



GRAND-DUCHÉ DE LUXEMBOURG

Ministère du Développement durable
et des Infrastructures
Département des Transports

L-2938 Luxembourg

SOCIÉTÉ NATIONALE DE
CERTIFICATION ET D'HOMOLOGATION

s.à r.l.

Registre de Commerce: B 27180

L-5201 Sandweiler



Référence: E13*10R00*10R04*13512*00

Annexes: - Rapport Technique
- Fiche de Renseignements du constructeur

Sandweiler, le 23 janvier 2015

Communication concernant:⁽²⁾

Communication concerning:



- la délivrance d'une homologation

approval granted

- l'extension d'homologation

approval extended

- le refus d'homologation

approval refused

- le retrait d'homologation

approval withdrawn

- l'arrêt définitif de la production

production definitely discontinued

d'un type de sous-ensemble électrique/électronique⁽²⁾ en ce qui concerne le Règlement N° 10

of a type of electrical/electronic sub-assembly with regard to Regulation N° 10

Numéro d'homologation par type:

Approval number:

E13*10R00*10R04*13512*00

Marque d'homologation:

Approval mark:



10R-04 13512

1. Fabricant: (marque commerciale du constructeur):

Make (trade name of manufacturer):

NEOUSYS

2. Type:

Type:

NUVO-3100VTC-I7QC

Dénomination(s) commerciale(s) générale(s):

General commercial description(s):

Fanless in-vehicle computer

Version(s)/Variante(s):

Version(s)/Variant(s):

Not applicable

3. Moyens d'identification du type, s'ils sont marqués sur le véhicule / composant / entité technique⁽²⁾:

Means of identification of type, if marked on the vehicle / component / separate technical unit:

Nuvo-3100VTC-I7QC

3.1. Emplacement de ce marquage:

Location of that marking:

On the housing of the main unit

4. **Catégorie du véhicule:**
Category of vehicle: Not applicable
5. **Nom et adresse du constructeur:**
Name and address of manufacturer: Neosys Technology Inc.
15F, No. 868-3, Zhongzheng Rd., Zhonghe Dist.,
New Taipei City 23586, Taiwan
6. **Dans le cas de composants ou d'entités techniques, emplacement et procédé de fixation de la marque de réception CEE:**
In the case of components and separate technical units, location and method of affixing of the ECE approval mark: Label fixed on the housing of the main unit
7. **Adresse(s) de l' (des) usine(s) d'assemblage:**
Address(es) of assembly plant(s): M.T. Technology Co., Ltd.
9F., No. 102, Sec. 3, Zhongshan Rd., Zhonghe Dist.,
New Taipei City 235, Taiwan (R.O.C.)
8. **Informations supplémentaires (s'il y a lieu):**
Additional informations (where applicable): See appendix
9. **Autorité déléguée:**
Assigned authority: *Société Nationale de Certification et d'Homologation*
L-5201 Sandweiler
- Service technique responsable de l'exécution des essais:**
Technical service responsible for carrying out the tests: TÜV Rheinland Luxemburg GmbH
2a, Kalchesbruck
L-1852 Luxembourg
10. **Date du rapport d'essai:**
Date of test report: 19.01.2015
11. **Numéro du rapport d'essai:**
Number of test report: 84-R10-01310/14-00
12. **Remarques (s'il y a lieu):**
Remarks (if any): Not applicable

13. **Lieu:** Sandweiler
Place:
14. **Date:** 23 janvier 2015
Date:
15. **Signature:**
Signature:

Pour le Département des Transports



Marco FELTES
Inspecteur principal 1^{er} en rang

Pour la SNCH



Claude LIESCH
Directeur



16. **L'index de l'ensemble des renseignements déposé chez l'autorité de réception, qui peut être obtenu sur demande, est joint.**

The index to the information package lodged with the approval authority, which may be obtained on request, is attached.

See index to type-approval report

17. **Raison(s) de l'extension:** Not applicable
Reason(s) for extension:

² **Biffer la mention inutile**
Strike out what does not apply

Appendice

Appendix

au certificat d'homologation par type N° E13*10R00*10R04*13512*00
to type-approval certificate N° E13*10R00*10R04*13512*00
concernant l'homologation par type d'un sous ensemble électrique/électronique selon le Règlement N° 10.
concerning the type-approval of an electrical/electronic sub-assembly under Regulation N° 10.

- | | | |
|---------------|--|---------------------------------------|
| 1. | Informations supplémentaires.
Additional information. | |
| 1.1. | Tension nominale du système électrique [V]:
Electrical system rated voltage [V]: | 12/24 V DC |
| | Masse:
Ground: | Negative |
| 1.2. | Ce SEEE peut être utilisé sur n'importe quel type de véhicule avec les restrictions suivantes:
This ESA can be used on any vehicle type with the following restrictions: | - Operating temperature: -25 to 70 °C |
| 1.2.1. | Conditions d'installation, s'il y a lieu:
Installation conditions, if any: | Not applicable |
| 1.3. | CE SEEE peut seulement être utilisé sur les types de véhicules suivants:
This ESA can be used only on the following vehicle types: | Not applicable |
| 1.3.1. | Conditions d'installation, s'il y a lieu:
Installation conditions, if any: | Not applicable |
| 1.4. | La (les) méthode(s) spécifique(s) d'essais utilisée(s) et les bandes de fréquences couvertes pour déterminer l'immunité étai(ent): (indiquez s'il vous plaît à partir de l'annexe 9 la méthode précise utilisée).
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. | Laboratoire accrédité au titre de la norme ISO 17025 et reconnu par l'autorité d'homologation chargé d'effectuer les essais:
Laboratory accredited to ISO 17025 and recognized by the Approval Authority responsible for carrying out the tests: | Not applicable |
| 2. | Commentaires:
Remarks: | Not applicable |



Référence: E13*10R00*10R04*13512*00

Annexes: - Rapport Technique
- Fiche de Renseignements du constructeur

Sandweiler, le 23 janvier 2015

Index du dossier d'homologation

Index to type-approval report

Numéro d'homologation:

Approval number:

E13*10R00*10R04*13512*00

Révision:

Revision:

00

Marque de fabrication ou de commerce:

Trade name or mark:

NEOUSYS

Type:

Type:

NUVO-3100VTC-I7QC

1.

Procès-verbal d'essai:

Test report:

N° 84-R10-01310/14-00

- Test report:
- Technical information:
- List of modifications:

Page 1 to 8
Appendix L - Page 9 & 10
Appendix 0 - Page 11

2.

Dossier du constructeur:

Report of the manufacturer:

N° NUVO-3100VTC-I7QC-00

- Information sheet:
- List of annexes:
- Annexes:

Page 1 & 2
Page 2
Refer to page 2

3.

Autres documents annexés:

Other documents annexed:

Not applicable

4.

Date de délivrance de l'homologation initiale:

Date of issue of initial type approval:

23.01.2015

5.

Date de la dernière délivrance de pages révisées:

Date of last issue of revised pages:

Not applicable

6.

Date de la dernière délivrance d'une homologation révisée:

Date of last extension:

Not applicable

Type : Nuvo-3100VTC-I7QC
Manufacturer : Neousys Technology Inc.

TEST REPORT

according to ECE-Regulation

Uniform provisions concerning the approval of vehicles with regard to electromagnetic compatibility

No.: **ECE-R10**

including

No.: **04 series of amendments, suppl. 02**

Approval Status	
ECE-type approval	: E13*10R00*10R04*13512*00 (reserved)

Structure of report:

0. General information
1. Test object(s) and general test information
2. Test minutes
3. Remark concerning tested object(s)
4. Appendices
5. Statement of conformity

The Test Report shall be reproduced and published in full by the client only. It shall however be reproduced partially with the written permission of the Testing Laboratory only.

Type : Nuvo-3100VTC-I7QC
Manufacturer : Neosys Technology Inc.

0. General information

- 0.1. Trade mark or trade name of type : NEOUSYS
- 0.2. Manufacturer's name for the type of the ESA : Nuvo-3100VTC-I7QC
Version(s) : Not applicable
- 0.3. Name and address of manufacturer : Neosys Technology Inc.
15F, No. 868-3, Zhongzheng Rd., Zhonghe Dist.,
New Taipei City 23586, Taiwan
- 0.4. Name and address of authorised representative, if any : Not applicable
- 0.5. No. of information document : Nuvo-3100VTC-I7QC-00
date of issue : December 5, 2014
date of last amendment : --

Type : Nuvo-3100VTC-I7QC
Manufacturer : Neosys Technology Inc.

1. Test object(s) and general test information

1.1. Test object(s)

Identification no. : Not applicable
Model : Nuvo-3100VTC-I7QC
Remark : Fanless in-vehicle computer

1.2. General test information

1.2.1 Order issued by : --
(if different from manufacturer)
1.2.2 Test object received on : --
1.2.3 Test date : October 18 to 30, 2014
1.2.4 Test site : QuieTek Corporation, Hsinchu, Taiwan
1.2.5 Remark : The results of the test refer exclusively to the objects
mentioned under point 1.1. of this report.

Type : Nuvo-3100VTC-I7QC
 Manufacturer : Neosys Technology Inc.

2. Test minutes

2.1. Test facilities : The measurement equipment used was in compliance with the test requirements.

2.2. Test data for the tested ESA : See Appendix L

2.3. Type approval tests conducted : Radiated narrowband electromagnetic emissions
 Radiated broadband electromagnetic emissions
 Immunity to electromagnetic radiation
 Immunity to transient disturbances
 Emission of transient conducted disturbances

2.4. Test results : ~~The type has been examined according to the amendments mentioned in appendix O.~~
 The performance of the ESA has been tested under 12V and 24V input modes. ~~Only the worst case results are brought up in the test report.~~

2.4.1. Radiated narrowband electromagnetic emissions : Antenna position horizontal and vertical
 (Average detector)

(12V)

No.	frequency [MHz]		measured data[dB(μV)]		correction factor[dB(1/m)]		corrected data[dBμV/m]		limit value [dB(μV/m)]	
	horiz.	vertic.	horiz.	vertic.	horiz.	vertic.	horiz.	vertic.	horiz.	vertic.
1	30.6	30.6	24.2	31.1	-4.9	-4.9	19.3	26.2	51.8	51.8
2	43.8	37.6	25.0	32.2	-7.1	-5.7	17.9	26.5	47.9	49.6
3	58.7	56.8	46.1	41.5	-12.2	-11.5	33.9	30.0	44.7	45.0
4	74.6	69.7	40.8	40.4	-14.0	-14.2	26.8	26.2	42.1	42.8
5	81.2	81.2	40.7	47.1	-13.3	-13.3	27.4	33.8	42.5	42.5
6	108.8	125.0	40.3	45.6	-8.5	-6.7	31.8	38.9	44.5	45.4
7	148.5	147.4	28.0	30.8	-4.9	-5.0	23.1	25.8	46.5	46.4
8	199.1	199.1	42.6	42.3	-2.7	-2.7	39.9	39.6	48.4	48.4
9	250.0	250.0	45.9	49.3	-6.1	-6.1	39.8	43.2	49.9	49.9
10	398.2	324.0	35.8	40.3	-2.1	-3.4	33.7	36.9	53.0	51.6
11	512.0	497.7	24.8	34.1	0.1	0.0	24.9	34.1	53.0	53.0
12	648.0	648.0	29.4	32.3	2.1	2.1	31.5	34.4	53.0	53.0
13	796.3	796.3	24.3	30.4	4.5	4.5	28.8	34.9	53.0	53.0
14	972.0	895.8	22.9	29.3	6.6	6.1	29.5	35.4	53.0	53.0

Type : Nuvo-3100VTC-I7QC
 Manufacturer : Neosys Technology Inc.

(24V)

No.	frequency [MHz]		measured data[dB(μV)]		correction factor[dB(1/m)]		corrected data[dBμV/m]		limit value [dB(μV/m)]	
	horiz.	vertic.	horiz.	vertic.	horiz.	vertic.	horiz.	vertic.	horiz.	vertic.
1	30.6	30.6	22.9	30.6	-4.9	-4.9	18.0	25.7	51.8	51.8
2	43.5	37.6	24.1	31.0	-7.0	-5.7	17.1	25.3	47.9	49.6
3	58.8	56.8	42.9	40.2	-12.2	-11.5	30.7	28.7	44.7	45.0
4	74.6	66.3	39.7	40.9	-14.0	-13.7	25.7	27.2	42.1	43.3
5	86.0	81.2	39.8	46.7	-12.4	-13.3	27.4	33.4	42.9	42.5
6	108.8	125.0	39.9	46.9	-8.5	-6.7	31.4	40.2	44.5	45.4
7	147.4	168.0	29.5	33.6	-5.0	-3.8	24.5	29.8	46.4	47.3
8	199.1	191.0	42.8	22.2	-2.7	-2.7	40.1	19.5	48.4	48.1
9	250.0	250.0	44.1	47.8	-6.1	-6.1	38.0	41.7	49.9	49.9
10	398.2	324.0	43.7	43.0	-2.1	-3.4	41.6	39.6	53.0	51.6
11	497.7	497.7	28.9	33.6	0.0	0.0	28.9	33.6	53.0	53.0
12	648.0	648.0	28.2	32.8	2.1	2.1	30.3	34.9	53.0	53.0
13	796.3	796.3	23.1	31.1	4.5	4.5	27.6	35.6	53.0	53.0
14	863.8	972.0	18.8	28.8	5.8	6.6	24.6	35.4	53.0	53.0

2.4.2. Radiated broadband electromagnetic emissions : Antenna position horizontal and vertical (Quasi-peak detector)

(12V)

No.	frequency [MHz]		measured data[dB(μV)]		correction factor[dB(1/m)]		corrected data[dBμV/m]		limit value [dB(μV/m)]	
	horiz.	vertic.	horiz.	vertic.	horiz.	vertic.	horiz.	vertic.	horiz.	vertic.
1	30.6	30.6	29.3	35.4	-4.9	-4.9	24.4	30.5	61.8	61.8
2	43.8	37.6	30.6	38.2	-7.1	-5.7	23.5	32.5	57.9	59.6
3	58.7	56.8	53.6	48.5	-12.2	-11.5	41.4	37.0	54.7	55.0
4	74.6	69.7	48.1	47.2	-14.0	-14.2	34.1	33.0	52.1	52.8
5	81.2	81.2	46.1	52.8	-13.3	-13.3	32.8	39.5	52.5	52.5
6	108.8	125.0	46.0	48.4	-8.5	-6.7	37.5	41.7	54.5	55.4
7	148.5	147.4	34.9	37.6	-4.9	-5.0	30.0	32.6	56.5	56.4
8	199.1	199.1	46.1	46.4	-2.7	-2.7	43.4	43.7	58.4	58.4
9	250.0	250.0	47.9	51.8	-6.1	-6.1	41.8	45.7	59.9	59.9
10	398.2	324.0	41.9	45.9	-2.1	-3.4	39.8	42.6	63.0	61.6
11	512.0	497.7	33.0	39.1	0.1	0.0	33.1	39.1	63.0	63.0
12	648.0	648.0	39.2	40.2	2.1	2.1	41.3	42.3	63.0	63.0
13	796.3	796.3	29.8	34.2	4.5	4.5	34.3	38.7	63.0	63.0
14	972.0	895.8	27.5	34.9	6.6	6.1	34.1	41.0	63.0	63.0

Type : Nuvo-3100VTC-I7QC
 Manufacturer : Neosys Technology Inc.

(24V)

No.	frequency [MHz]		measured data[dB(μV)]		correction factor[dB(1/m)]		corrected data[dBμV/m]		limit value [dB(μV/m)]	
	horiz.	vertic.	horiz.	vertic.	horiz.	vertic.	horiz.	vertic.	horiz.	vertic.
1	30.6	30.6	28.0	35.3	-4.9	-4.9	23.1	30.4	61.8	61.8
2	43.5	37.6	31.0	36.9	-7.0	-5.7	24.0	31.2	57.9	59.6
3	58.8	56.8	49.9	47.0	-12.2	-11.5	37.7	35.5	54.7	55.0
4	74.6	66.3	47.2	48.2	-14.0	-13.7	33.2	34.5	52.1	53.3
5	86.0	81.2	45.9	51.6	-12.4	-13.3	33.5	38.3	52.9	52.5
6	108.8	125.0	45.5	49.7	-8.5	-6.7	37.0	43.0	54.5	55.4
7	147.4	168.0	35.2	39.2	-5.0	-3.8	30.2	35.4	56.4	57.3
8	199.1	191.0	46.8	34.2	-2.7	-2.7	44.1	31.5	58.4	58.1
9	250.0	250.0	46.5	50.4	-6.1	-6.1	40.4	44.3	59.9	59.9
10	398.2	324.0	48.6	50.4	-2.1	-3.4	46.5	47.0	63.0	61.6
11	497.7	497.7	35.3	38.7	0.0	0.0	35.3	38.7	63.0	63.0
12	648.0	648.0	37.0	37.9	2.1	2.1	39.1	40.0	63.0	63.0
13	796.3	796.3	27.7	34.2	4.5	4.5	32.2	38.7	63.0	63.0
14	863.8	972.0	25.5	33.2	5.8	6.6	31.3	39.8	63.0	63.0

2.4.3. Immunity Test

: Not applicable. The ESA is an in-vehicle computer which has no function related to vehicle direct control and data bus communication, it belongs to the non-immunity related functions device (para. 2.12).

Test method

: ~~Bulk current injection and absorber chamber test~~

Specified frequency range

: ~~Bulk current injection testing: 20 ~ 400 MHz~~
~~Absorber chamber test: 400 ~ 2000 MHz~~

Tested frequency points

: ~~Measurements are performed in the 20 to 2,000 MHz frequency range with frequency steps according to ISO 11452-1, third edition 2005 and Amd1: 2008.~~

Field strength

: ~~Bulk current injection testing: 60 mA~~
~~Absorber chamber test: 30 V/m~~

~~At the above mentioned frequency points the ESA did not exhibit any malfunction which would cause any degradation of performance which could cause confusion to other road users or any degradation in the driver's direct control of a vehicle fitted with the system which could be observed by the driver or other road user.~~

Type : Nuvo-3100VTC-I7QC
Manufacturer : Neousys Technology Inc.

- 2.4.4. Immunity to transient disturbances : The tests were conducted by the method according to ISO 7637-2 (second edition 2004 and Amd 1:2008) as described in Annex 10, and the functional status of the ESA after the tests complied with the levels shown in Table 1 of Paragraph 6.

Test pulse number	Immunity test level	Functional status for systems			
		Related to immunity-related functions	Not related to immunity-related functions	Test results	
				12V	24V
1	III	€	D	D	D
2a	III	B	D	A	A
2b	III	€	D	D	D
3a	III	A	D	A	A
3b	III	A	D	D	A
4	III	€	D	A	A

- 2.4.5. Emission of transient conducted disturbances : The tests were conducted by the method according to ISO 7637-2 (second edition 2004 and Amd 1:2008) as described in Annex 10, and the pulse amplitudes were within the limits specified in Table 2 of Paragraph 6.

Polarity of pulse amplitude	Maximum allowed pulse amplitude for vehicles with systems		Test results			
			Slow pulses		Fast pulses	
	12V	24V	12V	24V	12V	24V
Positive	+75	+150	1.2	0.9	1.3	0.8
Negative	-100	-450	-14.1	-27.5	-13.9	-25.6

- 2.4.6. Markings : The approval mark is marked clearly legible and indelible on the housing of the main unit.

- 2.5. Variants and components** : Not applicable

Type : Nuvo-3100VTC-I7QC
Manufacturer : Neosys Technology Inc.

3. Remark concerning tested object(s)

All versions of the ESA type as stated in the information document are covered with the tested version(s) and test object(s) respectively.

4. Appendices

- L** **Technical information about the separate technical unit (ESA) according to Annex 3B of the communication concerning the ECE-type approval**
- 0** **List of modifications**
- 1** **Information folder No.** : Nuvo-3100VTC-I7QC-00 (2 pages)
 (excluding apps.)

5. Statement of conformity

The above mentioned information folder and the type described in that comply with the requirements mentioned on page 1.

Shanghai, date see Appendix L
KWU/JYW



Kevin Wu
Expert Technical Service

Type : Nuvo-3100VTC-I7QC
Manufacturer : Neosys Technology Inc.

Technical information about the separate technical unit (ESA) according to Annex 3B of the communication concerning the ECE-type approval

Appendix L

1. **Make (trade name of manufacturer)** : NEOUSYS
2. **Type and general commercial description(s)** : Nuvo-3100VTC-I7QC
commercial description(s) : Fanless in-vehicle computer
version(s) : Not applicable
3. **Means of identification of type, if marked on the component/separate technical unit** : Nuvo-3100VTC-I7QC
 - 3.1. **Location of that marking** : On the housing of the main unit
4. **Category of vehicle** : Not applicable
5. **Name and address of manufacturer** : Neosys Technology Inc.
15F, No. 868-3, Zhongzheng Rd., Zhonghe Dist.,
New Taipei City 23586, Taiwan
Name and address of authorized representative, if any : Not applicable
6. **In the case of components and separate technical units, location and method of affixing of the approval mark** : Label fixed on the housing of the main unit
7. **Address(es) of the assembly plant(s)** : M.T. Technology Co., Ltd.
9F., No. 102, Sec. 3, Zhongshan Rd., Zhonghe Dist.,
New Taipei City 235, Taiwan (R.O.C.)
8. **Additional information** : See Information Folder No. Nuvo-3100VTC-I7QC-00
10. **Date of Report** : January 19, 2015
12. **Remarks (if any)** : Not applicable
17. **Reasons for extension** : Not applicable

Type : Nuvo-3100VTC-I7QC
Manufacturer : Neousys Technology Inc.

Appendix

1. Additional information

- 1.1. Electrical system rated voltage : 12/24V DC
- Ground : Negative
- 1.2. This ESA can be used on any vehicle type with the following restrictions : Operation temperature: -25 ~70°C
- 1.2.1. Installation conditions, if any : Not applicable
- 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. Approved/recognised laboratory (for the purpose of this Regulation) responsible for carrying out the test : TÜV Rheinland Luxembourg GmbH

2. Remarks : Not applicable

Type : Nuvo-3100VTC-I7QC
Manufacturer : Neosys Technology Inc.

List of modifications

Appendix 0

Correction of : --

Modification of : --

Addition of : --

Deletion of : --

Information Document No.: Nuvo-3100VTC-I7QC-00
for type approval of an ESA with respect to
electromagnetic compatibility according to
the ECE Regulation R10,04 series of amendments

Page: 1/2

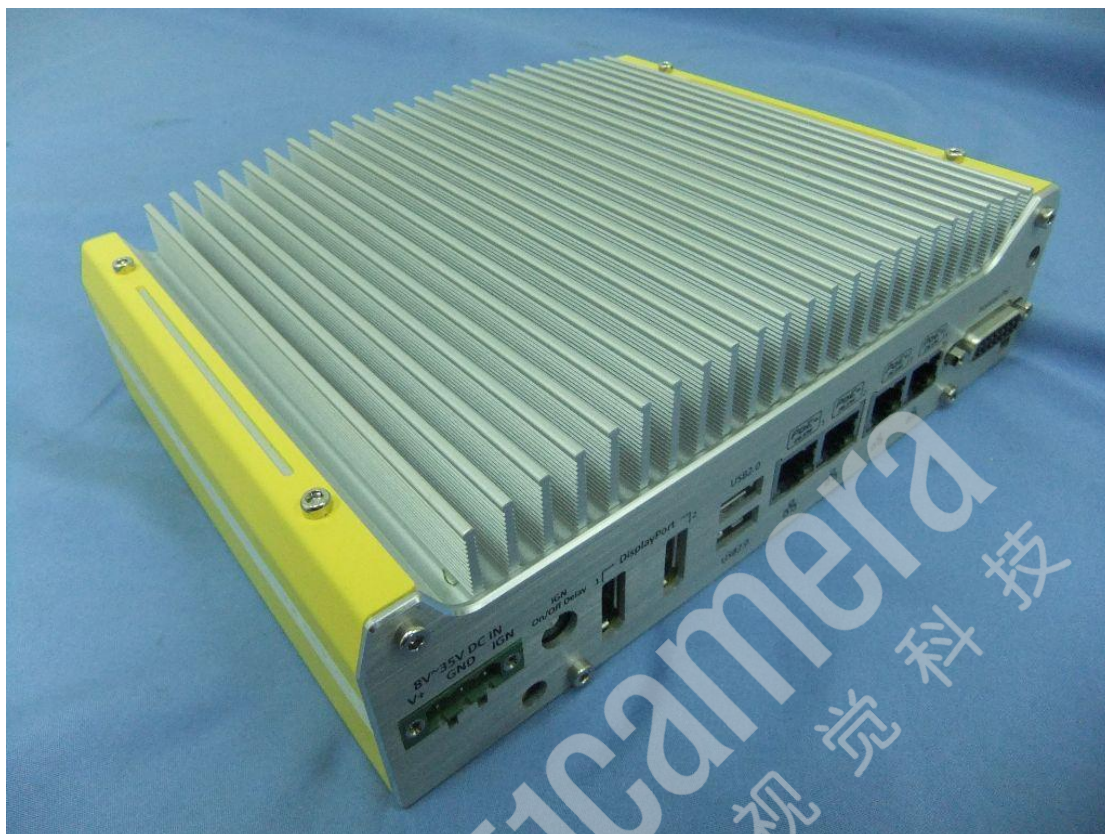
Date: December 5, 2014

-
1. Make (trade name of manufacturer) : NEOUSYS
 2. Type : Nuvo-3100VTC-I7QC
 3. Means of identification of type, if marked on the component / ~~separate technical unit~~ : Nuvo-3100VTC-I7QC
 - 3.1. Location of that marking : On the housing of the main unit
 4. Name and address of manufacturer : Neousys Technology Inc.
15F, No. 868-3, Zhongzheng Rd., Zhonghe Dist.,
New Taipei City 23586, Taiwan
Name and Address of authorized representative, if any : Not applicable
 5. In the case of components and separate technical units, location and method of affixing of the approval mark : Label fixed on the housing of the main unit
 6. Address(es) of the assembly plant(s) : M.T. Technology Co., Ltd.
9F., No. 102, Sec. 3, Zhongshan Rd., Zhonghe Dist.,
New Taipei City 235, Taiwan (R.O.C.)
 7. This ESA shall be approved as a : Component/ ~~STU~~
 8. Any restrictions of use and conditions for fitting : Not applicable
 9. Electrical system rated voltage : 12/24V DC, ~~positive~~/ negative ground

List of Annexes

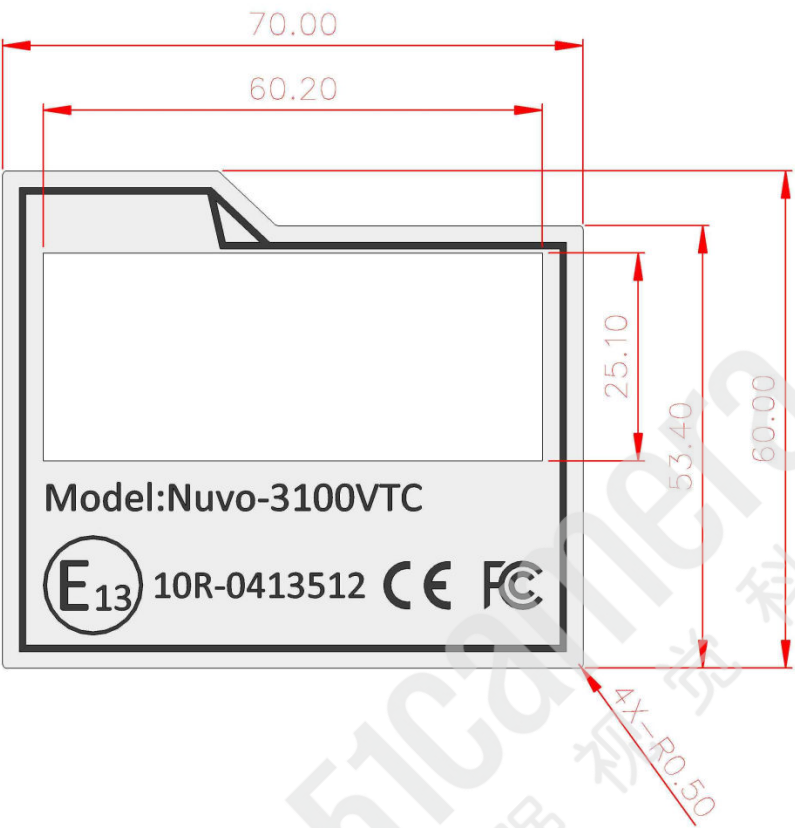
Annex	Page
A Drawing or photo of the ESA	A1 ~ A3
B Specification	B1
C System layout and block diagram	C1 ~ C10

ESA Photo





Label



Label location



Nuvo-3100VTC Series

Intel® 3rd-Gen Core™ i7 Fanless in-Vehicle Controller with 4x 802.3at PoE+ Ports and Dual-Drives RAID



- 212 mm x 165 mm x 62 mm very compact size
- Intel® 3rd-Gen i7 PGA-type processor
- 4x IEEE 802.3at (25.5W) Gigabit PoE+ ports
- Dual 2.5" SATA ports with one hot-swappable HDD tray
- Patent shock-absorbing bracket for in-vehicle installation
- 8 ~ 35V wide-range DC input and built-in ignition power control
- 3x mini-PCIe/mSATA slots for 3G/WiFi/GPS capability
- E-Mark and EN 50155/EN 50121-3-2 certificate

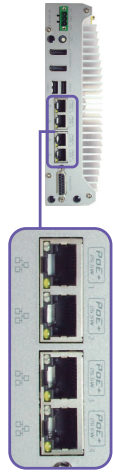
Introduction

Nuvo-3100VTC is a fanless controller with E-Mark and EN 50155/EN 50121-3-2 certificate for in-vehicle usage. It supports 3rd-Gen i7 quad-core CPU to provide extraordinary performance for emerging high-end requirements. It also integrates four IEEE 802.3at PoE+ ports to facilitate Ethernet connectivity and power IP cameras for surveillance applications. Nuvo-3100VTC takes into account all demands of in-vehicle applications. It has very compact footprint to fit into restricted space. Its 8~33V wide-range DC input and enhanced surge protection make Nuvo-3100VTC highly robust when car power applied. Nuvo-3100VTC further incorporates built-in RAID supporting data striping (RAID 0) and data mirroring (RAID 1) for two 2.5" HDDs. You can also take advantage of the hot-swappable HDD tray for easy HDD replacement. For in-vehicle installation, our patent mounting bracket can absorb shock/vibration and extend overall system reliability. Combining superior performance, PoE+ and comprehensive design, Nuvo-3100VTC presents more possibilities for innovative in-vehicle applications!

Product Highlights

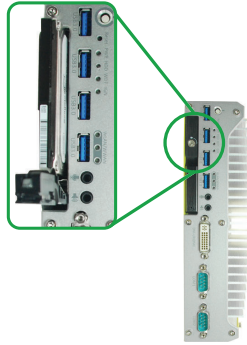
4x 802.3at PoE+ Ports

Power Over Ethernet, or PoE, is a technology that passes electrical power along with data on a single CAT5/6 cable. Compliant with IEEE 802.3at standard, Nuvo-3100VTC can supply 25.5W to each of its four ports. For in-vehicle surveillance applications, PoE+ significantly reduces the complexity of camera installation as only one CAT5/6 cable is enough to connect and power the camera.



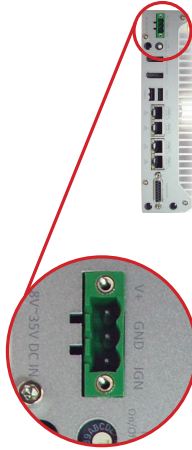
RAID with Hot-Swappable HDD Tray

Nuvo-3100VTC has built-in hardware RAID to enhance reliability and efficiency of disk access. It maintains two 2.5" SATA drives and supports RAID 0 (higher throughput) and RAID 1 (data redundancy). In addition, Nuvo-3100VTC hosts a hot-swappable HDD tray to accommodate one of SATA drives for storing portable information.



Comprehensive Power Design for In-Vehicle Applications

Aiming at in-vehicle usage, Nuvo-3100VTC has comprehensive power circuitry design. It accepts 8~35VDC input range with enhanced surge protection to work reliably with battery power on the car (12V) or bus/truck (24V). Ignition power control is implemented to respond ACC signal according to configurable power on/off delay.



Applications



1. Fleet Management System
2. In-Vehicle Surveillance System
3. Mobile ANPR

Specifications

System Core	
Processor	Supports the following CPU • Intel® Core™ i7-3610QE (2.3/3.3 GHz, 6 MB cache)
Chipset	Intel® QM77 Platform Controller Hub with AMV7 & RAID support
Graphics	Integrated Intel® HD Graphics 4000 Controller
Memory	1x 204-pin SO-DIMM sockets, up to 8GB DDR3 1333/1600 MHz SDRAM
I/O Interface	1x Gigabit Ethernet port by Intel® 82579LW, supporting Wake-on-LAN 3x Gigabit Ethernet ports by Intel® i210
PoE	Compliant to IEEE 802.3at (25.5W) with per-port power on/off control 75W total power budget for 4x PoE+ ports
Video Port	1x DVI-I connector for VGA/DVI output, supporting 2048x1536 (VGA) or 1920x1080 (DVI) resolution
USB	2x DisplayPort, supporting 2560x1600 resolution 4x USB 3.0 ports and 2x USB 2.0 ports
Serial Port	2x software-programmable RS-232/422/485 (COM1 & COM2)
* Isolated DIO	4x isolated DI with COS interrupt and 4x isolated DO 1x mic-in and 1x speaker-out
Storage Interface	
SATA HDD	1x Internal SATA port for 2.5" HDD/SSD 1x Hot-swappable HDD tray for 2.5" HDD/SSD
mSATA	1x Full-size mSATA (SATA/USB/NV_DISABLE) with USIM socket
Expansion Bus	
Mini PCIe	1x Full-size mini PCI Express socket with USIM socket 1x Half-size mini PCI Express socket

Power Supply & Ignition Control	
DC Input	8~35V DC input via 3-pin pluggable terminal block
Ignition Control	Ignition power control with user-selectable on/off delay
Mechanical	
Dimension	212 mm (W) x 165 mm (D) x 62 mm (H)
Weight	2.8 kg (including one 2.5" HDD and DDR3 SO-DIMM)
Mounting	Damping bracket (Standard) or DIN-Rail mounting (optional)
Environmental	
Ethernet	i7-3610QE, 100% CPU loading*
Operating Temperature	-25°C ~ 50°C**
Reduced Performance Extended Temperature	-25°C ~ 60°C** -25°C ~ 70°C**
Storage Temperature	-40°C ~ 85°C**
Humidity	10K~90%, non-condensing
Vibration	Operating, 1 Grms, 5-500 Hz, 3 Axes (W/ HDD, according to IEC60068-2-64) Operating, 5-500 Hz, 3 Axes (W/ SSD, according to IEC60068-2-64)
Shock	Operating, 50 Grms, Half-sine 11 ms Duration (W/ SSD, according to IEC60068-2-27)
Certification	E-Mark for vehicle applications EN 50155/EN 50121-3-2 CE/FCC Class A, according to EN 55022 & EN 55024 * The 100% CPU loading is applied using Passmark® BurnInTest™ v7.0. For detail testing criteria, please contact Neousys Technology. ** For sub-zero operating temperature, a wide temperature HDD drive or Solid State Disk (SSD) is required.

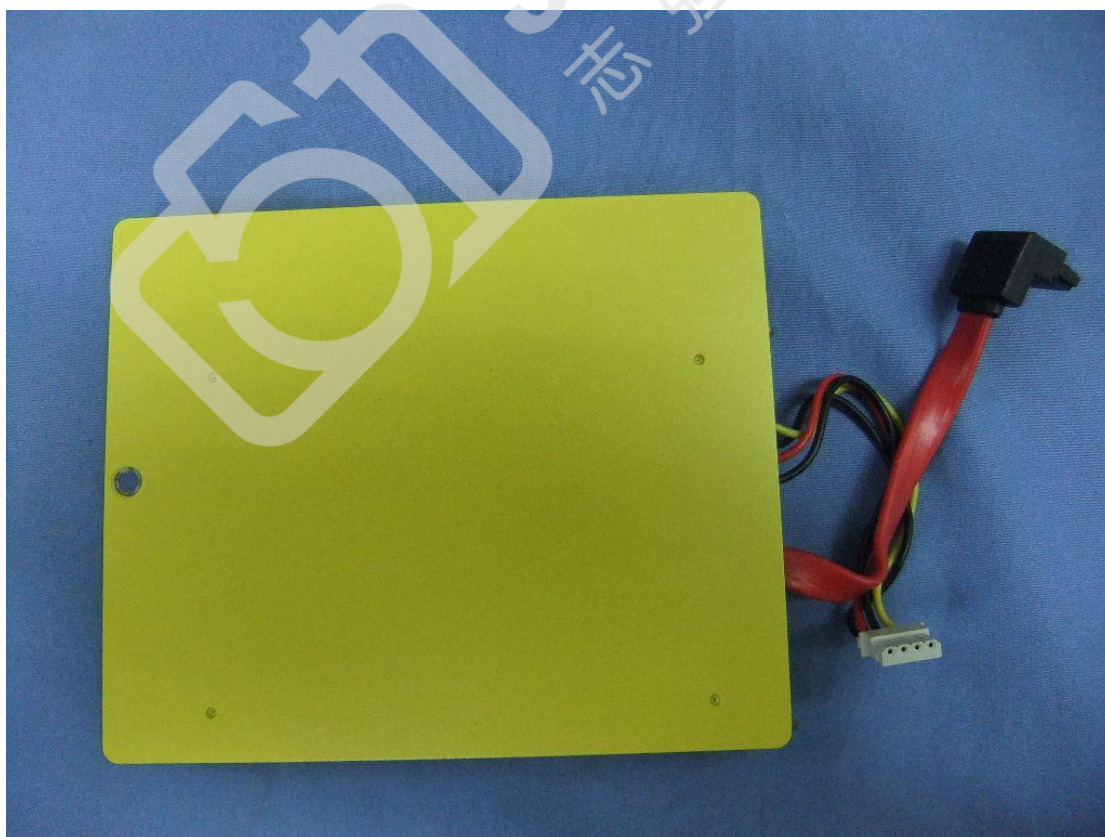
*The function of "Isolated DIO" is not tested during E-mark test.

Order Information

Nuvo-3100VTC-i7QC
Intel® Core™ i7-3610QE fanless in-vehicle controller with 4x 802.3at PoE+ ports and dual-drives RAID
Option of DIN-Rail mounting kit
120W AC/DC power adapter

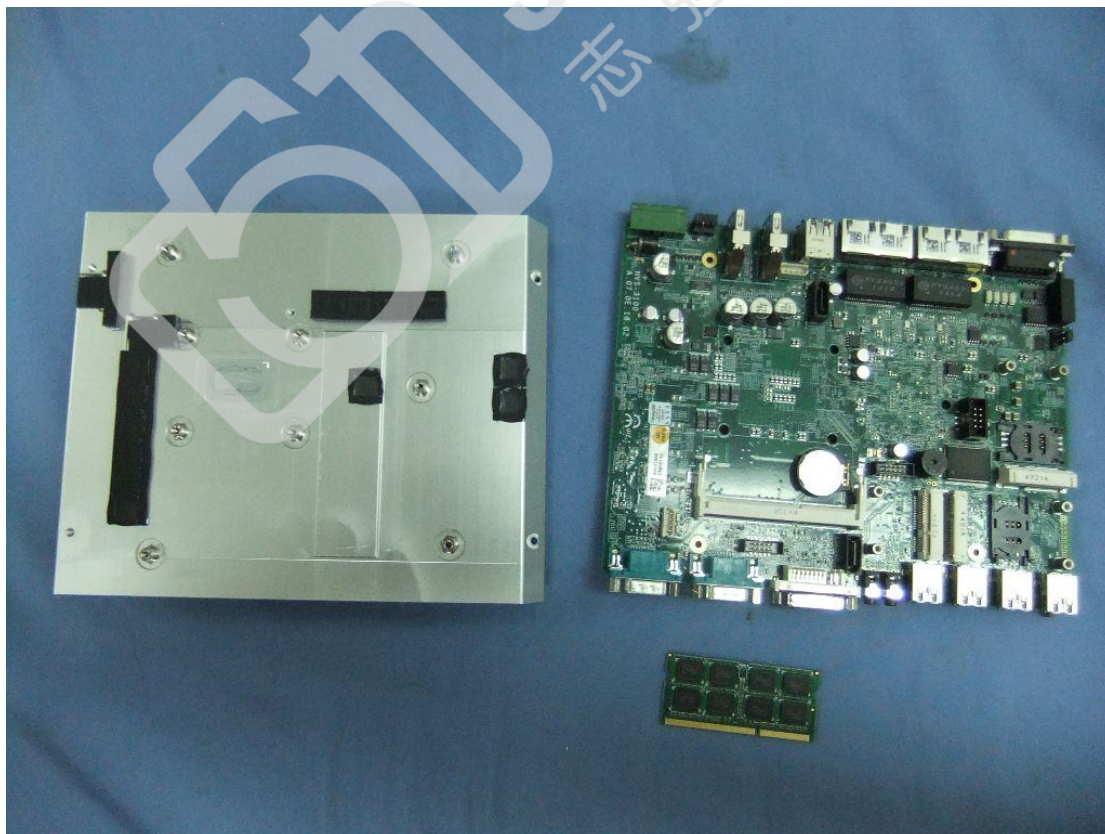
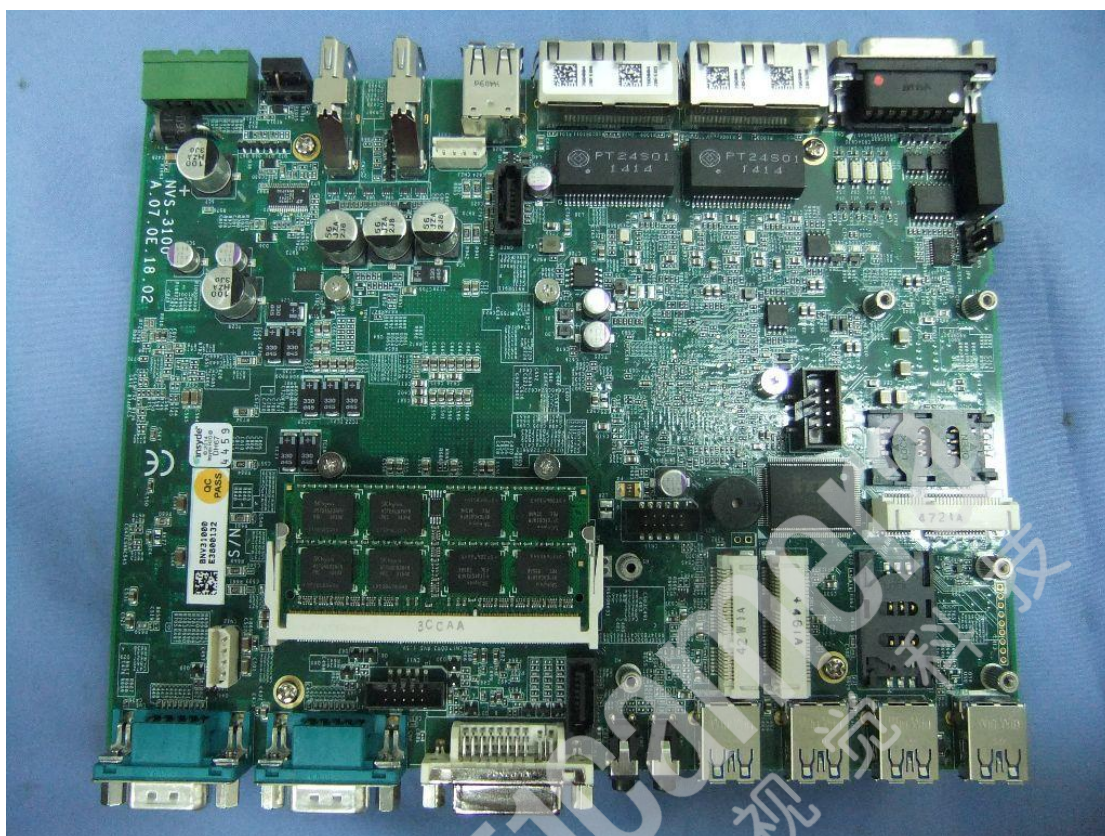


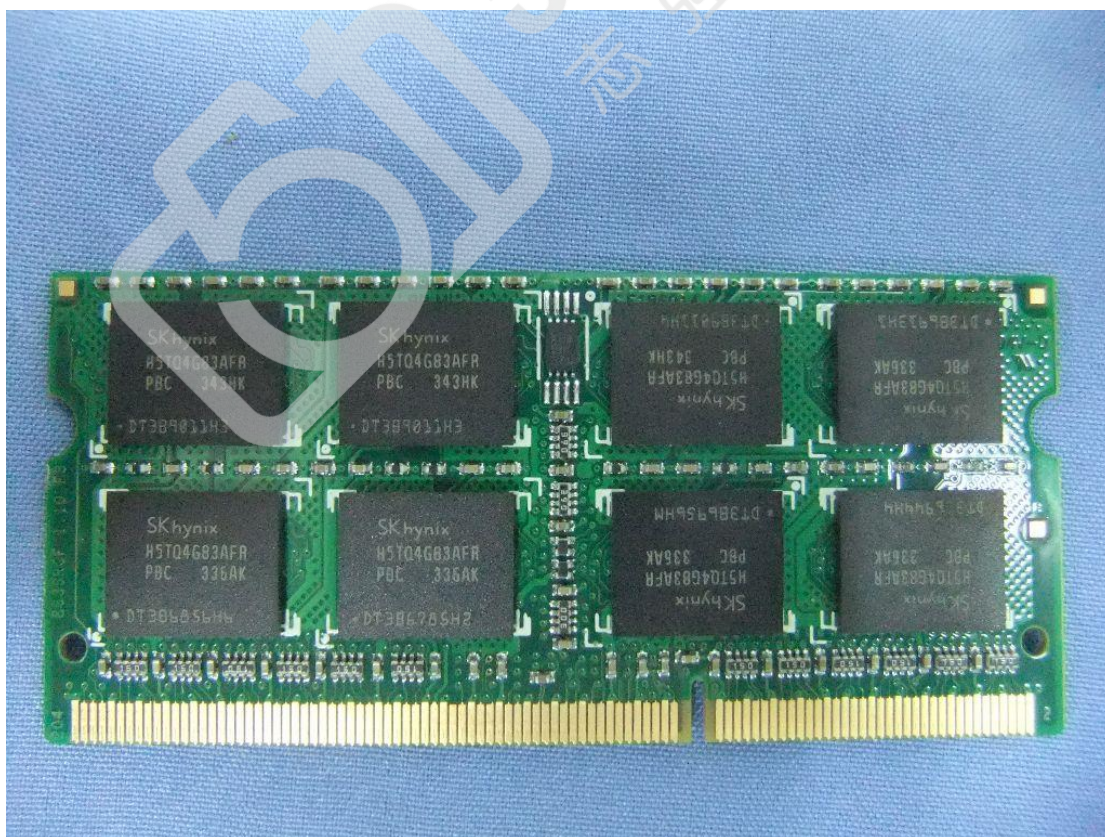


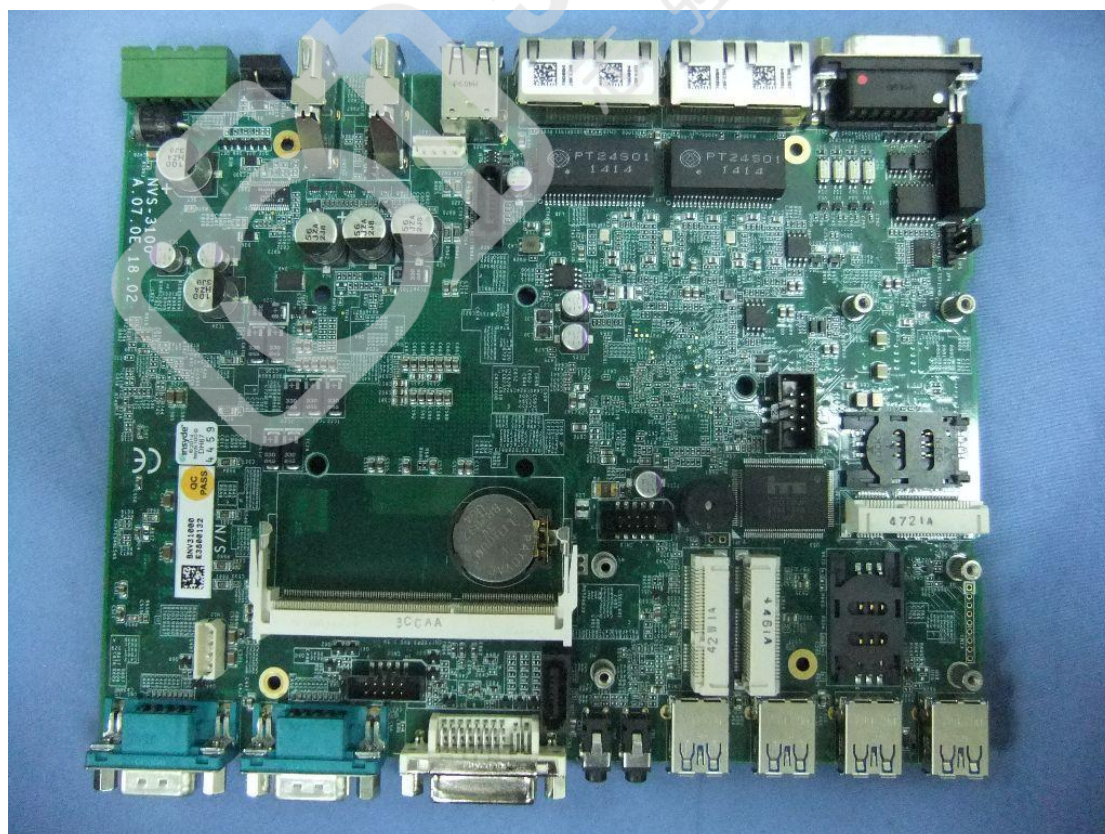


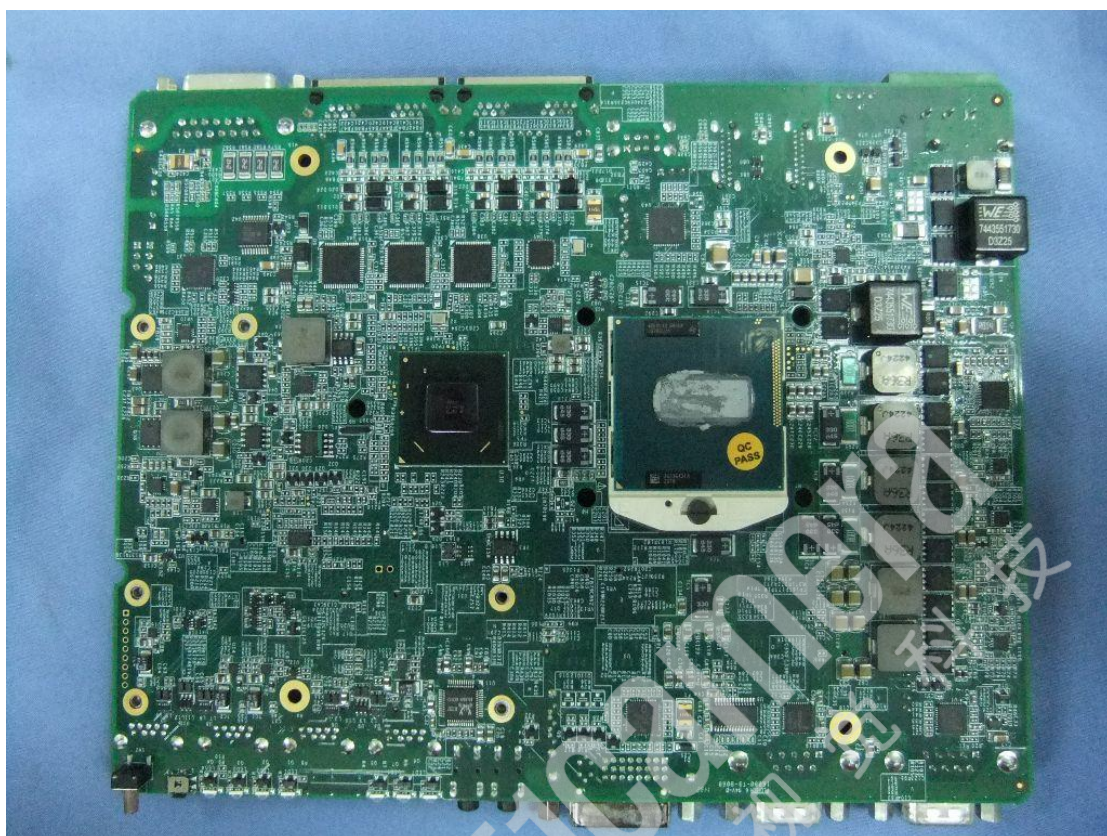






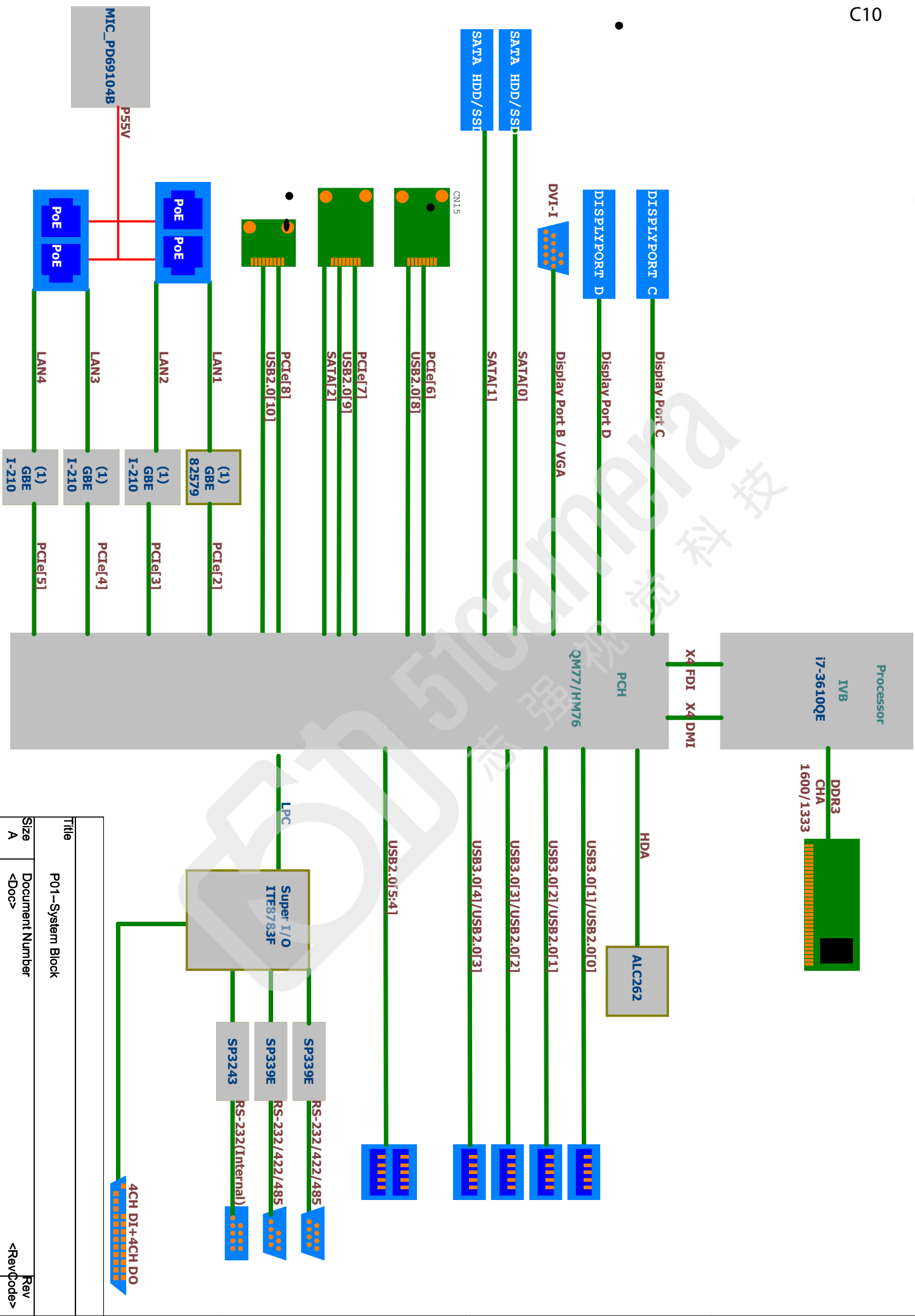






01 Block Diagram

C10



Title			P01-System Block		
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Date:	Monday, April 07, 2014	Sheet	1	of	56
					Rev
					<Rev/code>