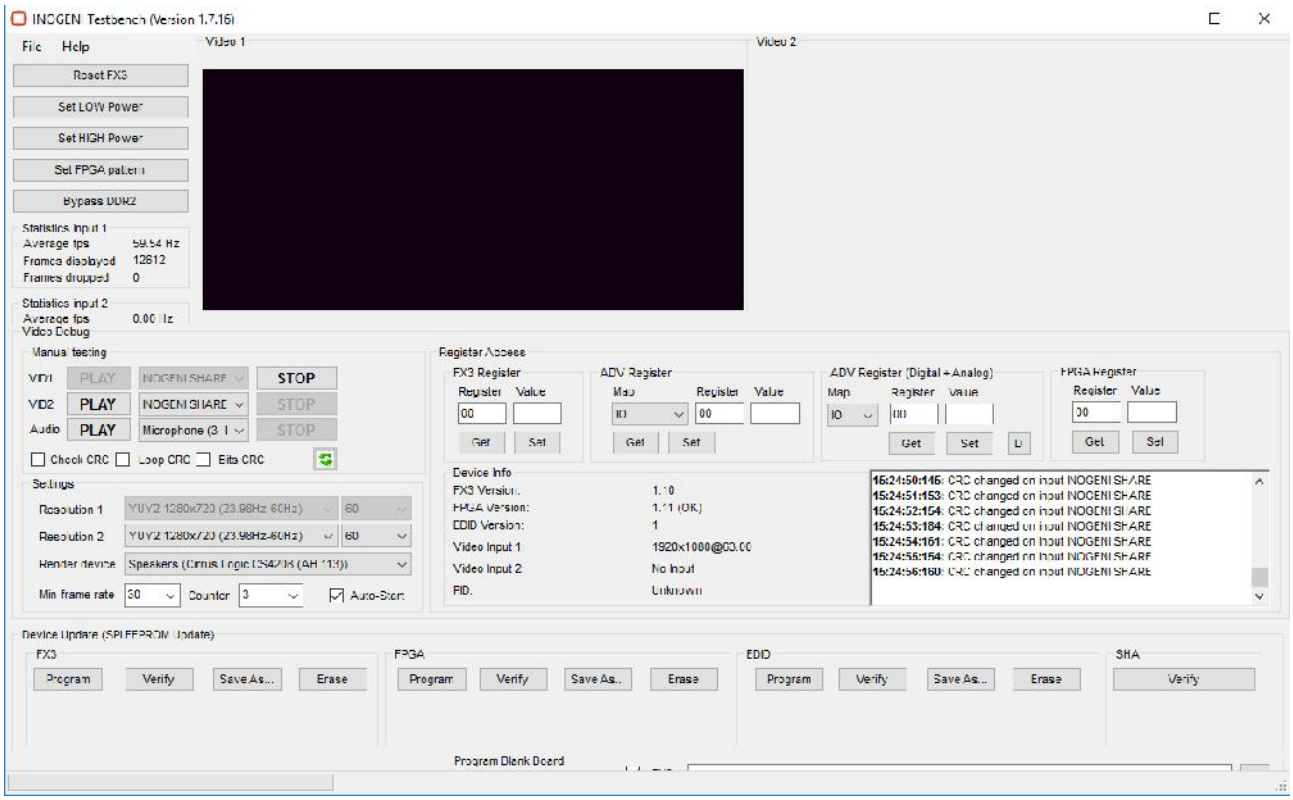


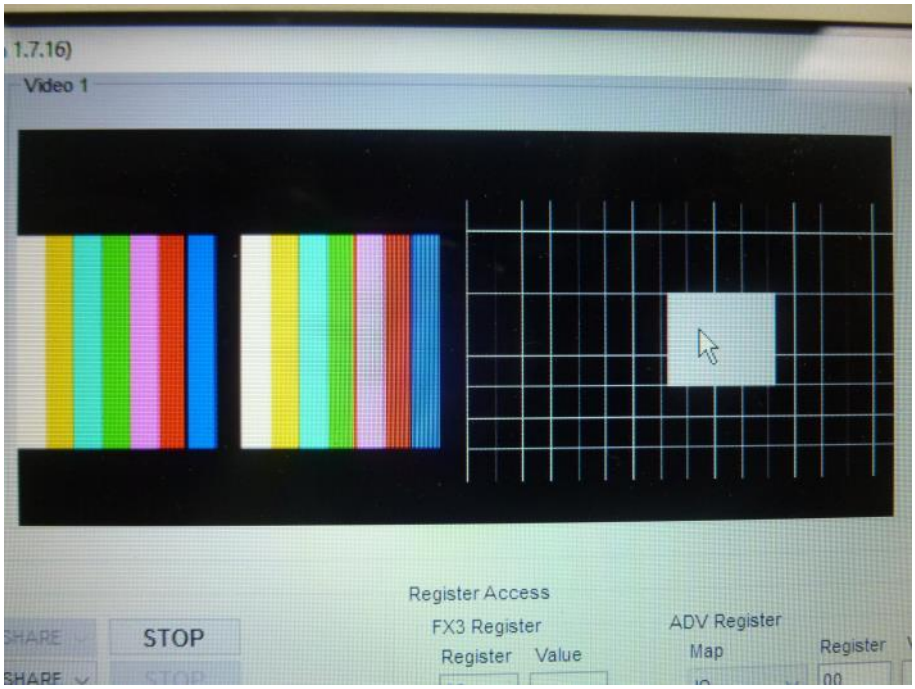
Figure 1 : EUT Setup Diagram

4.5 Mode of Operation

During the tests, the EUT was exercised by displaying the video from the 2 different video sources (VGA & HDMI) continuously
Bluetooth module was deactivated during radiated emissions measurements (Bluetooth module pre-approved)



Capture 1 : Client Software – INOGENI Testbench (Version 1.7.16)



Capture 2 : Client Software – Video 1

4.6 Method of Monitoring

During the tests, the EUT was monitored by a capture software (INOGENI Testbench Version 1.7.16) of the live video from the 2 video sources.

5 PERFORMANCE CRITERIA

During the tests, EUT shall operate normally and keep displaying the video from the 2 video sources.

The performance criteria for the evaluation of the immunity test results are defined by EN55024 standard (Information technology equipment — Immunity characteristics).

Performance criterion A: During and after the test the EUT shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed below a minimum performance level specified by the manufacturer when the EUT is used as intended. The performance level may be replaced by a permissible loss of performance. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and by what the user may reasonably expect from the EUT if used as intended.

Performance criterion B: After the test, the EUT shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed, after the application of the phenomena below a performance level specified by the manufacturer, when the EUT is used as intended. The performance level may be replaced by a permissible loss of performance. During the test, degradation of performance is allowed. However, no change of operating state or stored data is allowed to persist after the test. If the minimum performance level (or the permissible performance loss) is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and by what the user may reasonably expect from the EUT if used as intended.

Performance criterion C: During and after testing, a temporary loss of function is allowed, provided the function is self-recoverable, or can be restored by the operation of the controls or cycling of the power to the EUT by the user in accordance with the manufacturer's instructions. Functions, and/or information stored in non-volatile memory, or protected by a battery backup, shall not be lost.

6 TEST SUMMARY

Test Name Standards	Test Specifications	Minimum Performance Criterion Required	Results
Conducted Emissions FCC part 15 (2015) subpart B	Class A 150kHz-30MHz	N/A	Pass
Radiated Emissions FCC part 15 (2015) subpart B	Class A 30MHz-2GHz	N/A	Pass
Conducted Emissions EN55022 (2010)	Class A 150kHz-30MHz	N/A	Pass
Radiated Emissions EN55022 (2010)	Class A 30MHz-2GHz	N/A	Pass
Conducted Emissions EN55032 (2012)	Class A 150kHz-30MHz	N/A	Pass
Radiated Emissions EN55032 (2012)	Class A 30MHz-2GHz	N/A	Pass
Conducted Emissions ICES-003 (2016)	Class A 150kHz-30MHz	N/A	Pass
Radiated Emissions ICES-003 (2016)	Class A 30MHz-2GHz	N/A	Pass
Harmonic Current Emission Limits EN61000-3-2 (2014)	Class A	N/A	Not Tested Rated Power < 75W
Voltage Fluctuations and Flicker Limitations EN61000-3-3 (2013)	Observation period for P_{st} : 10 min Observation period for P_{lt} : 120 min	N/A	Pass
Electrostatic Discharge Immunity IEC61000-4-2 (2008)	Contact : ±4kV Air : ±8kV	B	Pass
Radiated Electromagnetic Field Immunity IEC61000-4-3 (2006) A1 (2007) A2 (2010)	80MHz-1000MHz : 3V/m	A	Pass
Electrical Fast Transient Immunity IEC61000-4-4 (2012)	Power : ±1kV / 5kHz I/O Ports : ±0.5kV / 5kHz Communication Ports : ±0.5kV / 5kHz	B	Pass
Surge Immunity IEC61000-4-5 (2014)	Power : ±2kV L-PE / ±1kV L-L I/O Ports : N/A Communication Ports : N/A	B	Pass
Immunity to Conducted Disturbances, Induced by Radio-Frequency Fields IEC61000-4-6 (2013)	Power : 3V I/O Ports : 3V Communication Ports : 3V	A	Pass
Power Frequency Magnetic Field Immunity IEC61000-4-8 (2009)	Continuous Field : 1A/m / 50Hz & 60Hz	A	Pass
Voltage Dips, Short Interruptions and Voltage Variation Immunity on AC Input IEC61000-4-11 (2004)	Voltage dips : 0% during half cycle 70% during 25 cycles Short interruptions : 0% during 250 cycles	B C C	Pass

Table 1 : Test Summary

7 ENGINEERING COMMENTS

7.1 Modifications incorporated in the EUT

2016-08-23 – Modification #1

EMI gasket were added the 2 USB 3.0 connector to have a contact with the top of the plate

The modification #1 incorporated in the EUT was applied for the following test:

- Electrostatic Discharge Immunity
- Radiated Electromagnetic Field Immunity
- Conducted Disturbances Immunity
- Power Frequency Magnetic Field Immunity
- Voltage Fluctuations and Flicker Measurements
- Voltage Dips, Short Interruptions and Voltage Variation Immunity on AC input
- Electrical Fast Transient Immunity
- Surge Immunity

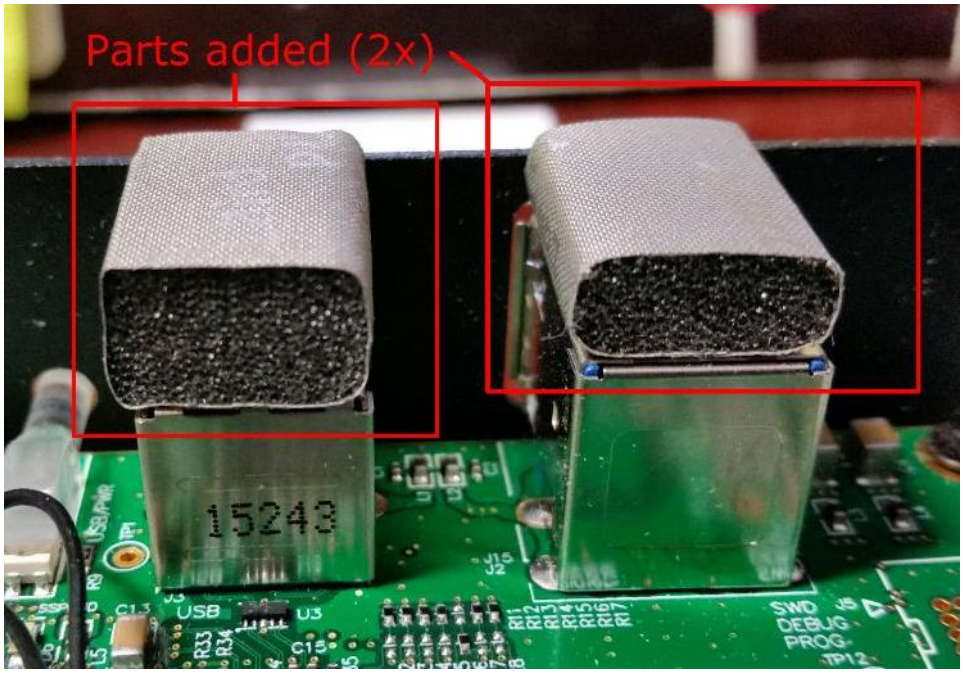


Photo 14 : Modification #1

No other modification was performed on the EUT during testing.

7.2 Deviations from the standards and/or laboratory tests procedure

No deviation from standards and/or test laboratory procedure was performed during testing.

8 EMISSIONS TESTS

8.1 Conducted Emissions

8.1.1 Test Details

REFERENCE STANDARD	EN55022 (2010) EN55032 (2012) FCC part 15 subpart B (2015) ICES-003 (2016)

SPECIFICATIONS	
Limit	EN55022 (2010) class A EN55032 (2012) classe A FCC part 15 subpart B (2015) class A ICES-003 (2016) class A
Frequency Range	150kHz – 30MHz
Installation	Table-top equipment

EUT	
Identification	SHARE 2 (LABCEM#1137) + REMOTE
Voltage Input	230V/50Hz 120V/60Hz

TEST INFO	
Test Date (yyyy-mm-dd)	2016-08-23
Temperature °C (For Info Only)	23.9°C
Relative Humidity % (For Info Only)	45.9%
Atmospheric Pressure kPa (For Info Only)	102.1kPa
Operator	Quoc-Nhan Van
Client Witness	Denis Alain (Dextera Labs Inc.)

8.1.2 Test Equipment

Manufacturer	Description	Model	Serial No	Calibration Cycle (month)	Next Calibration (y-m-d)
NEXIO	Software	BAT-EMC v3.16.0.33	N/A	N/A	N/A
Agilent	EMI receiver	MXE N9038A	MY52130044	12	2016-10-10
NARDA	LISN	PMM L2-16B	000WX20801	18	2017-12-09
NARDA	Pulse Limiter	PMM PL-01	1110X20603	NCR	NCR

Table 2 : Conducted Emissions – Test Equipment

8.1.3 Test Results

Tested Line	Frequency (MHz)	Average Limit (dBµV)	Quasi-Peak Limit (dBµV)	Results
Power – Phase (230V/50Hz)	0.150 – 0.50	66	79	Pass
	0.50 – 30	60	73	
Power – Neutral (230V/50Hz)	0.150 – 0.50	66	79	Pass
	0.50 – 30	60	73	

Table 3 : Conducted Emissions – Test Results – EN55022 Class A

Tested Line	Frequency (MHz)	Average Limit (dBµV)	Quasi-Peak Limit (dBµV)	Results
Power – Phase (230V/50Hz)	0.150 – 0.50	66	79	Pass
	0.50 – 30	60	73	
Power – Neutral (230V/50Hz)	0.150 – 0.50	66	79	Pass
	0.50 – 30	60	73	

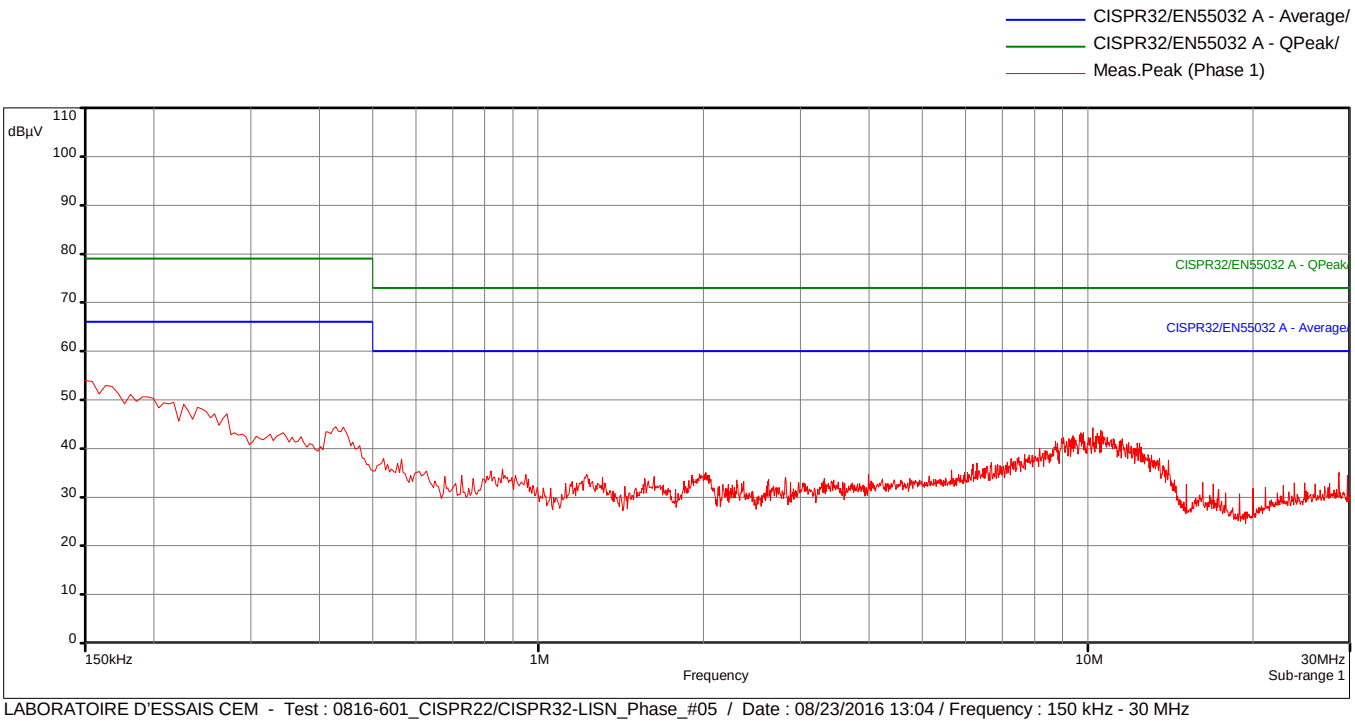
Table 4 : Conducted Emissions – Test Results – EN55032 Class A

Tested Line	Frequency (MHz)	Average Limit (dBµV)	Quasi-Peak Limit (dBµV)	Results
Power – Phase (120V/60Hz)	0.150 – 0.50	66	79	Pass
	0.50 – 30	60	73	
Power – Neutral (120V/60Hz)	0.150 – 0.50	66	79	Pass
	0.50 – 30	60	73	

Table 5 : Conducted Emissions – Test Results – FCC Part 15 Subpart B / ICES-003 Class A

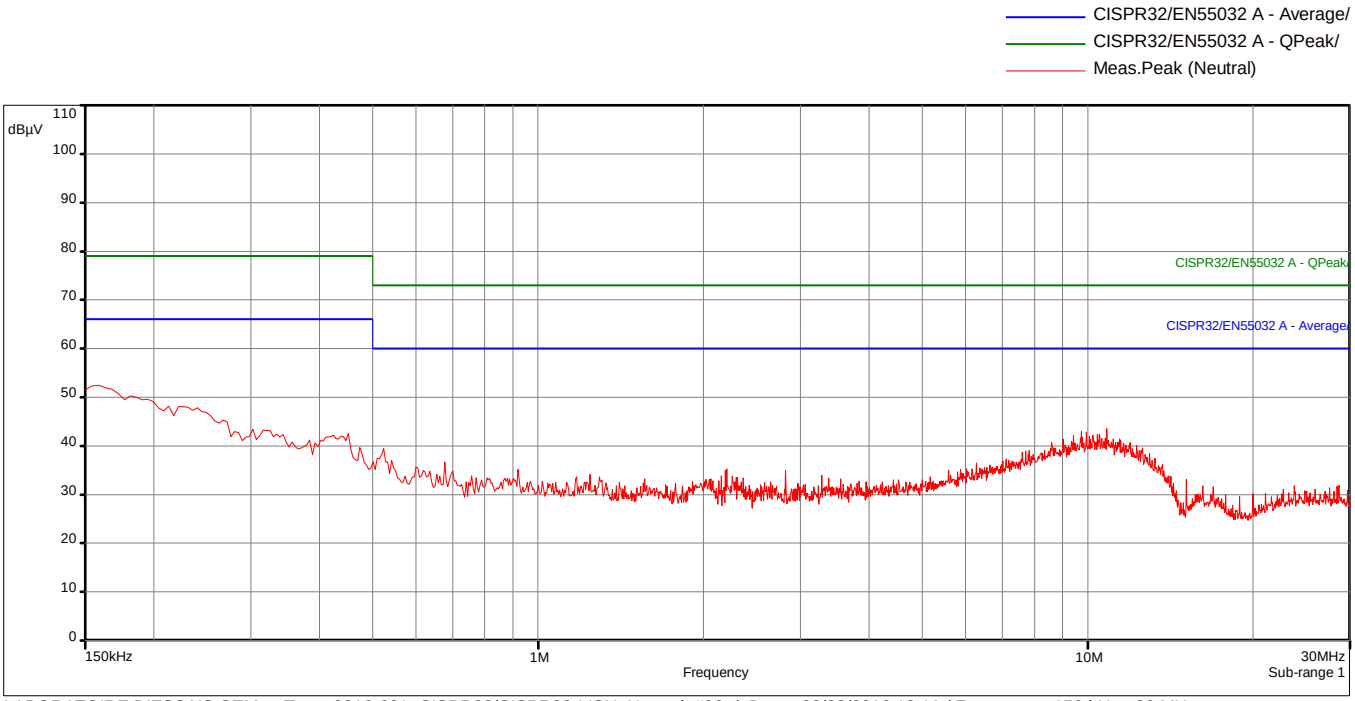
8.1.4 Test Data

See APPENDIX A for data files.



LABORATOIRE D'ESSAIS CEM - Test : 0816-601_CISPR22/CISPR32-LISN_Phase_#05 / Date : 08/23/2016 13:04 / Frequency : 150 kHz - 30 MHz

Graph 1 : Conducted Emissions – EN55022 / EN55032 – Power – Phase

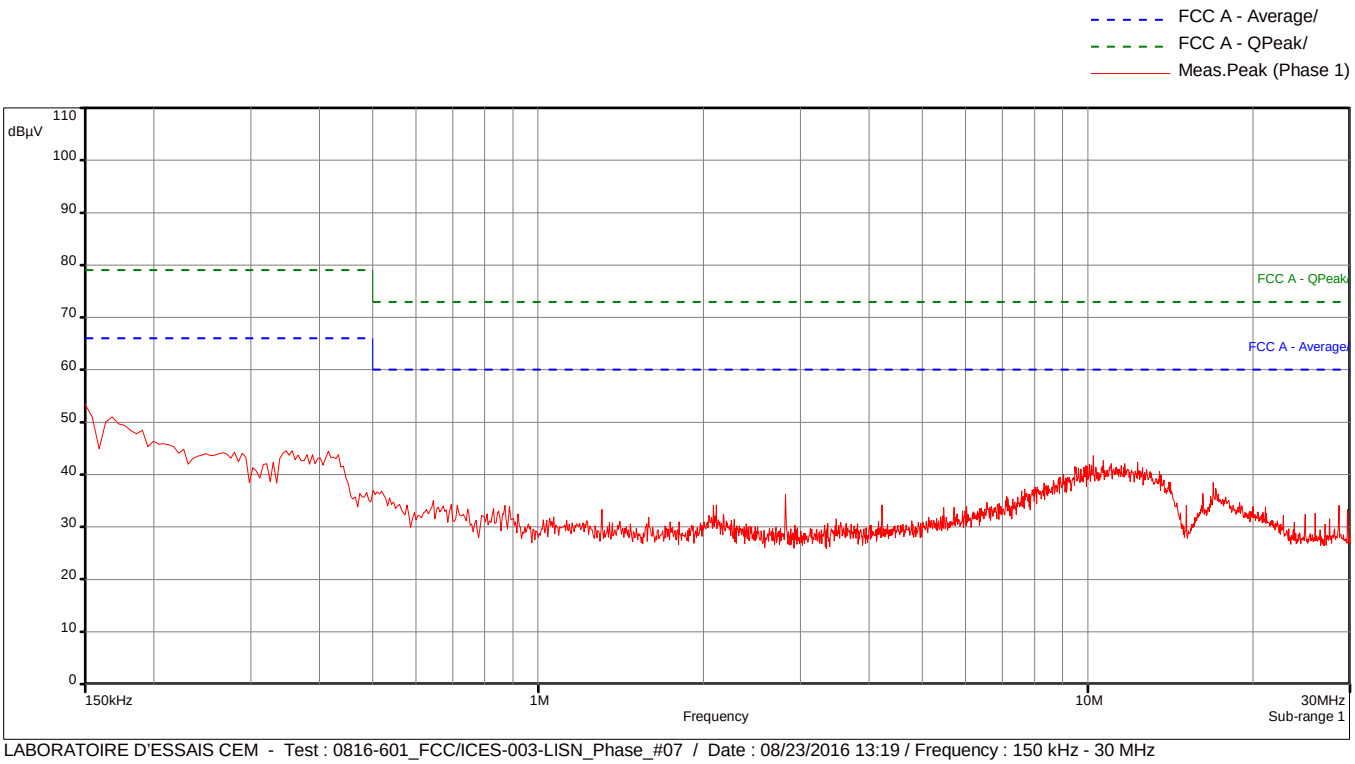


LABORATOIRE D'ESSAIS CEM - Test : 0816-601_CISPR22/CISPR32-LISN_Neutral_#06 / Date : 08/23/2016 13:11 / Frequency : 150 kHz - 30 MHz

Graph 2 : Conducted Emissions – EN55022 / EN55032 – Power – Neutral

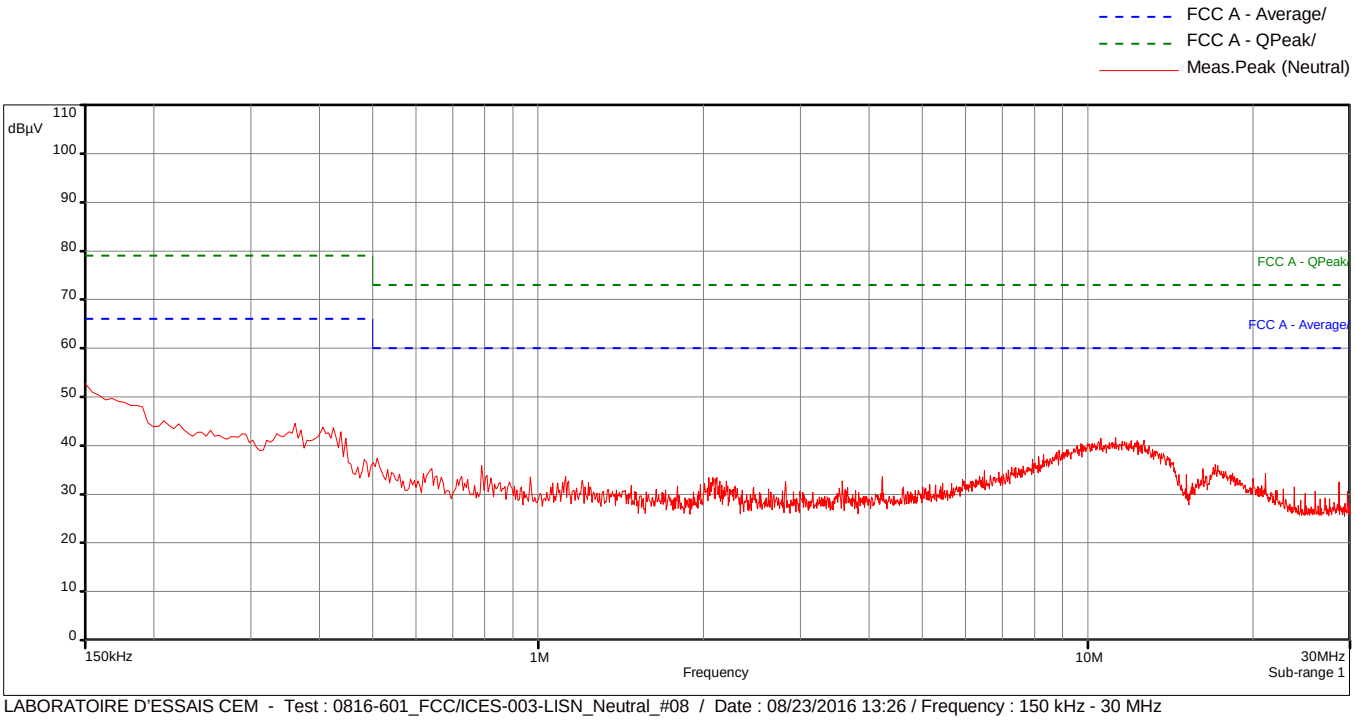
Tested Line	Frequency (MHz)	Detector	Level (dBµV)	Bandwidth (kHz)	Measurement Time (s)	Margin
Power – Phase (230V/50Hz)	Note 1	-	-	9 kHz	15	-
Power – Neutral (230V/50Hz)	Note 1	-	-	9 kHz	15	-
Conducted emission level (dBµV) = Value reading at the EMI receiver (dBµV) + Correction Factor (dB) Correction factor (dB) = LISN Attenuation (dB) + Cable Loss (dB) – Amplifier Gain (dB) + Attenuator (dB) Note 1 : No significant emission was noted						

Table 6 : Conducted Emissions – Lowest Margin according to EN55022 / EN55032



LABORATOIRE D'ESSAIS CEM - Test : 0816-601_FCC/ICES-003-LISN_Phase_#07 / Date : 08/23/2016 13:19 / Frequency : 150 kHz - 30 MHz

Graph 3 : Conducted Emissions – FCC part 15 Subpart B – Power – Phase



LABORATOIRE D'ESSAIS CEM - Test : 0816-601_FCC/ICES-003-LISN_Neutral_#08 / Date : 08/23/2016 13:26 / Frequency : 150 kHz - 30 MHz

Graph 4 : Conducted Emissions – FCC part 15 Subpart B – Power – Neutral

Tested Line	Frequency (MHz)	Detector	Level (dBµV)	Bandwidth (kHz)	Measurement Time (s)	Margin
Power – Phase (120V/60Hz)	Note 1	-	-	9 kHz	15	-
Power – Neutral (120V/60Hz)	Note 1	-	-	9 kHz	15	-
Conducted emission level (dBµV) = Value reading at the EMI receiver (dBµV) + Correction Factor (dB) Correction factor (dB) = LISN Attenuation (dB) + Cable Loss (dB) – Amplifier Gain (dB) + Attenuator (dB) Note 1 : No significant emission was noted						

Table 7 : Conducted Emissions – Lowest Margin according to FCC Part 15 Subpart B / ICES-003

Photo 15 : Conducted Emissions – Test Setup

8.1.5 Test Method

Conducted emissions were performed using the procedures of the reference standard.

Once the configuration or mode of operation causing the highest emission level (worst case) was determined, a scan was performed with the Peak detector in the frequency range specified by the reference standard.
Frequencies where level was above the limit or within 20dB of the limit were recorded. The level at these frequencies was measured with the detector specified by the limit.

8.2 Radiated Emissions

8.2.1 Test Details

REFERENCE STANDARD	EN55022 (2010) EN55032 (2012) FCC part 15 subpart B (2015) ICES-003 (2016)

SPECIFICATIONS	
Limit	EN55022 (2010) class A EN55032 (2012) classe A FCC part 15 subpart B (2015) class A ICES-003 (2016) class A
Frequency Range	30MHz – 2GHz
Measurement Distance	3m
Installation	Table-top equipment

EUT	
Identification	SHARE 2 (LABCEM#1137) + REMOTE
Voltage Input	230V/50Hz

TEST INFO	
Test Date (yyyy-mm-dd)	2016-08-23
Temperature °C (For Info Only)	23.6°C
Relative Humidity % (For Info Only)	46.5%
Atmospheric Pressure kPa (For Info Only)	102.2kPa
Operator	Quoc-Nhan Van
Client Witness	Denis Alain (Dextera Labs Inc.)

8.2.2 Test Equipment

Manufacturer	Description	Model	Serial No	Calibration Cycle (month)	Next Calibration (y-m-d)
NEXIO	Software	BAT-EMC v3.16.0.33	N/A	N/A	N/A
Agilent	EMI receiver	MXE N9038A	MY52130044	12	2016-10-10
TESEQ	Bilog antenna	CBL6112D	33825	24	2018-06-17
TESEQ	Horn antenna	BHA9118	33053	24	2016-10-07
Amplical	1GHz to 18GHz Amplifier	AMP1G18-30-N/PSU	121212	12	2017-08-01

Table 8 : Radiated Emissions – Test Equipment

8.2.3 Test Results

Frequency (MHz)	Quasi-Peak Limit extrapolated at 3m (dB«V/m)	Results
30 – 230	50.5	Pass
230 – 1000	57.5	Pass

Table 9 : Radiated Emissions – Test Results <1GHz – EN55022 Class A

Frequency (MHz)	Quasi-Peak Limit extrapolated at 3m (dB«V/m)	Results
30 – 230	50	Pass
230 – 1000	57	Pass

Table 10 : Radiated Emissions – Test Results <1GHz – EN55032 Class A

Frequency (MHz)	Quasi-Peak Limit extrapolated at 3m (dB«V/m)	Result
30 – 88	49.5	Pass
88 – 216	54.0	Pass
216 – 960	56.9	Pass
960 – 1000	60.0	Pass

Table 11 : Radiated Emissions – Test Results <1GHz – FCC Part 15 Subpart B / ICES-003 Class A

Frequency (GHz)	Average Limit at 3m (dB«V/m)	Peak Limit at 3m (dB«V/m)	Results
1 – 2	56	76	Pass

Table 12 : Radiated Emissions – Test Results >1GHz – EN55022 / EN55032 Class A

Frequency (GHz)	Average Limit extrapolated at 3m (dB«V/m)	Result
1 – 2	60	Pass

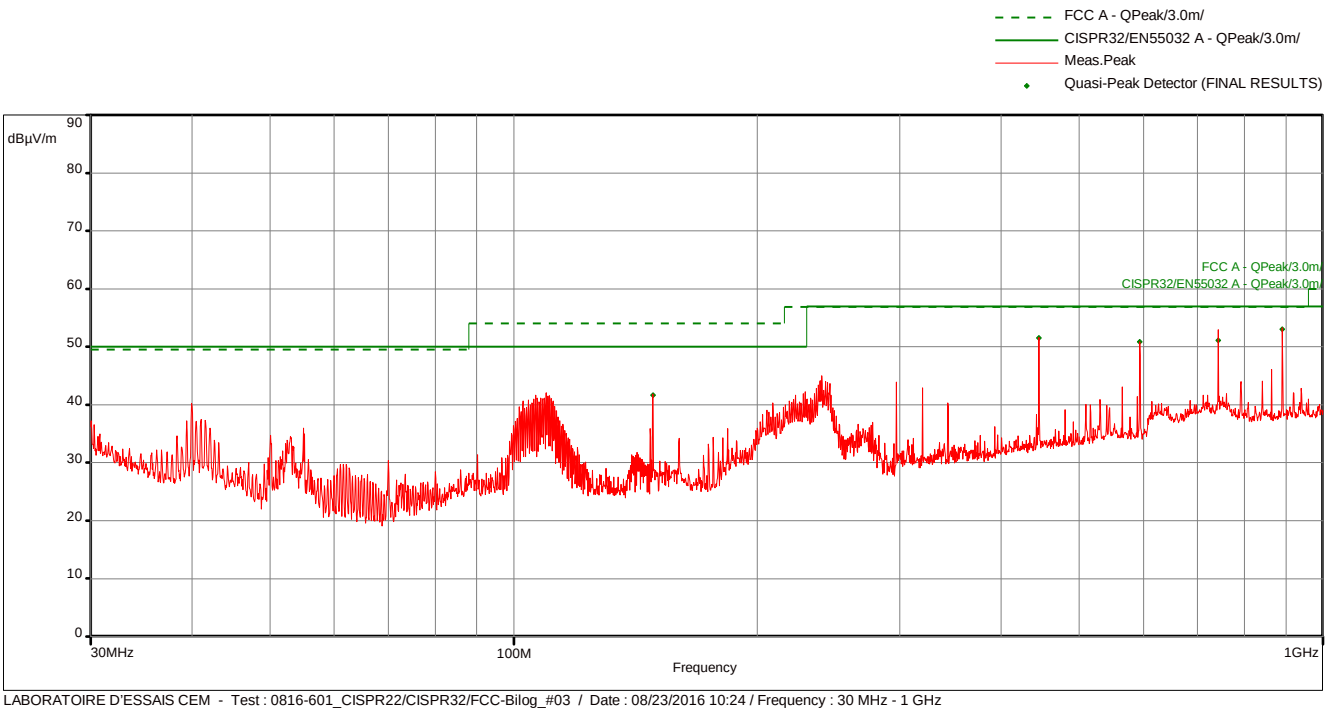
Table 13 : Radiated Emissions – Test Results >1GHz – FCC Part 15 Subpart B Class A

Frequency (GHz)	Average Limit extrapolated at 3m (dB«V/m)	Peak Limit extrapolated at 3m (dB«V/m)	Results
1 – 2	60	80	Pass

Table 14 : Radiated Emissions – Test Results >1GHz – ICES-003 Class A

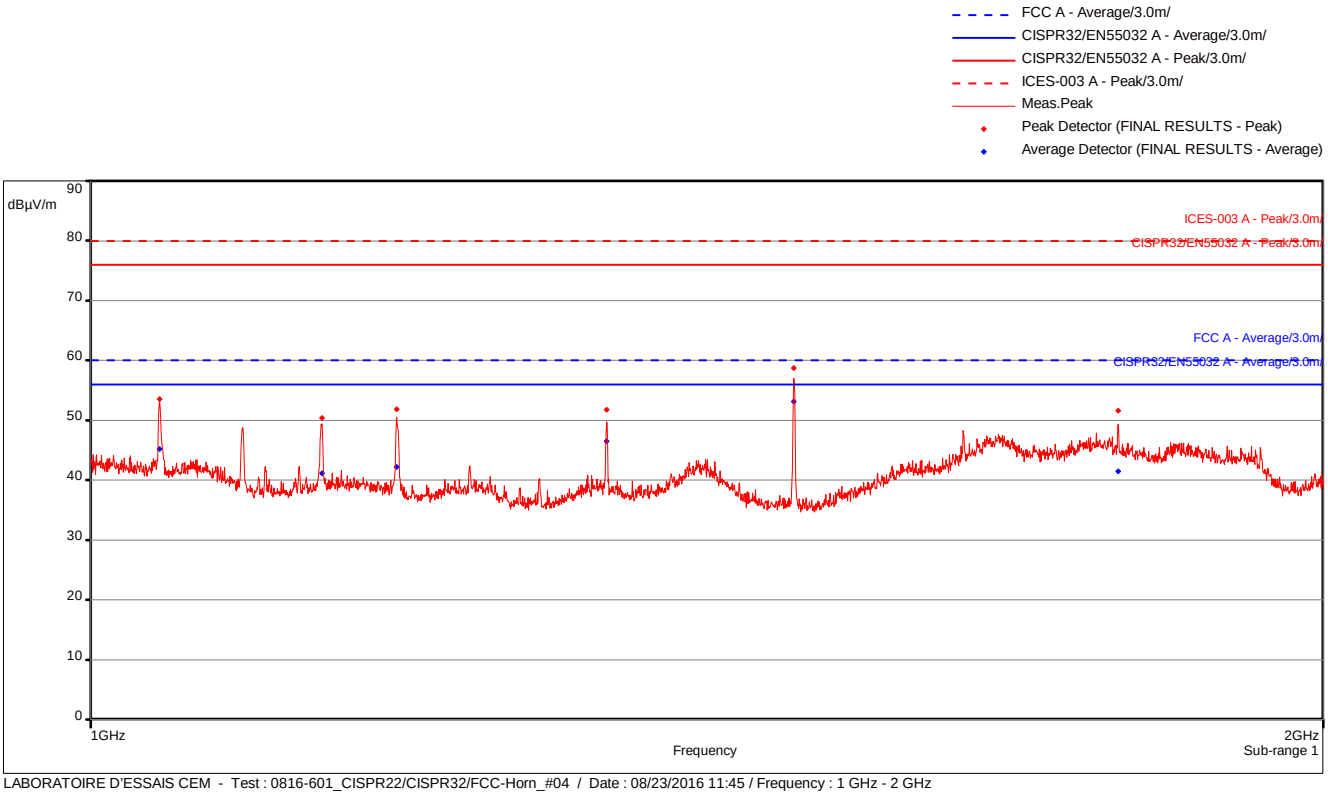
8.2.4 Test Data

See APPENDIX B for data files.



LABORATOIRE D'ESSAIS CEM - Test : 0816-601_CISPR22/CISPR32/FCC-Bilog_#03 / Date : 08/23/2016 10:24 / Frequency : 30 MHz - 1 GHz

Graph 5 : Radiated Emissions <1GHz



LABORATOIRE D'ESSAIS CEM - Test : 0816-601_CISPR22/CISPR32/FCC-Horn_#04 / Date : 08/23/2016 11:45 / Frequency : 1 GHz - 2 GHz

Graph 6 : Radiated Emissions >1GHz

Frequency (MHz)	Detector	Level (dB«V/m)	Bandwidth (kHz)	Measurement Time(s)	Margin (dB)
891.139	Quasi-Peak	53.04	120	15	4.46
1485.149	Average	53.12	1000	15	2.88
Radiated emission level (dBµV/m) = Value reading at the EMI receiver (dBµV) + Antenna Factor (dB/m) + Correction Factor (dB) Correction Factor (dB) = Cable Loss (dB) – Amplifier Gain (dB) + Attenuator (dB)					

Table 15 : Radiated Emissions – Lowest Margin according to CISPR22

Frequency (MHz)	Detector	Level (dB«V/m)	Bandwidth (kHz)	Measurement Time(s)	Margin (dB)
891.139	Quasi-Peak	53.04	120	15	3.96
1485.149	Average	53.12	1000	15	2.88
Radiated emission level (dBµV/m) = Value reading at the EMI receiver (dBµV) + Antenna Factor (dB/m) + Correction Factor (dB) Correction Factor (dB) = Cable Loss (dB) – Amplifier Gain (dB) + Attenuator (dB)					

Table 16 : Radiated Emissions – Lowest Margin according to CISPR32

Frequency (MHz)	Detector	Level (dB«V/m)	Bandwidth (kHz)	Measurement Time(s)	Margin (dB)
891.139	Quasi-Peak	53.04	120	15	3.86
1485.149	Average	53.12	1000	15	6.88
Radiated emission level (dBµV/m) = Value reading at the EMI receiver (dBµV) + Antenna Factor (dB/m) + Correction Factor (dB) Correction Factor (dB) = Cable Loss (dB) – Amplifier Gain (dB) + Attenuator (dB)					

Table 17 : Radiated Emissions – Lowest Margin according to FCC Part 15 Subpart B

Frequency (MHz)	Detector	Level (dB«V/m)	Bandwidth (kHz)	Measurement Time(s)	Margin (dB)
891.139	Quasi-Peak	53.04	120	15	3.96
1485.149	Average	53.12	1000	15	6.88
Radiated emission level (dBµV/m) = Value reading at the EMI receiver (dBµV) + Antenna Factor (dB/m) + Correction Factor (dB) Correction Factor (dB) = Cable Loss (dB) – Amplifier Gain (dB) + Attenuator (dB)					

Table 18 : Radiated Emissions – Lowest Margin according to ICES-003

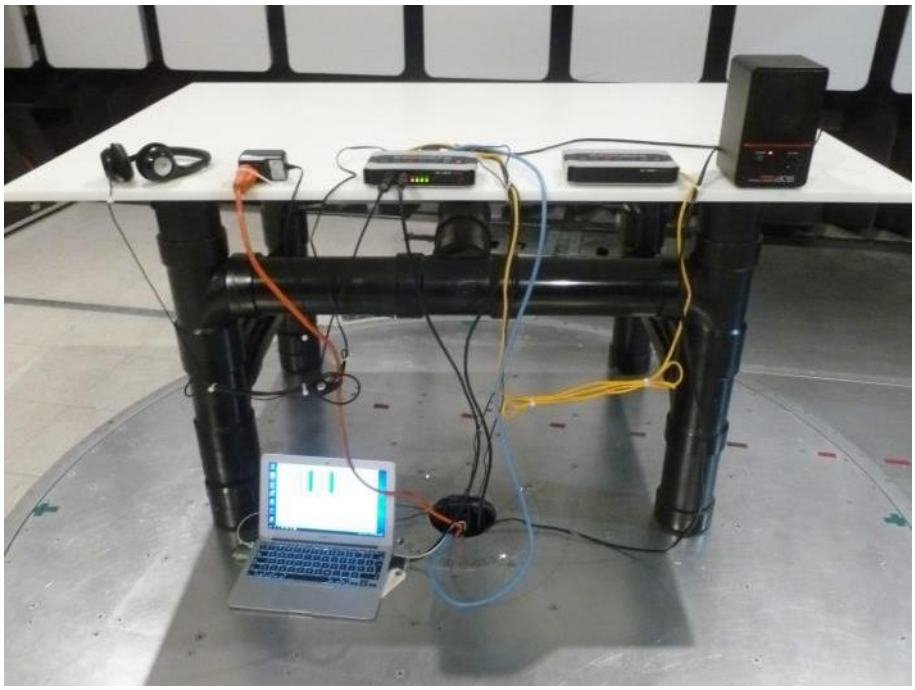


Photo 16 : Radiated Emissions – Test Setup

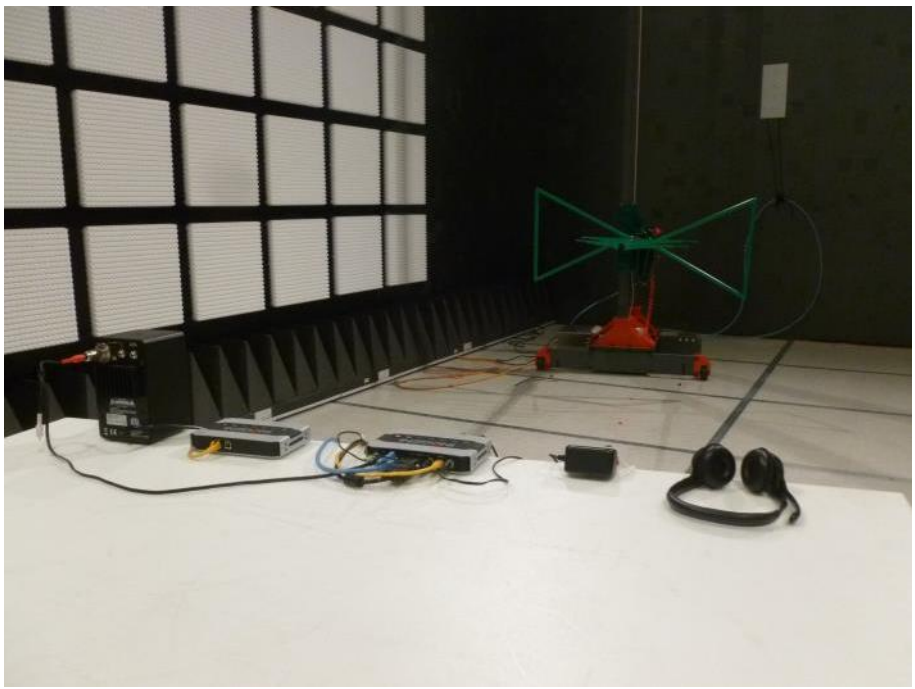


Photo 17 : Radiated Emissions – Test Setup <1GHz

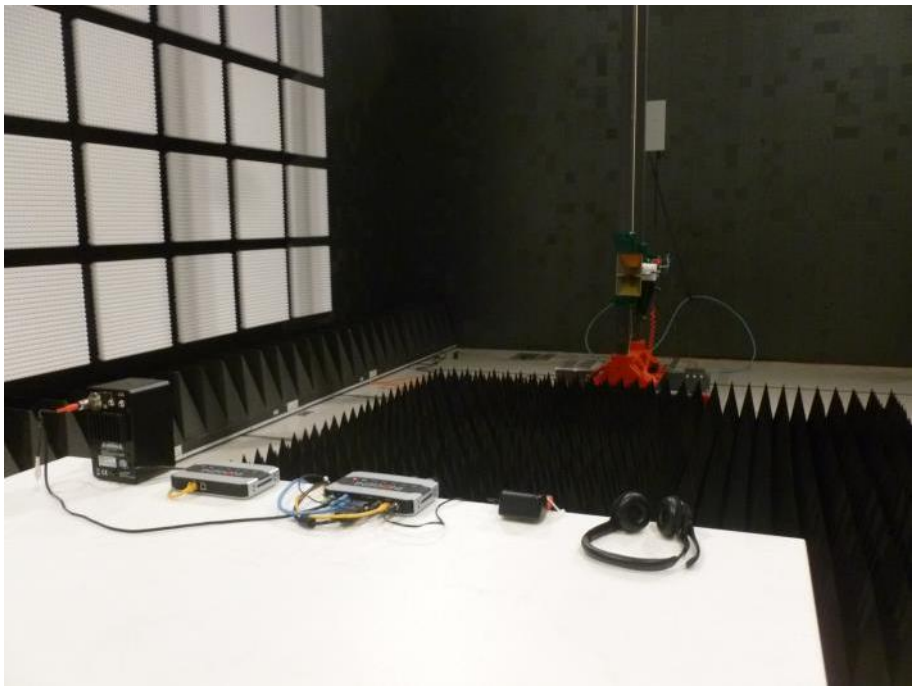


Photo 18 : Radiated Emissions – Test Setup >1GHz

Photo 19 : Radiated Emissions – Support Equipment #1

Photo 20 : Radiated Emissions – Support Equipment #2

8.2.5 Test Method

Radiated emissions were performed using the procedures of the reference standard.

Once the configuration or mode of operation causing the highest emission level (worst case) was determined, spectral previews were performed with the Peak detector in the frequency range specified by the reference standard.
Frequencies where level was above the limit or within 10 dB of the limit were recorded. The level at these frequencies was maximized and measured with the detector specified by the limit.

8.3 Voltage Fluctuations and Flicker Measurements

8.3.1 Test Details

REFERENCE STANDARD	EN61000-3-3 (2013)

SPECIFICATIONS	
P_{st} Observation Period	10 min
P_{lt} Observation Period	120 min

EUT	
Identification	SHARE 2 (LABCEM#1140) + REMOTE
Voltage Input	230V/50Hz
Manual Switching	NO

TEST INFO	
Test Date (yyyy-mm-dd)	2016-08-24
Temperature °C (For Info Only)	24.2°C
Relative Humidity % (For Info Only)	51.3%
Atmospheric Pressure kPa (For Info Only)	101.8kPa
Operator	Quoc-Nhan Van
Client Witness	No witness

8.3.2 Test Equipment

Manufacturer	Description	Model	Serial No	Calibration Cycle (month)	Next Calibration (y-m-d)
TESEQ	Software	Win2100 v4.9	N/A	N/A	N/A
TESEQ	AC-DC Power source	NSG 1007	1232A04499 (NSG 1007)	24	2017-08-12
TESEQ	Lumped impedance	CCN 1000-1	1232A04499 (CCN 1000-1)	24	2017-08-12

Table 19 : Voltage Fluctuations and Flicker Measurements – Test Equipment

8.3.3 Test Results

Parameters	Limit	Results
Short-term flicker value : P_{st}	1.0	Pass
Long-term flicker value : P_{lt}	0.65	Pass
Voltage change for more than 500ms : d(t)	3.3%	Pass
Relative steady state voltage change : dc	3.3%	Pass
Maximum relative voltage change : d_{max}	4%	Pass

Table 20 : Voltage Fluctuations and Flicker Measurements – Test Results

8.3.4 Test Data

See APPENDIX C for data files

Photo 21 : Voltage Fluctuations and Flicker Measurements– Test Setup

8.3.5 Test Method

Voltage fluctuations and flicker measurements were performed using the procedures of the reference standard.

9 IMMUNITY TESTS

9.1 Electrostatic Discharge Immunity

9.1.1 Test Details

REFERENCE STANDARD	IEC61000-4-2 (2008)

SPECIFICATIONS	
Test Level	Contact : ±4kV Air : ±8kV
Installation	Table-top equipment
Ungrounded Equipment	YES

PERFORMANCE CRITERION	B

EUT	
Identification	SHARE 2 (LABCEM#1140) + REMOTE
Voltage Input	230V/50Hz

TEST INFO		
Test Date (yyyy-mm-dd)	2016-08-23	2016-08-24
Temperature Min 15°C – Max 35°C	23.8°C	23.4°C
Relative Humidity Min 30% - Max 60%	47.3%	54.6.3%
Atmospheric Pressure Min 86kPa – 106kPa	102.0kPa	102.1kPa
Operator	Quoc-Nhan Van	Quoc-Nhan Van
Client Witness	Denis Alain (Dextera Labs Inc.)	No witness

9.1.2 Test Equipment

Manufacturer	Description	Model	Serial No	Calibration Cycle (month)	Next Calibration (y-m-d)
Vaisala	Thermo-Hygrometer	MI70/HMP77	H4610004/JO430012	12	2017-04-21
EMC-Partner	Discharge Generator	ESD3000	1550	12	2017-02-18
EMC-Partner	Relay Module	ESD3000RM32	1551	12	2017-02-18
EMC-Partner	Discharge Network 150pF/330Ohms	ESD3000DN1	1551	12	2017-02-18

Table 21 : ESD – Test Equipment

9.1.3 Test Results

Coupling Plane	Position	Polarity Test Level (kV)	Number	Time Interval (s)	Generator Perpendicular	Comments	Results
HCP	Front	±4	25+ / 25-	1	YES	No event	Pass
VCP	Front	±4	25+ / 25-	1	YES	No event	Pass
	Right	±4	25+ / 25-	1	YES	No event	Pass
	Rear	±4	25+ / 25-	1	YES	No event	Pass
	Left	±4	25+ / 25-	1	YES	No event	Pass

Table 22 : ESD – Test Results – Indirect Discharges – PSU

Coupling Plane	Position	Polarity Test Level (kV)	Number	Time Interval (s)	Generator Perpendicular	Comments	Results
HCP	Front	±4	25+ / 25-	1	YES	Note 1	Pass
VCP	Front	±4	25+ / 25-	1	YES	Note 1	Pass
	Right	±4	25+ / 25-	1	YES	Note 1	Pass
	Rear	±4	25+ / 25-	1	YES	Note 1 Note 2	Pass
	Left	±4	25+ / 25-	1	YES	Note 1	Pass
Note 1: Self-recoverable degradation – EUT lost the communication with the laptop but has recovered after a moment (~10sec) Note 2 :Due to cables, VCP was placed at 15cm from EUT.							

Table 23 : ESD – Test Results – Indirect Discharges – SHARE 2

Coupling Plane	Position	Polarity Test Level (kV)	Number	Time Interval (s)	Generator Perpendicular	Comments	Results
HCP	Front	±4	25+ / 25-	1	YES	Note 1	Pass
VCP	Front	±4	25+ / 25-	1	YES	No event	Pass
	Right	±4	25+ / 25-	1	YES	No event	Pass
	Rear	±4	25+ / 25-	1	YES	No event	Pass
	Left	±4	25+ / 25-	1	YES	No event	Pass
Note 1: Self-recoverable degradation – EUT lost the communication with the laptop but has recovered after a moment (~10sec)							

Table 24 : ESD – Test Results – Indirect Discharges – REMOTE

ESD point	ESD type	Test Level (kV)	Number	Time Interval (s)	Generator Perpendicular	Comments	Results
C1 to C16, C19	Contact	±4	25+ / 25-	1	YES	Note 1	Pass
C17, C18	Contact	±4	25+ / 25-	1	YES	Note 1 Note 2	Pass
NONE	Air	±2, ±4, ±8	25+ / 25-	1	N/A	Note 3	Pass
Note 1: Self-recoverable degradation – EUT lost the communication with the laptop but has recovered after a moment (~10sec) Note 2: The >EUT was discharged with a bleeder cable after each discharge Note 3: No possible air discharge on the EUT.							

Table 25 : ESD – Test Results – Direct Discharges – SHARE 2

ESD point	ESD type	Test Level (kV)	Number	Time Interval (s)	Generator Perpendicular	Comments	Results
C1 to C14	Contact	±4	25+ / 25-	1	YES	Note 1	Pass
NONE	Air	±2, ±4, ±8	25+ / 25-	1	N/A	Note 2	Pass
Note 1: Self-recoverable degradation – EUT lost the communication with the laptop but has recovered after a moment (~10sec) Note 2: No possible air discharge on the EUT.							

Table 26 : ESD – Test Results – Direct Discharges – REMOTE

9.1.4 Test Data

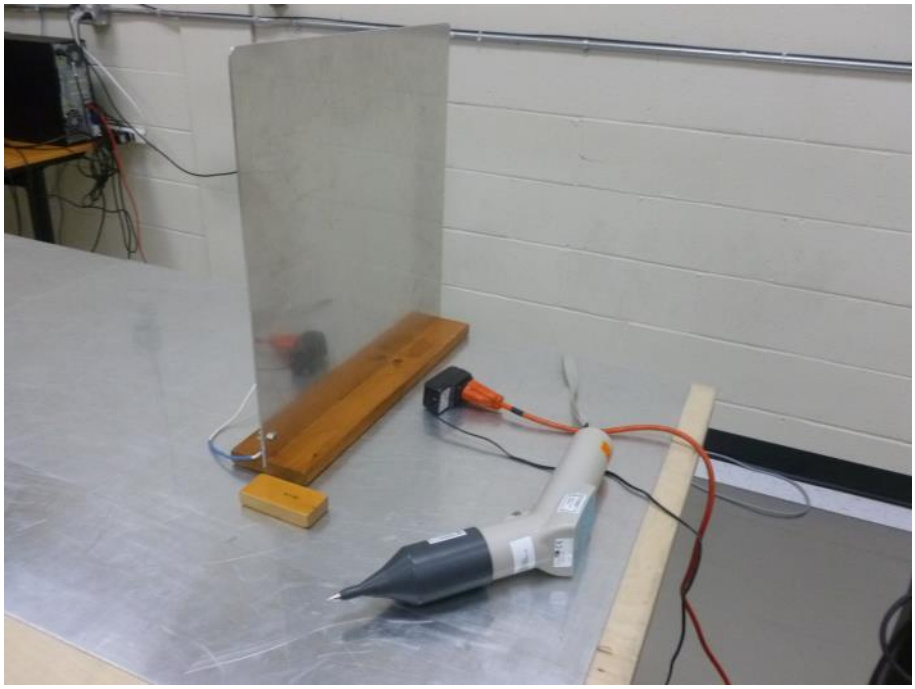


Photo 22 : ESD – Test Setup – PSU

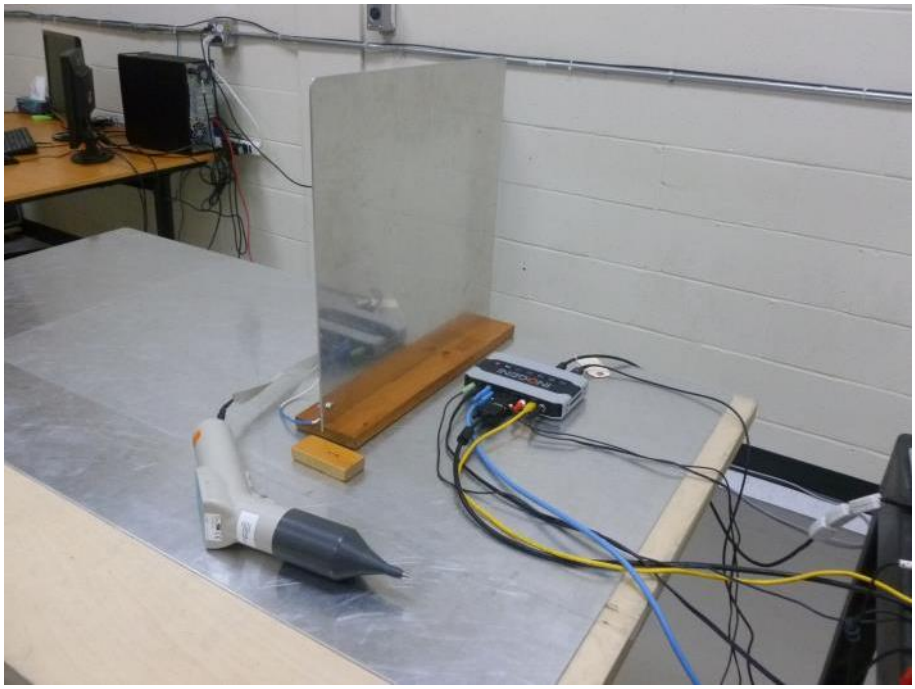


Photo 23 : ESD – Test Setup – SHARE 2

Photo 24 : ESD – Test Setup – REMOTE

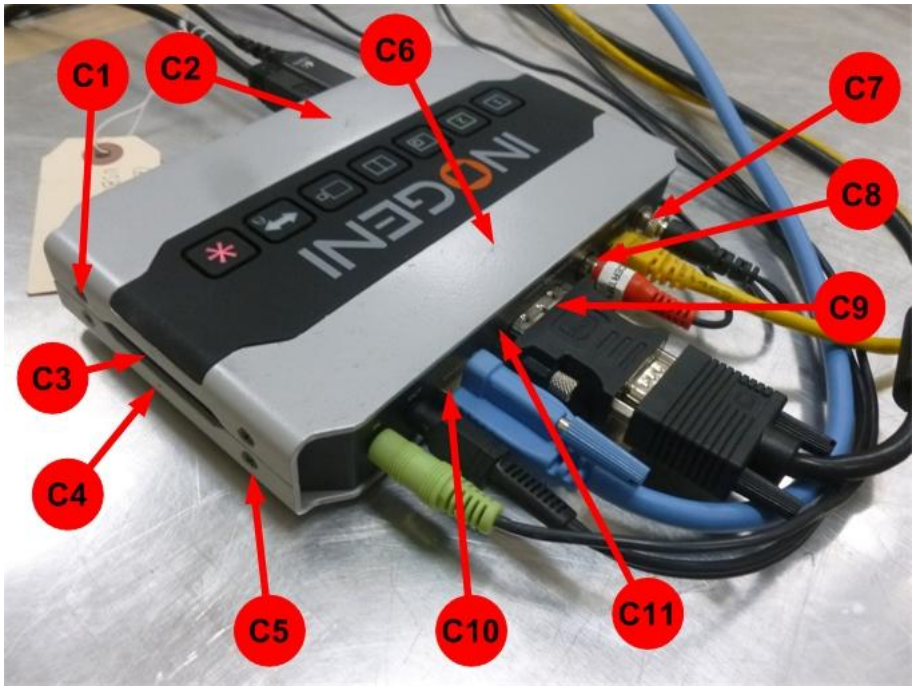


Photo 25 : ESD – Location of Discharge Point #1 – SHARE 2

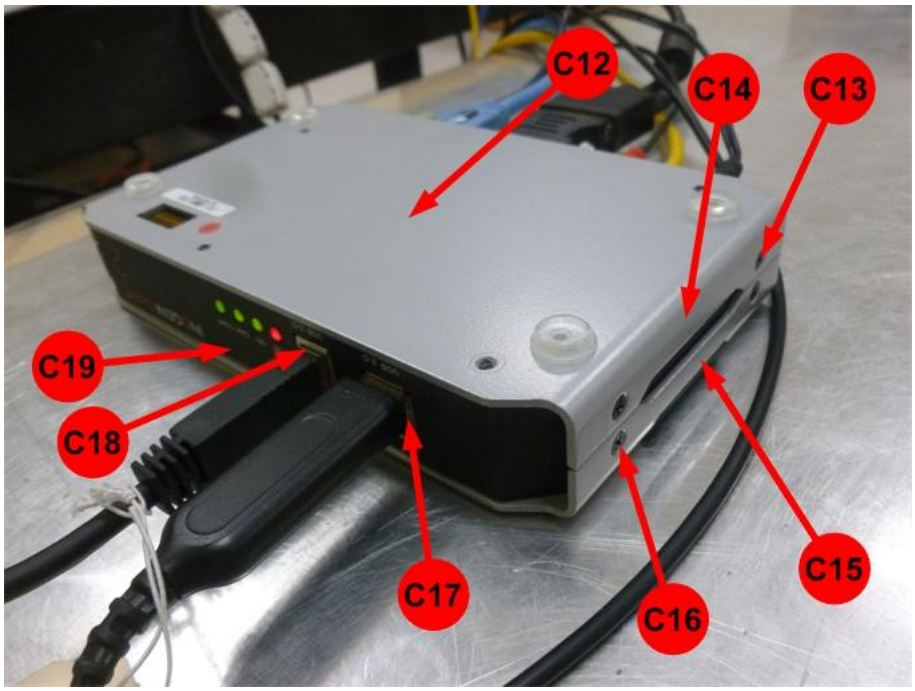


Photo 26 : ESD – Location of Discharge Points #2 – SHARE 2

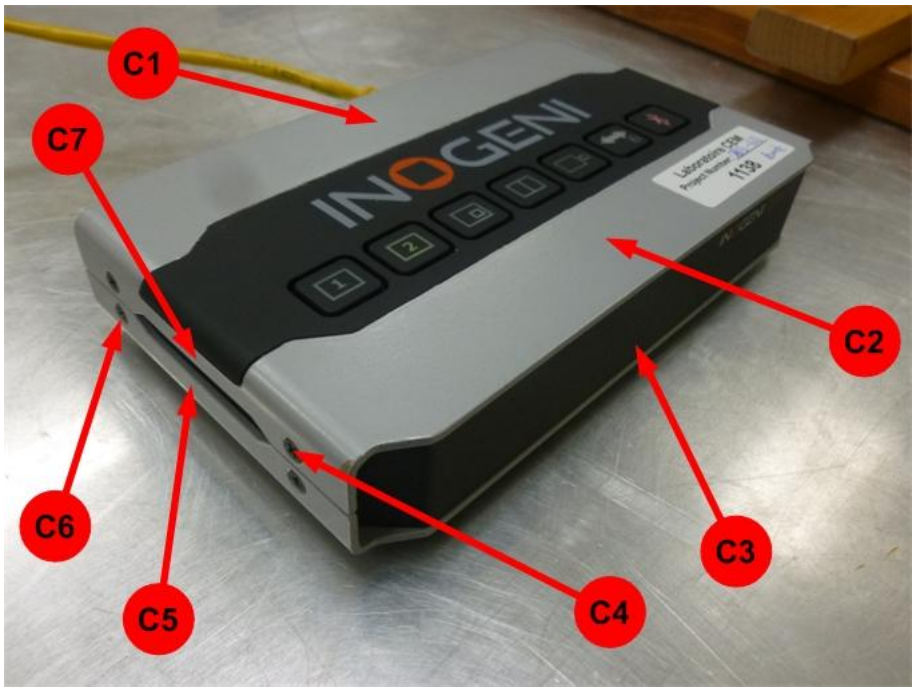


Photo 27 : ESD – Location of Discharge Points #1 – REMOTE

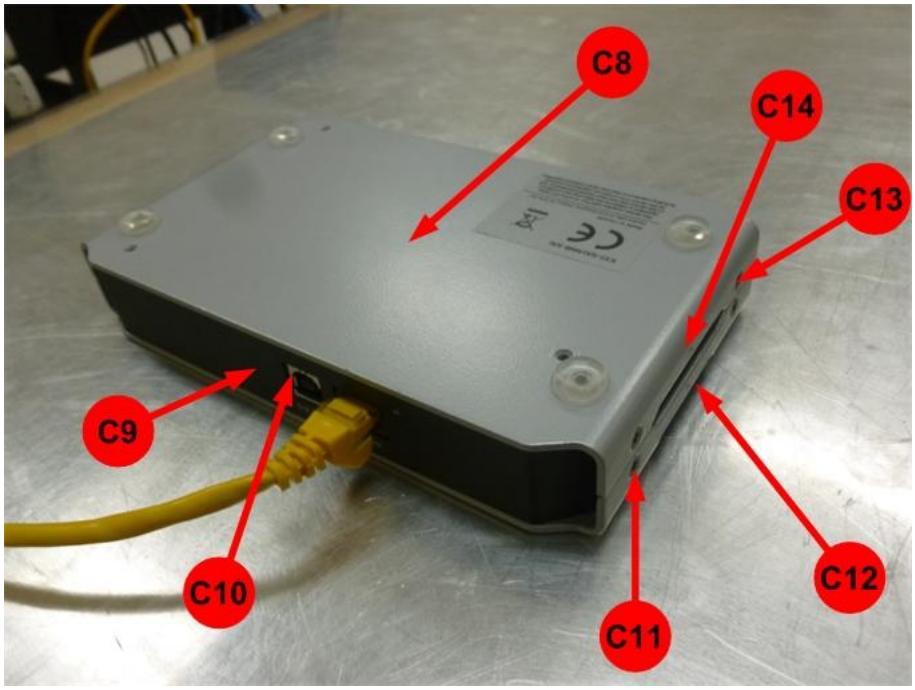


Photo 28 : ESD – Location of Discharge Points #2 – REMOTE

9.1.5 Test Method

Electrostatic discharge immunity tests were performed using the procedures of the reference standard.

Application of direct discharges was applied to points and surfaces of EUT which are accessible to person during normal use. If contact discharge cannot be applied, the air discharge method shall be performed.

Application of indirect discharges was applied to the horizontal coupling plane (0.1m from the front of EUT) and to vertical coupling plane (VCP is positioned at 0.1m from EUT in order to illuminate the four faces of EUT).

9.2 Radiated Electromagnetic Field Immunity

9.2.1 Test Details

REFERENCE STANDARD	IEC61000-4-3 (2006) A1 (2007) A2 (2010)

SPECIFICATIONS	
Frequency Range	80MHz-1000MHz
Test Level	3V/m
Test Distance	2.2m
Uniformity Field Area	1.5m x 1.5m
Modulation	AM 80% / 1kHz
Frequency Step	1%
Dwell Time	0.5s
Illuminated Face	4
Installation	Table-top equipment
EUT Size (SHARE 2)	Width = 18.2cm Height = 3.5cm Depth = 11cm
EUT Size (REMOTE)	Width = 18.2cm Height = 3.5cm Depth = 11cm

PERFORMANCE CRITERION	A

EUT	
Identification	SHARE 2 (LABCEM#1140) + REMOTE
Voltage Input	230V/50Hz

TEST INFO	
Test Date (yyyy-mm-dd)	2016-08-24
Temperature °C (For Info Only)	23.4°C
Relative Humidity % (For Info Only)	54.6.3%
Atmospheric Pressure kPa (For Info Only)	102.1kPa
Operator	Quoc-Nhan Van
Client Witness	No witness

9.2.2 Test Equipment

Manufacturer	Description	Model	Serial No	Calibration Cycle (month)	Next Calibration (y-m-d)
NEXIO	Software	BAT-EMC v3.16.0.33	N/A	N/A	N/A
TESEQ	Signal generator	ITS 6006	33007	12	2017-07-25
Werlatone	Directional coupler (80MHz-1GHz)	C3908-10	98552	NCR	NCR
Werlatone	Directional coupler (0.8GHz-3GHz)	C6721-10	98746	NCR	NCR
TESEQ	Power meter	PM 6006	72804	12	2017-07-25
TESEQ	Power meter	PM 6006	72805	12	2017-07-25
TESEQ	RF amplifier (80MHz-1GHz)	CBA 1G-500	T44193	NCR	NCR
Schwarzbeck	Antenna	STLP 9128 D special	9128DS 025	NCR	NCR
IFI	RF Amplifier (1GHz-6GHz)	S62-50	Q1539-0113	NCR	NCR
LABCEM	RF Unifomity Field 80MHz-1GHz (36V/m)	N/A	N/A	12	2017-08-01
Narda	Electric Field Probe	PMM EP600	501WX20410	12	2017-01-08

Table 27 : Radiated EM Field – Test Equipment

9.2.3 Test Results

Illuminated Face	Frequencies (MHz)	Test Level (V/m)	Modulation	Polarization	Comments	Results
Front	80 - 1000	3	AM / 1kHz	Horizontal Vertical	No event	Pass
Right	80 - 1000	3	AM / 1kHz	Horizontal Vertical	No event Note1	Pass
Rear	80 - 1000	3	AM / 1kHz	Horizontal Vertical	No event Note1	Pass
Left	80 - 1000	3	AM / 1kHz	Horizontal Vertical	No event	Pass
Note 1: 1m of cable was exposed to the electromagnetic field						

Table 28 : Radiated EM Field – Test Results

9.2.4 Test Data

Photo 29 : Radiated EM Field – Test setup – Front

Photo 30 : Radiated EM Field – Test setup – Right

Photo 31 : Radiated EM Field – Test setup – Rear

Photo 32 : Radiated EM Field – Test setup – Left

Photo 33 : Radiated EM Field – Test Setup

9.2.5 Test Method

Radiated field immunity tests were performed using the procedures of the reference standard.

9.3 Electrical Fast Transient Immunity

9.3.1 Test Details

REFERENCE STANDARD	IEC61000-4-4 (2012)

SPECIFICATIONS	
Test Level	Power Ports : ±1kV I/O Ports : ±0.5kV Communication Ports : ±0.5kV
Repetition Frequency	5kHz
Installation	Table-top equipment

PERFORMANCE CRITERION	B

EUT	
Identification	SHARE 2 (LABCEM#1140) + REMOTE
Voltage Input	230V/50Hz

TEST INFO	
Test Date (yyyy-mm-dd)	2016-08-25
Temperature °C (For Info Only)	23.6°C
Relative Humidity % (For Info Only)	58.1%
Atmospheric Pressure kPa (For Info Only)	99.9kPa
Operator	Quoc-Nhan Van
Client Witness	No witness

9.3.2 Test Equipment

Manufacturer	Description	Model	Serial No	Calibration Cycle (month)	Next Calibration (y-m-d)
TESEQ	Software	Win3000 v1.3.2	N/A	N/A	N/A
TESEQ	Multifunction generator	NSG 3040	1918	24	2017-08-18
TESEQ	EFT Clamp	CDN 3425	1730	VERIF	VERIF

Table 29 : EFT – Test Equipment

9.3.3 Test Results

Application between		Polarity Test level (kV)	Coupling Method	Repetition Frequency (kHz)	Test Duration By Polarity (s)	Comments	Results
between	and						
L, N	Reference ground plane	±1	CDN	5	60	No event	Pass

Table 30 : EFT – Test Results – CDN

Tested Line	Polarity Test level (kV)	Coupling Method	Repetition Frequency (kHz)	Test Duration By Polarity (s)	Comments	Results
Camera In (HDMI), Content In (VGA), Content In (COMP), RS-232 (SHARE 2)	±0.5	Capacitive clamp	5	60	Note 1	Pass
RS-232 (REMOTE)	±0.5	Capacitive clamp	5	60	No event	Pass
Note 1: Self-recoverable degradation – The display from the Camera In (HDMI) disappeared sometimes but has recovered instantly during the disturbance.						

Table 31 : EFT – Test Results – Capacitive Clamp

9.3.4 Test Data

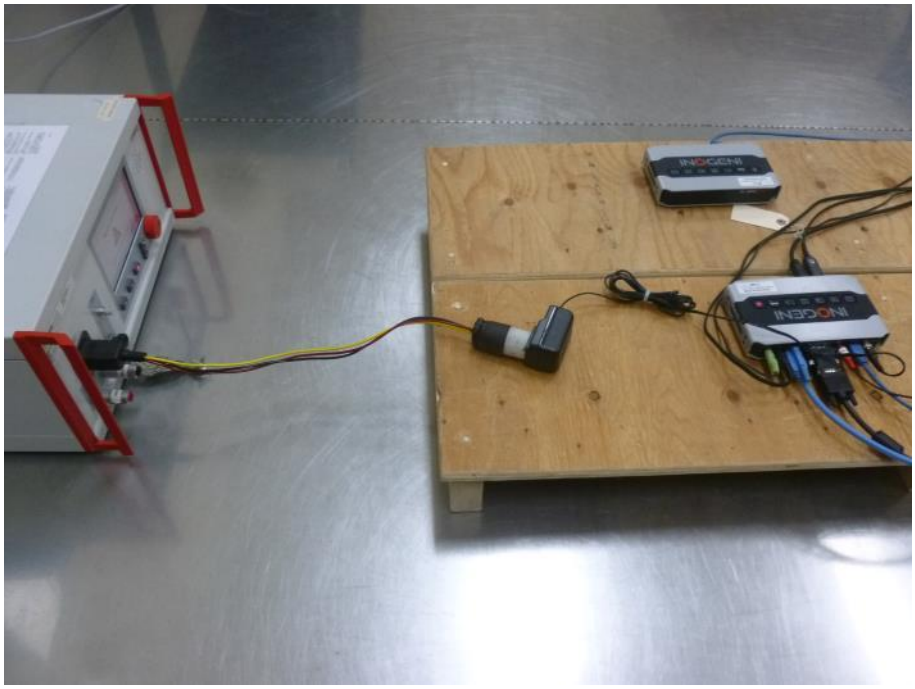


Photo 34 : EFT – Test Setup

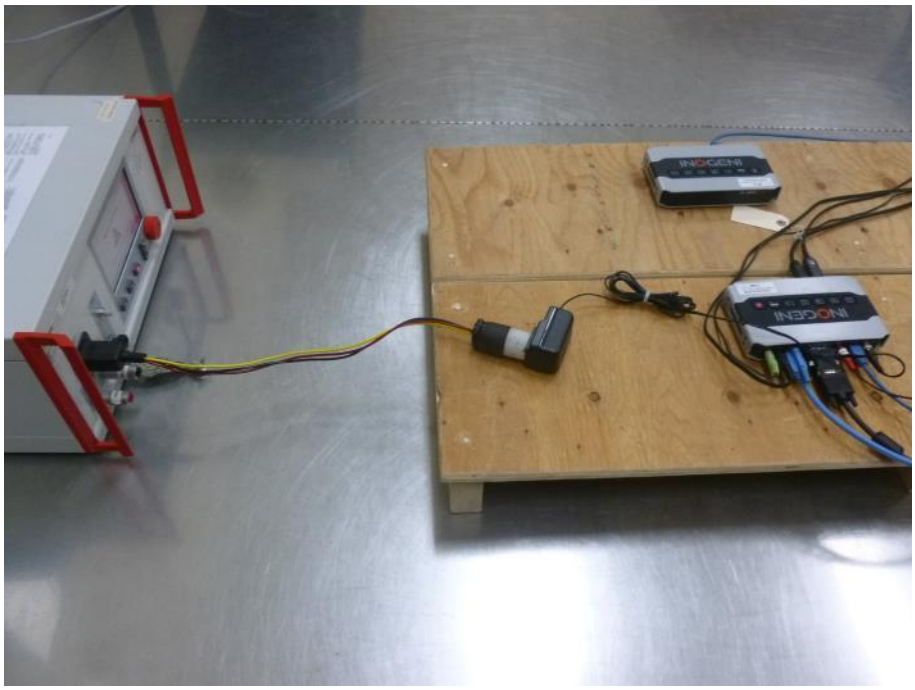


Photo 35 : EFT – Test Setup – CDN – Power

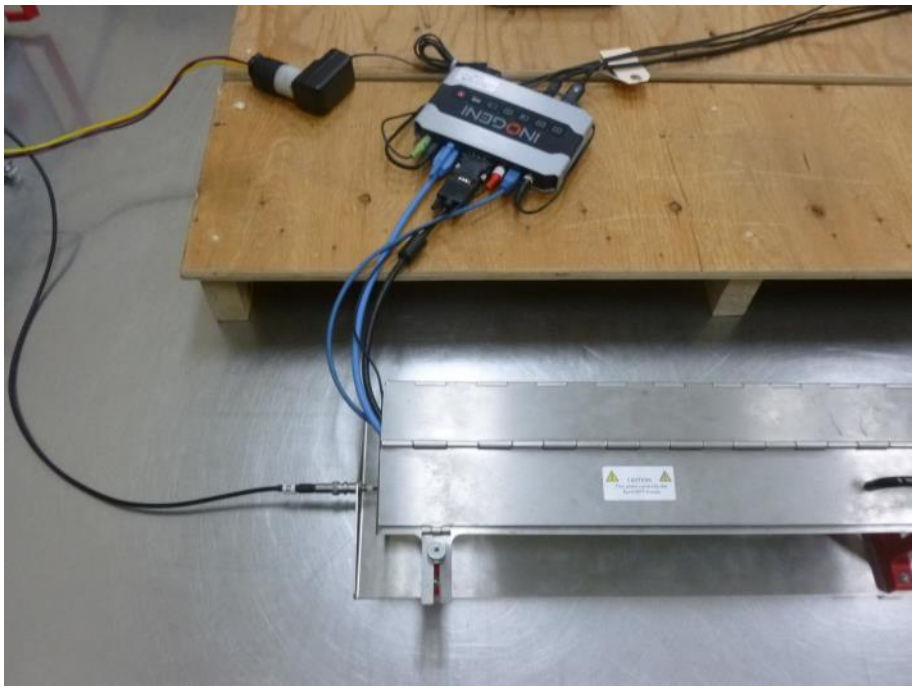


Photo 36 : EFT – Test Setup – Capacitive Clamp – Camera In (HDMI), Content In (VGA), Content In (COMP), RS-232 (SHARE 2)

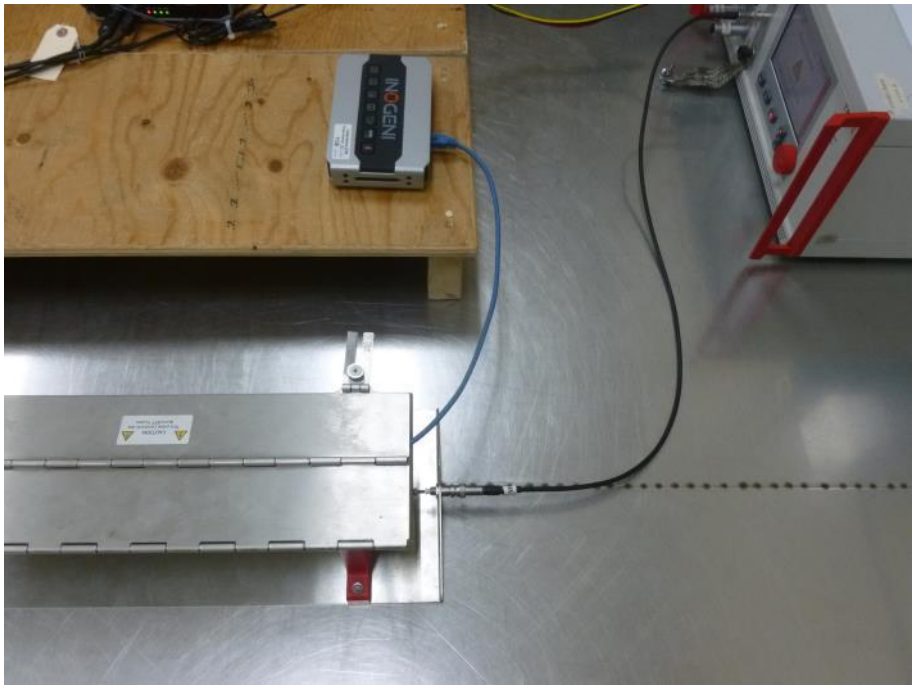


Photo 37 : EFT – Test Setup – Capacitive Clamp – RS-232 (REMOTE)

9.3.5 Test Method

Electrical fast transient immunity tests were performed using the procedures of the reference standard.

9.4 Surge Immunity

9.4.1 Test Details

REFERENCE STANDARD	IEC61000-4-5 (2014)

SPECIFICATIONS	
Waveform	Open-Circuit Voltage : 1.2µs/50µs Short-Circuit Current : 8µs/20µs
Test level	Power : ±2kV L-PE / ±1kV L-L I/O Ports : N/A Communication Ports : N/A

PERFORMANCE CRITERION	B

EUT	
Identification	SHARE 2 (LABCEM#1140) + REMOTE
Voltage Input	230V/50Hz

TEST INFO	
Test Date (yyyy-mm-dd)	2016-08-25
Temperature °C (For Info Only)	23.9°C
Relative Humidity % (For Info Only)	55.7%
Atmospheric Pressure kPa (For Info Only)	99.9kPa
Operator	Quoc-Nhan Van
Client Witness	No witness

9.4.2 Test Equipment

Manufacturer	Description	Model	Serial No	Calibration Cycle (month)	Next Calibration (y-m-d)
TESEQ	Software	Win3000 v1.3.2	N/A	N/A	N/A
TESEQ	Multifunction generator	NSG 3040	1918	24	2017-08-18

Table 32 : Surge – Test Equipment

9.4.3 Test Results

Application		Polarity Test Level (kV)	Additional Impedance	Number	Interval (s)	Phase Shifting (°)	Comments	Results
between	and							
L	PE	±0.5 ±1 ±2	10Ω	5+ / 5-	30	0, 90 180, 270	No event Note 1	Pass
N	PE	±0.5 ±1 ±2	10Ω	5+ / 5-	30	0, 90 180, 270	No event Note 1	Pass
L	N	±0.5 ±1	0Ω	5+ / 5-	30	0, 90 180, 270	No event	Pass
Note 1 : EUT without PE, no L vs PE test performed								

Table 33 : Surge – Test Results – Power Ports

9.4.4 Test Data

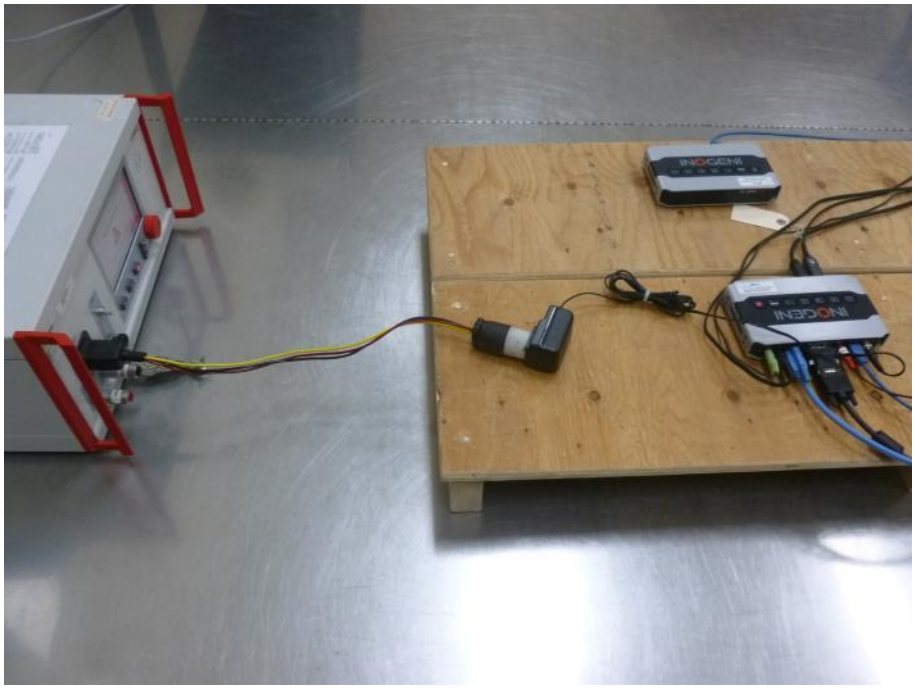


Photo 38 : Surge – Test Setup – Power Ports

9.4.5 Test Method

Surge immunity tests were performed using the procedures of the reference standard.

9.5 Conducted Disturbances Immunity

9.5.1 Test Details

REFERENCE STANDARD	IEC61000-4-6 (2013)

SPECIFICATIONS	
Test level	Power : 3Vrms I/O Ports : 3Vrms Communication Ports : 3Vrms
Frequency Range	150kHz-80MHz
Modulation	AM : 80% / 1kHz
Frequency Step	1%
Dwell Time	0.5s

PERFORMANCE CRITERION	A

EUT	
Identification	SHARE 2 (LABCEM#1140) + REMOTE
Voltage Input	230V/50Hz

TEST INFO	
Test Date (yyyy-mm-dd)	2016-08-24
Temperature °C (For Info Only)	24.5°C
Relative Humidity % (For Info Only)	51.1%
Atmospheric Pressure kPa (For Info Only)	102.1kPa
Operator	Quoc-Nhan Van
Client Witness	No witness

9.5.2 Test Equipment

Manufacturer	Description	Model	Serial No	Calibration Cycle (month)	Next Calibration (y-m-d)
NEXIO	Software	BAT-EMC v3.16.0.33	N/A	N/A	N/A
TESEQ	Conducted Immunity Test Generator	NSG 4070B-75	34302	12	2016-09-17
TESEQ	CDN M3	CDN M316	33960	24	2016-09-18
TESEQ	CDN M2	CDN M216	32740	24	2016-09-18
TESEQ	EM Clamp	KEMZ 801A	33460	24	2016-09-17
TESEQ	RF Current Clamp	MD 4070	33320	24	2016-09-16
TESEQ	Attenuation Clamp	KEMA 801A	33174	NCR	NCR
TESEQ	Attenuation Clamp	KEMA 801A	34759	NCR	NCR
Luthi	Attenuation Clamp	FTC 101	5061	NCR	NCR
Pasternack	6dB Fixed Attenuator	PE7385-6	1537	NCR	NCR
LABCEM	Laboratory 3 - Conducted Voltage Immunity Calibration CDN-M2 - CI Injection Cable	N/A	N/A	12	2017-03-15
LABCEM	Laboratory 3 - Conducted Voltage Immunity Calibration EM Clamp - CI Injection Cable + CI Monitoring Cable	N/A	N/A	12	2017-03-15

Table 34 : Conducted Disturbances – Test Equipment

9.5.3 Test Results

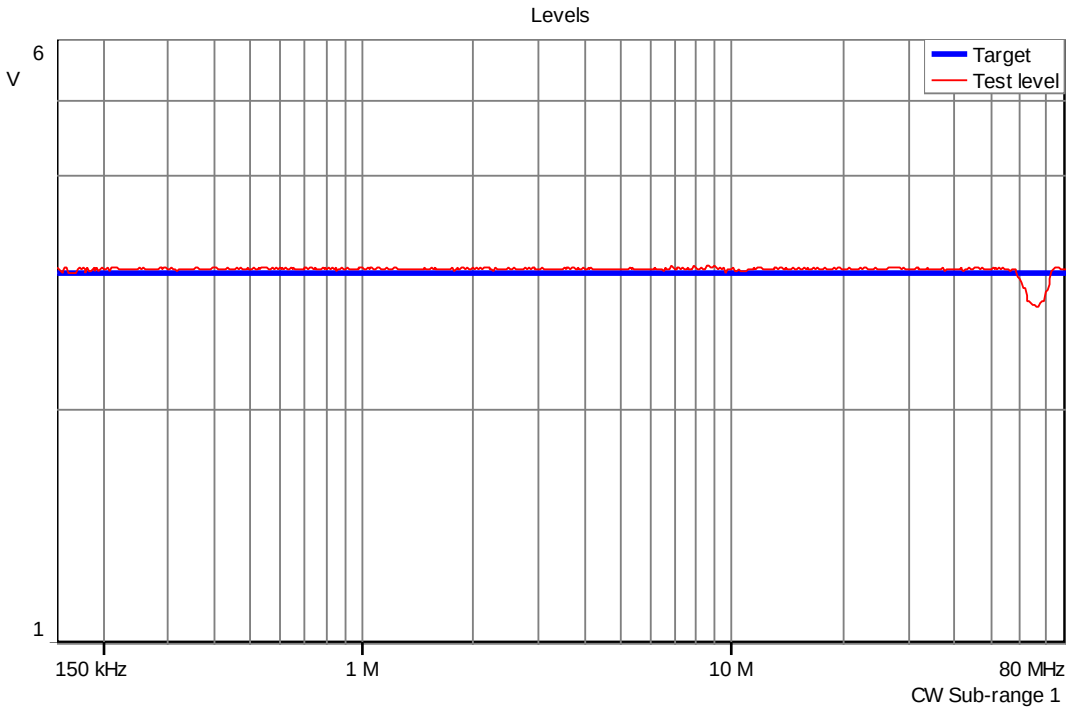
Tested Line	Coupling Method	Frequency (MHz)	Test Level (V)	Modulation	Comments	Results
Power (230V/50Hz)	CDN-M2	0.150 - 80	3	AM / 1kHz	No event	Pass

Table 35 : Conducted Disturbances – Test Results – CDN

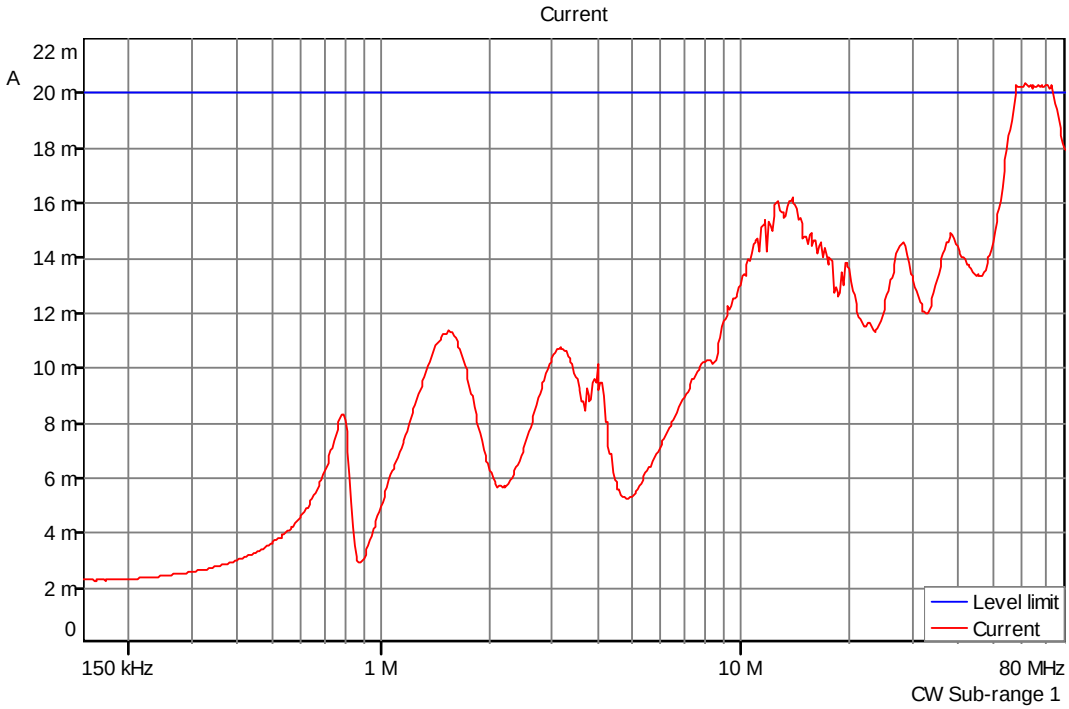
Tested Line	Coupling Method	Frequency (MHz)	Test Level (V)	Modulation	Comments	Results
Camera In (HDMI), Content In (VGA), Content In (COMP)	EM Clamp	0.150 - 80	3	AM / 1kHz	No event	Pass
RS-232 (SHARE 2)	EM Clamp	0.150 - 80	3	AM / 1kHz	No event	Pass
RS-232 (REMOTE)	EM Clamp	0.150 – 80	3	AM / 1kHz	No event	Pass

Table 36 : Conducted Disturbances – Test Results – EM Clamp

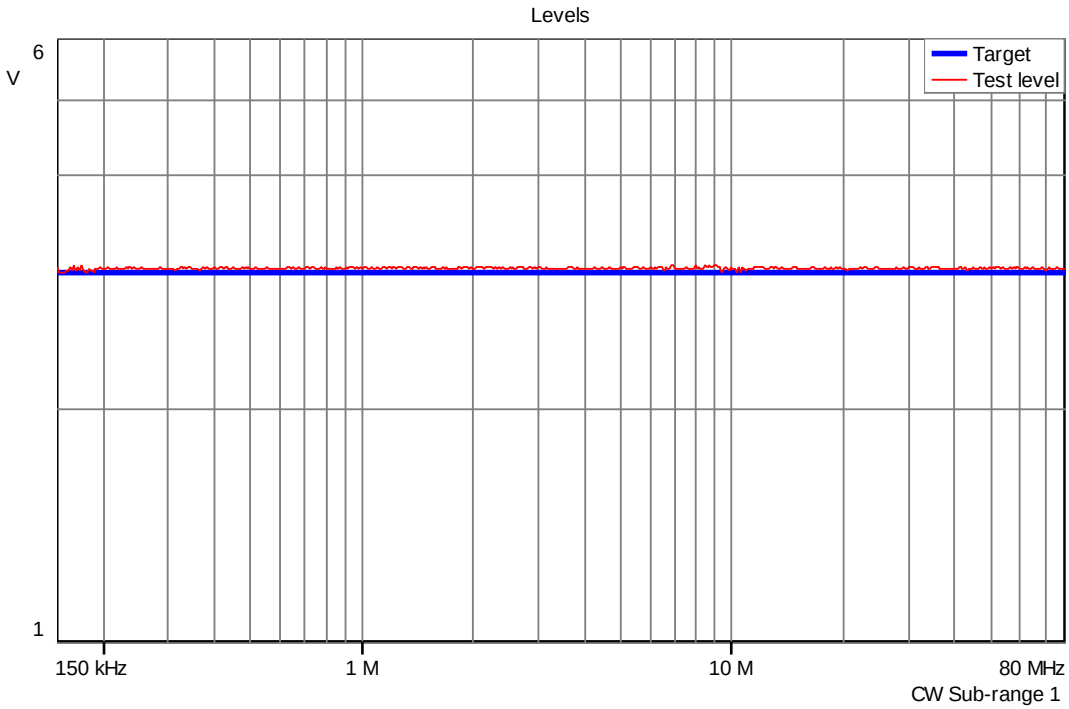
9.5.4 Test Data



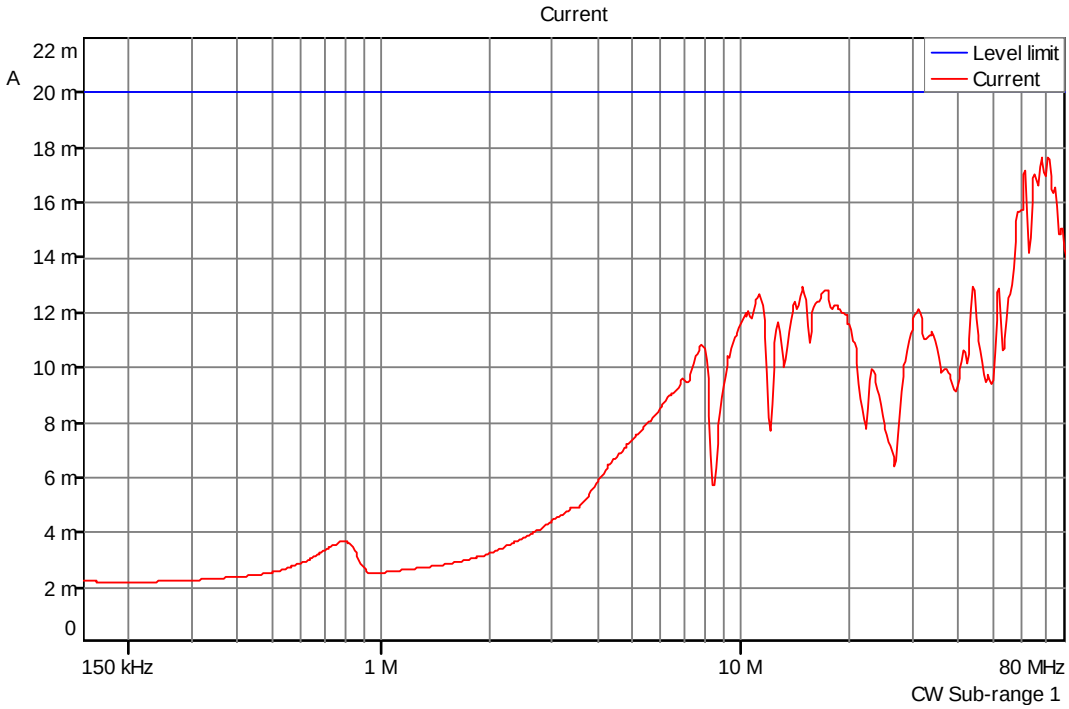
Graph 7 : Conducted Disturbances – Voltage Level – EM Clamp – Camera In (HDMI), Content In (VGA), Content In (COMP)



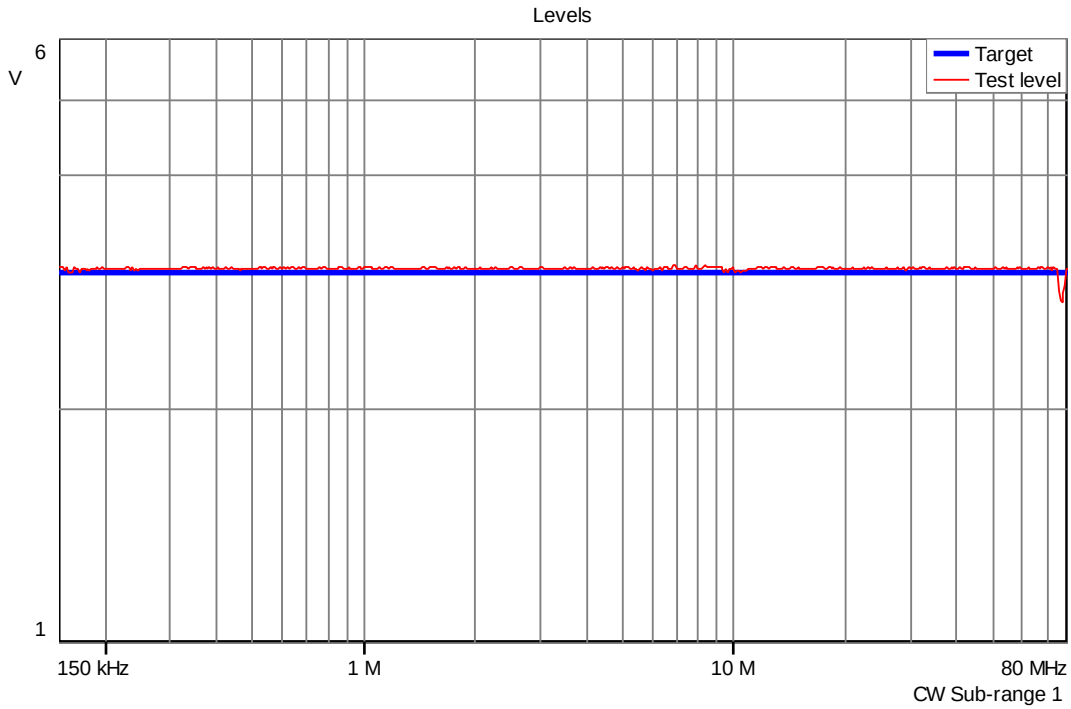
Graph 8 : Conducted Disturbances – Current Measurements – EM Clamp – Camera In (HDMI), Content In (VGA), Content In (COMP)



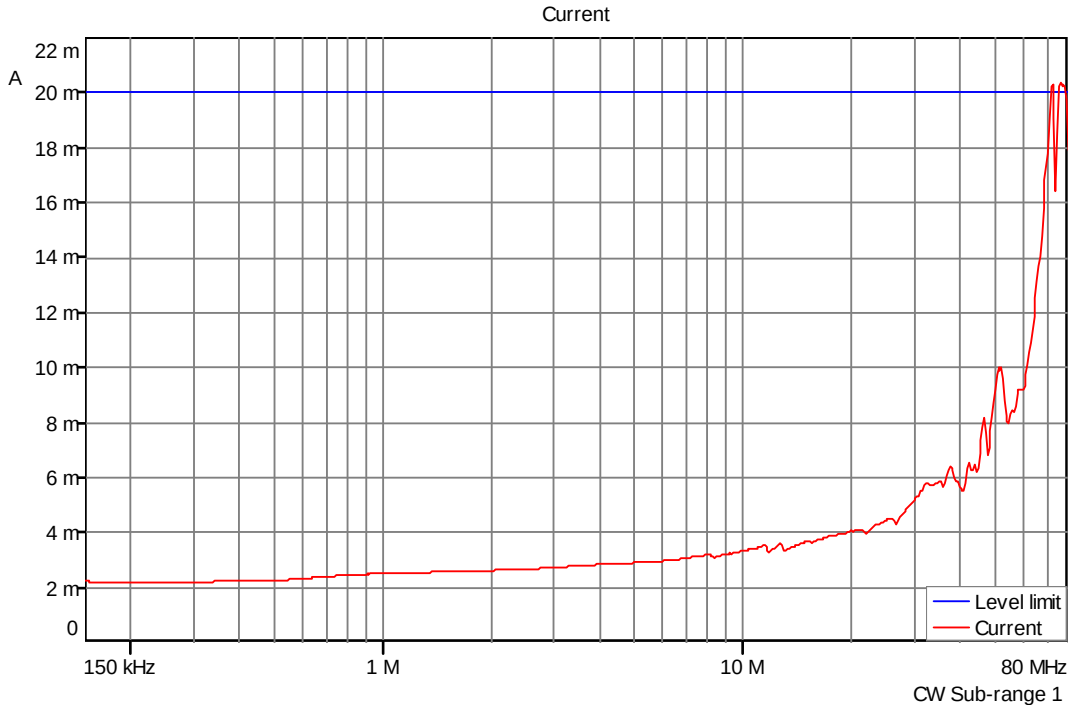
Graph 9 : Conducted Disturbances – Voltage Level – EM Clamp – RS-232 (SHARE 2)



Graph 10 : Conducted Disturbances – Current Measurements – EM Clamp – RS-232 (SHARE 2)



Graph 11 : Conducted Disturbances – Voltage Level – EM Clamp – RS-232 (REMOTE)



Graph 12 : Conducted Disturbances – Current Measurements – EM Clamp – RS-232 (REMOTE)

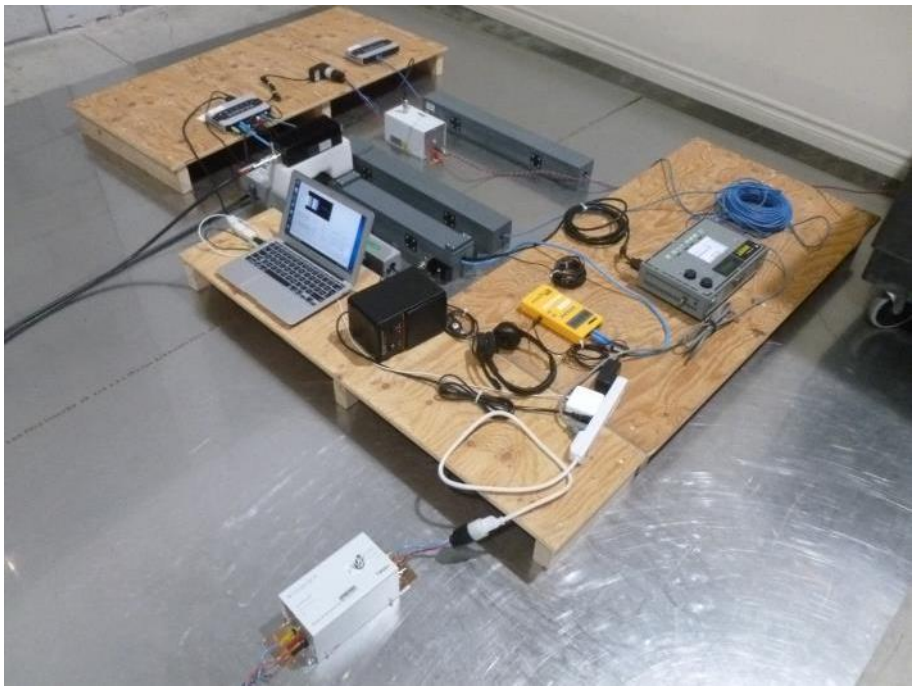


Photo 39 : Conducted Disturbances – Test Setup

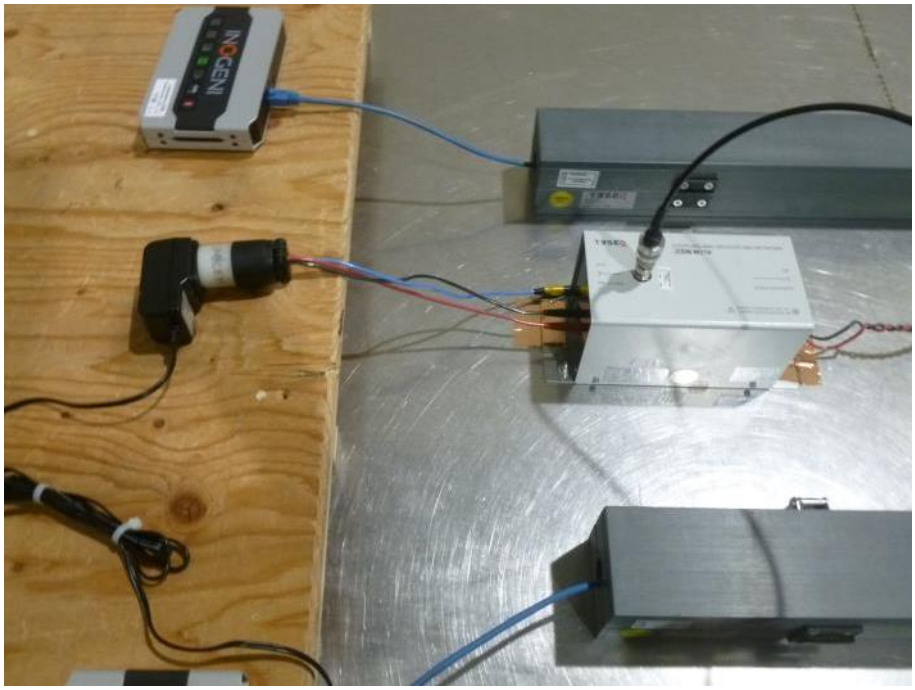


Photo 40 : Conducted Disturbances – Test Setup – CDN – Power

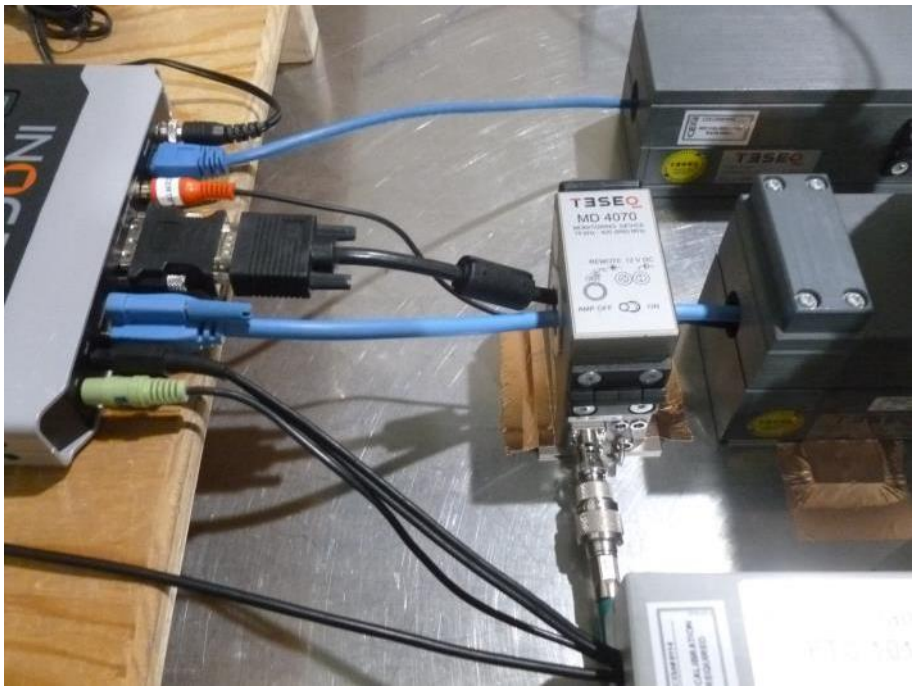


Photo 41 : Conducted Disturbances – Test Setup – EM Clamp – Camera In (HDMI), Content In (VGA), Content In (COMP)

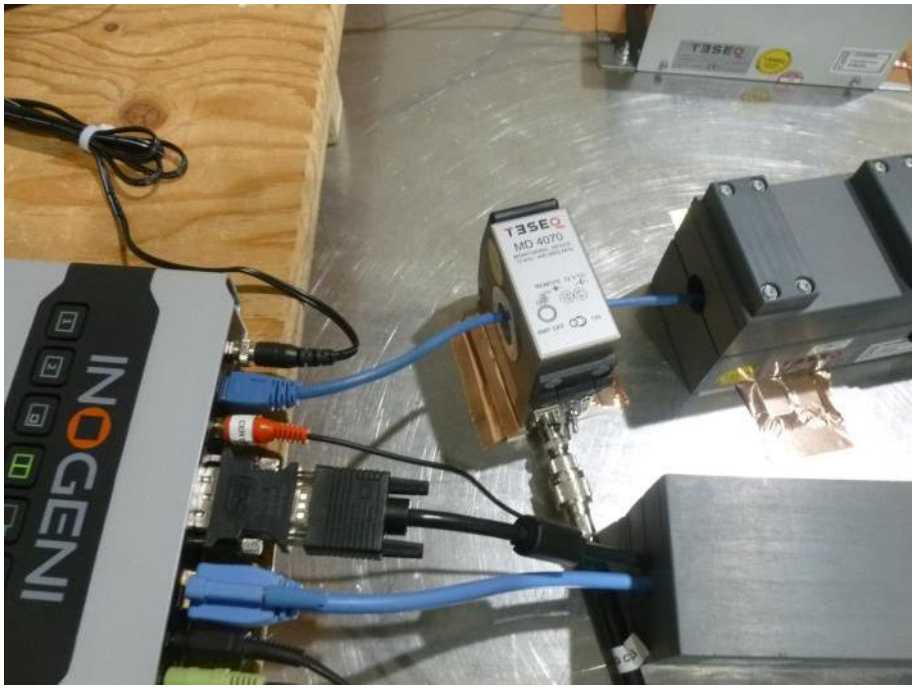


Photo 42 : Conducted Disturbances – Test Setup – EM Clamp – RS-232 (SHARE 2)

Photo 43 : Conducted Disturbances – Test Setup – EM Clamp – RS-232 (REMOTE)

9.5.5 Test Method

Conducted Disturbances immunity tests were performed using the procedures of the reference standard.

9.6 Power Frequency Magnetic Field Immunity

9.6.1 Test Details

REFERENCE STANDARD	IEC61000-4-8 (2009)

SPECIFICATIONS	
Test Level	Continuous field : 1A/m (60s)
Frequency	50Hz / 60Hz
Induction Coil	1m x 1m

PERFORMANCE CRITERION	A

EUT	
Identification	SHARE 2 (LABCEM#1140) + REMOTE
Voltage Input	230V/50Hz

TEST INFO	
Test Date (yyyy-mm-dd)	2016-08-24
Temperature °C (For Info Only)	24.4°C
Relative Humidity % (For Info Only)	48.9%
Atmospheric Pressure kPa (For Info Only)	101.9kPa
Operator	Quoc-Nhan Van
Client Witness	No witness

9.6.2 Test Equipment

Manufacturer	Description	Model	Serial No	Calibration Cycle (month)	Next Calibration (y-m-d)
TESEQ	Software	Win2120 v6.0 BETA	N/A	N/A	N/A
TESEQ	AC-DC Power source	NSG 1007	1232A04499 (NSG 1007)	24	2017-08-12
TESEQ	Magnetic coil interface	INA 2141	1417	NCR	NCR
TESEQ	Magnetic coil	INA 703	1978	NCR	NCR
F.W. Bell	ELF Meter	4190	1237005	24	2016-09-17

Table 37 : Magnetic Field – Test Equipment

9.6.3 Test Results

Position	Frequency (Hz)	Test Level (A/m)	Test Duration (s)	Comments	Results
1	50	1	60	No event	Pass
1	60	1	60	No event	Pass
2	50	1	60	No event	Pass
2	60	1	60	No event	Pass
3	50	1	60	No event	Pass
3	60	1	60	No event	Pass

Table 38 : Magnetic Field – Test Results

Test Data

Photo 44 : Magnetic Field – Test Setup – Position #1

Photo 45 : Magnetic Field – Test Setup – Position #2

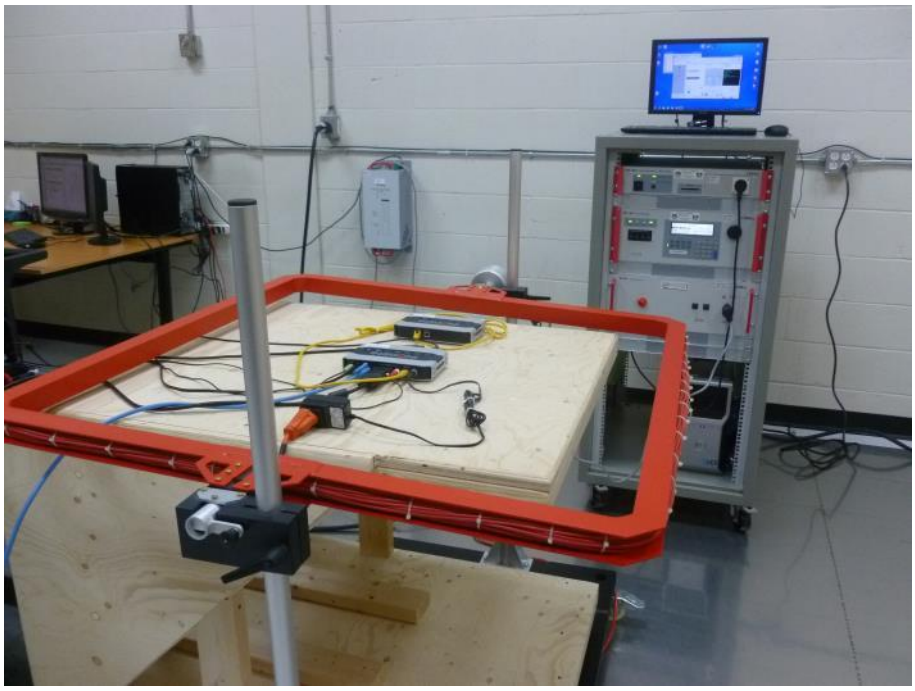


Photo 46 : Magnetic Field – Test Setup – Position #3

9.6.4 Test Method

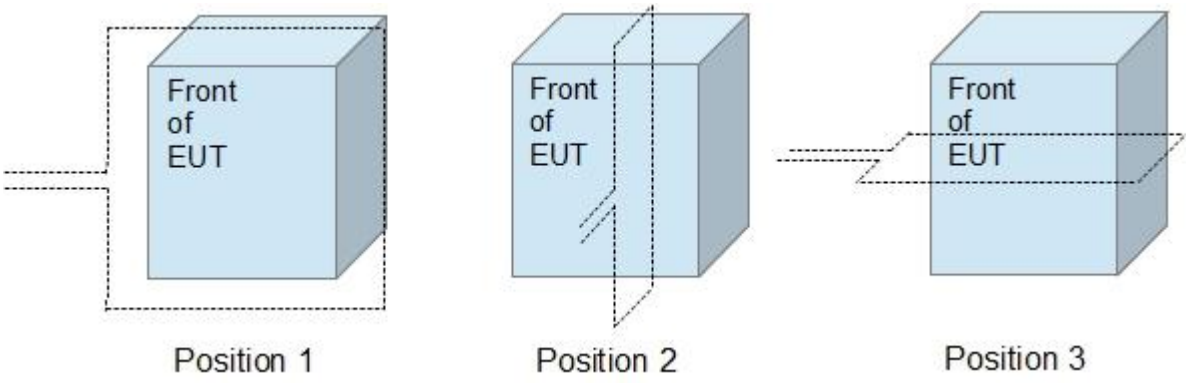


Figure 2 : Position of Induction Coil

Power frequency field magnetic immunity tests were performed using the procedures of the reference standard.

9.7 Voltage Dips, Short Interruptions and Voltage Variation Immunity on AC input

9.7.1 Test Details

REFERENCE STANDARD	IEC61000-4-11 (2004)

SPECIFICATIONS	
Voltage Dips	0%Un : ½ cycle 70%Un : 25 cycles
Short Interruptions	0%Un : 250 cycles

PERFORMANCE CRITERION	0%Un / ½ cycle : B 70%Un / 25 cycles : C 0%Un / 250 cycles : C

EUT	
Identification	SHARE 2 (LABCEM#1140) + REMOTE
Voltage Input	230V/50Hz

TEST INFO	
Test Date (yyyy-mm-dd)	2016-08-25
Temperature °C (For Info Only)	23.6°C
Relative Humidity % (For Info Only)	59.1%
Atmospheric Pressure kPa (For Info Only)	99.9kPa
Operator	Quoc-Nhan Van
Client Witness	No witness

9.7.2 Test Equipment

Manufacturer	Description	Model	Serial No	Calibration Cycle (month)	Next Calibration (y-m-d)
TESEQ	Software	Win3000 v1.3.2	N/A	N/A	N/A
TESEQ	Multifunction generator	NSG 3040	1918	24	2017-08-18
TESEQ	Step transformer	INA 6502	190	24	2017-08-18

Table 39 : Voltage Variations on AC Input – Test Equipment

9.7.3 Test Results

Tested line	Test Level (% Un)	Duration (Cycle)	Number	Interval (s)	Phase Shifting (°)	Comments	Results
Power (230V/50Hz)	0	1/2	3	10	0, 180	No event	Pass
	70	25	3	10	0, 180	No event	Pass
	0	250	3	10	0, 180	Note 1	Pass
Note 1: Self-recoverable degradation, the EUT resets, test software were manually re-enabled at the end of disturbance.							

Table 40 : Voltage Variations on AC Input – Test Results

9.7.4 Test Data

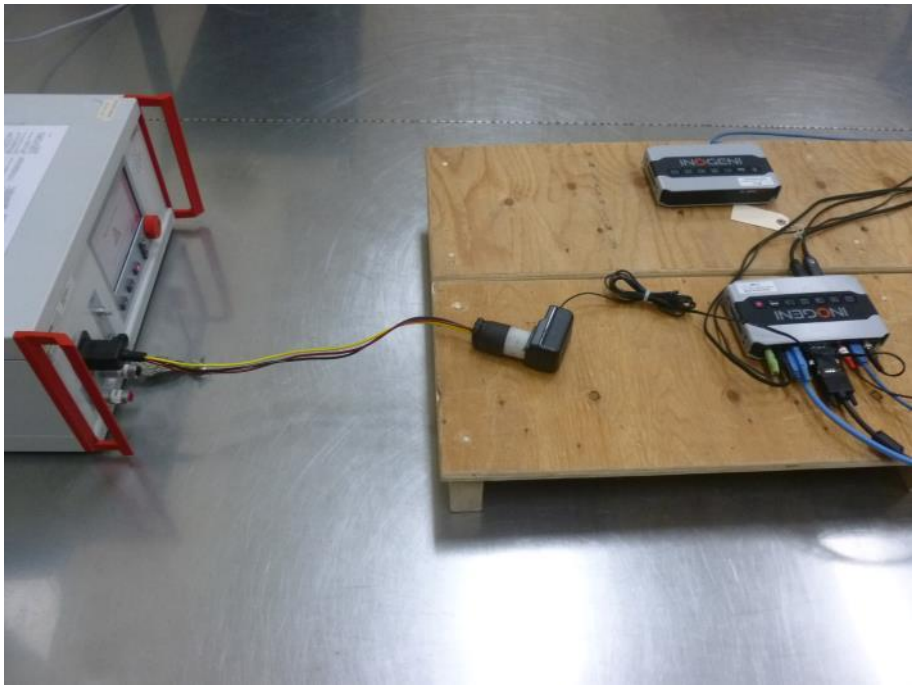


Photo 47 : Voltage Variations on AC Input – Test Setup

9.7.5 Test Method

Voltage dips, short interruptions and voltage variation on AC Input immunity tests were performed using the procedures of the reference standard.

APPENDIX A
CONDUCTED EMISSIONS

CONDUCTED EMISSIONS - VOLTAGE
page 1 / 2

Project :	*Customer :*

DESCRIPTION OF EQUIPMENT UNDER TEST (EUT)

Equipment : Share 2 + Remote
Manufacturer : Dextera Labs Inc.
Hardware version :
Software version :
Comments :
CONDUCTED EMISSIONS MEASUREMENT : *0816-601_CISPR22/CISPR32-LISN_Phase_#05*

Test location : Anechoic chamber
Test date : 2016-08-23 13:04:22
Operator(s) : Quoc-Nhan Van
Test Standard : CISPR22 / CISPR32 / Class A
Power : 230V/50Hz
Tested line : Phase
Operating mode :
Comments :

TEST PARAMETERS			TEST EQUIPMENT USED
Frequency range 150kHz- 30MHz	Bandwidth 9kHz	Input Phase 1	Pulse Limiter + LF Cable LISN : PMM L2-16B#20801-red EMI receiver : MXE N9038A

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CONDUCTED EMISSIONS - VOLTAGE
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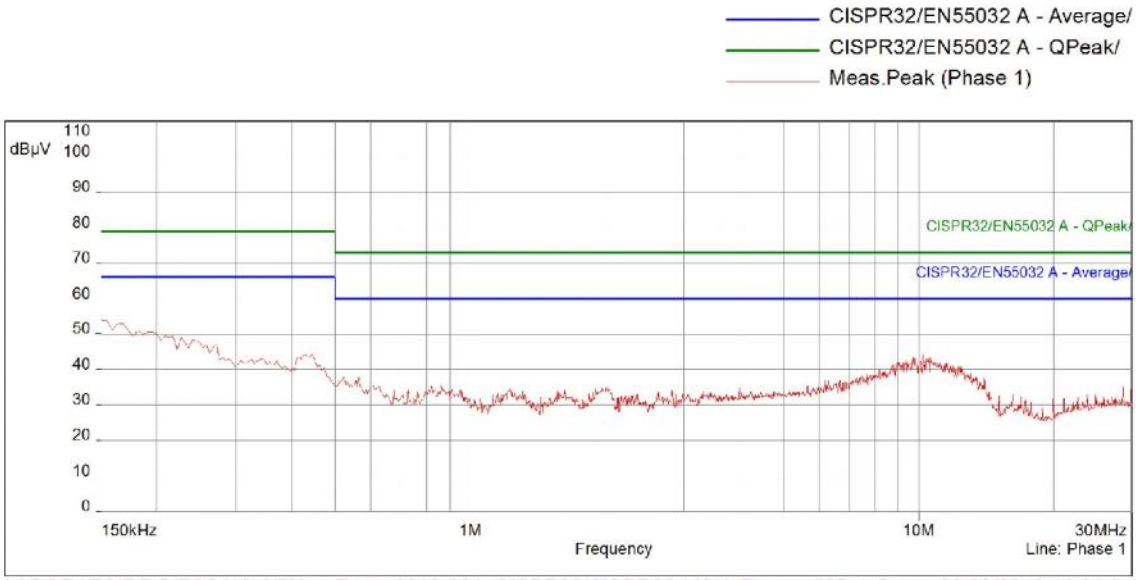
MEASUREMENTS GRAPH



LABORATOIRE D'ESSAIS CEM - Test : 0816-601_CISPR22/CISPR32-LISN_Phase_#05 / Date : 08/23/2016 13:04 /
Frequency : 150 kHz - 30 MHz

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CONDUCTED EMISSIONS - VOLTAGE
page 1 / 2

Project :	*Customer :*

DESCRIPTION OF EQUIPMENT UNDER TEST (EUT)

Equipment : Share 2 + Remote
Manufacturer : Dextera Labs Inc.
Hardware version :
Software version :
Comments :
CONDUCTED EMISSIONS MEASUREMENT : *0816-601_CISPR22/CISPR32-LISN_Neutral_#06*

Test location : Anechoic chamber
Test date : 2016-08-23 13:11:34
Operator(s) : Quoc-Nhan Van
Test Standard : CISPR22 / CISPR32 / Class A
Power : 230V/50Hz
Tested line : Neutral
Operating mode :
Comments :

TEST PARAMETERS			TEST EQUIPMENT USED
Frequency range 150kHz- 30MHz	Bandwidth 9kHz	Input Neutral	Pulse Limiter + LF Cable LISN : PMM L2-16B#20801-red EMI receiver : MXE N9038A

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CONDUCTED EMISSIONS - VOLTAGE
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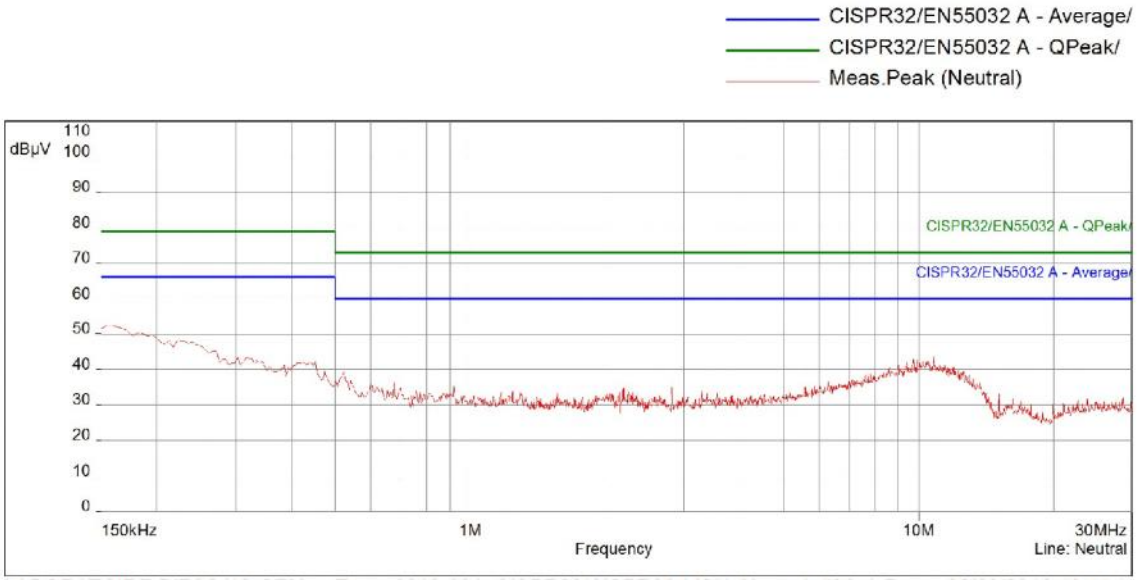
MEASUREMENTS GRAPH



LABORATOIRE D'ESSAIS CEM - Test : 0816-601_CISPR22/CISPR32-LISN_Neutral_#06 / Date : 08/23/2016 13:11 /
Frequency : 150 kHz - 30 MHz

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CONDUCTED EMISSIONS - VOLTAGE
page 1 / 2

Project :	*Customer :*

DESCRIPTION OF EQUIPMENT UNDER TEST (EUT)

Equipment : Share 2 + Remote
Manufacturer : Dextera Labs Inc.
Hardware version :
Software version :
Comments :
CONDUCTED EMISSIONS MEASUREMENT : *0816-601_FCC/ICES-003-LISN_Phase_#07*

Test location : Anechoic chamber
Test date : 2016-08-23 13:19:45
Operator(s) : Quoc-Nhan Van
Test Standard : FCC part 15 subpart B / ICES-003 / Class A
Power : 120V/60Hz
Tested line : Phase
Operating mode :
Comments :

TEST PARAMETERS			TEST EQUIPMENT USED
Frequency range 150kHz- 30MHz	Bandwidth 9kHz	Input Phase 1	Pulse Limiter + LF Cable LISN : PMM L2-16B#20801-red EMI receiver : MXE N9038A

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CONDUCTED EMISSIONS - VOLTAGE
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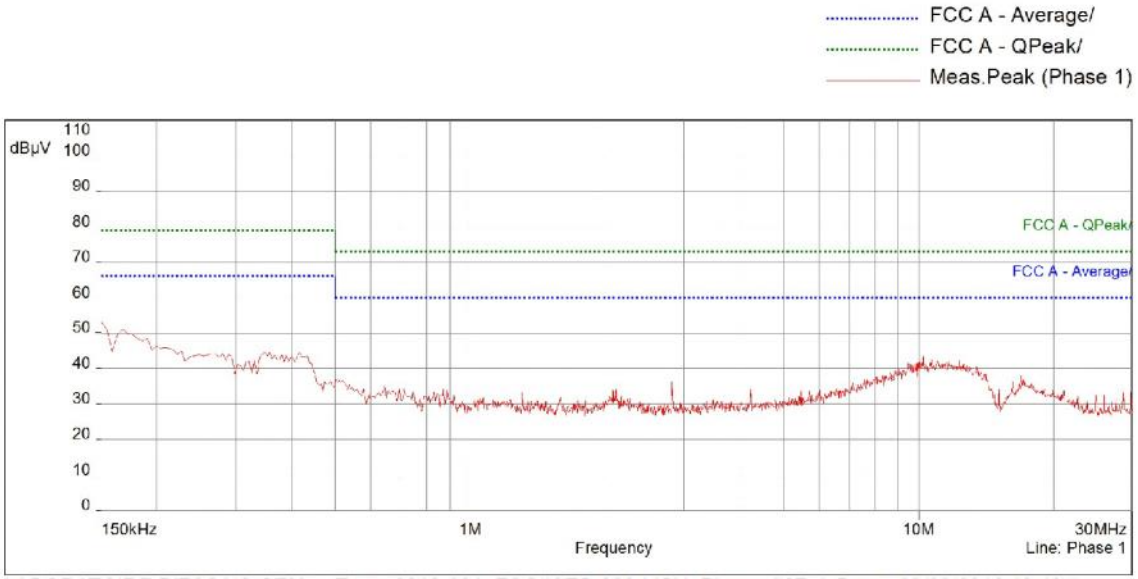
MEASUREMENTS GRAPH



LABORATOIRE D'ESSAIS CEM - Test : 0816-601_FCC/ICES-003-LISN_Phase_#07 / Date : 08/23/2016 13:19 /
Frequency : 150 kHz - 30 MHz

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CONDUCTED EMISSIONS - VOLTAGE
page 1 / 2

Project :	*Customer :*

DESCRIPTION OF EQUIPMENT UNDER TEST (EUT)

Equipment : Share 2 + Remote
Manufacturer : Dextera Labs Inc.
Hardware version :
Software version :
Comments :
CONDUCTED EMISSIONS MEASUREMENT : *0816-601_FCC/ICES-003-LISN_Neutral_#08*

Test location : Anechoic chamber
Test date : 2016-08-23 13:26:38
Operator(s) : Quoc-Nhan Van
Test Standard : FCC part 15 subpart B / ICES-003 / Class A
Power : 120V/60Hz
Tested line : Neutral
Operating mode :
Comments :

TEST PARAMETERS			TEST EQUIPMENT USED
Frequency range 150kHz- 30MHz	Bandwidth 9kHz	Input Neutral	Pulse Limiter + LF Cable LISN : PMM L2-16B#20801-red EMI receiver : MXE N9038A

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CONDUCTED EMISSIONS - VOLTAGE
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MEASUREMENTS GRAPH

LABORATOIRE D'ESSAIS CEM - Test : 0816-601_FCC/ICES-003-LISN_Neutral_#08 / Date : 08/23/2016 13:26 /
Frequency : 150 kHz - 30 MHz

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APPENDIX B
RADIATED EMISSIONS

RADIATED EMISSIONS – ELECTRIC FIELD
page 1 / 2

Project :	*Customer :*

DESCRIPTION OF EQUIPMENT UNDER TEST (EUT)

Equipment : Share 2 + Remote
Manufacturer : Dextera Labs Inc.
Hardware version :
Software version :
Comments :
RADIATED EMISSIONS MEASUREMENT : *0816-601_CISPR22/CISPR32/FCC-Bilog_#03*

Test location : Anechoic chamber
Test date : 2016-08-23 10:24:56
Operator(s) : Quoc-Nhan Van
Test Standard : CISPR22 / CISPR32 / FCC part 15 subpart B / ICES-003 / Class A
Power : 230V/50Hz
Operating mode :
Comments :

TEST PARAMETERS

Frequency range	Bandwidth	Test distance
30MHz- 500MHz	120kHz	3m
500MHz- 1GHz	120kHz	3m

TEST EQUIPMENT USED

Bilog Antenna : TESEQ CBL6112D#33825
Antenna Mast : SUNOL
HF Cable + 6dB
EMI receiver : MXE N9038A
Turntable : SUNOL

FINAL RESULTS (5)

Frequency (MHz)	SR	Quasi-Peak Detector (dBµV/m)	Quasi-Peak Limit (dBµV/m)	Margin (dB)	Polarization	Azimuth (degree)	Height (m)	Correction (dB)
148.5458546	1	41.65	50.00	8.35	Vertical	25.00	1.01	17.67
445.5215522	1	51.57	57.00	5.43	Horizontal	7.25	2.17	24.04
594.0594059	2	50.84	57.00	6.16	Horizontal	206.00	2.70	26.45
742.5742574	2	51.12	57.00	5.88	Horizontal	95.00	2.73	27.40
891.1391139	2	53.04	57.00	3.96	Vertical	355.75	1.00	28.83

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RADIATED EMISSIONS – ELECTRIC FIELD
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MEASUREMENTS GRAPH

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RADIATED EMISSIONS – ELECTRIC FIELD
page 1 / 2

Project :	*Customer :*

DESCRIPTION OF EQUIPMENT UNDER TEST (EUT)

Equipment : Share 2 + Remote
Manufacturer : Dextera Labs Inc.
Hardware version :
Software version :
Comments :
RADIATED EMISSIONS MEASUREMENT : *0816-601_CISPR22/CISPR32/FCC-Horn_#04*

Test location : Anechoic chamber
Test date : 2016-08-23 11:45:27
Operator(s) : Quoc-Nhan Van
Test Standard : CISPR22 / CISPR32 / FCC part 15 subpart B / ICES-003 / Class A
Power : 230V/50Hz
Operating mode :
Comments :

TEST PARAMETERS

Frequency range	Bandwidth	Test distance
1GHz- 2GHz	1MHz	3m

TEST EQUIPMENT USED

Horn Antenna : TESEQ BHA9118
Antenna Mast : SUNOL
HF Cable + HF Amplifier
EMI receiver : MXE N9038A
Turntable : SUNOL

FINAL RESULTS - Average (6)

Frequency (MHz)	SR	Average Detector (dBµV/m)	Average Limit (dBuV/m)	Margin (dB)	Polarization	Azimuth (degree)	Height (m)	Correction (dB)
1039.50395	1	45.25	56.00	10.75	Horizontal	179.75	3.00	-17.73
1138.813881	1	41.16	56.00	14.84	Horizontal	1.50	3.01	-17.37
1187.818782	1	42.17	56.00	13.83	Vertical	359.25	3.79	-17.08
1336.533653	1	46.52	56.00	9.48	Horizontal	129.50	1.14	-17.56
1485.148515	1	53.12	56.00	2.88	Vertical	126.00	2.19	-17.65
1782.378238	1	41.48	56.00	14.52	Vertical	3.00	2.99	-16.49

FINAL RESULTS - Peak (6)

Frequency (MHz)	SR	Peak Detector (dBµV/m)	Peak Limit (dBµV/m)	Margin (dB)	Polarization	Azimuth (degree)	Height (m)	Correction (dB)
1039.50395	1	53.54	76.00	22.46	Horizontal	179.75	3.00	-17.73
1138.813881	1	50.42	76.00	25.58	Horizontal	1.50	3.01	-17.37
1187.818782	1	51.88	76.00	24.12	Vertical	359.25	3.79	-17.08
1336.533653	1	51.81	76.00	24.19	Horizontal	129.50	1.14	-17.56
1485.148515	1	58.70	76.00	17.30	Vertical	126.00	2.19	-17.65
1782.378238	1	51.60	76.00	24.40	Vertical	3.00	2.99	-16.49

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RADIATED EMISSIONS – ELECTRIC FIELD
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MEASUREMENTS GRAPH

FCC A - Average/3.0m/
CISPR32/EN55032 A - Average/3.0m/
CISPR32/EN55032 A - Peak/3.0m/
ICES-003 A - Peak/3.0m/
Meas.Peak
Peak Detector (FINAL RESULTS - Peak)
Average Detector (FINAL RESULTS - Average)

LABORATOIRE D'ESSAIS CEM - Test : 0816-601_CISPR22/CISPR32/FCC-Horn_#04 / Date : 08/23/2016 11:45 / Frequency : 1 GHz - 2 GHz

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APPENDIX C
VOLTAGE FLUCTUATIONS AND FLICKER LIMITATIONS

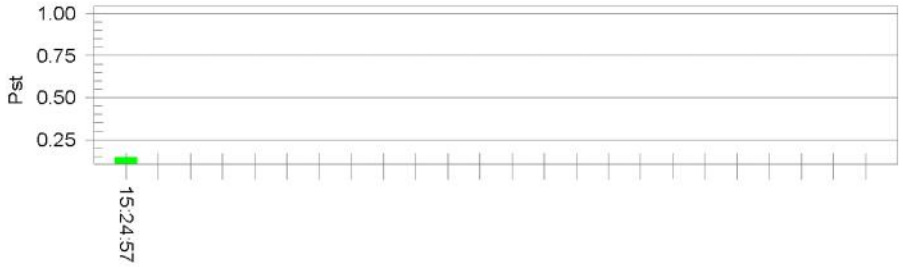
Laboratoire d'Essais CEM Inc. 8/25/2016
1490-D Nobel, Boucherville, Québec Canada 8:15 AM

Flicker Test Summary per EN/IEC61000-3-3 Ed. 3.0 (2013) (Run time)

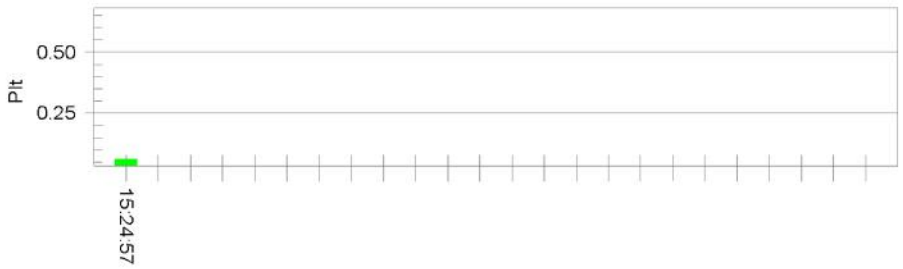
EUT: SHARE 2 + REMOTE **Tested by: Quoc-Nhan Van**
Test category: All parameters (European limits) **Test Margin: 100**
Test date: 8/24/2016 **Start time: 3:14:26 PM** **End time: 3:24:58 PM**
Test duration (min): 10 **Data file name: F-000233.cts_data**
Comment: Flicker Pst
Customer: Dextara Labs 0816-601

Test Result: Pass **Status: Test Completed**

Pst_i and limit line **European Limits**



Plt and limit line



Parameter values recorded during the test:

Vrms at the end of test (Volt):	**230.50**			
Highest dt (%):	**0.00**	**Test limit (%):**	**N/A**	**N/A**
T-max (mS):	**0**	**Test limit (mS):**	**500.0**	**Pass**
Highest dc (%):	**0.00**	**Test limit (%):**	**3.30**	**Pass**
Highest dmax (%):	**0.10**	**Test limit (%):**	**4.00**	**Pass**
Highest Pst (10 min. period):	**0.149**	**Test limit:**	**1.000**	**Pass**
Highest Plt (2 hr. period):	**0.065**	**Test limit:**	**0.650**	**Pass**

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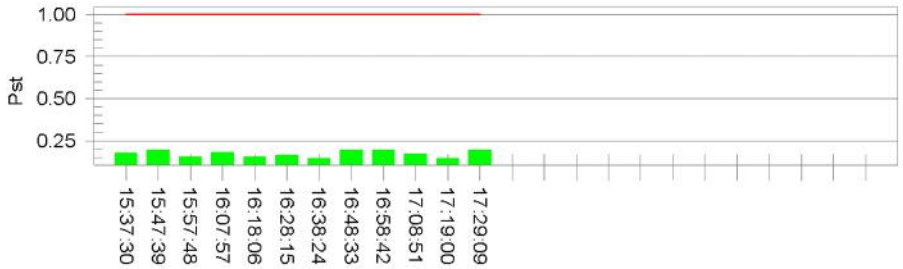
Laboratoire d'Essais CEM Inc. 8/25/2016
1490-D Nobel, Boucherville, Québec Canada 8:15 AM

Flicker Test Summary per EN/IEC61000-3-3 Ed. 3.0 (2013) (Run time)

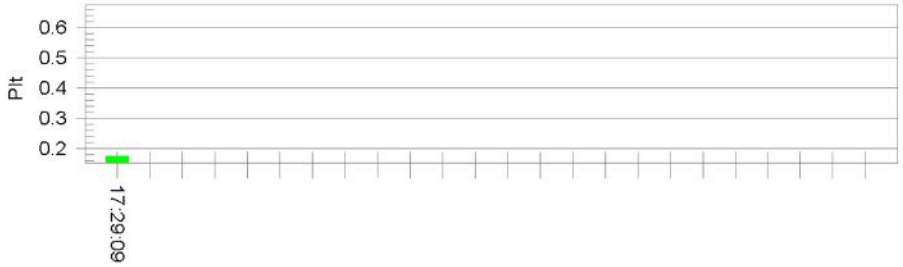
EUT: SHARE 2 + REMOTE **Tested by: Quoc-Nhan Van**
Test category: All parameters (European limits) **Test Margin: 100**
Test date: 8/24/2016 **Start time: 3:27:00 PM** **End time: 5:29:10 PM**
Test duration (min): 120 **Data file name: F-000234.cts_data**
Comment: Flicker Plt
Customer: Dextara Labs 0816-601

Test Result: Pass **Status: Test Completed**

Pst_i and limit line **European Limits**



Plt and limit line



Parameter values recorded during the test:

Vrms at the end of test (Volt):	**230.47**			
Highest dt (%):	**0.00**	**Test limit (%):**	**N/A**	**N/A**
T-max (mS):	**0**	**Test limit (mS):**	**500.0**	**Pass**
Highest dc (%):	**0.00**	**Test limit (%):**	**3.30**	**Pass**
Highest dmax (%):	**0.08**	**Test limit (%):**	**4.00**	**Pass**
Highest Pst (10 min. period):	**0.198**	**Test limit:**	**1.000**	**Pass**
Highest Plt (2 hr. period):	**0.176**	**Test limit:**	**0.650**	**Pass**

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