

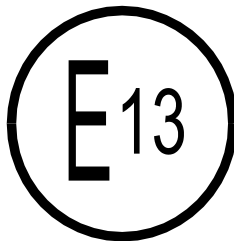


**Référence:** E13\*10R06/01\*16270\*00

**Annexes:** - Rapport Technique  
- Fiche de Renseignements du constructeur

Bertrange, le 18 mai 2022

**Communication concernant:**<sup>(2)</sup>  
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approval withdrawn  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<sup>(2)</sup> 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\*10R06/01\*16270\*00

**Marque d'homologation:**  
Approval mark:

 10R - 06 16270

**1. Fabricant: (marque commerciale du constructeur):**

Make (trade name of manufacturer):

STONKAM

**2. Type:**  
Type:

HD100291DC

**Dénomination(s) commerciale(s) générale(s):**  
General commercial description(s):

Quad View LCD Monitor with Touch Screen

~~Variante(s)/version(s):~~  
~~Variant(s)/version(s):~~

1. HD100291DC  
2. HD700264DC  
3. HD900146DC

3.	<b>Moyens d'identification du type, s'ils sont marqués sur le véhicule / composant / entité technique<sup>(2)</sup>:</b> Means of identification of type, if marked on the vehicle / component / separate technical unit:	Refer to the versions
3.1.	<b>Emplacement de ce marquage:</b> Location of that marking:	Label affixed to the housing of product
4.	<b>Catégorie du véhicule:</b> Category of vehicle:	Not applicable
5.	<b>Nom et adresse du constructeur:</b> Name and address of manufacturer:	STONKAM CO., LTD. Room 101, Building 6, No. 1, Ruihua Road, Tianhe District, Guangzhou, Guangdong, P.R. China
6.	<b>Dans le cas de composants ou d'entités techniques, emplacement et procédé de fixation de la marque de réception CEE:</b> In the case of components and separate technical units, location and method of affixing of the ECE approval mark:	Label affixed to the housing of product
7.	<b>Adresse(s) de l' (des) usine(s) d'assemblage:</b> Address(es) of assembly plant(s):	STONKAM CO., LTD. Building 3, No.1 Xingda Road, Yunpu Industrial Zone, Huangpu District, Guangzhou, Guangdong, P. R. China
8.	<b>Informations supplémentaires (s'il y a lieu):</b> Additional informations (where applicable):	See appendix below
9.	<b>Service technique responsable de l'exécution des essais:</b> Technical service responsible for carrying out the tests:	TÜV Rheinland Luxemburg S.à r.l. 2-4, rue Edmond Reuter L-5326 Contern
10.	<b>Date du rapport d'essai:</b> Date of test report:	24.04.2022
11.	<b>Numéro du rapport d'essai:</b> Number of test report:	85-R10-330/22-00
12.	<b>Remarques (s'il y a lieu):</b> Remarks (if any):	See appendix below

13. **Lieu:** Bertrange  
Place:

14. **Date:** 18 mai 2022  
Date:

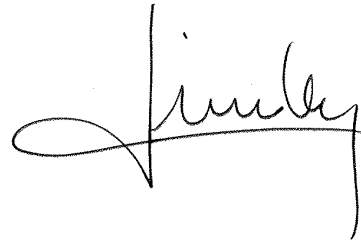
15. **Signature:**  
Signature:

**Pour le Ministre de la Mobilité  
et des Travaux publics**



**Alain DISVISCOUR**  
Conseiller

**Pour la SNCH**



**Laurent LINDEN**  
Directeur opérationnel



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:

## Appendice

Appendix

### au certificat d'homologation par type N° E13\*10R06/01\*16270\*00

to type-approval certificate N° E13\*10R06/01\*16270\*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.

- |   |  |   |                        |               |   |  |            |                 |   |  |
|---|--|---|------------------------|---------------|---|--|------------|-----------------|---|--|
| <b>1.</b>                                 | <b>Informations supplémentaires.</b><br>Additional information.  |   |                        |               |   |  |            |                 |   |  |
| <b>1.1.</b>                               | <b>Tension nominale du système électrique [V]:</b><br>Electrical system rated voltage [V]:   | DC 24 V   |                        |               |   |  |            |                 |   |  |
|   | <b>Masse:</b><br>Ground:   | <del>Positive</del> /negative <sup>(2)</sup>  |                        |               |   |  |            |                 |   |  |
| <b>1.2.</b>                               | <b>Ce SEEE peut être utilisé sur n'importe quel type de véhicule avec les restrictions suivantes:</b><br>This ESA can be used on any vehicle type with the following restrictions:   | No restrictions   |                        |               |   |  |            |                 |   |  |
| <b>1.2.1.</b>                             | <b>Conditions d'installation, s'il y a lieu:</b><br>Installation conditions, if any:   | Connected to car battery  |                        |               |   |  |            |                 |   |  |
| <b>1.3.</b>                               | <b>CE SEEE peut seulement être utilisé sur les types de véhicules suivants:</b><br>This ESA can be used only on the following vehicle types:   | Not applicable  |                        |               |   |  |            |                 |   |  |
| <b>1.3.1.</b>                             | <b>Conditions d'installation, s'il y a lieu:</b><br>Installation conditions, if any:   | Not applicable  |                        |               |   |  |            |                 |   |  |
| <b>1.4.</b>                               | <b>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).</b><br>The specific test method(s) used and the frequency ranges covered to determine immunity were: (Please specify precise method used from annex 9). | <table border="0"> <tr> <td>Bulk current injection</td> <td>20 to 400 MHz</td> </tr> <tr> <td>ISO 11452-4, 4<sup>th</sup> edition 2011</td> <td></td> </tr> <tr> <td>Free field</td> <td>400 to 2000 MHz</td> </tr> <tr> <td>ISO 11452-2, 2<sup>nd</sup> edition 2004</td> <td></td> </tr> </table> | Bulk current injection | 20 to 400 MHz | ISO 11452-4, 4 <sup>th</sup> edition 2011 |  | Free field | 400 to 2000 MHz | ISO 11452-2, 2 <sup>nd</sup> edition 2004 |  |
| Bulk current injection                    | 20 to 400 MHz  |   |                        |               |   |  |            |                 |   |  |
| ISO 11452-4, 4 <sup>th</sup> edition 2011 |  |   |                        |               |   |  |            |                 |   |  |
| Free field                                | 400 to 2000 MHz  |   |                        |               |   |  |            |                 |   |  |
| ISO 11452-2, 2 <sup>nd</sup> edition 2004 |  |   |                        |               |   |  |            |                 |   |  |
| <b>1.5.</b>                               | <b>Laboratoire accrédité au titre de la norme ISO 17025 et reconnu par l'autorité d'homologation chargé d'effectuer les essais:</b><br>Laboratory accredited to ISO 17025 and recognized by the Approval Authority responsible for carrying out the tests:   | Not applicable  |                        |               |   |  |            |                 |   |  |
| <b>2.</b>                                 | <b>Commentaires:</b><br>Remarks:   | All the versions are the same except the LCD panel size and appearance.   |                        |               |   |  |            |                 |   |  |



**Référence:** E13\*10R06/01\*16270\*00

**Annexes:** - Rapport Technique  
- Fiche de Renseignements du constructeur

Bertrange, le 18 mai 2022

## Index du dossier d'homologation

Index to type-approval report

	<b>Numéro d'homologation:</b> Approval number:	E13*10R06/01*16270*00
	<b>Révision:</b> Revision:	00
	<b>Marque de fabrication ou de commerce:</b> Trade name or mark:	STONKAM
	<b>Type:</b> Type:	HD100291DC
1.	<b>Procès-verbal d'essai:</b> Test report:	N° 85-R10-330/22-00
	- Test report:	Page 1 to 4
	- Technical information:	Appendix L - Page 5 & 6
	- List of modifications:	Appendix 0 - Page 7
	- Test protocol:	Appendix 1 - Page 8 to 19
	- List of equipments:	Appendix 2 - Page 20
2.	<b>Dossier du constructeur:</b> Report of the manufacturer:	N° IF-STONKAM-HD100291DC-00
	- Manufacturer's information folder	Page 1 to 31
3.	<b>Autres documents annexés:</b> Other documents annexed:	Not applicable
4.	<b>Date de délivrance de l'homologation initiale:</b> Date of issue of initial type approval:	18.05.2022
5.	<b>Date de la dernière délivrance de pages révisées:</b> Date of last issue of revised pages:	Not applicable
6.	<b>Date de la dernière délivrance d'une homologation révisée:</b> Date of last extension:	Not applicable

Type : HD100291DC  
Manufacturer : STONKAM CO., LTD.

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## TEST REPORT

according to UN-Regulation

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

**UN-Regulation No. 10**

including all amendments until  
**Amendment 06, supplement 1**

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Approval Status

EU/UN-Type approval : --

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Structure of the Test Report

Item No.

0. General information
  1. Tested vehicle(s) / object(s)
  2. Test record
  3. Appendices
  4. Statement of conformity
- 

The Test Report shall be reproduced and published only in its entirety by the client. It may however be reproduced and published partially, but only with the written permission of the Technical Service.

Type : HD100291DC  
 Manufacturer : STONKAM CO., LTD.

## 0. General information

- 0.1. Make (trade name of the manufacturer) : STONKAM
- 0.2. Type : HD100291DC  
 Version(s) : 1. HD100291DC  
 2. HD700264DC  
 3. HD900146DC
- 0.3. Category of vehicle : Not applicable
- 0.4. Name and address of the manufacturer : STONKAM CO., LTD.  
 Room 101, Building 6, No. 1, Ruihua Road, Tianhe District, Guangzhou, Guangdong, P.R. China.
- 0.5. No. of the Information folder : IF-STONKAM-HD100291DC-00  
 - Date of issue : April 11, 2022  
 - Date of last change : Not applicable

## 1. Tested ~~vehicle(s)~~/ object(s)

- 1.1. Description
- 1.1.1. ~~Vehicle~~ / object  
 Trade name : STONKAM  
 Type(s) /variant(s) /version(s) : HD100291DC / --- / HD100291DC  
 Identification number : Not applicable
- 1.1.2. Condition of ~~vehicle(s)~~/Object(s) : ~~New / used / pretested~~
- 1.2. Worst case configuration : ~~Only one variant/version, so no worst case assessment required.~~  
~~There is no worst case selection applicable because all versions mentioned in the information folder are tested.~~  
~~Based on the pre-test result / simulation analysis / WCC discussion record.~~  
~~- Document no. and date:~~  
 Only one version is selected for test, because all versions are the same except the LCD panel size and appearance.
- 1.3. Remark : ---

Type : HD100291DC  
 Manufacturer : STONKAM CO., LTD.

## 2. Test record

- 2.1. Equipment for measuring and testing : The test facilities / measurement equipment used were in compliance with the test requirements. Please see Appendix 2.
- 2.1.1. Specifications for the test site : Not applicable
- 2.1.2. Subcontracting : Not applicable
- 2.2. Test results
- Remark concerning extension : ~~The component type has been tested according to the modification(s) mentioned in appendix 0.~~  
 The new parts meet the requirements of the regulation.  
 An actual practical test of the object was not necessary. The results of the previous test(s) are still valid.
- 2.2.1. Test results referring to measurement
- 2.2.1.1. General requirements : All general requirements are met.  
 (Test data see Appendix 1)
- 2.2.1.2. Test results – radiated narrowband electromagnetic emissions : The requirements of the standards are met.  
 (Test data see Appendix 1)
- 2.2.1.3. Test results – radiated broadband electromagnetic emissions : The requirements of the standards are met.  
 (Test data see Appendix 1)
- 2.2.1.4. Test results – Immunity to electromagnetic radiation : The requirements of the standards are met.  
 (Test data see Appendix 1)
- 2.2.1.5. Test results – conducted Emission : The requirements of the standards are met.  
 (Test data see Appendix 1)
- 2.2.1.6. Test results – immunity to conducted Transients : The requirements of the standards are met.  
 (Test data see Appendix 1)
- 2.2.2. Test results of not measurable attributes : Not applicable
- 2.2.3. Alternative test methods : Not applicable



Type : HD100291DC  
Manufacturer : STONKAM CO., LTD.

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- 2.3. Additional information : The results of the test refer exclusively to the object(s) mentioned under point 1. of this report.
- Test site : TÜV Rheinland (Guangdong) Co., Ltd. EMC Laboratory  
No.102, 1F of Southwest Warehouse Building, No.767  
TianYuan Road, Tianhe District, Guangzhou, P.R.China.
- Test date : April 13-17, 2022
- 2.4. Remarks : Not applicable

### 3. Appendices

- Appendix L : Technical information about the electrical/electronic sub-assembly (ESA) according to Annex 3B for the communication concerning the UN-type approval
- Appendix 0 : List of modifications
- Appendix 1 : Test protocol
- Appendix 2 : List of equipments
- Information folder No. : IF-STONKAM-HD100291DC-00

### 4. Statement of conformity

The Information Document listed in section 0.5., and the type described therein, comply with the requirements stated on page 1.

The test results in this report refer to the ~~vehicle(s)~~ object(s) described under section 1.1.

With regards to the required level of performance to be achieved, the tested samples were representative for the type to be approved (see section 1.2).

Engineering Centre Shanghai, April 24, 2022  
JZ



Jennifer Zhang  
Technical Expert Technical Service

Type : HD100291DC  
 Manufacturer : STONKAM CO., LTD.

**Technical information about the electrical/electronic sub-assembly(ESA) according to Annex 3B for the communication concerning the UN-type approval**

**APPENDIX L**

- |      |   |  |
|------|---|--|
| 1.   | Make (trade name of manufacturer)   | : STONKAM  |
| 2.   | Type and general commercial description(s)  | : HD100291DC   |
|      | Commercial description(s)   | : Quad View LCD Monitor with Touch Screen  |
|      | Version(s)  | : 1. HD100291DC<br>2. HD700264DC<br>3. HD900146DC  |
| 3.   | Means of identification of type, if marked on the <del>vehicle</del> /component/<br><del>separate technical unit</del> <sup>(2)</sup> | : Refer to the versions  |
| 3.1. | Location of that marking  | : Label affixed to the housing of product  |
| 4.   | Category of vehicle   | : Not applicable   |
| 5.   | Name and address of manufacturer  | : STONKAM CO., LTD.<br>Room 101, Building 6, No. 1, Ruihua Road, Tianhe District, Guangzhou, Guangdong, P.R. China.                                  |
| 6.   | In the case of components and separate technical units, location and method of affixing of the approval mark                          | : Label affixed to the housing of product  |
| 7.   | Address(es) of assembly plant(s)  | : STONKAM CO., LTD.<br>Building 3, No.1 Xingda Road, Yunpu Industrial Zone, Huangpu District, Guangzhou, Guangdong, P. R. China<br>Post Code: 510760 |
| 8.   | Additional information (where applicable)   | : See Appendix   |
| 9.   | Technical service responsible for carrying out the tests  | : TÜV Rheinland Luxemburg S.à r.l.<br>2-4, rue Edmond Reuter<br>L-5326 Contern   |
| 10.  | Date of test report   | : April 24, 2022   |
| 11.  | Number of test report   | : 85-R10-330/22-00   |
| 12.  | Remarks (if any)  | : See Appendix   |
| 16.  | The index to the information package lodged with the Approval authority, which may be obtained on request, is attached                |  |
| 17.  | Reasons for extension   | : ---  |

Type : HD100291DC  
 Manufacturer : STONKAM CO., LTD.

**Appendix to type-approval communication form No. E13\*10R06/01\*XXXX\*00  
 concerning the type-approval of an electrical/electronic sub-assembly under Regulation No. 10**

1. Additional information
  - 1.1. Electrical system rated voltage : DC 24V ~~pos./neg.~~ ground<sup>(2)</sup>
  - 1.2. This ESA can be used on any vehicle type with the following restrictions : No restrictions
    - 1.2.1. Installation conditions, if any : Connected to car battery
  - 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) : ISO 11452-4, fourth edition 2011  
 Bulk current injection testing method (from 20 to 400MHz)  
  
 ISO 11452-2, 2nd edition: 2004  
 Free field testing method (from 400 MHz to 2000MHz)
  - 1.5. Laboratory accredited to ISO 17025 and recognized by the Approval Authority responsible for carrying out the tests : Not applicable
2. Remarks : All the versions are the same except the LCD panel size and appearance.

<sup>(1)</sup> Distinguishing number of the country which has granted/extended/refused or withdrawn approval (see Regulation, provisions on approval).

<sup>(2)</sup> Strike out what does not apply.

Type : HD100291DC  
Manufacturer : STONKAM CO., LTD.

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**List of modifications**

**Appendix 0**

Correction of : ---

Modification of : ---

Addition of : ---

Deletion of : ---

Type : HD100291DC  
Manufacturer : STONKAM CO., LTD.

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**Test protocol****Appendix 1****Test object**

Trade name : STONKAM  
Type(s) /variant(s) /version(s) : HD100291DC / --- / HD100291DC

## Technical data of the tested object(s) type

Electrical system rated voltage : DC 24V (negative ground)

This ESA can be used on any vehicle type  
with the following restrictions : No restrictions

Installation conditions : Connected to car battery

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

Installation conditions : Not applicable

Type : HD100291DC  
Manufacturer : STONKAM CO., LTD.

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## Test results

### 1. Radiated narrow band / broadband electromagnetic emissions:

Antenna position : horizontal and vertical  
Rated voltage : DC 24V  
Operation mode : Display the image of camera

Type : HD100291DC  
 Manufacturer : STONKAM CO., LTD.

Horizontal Polarity and Vertical Polarity Test Result Diagram (Broadband&Narrow band)

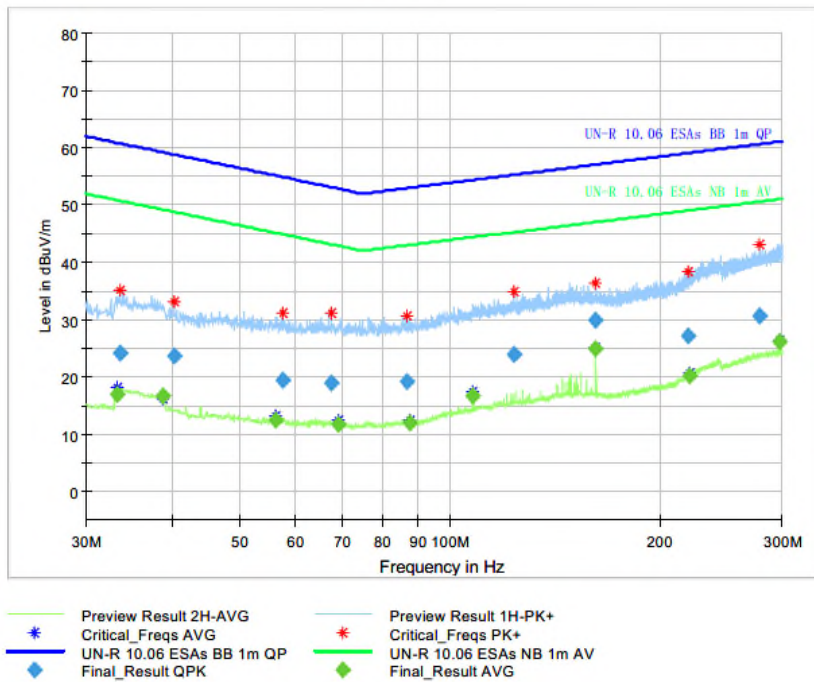
## EMC Test Record (Emission)

### Common Information

Manufacturer:	STONKAM
Test Item:	Quad View LCD Monitor with Touch Screen
Identification:	HD100291DC
Test Standard:	UN R10.06
Test Detail:	Radiated Emission
Operation Mode:	Display the image of the camera
Climate Condition:	24 degree, 53%, 101 kPa
Test Voltage/ Freq:	DC 27.0V
Receipt No:	170305033
Report No:	
Result:	Pass
Comment:	Test distance is 1m, Horizontal

Subrange 1	
Frequency Range:	30M-300MHz
Receiver:	TUV ESR7
Transducer:	TUV VHBB9124

Full Spectrum



Type : HD100291DC  
 Manufacturer : STONKAM CO., LTD.

### Final Result

Frequency (MHz)	QuasiPeak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB/m)
33.360000	---	17.06	50.84	33.78	1000.0	120.000	H	13.0
33.540000	24.16	---	60.78	36.62	1000.0	120.000	H	13.0
38.760000	---	16.73	49.20	32.47	1000.0	120.000	H	13.0
40.200000	23.60	---	58.81	35.21	1000.0	120.000	H	12.8
56.220000	---	12.49	45.15	32.66	1000.0	120.000	H	11.0
57.420000	19.32	---	54.92	35.60	1000.0	120.000	H	10.8
67.560000	18.99	---	53.14	34.15	1000.0	120.000	H	10.3
69.120000	---	11.71	42.89	31.18	1000.0	120.000	H	10.1
86.640000	19.08	---	52.95	33.87	1000.0	120.000	H	10.4
87.360000	---	12.03	43.00	30.97	1000.0	120.000	H	10.4
108.000000	---	16.60	44.40	27.80	1000.0	120.000	H	12.3
123.360000	23.83	---	55.27	31.44	1000.0	120.000	H	13.3
162.000000	29.92	---	57.06	27.14	1000.0	120.000	H	14.6
162.000000	---	24.99	47.06	22.07	1000.0	120.000	H	14.6
219.480000	27.13	---	59.06	31.93	1000.0	120.000	H	17.4
220.440000	---	20.21	49.09	28.88	1000.0	120.000	H	17.5
278.220000	30.74	---	60.61	29.87	1000.0	120.000	H	21.6
297.000000	---	26.17	51.04	24.87	1000.0	120.000	H	22.3

(continuation of the "Final\_Result" table from column 14 ...)

Frequency (MHz)	Comment
33.360000	05:08:53 - 4/17/2022
33.540000	05:08:27 - 4/17/2022
38.760000	05:08:55 - 4/17/2022
40.200000	05:08:30 - 4/17/2022
56.220000	05:08:57 - 4/17/2022
57.420000	05:08:33 - 4/17/2022
67.560000	05:08:36 - 4/17/2022
69.120000	05:09:00 - 4/17/2022
86.640000	05:08:39 - 4/17/2022
87.360000	05:09:02 - 4/17/2022
108.000000	05:09:03 - 4/17/2022
123.360000	05:08:42 - 4/17/2022
162.000000	05:08:45 - 4/17/2022
162.000000	05:09:05 - 4/17/2022
219.480000	05:08:48 - 4/17/2022
220.440000	05:09:07 - 4/17/2022
278.220000	05:08:51 - 4/17/2022
297.000000	05:09:10 - 4/17/2022



Type : HD100291DC  
 Manufacturer : STONKAM CO., LTD.

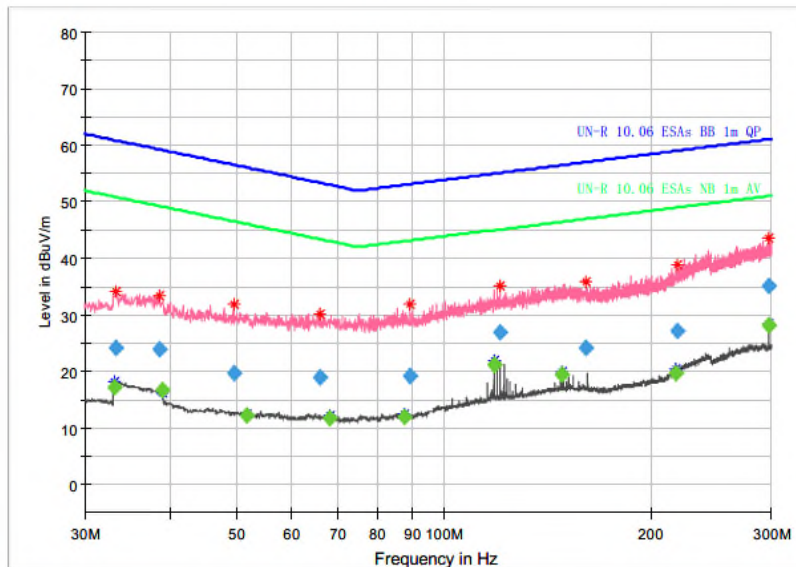
## EMC Test Record (Emission)

### Common Information

Manufacturer:	STONKAM
Test Item:	Quad View LCD Monitor with Touch Screen
Identification:	HD100291DC
Test Standard:	UN R10.06
Test Detail:	Radiated Emission
Operation Mode:	Display the image of the camera
Climate Condition:	24 degree, 53%, 101 kPa
Test Voltage/ Freq:	DC 27.0V
Receipt No:	170305033
Report No:	
Result:	Pass
Comment:	Test distance is 1m, Vertical

Subrange 1	
Frequency Range:	30M-300MHz
Receiver:	TUV ESR7
Transducer:	TUV VHBB9124

Full Spectrum



 Preview Result 2V-AVG Critical_Freqs AVG	 Preview Result 1V-PK+ Critical_Freqs PK+
 UN-R 10.06 ESAs BB 1m QP Final_Result QPK	 UN-R 10.06 ESAs NB 1m AV Final_Result AVG

Type : HD100291DC  
 Manufacturer : STONKAM CO., LTD.

### Final Result

Frequency (MHz)	QuasiPeak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB/m)
33.120000	---	17.08	50.92	33.84	1000.0	120.000	V	13.1
33.300000	24.14	---	60.86	36.72	1000.0	120.000	V	13.0
38.460000	23.87	---	59.29	35.42	1000.0	120.000	V	13.1
38.940000	---	16.68	49.15	32.47	1000.0	120.000	V	13.0
49.380000	19.75	---	56.56	36.81	1000.0	120.000	V	11.6
51.540000	---	12.21	46.09	33.88	1000.0	120.000	V	11.2
66.060000	18.92	---	53.39	34.47	1000.0	120.000	V	10.4
68.280000	---	11.78	43.02	31.24	1000.0	120.000	V	10.2
87.360000	---	12.00	43.00	31.00	1000.0	120.000	V	10.4
89.220000	19.21	---	53.14	33.93	1000.0	120.000	V	10.3
118.260000	---	21.18	44.99	23.81	1000.0	120.000	V	13.0
120.840000	26.92	---	55.13	28.21	1000.0	120.000	V	13.1
148.500000	---	19.51	46.49	26.98	1000.0	120.000	V	14.6
160.680000	24.09	---	57.01	32.92	1000.0	120.000	V	14.7
217.620000	---	19.80	49.00	29.20	1000.0	120.000	V	17.1
219.000000	27.17	---	59.04	31.87	1000.0	120.000	V	17.3
297.000000	---	28.16	51.04	22.88	1000.0	120.000	V	22.3
297.000000	35.23	---	61.04	25.81	1000.0	120.000	V	22.3

(continuation of the "Final\_Result" table from column 14 ...)

Frequency (MHz)	Comment
33.120000	05:24:23 - 4/17/2022
33.300000	05:23:57 - 4/17/2022
38.460000	05:24:00 - 4/17/2022
38.940000	05:24:25 - 4/17/2022
49.380000	05:24:03 - 4/17/2022
51.540000	05:24:27 - 4/17/2022
66.060000	05:24:06 - 4/17/2022
68.280000	05:24:29 - 4/17/2022
87.360000	05:24:31 - 4/17/2022
89.220000	05:24:09 - 4/17/2022
118.260000	05:24:34 - 4/17/2022
120.840000	05:24:12 - 4/17/2022
148.500000	05:24:36 - 4/17/2022
160.680000	05:24:15 - 4/17/2022
217.620000	05:24:38 - 4/17/2022
219.000000	05:24:18 - 4/17/2022
297.000000	05:24:40 - 4/17/2022
297.000000	05:24:21 - 4/17/2022

Type : HD100291DC  
 Manufacturer : STONKAM CO., LTD.

## EMC Test Record (Emission)

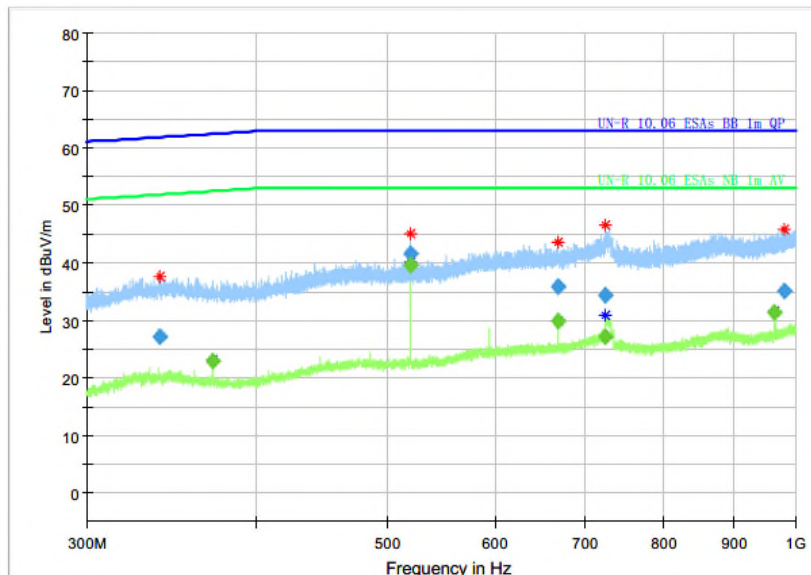
### Common Information

Manufacturer:	STONKAM
Test Item:	Quad View LCD Monitor with Touch Screen
Identification:	HD100291DC
Test Standard:	UN R10.06
Test Detail:	Radiated Emission
Operation Mode:	Display the image of the camera
Climate Condition:	24 degree, 53%, 101 kPa
Test Voltage/ Freq:	DC 27.0V
Receipt No:	170305033
Report No:	
Result:	Pass
Comment:	Test distance is 1m, Horizontal

Subrange 1	
Frequency Range:	300M-1GHz
Receiver:	TUV ESR7
Transducer:	TUV VULP9118A

Full Spectrum



Preview Result 2H-AVG	Preview Result 1H-PK+
Critical_Freqs AVG	Critical_Freqs PK+
UN-R 10.06 ESAs BB 1m QP	UN-R 10.06 ESAs NB 1m AV
Final_Result QPK	Final_Result AVG

Type : HD100291DC  
 Manufacturer : STONKAM CO., LTD.

### Final Result

Frequency (MHz)	QuasiPeak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB/m)
339.960000	27.08	---	61.93	34.85	1000.0	120.000	H	17.8
371.280000	---	23.04	52.51	29.47	1000.0	120.000	H	17.6
519.780000	---	39.69	53.00	13.31	1000.0	120.000	H	19.8
519.780000	41.57	---	63.00	21.43	1000.0	120.000	H	19.8
668.280000	35.99	---	63.00	27.01	1000.0	120.000	H	22.0
668.280000	---	30.00	53.00	23.00	1000.0	120.000	H	22.0
723.180000	---	27.10	53.00	25.90	1000.0	120.000	H	23.4
723.420000	34.33	---	63.00	28.67	1000.0	120.000	H	23.4
965.340000	---	31.31	53.00	21.69	1000.0	120.000	H	25.4
981.000000	35.05	---	63.00	27.95	1000.0	120.000	H	25.8

(continuation of the "Final\_Result" table from column 14 ...)

Frequency (MHz)	Comment
339.960000	04:08:07 - 4/17/2022
371.280000	04:08:22 - 4/17/2022
519.780000	04:08:24 - 4/17/2022
519.780000	04:08:10 - 4/17/2022
668.280000	04:08:14 - 4/17/2022
668.280000	04:08:26 - 4/17/2022
723.180000	04:08:29 - 4/17/2022
723.420000	04:08:17 - 4/17/2022
965.340000	04:08:31 - 4/17/2022
981.000000	04:08:20 - 4/17/2022

Type : HD100291DC  
 Manufacturer : STONKAM CO., LTD.

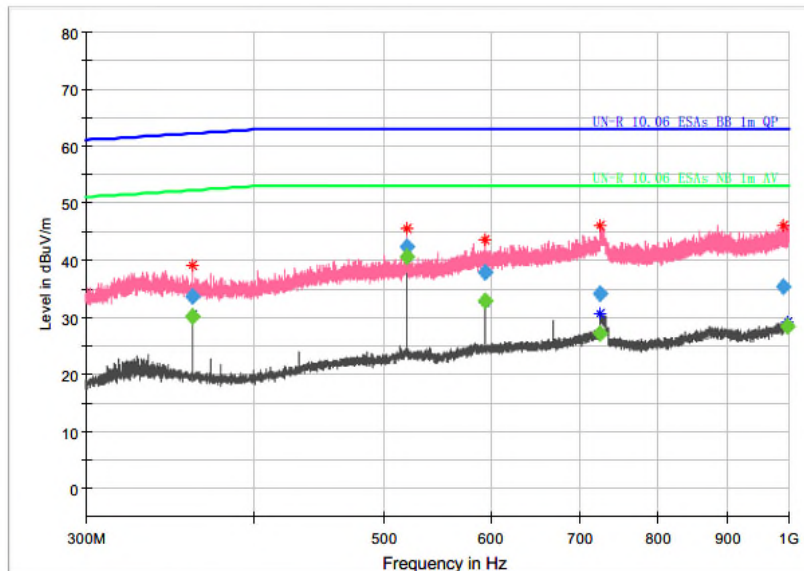
## EMC Test Record (Emission)

### Common Information

Manufacturer:	STONKAM
Test Item:	Quad View LCD Monitor with Touch Screen
Identification:	HD100291DC
Test Standard:	UN R10.06
Test Detail:	Radiated Emission
Operation Mode:	Display the image of the camera
Climate Condition:	24 degree, 53%, 101 kPa
Test Voltage/ Freq:	DC 27.0V
Receipt No:	170305033
Report No:	
Result:	Pass
Comment:	Test distance is 1m, Vertical

Subrange 1	
Frequency Range:	300M-1GHz
Receiver:	TUV ESR7
Transducer:	TUV VULP9118A

Full Spectrum



 Preview Result 2V-AVG	 Preview Result 1V-PK+
 Critical_Freqs AVG	 Critical_Freqs PK+
 UN-R 10.06 ESAs BB 1m QP	 UN-R 10.06 ESAs NB 1m AV
 Final_Result QPK	 Final_Result AVG

Type : HD100291DC  
 Manufacturer : STONKAM CO., LTD.

**Final Result**

Frequency (MHz)	QuasiPeak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB/m)
360.000000	---	30.10	52.31	22.21	1000.0	120.000	V	17.8
360.000000	33.62	---	62.31	28.69	1000.0	120.000	V	17.8
519.780000	---	40.54	53.00	12.46	1000.0	120.000	V	19.8
519.780000	42.44	---	63.00	20.56	1000.0	120.000	V	19.8
594.060000	37.84	---	63.00	25.16	1000.0	120.000	V	21.7
594.060000	---	32.82	53.00	20.18	1000.0	120.000	V	21.7
723.180000	---	27.07	53.00	25.93	1000.0	120.000	V	23.4
724.440000	34.20	---	63.00	28.80	1000.0	120.000	V	23.4
990.780000	35.30	---	63.00	27.70	1000.0	120.000	V	26.0
997.440000	---	28.29	53.00	24.71	1000.0	120.000	V	26.2

(continuation of the "Final\_Result" table from column 14 ...)

Frequency (MHz)	Comment
360.000000	04:13:21 - 4/17/2022
360.000000	04:13:06 - 4/17/2022
519.780000	04:13:23 - 4/17/2022
519.780000	04:13:10 - 4/17/2022
594.060000	04:13:13 - 4/17/2022
594.060000	04:13:26 - 4/17/2022
723.180000	04:13:28 - 4/17/2022
724.440000	04:13:16 - 4/17/2022
990.780000	04:13:19 - 4/17/2022
997.440000	04:13:30 - 4/17/2022

Maximum value (DC 24V):

Frequency [MHz]	Test results [dBμV/m]		Reference Limit [dBμV/m]	Margin to reference value [dBμV/m]
	hor.	vert.		
519.78	39.69	---	53.00	13.31
519.78	---	40.54	53.00	12.46

Type : HD100291DC  
 Manufacturer : STONKAM CO., LTD.

## 2. Emissions of transient conducted disturbances

Test method : ISO 7637-2 2nd edition: 2004

Worst result of fast pulse and slow pulse

Polarity of pulse amplitude	Maximum allowed value for vehicles with 12V/24V systems	Measured Pulse amplitude True value
Positive	<del>+75V</del> +150V	+0.0V
Negative	<del>-100V</del> -450V	-27.0V

## 3. Immunity to electromagnetic radiation

Test method : ISO 11452-4, fourth edition 2011  
 Bulk current injection testing method (from 20 to 400MHz)

ISO 11452-2, 2nd edition: 2004  
 Free field testing method (from 400 MHz to 2000MHz)

Measurement result (24V):

Frequency range (MHz)	Test level	Type of modulation	Test distance	Antenna position	Result
20~400	60mA	AM, 80%	150mm	/	Passed*
400~800	30volts/m	AM, 80%	1 m	Vertical	Passed*
800~2000	30volts/m	PM, 577µs	1 m	Vertical	Passed*

\* no degradation of performance of 'immunity-related functions'.

Type : HD100291DC  
 Manufacturer : STONKAM CO., LTD.

#### 4. Immunity to transient disturbances

Test method : ISO 7637-2 2nd edition: 2004

Measurement result (24V):

Test pulse	Test level		Number of pulse / test time	Burst cycle / pulse repetition time	Required minimum function status**	Status of function true value		Result
	24V	42V				24V	12V	
1	-450V	<del>-75V</del>	5000 pulses	0.5 s	C	C	/	passed
2a	+37V	<del>+37V</del>	5000 pulses	0.2 s	B	A	/	passed
2b	+20V	<del>+10V</del>	10 pulses	0.5 s	C	C	/	passed
3a	-150V	<del>-112V</del>	1 h	90 ms	A	A	/	passed
3b	+150V	<del>+75V</del>	1 h	90 ms	A	A	/	passed
4	-12V	<del>-6V</del>	1 pulse	--	C	A	/	passed

#### Remark:

\* Class A: all functions of a device/system perform as designed during and after exposure to disturbance.

Class B: all functions of a device/system perform as designed during exposure. However, one or more of them can go beyond specified tolerance. All functions return automatically to within normal limits after exposure is removed. Memory functions shall remain class A.

Class C: one or more functions of a device/system do not perform as designed during exposure but return automatically to normal operation after exposure is removed.

Class D: one or more functions of a device/system do not perform as designed during exposure and do not return to normal operation until exposure is removed and the device/system is reset by simple "operator/use" action.

Class E: one or more functions of a device/system do not perform as designed during and after exposure and cannot be returned to proper operation without repairing or replacing the device/system.



Type : HD100291DC  
 Manufacturer : STONKAM CO., LTD.

## List of equipments

## Appendix 2

Equipment	Type	Make	Serial no.	Calibration expire date
EMI Test Receiver	ESW8	Rohde & Schwarz	101313	2023-03-16
Biconical Antenna Balun	VHBB 9124	SCHWARZBECK	821	2022-09-05
Log-Periodical Antenna	VULP 9118 A	SCHWARZBECK	591	2022-06-28
LISN	NNBM 8124-200	Schwarzbeck	335	2022-06-26
LISN	NNBM 8124-200	Schwarzbeck	347	2022-06-26
DC Programmable Power	IT6512A	ITECH	600530010707020009	2023-03-17
Electronic Switch	BS200N	EM TEST	V0927104954	2023-03-17
LISN	NNBM 8124	Schwarzbeck	8124-340	2023-03-16
Passive Probe	P5100A	Tektronix	C000494	2023-03-19
Digital Phosphor Oscilloscope	DPO4054	Tektronix	B010438	2023-03-16
Ultra Compact Simulator	LD 200 N	EM TEST	V0927104957	2023-03-17
Voltage Drop Simulator	UCS 200N50	EM TEST	V0820103743	2023-03-17
Power Meter	NRVD	Rohde & Schwarz	835430/019	2023-03-16
Signal Generator	SMC100A	Rohde & Schwarz	105646	2023-03-16
Power amplifier	BBA150-A125B125	Rohde & Schwarz	102144	2022-11-26
LISN	NNBM 8125 BCI	Schwarzbeck	1877	2023-03-16
LISN	NNBM 8125 BCI	Schwarzbeck	1878	2023-03-16
Injection Probe	F-120-9A	Fischer Custom Communication Inc.	429	2024-03-14
RF Signal Generator	SMB100A	Rohde & Schwarz	114272	2022-06-28
Stacked Broadband Log Periodic Antenna	STLP 9128 ES	Schwarzbeck	3020	N/A
Broadband High Gain Horn Antenna	STLP 9128 DS	SCHWARZBECK	3017	N/A
LISN	NNBM 8124-200	Schwarzbeck	335	2022-06-26
LISN	NNBM 8124-200	Schwarzbeck	347	2022-06-26
Power Amplifier	AS0860B-200/100	Milmega	1079928	2022-07-02
Solid State Amplifier	80RF1000-600	Milmega	1076702	2022-11-05

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**STONKAM CO., LTD.**  
**Information folder No. : IF-STONKAM-HD100291DC-00**

Issuing date: April 11, 2022

INFORMATION DOCUMENT FOR TYPE-APPROVAL OF AN ELECTRIC/ELECTRONIC SUB-ASSEMBLY  
WITH RESPECT TO ELECTROMAGNETIC COMPATIBILITY ACCORDING UN-R10-06 Annex 2B

1. Make (trade name of the manufacturer) : STONKAM
2. Type and general commercial description(s) : HD100291DC  
Quad View LCD Monitor with Touch Screen  
  
Version(s) : 1. HD100291DC  
2. HD700264DC  
3. HD900146DC
3. Means of identification of type if marked on the ~~vehicle~~/component/STU : Refer to the versions
- 3.1 Location of that marking : Label affixed to the housing of product
4. Name and address of the manufacturer : STONKAM CO., LTD.  
Room 101, Building 6, No. 1, Ruihua Road,  
Tianhe District, Guangzhou, Guangdong, P.R. China.
5. In the case of components and separate technical units, location and method of affixing of the approval mark : Label affixed to the housing of product
6. Address(es) of assembly plant(s) : STONKAM CO., LTD.  
Building 3, No.1 Xingda Road, Yunpu Industrial Zone,  
Huangpu District, Guangzhou, Guangdong, P. R. China  
Post Code:510760
7. This ESA shall be approved as a : Component
8. Any restrictions of use and conditions for fitting : No restrictions
9. Electrical system rated voltage : DC 24V (negative ground)
10. Charger : ---
11. Charging current : ---
12. Maximal nominal current (in each mode if necessary) : ---
13. Nominal charging voltage : ---
14. Basic ESA interface functions: ex. L1/L2 : ---  
/L3/N/PE/control pilot
15. Minimum Rsce value (see paragraph 7.11. of this Regulation) : ---

**STONKAM CO., LTD.**  
**Information folder No. : IF-STONKAM-HD100291DC-00**

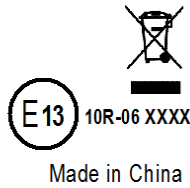
Issuing date: April 11, 2022

- 1 Additional information
  - 1.1 Electrical system rated voltage : DC 24V (negative ground)
  - 1.2 This ESA can be used on any vehicle type with the following restrictions : No restrictions
    - 1.2.1 Installation conditions : Connected to car battery
  - 1.3 This ESA can be used on the following vehicle types : Not applicable
    - 1.3.1 Installation conditions : Not applicable
  - 1.4 The specific test method(s) used and the frequency ranges covered to determine immunity were : Bulk current injection testing method (from 20 to 400MHz)  
Free field testing method (from 400 to 2000MHz)  
  
frequency range : 20-2000MHz
  - 1.5 Remarks : All the versions are the same except the LCD panel size and appearance.



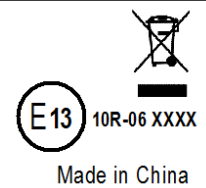
STONKAM CO.,LTD.

Digital Monitor  
 Model No: HD100291DC  
 System: PAL/NTSC  
 DC IN: 24V 25W



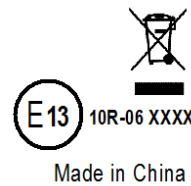
STONKAM CO.,LTD.

Digital Monitor  
 Model No: HD700264DC  
 System: PAL/NTSC  
 DC IN: 24V 25W

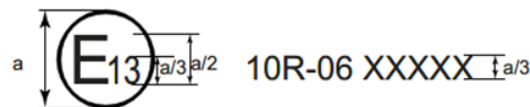


STONKAM CO.,LTD.

Digital Monitor  
 Model No: HD900146DC  
 System: PAL/NTSC  
 DC IN: 24V 25W

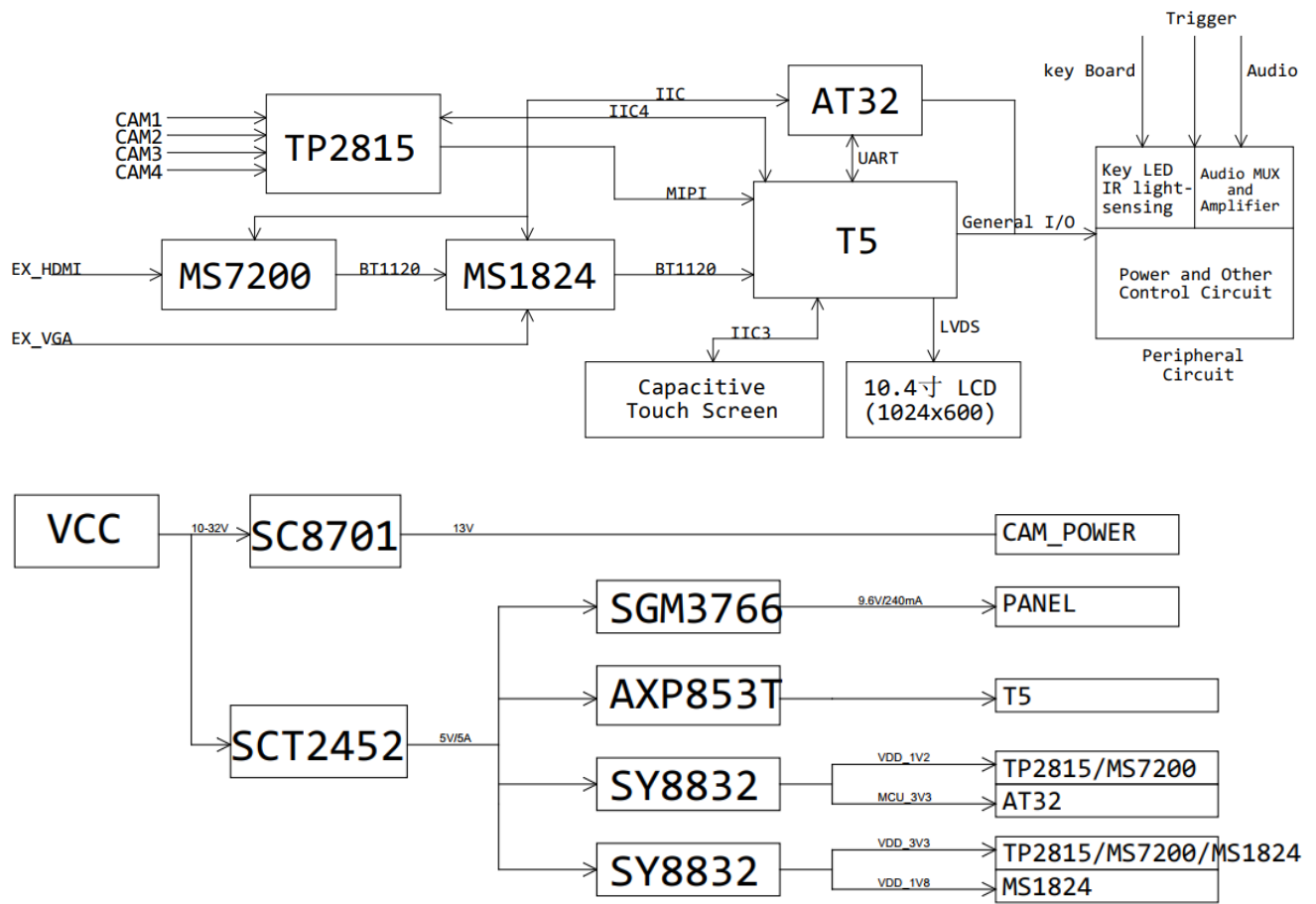


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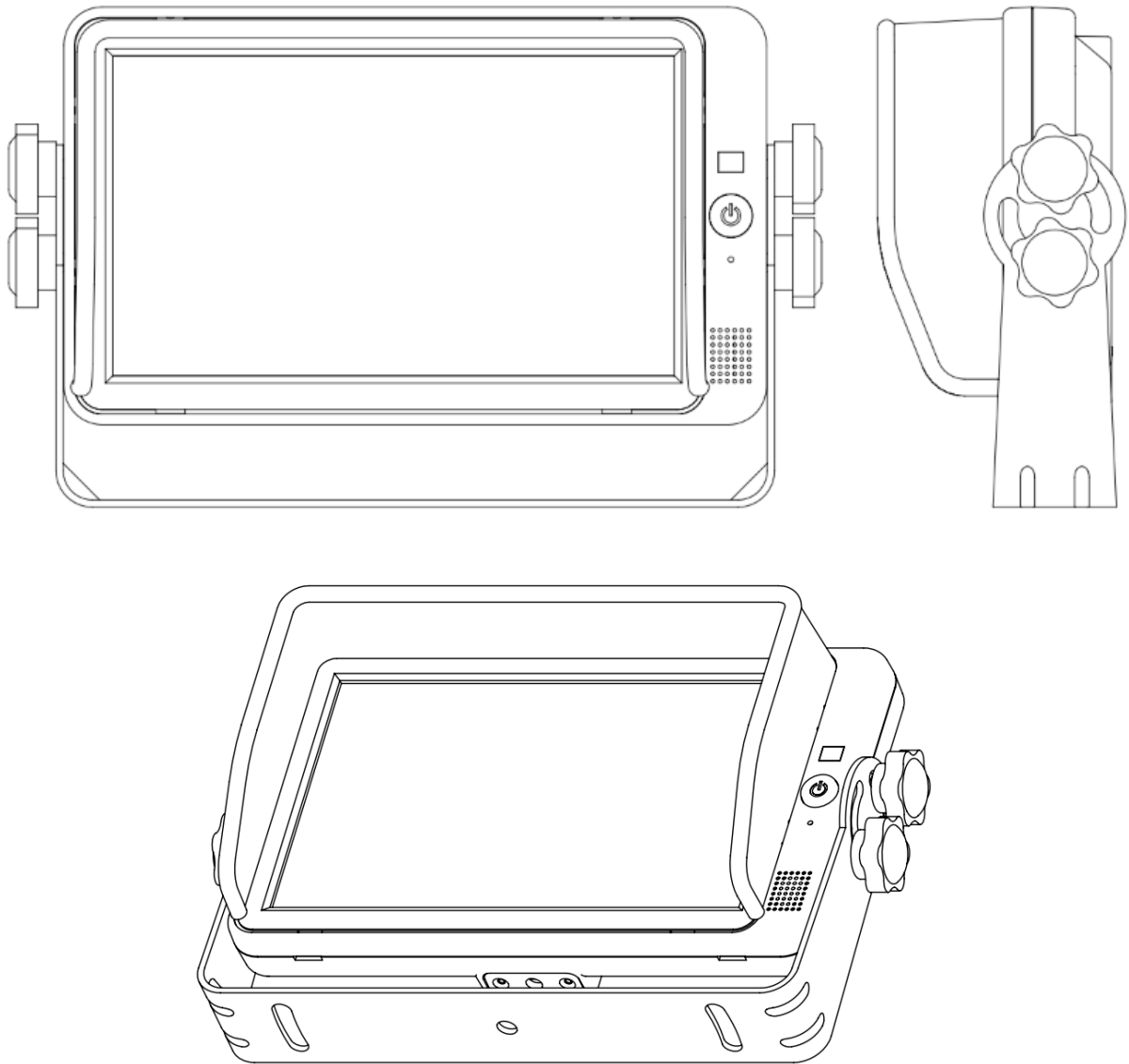


a=6mm

DRW.	1	Mark
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<b>DRW.</b>	<b>2</b>	<b>Block Diagram</b>
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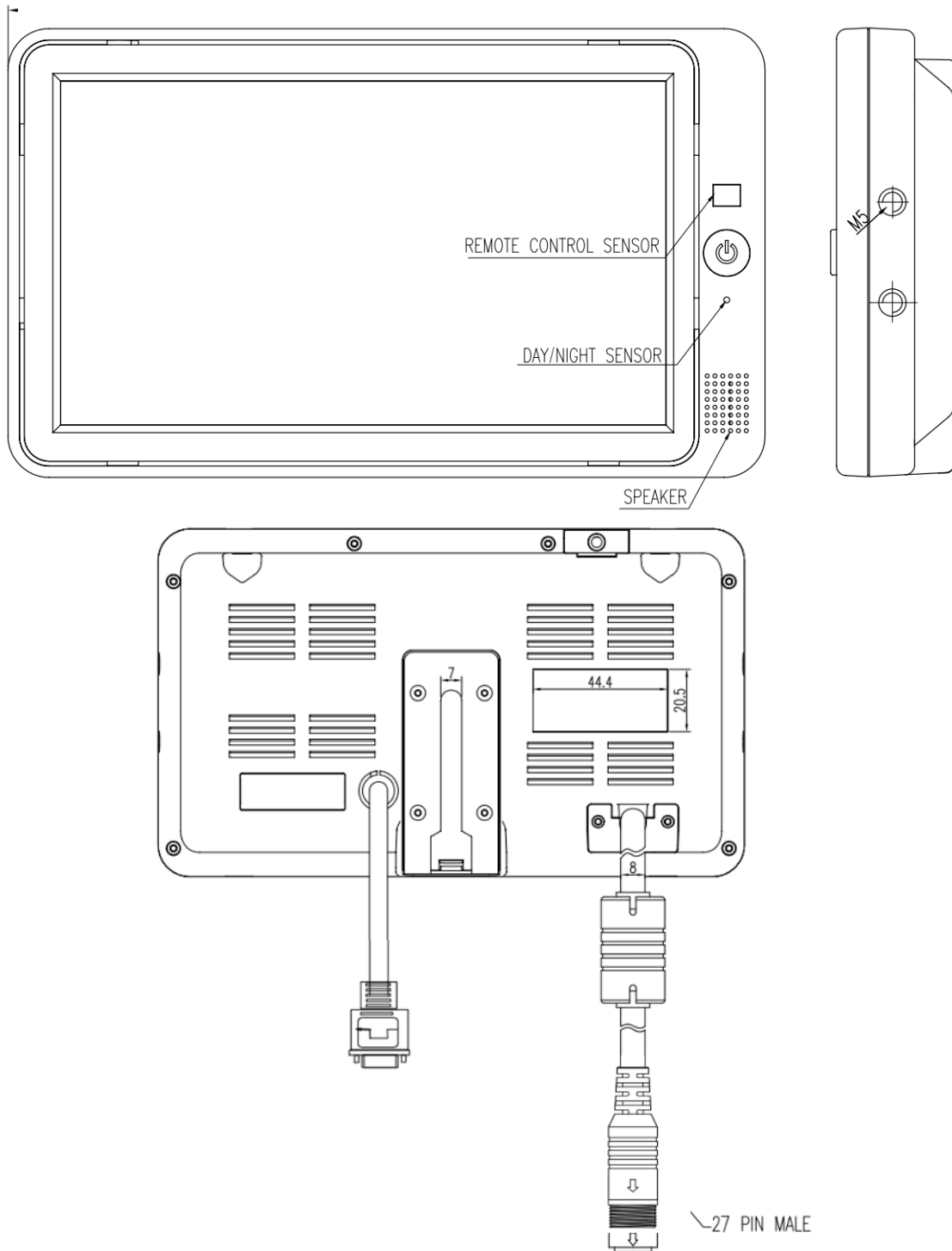
**DRW.**

**3**

**Assembly Drawing**

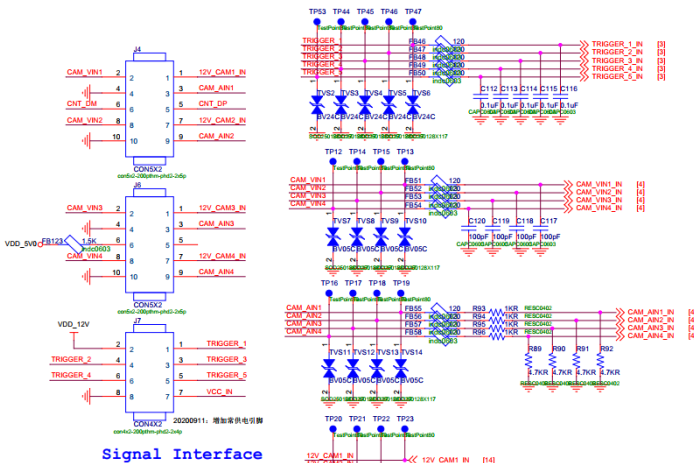
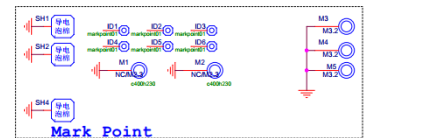
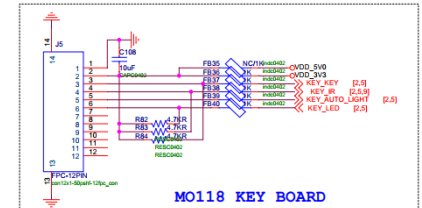
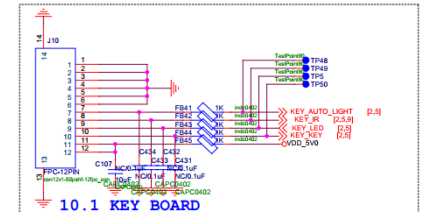
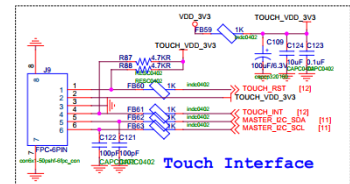
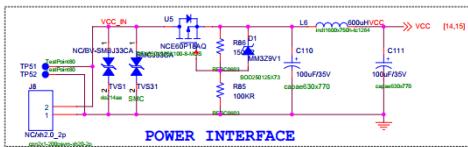
**STONKAM CO., LTD.**  
**Information folder No. : IF-STONKAM-HD100291DC-00**

Issuing date: April 11, 2022



DRW.	4	Constructed Profile
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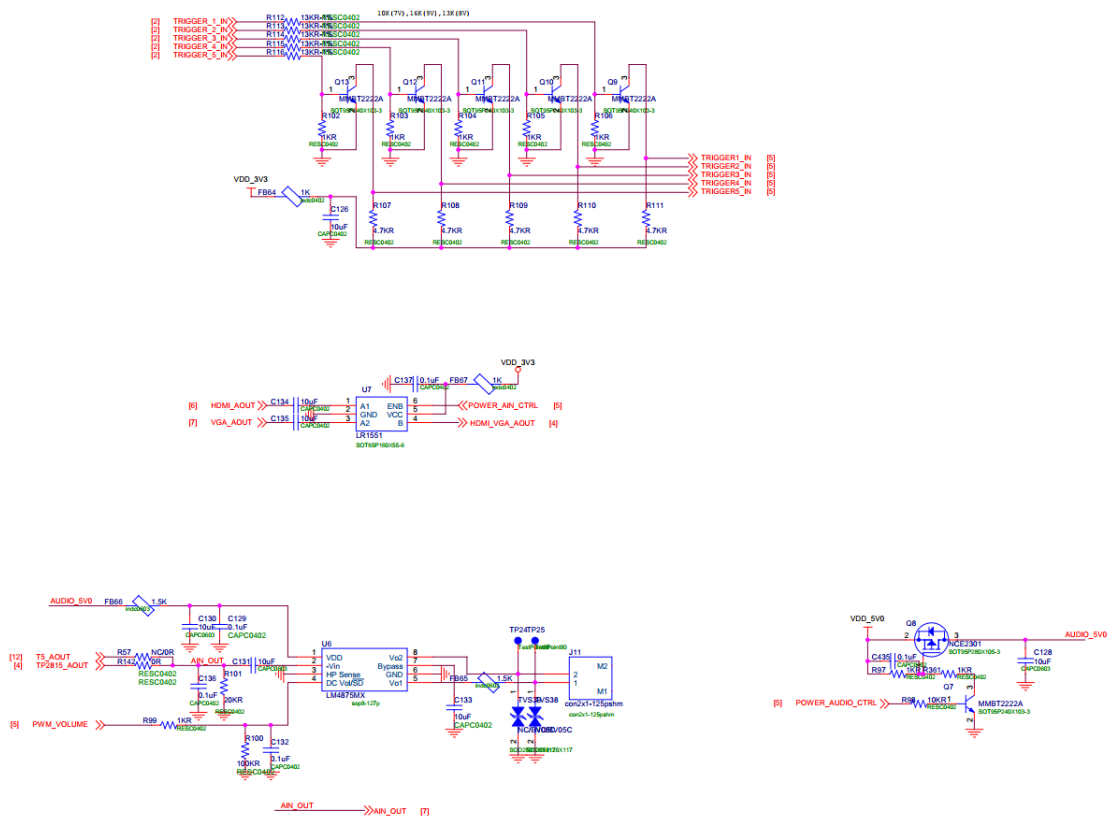
型号: **SV-HD700264DC-MB**

Rev	Document Number	Rev
A3	02_BOARD INTERFACE	V2
Date:	Wednesday, April 13, 2022	Sheet: 2 of 15

# STONKAM CO., LTD.

## Information folder No. : IF-STONKAM-HD100291DC-00

Issuing date: April 11, 2022



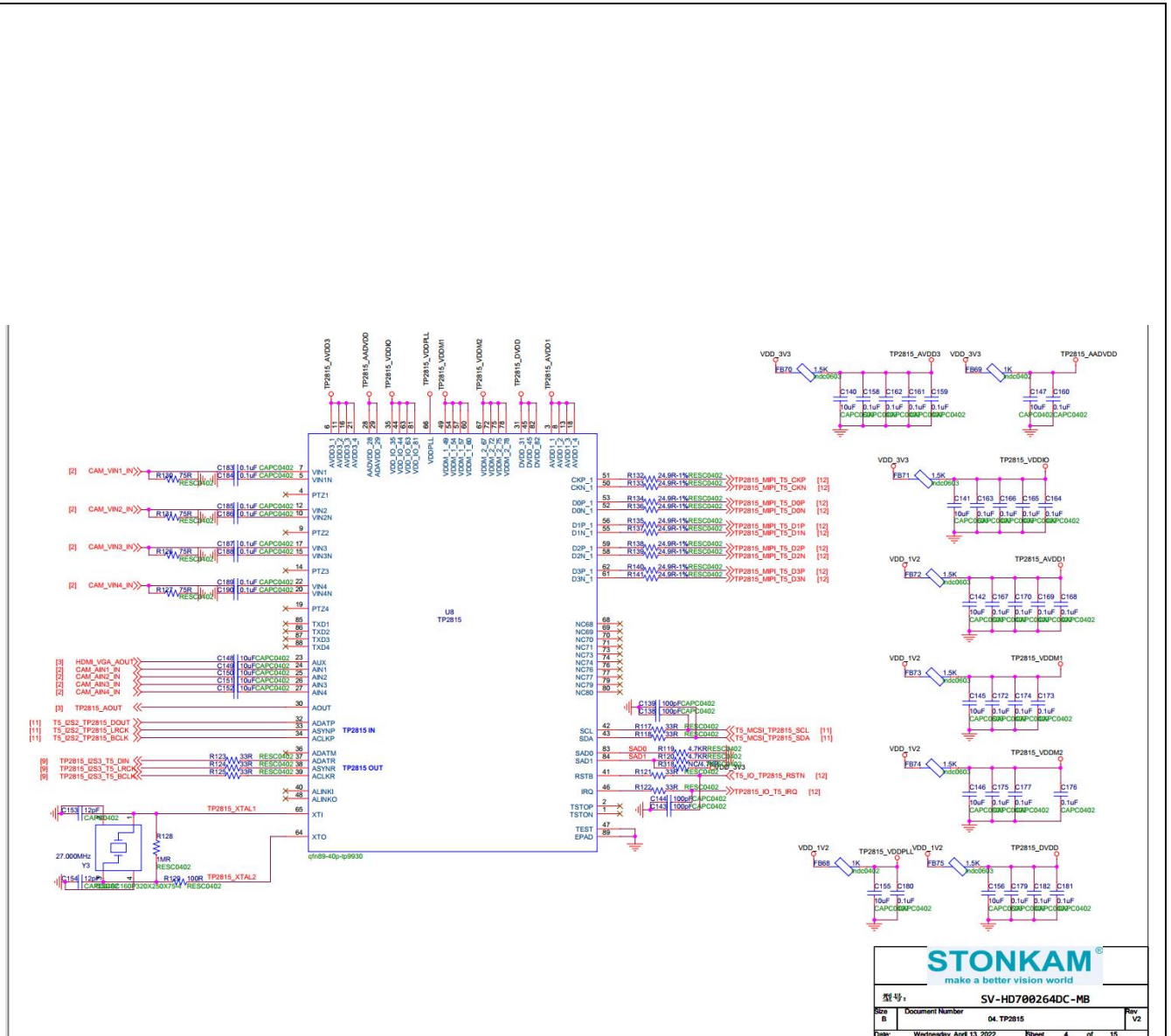
<b>STONKAM</b> make a better vision world			
型号:		SV-HD700264DC-MB	
Size	Document Number	Rev	
A3	03_TRIGGER & AUDIO	V2	
Date:	Wednesday, April 13, 2022	Sheet	3 of 15

DRW.	6	Circuit Diagram
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# STONKAM CO., LTD.

## Information folder No. : IF-STONKAM-HD100291DC-00

Issuing date: April 11, 2022



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型号: SV-HD700264DC-MB

Size	Document Number	Rev
B	04_TP2815	V2

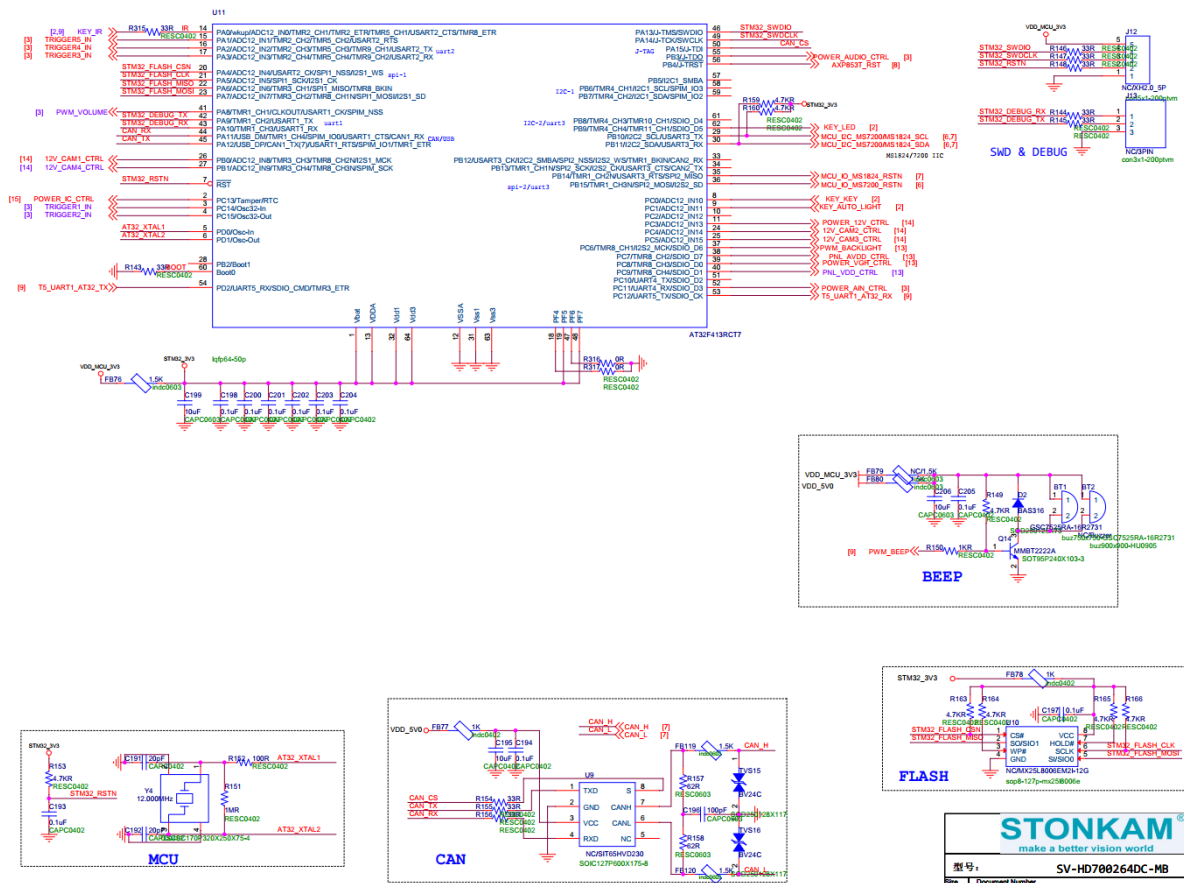
Date: Wednesday, April 13, 2022 Sheet 4 of 15

DRW.	7	Circuit Diagram
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# STONKAM CO., LTD.

## Information folder No. : IF-STONKAM-HD100291DC-00

Issuing date: April 11, 2022



DRW.	8	Circuit Diagram
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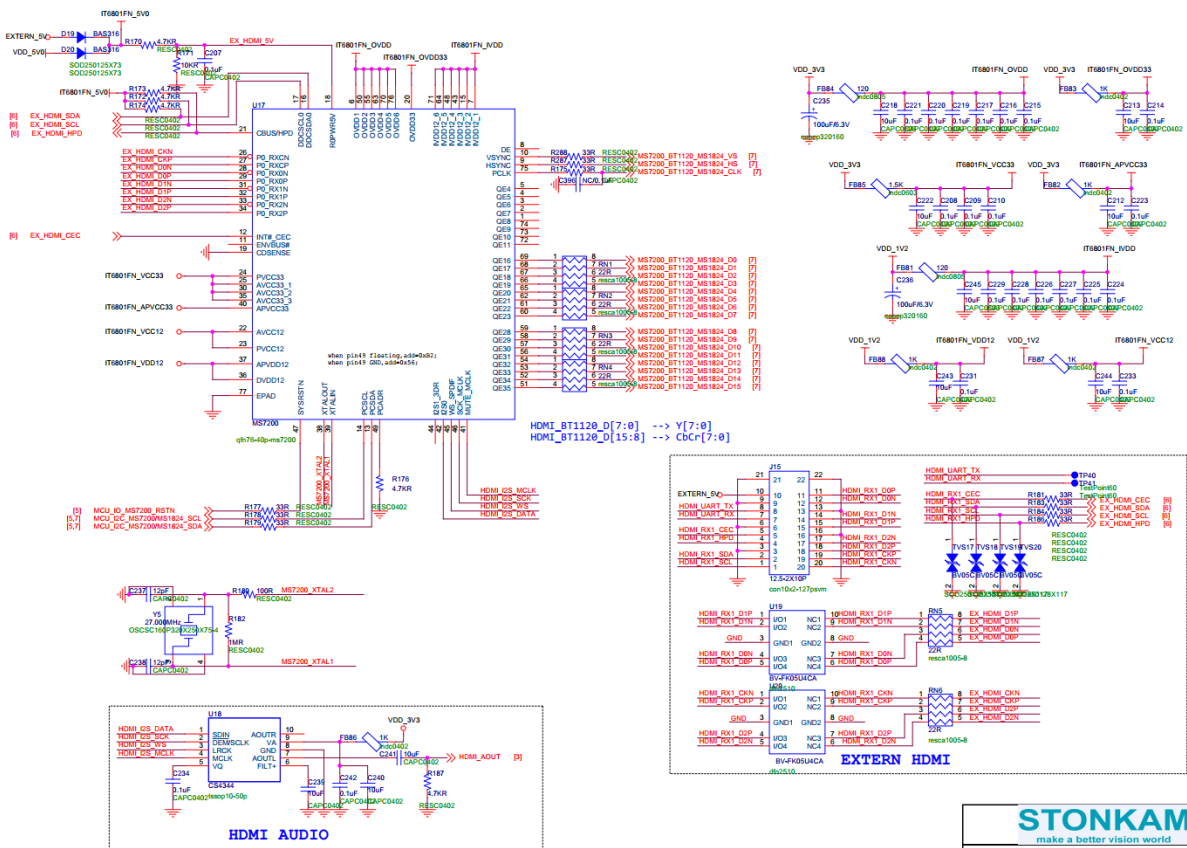
型号: SV-HD700264DC-MB

Size: A4	Document Number: 05-AT23F13RC77	Rev: V2
Date: Thursday, December 23, 2021	Sheet: 5	of 15

# STONKAM CO., LTD.

## Information folder No. : IF-STONKAM-HD100291DC-00

Issuing date: April 11, 2022



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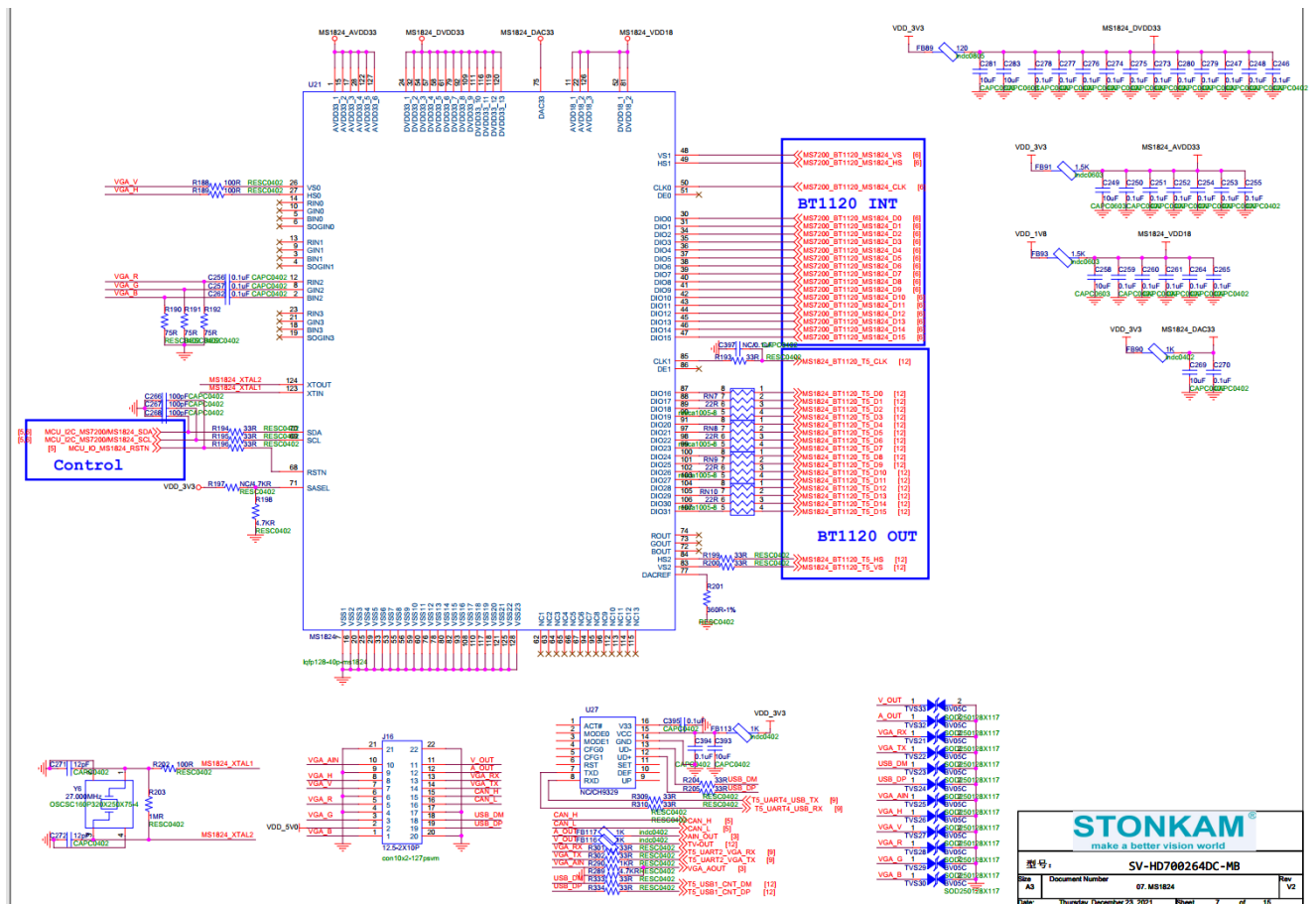
型号: SV-HD700264DC-MB

Rev	Document Number	06 MS7200	Rev
A3	Date	Thursday, December 23, 2021	Sheet
		6	of 15

# STONKAM CO., LTD.

## Information folder No. : IF-STONKAM-HD100291DC-00

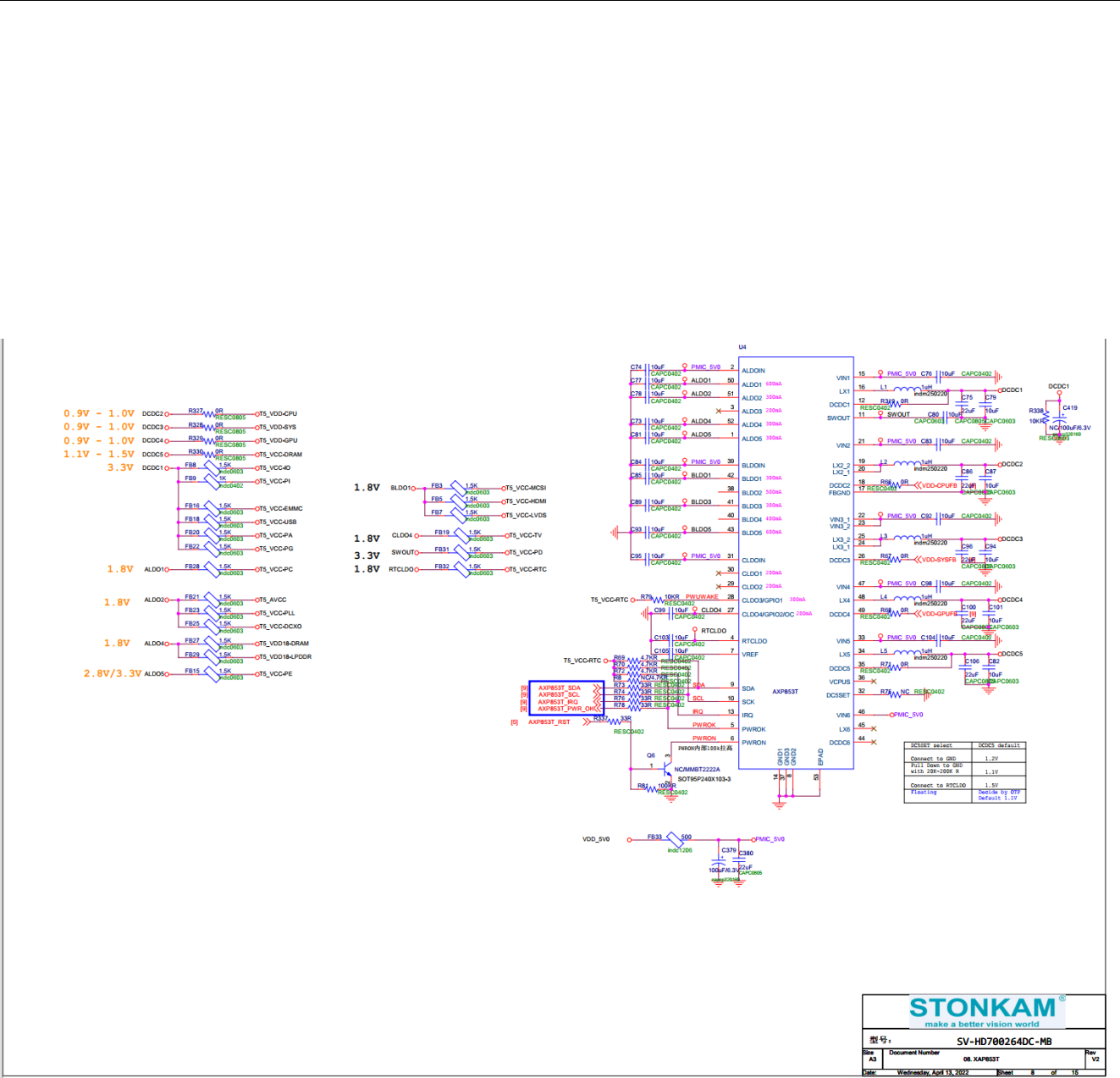
Issuing date: April 11, 2022



# STONKAM CO., LTD.

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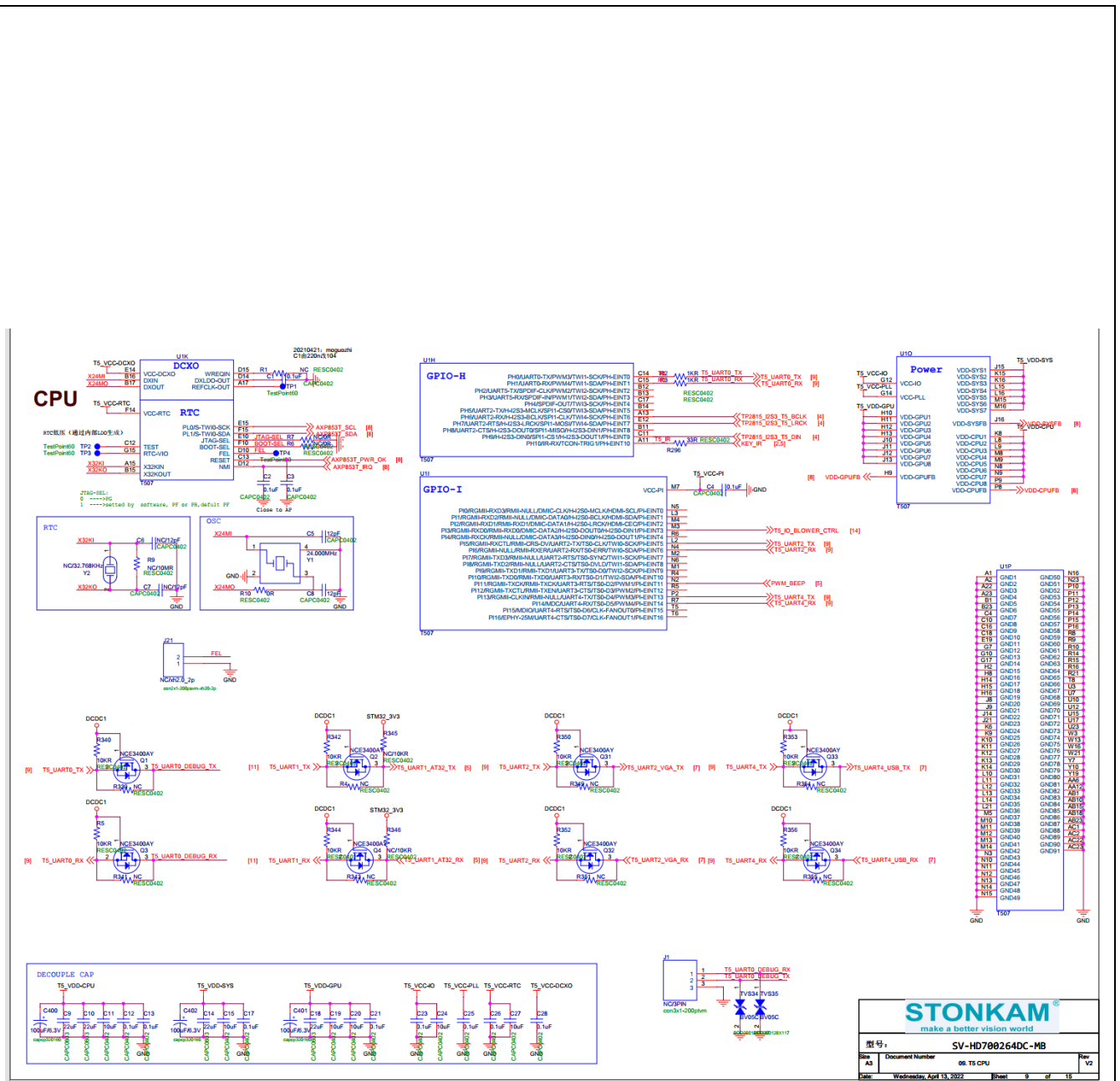
Issuing date: April 11, 2022



# STONKAM CO., LTD.

## Information folder No. : IF-STONKAM-HD100291DC-00

Issuing date: April 11, 2022



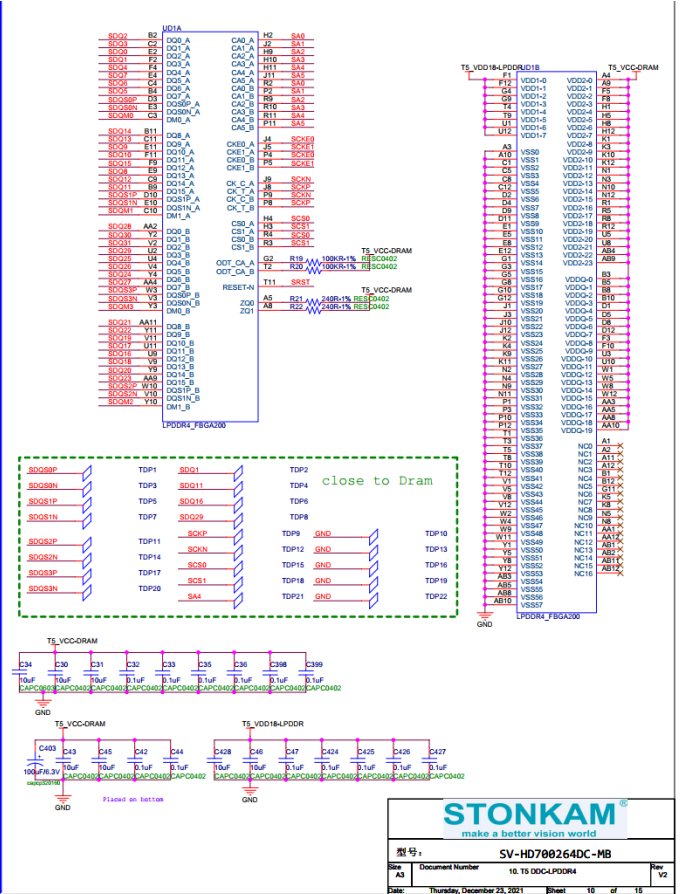
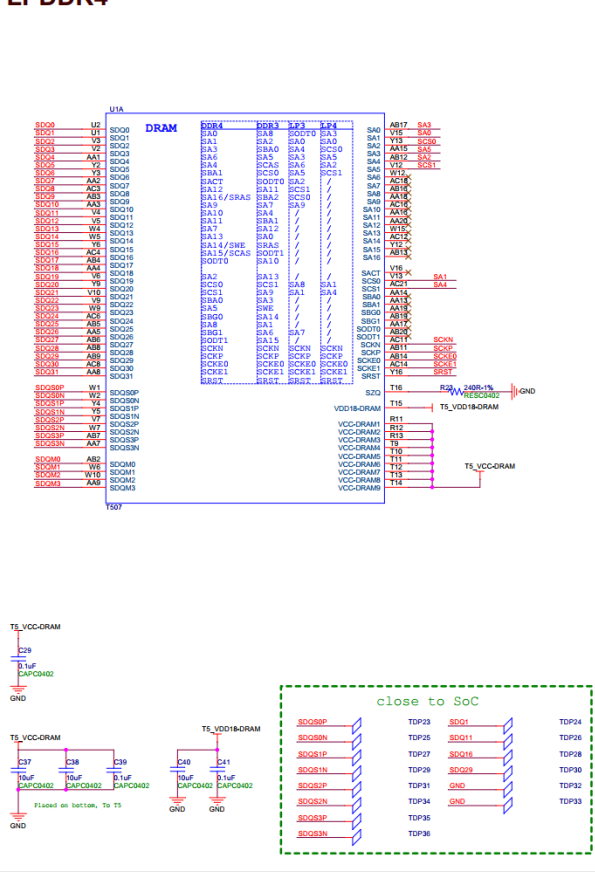


# STONKAM CO., LTD.

## Information folder No. : IF-STONKAM-HD100291DC-00

Issuing date: April 11, 2022

### LPDDR4



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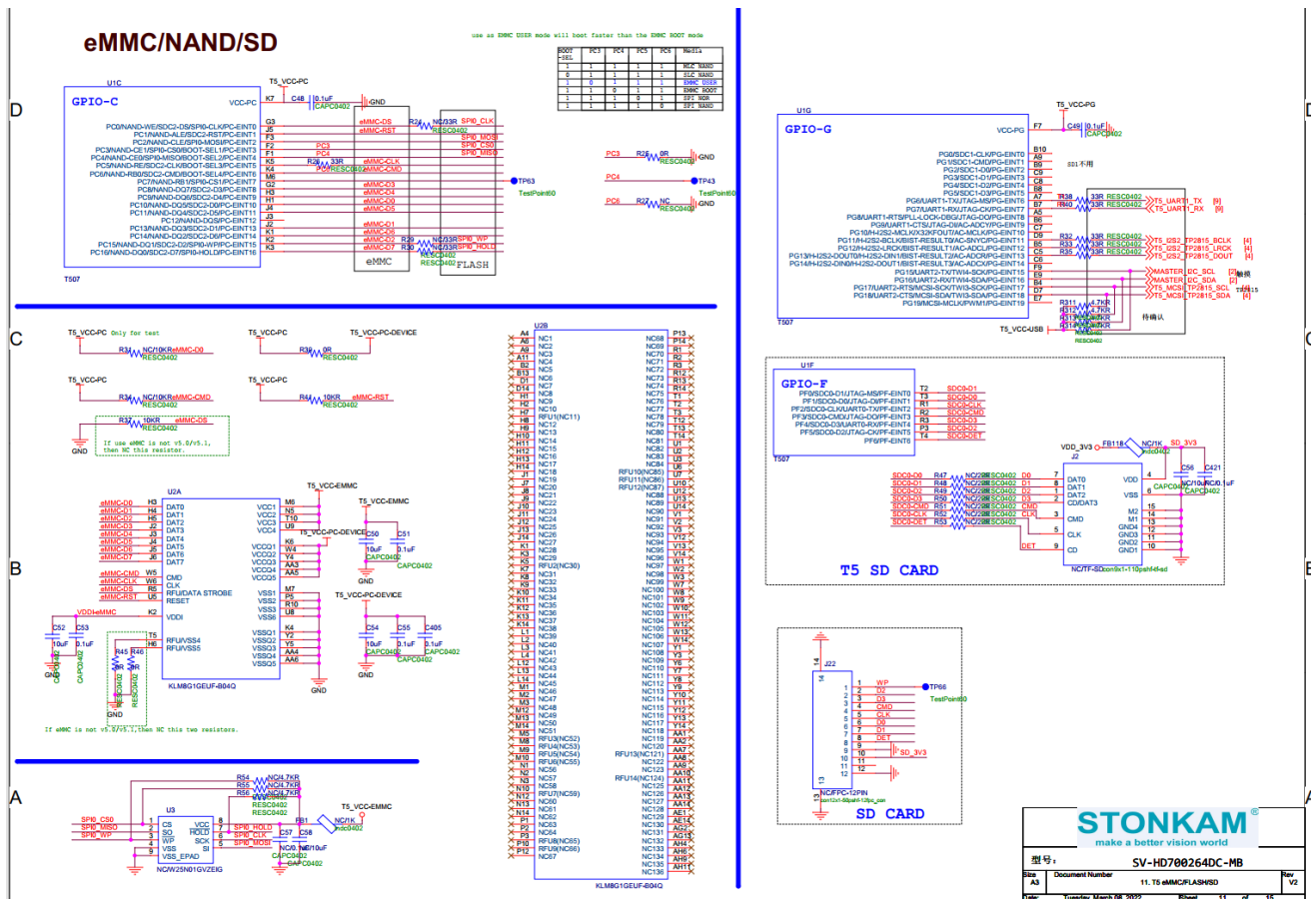
型号: **SV-HD70264DC-MB**

Size	A3	Document Number	10-TS-DDC-LPDDR4	Rev	V2
Date	Thursday, December 23, 2021	Issue	10	of 15	

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## Information folder No. : IF-STONKAM-HD100291DC-00

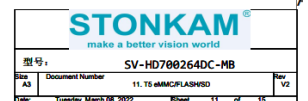
Issuing date: April 11, 2022



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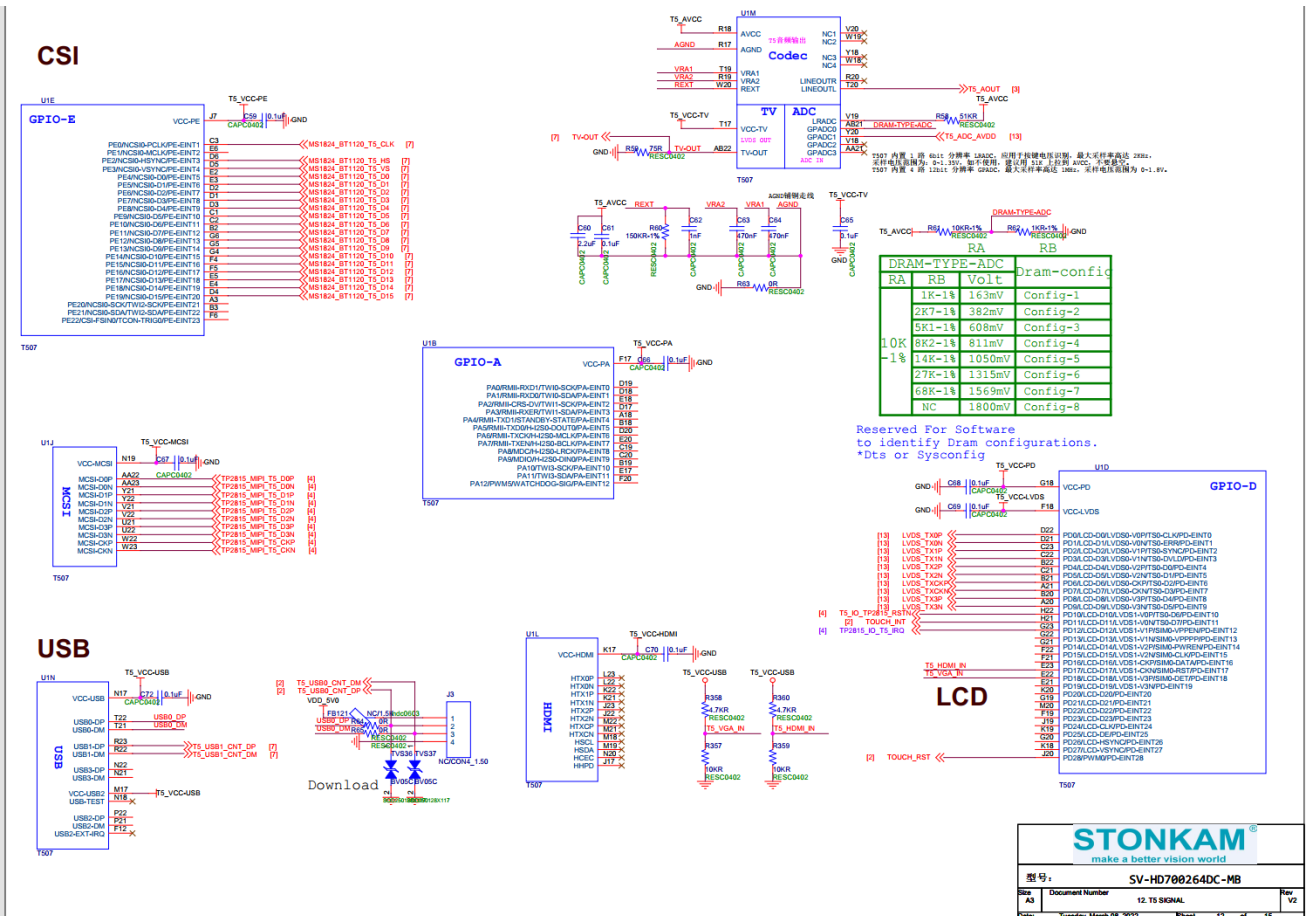
Circuit Diagram



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## Information folder No. : IF-STONKAM-HD100291DC-00

Issuing date: April 11, 2022



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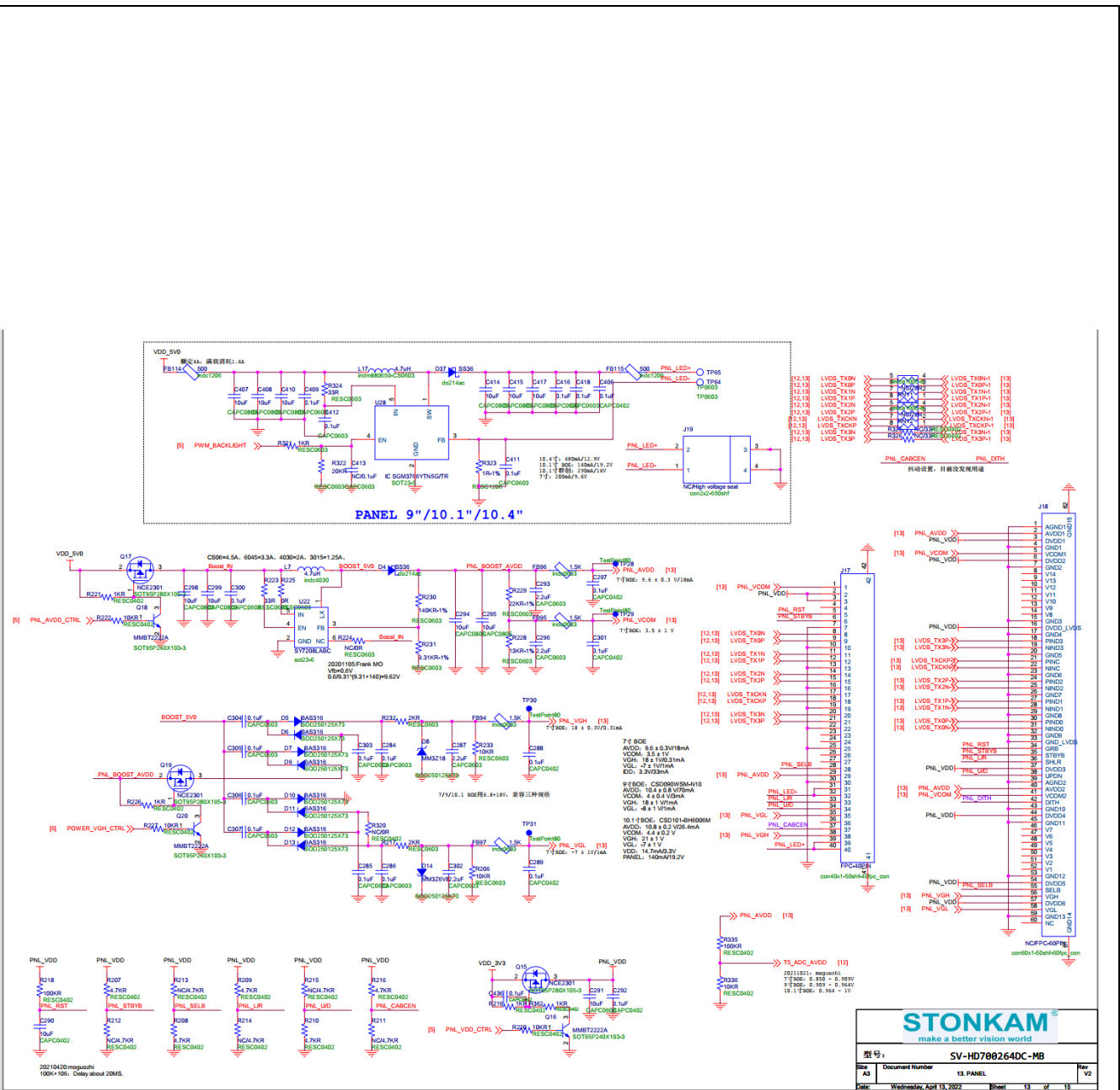
型号: SV-HD700264DC-MB

Doc No	Document Number	12 TS SIGNAL	Rev	v2
Date	Tuesday, March 08, 2022	Sheet	12	of 15

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## Information folder No. : IF-STONKAM-HD100291DC-00

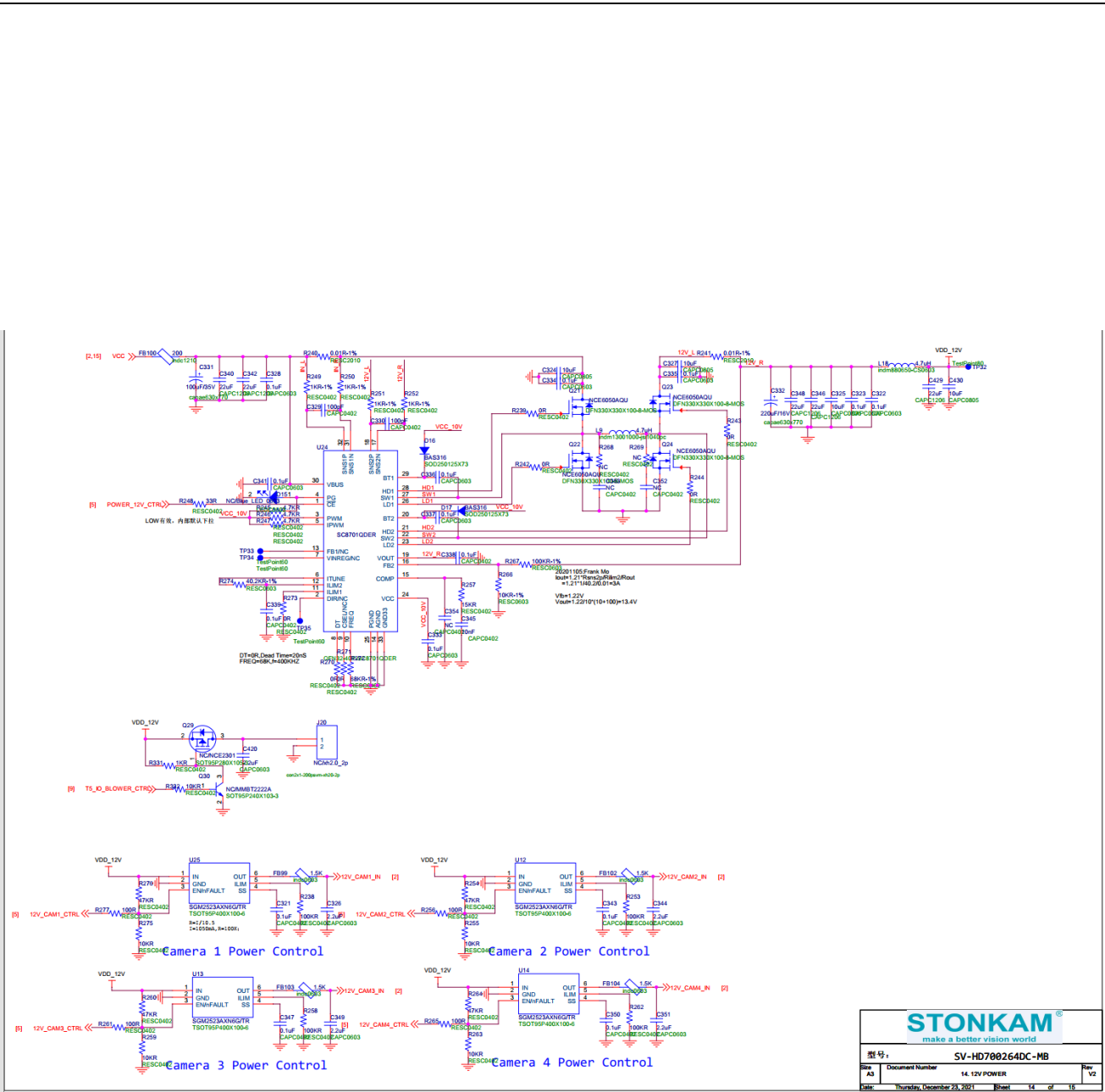
Issuing date: April 11, 2022



# STONKAM CO., LTD.

## Information folder No. : IF-STONKAM-HD100291DC-00

Issuing date: April 11, 2022

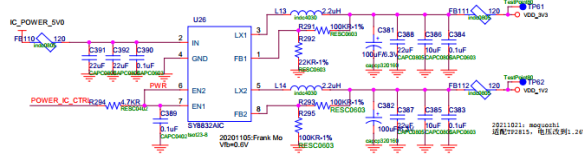
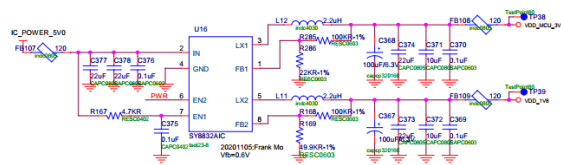
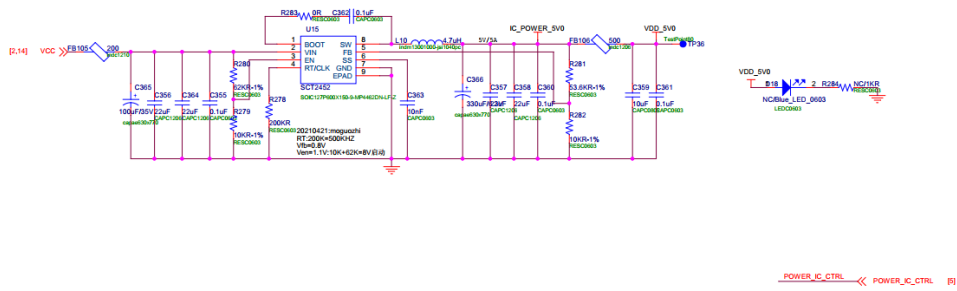


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型号:	SV-HD00264DC-MB	
Rev. A01	Document Number	14_12V POWER
Date:	Thursday, December 23, 2021	Sheet 14 of 15

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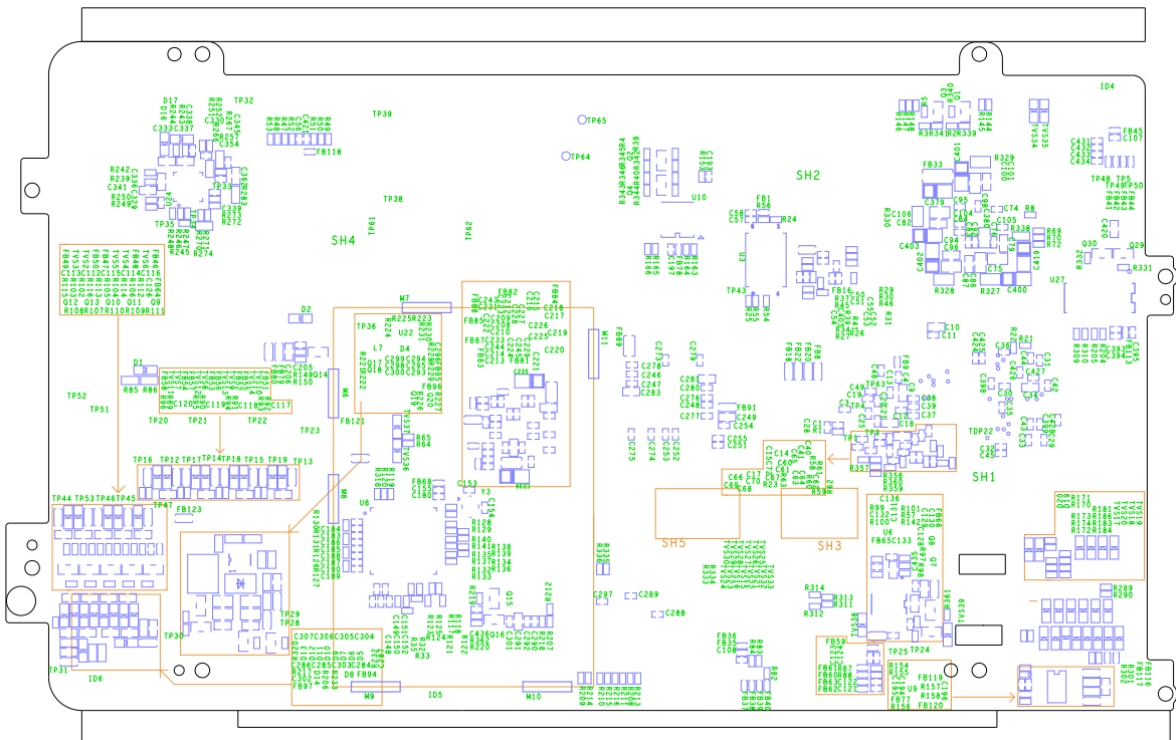
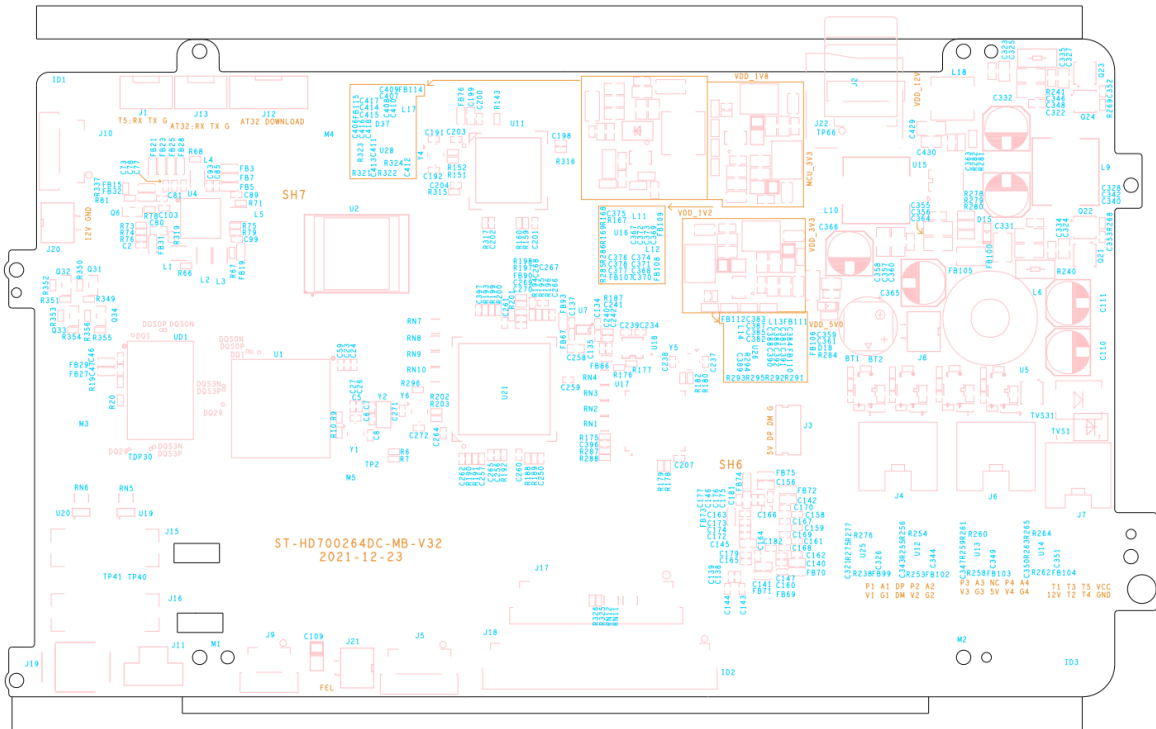


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型号:	SV-HD780264DC-MB		
Doc No	Document Number	15: IC POWER	Rev V2
Date	Monday, December 27, 2021	Sheet 15	of 15

DRW.	18	Circuit Diagram
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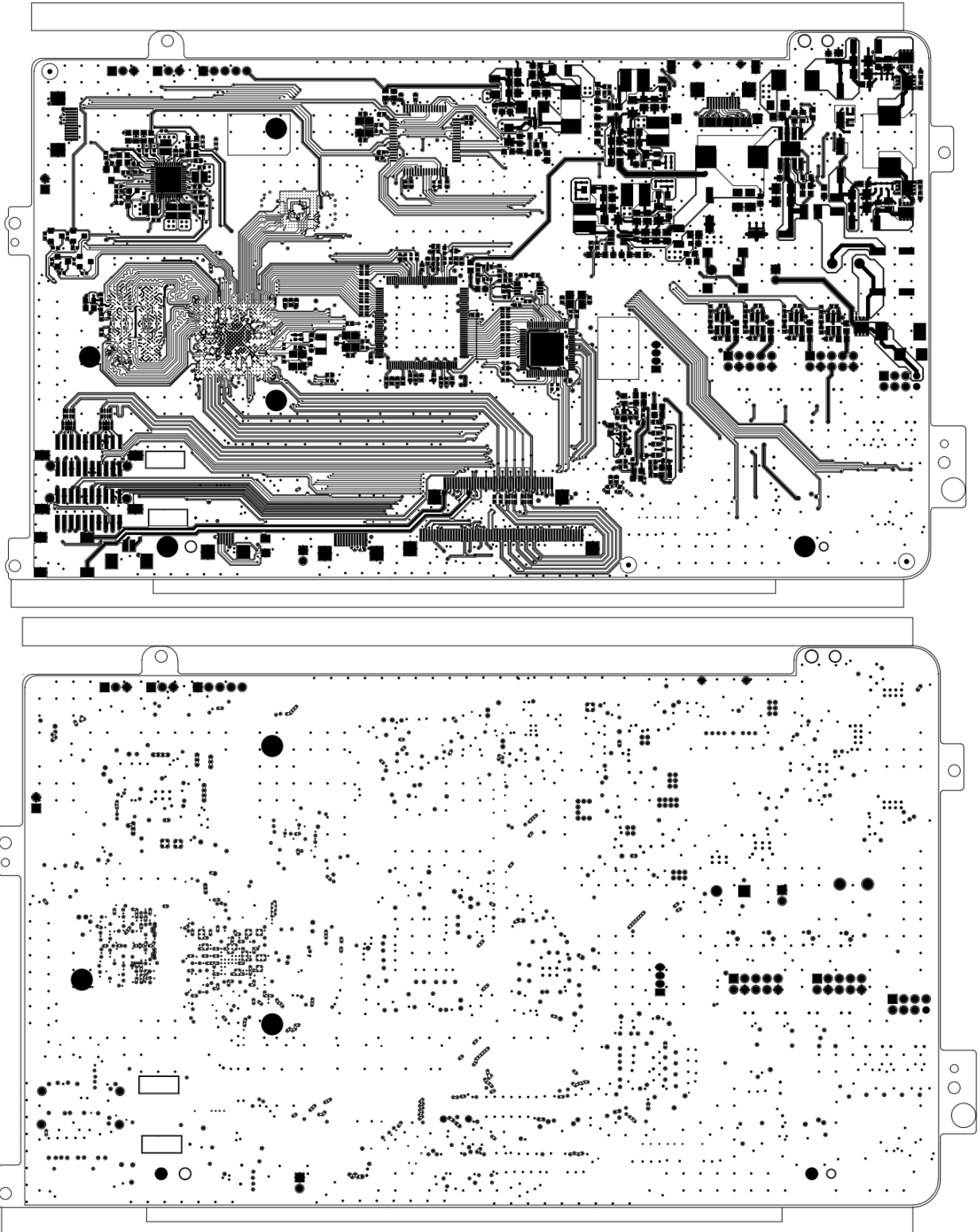
Issuing date: April 11, 2022



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PCB Layout

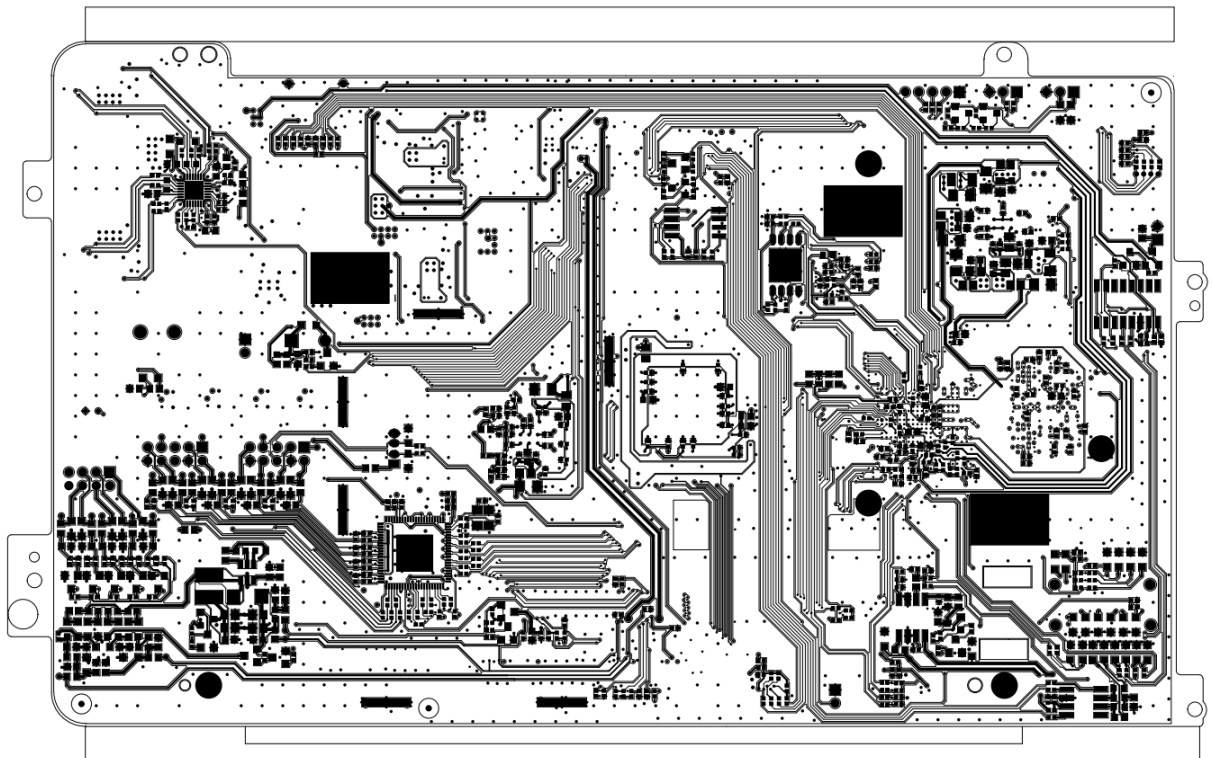
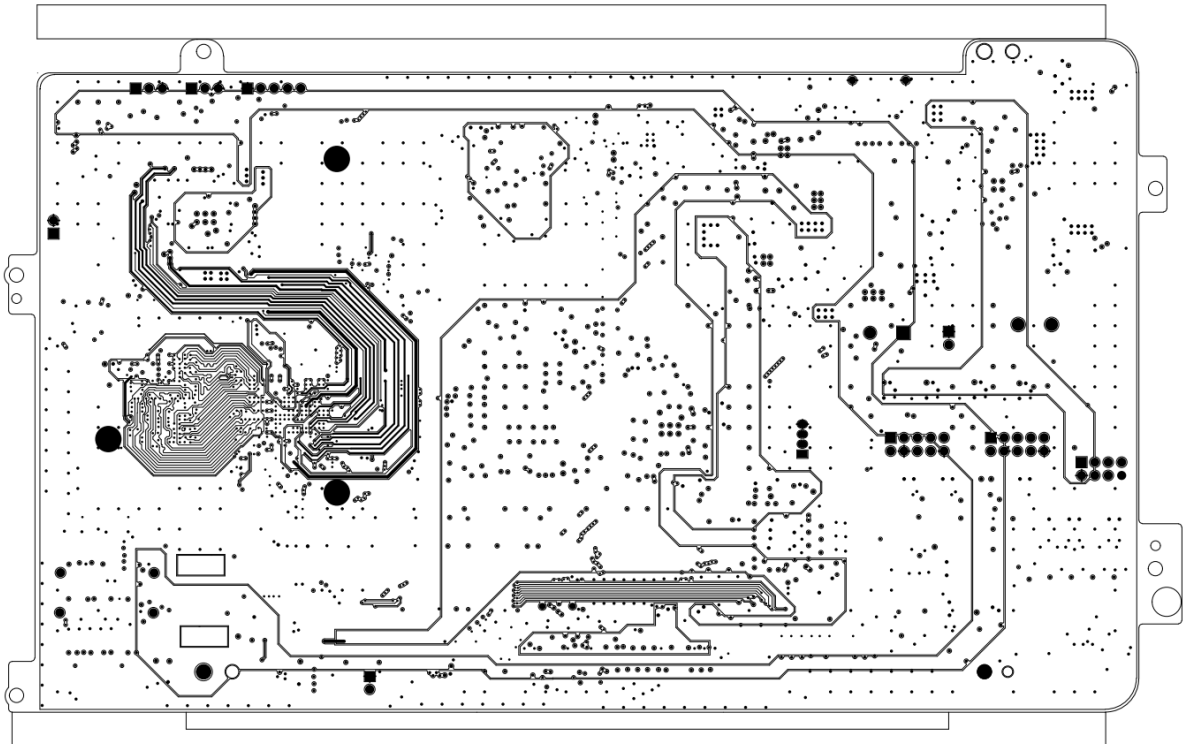


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PCB Layout

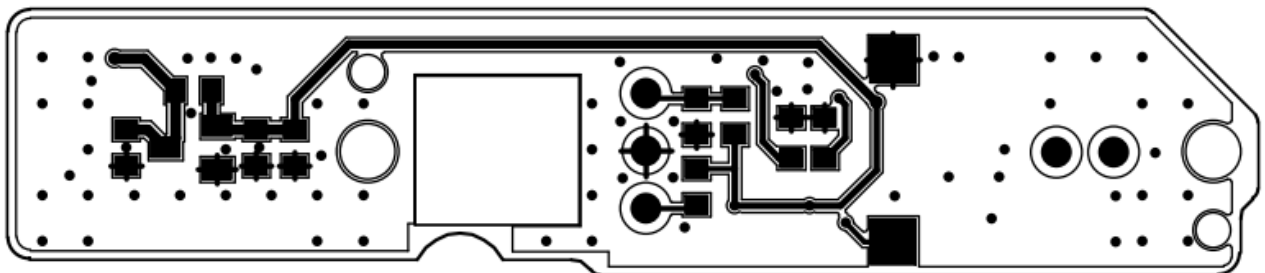
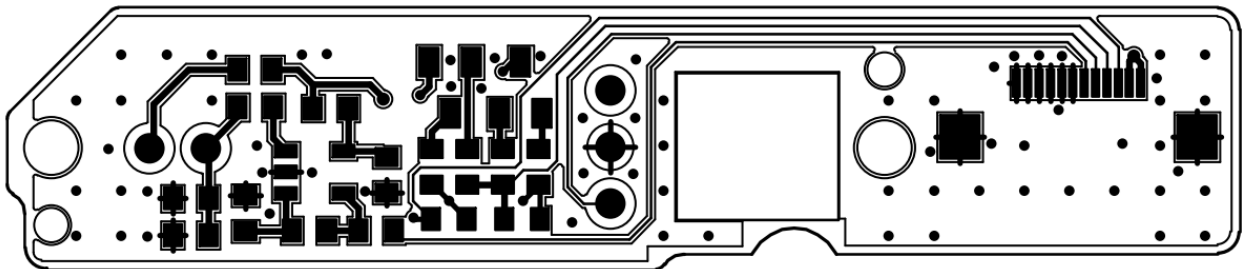
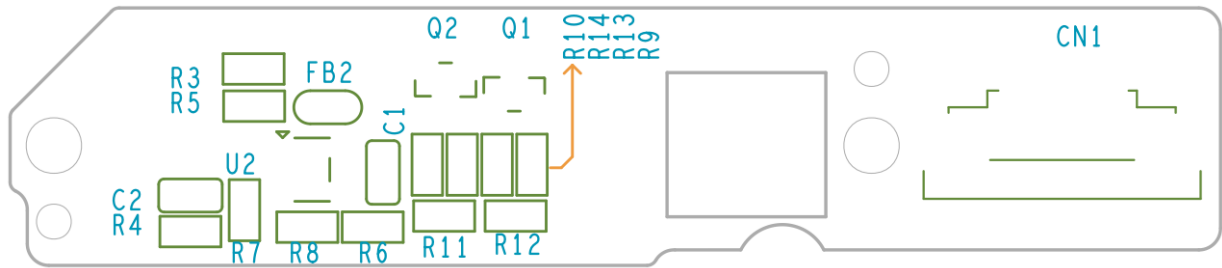
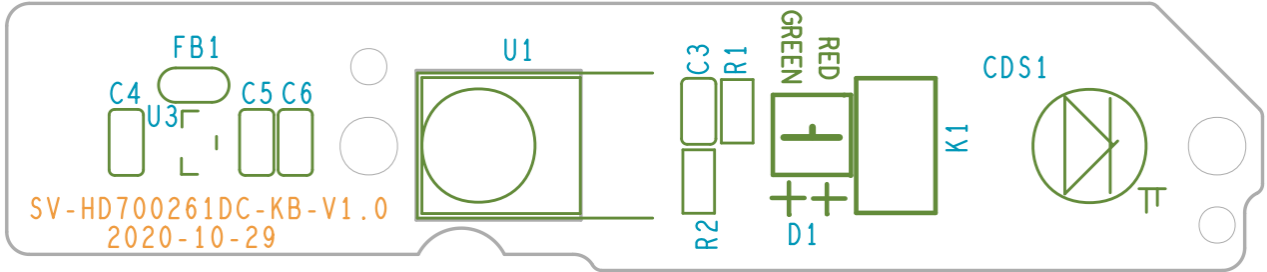




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PCB Layout



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PCB Layout

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**Bill of Material**

Part No.	Part Name	Specification	amount	Location
31010100133	IC FEMDRM008G-58A39	S,8GB EMMC,FBGA153, -25°C~+85°C	1	U2
31010200247	IC RS256M32LZ4D2B NP-62BT	S,FBGA- 200,JIngcun,LPDDR4	1	UD1
31010200266	IC T507	S,TFBGA421,15mm* 15mm	1	U1
31100300008	buzzer GSC7525RA- 16R2731	S,GSC7525RA- 16R2731,2.5~6.5V,27 31Hz,-20~+80°C	1	BT1
31030300005	Chip electrolytic capacitor100uF/35 V	S,6.3x7.7,20%	4	C110,C111,C331,C365
31030300007	Chip electrolytic capacitor220uF/16 V	S,6.3x7.7,20%	1	C332
31030300006	Chip electrolytic capacitor330uF/6.3 V	S,6.3x7.7,20%	1	C366
31030104100	Ceramic capacitor0.1uF(CL 05B104KO5NNTC)	S,104,0402,X7R, 16V,±10%,Samsung	155	C1,C2,C3,C4,C12,C13,C17,C21,C23,C25, C26,C28,C29,C32,C33,C35,C36,C39,C41, C42,C44,C47,C48,C49,C51,C53,C55,C59, C61,C65,C66,C67,C68,C69,C70,C72,C123, C129,C132,C136,C137,C158,C159,C160, C161,C162,C163,C164,C165,C166,C167, C168,C169,C170,C172,C173,C174,C175, C176,C177,C179,C180,C181,C182,C183, C184,C185,C186,C187,C188,C189,C190, C193,C194,C197,C198,C200,C201,C202, C203,C204,C205,C207,C208,C209,C210, C214,C215,C216,C217,C219,C220,C221, C223,C224,C225,C226,C227,C228,C229, C231,C233,C234,C242,C246,C247,C248, C250,C251,C252,C253,C254,C255,C256, C257,C259,C260,C261,C262,C264,C265, C270,C273,C274,C275,C276,C277,C278, C279,C280,C288,C289,C292,C297,C301, C321,C338,C339,C343,C347,C350,C375, C389,C394,C395,C398,C399,C405,C406, C424,C425,C426,C427, C435,C436
31030100016	Ceramic capacitor100pF(04 02CG101J500NT)	S,101,0402,50V,±5%, Fenghua	11	C121,C122,C138,C139,C143,C144,C266,C2 67,C268,C329,C330
31030104000	Ceramic capacitor10nF(040 2B103K500NT)	S,103,0402,50V,±10 %,Fenghua	1	C345
31030100013	Ceramic capacitor10uF(CLO 5A106MQ5NNTC)	S,106,0402,6.3V,±20 %,Samsung	62	C11,C15,C19,C20,C24,C27,C30,C31,C37, C38,C40,C43,C45,C46,C50,C52,C54,C73, C74,C76,C77,C78,C81,C83,C84,C85,C89, C92,C93,C95,C98,C99,C103,C104,C105, C107,C108,C124,C126,C133,C134,C135, C147,C148,C149,C150,C151,C152,C155, C195,C212,C213,C222,C239,C240,C241, C243,C244,C269,C290,C393,C428
31030100022	Ceramic capacitor12pF(040 2CG120J500NT)	S,120,0402,50V,±5%, Fenghua	8	C5,C8,C153,C154,C237,C238,C271,C272

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31030100011	Ceramic capacitor1nF(0402 B102K500NT)	S,102,0402,50V,±10%,Fenghua	1	C62
31030100074	Ceramic capacitor2.2uF(CL05A225KP5NSNC)	S,225,0402,10V,±10%,Samsung	1	C60
31030100047	Ceramic capacitor20pF(0402CG200J500NT)	S,200,0402,50V,±5%,Fenghua	2	C191,C192
31030100070	Ceramic capacitor470nF(CL05A474KO5NNNC)	S,474,0402,16V,±10%,Samsung	2	C63,C64
31030101400	Ceramic capacitor0.1uF(CL10B104KB8NNNC)	S,104,0603,X7R,50V,±10%,Samsung	36	C112,C113,C114,C115,C116,C284,C285,C286,C300,C303,C304,C305,C306,C307,C322,C323,C328,C333,C334,C335,C341,C355,C360,C361,C362,C369,C370,C376,C383,C384,C390,C409,C411,C412,C416,C418
31030101100	Ceramic capacitor100pF(0603CG101J500NT)	S,101,0603,50V,±5%,Fenghua	5	C117,C118,C119,C120,C196
31030101300	Ceramic capacitor10nF(0603B103K500NT)	S,103,0603,50V,±10%,Fenghua	1	C363
31030103500	Ceramic capacitor10uF(CL10A106MQ8NNNC)	S,106,0603,6.3V,±20%,Samsung	25	C34,C79,C80,C82,C87,C94,C101,C128,C130,C131,C140,C141,C142,C145,C146,C156,C199,C206,C218,C245,C249,C258,C281,C283,C291
31030100069	Ceramic capacitor2.2uF(CL10A225KA8NNNC)	S,225,0603,25V,±10%,Samsung	9	C287,C293,C296,C302,C326,C344,C349,C351,C420
31030100038	Ceramic capacitor22uF(CL10A226MQ8NRNC)	S,226,0603,6.3V,±20%,Samsung	4	C9,C10,C14,C18
31030100048	Ceramic capacitor10uF(CL21A106KAYNNNE)	S,106,0805,25V,±10%,Samsung	19	C294,C295,C298,C299,C324,C325,C327,C359,C371,C372,C385,C386,C407,C408,C410,C414,C415,C417,C430
31030100005	Ceramic capacitor22uF(CL21A226MQQNNNE)	S,226,0805,6.3V,±20%,Samsung	14	C75,C86,C96,C100,C106,C373,C374,C377,C378,C380,C387,C388,C391,C392
31030100029	Ceramic capacitor22uF(C3216X5R1V226MTJ00E)	S,226,1206,35V,±20%,TDK	9	C340,C342,C346,C348,C356,C357,C358,C364,C429
31030200014	Tantalum capacitors A 100uF/6.3V	S,T490A107M006ATE800,3216-18,±20%,KEMET	12	C109,C235,C236,C367,C368,C379,C381,C382,C400,C401,C402,C403
31080700058	Double row patch seat	12.5-2X10P	2	J15,J16
31080601600	12PIN Drawer type bottom connection	S,0.5mm	2	J5,J10
31080200100	2PIN Horizontal seat	S,2PIN,1.25mm	1	J11
31080601500	high pressure seat	S,3.5mm	1	J19
31080300039	8 pin holder	D,2x4PIN,90°,2mm,PH2.0-3-2*4Aw	1	J7
31080300049	10 pin holder	D,2x5PIN,90°,2mm,PH2.0-3-2*4Aw	2	J4,J6
31080600600	60PIN drawer top connection	S,0.5mm	1	J18
31080602000	6PIN Drawer type bottom connection	S,0.5mm	1	J9

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31060700102	TVS BV-FK05U4CA	S,DFN2510,5V,0.6pF	2	U19,U20
31060900041	MOS NCEP6050AQU	S,PRPAK3X3,N,NCE	4	Q21,Q22,Q23,Q24
31060900028	MOS FKBB6115	S,PRPAK3X3,P,-60V,-26A,25mR,FETEK	1	U5
31060600030	Schottky diodesSS36	SS36 SMAG MDD	2	D4,D37
31040400016	Magnetic beads1KΩ	S,0402,MB-0402A-102	31	FB9,FB36,FB37,FB38,FB39,FB40,FB41,FB42,FB43,FB44,FB45,FB59,FB60,FB61,FB62,FB63,FB64,FB67,FB68,FB69,FB77,FB78,FB82,FB83,FB86,FB87,FB88,FB90,FB113,FB116,FB117
31040400004	Magnetic beads120Ω	S,MB-0603A-121T,200mA,25%	13	FB46,FB47,FB48,FB49,FB50,FB51,FB52,FB53,FB54,FB55,FB56,FB57,FB58
31040400006	Magnetic beads1.5KΩ	S,MB-0603A-152T,1500mA,25%	42	FB3,FB5,FB7,FB8,FB15,FB16,FB18,FB19,FB20,FB21,FB22,FB23,FB25,FB27,FB28,FB29,FB31,FB32,FB65,FB66,FB70,FB71,FB72,FB73,FB74,FB75,FB76,FB80,FB85,FB91,FB93,FB94,FB95,FB96,FB97,FB99,FB102,FB103,FB104,FB119,FB120,FB123
31040401500	Magnetic beads120Ω	S,0805	9	FB81,FB84,FB89,FB107,FB108,FB109,FB110,FB111,FB112
31040500004	Magnetic beads500Ω	S,MB-1206A-501A30T,3000mA,25%	4	FB33,FB106,FB114,FB115
31040402300	Magnetic beads200Ω	S,MB-1210A-201A40T,4000mA,25%	2	FB100,FB105
31050300041	inductor2.2uH	S,CN4030C-2R2M-R,20%,4.4A	4	L11,L12,L13,L14
31050300024	inductor4.7uH	S,CN4030C4R7,20%,2A	1	L7
31050300038	inductor4.7uH	S,JSI1040PC-4R7MC,20%,Isat13A,lrms9.5A	2	L9,L10
31050300099	inductor1uH	S,ABG25H12M1R0,20%,Isat3.7A,lrms3A	5	L1,L2,L3,L4,L5
31050300036	inductor4.7uH	S,CS0603-4R7M-R,7.5X6.8mm,20%,4.5A	2	L17,L18
31050600002	Coil Inductance600uH	D,TC1264-600UH/min-B,20%	1	L6
31010400089	IC MS1824	S,LQFP128	1	U21
31010100138	IC AT32F413RCT7	S,LQFP64,AT	1	U11
31070100053	crystal oscillator27.000MH z CXF-027000-3D6D40	S,3225,±20ppm,CL:18pF,-40-85°C	3	Y3,Y5,Y6
31070100054	crystal oscillator12.000MH z CXF-012000-3D6D41	S,3225,±20ppm,CL:18pF,-40-85°C	1	Y4
31070100052	crystal oscillator24.000MH z CXF-024000-3D6D40	S,3225,±20ppm,CL:18pF,-40-85°C	1	Y1
31010200230	IC SC8701QDER	S,QFN32,4*4MM,SO UTHCHIP	1	U24

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31010400080	IC AXP853T	S,PMIC,QFN52Pin,6*6mm	1	U4
31010200242	IC MS7200	S,QFN76(9*9mm)	1	U17
31010300212	IC TP2815-NA1	S,EPQFN88L,TECHP OINT	1	U8
31020100036	Resistance 0Ω	S,0402,5%,1/16W	22	R10,R25,R39,R45,R46,R63,R64,R65,R66,R67,R68,R71,R142,R239,R242,R243,R244,R271,R273,R316,R317,R319
31020115600	Resistance 100KΩ	S,0402,5%,1/16W	8	R81,R100,R218,R238,R253,R258,R262,R335
31020100185	Resistance 100KΩ	S,0402,1%,1/16W	2	R19,R20
31020115300	Resistance 100Ω	S,0402,5%,1/16W	10	R129,R152,R180,R188,R189,R202,R256,R261,R265,R277
31020115200	Resistance 10KΩ	S,0402,5%,1/16W	24	R5,R37,R41,R79,R98,R171,R220,R222,R227,R255,R259,R263,R275,R332,R336,R340,R342,R344,R350,R352,R353,R356,R357,R359
31020100187	Resistance 10KΩ	S,0402,1%,1/16W	1	R61
31020100369	Resistance 13KΩ	S,0402,1% 1/16W	5	R112,R113,R114,R115,R116
31020100088	Resistance 150KΩ	S,0402,1%,1/16W	1	R60
31020100061	Resistance 15KΩ	S,0402,5%,1/16W	1	R257
31020100079	Resistance 1KΩ	S,0402,5% 1/16W	21	R2,R3,R93,R94,R95,R96,R97,R99,R102,R103,R104,R105,R106,R150,R219,R221,R226,R290,R331,R361,R362
31020100037	Resistance 1KΩ	S,0402,1%,1/16W	5	R62,R249,R250,R251,R252
31020100024	Resistance 1MΩ	S,0402,5%,1/16W	4	R128,R151,R182,R203
31020100096	Resistance 20KΩ	S,0402,5%,1/16W	1	R101
31020100179	Resistance 24.9Ω	S,0402,1%,1/16W	10	R132,R133,R134,R135,R136,R137,R138,R139,R140,R141
31020100181	Resistance 240Ω	S,0402,1%,1/16W	3	R21,R22,R23
31020100016	Resistance 33Ω	S,0402,5%,1/16W	55	R26,R32,R33,R35,R38,R40,R73,R74,R76,R78,R117,R118,R121,R122,R123,R124,R125,R143,R144,R145,R146,R147,R148,R154,R155,R156,R175,R177,R178,R179,R181,R183,R184,R186,R194,R195,R196,R199,R200,R204,R205,R248,R287,R288,R296,R301,R302,R309,R310,R315,R325,R326,R333,R334,R337
31020100359	Resistance 360Ω	S,0402,1%,1/16W	1	R201
31020100060	Resistance 4.7KΩ	S,0402,5%,1/16W	51	R69,R70,R72,R82,R83,R84,R87,R88,R89,R90,R91,R92,R107,R108,R109,R110,R111,R119,R120,R149,R153,R159,R160,R163,R164,R165,R166,R167,R170,R172,R173,R174,R176,R187,R198,R207,R208,R209,R210,R216,R245,R246,R247,R289,R294,R311,R312,R313,R314,R358,R360
31020100080	Resistance 47KΩ	S,0402,5% 1/16W	4	R254,R260,R264,R276
31020100038	Resistance 51KΩ	S,0402,5%,1/16W	1	R58
31020100354	Resistance 68KΩ	S,0402,1%,1/16W	1	R272
31020100093	Resistance 75Ω	S,0402,5%,1/16W	8	R59,R126,R127,R130,R131,R190,R191,R192

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31020100100	Resistance 0Ω	S,0603,5%,1/10W	2	R225,R283
31020108900	Resistance 100KΩ	S,0603,5%,1/10W	1	R85
31020109000	Resistance 100KΩ	S,0603,1%,1/10W	6	R168,R267,R285,R291,R293,R295
31020106500	Resistance 10KΩ	S,0603,5%,1/10W	3	R206,R233,R338
31020106600	Resistance 10KΩ	S,0603,1%,1/10W	3	R266,R279,R282
31020114200	Resistance 140KΩ	S,0603,1%,1/10W	1	R230
31020109300	Resistance 150KΩ	S,0603,5%,1/10W	1	R86
31020100276	Resistance 15KΩ	S,0603,1%,1/10W	1	R228
31020104200	Resistance 1KΩ	S,0603,5%,1/10W	1	R321
31020109500	Resistance 200KΩ	S,0603,5%,1/10W	1	R278
31020107300	Resistance 20KΩ	S,0603,5%,1/10W	1	R322
31020107500	Resistance 22KΩ	S,0603,1%,1/10W	3	R229,R286,R292
31020104800	Resistance 2KΩ	S,0603,5%,1/10W	2	R217,R232
31020101200	Resistance 33Ω	S,0603,5%,1/10W	2	R223,R324
31020114300	Resistance 40.2KΩ	S,0603,1%,1/10W	1	R274
31020100006	Resistance 49.9KΩ	S,0603,1%,1/10W	1	R169
31020100326	Resistance 53.6KΩ	S,0603,1%,1/10W	1	R281
31020100115	Resistance 62KΩ	S,0603,1%,1/10W	1	R280
31020101700	Resistance 62Ω	S,0603,5%,1/10W	2	R157,R158
31020106400	Resistance 8.2KΩ	S,0603,1%,1/10W	1	R231
31020110600	Resistance 0Ω	S,0805,5%,1/8W	4	R327,R328,R329,R330
31020100331	Resistance 1.24Ω	S,1206,1%,1/4W,Fen ghua	1	R323
31020100290	Resistance 0.01Ω	S,2010,1%,3/4W	2	R240,R241
31020300001	Resistance 22Ω	S,0402,8P4R,5%,1/1 6W	12	RN1,RN2,RN3,RN4,RN5,RN6,RN7,RN8,RN9 ,RN10,RN11,RN12
31060700103	TVS BV- SMCJ33CA	S,DO- 214AB,28.2A,33V,15 00W,Bencent	1	TVS31
31060100500	diodeBAS316	S,SOD- 323,250mA,100V,NX P	13	D2,D5,D6,D7,D9,D10,D11,D12,D13,D16,D17 ,D19,D20
31060200012	Zener tube MM3Z18	S,SOD323,18V,5mA, 300mW	1	D8
31060202200	Zener tube MM3Z6V8	S,SOD323,6.8V,5mA, 200mW,ST	1	D14
31060201400	Zener tube MM3Z9V1	S,SOD323,9.1V,5mA ,200mW,ST	1	D1
31060700022	TVS BV05C	S,SOD323,BENCEN T	28	TVS7,TVS8,TVS9,TVS10,TVS11,TVS12, TVS13,TVS14,TVS17,TVS18,TVS19,TVS20, TVS21,TVS22,TVS23,TVS24,TVS25,TVS26, TVS27,TVS28,TVS29,TVS30,TVS32,TVS33, TVS34,TVS35,TVS36,TVS37
31060700036	TVS BV24C	S,SOD323,BENCEN T	7	TVS2,TVS3,TVS4,TVS5,TVS6,TVS15,TVS16

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Issuing date: April 11, 2022

31010300161	IC SCT2452STE	S,ESOP-8,SCT	1	U15
31010200117	IC LM4875MX/NOPB	S,SOIC8,TI	1	U6
31010300132	IC SGM3766YTN5G/ TR	S,TSOT23-5,SGM	1	U28
31010300170	IC SY7208LABC	S,SOT23-6,DC- DC,25V,2A,SILERGY	1	U22
31010200031	IC LR1551	S,SOT363-6,LRC	1	U7
31060800000	triodeMMBT2222A	S,SOT-23,NPN,100	11	Q6,Q7,Q9,Q10,Q11,Q12,Q13,Q14,Q16,Q18, Q20
31060900031	MOS NCE2301	S,SOT-23,P,NCE	4	Q8,Q15,Q17,Q19
31060900032	MOS NCE3400AY	S,SOT-23,N,NCE	8	Q1,Q2,Q3,Q4,Q31,Q32,Q33,Q34
31010300167	IC SY8832AIC	S,TSOT23-8,DC- DC,5.5V,Dual 2A,SILERGY	2	U16,U26
31010300133	IC SGM2523AXN6G/ TR	S,SOT23-6,SGM	4	U12,U13,U14,U25
31010300036	IC CS4344-CZZR	S,TSSOP- 10,CIRRUS LOGIC,- 10-70°	1	U18
31080600061	SMD copper pillar4	Φ4*Φ2.6*L1.6,SV026 04	3	M3,M5,M4
31120100672	ST-HD700264DC- MB-V3.2	4layers,1.2MM,FR4,g reen oil,176.5*111.1MM	1	
31020115100	Resistance 10Ω	S,0402,5%,1/16W	1	R193
31030101500	Ceramic capacitor1uF(CL10 A105KB8NNNC	S,105,0603,50V,±10 %,Samsung	2	C336,C337
31030303400	electrolytic capacitor220uF/16 V	D,6x7,20%	1	C438