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ELECTROMAGNETIC COMPATIBILITY TEST REPORT

Test Report No. : E14OR-009-01

AGR No. : A14DA-093

Applicant : Upstream Capital Management PTE. Ltd.

Address : 8 MARINA BOULEVARD, #05-02, MARINA BAY FINANCIAL CENTRE,
SINGAPORE (018981)

Manufacturer : Daedong Movel System Co., Ltd.

Address : 105 Beon yeong-ro, Siheung-si, Gyeonggi-do, Korea

Type of Equipment : Car Door Closer

Model Name : Slamstop1.0

Multiple Model Name : N/A

Serial number : N/A

Total page of Report : 28 pages (including this page)

Date of Incoming : September 19, 2014

Date of Issuing : December 12, 2014

SUMMARY

The equipment tested with the standard; EN 50498: 2010.

This test report only contains the result of a single test of the sample supplied for the examination.

It is not a generally valid assessment of the features of the respective products of the mass-production.

Reviewed by:



Seung-Hyun, Nam / Chief Engineer
ONETECH Corp.

Approved by:



Gea-Won, Lee / Managing Director
ONETECH Corp.

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Revision History

Issued Report No.	Issued Date	Revisions	Effect Section
E14OR-009-01	December 12, 2014	Initial Issue	All

1. APPLICANT AND MANUFACTURER INFORMATION

- Applicant : Upstream Capital Management PTE. Ltd.
- Address : 8 MARINA BOULEVARD, #05-02, MARINA BAY FINANCIAL CENTRE, SINGAPORE (018981)
- Manufacturer : Daedong Movel System Co., Ltd.
- Address : 105 Beon yeong-ro, Siheung-si, Gyeonggi-do, Korea

2. TEST SUMMARY

2.1 Test standards and results

STANDARDS		RESULTS
EN 50498 : 2010	Broadband / Narrowband radiated disturbances	Met / Pass
	Conducted transient disturbances	Met / Pass
	Conducted transient immunity	Met / Pass

2.2 Additions, deviations, exclusions from standards

No additions, deviations or exclusions have been made from standard.

2.3 Purpose of the test

To determine whether the equipment under test fulfills the EMC requirements of the standards stated in section 2.1.

2.4 Test environment

- The ambient temperature lay within the range 15 °C to 35 °C during the emission testing.

2.5 Test Facility

The Onetech Corp. has been designated to perform equipment testing in compliance with ISO/IEC 17025.

The Electromagnetic compatibility measurement facilities are located at 301-14, Daessangnyeong-ri, Chowol-eup, Gwangju-si, Gyeonggi-do, 464-862 Korea.

- Site Filing:

VCCI (Voluntary Control Council for Interference)

- Registration No. R-4112/ C-4617/ G-666/T-1842 IC (Industry Canada) – Registration No. Site# 3736-3

- Site Accreditation:

KOLAS (Korea Laboratory Accreditation Scheme) - Accreditation No. 85

FCC (Federal Communications Commission) - Accreditation No. KR0013

RRA (Radio Research Agency) – Designation No. KR0013

3. EUT (Equipment Under Test)

3.1 Identification of the EUT

- . Equipment : Car Door Closer
- . Model Name : Slamstop1.0
- . Brand Name : N/A
- . Serial number : N/A
- . Manufacturer : Daedong Movel System Co., Ltd.

3.2 Additional information about the EUT

The Upstream Capital Management PTE. Ltd. Model Slamstop1.0 (referred to as the EUT in this report) is a Car Door Closer.

Product specification described herein was obtained from product data sheet or user’s manual.

CHASSIS TYPE	Plastic & Metal
LIST OF EACH OSC. OR CRY. FREQ.(FREQ.>=1 MHz)	N/A
ELECTRICAL RATING	DC 12 V
NUMBER OF LAYERS (P.C.Board)	N/A
EXTERNAL CONNECTOR	Drive, Sensor

3.3 Peripheral equipment

Defined as equipment needed for correct operation of the EUT, but not considered as tested:

Model	Manufacturer	Description	Connected to
Slamstop1.0 (Control Unit)	Daedong Movel System Co., Ltd.	Car Door Closer (EUT)	-
Slamstop1.0 (Drive Unit)	Daedong Movel System Co., Ltd.	Car Door Closer (EUT)	-
Slamstop1.0 (Sensor Unit)	Daedong Movel System Co., Ltd.	Car Door Closer (EUT)	-
N/A	N/A	Magnet	-

3.4 Cable description

Ports Name	Shielded	Ferrite Bead	Metal Shell	Length (m)	Connected to
Drive	N	N	N	1.0	Drive Unit
Sensor	N	N	N	1.0	Sensor Unit

3.5 Mode of operation during the test

- . It was tested using the magnetic contact by simulating a vehicle door.
- . Input power condition during the measurements was DC 12 V.

3.6 Classification of functional status

Classification	Description
Class A	The normal operation during the test.
Class B	The door was error or the normal mode was operated abnormally during the test.
Class C	The reset and ON/OFF phenomenon occurred during the test, but returned to normal operating condition after test.
Class D	The reset and ON/OFF phenomenon occurred during the test. After the end of the test the re-connection of the power supplying was operated normally.
Class E	During testing of product tampering and destruction occurs.

3.7 Alternative type(s)/model(s); also covered by this test report.

- . None.

3.8 Monitoring method

During the immunity testing, following monitoring method(s) was(were) performed.

- Observed the state of the simulation after the test.

4. EUT MODIFICATIONS

- . None.

5. EMISSION TESTS

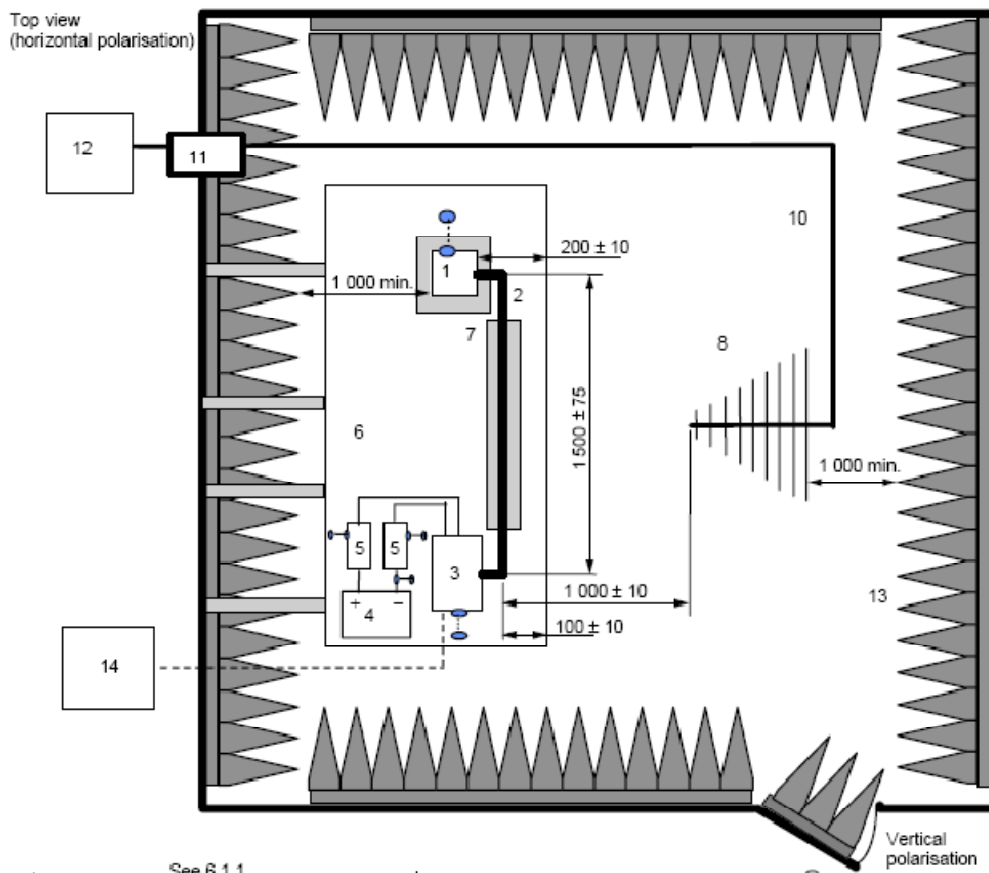
5.1 RADIATED ELECTROMAGNETIC DISTURBANCES

5.1.1 Operating environment

Temperature : 24 °C
 Relative humidity : 43 % R.H.

5.1.2 Test set-up and diagram

Test shall be performed by the method(s) according to CISPR 25.



Key

- | | |
|---|---|
| 1 EUT (grounded locally if required in test plan) | 8 Log-periodic antenna |
| 2 Test harness | |
| 3 Load simulator and ground connection according to 6.4.2.5) | 10 High-quality coaxial cable e.g. double-shielded (50 Ω) |
| 4 Power supply (location optional) | 11 Bulkhead connector |
| 5 Artificial network (AN) | 12 Measuring instrument |
| 6 Ground plane (bonded to shielded enclosure) | 13 RF absorber material |
| 7 Low relative permittivity support ($\epsilon_r \leq 1,4$) | 14 Stimulation and monitoring system |

5.1.3 Measurement uncertainty

Radiated emission electric field intensity, 30 MHz ~ 300 MHz: ± 4.84 dB

Radiated emission electric field intensity, 300 MHz ~ 1 000 MHz: ± 5.00 dB

Measurement uncertainty is calculated in accordance with CISPR 16-4-2. The measurement uncertainty is given with a confidence of 95 % with the coverage factor, $k = 2$.

5.1.4 Limits and Frequency step sizes

5.1.4.1 Limits

Frequency (MHz)	Broadband Disturbance Limits (dBuV/m)		Narrowband Disturbance Limits (dBuV/m)
	Quasi peak	Average	Average
30 ~ 75	62 - 52 ¹	52 - 42 ¹	52 - 42 ¹
75 ~ 400	52 - 63 ²	42 - 53 ²	42 - 53 ²
400 ~ 1 000	63	53	53

1. Decreasing linearly with the log of the frequency
 2. Increasing linearly with the log of the frequency

5.1.4.2 Frequency Step Sizes

Freq. Range (MHz)	- 6 dB Bandwidth	Step Size	Dwell Time		
			Peak Detector	Quasi peak Detector	Average Detector
30 ~ 1 000	120 kHz	50 kHz	5 ms	1 s	5 ms

5.1.5 Test equipment used

	Model Number	Manufacturer	Description	Serial Number	Last Cal. (Interval)
<input type="checkbox"/>	HFH2-Z	R&S	ROD ANTENNA	100265	2014-03-18(2Y)
<input checked="" type="checkbox"/>	3110	EMCO	BICONICAL ANTENNA	9003-1121	2014-04-17(2Y)
<input checked="" type="checkbox"/>	UHALP 9108	SCHWARZBACK	LOGPERIODIC ANTENNA	A0190	2014-04-16(2Y)
<input type="checkbox"/>	BBHA 9120 D	SCHWARZBACK	HORN ANTENNA	BBHA9120D294	2013-09-05(2Y)
<input checked="" type="checkbox"/>	ESCI	R&S	TEST RECEIVER	101013	2014-04-28(1Y)
<input checked="" type="checkbox"/>	SCU-01D	R&S	AMPLIFIER	1851093	2014-06-03(1Y)
<input type="checkbox"/>	SCU-18	R&S	AMPLIFIER	10041	2013-11-07(1Y)
<input type="checkbox"/>	SCU-01	R&S	AMPLIFIER	10023	2013-11-05(1Y)
<input checked="" type="checkbox"/>	NNBM 8125	R&S	V-LISN	8125-1755	2013-11-05(1Y)
<input checked="" type="checkbox"/>	NNBM 8125	R&S	V-LISN	8125-1756	2013-11-05(1Y)

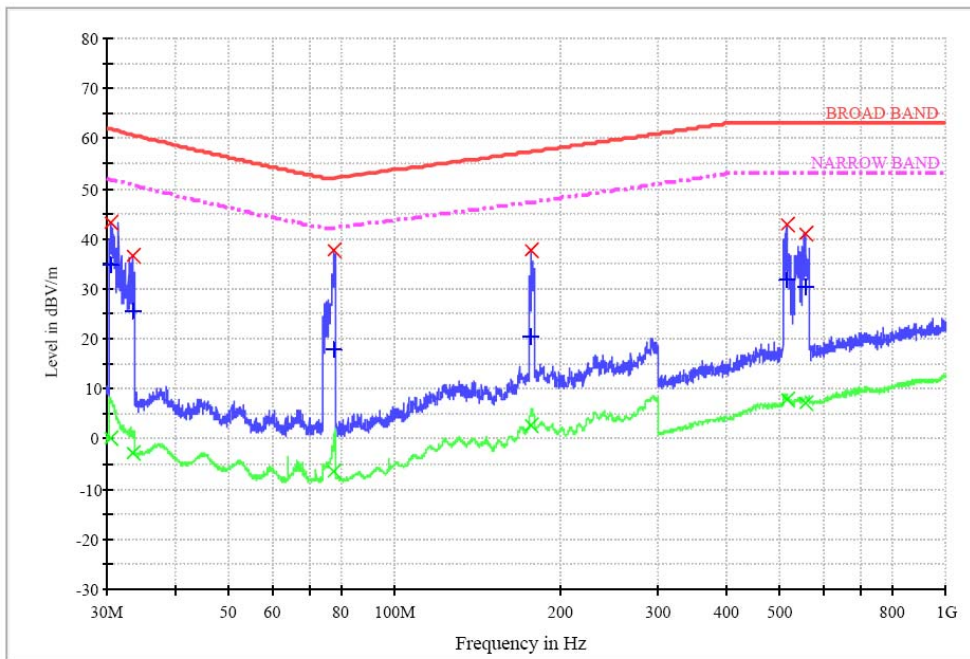
All test equipment used is calibrated on a regular basis.

5.1.6 Test data (Operating Condition: DC 12 V)

- Test Date : September 24, 2014
- Resolution bandwidth : 120 kHz
- Frequency range : 30 MHz ~ 1 000 MHz
- Measurement distance : 1 m

Detector Mode: Quasi Peak/Average

Graphical representation of Radiated Disturbance



Tabulated Results for Radiated Disturbance

QP

Frequency (MHz)	MaxPeak (dBμV/m)	QuasiPeak (dBμ V/m)	Average (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
30.575159	43.1	34.6	0.0	1000.0	120.000	100.0	H	-11.1	27.2	61.8
33.319570	36.7	25.6	-2.7	1000.0	120.000	100.0	H	-11.5	35.2	60.8
77.612011	37.6	18.0	-6.4	1000.0	120.000	100.0	H	-19.9	34.2	52.2
176.145872	37.7	20.3	2.9	1000.0	120.000	100.0	H	-8.7	37.1	57.3
513.635389	43.0	31.9	7.8	1000.0	120.000	100.0	H	-5.2	31.1	63.0
554.726489	40.9	30.3	7.1	1000.0	120.000	100.0	H	-5.1	32.7	63.0

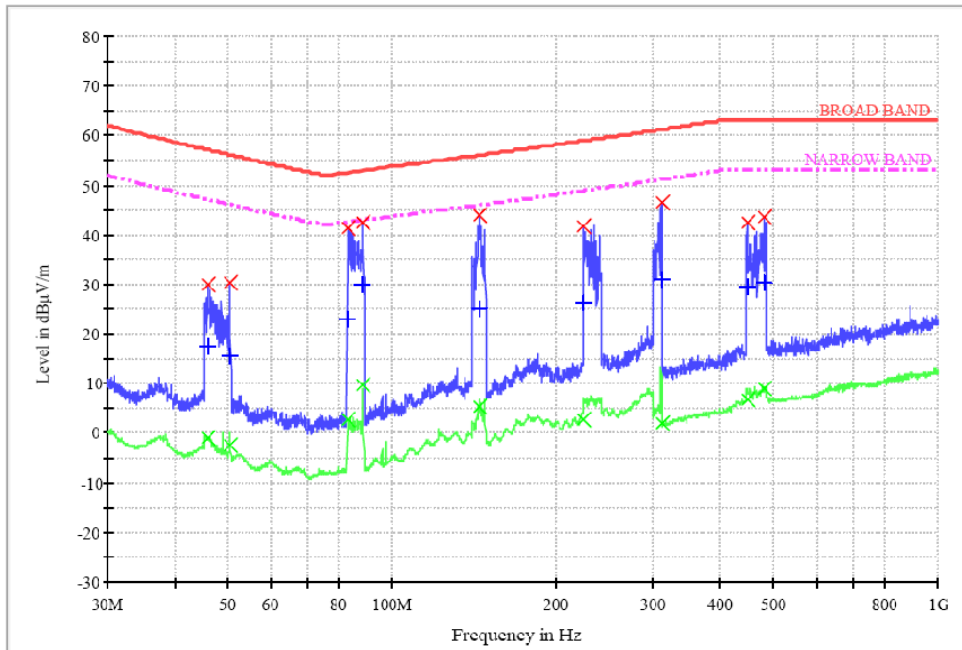
AV

Frequency (MHz)	MaxPeak (dBμV/m)	QuasiPeak (dBμ V/m)	Average (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
30.575159	43.1	34.6	0.0	5.0	120.000	100.0	H	-11.1	51.8	51.8
33.319570	36.7	25.6	-2.7	5.0	120.000	100.0	H	-11.5	53.5	50.7
77.612011	37.6	18.0	-6.4	5.0	120.000	100.0	H	-19.9	48.6	42.2
176.145872	37.7	20.3	2.9	5.0	120.000	100.0	H	-8.7	44.4	47.3
513.635389	43.0	31.9	7.8	5.0	120.000	100.0	H	-5.2	45.2	53.0
554.726489	40.9	30.3	7.1	5.0	120.000	100.0	H	-5.1	45.9	53.0

H: Horizontal

Detector Mode: Quasi Peak/Average

Graphical representation of Radiated Disturbance



Tabulated Results for Radiated Disturbance

QP

Frequency (MHz)	MaxPeak (dBV/m)	QuasiPeak (dBV/m)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
45.877969	29.9	17.3	-1.0	1000.0	120.000	100.0	V	-14.0	39.8	57.1
50.296679	30.2	15.7	-2.3	1000.0	120.000	100.0	V	-15.2	40.4	56.1
82.738929	41.3	22.8	2.6	1000.0	120.000	100.0	V	-19.3	29.8	52.6
88.381020	42.5	29.8	9.8	1000.0	120.000	100.0	V	-18.3	23.2	53.0
144.808243	44.1	25.3	5.3	1000.0	120.000	100.0	V	-11.4	30.8	56.1
223.898439	41.6	26.4	2.7	1000.0	120.000	100.0	V	-7.8	32.5	58.9
311.302151	46.4	31.2	2.0	1000.0	120.000	100.0	V	-9.6	30.0	61.2
447.010958	42.5	29.5	6.7	1000.0	120.000	100.0	V	-5.8	33.5	63.0
479.885547	43.6	30.4	9.2	1000.0	120.000	100.0	V	-5.4	32.6	63.0

AV

Frequency (MHz)	MaxPeak (dBV/m)	QuasiPeak (dBV/m)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
45.877969	29.9	17.3	-1.0	5.0	120.000	100.0	V	-14.0	48.1	47.1
50.296679	30.2	15.7	-2.3	5.0	120.000	100.0	V	-15.2	48.4	46.1
82.738929	41.3	22.8	2.6	5.0	120.000	100.0	V	-19.3	40.0	42.6
88.381020	42.5	29.8	9.8	5.0	120.000	100.0	V	-18.3	33.2	43.0
144.808243	44.1	25.3	5.3	5.0	120.000	100.0	V	-11.4	40.7	46.0
223.898439	41.6	26.4	2.7	5.0	120.000	100.0	V	-7.8	46.2	48.9
311.302151	46.4	31.2	2.0	5.0	120.000	100.0	V	-9.6	49.2	51.2
447.010958	42.5	29.5	6.7	5.0	120.000	100.0	V	-5.8	46.3	53.0
479.885547	43.6	30.4	9.2	5.0	120.000	100.0	V	-5.4	43.8	53.0

V: Vertical

Corr.[dB] = Ant. Factor[dB/m] + Cable Loss[dB] – Amp Gain[dB]

Margin[dB] = Limit[dBµV/m] – Result[dBµV/m](Quasi Peak / Average)

[Signature]
Tested by: Doc Chang, Choi / Senior Engineer

5.2 VOLTAGE TRANSIENT EMISSION TESTS

The **measurement of the** Voltage Transient Emission was performed in a shield room.

Date: September 23, 2014

5.2.1 Operating environment

Ambient temperature 22 [°C]
 Relative humidity 44 [% R.H.]
 Atmospheric pressure 101.0 [kPa]

5.2.2 Test Voltage

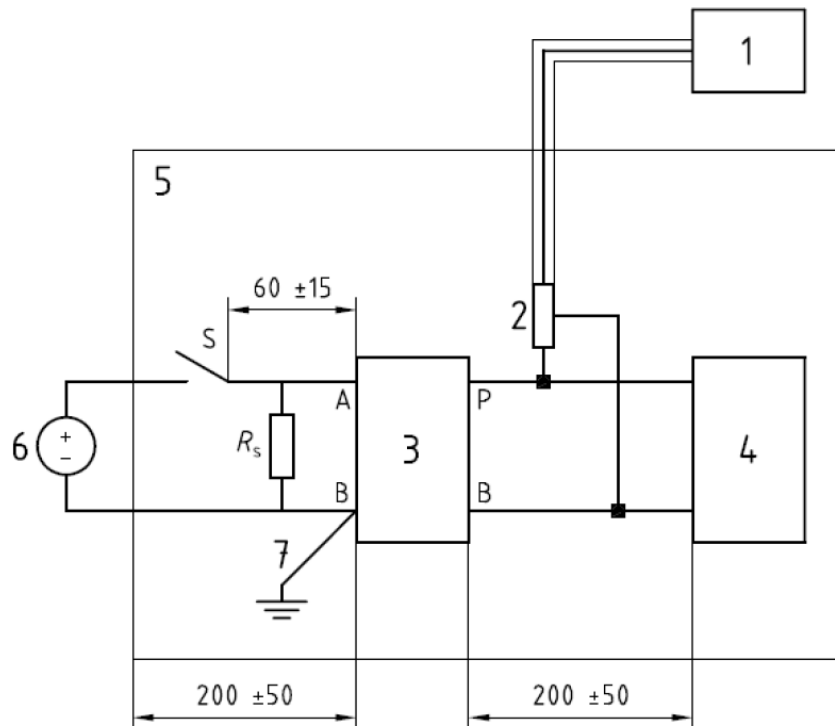
Test Voltage	During Testing		Requirement	
	12 V system (V)	24 V system (V)	12 V system (V)	24 V system (V)
U _A	13.5	27.0	13.5 ± 0.5	27.0 ± 1.0
U _B	12.0	24.0	12.0 ± 0.2	24.0 ± 0.4

5.2.3 Test procedure and set-up

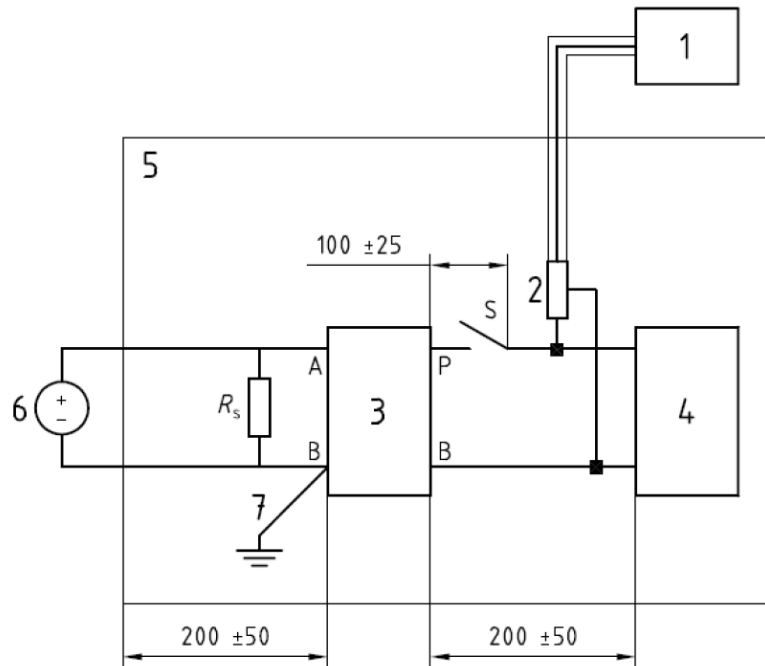
Test shall be performed by the method(s) according to ISO 7637-2.

The test set-up photos are included in appendix II.

5.2.3.1 Slow pulses (milliseconds range or slower)



5.2.3.2 Fast pulses (nanosecond to microsecond range)



1	oscilloscope or equivalent	5	ground plane
2	voltage probe	6	power supply
3	artificial network	7	Ground connection; length < 100 mm
4	DUT (source of transient)		

5.2.4 Measurement uncertainty

It has been demonstrated that the burst generator meets the specified requirements in the standard with at least a 95 % confidence

5.2.5 Test equipment used

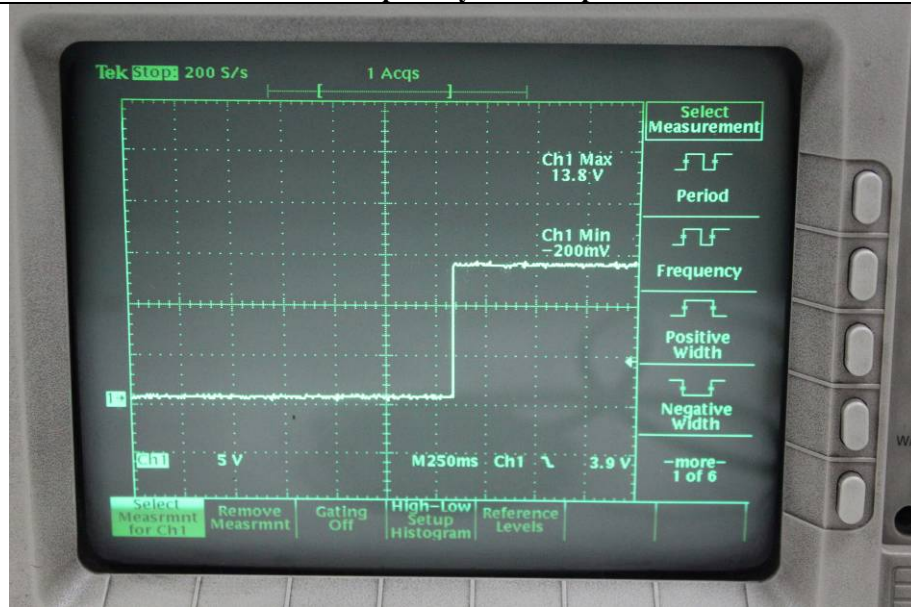
Model Number	Manufacturer	Description	Serial Number	Last Cal. (Interval)
■ - UCS 200N	EM Test AG	Ultra Compact Simulator	V0942105263	2013-11-06(1Y)
■ - NNBM 8125	Rohde&Schwarz	AMN	8125-1755	2013-11-05(1Y)
■ - BS 200N	EM Test AG	Electronic Switch	V0942105271	2013-11-15(1Y)
■ - TDS380	TEKTRONIX	Digital Oscilloscope	B012186	2014-04-29(1Y)

All test equipment used is calibrated on a regular basis.

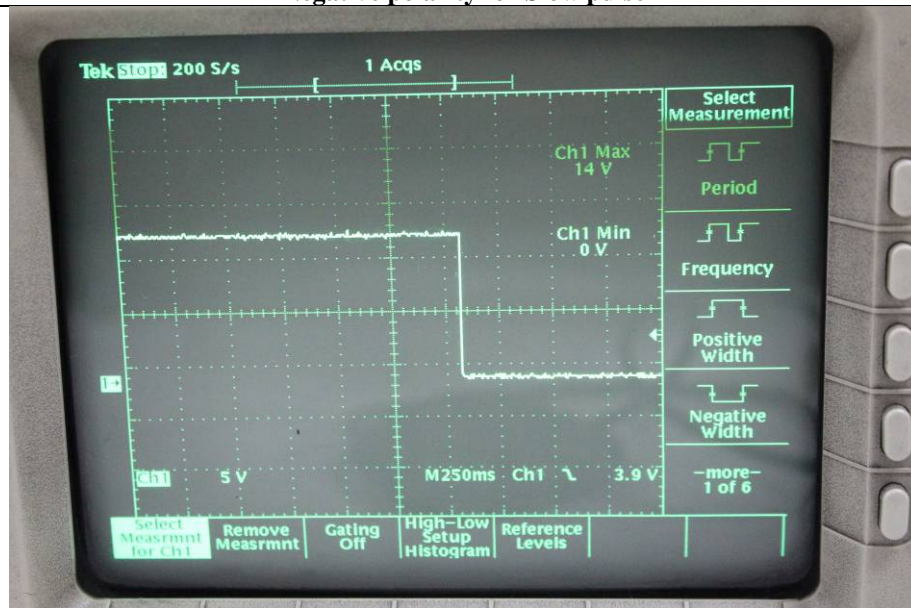
5.2.6 Test data (Operating Condition: DC 12 V)

Mode	Polarity	Measured value (V)	Limit (V)	Result
Slow Pulse	Positive	1.80	+ 75	Pass
	Negative	-12.00	- 100	
Fast Pulse	Positive	35.60	+ 75	Pass
	Negative	-12.20	- 100	

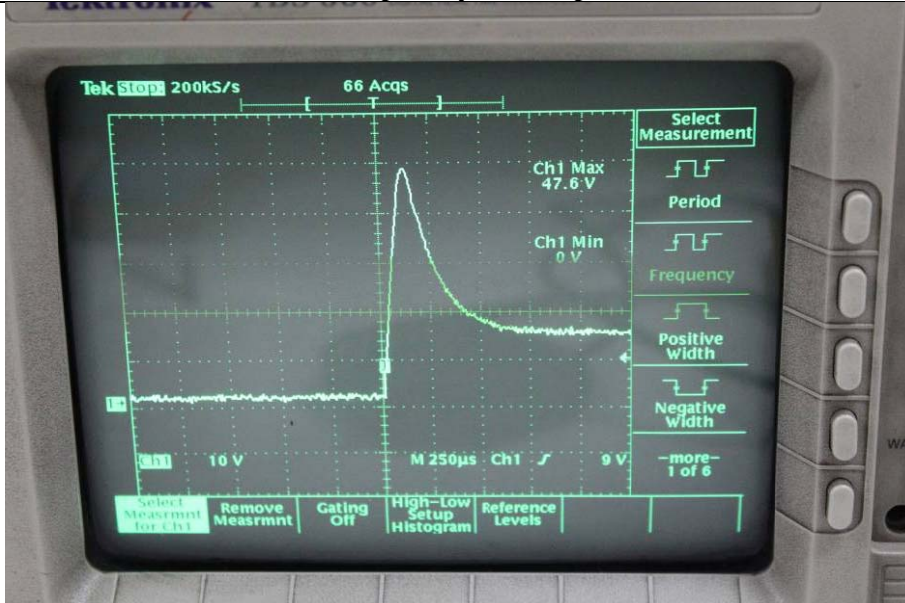
Positive polarity for Slow pulse



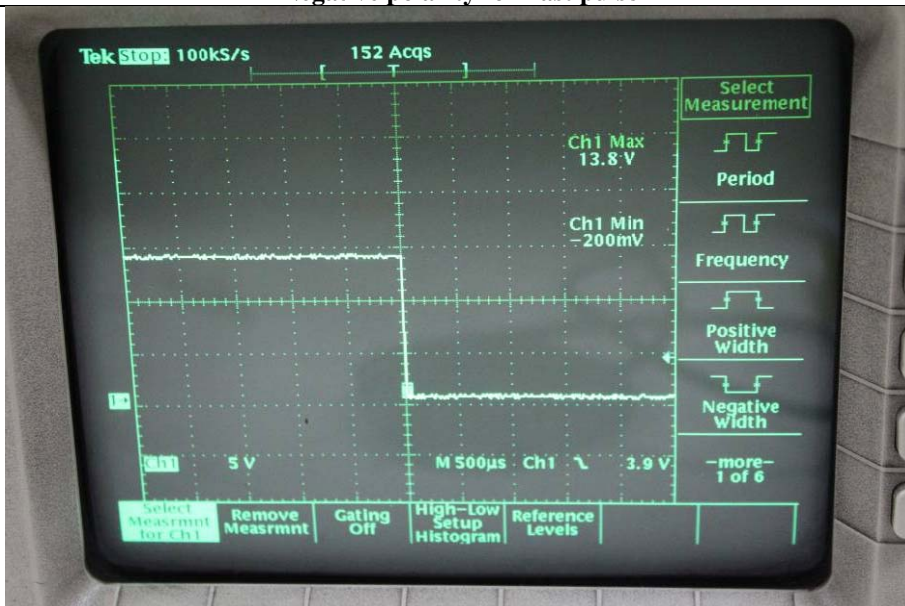
Negative polarity for Slow pulse

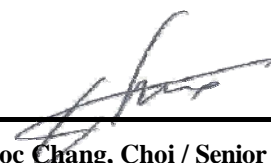


Positive polarity for Fast pulse



Negative polarity for Fast pulse




 Tested by: Doc Chang, Choi / Senior Engineer

6. IMMUNITY TESTS

6.1 TRANSIENT IMMUNITY TESTS

The measurement of the Transient Immunity was performed in a shield room.

Date: September 22, 2014

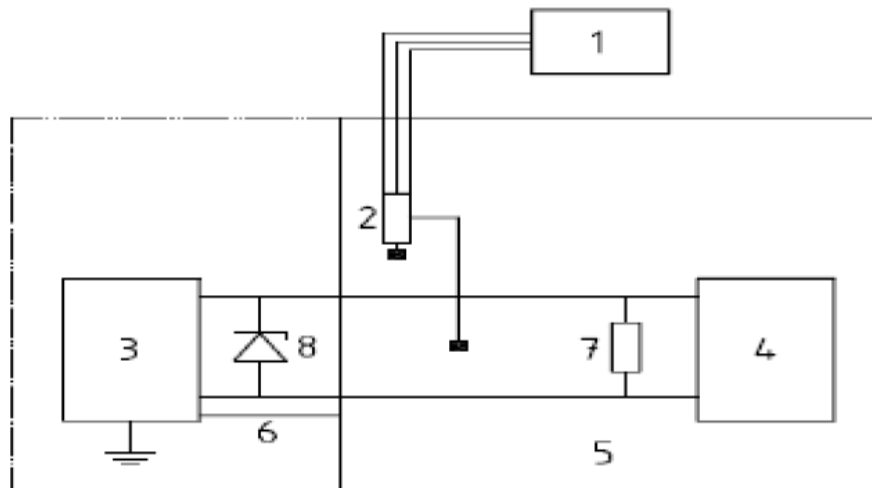
6.1.1 Operating environment

Ambient temperature 22 [°C]
 Relative humidity 42 [% R.H.]
 Atmospheric pressure 101.1 [kPa]

6.1.2 Test Voltage

Test Voltage	During Testing		Requirement	
	12 V system (V)	24 V system (V)	12 V system (V)	24 V system (V)
U _A	13.5	27.0	13.5 ± 0.5	27.0 ± 1.0
U _B	12.0	24.0	12.0 ± 0.2	24.0 ± 0.4

6.1.3 Test set-up



Test shall be performed by the method(s) according to ISO 7637-2.

The test set-up photos are included in appendix III.

6.1.4 Immunity test levels and functional status

Test pulse number	Immunity test level	Functional status
1	III	D
2a	III	D
2b	III	D
3a/3b	III	D
4	III	D

Functional status D is where one or more functions of the ESA do not perform as designed during and after exposure and do not return to normal operation until exposure is removed and the ESA is reset by simple “operator/use” action

6.1.5 Measurement uncertainty

It has been demonstrated that the Transient generator meets the specified requirements in the standard with at least a 95 % confidence

6.1.6 Test equipment used

	Model Number	Manufacturer	Description	Serial Number	Last Cal. (Interval)
■ -	UCS 200N	EM Test	Ultra Compact Simulator	V0942105263	2013-11-06(1Y)
□ -	LD 200N	EM Test	Load Dump Generator	V0942105264	2013-11-06(1Y)
□ -	RDS 200N	EM Test	Remote Controlled DC-Source	V0942105269	2013-11-06(1Y)
□ -	RDS 200N	EM Test	Remote Controlled DC-Source	V0942105268	2013-11-06(1Y)
□ -	RDS 200N	EM Test	Remote Controlled DC-Source	V0942105267	2013-11-06(1Y)
□ -	Autowave	EM Test	Arbitrary Generator	V0942105270	2013-11-06(1Y)
■ -	PFS 200N 50	EM Test	Voltage Drop Simulator	V0942105266	2013-11-06(1Y)
■ -	VDS 200N 50	EM Test	Voltage Drop Simulator	V0942105265	2013-11-06(1Y)

All test equipment used is calibrated on a regular basis.

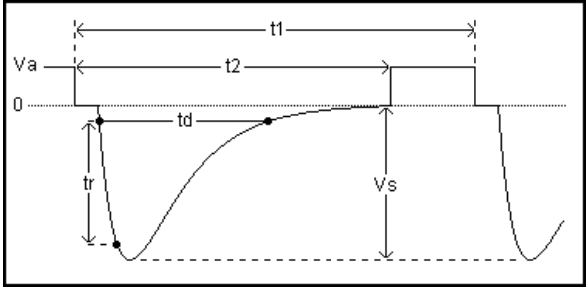
6.1.7 Test data (Operating Condition: DC 12 V)

6.1.7.1 Test data for pulse 1


- Test Date : September 22, 2014

Test Procedure			
Pulse Name:	ISO 7637-2 (2004-06) : 4.6.1 Pulse 1		
Test generator:	UCS200N	Software No.:	000303
		Serial No.:	V0942105263
Coupling network:	UCS200N	Serial No.:	V0942105263
Va (Alternator):	13.5 V	Current limit:	35 A
Software:	iso.control	Version:	5.0.7

Test Setup		
Vs:	-75	V
t1:	0.5	S
t2:	200	ms
Tr:	1	us
Td:	2000	us
Ri:	10	Ohm
Coupling:	Battery	
Events:	5 000	
Test duration:	04:10:00	h



Test Result	
Number of Pulses	5 000 Pulses
Performance criterion	■ A
Monitoring of the EUT	The EUT was the normal operation during the test.
Test result	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail

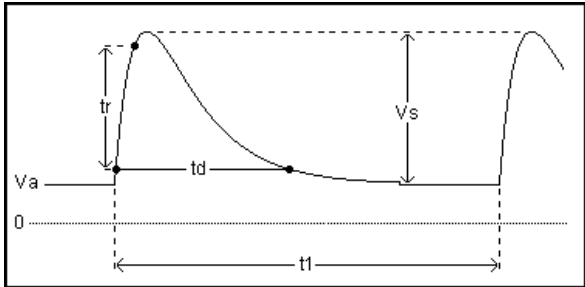

Tested by: Doc Chang Choi / Senior Engineer

6.1.7.2 Test data for pulse 2a

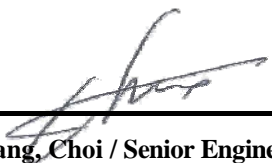
-. Test Date : September 22, 2014

Test Procedure			
Pulse Name:	ISO 7637-2 (2004-06) : 4.6.2 Pulse 2a		
Test generator:	UCS200N	Software No.:	000303
		Serial No.:	V0942105263
Coupling network:	UCS200N	Serial No.:	V0942105263
Va (Alternator):	13.5 V	Current limit:	35 A
Software:	iso.control	Version:	5.0.7

Test Setup		
Vs:	+37	V
t1:	0.5	s
tr:	1	us
td:	50	us
Ri:	2	Ohm
Coupling:	Battery	
Events:	5 000	
Test duration:	04:10:00	h



Test Result	
Number of Pulses	5 000 Pulses
Performance criterion	■ A
Monitoring of the EUT	The EUT was the normal operation during the test.
Test result	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail

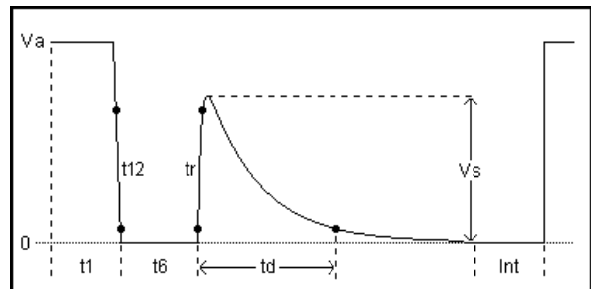

Tested by: Doc Chang, Choi / Senior Engineer

6.1.7.3 Test data for pulse 2b

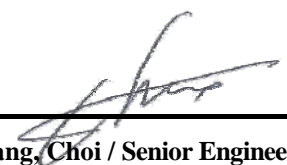
-. Test Date : September 22, 2014

Test Procedure			
Pulse Name:	ISO 7637-2 (2004-06) : 4.6.2 Pulse 2b		
Test generator:	VDS200N50	Software No.:	000636
		Serial No.:	V0942105265
Coupling network:	UCS200N	Serial No.:	V0942105263
Va (Alternator):	13.5 V	Current limit:	100 A
Software:	iso.control	Version:	5.0.7

Test Setup		
Vs:	10.0	V
t1:	1	s
t6:	1	ms
td:	200	ms
Int:	0.2	s
Ri:	0.05	Ohm
t12:	1	ms
tr:	1	ms
Events:	10	
Test duration:	00:00:30	h



Test Result	
Number of Pulses	10 Pulses
Performance criterion	■ C
Monitoring of the EUT	-. The EUT was turned off during the test, but returned to normal operating condition after test.
Test result	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail

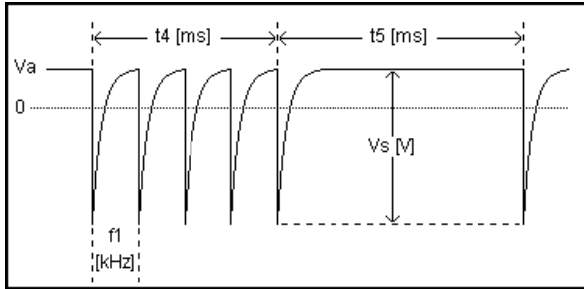

Tested by: Doc Chang Choi / Senior Engineer

6.1.7.4 Test data for pulse 3a

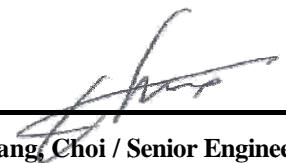
- Test Date : September 22, 2014

Test Procedure			
Pulse Name:	ISO 7637-2 (2004-06) : 4.6.3 Pulse 3a		
Test generator:	UCS200N	Software No.:	000303
		Serial No.:	V0942105263
Va (Alternator):	13.5 V	Current limit:	35 A
Software:	iso.control	Version:	5.0.7

Test Setup		
Vs:	-112	V
f1:	10	kHz
t4:	10	ms
t5:	90	ms
tr:	5	ns
td:	100	ns
Ri:	50	Ohm
Coupling:	Battery	
Test duration:	01:00:00	h



Test Result	
Test duration	01:00:00
Performance criterion	■ A
Monitoring of the EUT	The EUT was the normal operation during the test.
Test result	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail

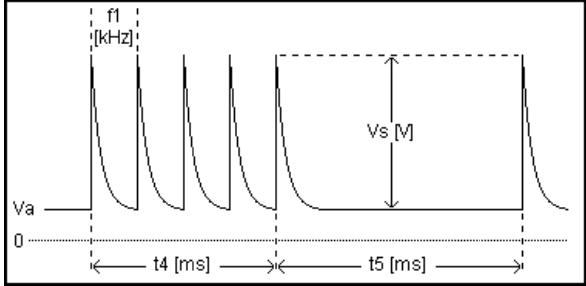

Tested by: Doc Chang, Choi / Senior Engineer

6.1.7.5 Test data for pulse 3b

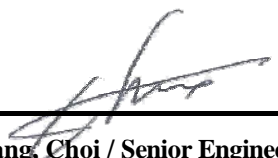
- Test Date : September 22, 2014

Test Procedure			
Pulse Name:	ISO 7637-2 (2004-06) : 4.6.3 Pulse 3b		
Test generator:	UCS200N	Software No.:	000303
		Serial No.:	V0942105263
Va (Alternator):	13.5 V	Current limit:	35 A
Software:	iso.control	Version:	5.0.7

Test Setup		
Vs:	+75	V
f1:	10	kHz
t4:	10	ms
t5:	90	ms
tr:	5	ns
td:	100	ns
Ri:	50	Ohm
Coupling:	Battery	
Test duration:	01:00:00	h



Test Result	
Test duration	01:00:00
Performance criterion	■ A
Monitoring of the EUT	The EUT was the normal operation during the test.
Test result	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail

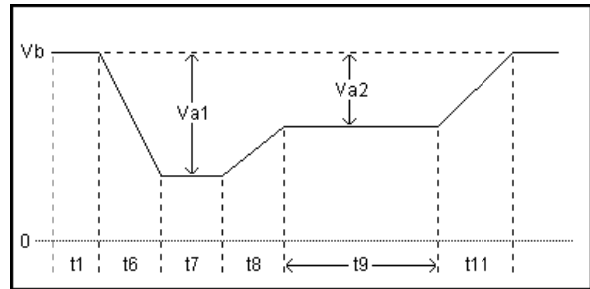

 Tested by: Doc Chang, Choi / Senior Engineer

6.1.7.6 Test data for pulse 4


- Test Date : September 22, 2014

Test Procedure			
Pulse Name:	ISO 7637-2 (2004-06) : 4.6.4 Pulse 4		
Test generator:	VDS200N50	Software No.:	000636
		Serial No.:	V0942105265
Coupling network:	UCS200N	Serial No.:	V0942105263
Vb (Battery):	12.0 V	Current limit:	35 A
Software:	iso.control	Version:	5.0.7

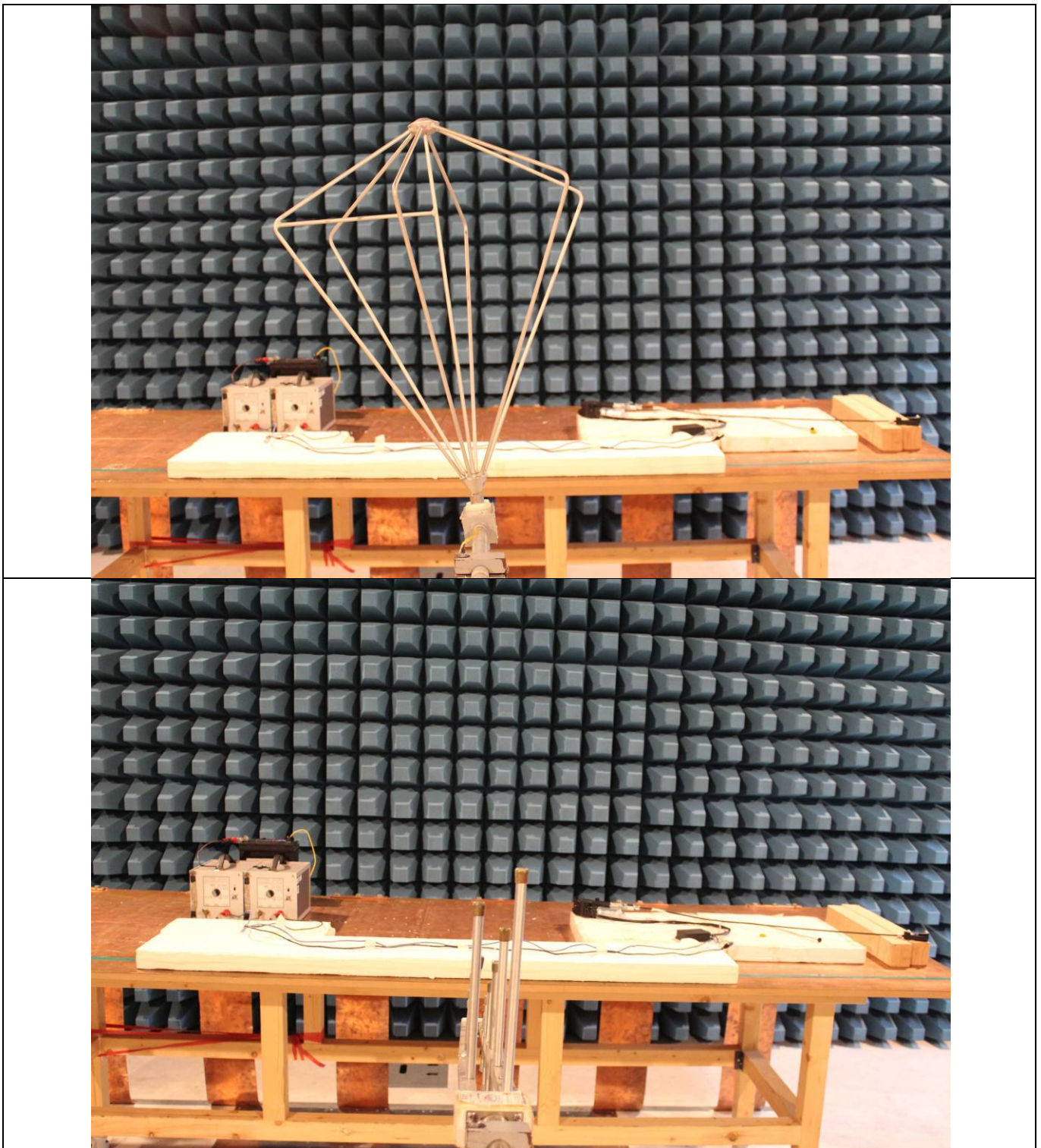
Test Setup		
Val:	-6.0	V
Va2:	-5.0	V
t1:	0.1	s
t6:	5	ms
t7:	40	ms
t8:	50	ms
t9:	20	s
t11:	100	ms
Ri	0	Ohm
Events:	1	
Test duration:	00:00:26	h



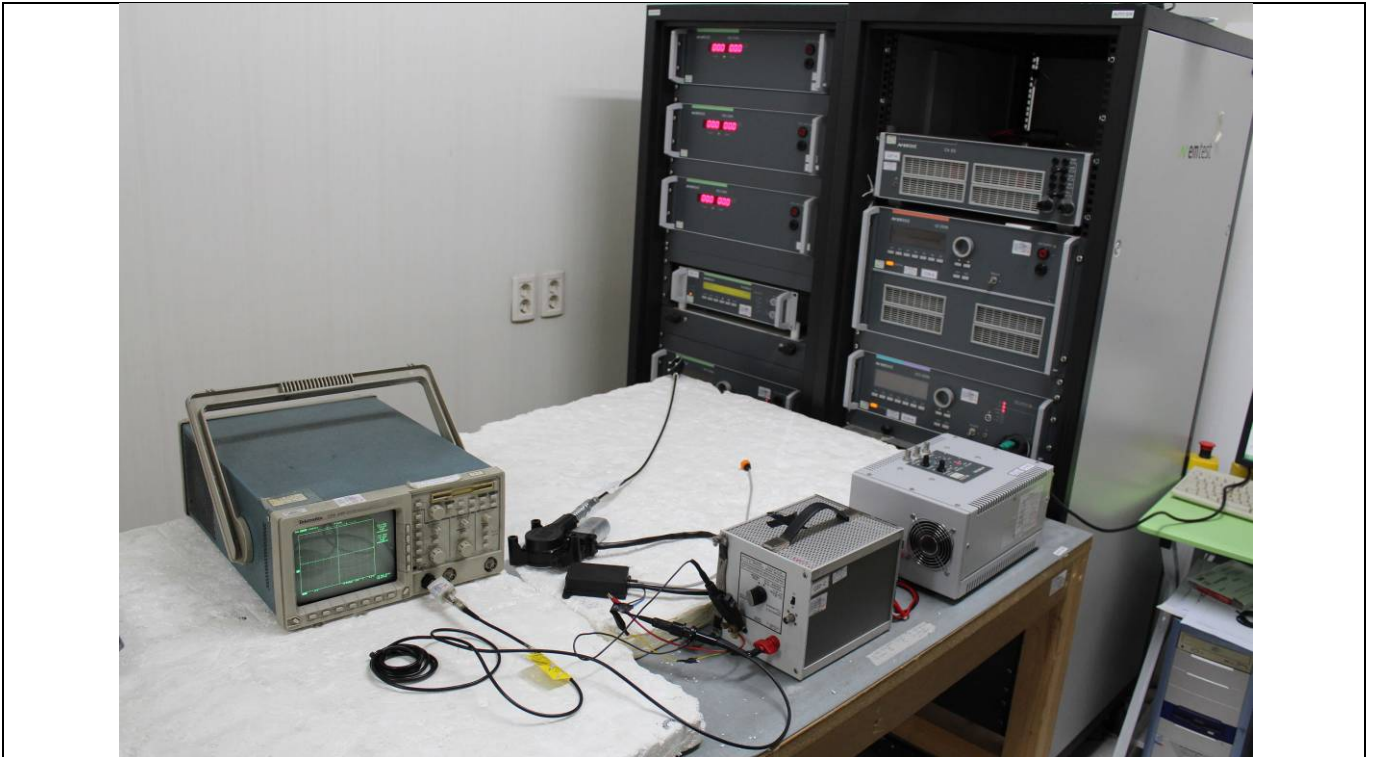
Test Result	
Number of Pulses	1 Pulses
Performance criterion	■ A
Monitoring of the EUT	The EUT was the normal operation during the test.
Test result	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail


Tested by: Doc Chang Choi / Senior Engineer

APPENDIX I - TEST SET-UP PHOTOS: (Radiated Electromagnetic Field)



APPENDIX II - TEST SET-UP PHOTOS: (VOLTAGE TRANSIENT EMISSION TESTS)



APPENDIX III - TEST SET-UP PHOTOS: (TRANSIENT IMMUNITY TESTS)



APPENDIX IV - PRODUCT PHOTOS

