

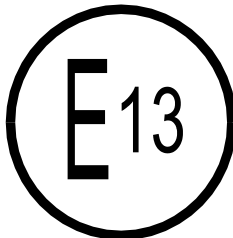


**Référence:** E13\*10R06/01\*16234\*00

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

Bertrange, le 27 avril 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approval withdrawn  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\*16234\*00

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

 10R - 06 16234

**1. Fabricant: (marque commerciale du constructeur):**  
Make (trade name of manufacturer):

MEAN WELL

**2. Type:**  
Type:

NTU-2200/3200-212

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

DC to AC Power Inverter

**Variante(s)/Version(s):**  
Variant(s)/Versions:

NTx-2200/3200-2yz (x=U, S; y=12, 24, 48;  
z=EU, CN, UK, AU, UN, TB)

- 3. Moyens d'identification du type, s'ils sont marqués sur le véhicule / composant / entité technique<sup>(2)</sup>:**  
Means of identification of type, if marked on the vehicle / component / separate technical unit: See item 6.
- 3.1. Emplacement de ce marquage:**  
Location of that marking: See item 6.
- 4. Catégorie du véhicule:**  
Category of vehicle: Not applicable
- 5. Nom et adresse du constructeur:**  
Name and address of manufacturer: MEAN WELL Enterprises Co., Ltd.  
No. 28, Wuquan 3rd Rd., Wugu District,  
New Taipei City 24891,  
Taiwan, R.O.C.
- 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: Self adhesive label on the housing
- 7. Adresse(s) de l' (des) usine(s) d'assemblage:**  
Address(es) of assembly plant(s): MEAN WELL Enterprises Co., Ltd.  
No. 28, Wuquan 3rd Rd., Wugu District,  
New Taipei City 24891,  
Taiwan, R.O.C.  
  
Suzhou MEAN WELL Technology Co., Ltd.  
No. 77, Jianmin Road, Dongqiao,  
Panyang Ind. Park, Huang-Dai Town,  
Xiangcheng District, Suzhou City,  
Jiangsu Province, China
- 8. Informations supplémentaires (s'il y a lieu):**  
Additional informations (where applicable): See appendix below
- 9. Service technique responsable de l'exécution des essais:**  
Technical service responsible for carrying out the tests: ATEEL S.à r.l.  
14, op Huefdreisch  
L-6871 Wecker
- 10. Date du rapport d'essai:**  
Date of test report: 11.04.2022
- 11. Numéro du rapport d'essai:**  
Number of test report: CN66MW-AL-00006-00C00
- 12. Remarques (s'il y a lieu):**  
Remarks (if any): See appendix below

13. **Lieu:** Bertrange  
Place:

14. **Date:** 27 avril 2022  
Date:

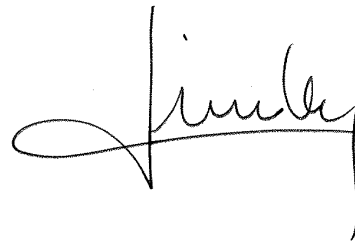
15. **Signature:**  
Signature:

**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\*16234\*00

to type-approval certificate N° E13\*10R06/01\*16234\*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 Systems rated voltage [V]:  | 12 V DC / 24 V DC / 48 V DC   |              |               |             |  |                  |                 |             |  |
|                  | <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:   | None  |              |               |             |  |                  |                 |             |  |
| <b>1.2.1.</b>    | <b>Conditions d'installation, s'il y a lieu:</b><br>Installation conditions, if any:   | None  |              |               |             |  |                  |                 |             |  |
| <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</td> <td>20 to 400 MHz</td> </tr> <tr> <td>ISO 11452-4</td> <td></td> </tr> <tr> <td>Absorber chamber</td> <td>400 to 2000 MHz</td> </tr> <tr> <td>ISO 11452-2</td> <td></td> </tr> </table> | Bulk current | 20 to 400 MHz | ISO 11452-4 |  | Absorber chamber | 400 to 2000 MHz | ISO 11452-2 |  |
| Bulk current     | 20 to 400 MHz  |   |              |               |             |  |                  |                 |             |  |
| ISO 11452-4      |  |   |              |               |             |  |                  |                 |             |  |
| Absorber chamber | 400 to 2000 MHz  |   |              |               |             |  |                  |                 |             |  |
| ISO 11452-2      |  |   |              |               |             |  |                  |                 |             |  |
| <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:   | None  |              |               |             |  |                  |                 |             |  |



**Référence:** E13\*10R06/01\*16234\*00

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

Bertrange, le 27 avril 2022

## Index du dossier d'homologation

Index to type-approval report

	<b>Numéro d'homologation:</b> Approval number:	E13*10R06/01*16234*00
	<b>Révision:</b> Revision:	00
	<b>Marque de fabrication ou de commerce:</b> Trade name or mark:	MEAN WELL
	<b>Type:</b> Type:	NTU-2200/3200-212
<b>1.</b>	<b>Procès-verbal d'essai:</b> Test report:	N° CN66MW-AL-00006-00C00
	- Technical report:	Page 1 & 2
	- Index:	Annex II - Page 1
	- General information:	Annex GI1 - Page 1 & 2
	- Test report:	Annex T - Page 1 to 17
<b>2.</b>	<b>Dossier du constructeur:</b> Report of the manufacturer:	Annex MID
	- Manufacturer's information folder:	Page 1 to 15
<b>3.</b>	<b>Autres documents annexés:</b> Other documents annexed:	Not applicable
<b>4.</b>	<b>Date de délivrance de l'homologation initiale:</b> Date of issue of initial type approval:	27.04.2022
<b>5.</b>	<b>Date de la dernière délivrance de pages révisées:</b> Date of last issue of revised pages:	Not applicable
<b>6.</b>	<b>Date de la dernière délivrance d'une homologation révisée:</b> Date of last extension:	Not applicable

Tests and inspection concerning

## ELECTROMAGNETIC COMPATIBILITY

according to the ECE Regulation No. 10 including all amendments up to Supplement 1 to the 06 series of amendments - Date of entry into force: 25.09.2020

**Manufacturer:** MEAN WELL Enterprises Co., Ltd.  
No. 28, Wuquan 3rd Rd.,  
Wugu District, New Taipei City 24891,  
Taiwan, R.O.C.

<b>Type:</b> NTU-2200/3200-212	<b>Type Approval No.:</b> E13*10R06/01*.....*00	<b>Manufacturer:</b> MEAN WELL Enterprises Co., Ltd.
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**Conclusion:** The tests and checks carried out have shown the compliance of the type described in this report and the attached annexes with the Regulation mentioned above.

Shanghai, 11.04.2022



Mengting (Mtok) Xu  
Ingénieur Inspecteur

**Index:** see Annex I1

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## 1 Tests and inspection results

Refer to Annex T

## 2 Type and variants

The tests and inspections carried out and described in this technical report have been selected in order to include the following variants and versions of the type and its equipments, as far as these are relevant for the topic of this report, into the judgement:

<b>As stated in Annex MID (Manufacturer's Information Document):</b>	<b>Item:</b>
- Variants	2.
- Electrical system rated voltage	9.

## 3 Remark

### 3.1 General:

None.

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**Compilation of Dossier No.: CN66MW-AL-00006**

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**Extension 00**

Technical Report no.: CN66MW-AL-00006-00C00

page 1 and 2

Composition of Annex:

I1:	Index	page 1
GI1:	General Information	page 1 to 2
T:	General Test Report	page 1 to 17
MID:	<b>Manufacturer's Information Document</b>	page 1 to 15
	Index of the Manufacturer's Information Document: See Annex MID	page 1

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**General Information**

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**Numbering according to annex 3B of the ECE Regulation No. 10**

	EC type-approval mark to be affixed on ESA :	E13 10R-06 .....
1.	Make (trade name of manufacturer)	MEAN WELL
2.	Type and general commercial description: Type: Variants:  Commercial description(s):	NTU-2200/3200-212 NTx-2200/3200-2yz (x=U, S; y=12, 24, 48; z=EU, CN, UK, AU, UN, TB) DC to AC Power Inverter
3.	Means of identification of type, if marked on the <del>vehicle/ component/ separate technical unit:</del>	See item 6
3.1.	Location of that marking:	See item 6
4.	Category of vehicle:	Not applicable
5.	Name and address of manufacturer:	MEAN WELL Enterprises Co., Ltd. No. 28, Wuquan 3rd Rd., Wugu District, New Taipei City 24891, Taiwan, R.O.C.
6.	In the case of components and separate technical units, location and method of affixing of the approval mark:	Self adhesive label on the housing
7.	Address(es) of the production plant(s):	Assembly plant 1: MEAN WELL Enterprises Co., Ltd. No. 28, Wuquan 3rd Rd., Wugu District, New Taipei City 24891, Taiwan, R.O.C. Assembly plant 2: Suzhou MEAN WELL Technology Co., Ltd. No. 77, Jianmin Road, Dongqiao, Panyang Ind. Park, Huang-Dai Town, Xiangcheng District, Suzhou City, Jiangsu Province, China
8.	Additional information: (where applicable)	See appendix
9.	Technical service responsible for carrying out the tests:	ATEEL S.à r.l. 14, op Huefdreisch L-6871 Wecker
10.	Date of test report:	11.04.2022

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**General Information**

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11.	Number of test report:	CN66MW-AL-00006-00C00
12.	Remarks: (if any):	See appendix
13.		
14.		
15.		
16.		
17.	Reasons for extension:	Not applicable

**Appendix to type-approval communication form No. CN66MW-AL-00006-00C00 concerning the type-approval of an electrical/ electronic sub-assembly under Regulation No. 10**

1.	Additional information:	
1.1.	Electrical system rated voltage:	12V, 24V, 48V DC, negative ground
1.2.	This ESA can be used on any vehicle type with the following restrictions:	None
1.2.1.	Installation conditions, if any:	None
1.3.	This ESA can only be used 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)	Absorber chamber test according to ISO 11452-2 (from 400-2000MHz) Bulk current injection test according to ISO 11452-4 (from 20-400MHz)
1.5.	Laboratory accredited to ISO 17025 and recognized by the Approval Authority responsible for carrying out the tests:	Not applicable.
2.	Remarks:	None

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## General Test Report

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The data in this section refer only to the items submitted to testing or inspection.

### 0 Abstract

0.1 Type: NTU-2200/3200-212

### 1 Dates and resources

1.1 Date of receipt of test item: 19.03.2022

1.2 Date of inspection(s): 19.03.2022 - 24.03.2022

1.3 Place of inspection(s): Centre Testing International (Suzhou)  
Co., Ltd.  
Building 18, Zhihui New Town Ecological  
Industrial Park, No. 1206, Jinyang East  
Road, Lujia Town, Kunshan, Jiangsu, China

1.4 Testing site and testing equipment:

All measuring and test equipment used to carry out the inspections are in accordance with ISO 17025 and the regulatory act(s) applied.

1.5 Resources

1.5.1 Configuration other than "REESS charging mode coupled to the power grid"

1.5.1.1 Broadband and narrowband emissions:

1.5.1.1.1 Broadband emissions

The requirements of item 3.1 of Annex 7 of the ECE Regulation No. 10 have been fulfilled. The test have been conducted in measurements performed in a semi anechoic chamber.

1.5.1.1.2 Narrowband emissions

The requirements of item 3.1 of Annex 8 of the ECE Regulation No. 10 have been fulfilled. The test have been conducted in measurements performed in a semi anechoic chamber.

1.5.1.2 The immunity of ESAs to electromagnetic radiation

According to item 6.10.3. of the ECE Regulation No. 10, the ESAs with no immunity related functions need not be tested for immunity to radiated disturbances.

1.5.1.3 The immunity to transient disturbances conducted along supply lines

The requirements of item 2 of Annex 10 of the ECE Regulation No. 10 have been fulfilled. This test method shall ensure the immunity of ESAs to conducted transients on the vehicle power supply.

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**General Test Report**

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- 1.5.1.4 The emission of conducted disturbances
- The requirements of item 3 of Annex 10 of the ECE Regulation No. 10 have been fulfilled.  
This test method shall ensure limit conducted transients from ESAs to the vehicle power supply.
- 1.5.2 Configuration "REESS charging mode coupled to the power grid"
- 1.5.2.1 Broadband emissions
- Not applicable. Other ESA's than involved in "REESS charging mode coupled to the power grid"
- 1.5.2.2 The immunity of ESAs to electromagnetic radiation
- Not applicable. Other ESA's than involved in "REESS charging mode coupled to the power grid"
- 1.5.2.3 Emission of harmonics on AC power lines from an ESA
- Not applicable. Other ESA's than involved in "REESS charging mode coupled to the power grid"
- 1.5.2.4 Emission of voltage changes, voltage fluctuations and flicker on AC power lines from an ESA
- Not applicable. Other ESA's than involved in "REESS charging mode coupled to the power grid"
- 1.5.2.5 Emission of radiofrequency conducted disturbances on AC or DC power lines from an ESA
- Not applicable. Other ESA's than involved in "REESS charging mode coupled to the power grid"
- 1.5.2.6 Emission of radiofrequency conducted disturbances on network and telecommunication access from an ESA
- Not applicable. Other ESA's than involved in "REESS charging mode coupled to the power grid"
- 1.5.2.7 Immunity of an ESA to electrical fast transient/burst disturbances conducted along AC and DC power lines
- Not applicable. Other ESA's than involved in "REESS charging mode coupled to the power grid"
- 1.5.2.8 Immunity of ESA to surge conducted along AC and DC power lines
- Not applicable. Other ESA's than involved in "REESS charging mode coupled to the power grid"

**General Test Report**

**2 Test object**

The tests were conducted with a test ESA which is representative of the ESA type to be approved.

**2.1 Description**

The ESA is a 2200W/3200W High Reliable True Sine Wave with UPS DC-AC Power Inverter. The ESA can be used with 12V(DC), 24V(DC), 48V(DC) voltage, negative ground. ESA configuration: Other ESA's than involved in "REESS charging mode coupled to the power grid" Variant(s): NTU-2200-212UN, NTU-2200-224UN, NTU-2200-248UN, NTU-3200-212UN, NTU-3200-224UN, NTU-3200-248UN

**2.2 Equipment**

Optional equipment installed on the ESA: none

**3 Tests and inspections**

**3.1 Measurement of radiated broadband electromagnetic emissions from ESA**

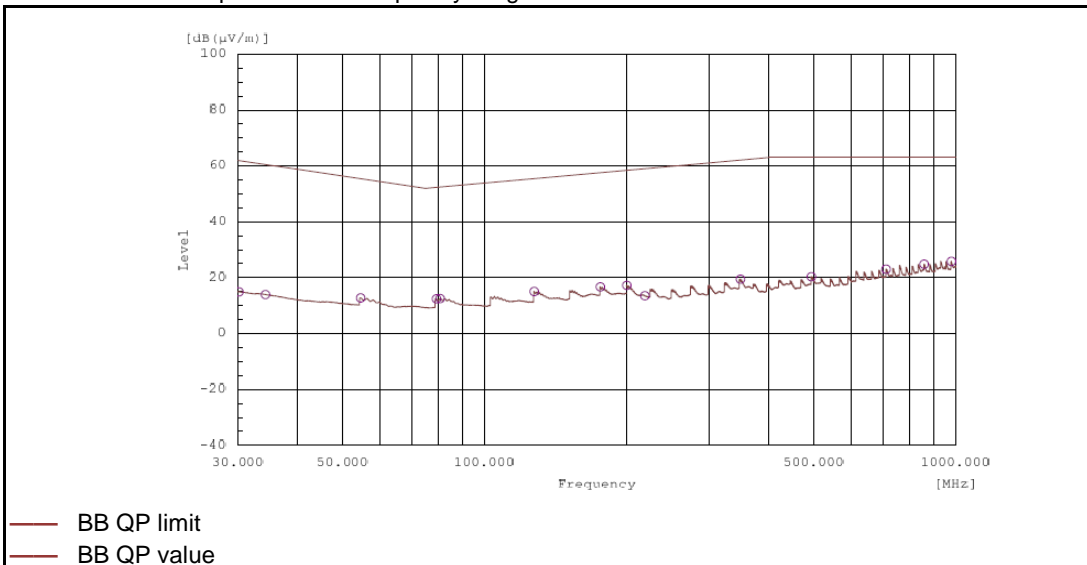
The test is performed on 12V, 24V, 48V voltage system.

Antenna position: According to Annex 7, item 3.1 of the ECE Regulation No. 10  
Limit values: According to item 6.5.2.1 of the ECE Regulation No. 10  
Bandwidth: 120 kHz  
Frequency range: 30 to 1000 MHz  
Detector: QuasiPeak (CISPR 12)  
ESA condition: According to item 2 of Annex 7 of the ECE Regulation No. 10

**3.1.1 Test results**

Variant: NTU-2200-212UN

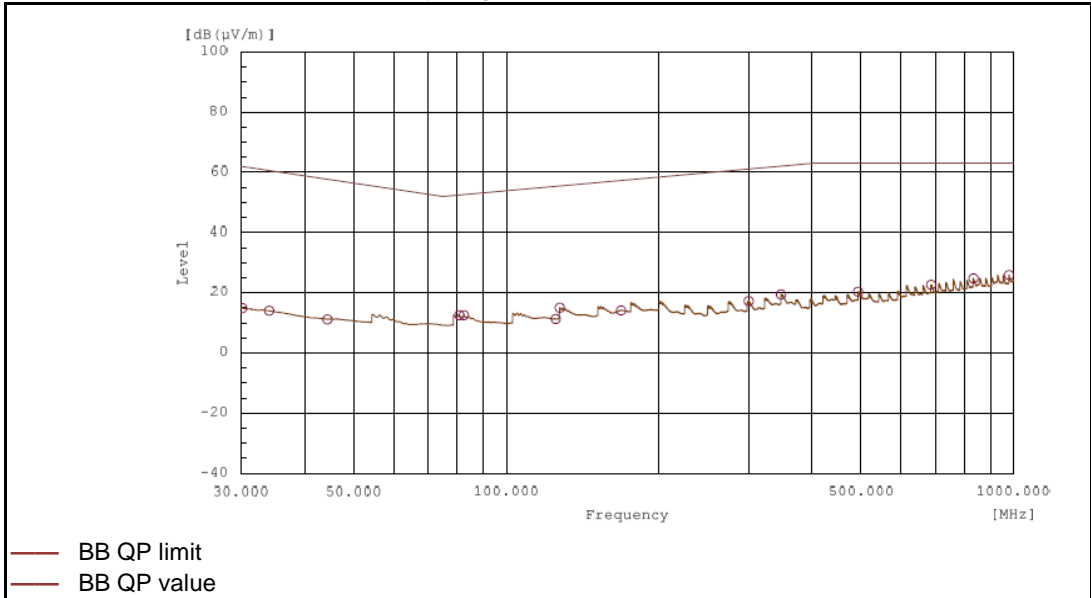
Horizontal antenna position with frequency range 30-1000 MHz



The requirements of item 6.5.2.2 of the Regulation are fulfilled.

**General Test Report**

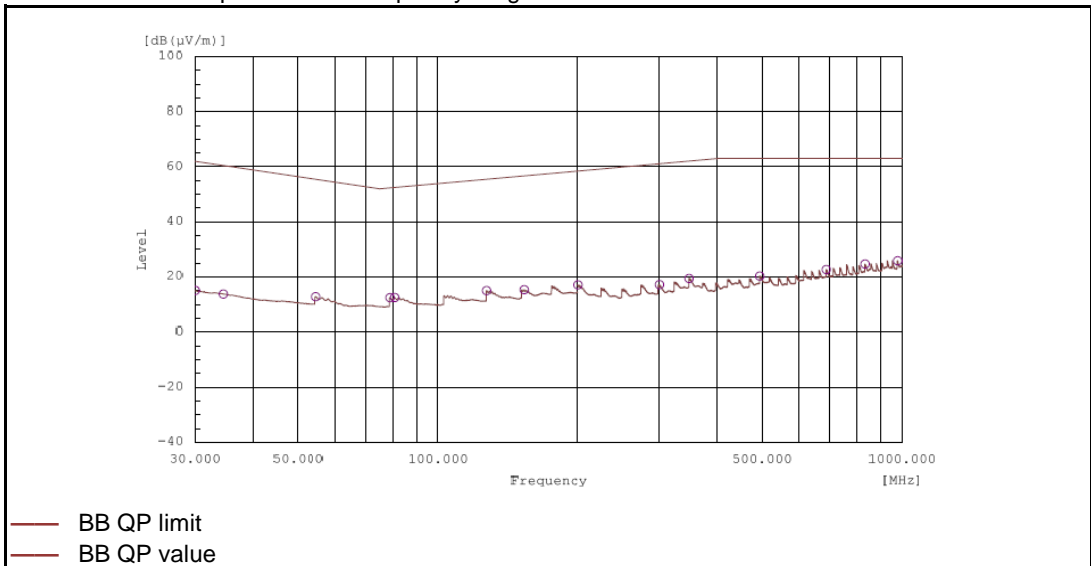
Vertical antenna position with frequency range 30-1000 MHz



The requirements of item 6.5.2.2 of the Regulation are fulfilled.

Variant: NTU-3200-212UN

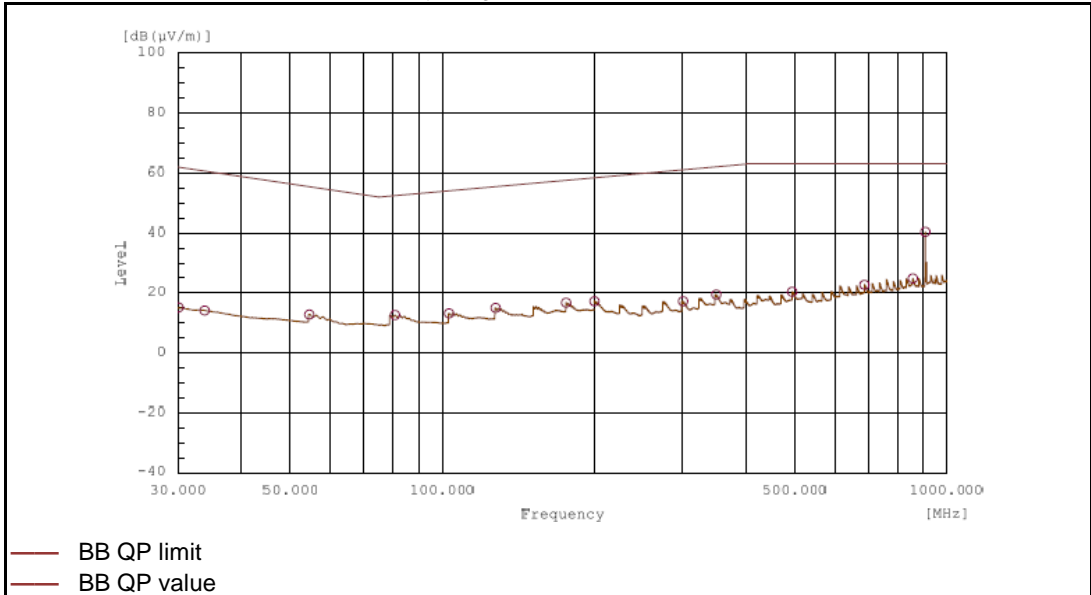
Horizontal antenna position with frequency range 30-1000 MHz



The requirements of item 6.5.2.2 of the Regulation are fulfilled.

**General Test Report**

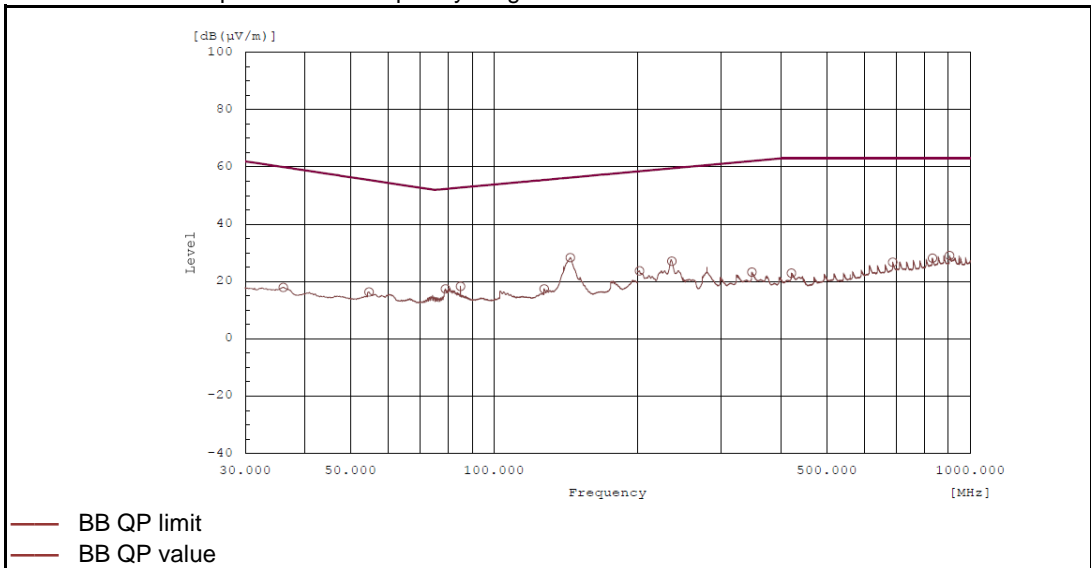
Vertical antenna position with frequency range 30-1000 MHz



The requirements of item 6.5.2.2 of the Regulation are fulfilled.

Variant: NTU-2200-224UN

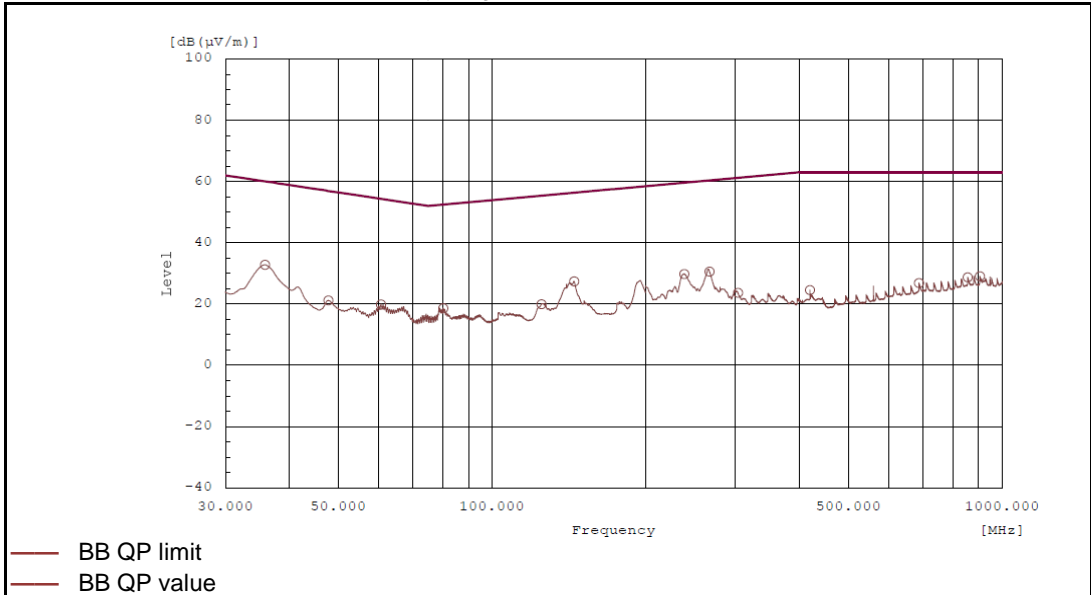
Horizontal antenna position with frequency range 30-1000 MHz



The requirements of item 6.5.2.2 of the Regulation are fulfilled.

**General Test Report**

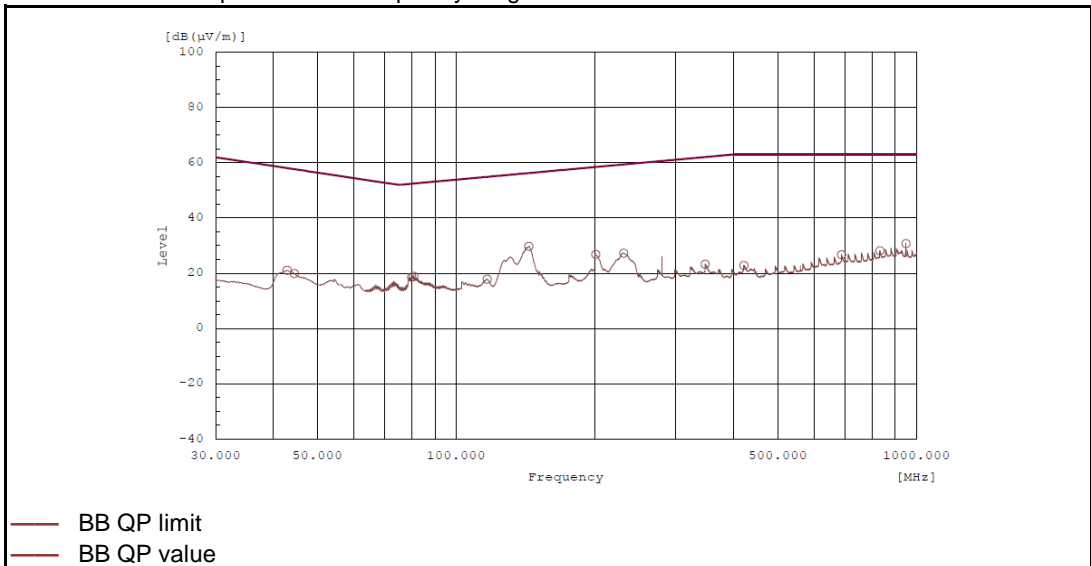
Vertical antenna position with frequency range 30-1000 MHz



The requirements of item 6.5.2.2 of the Regulation are fulfilled.

Variant: NTU-3200-224UN

Horizontal antenna position with frequency range 30-1000 MHz

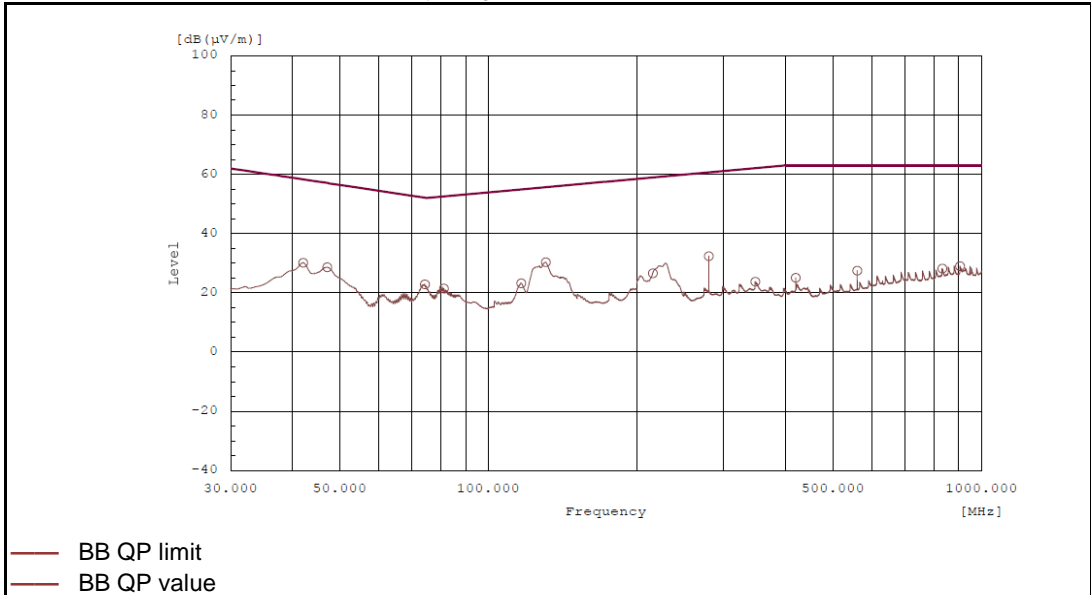


The requirements of item 6.5.2.2 of the Regulation are fulfilled.



**General Test Report**

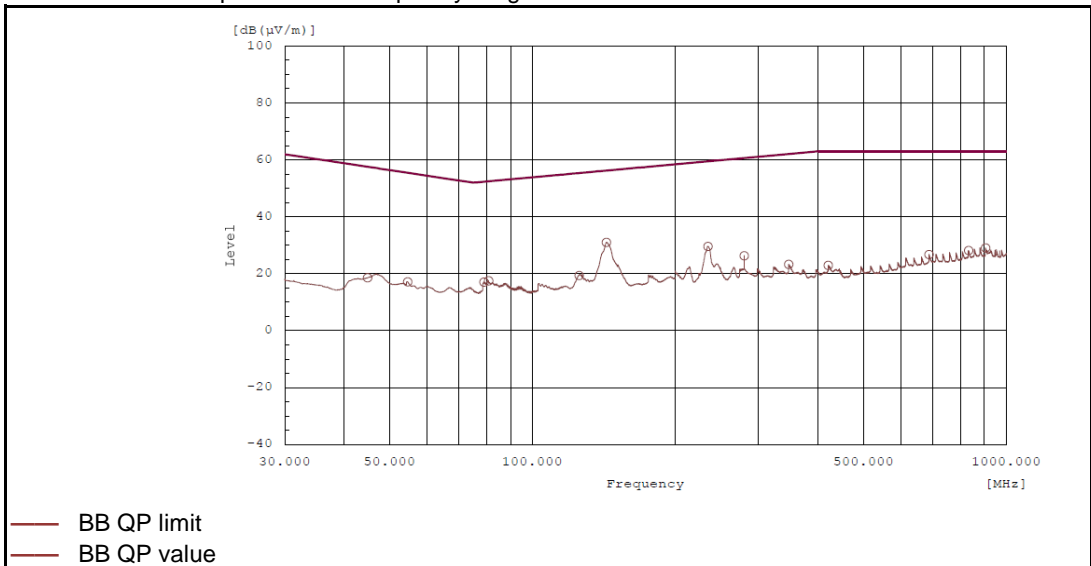
Vertical antenna position with frequency range 30-1000 MHz



The requirements of item 6.5.2.2 of the Regulation are fulfilled.

Variant: NTU-2200-248UN

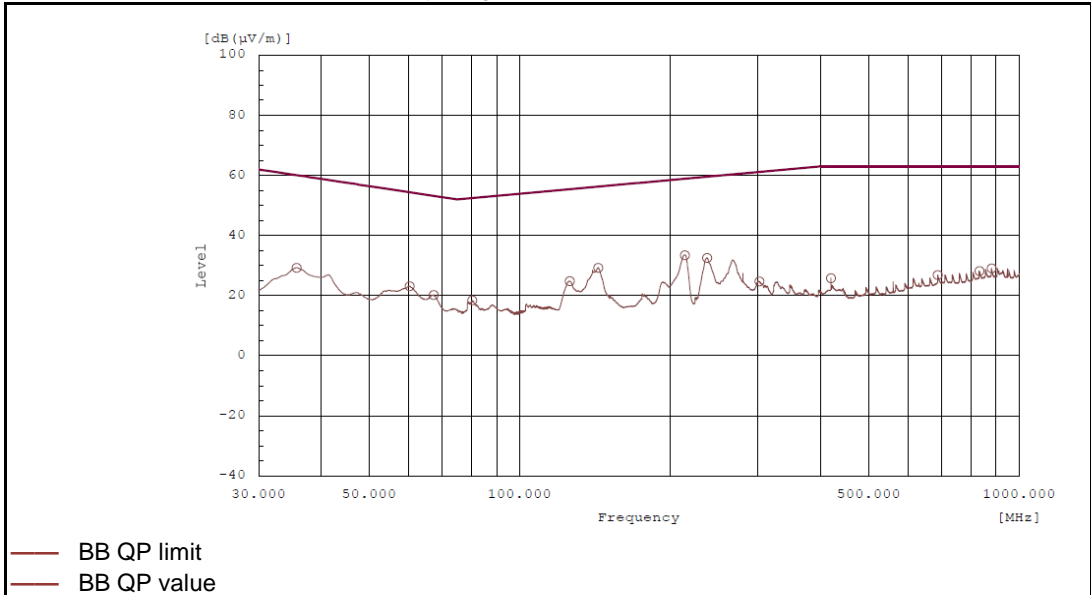
Horizontal antenna position with frequency range 30-1000 MHz



The requirements of item 6.5.2.2 of the Regulation are fulfilled.

**General Test Report**

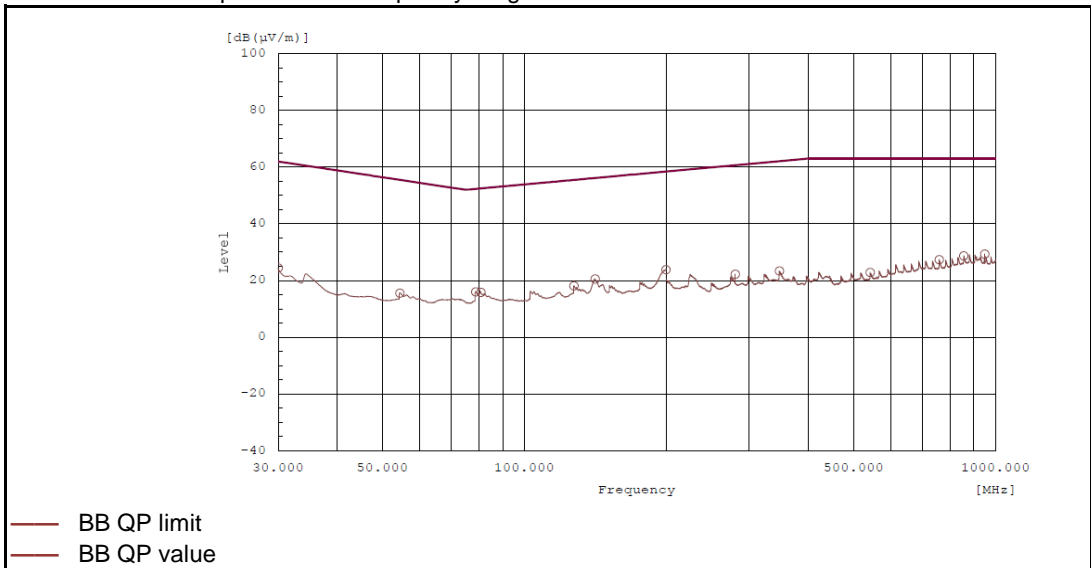
Vertical antenna position with frequency range 30-1000 MHz



The requirements of item 6.5.2.2 of the Regulation are fulfilled.

Variant: NTU-3200-248UN

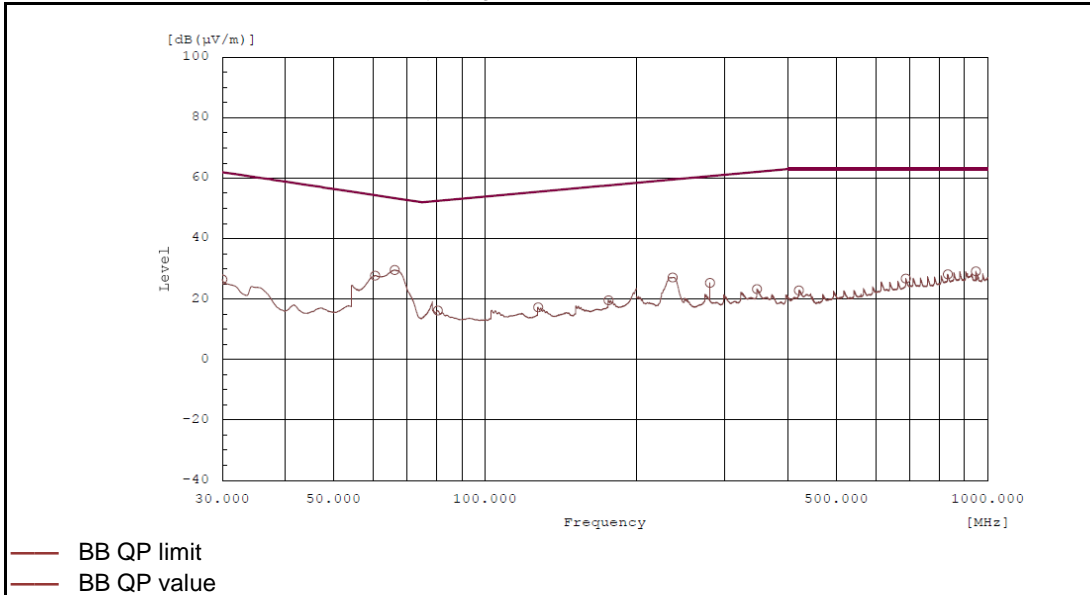
Horizontal antenna position with frequency range 30-1000 MHz



The requirements of item 6.5.2.2 of the Regulation are fulfilled.

**General Test Report**

Vertical antenna position with frequency range 30-1000 MHz



The requirements of item 6.5.2.2 of the Regulation are fulfilled.

**3.2 Measurement of radiated narrowband electromagnetic emissions from ESA**

The test is performed on 12V, 24V, 48V voltage system.

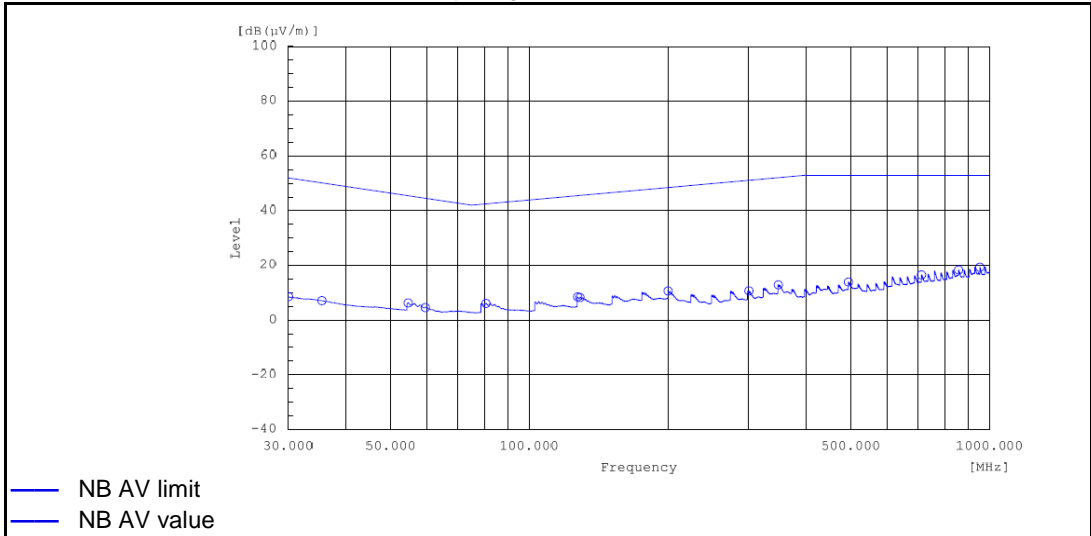
Antenna position:	According to Annex 8, item 3.1 of the ECE Regulation No. 10
Limit values	According to item 6.6.2.1 of the ECE Regulation No. 10
Bandwidth:	120 kHz
Frequency range:	30 to 1000 MHz
Detector:	Average detector
ESA condition:	According to item 2 of Annex 8 of the ECE Regulation No. 10

**General Test Report**

3.2.1 Test results

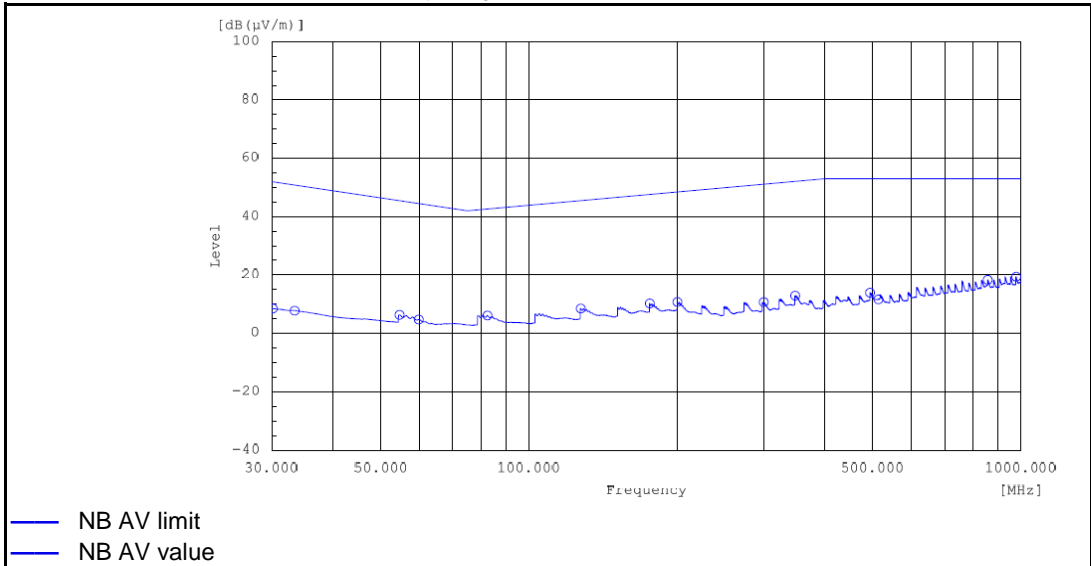
Variant: NTU-2200-212UN

Horizontal antenna position with frequency range 30-1000 MHz



The requirements of item 6.6.2.2 of the Regulation are fulfilled.

Vertical antenna position with frequency range 30-1000 MHz

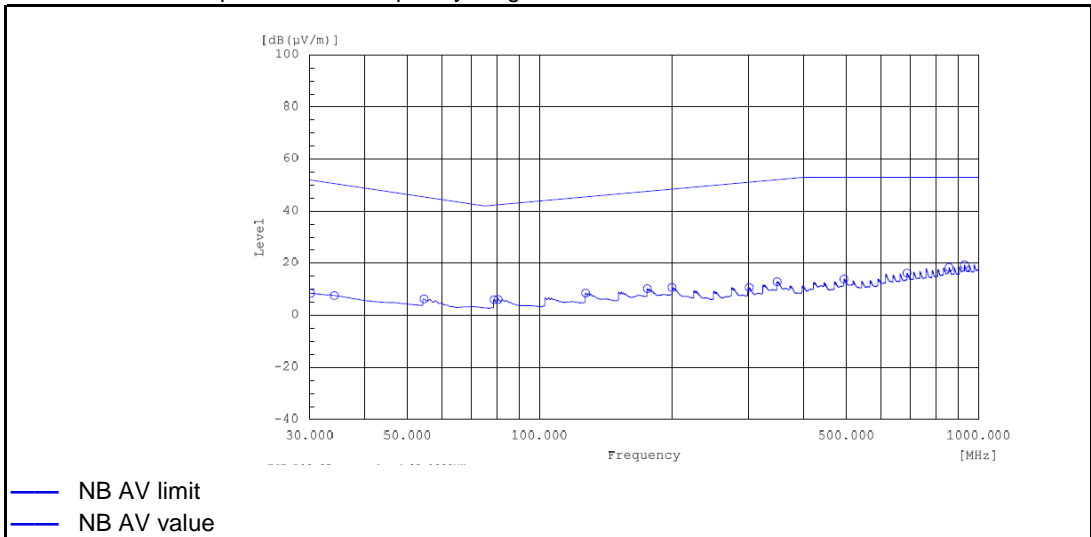


The requirements of item 6.6.2.2 of the Regulation are fulfilled.

**General Test Report**

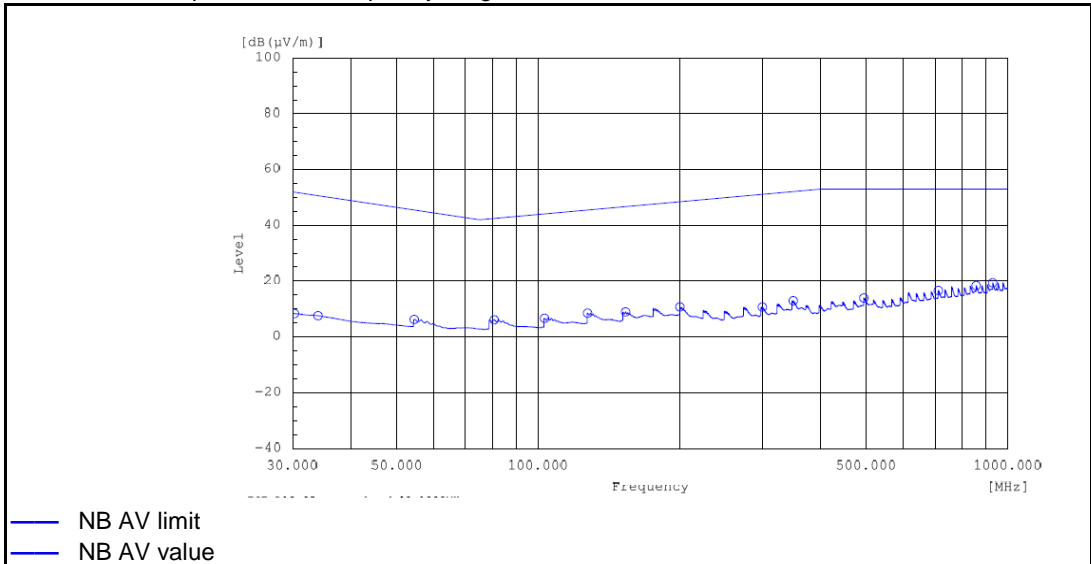
Variant: NTU-3200-212UN

Horizontal antenna position with frequency range 30-1000 MHz



The requirements of item 6.6.2.2 of the Regulation are fulfilled.

Vertical antenna position with frequency range 30-1000 MHz

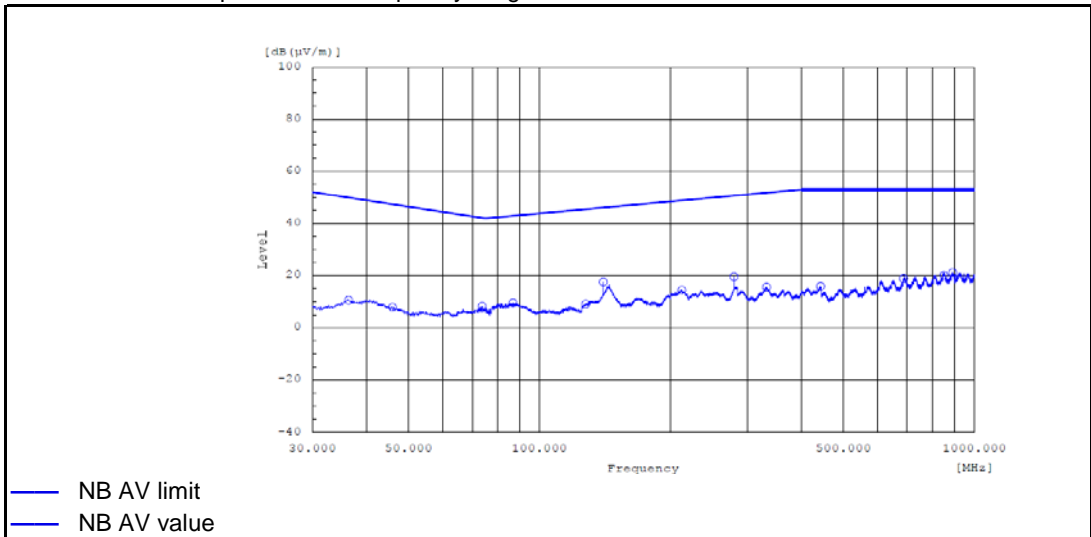


The requirements of item 6.6.2.2 of the Regulation are fulfilled.

**General Test Report**

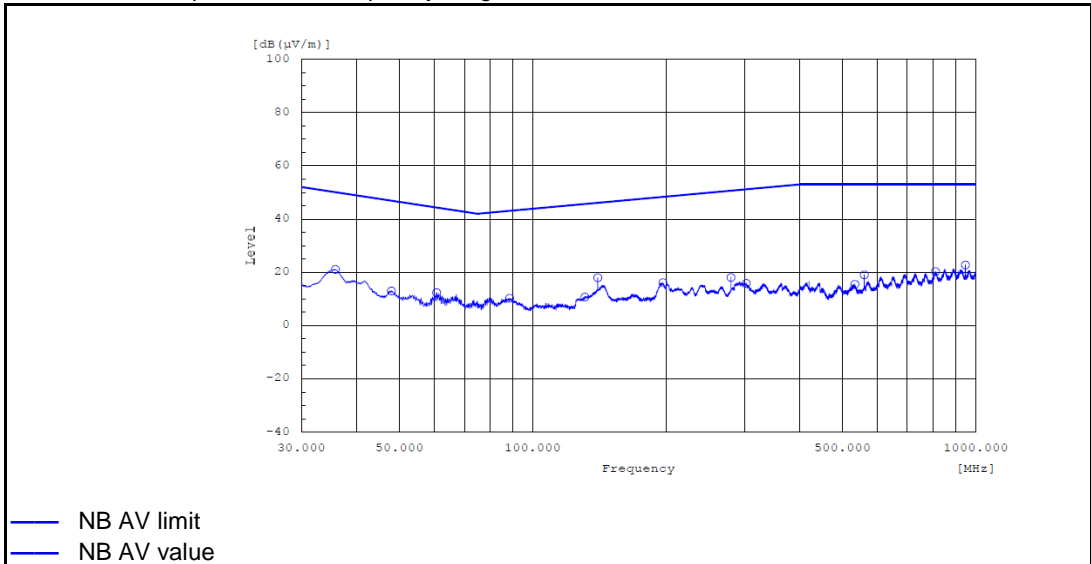
Variant: NTU-2200-224UN

Horizontal antenna position with frequency range 30-1000 MHz



The requirements of item 6.6.2.2 of the Regulation are fulfilled.

Vertical antenna position with frequency range 30-1000 MHz

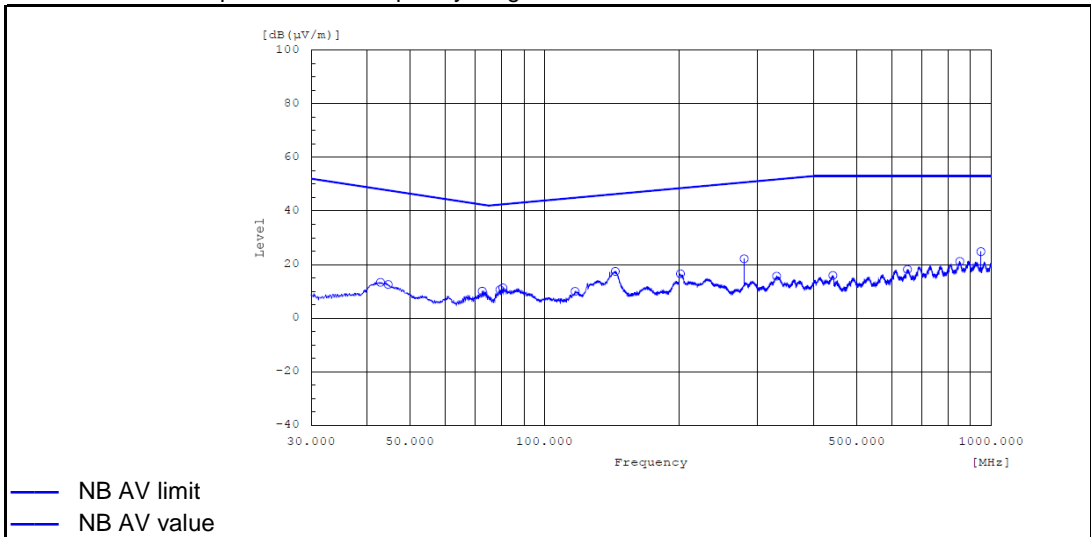


The requirements of item 6.6.2.2 of the Regulation are fulfilled.

**General Test Report**

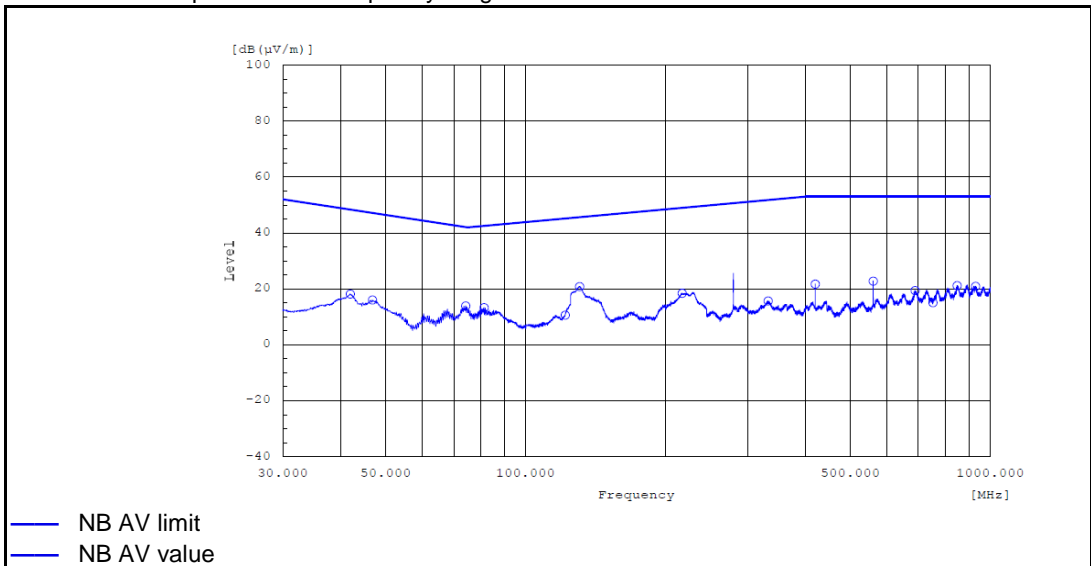
Variant: NTU-3200-224UN

Horizontal antenna position with frequency range 30-1000 MHz



The requirements of item 6.6.2.2 of the Regulation are fulfilled.

Vertical antenna position with frequency range 30-1000 MHz

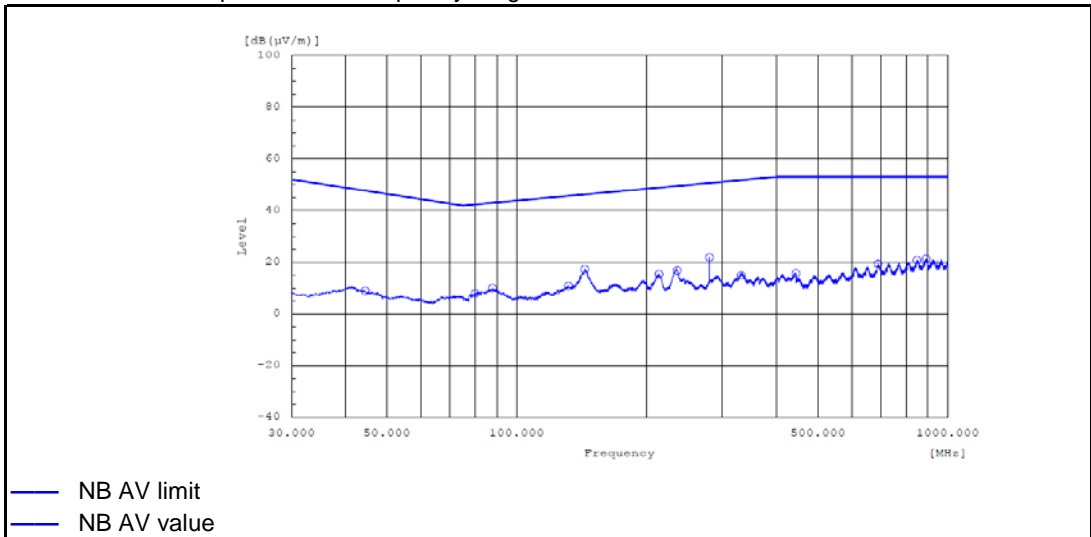


The requirements of item 6.6.2.2 of the Regulation are fulfilled.

**General Test Report**

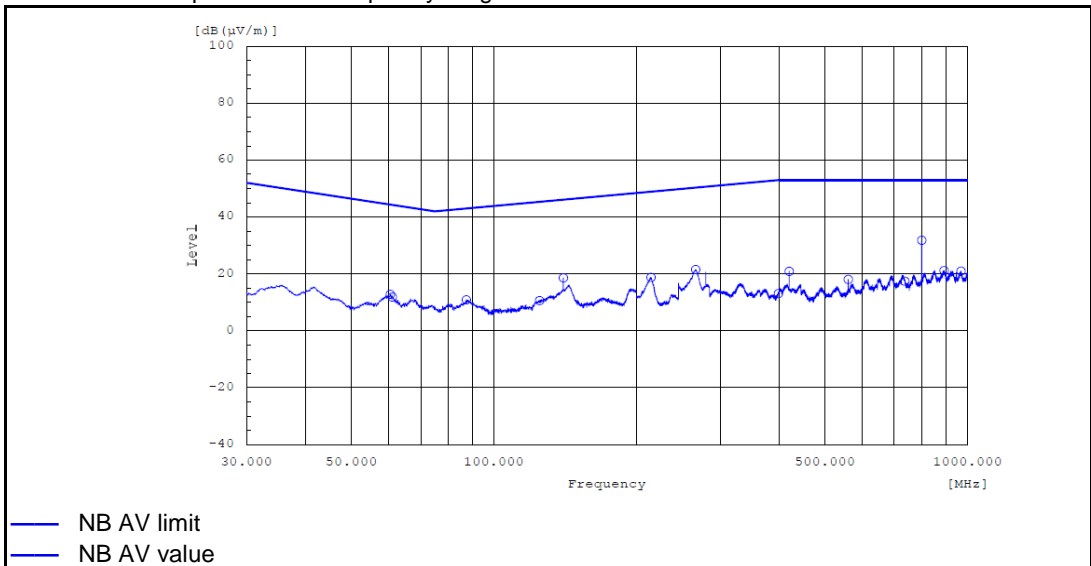
Variant: NTU-2200-248UN

Horizontal antenna position with frequency range 30-1000 MHz



The requirements of item 6.6.2.2 of the Regulation are fulfilled.

Vertical antenna position with frequency range 30-1000 MHz



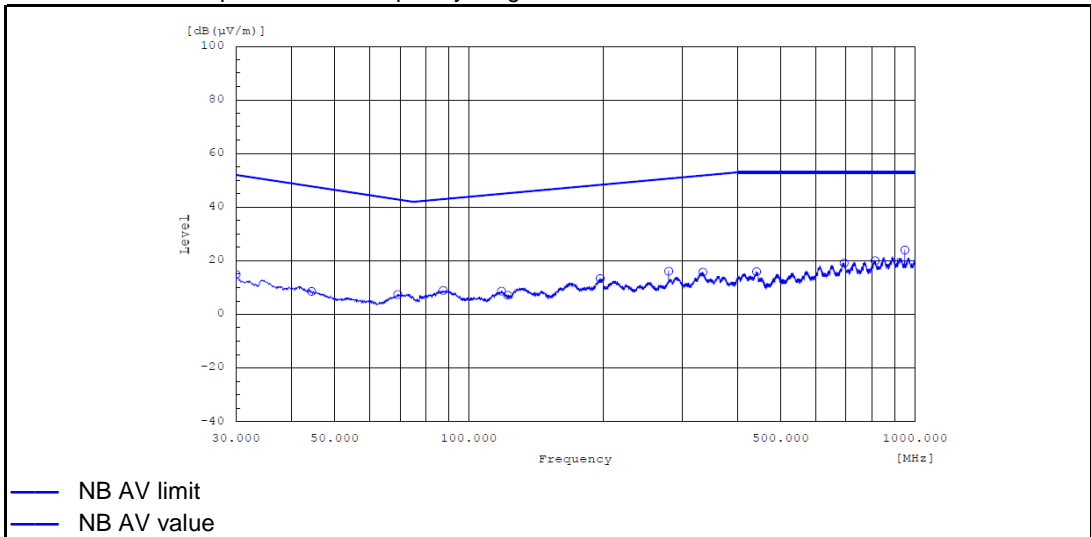
The requirements of item 6.6.2.2 of the Regulation are fulfilled.



**General Test Report**

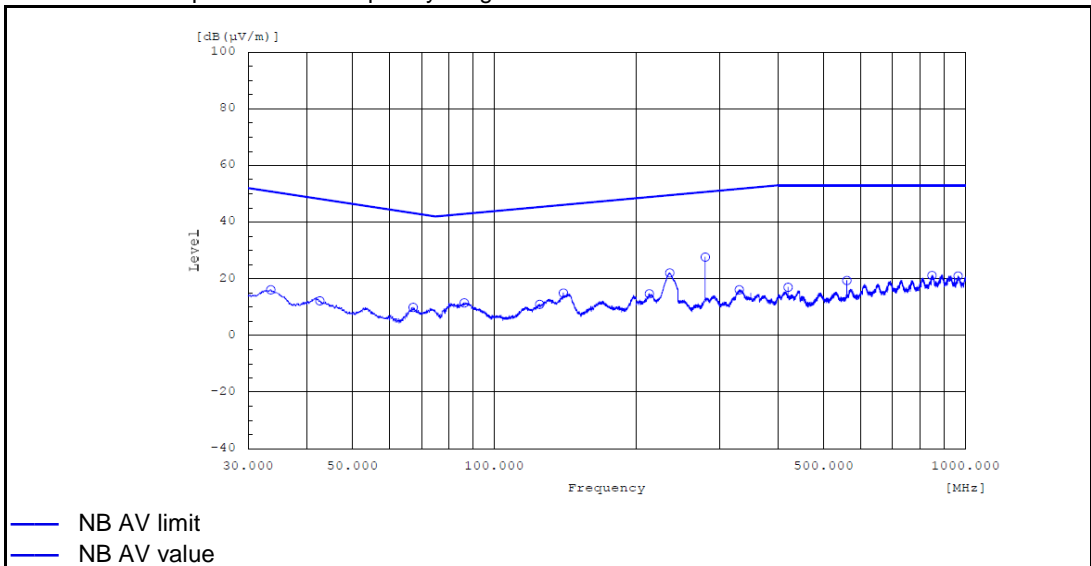
Variant: NTU-3200-248UN

Horizontal antenna position with frequency range 30-1000 MHz



The requirements of item 6.6.2.2 of the Regulation are fulfilled.

Vertical antenna position with frequency range 30-1000 MHz



The requirements of item 6.6.2.2 of the Regulation are fulfilled.

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## General Test Report

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### 3.3 The immunity of ESAs to electromagnetic radiation

#### 3.3.1 Absorber chamber test

The test is performed on 12V, 24V, 48V voltage system.

Method of testing: ISO 11452-2

Frequency range: 400 to 2000 MHz

Test level: 30V/m

Type of modulation: 400-800 MHz: 80% AM, 1kHz

800-2000 MHz: PM, ton=577µs, period 4,600 µs

ESA condition: According to item 2 of Annex 9 of the ECE Regulation No. 10

##### 3.3.1.1 Test results

Variant(s): NTU-2200-212UN, NTU-2200-224UN, NTU-2200-248UN, NTU-3200-212UN, NTU-3200-224UN, NTU-3200-248UN

There is no degradation of performance of "immunity related functions".

The requirements of item 6.8.2.2 of the Regulation are fulfilled.

#### 3.3.2 Bulk current injection test

The test is performed on 12V, 24V, 48V voltage system.

Method of testing: ISO 11452-4

Frequency range: 20 to 400 MHz

Test level: 60mA

Type of modulation: 80% AM, 1kHz

ESA condition: According to item 2 of Annex 9 of the ECE Regulation No. 10

##### 3.3.2.1 Test results

Variant(s): NTU-2200-212UN, NTU-2200-224UN, NTU-2200-248UN, NTU-3200-212UN, NTU-3200-224UN, NTU-3200-248UN

There is no degradation of performance of "immunity related functions".

The requirements of item 6.8.2.2 of the Regulation are fulfilled.

### 3.4 Measurement of the immunity to transient disturbances conducted along 12/24V supply lines

The test is performed on 12, 24V voltage system.

Method of testing: ISO 7637-2

Test pulse number: 1, 2a, 2b, 3a/3b,4

Immunity test level: III

ESA condition: According to item 4 of ISO 7637-2

**General Test Report**

3.4.1 Test results

Variant(s): NTU-2200-212UN, NTU-3200-212UN

12V system

Test pulse number	Test voltage	Number of pulses/duration	Required functional status	Functional status during test
1	-75V	5000 pulses	C	C
2a	+37V	5000 pulses	B	A
2b	+10V	10 pulses	C	C
3a	-112V	1 h	A	A
3b	+75V	1 h	A	A
4	-6V	1 pulse	C	C

The requirements of item 6.9.1 of the Regulation are fulfilled.

Variant(s): NTU-2200-224UN, NTU-3200-224UN

24 V system

Test pulse number	Test voltage	Number of pulses/duration	Required functional status	Functional status during test
1	-450V	5000 pulses	C	C
2a	+37V	5000 pulses	B	A
2b	+20V	10 pulses	C	C
3a	-150V	1 h	A	A
3b	+150V	1 h	A	A
4	-12V	1 pulse	C	C

The requirements of item 6.9.1 of the Regulation are fulfilled.

**3.5 Measurement of Emission of transient conducted disturbances generated by ESAs on 12/24V supply lines**

The test is performed on 12V, 24V voltage system.

Method of testing: ISO 7637-2

ESA condition: According to item 4 of ISO 7637-2

3.5.1 Test results

Variant(s): NTU-2200-212UN, NTU-3200-212UN

12V system

Polarity of pulse amplitude	Maximum allowed pulse amplitude for vehicle with 12 V system	Result
Positive	+75V	Pass
Negative	-100V	Pass

The requirements of item 6.7.1 of the Regulation are fulfilled.

Variant(s): NTU-2200-224UN, NTU-3200-224UN

24 V system

Polarity of pulse amplitude	Maximum allowed pulse amplitude for vehicle with 24 V system	Result
Positive	+150V	Pass
Negative	-450V	Pass

The requirements of item 6.7.1 of the Regulation are fulfilled.

Type: <b>NTU-2200/3200-212</b>	<b>MEAN WELL Enterprises Co., Ltd.</b>	Date : 01.03.2022
		Ext. : 00

UNIFORM PROVISIONS CONCERNING THE EC TYPE-APPROVAL OF AN ELECTRIC/ELECTRONIC SUBASSEMBLY WITH RESPECT TO ELECTROMAGNETIC COMPATIBILITY

**REGULATION No. 10.06**

**(Information Document No. NTU-2200/3200-212-00-R10)**

**INDEX OF DOCUMENTATION**

<i>Page</i>	<i>Concept</i>
2-3	GENERAL
4	LOCATION OF THE ECE APPROVAL MARK
5-7	SCHEMATIC OF THE DEVICE
8-14	PCB
15-16	LIST OF MAIN COMPONENT CONSTITUTING THE ESA

**APPLICATION HISTORY**

Extension No.	Extension Reasons	APPLICATION DATE
00	Not applicable(Base Approval)	01.03.2022

Type: NTU-2200/3200-212

**MEAN WELL Enterprises Co., Ltd.**

Date: 01.03.2022

Ext.: 00

GENERAL

1. Make (trade name of manufacturer): **MEAN WELL**
  
2. Type: **NTU-2200/3200-212**  
  
Variant: **NTx-2200/3200-2yz (x=U, S; y=12,24,48; z=EU, CN, UK, AU, UN, TB), all of the variants share the same PCBs with the type.**  
  
Note: **The output voltage difference comes from the internal software setting, the circuit board is consistent.**  
  
Commercial description(s): **DC to AC Power Inverter**  
  
Function: **2200W/3200W High Reliable True Sine Wave with UPS DC-AC Power Inverter**
  
3. Means of identification of type, if marked on the component/~~separate technical unit (a)~~:
  - 3.1. Location of that marking:  
  
**Self-adhesive label on the housing, see drawing of the ESA.**
  
4. Name and address of manufacturer:  
  
**MEAN WELL Enterprises Co., Ltd.  
No. 28, Wuquan 3rd Rd., Wugu District, New Taipei City 24891, Taiwan, R.O.C.**  
  
Name and address of authorised representative, if any: **Not applicable**
  
5. In the case of components and separate technical units, location and method of affixing of the EC approval mark:  
  
**Self adhesive label on the housing, see drawing of the ESA.**
  
6. Address(es) of assembly plant(s):  
  
**Assembly plant 1:  
MEAN WELL Enterprises Co., Ltd.  
No. 28, Wuquan 3rd Rd., Wugu District, New Taipei City 24891, Taiwan, R.O.C.  
Assembly plant 2:  
Suzhou MEAN WELL Technology Co., Ltd.  
No. 77, Jianmin Road, Dongqiao, Panyang Ind. Park, Huang-Dai Town,  
Xiangcheng District, Suzhou City, Jiangsu Province, China**
  
7. This ESA shall be approved as a component/STU<sup>2)</sup>: **Component**
  
8. Any restrictions of use and conditions for fitting: **Not applicable**
  
9. Electrical system rated voltage: ..... V, ~~positive~~/negative<sup>2)</sup> ground  
  
**12V / 24V/ 48V DC, negative ground**
  
10. Charger: **Not applicable**

Type: NTU-2200/3200-212

**MEAN WELL Enterprises Co., Ltd.**

Date: 01.03.2022

Ext.: 00


11. Charging current: **Not applicable**
12. Maximal nominal current: **Not applicable**
13. Nominal charging voltage: **Not applicable**
14. Basic ESA interface functions: **Not applicable**
15. Minimum  $R_{s_{ce}}$  value: **Not applicable**

Type: NTU-2200/3200-212	<b>MEAN WELL Enterprises Co., Ltd.</b>	Date: 01.03.2022
		Ext.: 00

LOCATION OF THE ECE APPROVAL MARK







75 mm

4BANTS-3200-212EU-R0



**NTS-3200-212EU**  
3200W True Sine Wave Inverter

DC Input : 12Vdc, 320A  
AC Output : Default 230Vac/50Hz , 13.91A  
200/220/230/240Vac, 50/60Hz selectable  
Rated Power : 3200W continuous



 XXX-XX XXXXX  
XX-XXXXXX





MEAN WELL ENTERPRISES CO., LTD.  
No. 28, Wuquan 3rd Rd., Wugu Dist., New Taipei City 24891, Taiwan  
Manual: [www.meanwell.com/manual.html](http://www.meanwell.com/manual.html)

MADE IN CHINA MW02

⚠ WARNING :

Risk of electric shock. Do not remove cover, no user serviceable parts inside. Refer to qualified service personnel.  
Disconnect all sources of AC and DC power before servicing.  
Fire and explosion hazard. This device can cause arcs or sparks and is not ignition protected. Do not install in places containing gasoline, gasoline fueled engines or gasoline tanks or in areas where ignition protected equipment is required. To minimize risk of electric shock, do not expose to rain or spray, Do not block ventilation openings or mount in zero clearance compartments to avoid overheating.

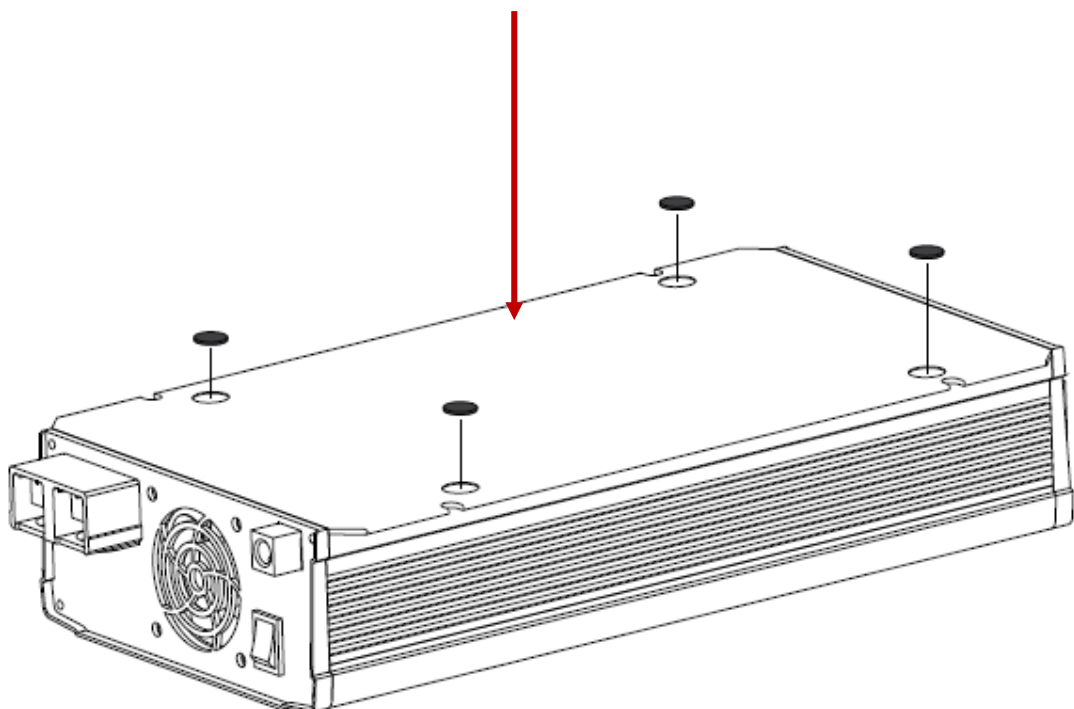
Selectable by DIP S,W			
SW1	SW2	SW3	SW4
OFF	OFF : 200Vac	ON : 50Hz	ON : Saving mode
OFF	ON : 220Vac		
ON	OFF : 230Vac	OFF: 60Hz	OFF: Non-Saving mode
ON	ON : 240Vac		



E13

10R-06 XXXXX

103 mm



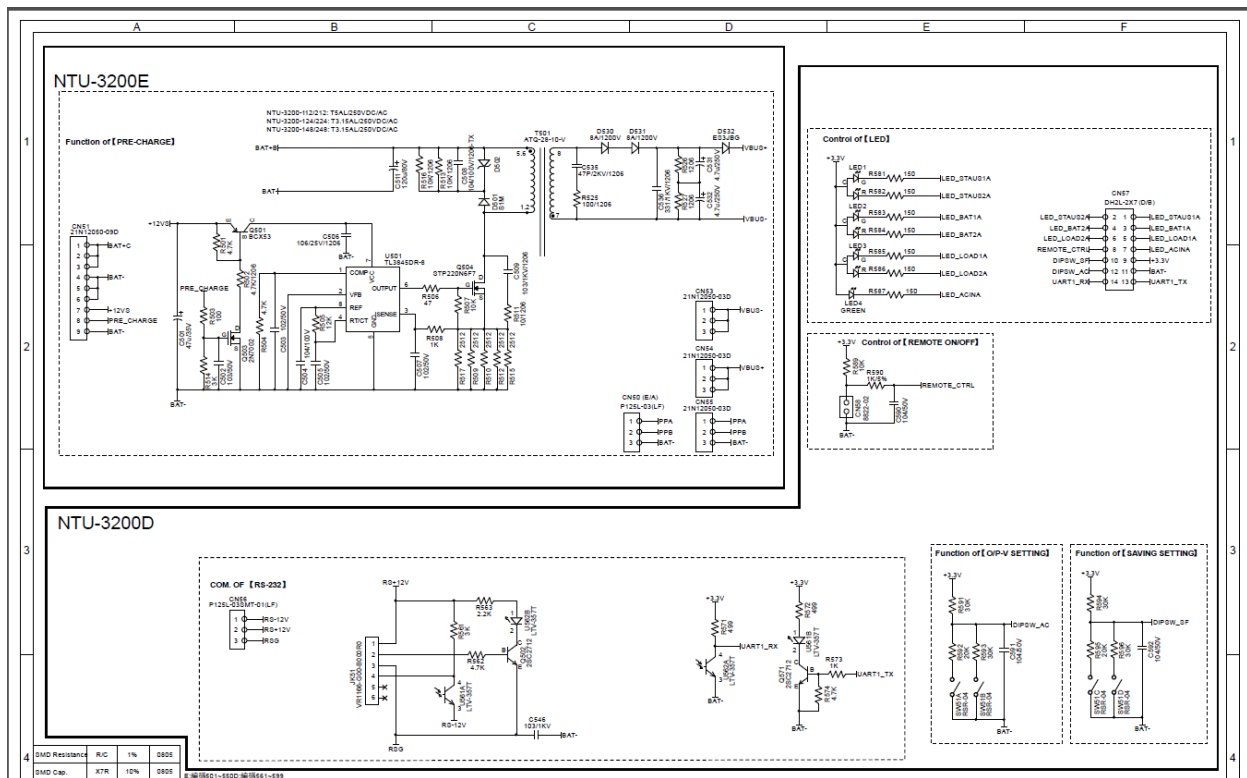
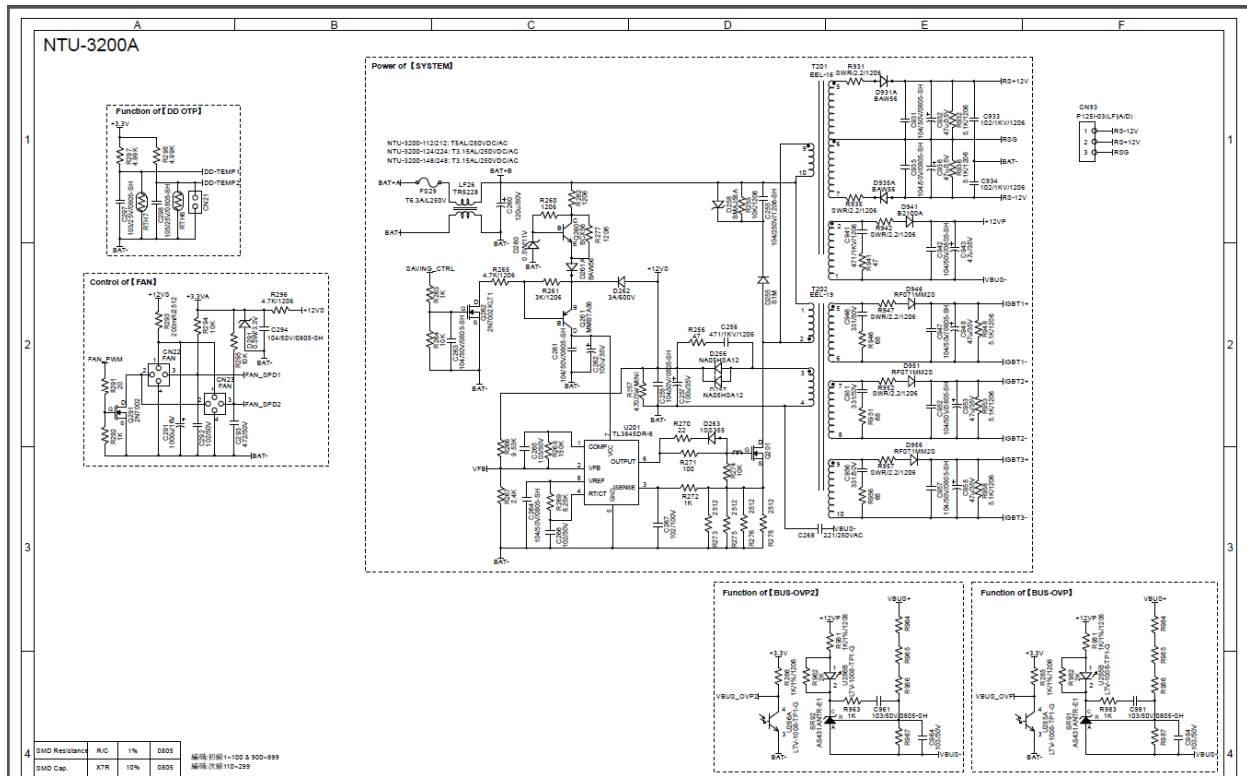




Type: NTU-2200/3200-212

MEAN WELL Enterprises Co., Ltd.

Date: 01.03.2022  
Ext.: 00





Type: NTU-2200/3200-212

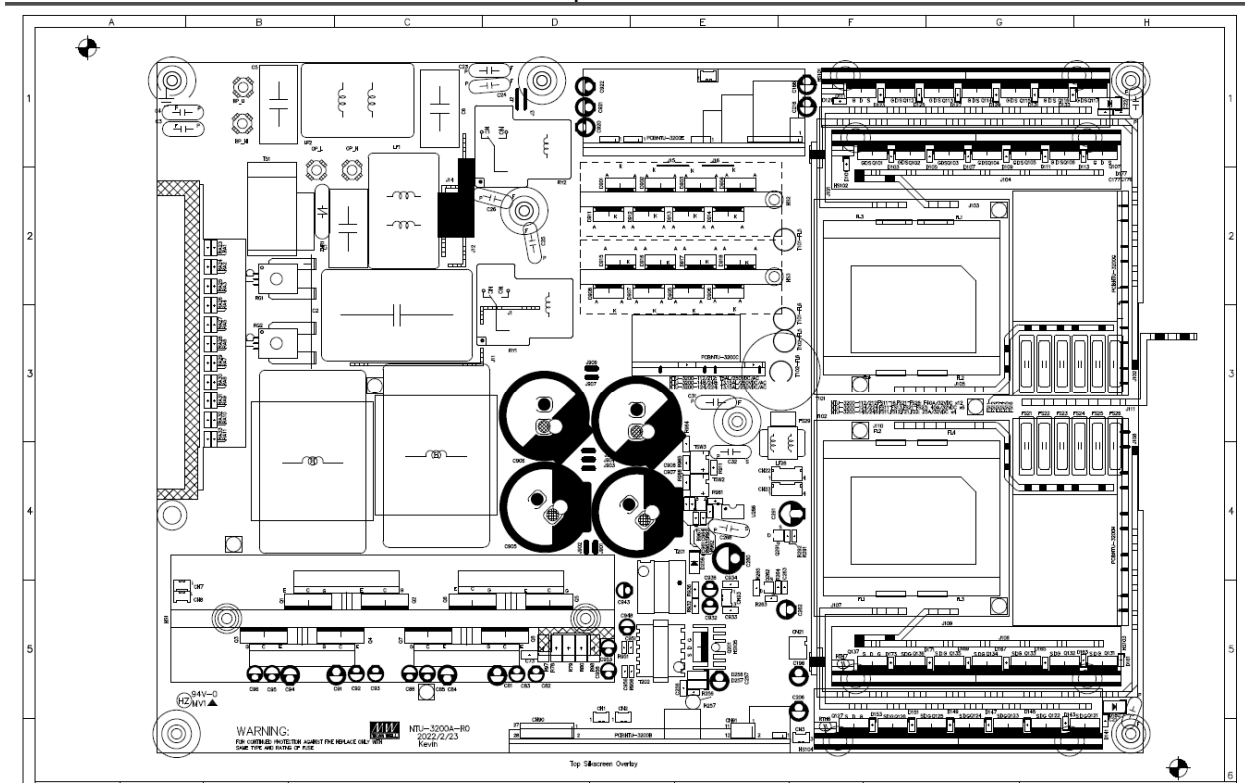
MEAN WELL Enterprises Co., Ltd.

Date: 01.03.2022  
Ext.: 00

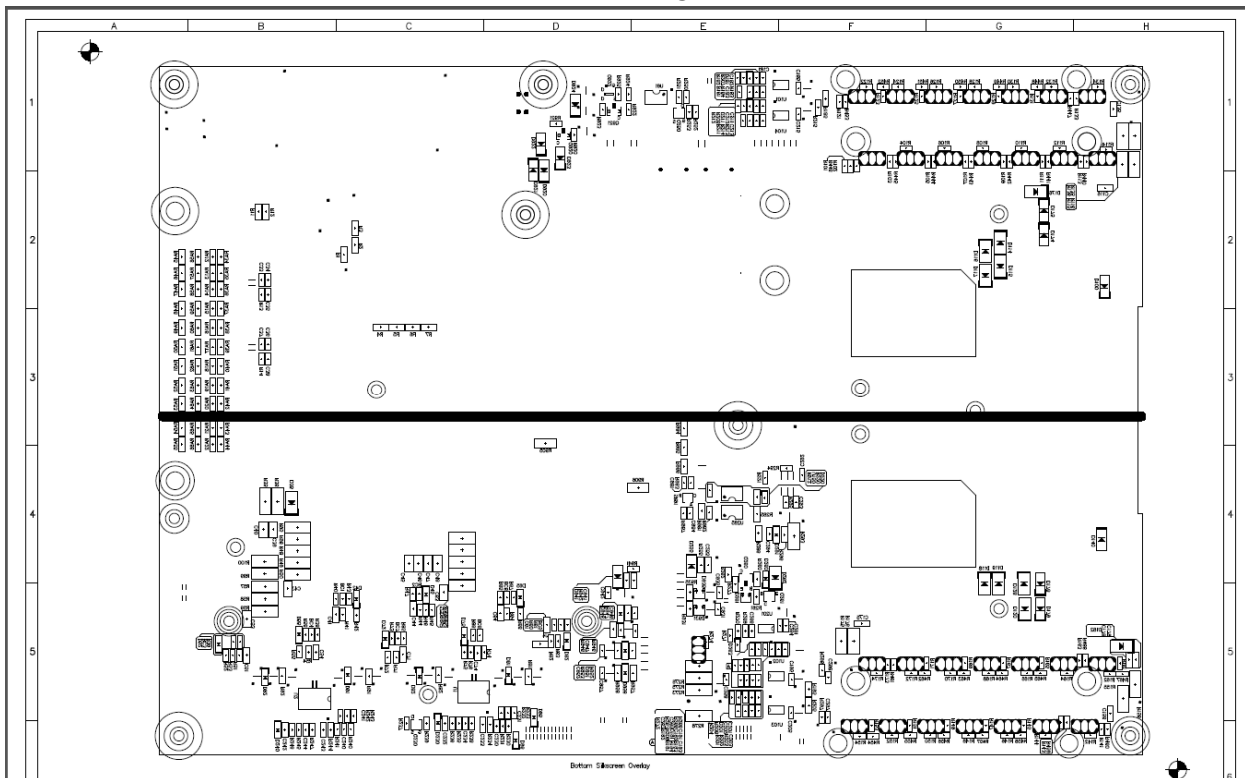
**PCB**

The ESA is composed by 6 pieces of PCBs.

Top of PCB 1



Bottom of PCB 1



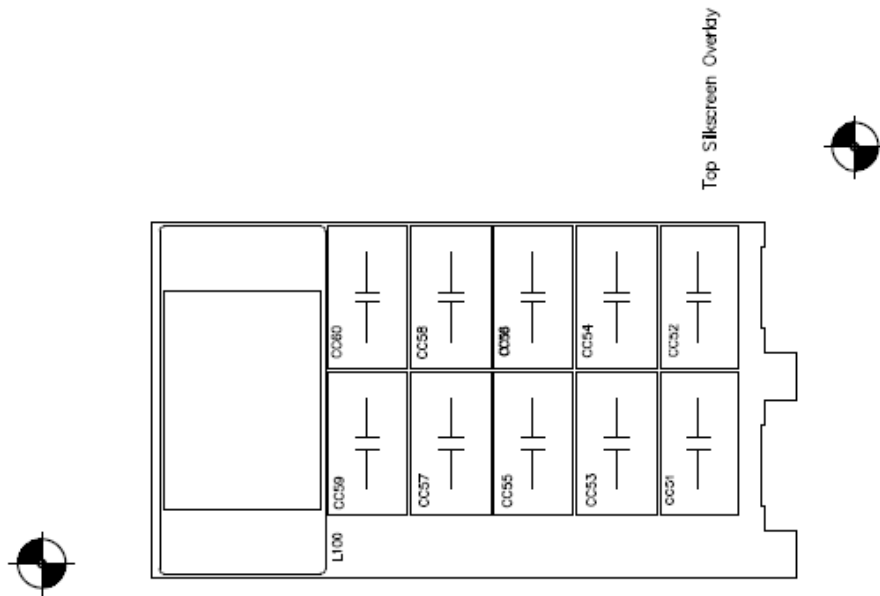


Type: NTU-2200/3200-212

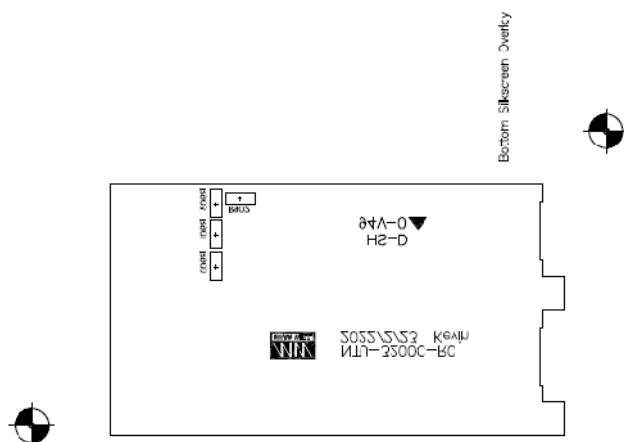
MEAN WELL Enterprises Co., Ltd.

Date: 01.03.2022  
Ext.: 00

Top of PCB 3



Bottom of PCB 3



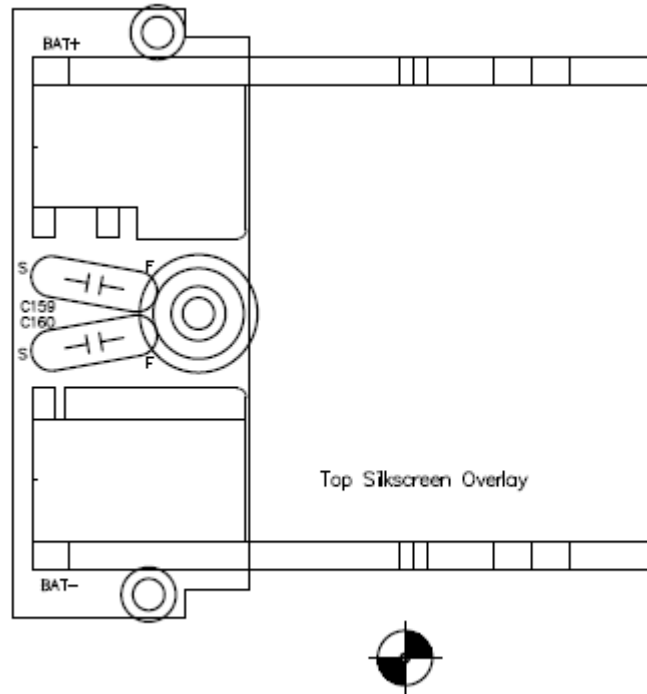


Type: NTU-2200/3200-212

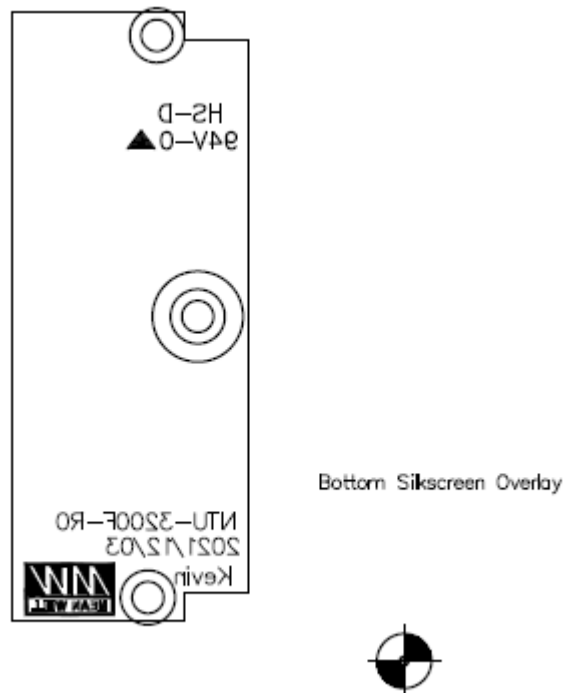
MEAN WELL Enterprises Co., Ltd.

Date: 01.03.2022  
Ext.: 00

Top of PCB 5



Bottom of PCB 5

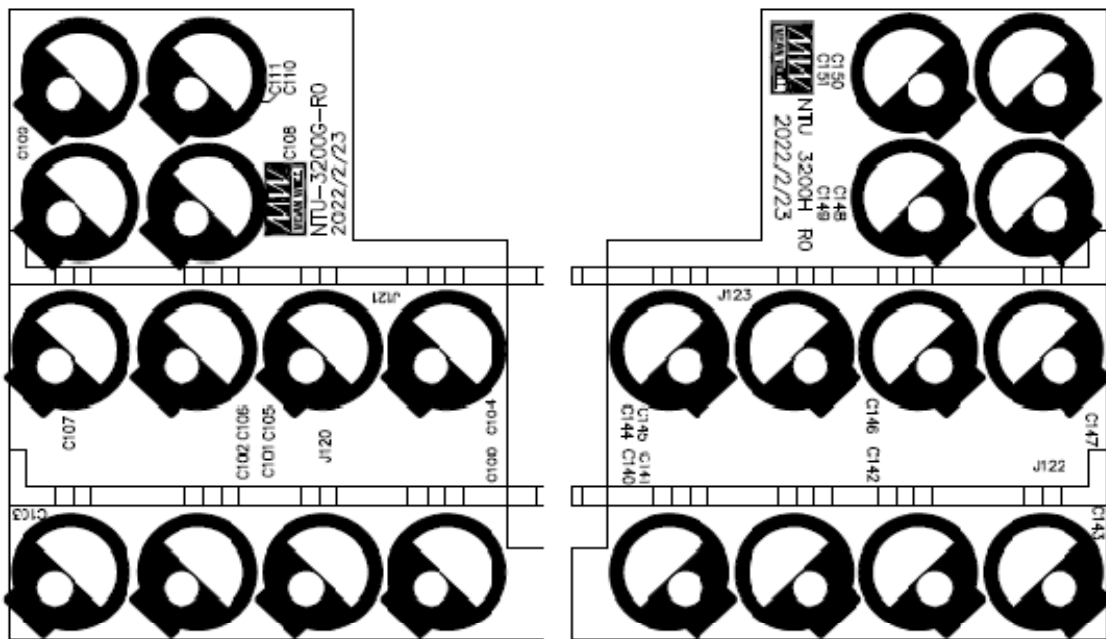


Type: NTU-2200/3200-212

MEAN WELL Enterprises Co., Ltd.

Date: 01.03.2022  
Ext.: 00

Top of PCB 6



Top Silkscreen Overlay



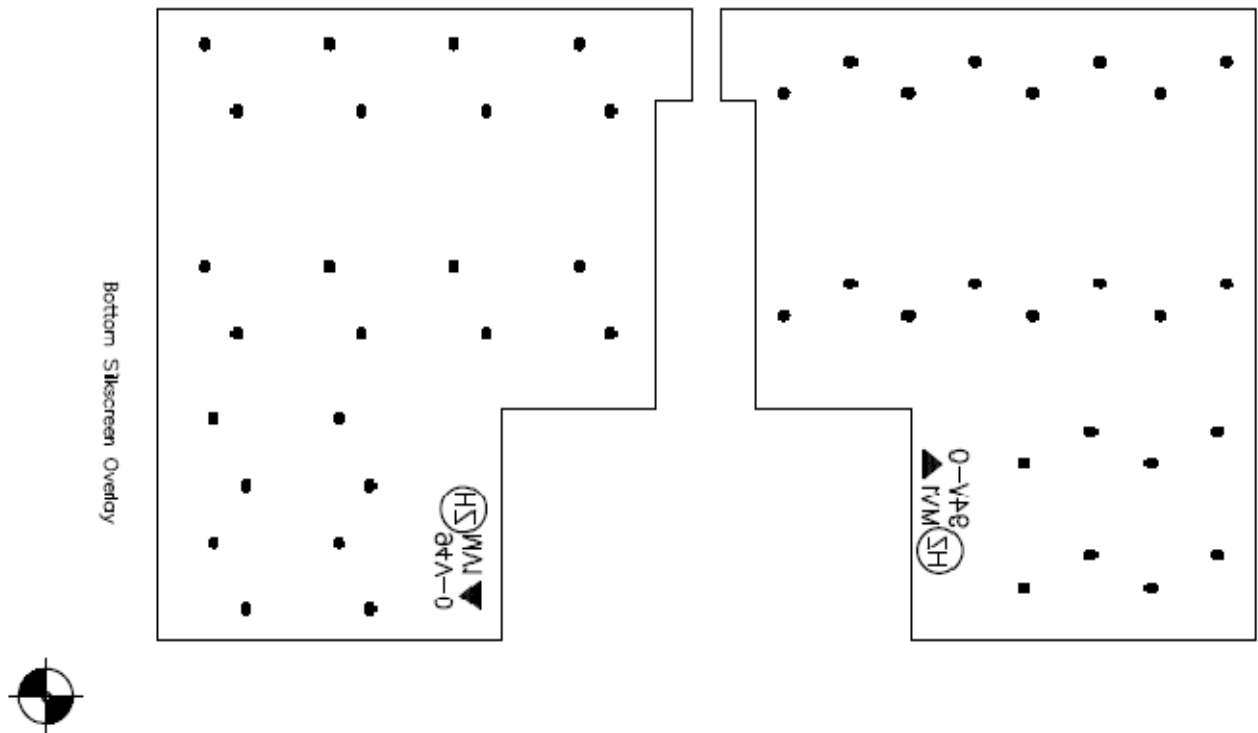


Type: NTU-2200/3200-212

MEAN WELL Enterprises Co., Ltd.

Date: 01.03.2022  
Ext.: 00

Bottom of PCB 6



Type: NTU-2200/3200-212

**MEAN WELL Enterprises Co., Ltd.**

Date: 01.03.2022

Ext.: 00

## LIST OF MAIN COMPONENTS CONSTITUTING THE ESA

Qty.	Designation	Part reference	Vendor	Technical data
1	TF5769	T101	CMX	EE-65
1	TF5770	T101	CMX	EE-65
1	TF5771	T101	CMX	EE-65
1	TF5769A	T102	CMX	EE-65
1	TF5770A	T102	CMX	EE-65
1	TF5771A	T102	CMX	EE-65
1	TF3008	T201	CPE	EEL-16
1	TF3009	T201	CPE	EEL-16
1	TF3010	T201	CPE	EEL-16
1	TF3011	T202	CPE	EEL-19
1	TF3012	T202	CPE	EEL-19
1	TF3013	T202	CPE	EEL-19
1	TF5772	T501	KEE	ATQ-28
1	TF5773	T501	KEE	ATQ-28
1	TF5774	T501	KEE	ATQ-28
1	TR5232	L11	KEE	CK508060 380u
1	TR5231A	L10	KEE	CK508060 380u
8	IKW30N65ES5	Q1-Q8	INFINEON	30A/650V TO247
8	IKW50N65ES5	Q1-Q8	INFINEON	50A/650V TO247
28	IRFB7534PBF	Q101-Q107 Q111-Q117 Q121-Q127 Q131-Q137	INFINEON	FET IRFB7534PBF 195A/60V TO220
28	IPP030N10N5	Q101-Q107 Q111-Q117 Q121-Q127 Q131-Q137	INFINEON	FET IPP030N10N5 120A/100V TO220
28	IRFB4227PbF	Q101-Q107 Q111-Q117 Q121-Q127 Q131-Q137	INFINEON	FET IRFB4227PbF 65A/200V TO220
16	HERF1608G	D901-D908 D911-D918	TSC	SFRD 16A/1000V TO-220F
2	UCC21520DWR	U1/U2	TI	MSD2 DRIVER IC UCC21520DWR SOIC-16
4	UCC27424DRG4	U101-U104	TI	DRIVER IC UCC27424DRG4 SOIC-8
1	STM32F334R8T7TR	U301	ST	MSD MCU STM32F334R8T7TR LQFP64 MSD MCU STM32F334R8T7TR LQFP64
1	UC3845	U201	ONSEMI	PWM UC3845 SOIC-8
1	TL3845DR-8	U501	TI	PWM TL3845DR-8 TI SO-8
2	7832HA-1C-F	RY1/RY2	SONG CHUAN	12V 40A/240VAC 70°C 29*24.1*17.3 C