



THE UNITED KINGDOM VEHICLE APPROVAL AUTHORITY

COMMUNICATION CONCERNING THE APPROVAL GRANTED ⁽¹⁾/ ~~APPROVAL EXTENDED ⁽⁴⁾/~~
~~APPROVAL REFUSED ⁽⁴⁾/~~ ~~APPROVAL WITHDRAWN ⁽⁴⁾/~~ ~~PRODUCTION DEFINITELY~~
~~DISCONTINUED ⁽⁴⁾~~ OF A TYPE OF ELECTRICAL/ ELECTRONIC SUB-ASSEMBLY ⁽¹⁾ WITH
REGARD TO REGULATION NO. 10.05



Approval No: E11*10R05/01*10978*00

1. Make (trade name of manufacturer): WISENET
2. Type and general commercial description(s): QNV-6024RM / QNV-6024RM, QNV-6023R
(Network Camera)
3. Means of identification of type, if marked on the vehicle/component/~~separate technical unit~~: ⁽¹⁾
QNV-6024RM, QNV-6023R marking on adhesive label
 - 3.1. Location of that marking: Bottom side of product
4. Category of vehicle: Not applicable
5. Name and address of manufacturer:
Hanwha Techwin Co. Ltd.
6, Pangyo-ro 319 beon-gil
Bundang-gu
Seongnam-si
Gyeonggi-do
Republic of Korea
6. In the case of components and separate technical units, location and method of affixing of the
approval mark: Label on the bottom side of product

7. Address(es) of assembly plant(s):
Hanwha Techwin Security Vietnam
Lot O-2, Que Vo Industrial Zone extended area
Nam Son commune
Bac Ninh city
Bac Ninh province
Vietnam
8. Additional information (where applicable): See Appendix below
9. Technical Service responsible for carrying out the tests: Vehicle Certification Agency
10. Date of test report: 28 November 2019
11. No. of test report: KSV479678 (10978)
12. Remarks (if any): See Appendix below
13. Place: BRISTOL
14. Date: 02 DECEMBER 2019
15. Signature:  D LAWLOR
Chief Technical and Statutory Operations Officer
16. The index to the information package lodged with the Approval Authority, which may be obtained on request, is attached.
17. Reasons for extension: Not applicable
- (1) Strike out what does not apply.

Appendix

to type-approval communication form No. E11*10R05/01*10978*00

concerning the type-approval of an electrical/electronic sub-assembly under Regulation No. 10.05

1. Additional information:

1.1. Electrical system rated voltage: DC 48V, ~~pos~~/neg ground ⁽¹⁾

1.2. This ESA can be used on any vehicle type with the following restrictions: 12V negative earth vehicles only

1.2.1. Installation conditions, if any: See the manufacturer's documentation

1.3. This ESA can be used only on the following vehicle types: Not applicable

1.3.1. Installation conditions, if any: Not applicable

1.4. The specific test method(s) used and the frequency ranges covered to determine immunity were: (Please specify precise method used from Annex 9): Not applicable

1.5. Laboratory accredited to ISO 17025 and recognized by the Approval Authority responsible for carrying out the tests: LTA and MOVON EMC Test Lab

2. Remarks: None

(1) Strike out what does not apply.



Vehicle
Certification
Agency

THE UNITED KINGDOM VEHICLE APPROVAL AUTHORITY

APPROVAL NUMBER: E11*10R05/01*10978*00

INFORMATION PACKAGE CONTENTS

INDEX REVISION NUMBER: Not applicable

Conformity of Production (COP) Declaration COP Confirmed

Assessment Method ISO/TS Cert and Control Plans

Date of Initial Clearance November 2019

Date of Last Clearance November 2019

Total number of sheets: 22 (Twenty-two)

Reasons for Revision: Not applicable

Revision Date
&
Office Stamp

KSV479678

An executive agency of the Department for Transport
November 2017 Revision 0
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	Information document no. 10R-0510978-00 for type-approval of an electrical/electronic sub-assembly with respect to electromagnetic compatibility ECE R10.05 ESA Type : QNV-6024RM	Page: 1
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1. Make (trade name of manufacturer) : WISENET
2. Type : QNV-6024RM (Network Camera)
3. Means of identification of type, if marked on the component : QNV-6024RM, QNV-6023R marking on adhesive label
 - 3.1. Location of that marking : Bottom side of product
4. Name and address of manufacturer : Hanwha Techwin Co., Ltd.
6, Pangyo-ro 319 beon-gil, Bundang-gu, Seongnam-si, Gyeonggi-do, Republic of Korea

Name and address of authorized representative, if any : Not Applicable
5. In the case of components, location and method of affixing of the approval mark : Label on the bottom side of product
6. Address (es) of assembly plant(s) : Hanwha Techwin Security Vietnam
Lot O-2, Que Vo Industrial Zone extended area, Nam Son commune, Bac Ninh city, Bac Ninh province, Vietnam
7. This ESA shall be approved as a Component
8. Any restriction of use and conditions for fitting : Manufacturer's instructions to be followed, 12V negative earth vehicles only
9. Electrical system rated voltage : DC 48V, Negative ground
10. Charger : N/A
11. Charging Current: : N/A
12. Maximal nominal current (in each mode if necessary) : N/A
13. Nominal charging voltage : N/A
14. Basic ESA interface functions : N/A
15. Minimum Rsce value : N/A

	Information document no. 10R-0510978-00 for type-approval of an electrical/electronic sub-assembly with respect to electromagnetic compatibility ECE R10.05 ESA Type : QNV-6024RM	Page: 2
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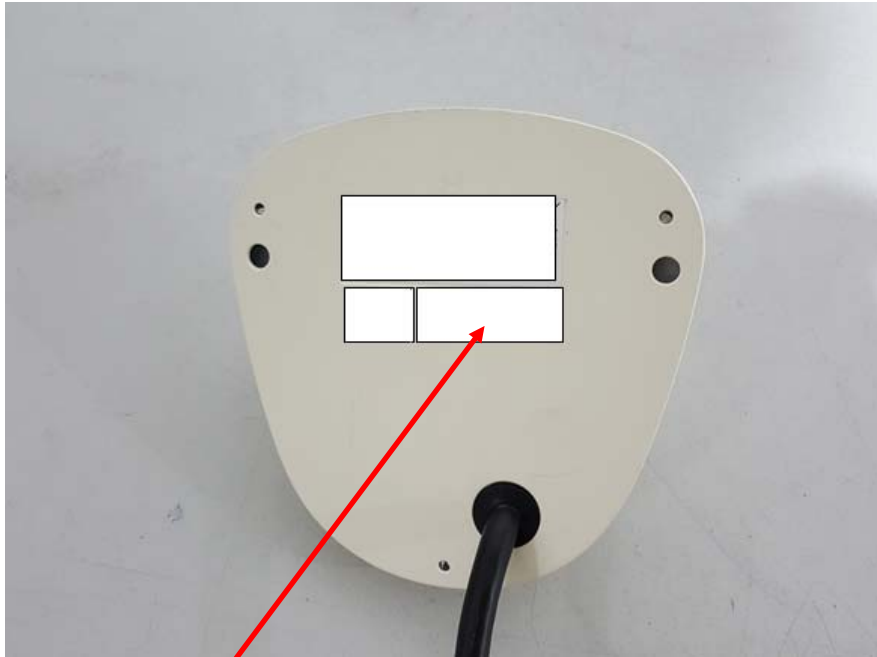
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This information document consists of pages 1 to 22 including Appendix and Attachments.

	Appendix 1 to Information document no. 10R-0510978-00 Description of the ESA	Page: 3
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1. Description of the ESA
 - 1) QNV-6024RM (Network Camera)
 - Power input : DC 48V (TRM-410S)
 - Power consumption : 6.7W
 - Operation temperature : -30~55°C
 - Dimensions : 98.9x52.0x100.0mm
 - Weight(kg) : 0.295kg
 - 2) TRM-410S (NVR)
 - Power input : DC 12V
 - Power consumption : Max 83W
 - Operation temperature : -25~55°C (HDD)
-40~70°C (SSD)
 - Dimensions : 210x80x250mm
 - Weight(Kg) : 3.4Kg

Bottom View 1



Location of E-mark and Type Designation

6
3
E11 10R-0510978 2

Front View



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Rear View

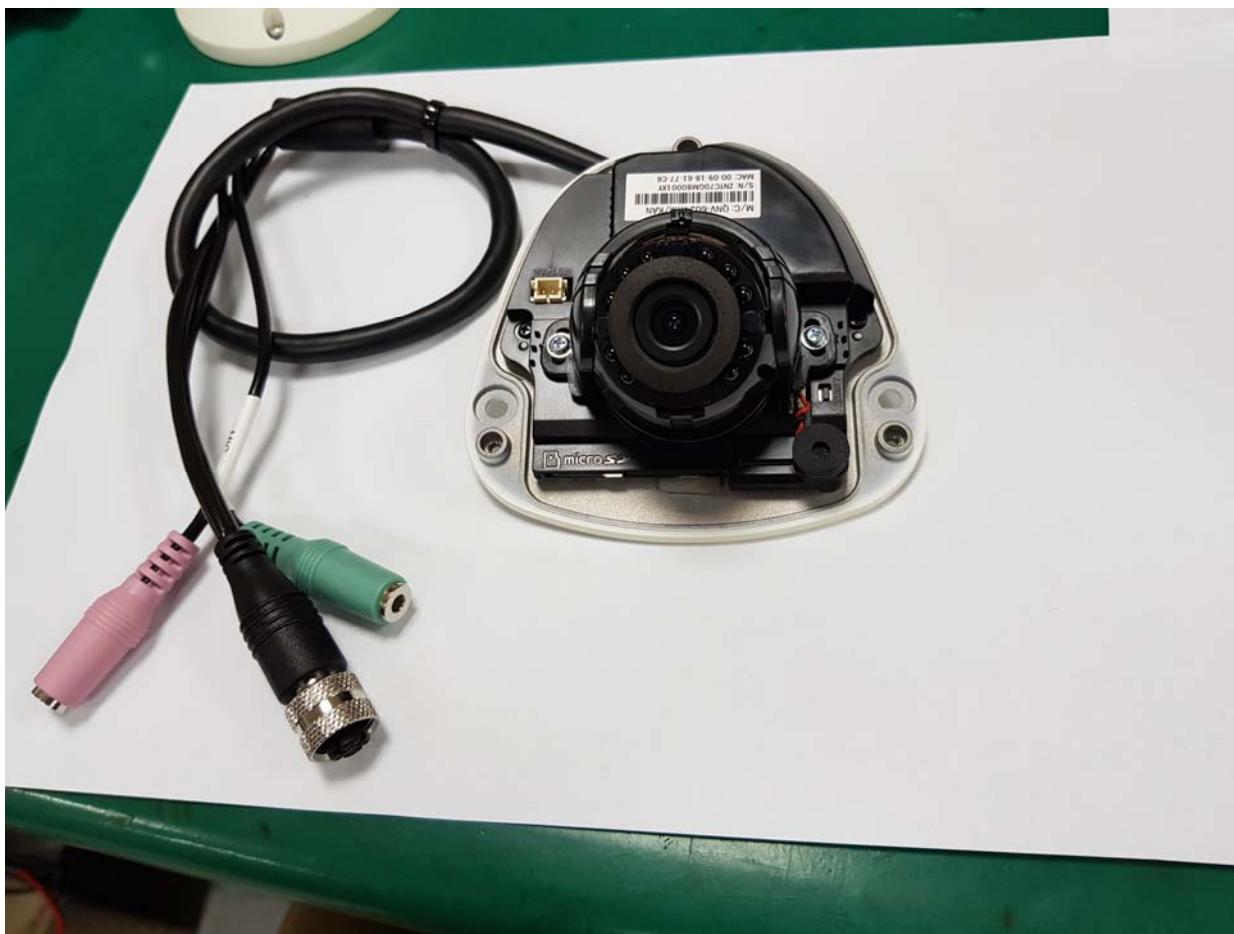


Bottom View 2

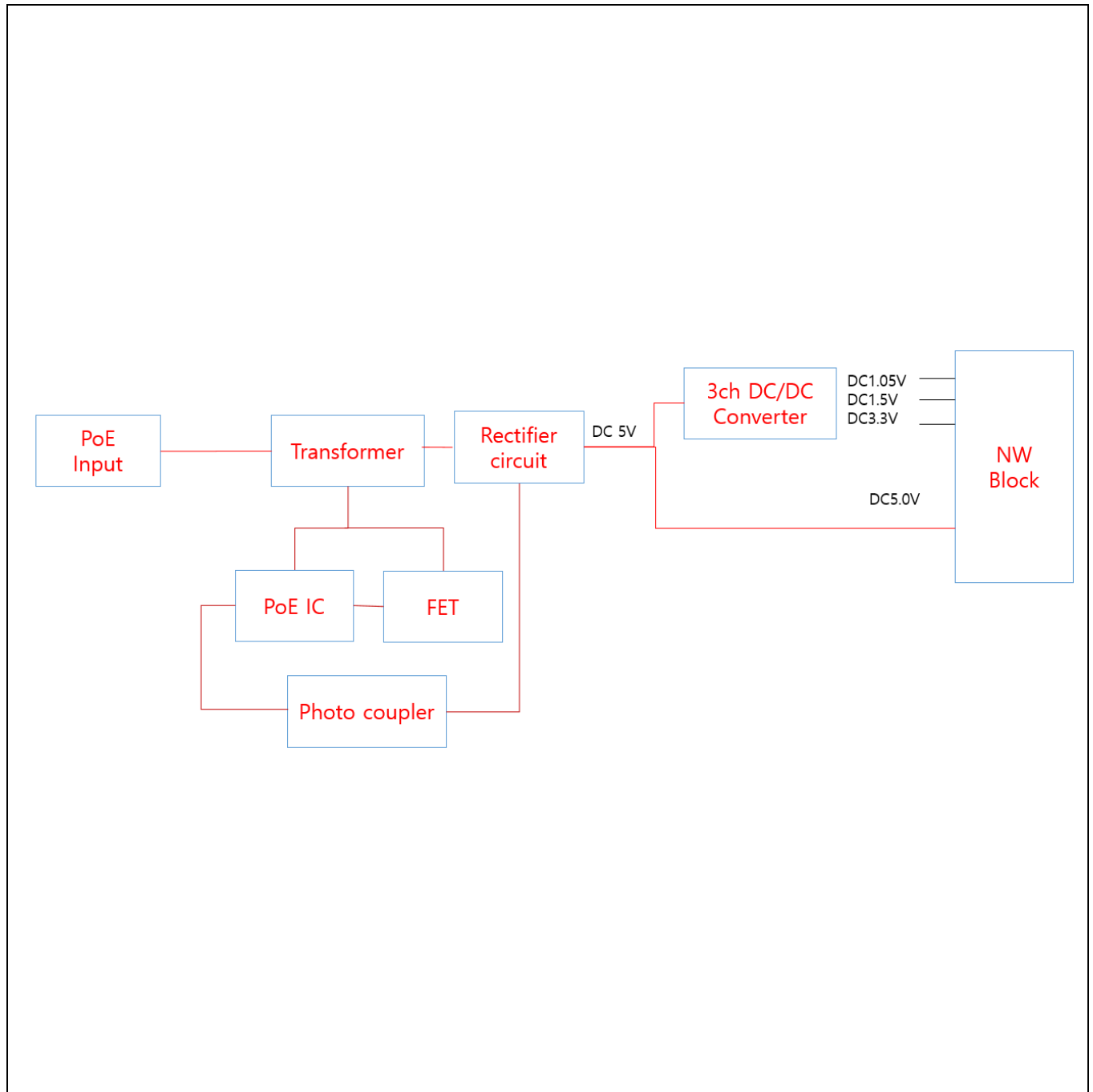


	Attachment 1, Appendix 1 to Information document no. 10R-0510978-00 Photo of the ESA	Page: 8
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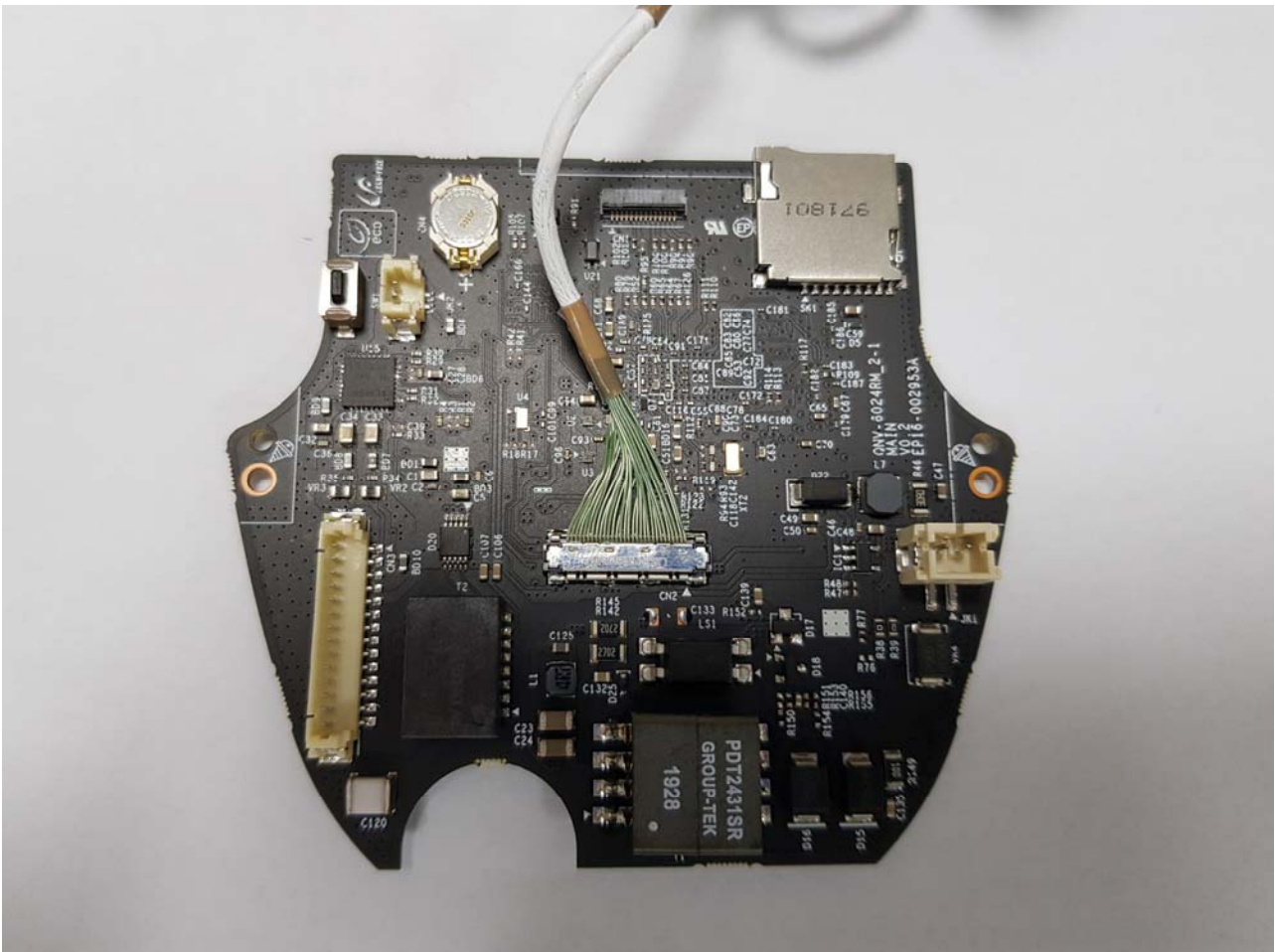
Internal View



BLOCK DIAGRAM



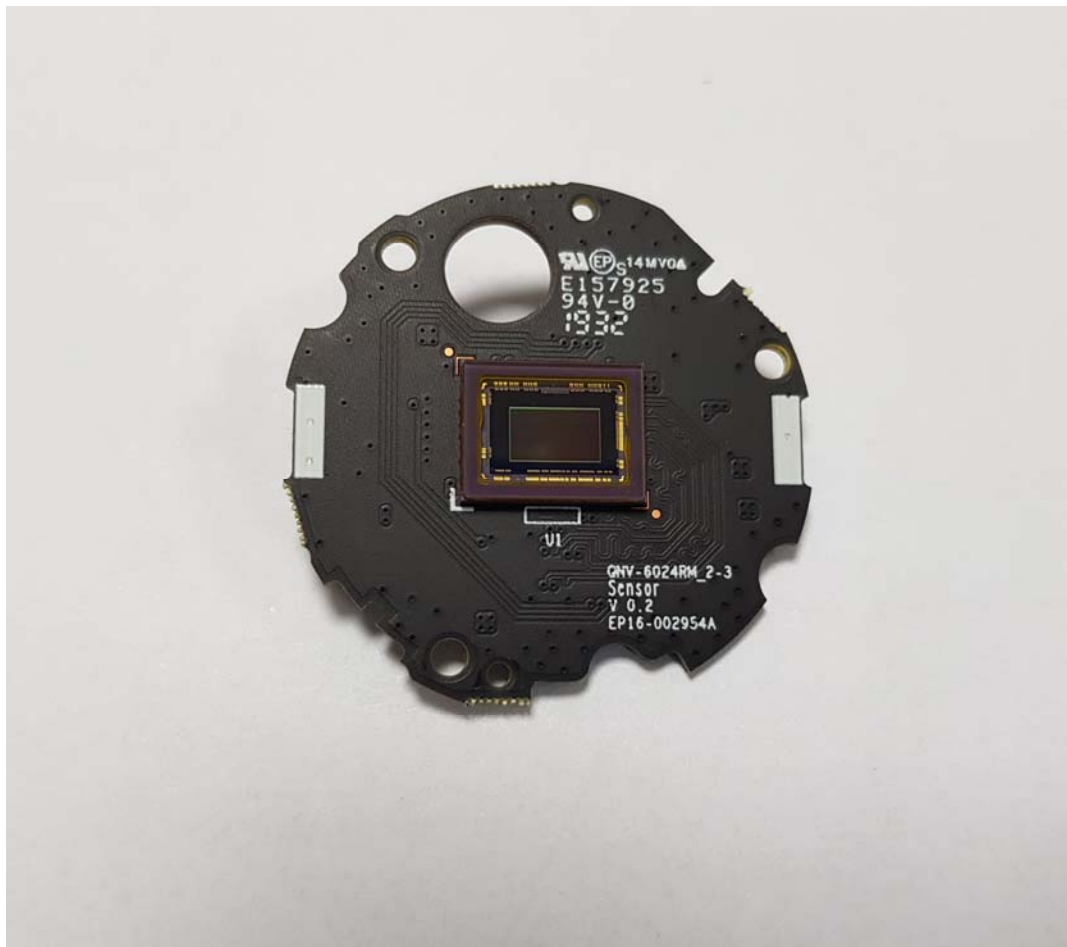
Main – Top View



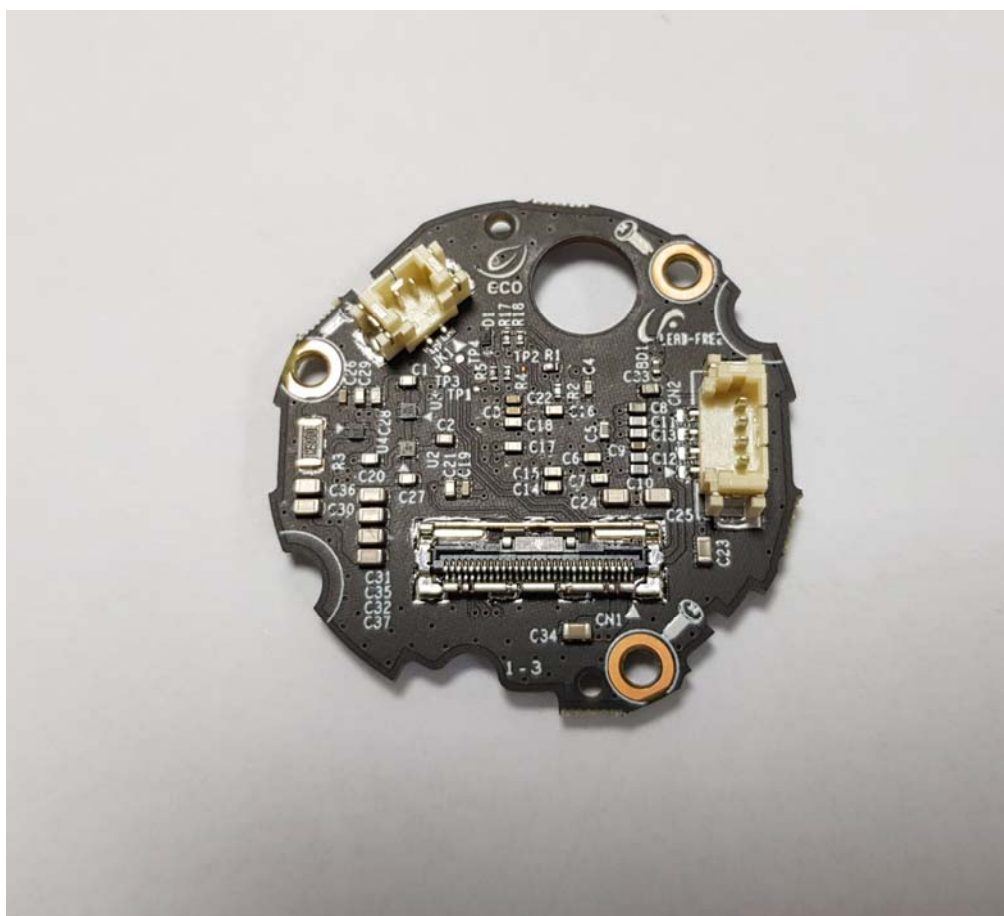
Main – Bottom View

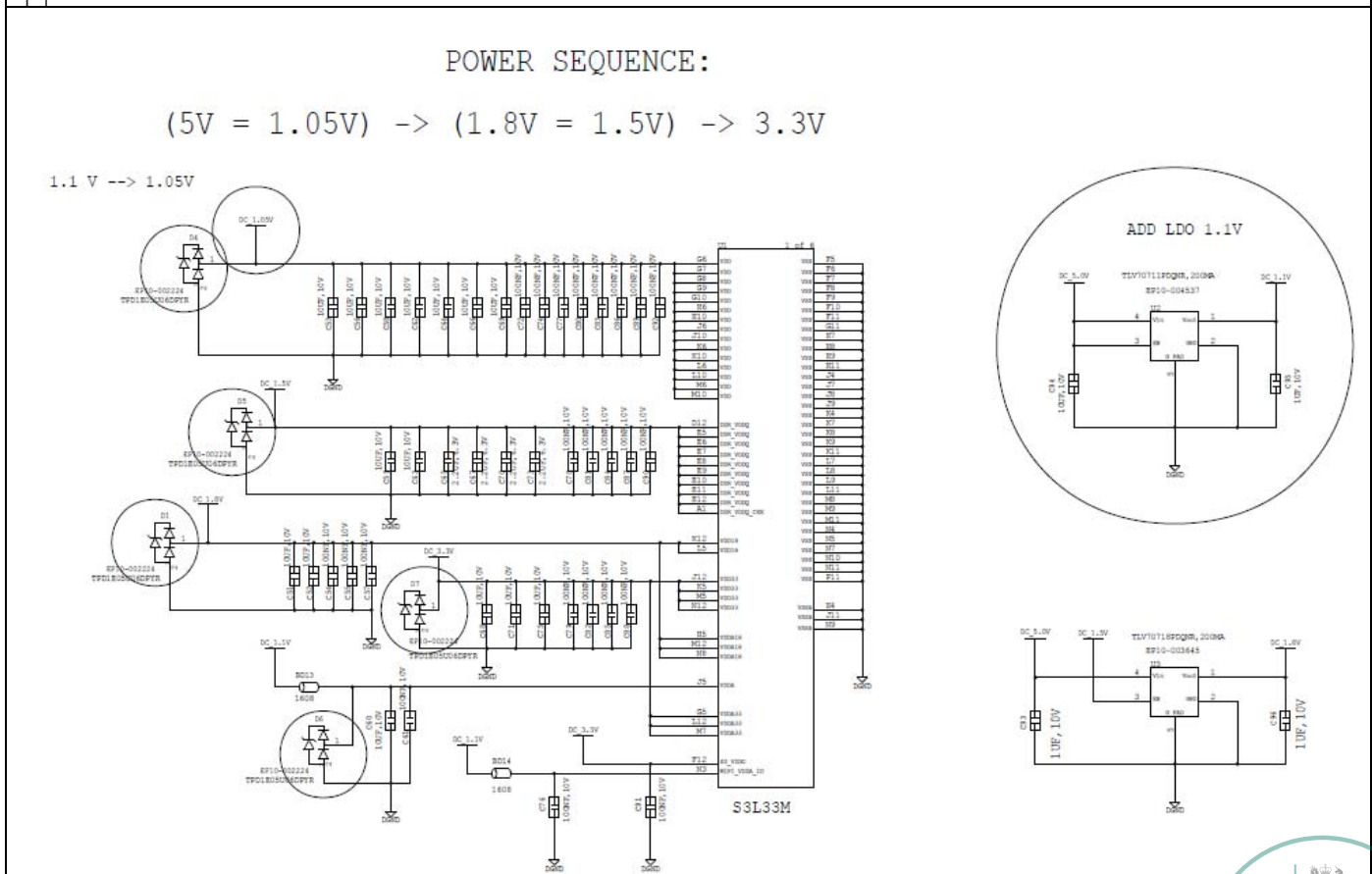
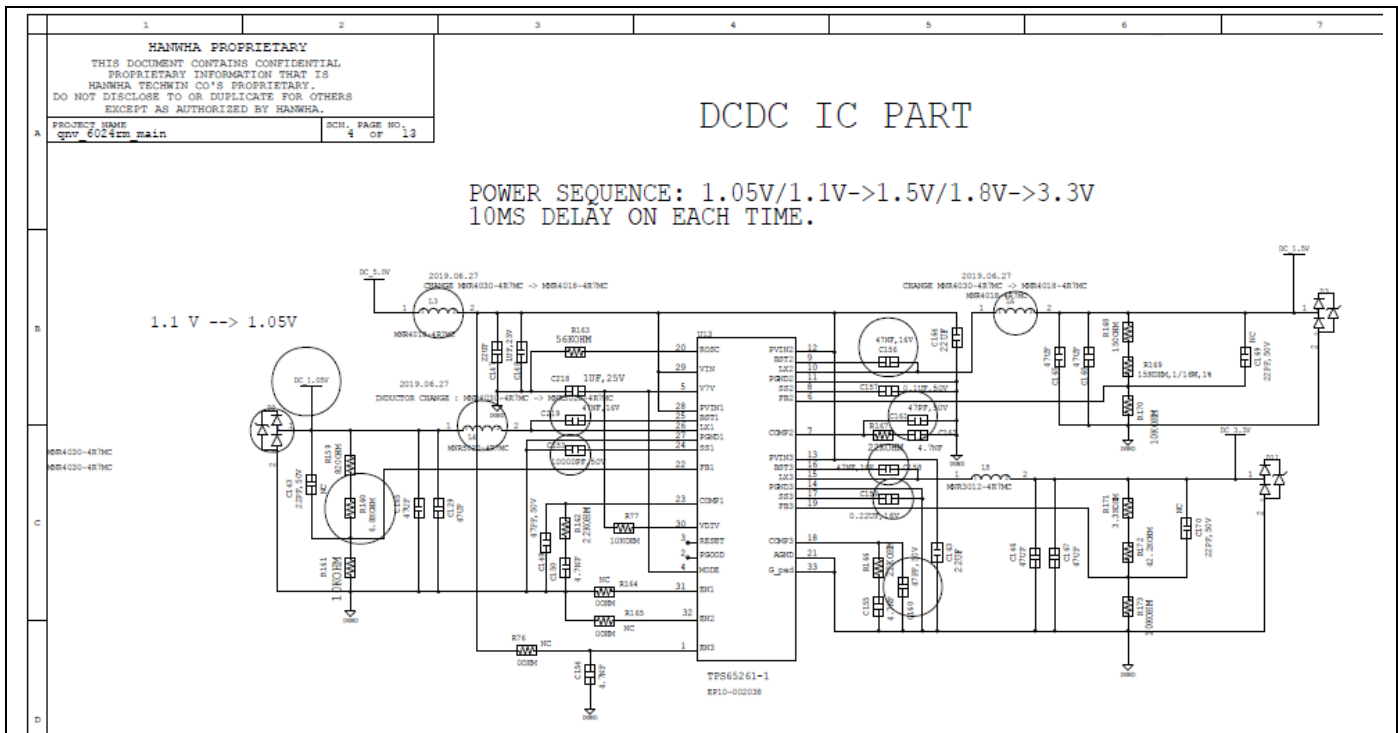


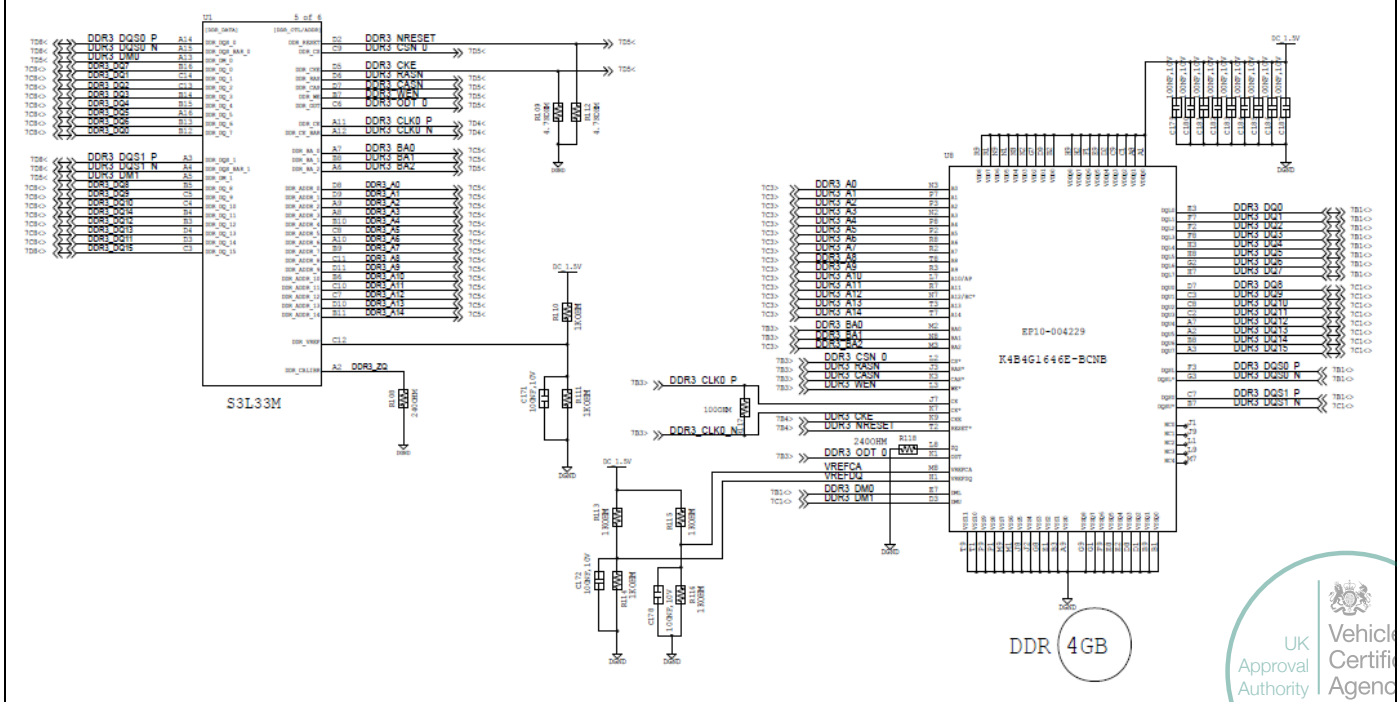
PCB – Top View

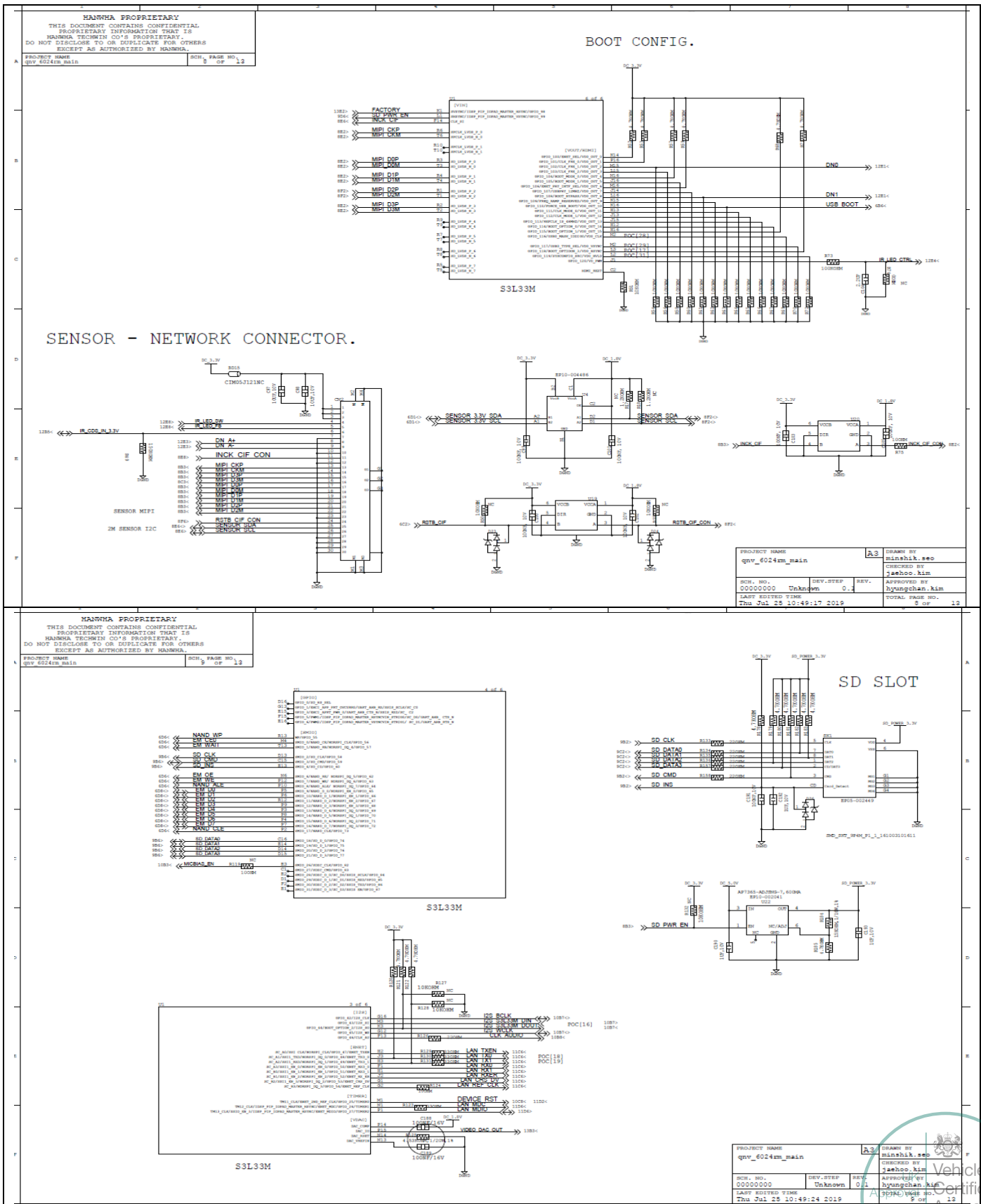


Bottom View

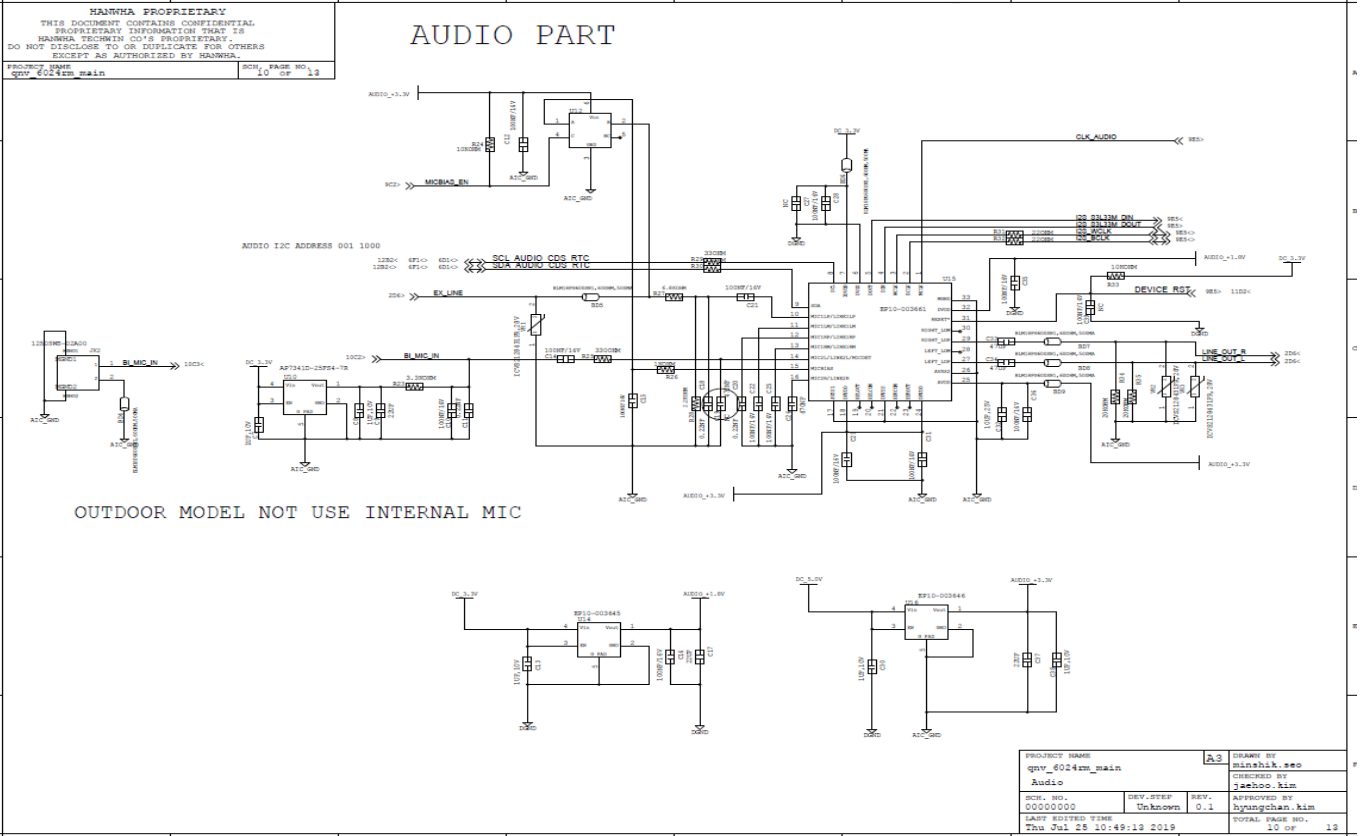




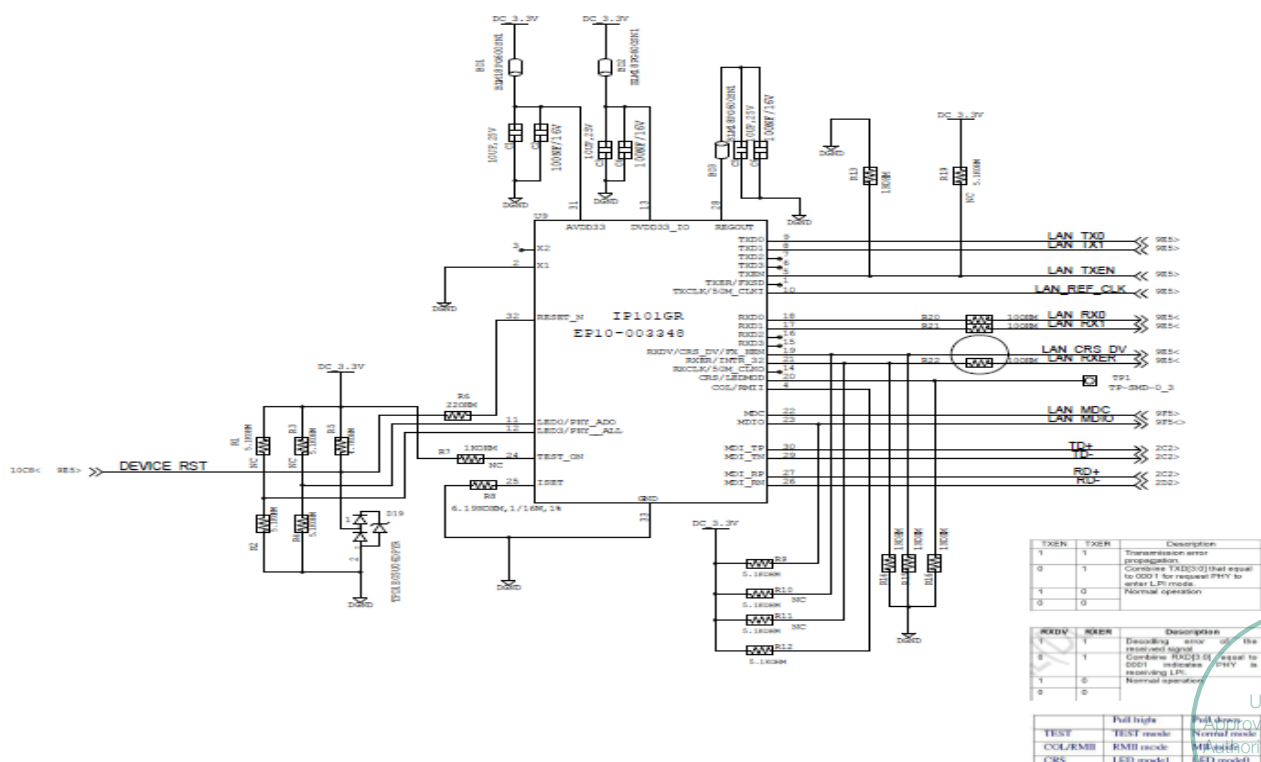




AUDIO PART



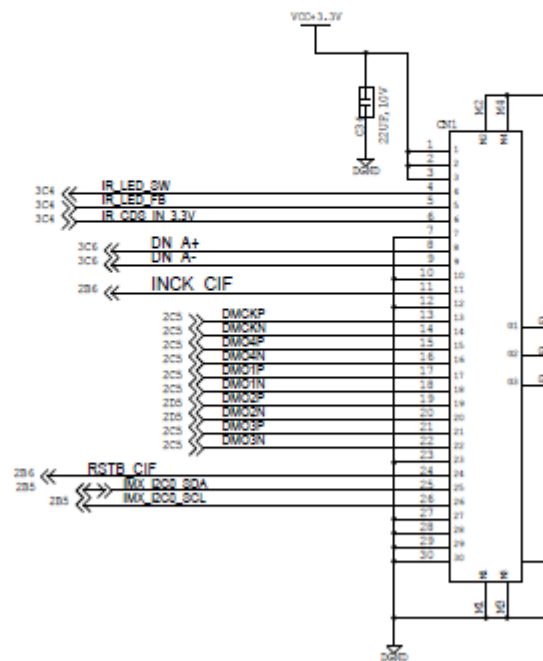
RMII PHY





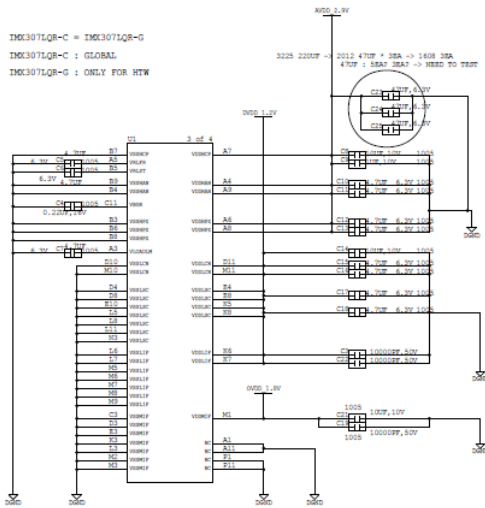
Sensor PCB Circuit

SENSOR TO NW CONN



SENSOR IMX307LQR (2M / S3L33M)

HANWHA PROPRIETARY
THIS DOCUMENT CONTAINS CONFIDENTIAL
PROPRIETARY INFORMATION THAT IS
HANWHA TECHWIN CO.'S PROPRIETARY.
DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS
EXCEPT AS AUTHORIZED BY HANWHA.
PROJECT NAME
qnv_6024km_sensor SCH PAGE NO. 2

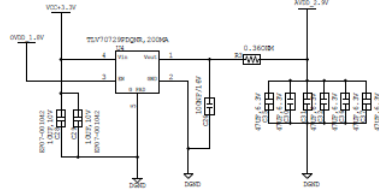


POWER SEQUENCE
1.2V -> 1.8V -> 2.9V

POWER DISSIPATION
 $P_D = (V_{IN} - V_{OUT}) \times I_{OUT}$
 $= (2.9 - 1.2) \times 144 \text{ mA}$
 $= 244.8 \text{ mW}$

POWER DISSIPATION
 $P_D = (V_{IN} - V_{OUT}) \times I_{OUT}$
 $= (3.3 - 1.8) \times 1 \text{ mA}$
 $= 1.5 \text{ mW}$

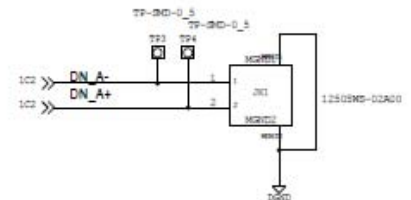
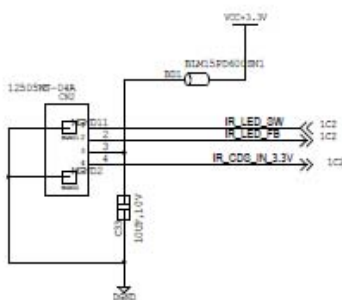
POWER DISSIPATION
 $P_D = (V_{IN} - V_{OUT}) \times I_{OUT}$
 $= (3.3 - 2.9) \times 97 \text{ mA}$
 $= 38.8 \text{ mW}$



ON SEMI SIZES (1608-11005)
(*13.02.20 -> FOR PV)

Item	pin	Symbol	Typ.	Max	Unit
Operating current Low voltage LVDS serial 4ch 12 bit, 50 frames/s Full HD 1080p mode	VDDHx	IAV _{DD}	54	55	mA
	VDDMx	IOV _{DD}	16	15	mA
	VDDLx	IDV _{DD}	77	66	mA
Operating current MIPI CSI-2 / 4 Lane 12 bit, 50 frames/s Full HD 1080p mode	VDDHx	IAV _{DD}	55	54	mA
	VDDMx	IOV _{DD}	1	1	mA
	VDDLx	IDV _{DD}	84	111	mA

PROJECT NAME	qnv_6024km_sensor	3	DRAMA BY	minshik.seo
FOR NO.	00000000	DEV-STEP	8di_dev	8di_dev
LAST EDITED TIME	Tue Jun 25 09:07:13 2019	REV.	APPROVED BY	hyungho.kim
		TOTAL PAGE NO.		2 of 2



	Attachment 5, Appendix 1 to Information document no. 10R-0510978-00 List of main components	Page: 22
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Main PCB

Component	Make / Manufacturer	Type / Model	Comment
Micro Processor	Ambarella	S3L33M	
Crystal	Interquip	5YAA24000082TF60Q3	24MHz