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Please note, Follow-Up Procedure Revisions or Report Revisions do not include Authorization Pages, Indices, Section General, and/or Appendices unless revisions were required or requested.

Should you have any questions, after reviewing the material, or need to report any inaccuracies, please reach out to your UL representative or find UL contact details for your local Customer Service Department at <https://www.ul.com/about/locations>.

Please find attached the related material

For your convenience, the below describes the related updates:

NSEC- For File # E158873 volume# X13 section# A6142

E158873-volX13-Index
E158873-20221214A-CertificateofCompliance
E158873-A6142-DescriptionUL
Figure-13-Total
E158873-A6142-TestRecordUL

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Times change, Trust Remains™

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<u>Product Type</u>	<u>Model/Type Reference</u>	<u>Report Reference #</u>	<u>Status</u>
NETWORK VIDEO RECORDER	XRN-6410B4, XRN-3210B4	E158873-A6027-UL	
NETWORK VIDEO RECORDER	PRN-6410B4, PRN-3210B4, XRP-4210B4, PRN-6400B4, PRN-3200B4	E158873-A6028-UL	
NETWORK VIDEO RECORDER	XRN-6410DB4	E158873-A6029-UL	
NETWORK VIDEO RECORDER	PRN-6410DB4, XRP-4310DB4, PRN-6400DB4	E158873-A6030-UL	
NETWORK CAMERA	PNM-9002VQ	E158873-A6031-UL	
NETWORK CAMERA	XNF-9010RV, XNF-9010RVM, XNF-9010RS	E158873-A6032-UL	
NETWORK CAMERA	PNM-9000QB	E158873-A6033-UL	
NETWORK CAMERA	XNP-9300RW, XNP-8300RW, XNP-6400RW	E158873-A6034-UL	
NETWORK CAMERA	TNV-8010C, TNV-8011C	E158873-A6035-UL	
OUTDOOR NETWORK CAMERA	PNM-8082VT	E158873-A6036-UL	
THERMAL CAMERA	TNM-3620TDY	E158873-A6037-UL	
DIGITAL VIDEO RECORDER	HRX-1621* (* is Blank or N or P : P=PAL, N=NTSC)	E158873-A6038-UL	
NETWORK CAMERA	PNM-9022V	E158873-A6039-UL	
NETWORK CAMERA	PNM-9322VQP	E158873-A6040-UL	
DIGITAL VIDEO RECORDER	HRX-821* (* is Blank or N or P : P=PAL, N=NTSC)	E158873-A6041-UL	
NETWORK I/O BOX	SPM-4210	E158873-A6042-UL	
NETWORK VIDEO RECORDER	XRN-2011*, XRN-2010*, XRN-3010*, XRN-1610*, XRN-2010P/DM, XRN-3010P/DM, XRN-3010A, XRN-2011A, XRN-2010A, XRN-1610A (* is blank or N or P: N=NTSC, P=PAL)	E158873-A6043-UL	
PUBLIC VIEW MONITOR	SMT-2730PV	E158873-A6044-UL	
PUBLIC VIEW MONITOR	SMT-3230PV	E158873-A6045-UL	
CAMERA HOUSING	SHB-9000H	E158873-A6046-UL	
PUBLIC VIEW MONITOR	SMT-1030PV	E158873-A6047-UL	
NETWORK CAMERA	XNP-9250R, XNP-8250R, XNP-6400R	E158873-A6049-UL	
NETWORK CAMERA	XNP-9250, XNP-8250, XNP-6400	E158873-A6050-UL	
NETWORK CAMERA	ONO-9081R	E158873-A6051-UL	
NETWORK CAMERA	ONV-9081R	E158873-A6052-UL	
NETWORK VIDEO RECORDER	XRN-1620B2	E158873-A6053-UL	

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NETWORK VIDEO RECORDER	XRN-1620SB1	E158873-A6054-UL	
NETWORK VIDEO RECORDER	XRN-820S	E158873-A6055-UL	
NETWORK CAMERA	SCO-6020	E158873-A6056-UL	
NETWORK CAMERA	TNF-9010	E158873-A6057-UL	
NETWORK VIDEO RECORDER	PRN-3210B2, PRN-1610B2, XRN-6410RB2, XRN-3210RB2, XRN-6410B2, XRN-3210B2, PRN-3200B2, PRN-3205B2, PRN-1600B2, PRN-1605B2	E158873-A6058-UL	
NETWORK CAMERA	PNB-A6001	E158873-A6059-UL	
NETWORK CAMERA	PND-A6081RV, PND-A6081RF	E158873-A6060-UL	
NETWORK CAMERA	PNO-A6081R	E158873-A6061-UL	
LENS MODULE	SLA-T2480*, SLA-T2480V*, SLA-T4680*, SLA-T4680V*, SLA-T4680D, SLA-T4680DW, SLA-T4680DS, SLA-T2415, SLA-T2815B, SLA-T2480A, SLA-T2480VA, SLA-T4680A, SLA-T4680VA (* is blank or N or P: N = NTSC, P=PAL)	E158873-A6062-UL	
NETWORK CAMERA	PNV-A6081R	E158873-A6063-UL	
NETWORK CAMERA	XNB-6001*, XNB-H6240A, XNB-H6242A	E158873-A6064-UL	
NETWORK THERMAL CAMERA	TNO-3030T, TNO-3020T, TNO-3010T, TNO-3040T, TNO-3050T	E158873-A6067-UL	
NETWORK CAMERA	QNP-6320, QNP-6250, QNP-6251	E158873-A6068-UL	
NETWORK CAMERA	QNP-6320H, QNP-6250H	E158873-A6069-UL	
NETWORK CAMERA	XNV-C9083R, XNV-C8083R, XNV-C7083R, XNV-C6083R, XNV-C6083	E158873-A6070-UL	
NETWORK CAMERA	TID-600R	E158873-A6071-UL	
DIGITAL VIDEO RECORDER	HRX-1632, HRX-835	E158873-A6072-UL	
LED MONITOR	SMT-4343	E158873-A6073-UL	
NETWORK CAMERA	TNO-7180R, TNO-7180RLP	E158873-A6075-UL	
NETWORK CAMERA	XND-C9083RV, XND-C8083RV, XND-C7083RV, XND-C6083RV	E158873-A6076-UL	
NETWORK CAMERA	PNM-9031RV	E158873-A6077-UL	
NETWORK CAMERA	QNO-7082R	E158873-A6078-UL	
NETWORK CAMERA	QND-7082R	E158873-A6080-UL	
NETWORK CAMERA	QNV-7082R	E158873-A6081-UL	
NETWORK CAMERA	XNO-C9083R, XNO-C8083R, XNO-C7083R, XNO-C6083R	E158873-A6082-UL	
NETWORK CAMERA	XNV-9083R, XNV-8083R, XNV-8093R, XNV-6083R	E158873-A6083-UL	
NETWORK CAMERA	XND-9083RV, XND-8083RV, XND-8093RV, XND-6083RV	E158873-A6084-UL	
NETWORK CAMERA	QNO-7032R, QNO-7022R, QNO-7012R	E158873-A6088-UL	

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NETWORK CAMERA	XNB-9003, XNB-8003, XNB-6003	E158873-A6089-UL	
NETWORK CAMERA	XNO-9083R, XNO-8083R, XNO-6083R	E158873-A6091-UL	
NETWORK CAMERA	QNV-7012R, QNV-7022R, QNV-7032R	E158873-A6092-UL	
NETWORK CAMERA	QND-7012R, QND-7022R, QND-7032R	E158873-A6093-UL	
NETWORK CAMERA	QNP-6320R, QNP-6250R	E158873-A6094-UL	
NETWORK CAMERA	XNV-6123R	E158873-A6100-UL	
NETWORK CAMERA	XNO-6123R	E158873-A6101-UL	
NETWORK CAMERA	LNO-6072R	E158873-A6102-UL	
NETWORK CAMERA	LNV-6012R, LNV-6022R, LNV-6032R, ANV-L6012R	E158873-A6103-UL	
NETWORK CAMERA	LNV-6072R	E158873-A6104-UL	
NETWORK CAMERA	LND-6012R, LND-6022R, LND-6032R	E158873-A6105-UL	
NETWORK CAMERA	LND-6072R	E158873-A6106-UL	
NETWORK CAMERA	LNO-6012R, LNO-6022R, LNO-6032R, ANO-L6012R, ANO-L6022R	E158873-A6107-UL	
NETWORK CAMERA	ANO-L7022R, ANO-L7012R	E158873-A6108-UL	
NETWORK CAMERA	TNV-7010RC, TNV-7011RC	E158873-A6109-UL	
NETWORK CAMERA	ANV-L7012R	E158873-A6110-UL	
NETWORK CAMERA	XNZ-6320A	E158873-A6111-UL	
NETWORK CAMERA	QNP-6320HS	E158873-A6112-UL	
NETWORK CAMERA	PNM-A9083RVD, PNM-A7083RVD, PNM-C12083RVD, PNM-C7083RVD	E158873-A6113-UL	
NETWORK VIDEO RECORDER	ARN-1610S	E158873-A6114-UL	
NETWORK CAMERA	XNZ-L6320A	E158873-A6115-UL	
NETWORK VIDEO RECORDER	QRN-1630S, XRN-815S	E158873-A6116-UL	
NETWORK CAMERA	ANO-L7082R, ANO-L6082R	E158873-A6117-UL	
THERMAL NETWORK CAMERA	TNM-C4940TD, TNM-C4950TD, TNM-C4960TD	E158873-A6118-UL	
NETWORK CAMERA	ANE-L7012R, ANE-L6012R	E158873-A6119-UL	
NETWORK CAMERA	PNM-12082RVD, PNM-7082RVD	E158873-A6120-UL	
NETWORK CAMERA	ANV-L7082R, ANV-L6082R	E158873-A6121-UL	
DIGITAL VIDEO RECORDER	HRX-1635	E158873-A6122-UL	
DIGITAL VIDEO RECORDER	HRX-835A	E158873-A6123-UL	
NETWORK CAMERA	XNF-9013RV	E158873-A6124-UL	
NETWORK VIDEO ENCODER	SPE-1630	E158873-A6125-UL	
NETWORK VIDEO RECORDER	QRN-430S, ARN-410S	E158873-A6126-UL	
NETWORK VIDEO RECORDER	XRN-420S	E158873-A6127-UL	

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NETWORK VIDEO RECORDER	QRN-830S	E158873-A6128-UL	
NETWORK VIDEO RECORDER	ARN-810S	E158873-A6129-UL	
NETWORK CAMERA	XNV-9083RZ, XNV-8083RZ, XNV-6083RZ	E158873-A6130-UL	
DIGITAL VIDEO RECORDER	HRX-434	E158873-A6131-UL	
NETWORK CAMERA	XNV-8083Z, XNV-6083Z	E158873-A6132-UL	
NETWORK VIDEO ENCODER	SPE-420	E158873-A6133-UL	
NETWORK CAMERA	XNB-6002	E158873-A6134-UL	
DIGITAL VIDEO RECORDER	HRX-435	E158873-A6135-UL	
DIGITAL VIDEO RECORDER	HRX-1634	E158873-A6136-UL	
VIDEO DECODER	SPD-152	E158873-A6137-UL	
NETWORK CAMERA	PNM-C9022RV	E158873-A6138-UL	
PENDANT SPEAKER	SPA-P100W, SPA-P100B	E158873-A6139-UL	
SECURITY LED MONITOR	SMT-2212	E158873-A6140-UL	
DIGITAL VIDEO RECORDER	ARD-1610	E158873-A6142-UL	
DIGITAL VIDEO RECORDER	ARD-810, ARD-410	E158873-A6144-UL	

CERTIFICATE OF COMPLIANCE

Certificate Number UL-CA-2245898-0
Report Reference E158873-20221214
Date 17-Dec-2022

Issued to: Hanwha Techwin Co Ltd
6, Pangyo-ro 319beon-gil, Bundang-gu Seongnam-si,
Gyeonggi-do 13488
Republic of Korea

This is to certify that representative samples of AZOT7 - Audio/Video, Information and Communication Technology Equipment Certified for Canada
See Addendum Page for Product Designation(s).

Have been evaluated by UL in accordance with the Standard(s) indicated on this Certificate.


Standard(s) for Safety: CSA C22.2 No. 62368-1:19, 3rd Ed., Issue Date: 2019-12-13, Revision Date: 2021-10-22

Additional Information: See the UL Online Certifications Directory at <https://iq.ulprospector.com> for additional information

This Certificate of Compliance indicates that representative samples of the product described in the certification report have met the requirements for UL certification. It does not provide authorization to apply the UL Mark. Only the Authorization Page that references the Follow-Up Services Procedure for ongoing surveillance provides authorization to apply the UL Mark.

Only those products bearing the UL Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Certification Mark on the product.


Deborah Jennings-Conner, VP Regulatory Services

UL LLC

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CERTIFICATE OF COMPLIANCE

Certificate Number UL-CA-2245898-0
Report Reference E158873-20221214
Date 17-Dec-2022

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements

Model	Category Description
ARD-1610	DIGITAL VIDEO RECORDER

Deborah Jennings-Conner

Deborah Jennings-Conner, VP Regulatory Services

UL LLC

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CERTIFICATE OF COMPLIANCE

Certificate Number UL-US-2248219-0
Report Reference E158873-20221214
Date 17-Dec-2022

Issued to: Hanwha Techwin Co Ltd
6, Pangyo-ro 319beon-gil, Bundang-gu Seongnam-si,
Gyeonggi-do 13488
Republic of Korea

This is to certify that representative samples of AZOT - Audio/Video, Information and Communication Technology Equipment
See Addendum Page for Product Designation(s).

Have been evaluated by UL in accordance with the Standard(s) indicated on this Certificate.

Standard(s) for Safety: UL 62368-1, 3rd Ed., Issue Date: 2019-12-13, Revision Date: 2021-10-22

Additional Information: See the UL Online Certifications Directory at <https://iq.ulprospector.com> for additional information

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CERTIFICATE OF COMPLIANCE

Certificate Number UL-US-2248219-0
Report Reference E158873-20221214
Date 17-Dec-2022

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements

Model	Category Description
ARD-1610	DIGITAL VIDEO RECORDER

Deborah Jennings-Conner

Deborah Jennings-Conner, VP Regulatory Services

UL LLC

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UL TEST REPORT AND PROCEDURE

Standard:	UL 62368-1, 3rd Ed, 2021-10-22 (Audio/video, information and communication technology equipment Part 1: Safety requirements) CAN/CSA C22.2 No. 62368-1:19, 3rd Ed, 2021-10-22 (Audio/video, information and communication technology equipment Part 1: Safety requirements)
Certification Type:	Listing
CCN:	AZOT, AZOT7 (Audio/video, Information and Communication Technology Equipment)
Complementary CCN:	N/A
Product:	DIGITAL VIDEO RECORDER
Model:	ARD-1610
Rating:	12 Vdc, 3.4 A
Applicant Name and Address:	HANWHA TECHWIN CO LTD 6, PANGYO-RO 319BEON-GIL, BUNDANG-GU SEONGNAM-SI GYEONGGI-DO 13488 KOREA

This is to certify that representative samples of the products covered by this Test Report have been investigated in accordance with the above referenced Standards. The products have been found to comply with the requirements covering the category and the products are judged to be eligible for Follow-Up Service under the indicated Test Procedure. The manufacturer is authorized to use the UL Mark on such products which comply with this Test Report and any other applicable requirements of UL LLC ('UL') in accordance with the Follow-Up Service Agreement. Only those products which properly bear the UL Mark are considered as being covered by UL's Follow-Up Service under the indicated Test Procedure.

The applicant is authorized to reproduce the referenced Test Report provided it is reproduced in its entirety.

UL authorizes the applicant to reproduce the latest pages of the referenced Test Report consisting of the first page of the Specific Technical Criteria through to the end of the Conditions of Acceptability.

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL.

Prepared By: Lawrence Lee / Project Handler Reviewed By: SeungTae Kim / Reviewer

Supporting Documentation

The following documents located at the beginning of this Procedure supplement the requirements of this Test Report:

A. Authorization - The Authorization page may include additional Factory Identification Code markings.

B. Generic Inspection Instructions -

- i. Part AC details important information which may be applicable to products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of this Test Report.
- ii. Part AE details any requirements which may be applicable to all products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of each Test Report.
- iii. Part AF details the requirements for the UL Certification Mark which is not controlled by the technical standard used to investigate these products. Products are permitted to bear only the Certification Mark(s) corresponding to the countries for which it is certified, as indicated in each Test Report.

Product Description

DIGITAL VIDEO RECORDER was supplied by adaptor (Complied with LPS) and consist of main board, 2 hard disk-drive, 2 DC fan and numerous components mounted on PCB. This unit have numerous output ports (USB, VGA, VIDEO, HDMI, ALARM, NETWORK).

Model Differences

N/A

Test Item Particulars

Product group	end product
Classification of use by	Ordinary person
Supply Connection	not mains connected: ES1
Supply tolerance	None
Supply connection – type	N/A
Considered current rating of protective device	N/A
Equipment mobility	movable
Over voltage category (OVC)	OVC I
Class of equipment	Class III
Special installation location	N/A
Pollution degree (PD)	PD 2
Manufacturer's specified Tma (°C)	40
IP protection class	IPX0
Power systems	not AC mains
Altitude during operation (m)	2000 m or less
Altitude of test laboratory (m)	2000 m or less
Mass of equipment (kg)	3.63

Technical Considerations

- The product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturer's specification of : 40 °C
- The product is intended for use on the following power systems : No direct connection
- Considered current rating of protective device as part of the building installation (A) : N/A

- Mains supply tolerance (%) or absolute mains supply : No direct connection
- The equipment disconnect device is considered to be : N/A
- The following circuit locations (with circuit/schematic designation) were investigated as a limited power source (LPS) : All output ports
- The following are available from the Applicant upon request : Installation (Safety) Instructions / Manual

Additional Information

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- Maximum Normal Load: Continuous operation with fan and connected output ports; VGA, VIDEO, AUDIO, HDMI, ALARM, NETWORK, Front USB (2EA) (0.50 A each), Rear USB (0.50 A) and DC Fan (2EA) on.

Additional Standards

The product fulfills the requirements of: N/A

Markings and Instructions

Clause Title	Marking or Instruction Details
Equipment identification marking – Manufacturer identification	Listee’s or Recognized Company’s name, Trade Name, Trademark or File Number
Equipment identification marking – model identification	Model Number
Equipment rating marking – ratings	Input Ratings (voltage, frequency/dc, current/power) Output Ratings (voltage, frequency/dc, current/power)

Special Instructions to UL Representative

N/A

BD1.0						
TABLE: Production-Line Testing Requirements						
BD1.1						
Electric Strength Test Special Constructions – Refer to Generic Inspection Instructions, Part AC for further information.						
Model	Component	Removable parts	Test probe location	Test V rms	Test V dc	Test Time, s
-	-	-	-	-	-	-
BD1.2						
Earthing Continuity Test Exemptions – This test is not required for the following models:						
All model						
BD1.3						
Electric Strength Test Exemptions – This test is not required for the following models:						
All model						
BD1.4						
Electric Strength Test Component Exemptions – The following solid-state components may be disconnected from the remainder of the circuitry during the performance of this test.						
All model						

BE1.0					
Sample and Test Specifics for Follow-Up Tests at UL					
Model	Component	Material	Test	Sample (s)	Test Specifics
-	-	-	-	-	-

4.1.2	TABLE: List of critical components					Pass
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Product Category CCN(s)	Mark(s) of conformity	Supplement ID
Switching Power Adapter	FSP GROUP INC	FSP060-DHAN3	Rated Input: 100-240 Vac, 50/60 Hz, 1.8 A, Output: +12 Vdc, 5.0 A, 60.0 W	QQJQ	UL (E190414)	
Power cord set (For Adapter)	WEIHAI HONG LIN ELECTRONIC CO LTD	HL-002S+ SVT 18AWG X3C+ HL-004	Detachable, min 1.5 m, max. 4.5 m long, rated 125 V, 10 A, 18/3 AWG, 105 deg. C, SVT type flexible cord. One end with NEMA 5-15P the other end with appliance coupler.	ELBZ2	UL (E254927)	
Power cord set (For Adapter) - Alternate	LONGWELL CO	LP-30B+ SVT 18AWG X 3C+ LS-13	Detachable, min 1.5 m, max. 4.5 m long, rated 125 V, 10 A, 18/3 AWG, 60 deg. C, SVT type flexible cord. One end with NEMA 5-15P the other end with appliance coupler.	ELBZ2	UL (E55349)	
Power cord set (For Adapter) - Alternate	CHANGZHOU HONG CHANG ELECTRONICS CO LTD	DTII-3P-11+UL SVT 18AWG/3C +DTII-3P-04	Detachable, min 1.5 m, max. 4.5 m long, rated 125 V, 10 A, 18/3 AWG, 105 deg. C, SVT type flexible cord. One end with NEMA 5-15P the other end with appliance coupler.	ELBZ2	UL (E205766)	
Power cord set (For Adapter) - Alternate	KOREA KDK CO LTD	KKP-30+ SVT 3/18AWG+ KKS-16A	Detachable, min 1.5 m, max. 4.5 m long, rated 125 V, 7 A, 18/3 AWG, 105 deg. C, SVT type flexible cord. One end with NEMA 1-15 other	ELBZ2	UL (E58075)	

			end with appliance coupler.			
Case-Top (Metal)	Interchangeable	Interchangeable	SECC, Steel electrolytic cold commercial, Min. 0.6 mm thickness, see enclosure for dimension.	-	-	
Case-Bottom (Metal)	Interchangeable	Interchangeable	SECC, Steel electrolytic cold commercial, Min. 0.8 mm thickness, see enclosure for dimension.	-	-	
Case-Rear (Metal)	Interchangeable	Interchangeable	SECC, Steel electrolytic cold commercial, Min. 0.8 mm thickness, see enclosure for dimension.	-	-	
Case-Front (Plastic)	LOTTE CHEMICAL CORPORATION	NH-1017(p)	Min. 2.5 mm thickness, rated Min. V-0, 85 deg. C	QMFZ2	UL (E115797)	
Hard Disk Drive (Max. 2 EA)	Interchangeable	Interchangeable	5 Vdc or 12 Vdc	AZOT2, NWGQ2	UL	
USB Protection IC (U12, U13, U30)	TexasInstrumentsInc	TPS2062	Rated 2.7-5.5 Vdc, Continuous current: 1.0 A, Protection current: 5.0 A	QVGS2	UL (E169910)	
USB Protection Circuit	Interchangeable	Interchangeable	Resistor (R520, 3.3 kohm / R525, 10 kohm) in series.	-	-	
DC Fan	HuiTong Electronic Co., Ltd.	HTD-040(X)12M	12 Vdc, 0.06 A, 4000 RPM (N/15000+K/2400 = 0.290667 < 1, N=4000, K=57.6)	GPWV2	UL (E311396)	
DC Fan - Alternate	SUNONWEALTH ELECTRIC MACHINE INDUSTRY CO LTD	HA40101V4	12 Vdc, Max. 0.037 A, 5000 RPM (N/15000+K/2400 =	GPWV2	UL (E77551)	

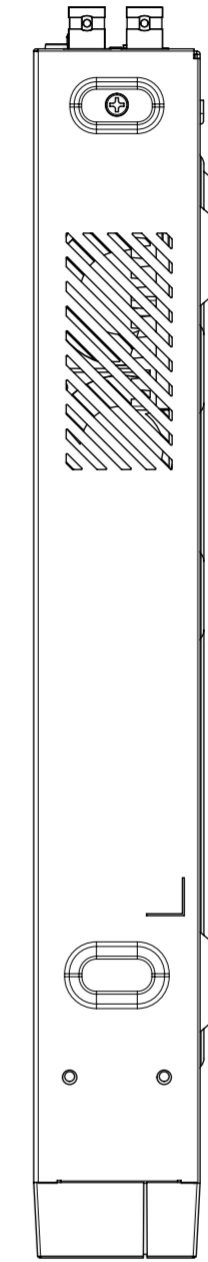
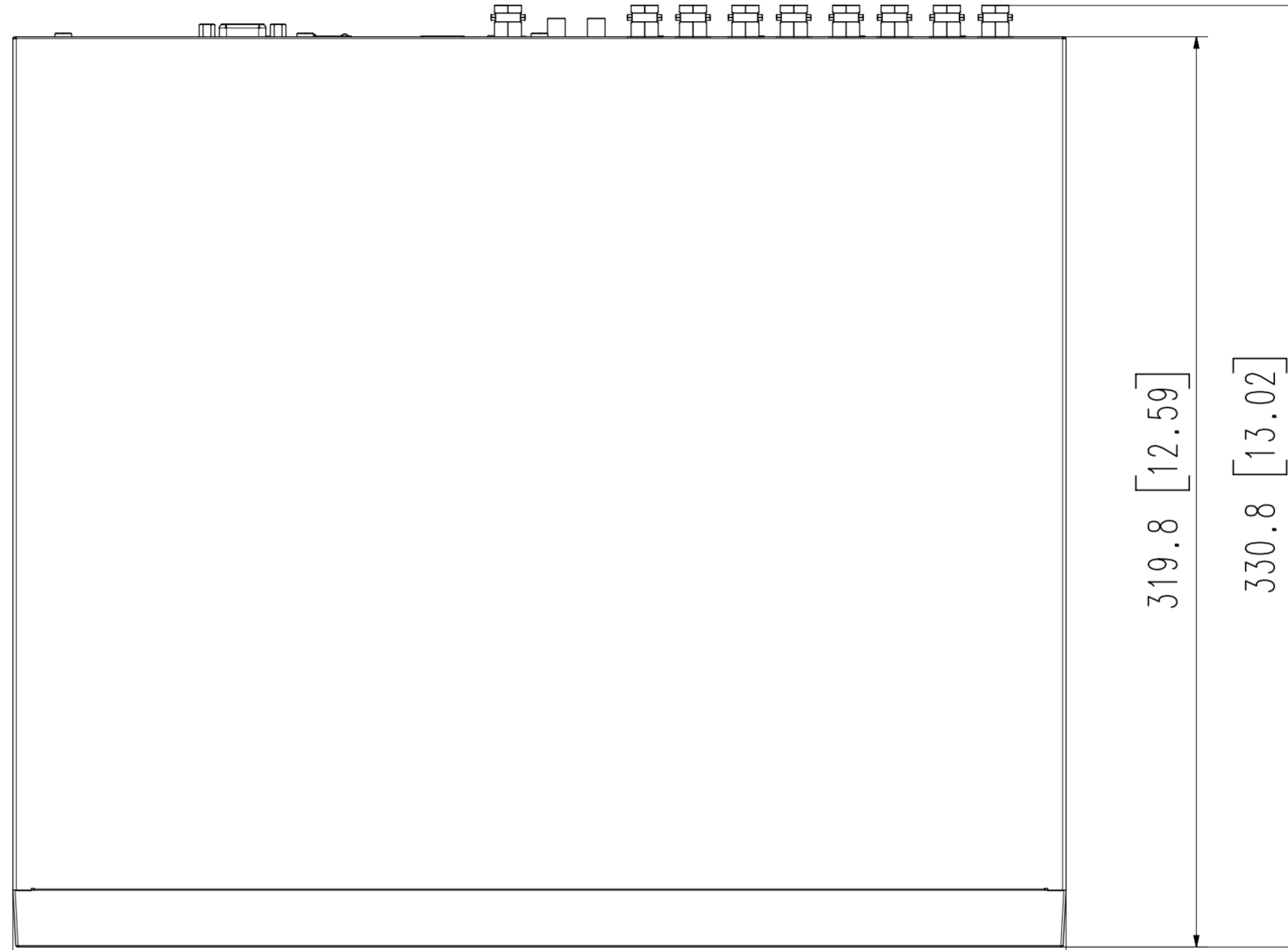
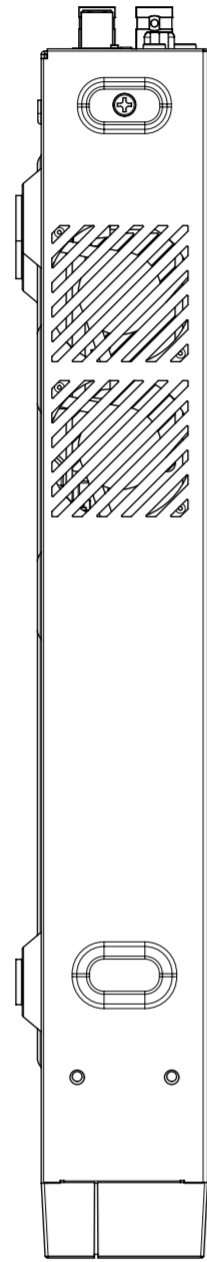
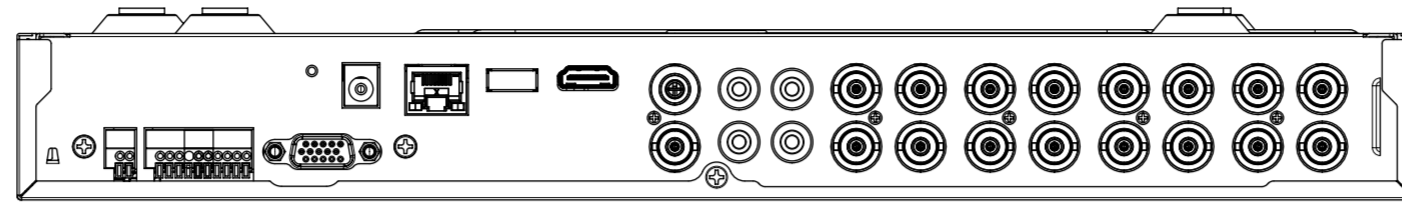
			0.371833 < 1, N=5000, K=92.4)			
Lithium Battery (CN1)	WUHAN LIXING (TORCH) POWER SOURCE CO LTD	CR2032	Lithium/manganese dioxide (Coin), Max Abnormal Charging Current: 10 mA, Max Abnormal Charging Voltage: 5.0 Vdc	BBCV2	UL (MH26236)	
Lithium Battery (CN1) - Alternate	PANASONIC CORPORATION, PANASONIC CORPORATION OF NORTH AMERICA	CR2032*	Lithium/manganese dioxide (Coin), Max Abnormal Charging Current: 10 mA, Max Abnormal Charging Voltage: -	BBCV2	UL (MH12210)	
Lithium Battery (CN1) - Alternate	Tohoku Murata Manufacturing Co., Ltd.	CR2032*	Lithium/manganese dioxide (Coin), Max Abnormal Charging Current: 10 mA, Max Abnormal Charging Voltage: 3.5 Vdc	BBCV2	UL (MH12566)	
Reverse Current Protection Circuit for Lithium Coin Battery (BAT1)	Interchangeable	Interchangeable	Diode (D9, 80 V, 100 mA) and resistor (R250, 3.3 kohm, 1/16 W) in series.	-	-	
Relay (RLY1)	FUJITSU COMPONENT LIMITED.	FTR-B3	Contact Rating 30 Vdc 1 A, Carrying Current 2.0 A	NRNT2	UL (E63615)	
Tubing	SHENZHEN WOLIDA TRADING CO LTD	RSFR-H	Max 600 Vrms, max 125 deg.C	YDPU2	UL (E329530)	
Internal Wiring	HONG KONG DONG TIAN TONG LI ELECTRICITY CO LTD	1007	VW-1, 300 V, 80 deg. C	AVLV2	UL (E254854)	
Internal Wiring - Alternate	Interchangeable	Interchangeable	FEP, PTFE, PVC, TFE, neoprene, polyimide or	AVLV2	UL	

			marked VW-1; Min. 300 V, 80 deg.			
Cable	Henan CARVE Electronics Polytron Technologies Inc	2725	VW-1, 30 V, 60 or 80 deg. C	AVLV2	UL (E346485)	
Cable - Alternate	Interchangeable	Interchangeable	FEP, PTFE, PVC, TFE, neoprene, polyimide or marked VW-1; Min. 30 V, 60 deg. C	AVLV2	UL	
FFC cable	FAT CO LTD	20861	Marked VW-1; Min. 60 V, 105 deg C	AVLV2	UL (E363546)	
FFC cable - Alternate	Interchangeable	Interchangeable	Marked VW-1, Min. 60 V, 105 deg. C	AVLV2	UL	
Connectors and Receptacles (Secondary circuits)	Interchangeable	Interchangeable	-	ECBT2	UL	
Connectors and Receptacles (Secondary circuits) - Alternate	Interchangeable	Interchangeable	Copper alloy pins housed in bodies of plastic rated Min. V-2	QMFZ2	UL	
PWB	KI JOO INDUSTRIAL CO LTD	KJ4-V-0-2	Min. V-0, 130 deg. C	ZPMV2	UL (E111636)	
PWB - Alternate	Interchangeable	Interchangeable	Min. V-0, 130 deg. C	ZPMV2	UL	
Label	Interchangeable	Interchangeable	Min. 40 deg. C if max. surface temperature not specified.	PGDQ2 or PGJ12	UL	

Enclosures

Type	Supplement Id	Description
Photographs	03-01	External View - 1
Photographs	03-02	External View - 2
Photographs	03-03	Internal View
Photographs	03-04	Rear ports View
Photographs	03-05	Main Board - Top
Photographs	03-06	Main Board - Bottom
Photographs	03-07	Alarm Board - Top
Photographs	03-08	Alarm Board - Bottom
Photographs	03-09	Fan
Photographs	03-10	Adapter
Diagrams	04-01	Enclosure Diagram
Manuals	06-01	Manual
Miscellaneous	07-01	Label

The following Page(s) are related to Diagrams-01. The next supplement, if applicable, will be identified with a new Supplement Page Heading.



370.0 [14.57]

319.8 [12.59]

330.8 [13.02]

44.0 [1.73]

50.7 [2.00]

1	ARD-1610	'22.11.17
No.	MODEL NAME	DATE
Unit: mm [inch] SCALE: 1/2		© Hanwha Techwin

The following Page(s) are related to Manuals-01. The next supplement, if applicable, will be identified with a new Supplement Page Heading.

IMPORTANT SAFETY INSTRUCTIONS

Read these operating instructions carefully before using the unit.

Follow all the safety instructions listed below.

Keep these operating instructions handy for future reference.

- 1) Read these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions.
- 5) Do not use this apparatus near water.
- 6) Clean the contaminated area on the product surface with a soft, dry cloth or a damp cloth. (Do not use a detergent or cosmetic products that contain alcohol, solvents or surfactants or oil constituents as they may deform or cause damage to the product.)
- 7) Do not block any ventilation openings, Install in accordance with the manufacturer's instructions.
- 8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9) Do not defeat the safety purpose of the polarized or grounding- type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. if the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 11) Only use attachments/accessories specified by the manufacturer.
- 12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.



- 13) Unplug this apparatus during lightning storms or when unused for long periods of time.
- 14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Standards Approvals



- ! Any changes or modifications in construction of this device which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
- ☒ This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
 - This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.
 - Reorient or relocate the receiving antenna.
 - Increase the separation between the equipment and receiver.
 - Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
 - Consult the dealer or an experienced radio/TV technician for help.

PRODUCT USER MANUAL DESCRIPTION

This document is a user manual for Recorder product. Before using this product, please read this document carefully in order to use it properly.

- This user manual explains how to use the product based on the defaults and default screens of this product.
- The content of this manual is subject to change depending on the product software updates and the company policies. It is subject to partial changes without prior notification to users.

TARGET AUDIENCE

This user manual contains contents for Recorder users.

HOW TO USE THE PRODUCT

Users of this product can perform the following:

- Monitor cameras registered to Recorder in real time
- Search for or play videos saved in Recorder
- Monitor text data being transmitted to the POS device connected to Recorder in real time
- Search for text data from the POS device connected to Recorder
- Monitor real time events that occur in Recorder, sensors, and cameras or search through logs

Before using this product, check if the latest version of this software is installed. Go to Hanwha Techwin's website (<http://www.hanwha-security.com>) to check the software version and download necessary files.

CAUTION

- RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.
- Do not ingest battery, Chemical Burn Hazard.
- This product contains a coin / button cell battery. If the coin / button cell battery is swallowed, it can cause severe internal burns in just 2 hours and can lead to death.
- Keep new and used batteries away from children. If the battery compartment does not close securely, stop using the product and keep it away from children.
If you think batteries might have been swallowed or placed inside any part of the body, seek immediate medical attention.

ATTENTION

- IL Y A RISQUE D'EXPLOSION SI LA BATTERIE EST REMPLACÉE PAR UNE BATTERIE DE TYPE INCORRECT. METTRE AU REBUT LES BATTERIES USAGÉES CONFORMÉMENT AUX INSTRUCTIONS.
- Ne pas ingérer la pile, risque de brûlure chimique.
- Ce produit contient une pile de type bouton/pièce de monnaie. Si la pile de type bouton/pièce de monnaie est avalée, elle peut causer de graves brûlures internes en seulement 2 heures et peut entraîner la mort.
- Gardez les piles neuves et usagées hors de portée des enfants. Si le compartiment de la pile ne se ferme pas correctement, cessez d'utiliser le produit et gardez-le d'atteinte des enfants.
Si vous suspectez que des piles ont été avalées ou insérées dans une partie du corps, consultez un médecin sans tarder.

DIGITAL VIDEO RECORDER

MODEL: ARD-1610

DC 12V $\overline{\text{---}}$ 3.4A

M/C: ARD-1610/VUS

Fac. ID: V



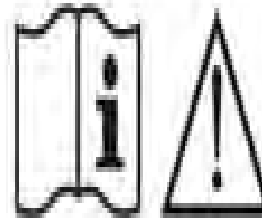
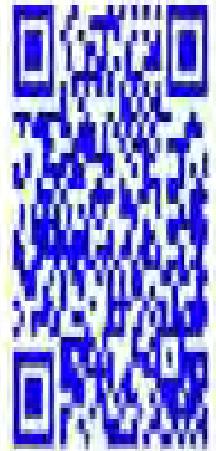
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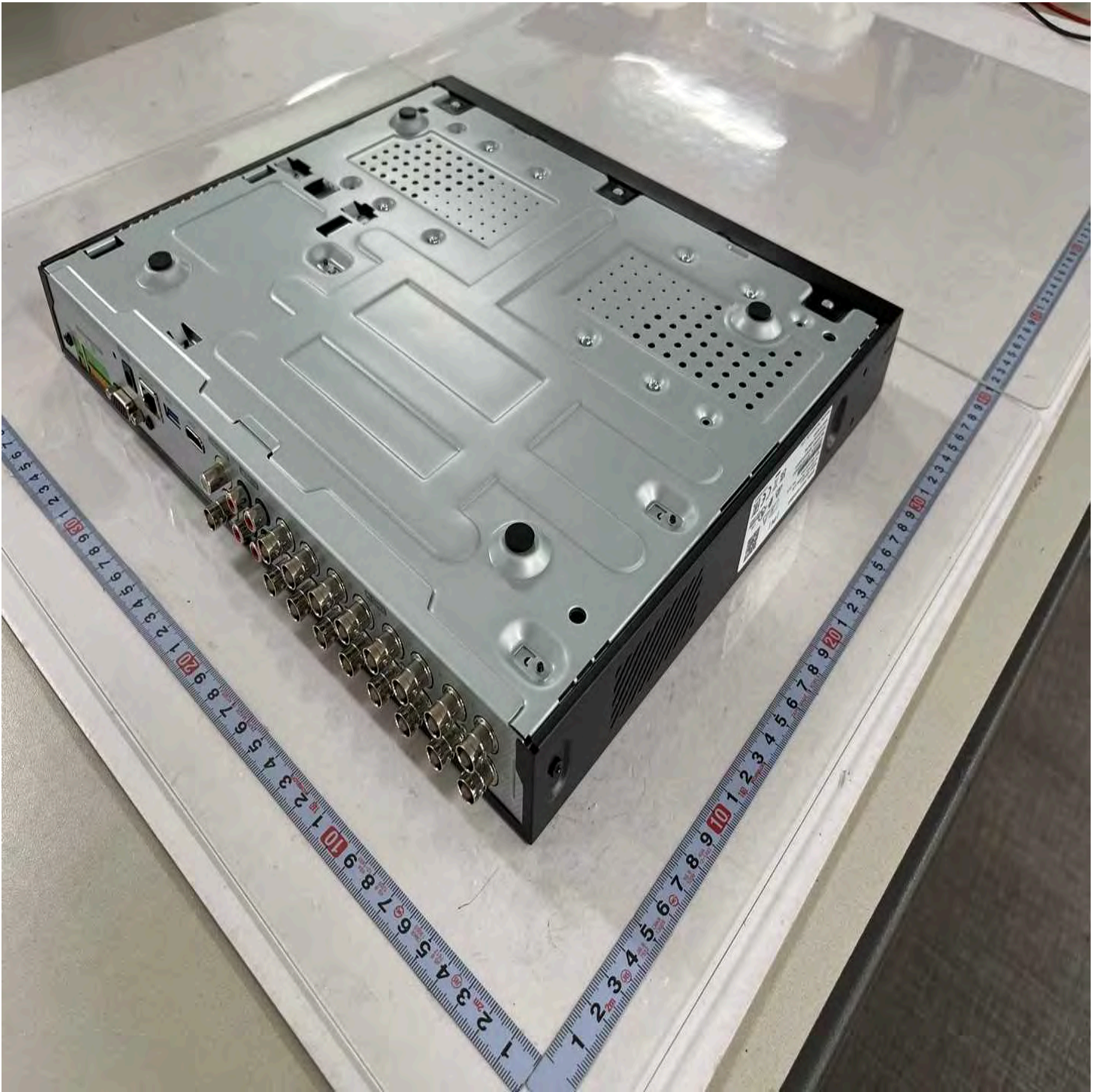
CAN ICES-3(A)/NMB-3(A)

Engineered in Korea Made in Vietnam

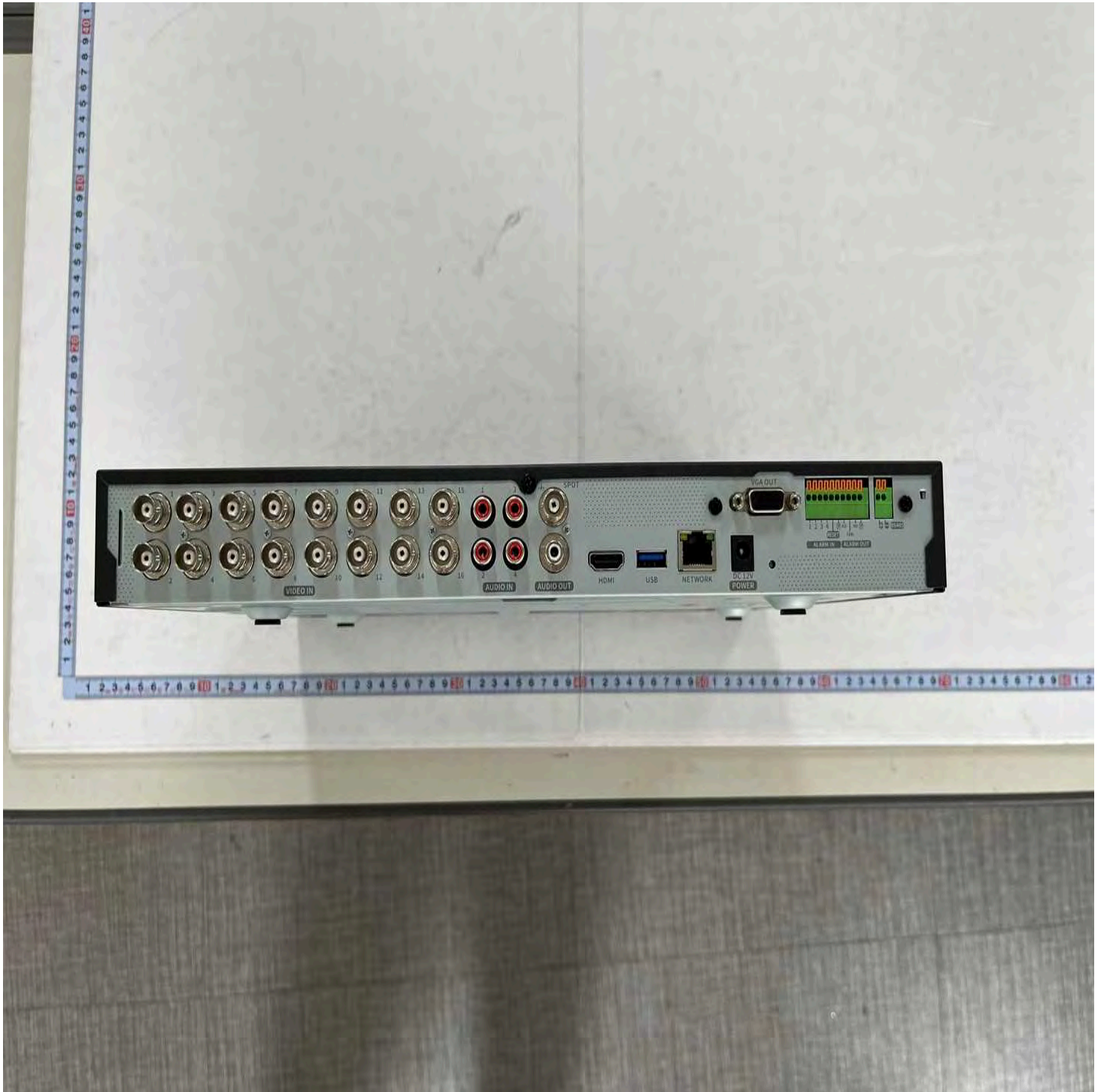
Hanwha Techwin Co., Ltd.

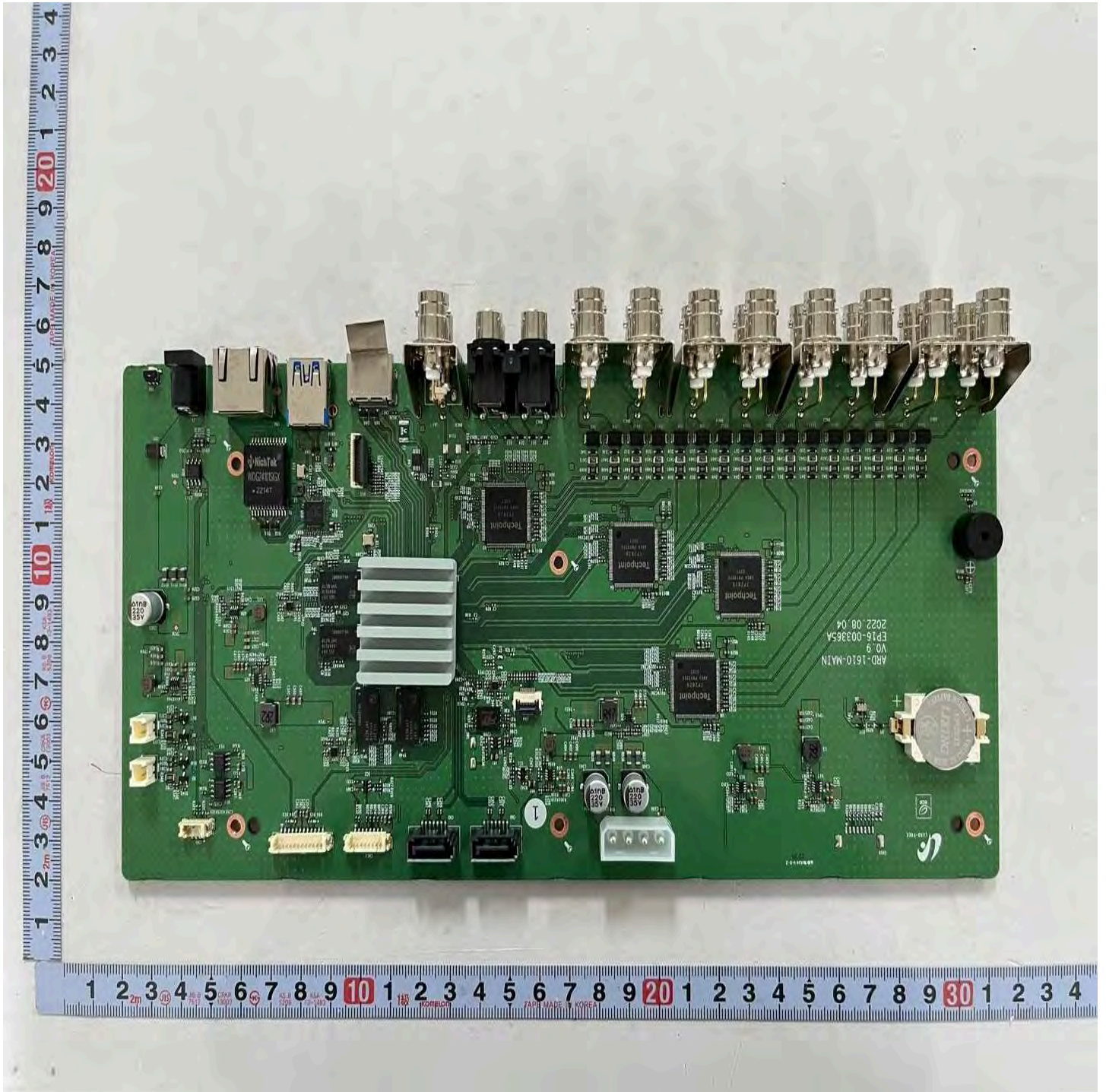


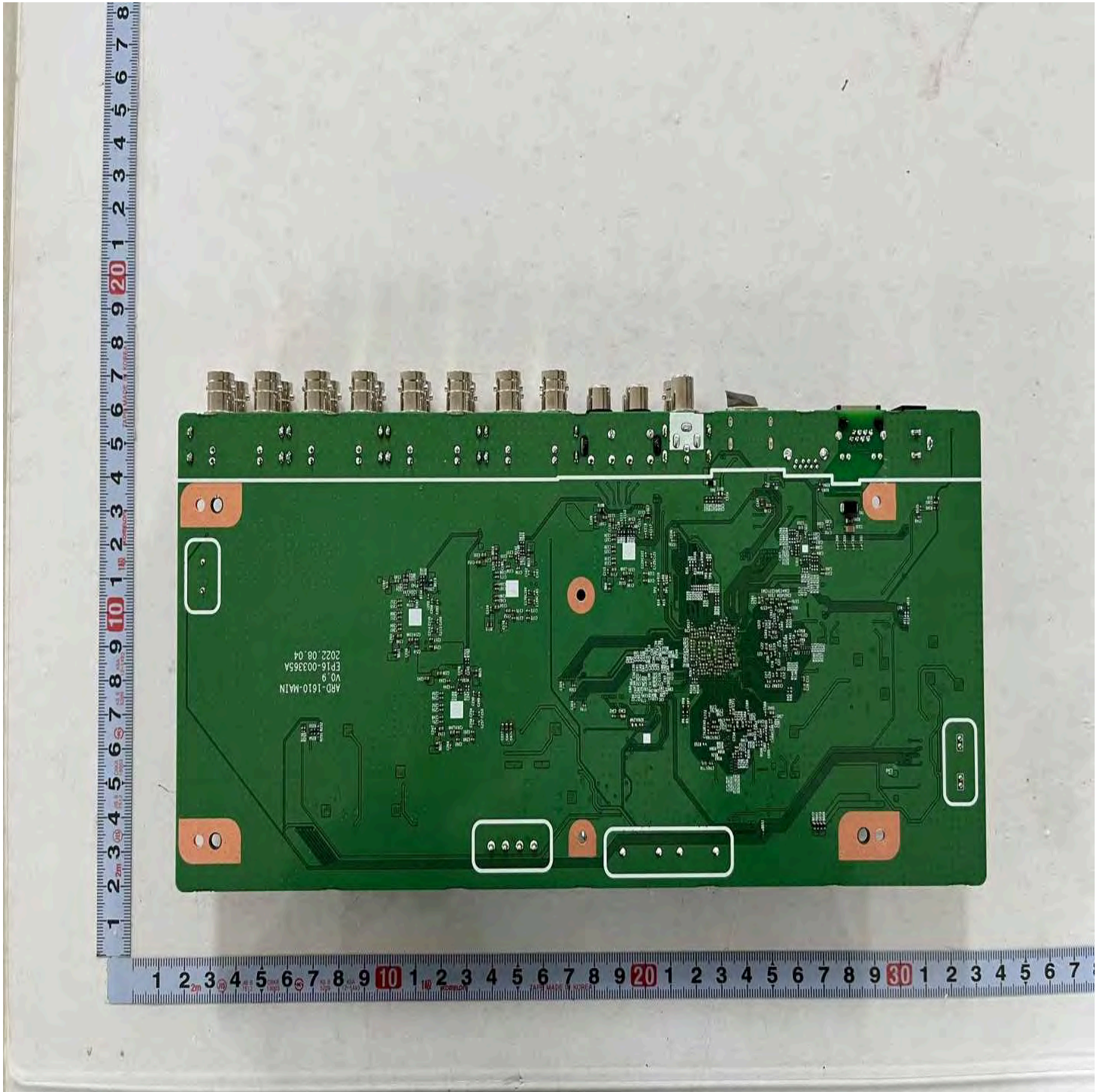


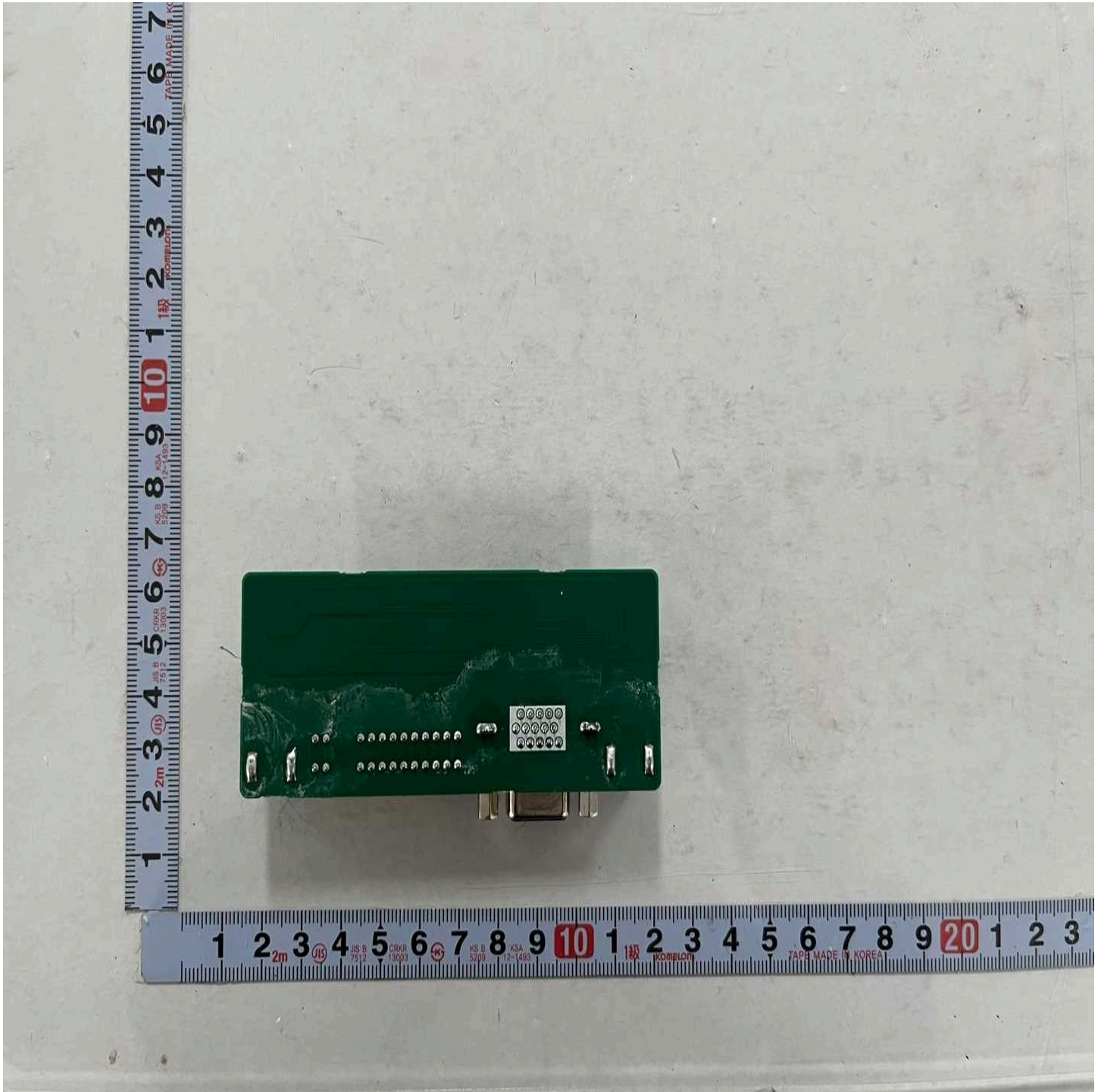


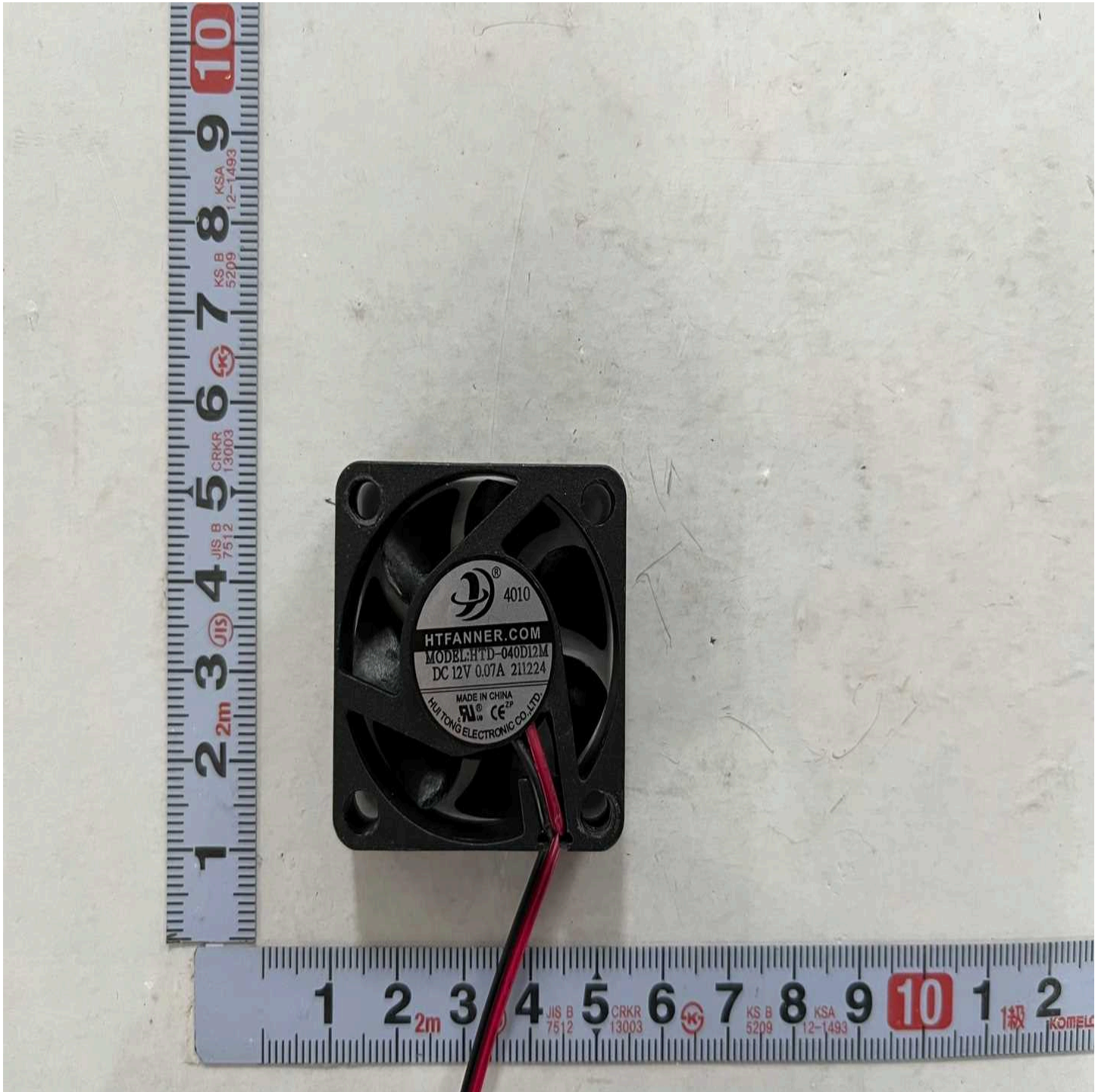














Test Record No. 1

1. Test result relate only to the items tested.
2. The manufacturer submitted representative production samples of DIGITAL VIDEO RECORDER, ARD-1610.
3. Only the test listed were considered necessary.

The following tests were conducted:

Tests performed (name of test and test clause):	Testing location: CTK Co., Ltd. / 142, Dongbu-ro, Cheoin-gu, Yongin-si, Gyeonggi-do, 17141, Korea
B.2.5 – INPUT TEST: SINGLE PHASE	
B.2.6, 5.4.1.4, 6.3, 9.3, B.1.5 – NORMAL OPERATING CONDITIONS TEMPERATURE MEASUREMENT	
B.3 – SIMULATED ABNORMAL OPERATING CONDITIONS	
B.4 – SIMULATED SINGLE FAULT CONDITIONS	
M.3.2 – PROTECTION CIRCUITS FOR BATTERIES	
Q.1 – LIMITED POWER SOURCE	
The following tests were waived:	Rationale for Waiving

Test results are valid only for the tested equipment. These tests are considered representative of the products covered by this Test Report. The test methods and results of the above tests have been reviewed and found to be in accordance with the requirements in the Standard(s) referenced at the beginning of this Test Report.

The following supplements are provided as part of this Test Record. NOTE: These supplements are only available to the Applicant via the myUL™ Client Portal.

Type	Supplement Id	Description
Datasheet	02-01	Datasheet
Attachment	02-02	Dual language safety labeling CRD