

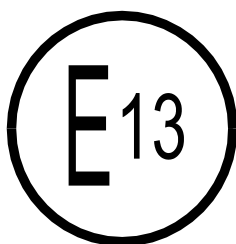


**Référence:** E13\*10R05/01\*13377\*01

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

Luxembourg, le 20 novembre 2019

**Communication concernant:**<sup>(2)</sup>  
Communication concerning:



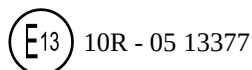
**- la délivrance d'une homologation**  
approval granted  
**- l'extension d'homologation**  
approval extended  
**- le refus d'homologation**  
approval refused  
**- le retrait d'homologation**  
approval withdrawn  
**- l'arrêt définitif de la production**  
production definitely discontinued

**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\*10R05/01\*13377\*01

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



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

Make (trade name of manufacturer):

planTEc

**2. Type:**  
Type:

planTEc-GPS-Glonass-Galileo high gain

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

Not applicable

**Variante(s):**  
Variant(s):

Not applicable

|             |                                                                                                                                                                                                                                                  |                                                                                         |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| <b>3.</b>   | <b>Moyens d'identification du type, s'ils sont marqués sur le véhicule / composant / entité technique<sup>(2)</sup>:</b><br>Means of identification of type, if marked on the vehicle / component / separate technical unit:                     | Refer to item 6.                                                                        |
| <b>3.1.</b> | <b>Emplacement de ce marquage:</b><br>Location of that marking:                                                                                                                                                                                  | Refer to item 6.                                                                        |
| <b>4.</b>   | <b>Catégorie du véhicule:</b><br>Category of vehicle:                                                                                                                                                                                            | Not applicable                                                                          |
| <b>5.</b>   | <b>Nom et adresse du constructeur:</b><br>Name and address of manufacturer:                                                                                                                                                                      | REEL Reinheimer Elektronik GmbH<br><u>Schmalheck 18</u><br><u>D – 35625 Hüttenberg</u>  |
| <b>6.</b>   | <b>Dans le cas de composants ou d'entités techniques, emplacement et procédé de fixation de la marque de réception CEE:</b><br>In the case of components and separate technical units, location and method of affixing of the ECE approval mark: | Sticker fixed on upper side power line                                                  |
| <b>7.</b>   | <b>Adresse(s) de l' (des) usine(s) d'assemblage:</b><br>Address(es) of assembly plant(s):                                                                                                                                                        | REEL Reinheimer Elektronik GmbH<br><u>Schmalheck 18</u><br><u>D – 35625 Hüttenberg</u>  |
| <b>8.</b>   | <b>Informations supplémentaires (s'il y a lieu):</b><br>Additional informations (where applicable):                                                                                                                                              | See appendix below                                                                      |
| <b>9.</b>   | <b>Autorité déléguée:</b><br>Assigned authority:                                                                                                                                                                                                 | <i>Société Nationale de Certification et d'Homologation</i><br><i>L-5201 Sandweiler</i> |
|             | <b>Service technique responsable de l'exécution des essais:</b><br>Technical service responsible for carrying out the tests:                                                                                                                     | Luxcontrol S.A.<br>BP 349<br>L-4004 Esch-sur-Alzette                                    |
| <b>10.</b>  | <b>Date du rapport d'essai:</b><br>Date of test report:                                                                                                                                                                                          | 12.11.2019                                                                              |
| <b>11.</b>  | <b>Numéro du rapport d'essai:</b><br>Number of test report:                                                                                                                                                                                      | LCA 54 0400 001 19                                                                      |
| <b>12.</b>  | <b>Remarques (s'il y a lieu):</b><br>Remarks (if any):                                                                                                                                                                                           | See appendix below                                                                      |

13. **Lieu:** Luxembourg  
Place:

14. **Date:** 20 novembre 2019  
Date:

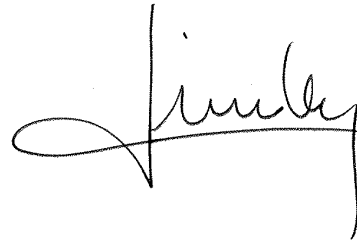
15. **Signature:**  
Signature:

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



**Alain DISIVISCOUR**  
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:**  
Reason(s) for extension:

Refer to Annex A of Technical Report

<sup>2</sup> **Biffer la mention inutile**  
Strike out what does not apply

## Appendice

Appendix

**au certificat d'homologation par type N° E13\*10R05/01\*13377\*01**

to type-approval certificate N° E13\*10R05/01\*13377\*01

**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]:                                                                                                                                                                                                                                                                                   | 3 to 5V d.c. (supplied over transmission cable) |
|               | <b>Masse:</b><br>Ground:                                                                                                                                                                                                                                                                                                                                                     | Negative / <del>Positive</del> <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:                                                                                                                                                                                           | Not applicable                                  |
| <b>1.2.1.</b> | <b>Conditions d'installation, s'il y a lieu:</b><br>Installation conditions, if any:                                                                                                                                                                                                                                                                                         | Not applicable                                  |
| <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). | Not applicable                                  |
| <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\*10R05/01\*13377\*01

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

Luxembourg, le 20 novembre 2019

## Index du dossier d'homologation

Index to type-approval report

|                                                                                                     |                                       |
|-----------------------------------------------------------------------------------------------------|---------------------------------------|
| <b>Numéro d'homologation:</b><br>Approval number:                                                   | E13*10R05/01*13377*01                 |
| <b>Révision:</b><br>Revision:                                                                       | 00                                    |
| <b>Marque de fabrique ou de commerce:</b><br>Trade name or mark:                                    | planTEc                               |
| <b>Type:</b><br>Type:                                                                               | planTEc-GPS-Glonass-Galileo high gain |
| <b>1. Procès-verbal d'essai:</b><br>Test report:                                                    | N° LCA 54 0400 001 19                 |
| - Technical report:                                                                                 | Page 1 to 6                           |
| - Index:                                                                                            | Annex A – Page 1                      |
| <b>2. Dossier du constructeur:</b><br>Report of the manufacturer:                                   | Annex B                               |
| - Manufacturer's information document:                                                              | Page <u>1 to 6</u>                    |
| <b>3. Autres documents annexés:</b><br>Other documents annexed:                                     | Not applicable                        |
| <b>4. Date de délivrance de l'homologation initiale:</b><br>Date of issue of initial type approval: | 02.09.2014                            |
| <b>5. Date de la dernière délivrance de pages révisées:</b><br>Date of last issue of revised pages: | Not applicable                        |
| <b>6. Date de la dernière délivrance d'une homologation révisée:</b><br>Date of last extension:     | 20.11.2019                            |

## TECHNICAL REPORT

**No.: LCA 54 0400 001 19**

Inspection concerning the

### **Radio Interference (Electromagnetic Compatibility of vehicles)**

performed according to

**ECE – Regulation No. 10**

Type: **planTEc-GPS-Glonass-Galileo high gain**  
Manufacturer: **REEL Reinheimer Elektronik GmbH**  
**Schmalheck 18**  
**D – 35625 Hüttenberg**

**Extension 01 to ECE Type Approval no.: E13\*10R00\*10R05\*13377\*00**

#### **Index:**

|                                  |      |   |
|----------------------------------|------|---|
| 1. General                       | Page | 2 |
| 2. Inspections and their results | Page | 4 |
| 3. Evaluation of test results    | Page | 5 |
| 4. Statement of compliance       | Page | 6 |
| Annex (beginning with an index)  |      |   |

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...



**1. General**

**1.1. Test Provisions**

The inspection was carried out according to the requirements of ECE-Regulation No. 10 including Supplement 1 to the 05 series of amendments, which entered into force on 8.10.2016.

**1.2. Information concerning the electronic component and the requested approval**

The statements below apply to the previous ECE type-approval as referred to on page 1.

**1.2.1. [ ] Numbering according to the communication concerning the approval of ECE-R10**

[1.] Make (trade name of manufacturer):

**planTEc**

[2.] Type and general commercial description(s):

**Type: planTEc-GPS-Glonass-Galileo high gain**

**Version: --**

**Variants: --**

[3.] Means of identification of type, if marked on the ~~vehicle~~ / component / ~~separate technical unit~~

**See item [6.]**

[3.1.] Location of that marking:

**See item [6.]**

[4.] Category of vehicle:

**Not applicable**

[5.] Name and address of manufacturer:

**REEL Reinheimer Elektronik GmbH**

**Schmalheck 18**

**D – 35625 Hüttenberg**

[6.] In the case of components and separate technical units, location and method of affixing of the ECE type-approval mark:

**Sticker fixed on upper side power line**



[7.] Address(es) of assembly plant(s):

**REEL Reinheimer Elektronik GmbH  
Schmalheck 18  
D – 35625 Hüttenberg**

[17.] Reasons for extension:

**not applicable**

1.2.2. [ ] Numbering according to the communication concerning the approval of ECE-R10, Appendix to Annex 3B

[1.] Additional information:

[1.1.] Electrical system rated voltage:

**3 - 5 V d.c., negative earth (supplied over transmission cable)**

[1.2.] This ESA can only be used on any vehicle type with the following restrictions:

[1.2.1.] Installation conditions, if any:

**not applicable**

[1.3.] This ESA can only be used on the following vehicle types:

[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:

**not applicable**

[1.5.] Laboratory accredited to ISO 17025 and recognised by the approval authority responsible for carrying out the tests:

**not applicable**

[2.] Remarks:

**not applicable**





## 2. Inspections and their results

### 2.1. Version of the tested equipment

The following variants have been used for testing (if not stated in part 1.2.1. of this report):

- not applicable

### 2.2. Inspection items

|                    | Inspector             | Location of test:                                                                                                                                    | Date of receipt of test item: | Date of test:                      |
|--------------------|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|------------------------------------|
| <b>Main rep.</b>   | <b>M. Moscardelli</b> | <b>m. dudde<br/>hochfrequenz-<br/>technik<br/>Rottland 5<br/>D – 51429 Bergisch<br/>Gladbach</b>                                                     | <b>25.7.2012</b>              | <b>25.7.2012</b>                   |
| <b>Extension 1</b> | <b>G. Lippert</b>     | <b>TÜV Nord<br/>Hochfrequentechnik<br/>GmbH &amp; Co. KG<br/>D – 51429 Bergisch<br/>Gladbach<br/><br/>TestHaus Dr.<br/>Schreiber GmbH<br/>Siegen</b> | <b>17.05.2018</b>             | <b>25.07.2018 –<br/>26.07.2018</b> |

#### 2.2.1. Test results

##### 2.2.1.1. Broadband electromagnetic radiation:

Results of the measurement are in accordance with Annex 7 of ECE-R10:

Test facility : **outdoor / ~~indoor~~**  
Signal strength measured over the frequency range 30 to 1000 MHz : **requirements fulfilled**

##### 2.2.1.2. Narrowband electromagnetic radiation:

Results of the measurement are in accordance with Annex 8 of ECE-R10:

Test facility : **outdoor / ~~indoor~~**  
Signal strength measured over the frequency range 30 to 1000 MHz : **requirements fulfilled**

##### 2.2.1.3. Immunity of ESA to electromagnetic radiation

**This ESA has no 'immunity related functions' and is exempted as set out in item 6.10.3. of the Regulation.**



2.2.1.4. Immunity to transient disturbances conducted along supply lines:  
**not applicable, the ESA is not connected to the power supply of the vehicle.**

2.2.1.5. Emission of conducted disturbances:  
**not applicable, the ESA is not switched, does not contain switches or does not include inductive loads.**

**2.3. Remarks**

Inspection results are only applicable to items, which have been tested.

**2.4. Test facilities**

Calibration of measuring and test equipment used to carry out the inspections is in accordance with the ECE-Regulation stated in 1.1. of this report and with ISO 17025.

Inspectors stated under 2.2. of this report were in charge of performing and/or evaluating the tests.

**3. Evaluation of test results**

**3.1. Variants and equipment covered**

The tests carried out cover the following variations as far as these are relevant for the electromagnetic compatibility:

- not applicable

**3.2. Remarks**

**3.2.1. General**

Not applicable

**3.2.2. Extension 01:**

New test done to cover changes stated in Annex A (index).



4. **Statement of compliance**

The inspections items and measurements carried out have shown the compliance of the vehicle type described in this report and the attached Annex with the requirements of ECE-Regulation No. 10 including Supplement 1 to the 05 series of amendments, which entered into force on 8.10.2016.

Esch/Alzette, 12 November 2019

Luxcontrol s.a.  
Service Homologation-automobile

Max Flammang  
**Ingénieur-Inspecteur**

David Durazzi  
**Ingénieur-Inspecteur**

**Annex**



Index to the information package, including a summary in chronological order, concerning extensions and/or amendments

**ECE type-approval No.: E13\*10R00\*10R05\*13377\*00**

---

### **Main Report**

Technical Report No.: LCA 54 0400 001 14 Pages 1 to 6

Composition of the Annex:

A: Index Page 1

B: Information folder Pages 1 to 32

### **Index to the information folder:**

- manufacturer's information document (pages 1)
  - description and drawings of the component (pages 2 to 32)
- 

### **Main Report**

Technical Report No.: LCA 54 0400 001 19 Pages 1 to 6

Composition of the Annex:

A: Index Page 1

B: Information folder

    To be deleted Pages 1 to 32

    To be added Pages 1 to 6

### **Contents of extension:**

To be changed:

- Address of manufacturer
- Editorial arrangements

To be updated:

- Update to series 5 of Regulation 10

### **Index to the information folder:**

- manufacturer's information document (pages 1)
  - description and drawings of the component (pages 2 to 5)
-

## Annex 2B

# INFORMATION DOCUMENT FOR TYPE APPROVAL OF AN ELECTRIC/ELECTRONIC SUB-ASSEMBLY WITH RESPECT TO ELECTROMAGNETIC COMPATIBILITY

The following information, if applicable, shall be supplied in triplicate and must include a list of contents. Any drawings shall be supplied in appropriate scale and in sufficient detail on size A4 or on a folder of A4 format. Photographs, if any, shall show sufficient detail.

If the systems, components or separate technical units have electronic controls, information concerning their performance shall be supplied.

1. Make (trade name of manufacturer): **planTEc**.....

2. Type: **..planTEc-GPS-GLONASS-Galileo high gain**

3. Means of identification of type, if marked on the component/separate technical unit: 1/

3.1. Location of that marking: **..on the antenna cable**.....

4. Name and address of manufacturer: **REEL Reinheimer Elektronik GmbH, Schmalheck 18, D-35625 Hüttenberg**.....

Name and address of authorized representative, if any: .....

5. In the case of components and separate technical units, location and method of affixing of the approval mark: .....

6. Address(es) of assembly plant(s): **...Schmalheck 18, D-35625 Hüttenberg**.....

7. This ESA shall be approved as a component/STU 2/

8. Any restrictions of use and conditions for fitting: .....

9. Electrical system rated voltage: **+3V to +5**..... V, positive/negative 2/ ground.

Appendix 1:

Description of the ESA chosen to represent the type (electronic block diagram and list of main component constituting the ESA (e.g. make and type of microprocessor, crystal, etc.).

Appendix 2:

Relevant test report(s) supplied by the manufacturer from a test laboratory accredited to ISO 17025 and recognized by the Approval Authority for the purpose of drawing up the type approval certificate. Only applicable for charging systems:

10. Charger: on board/external 2/ **not applicable**

11. Charging current: direct current/alternating current (number of phases/frequency) 2/ **not applicable**

12. Maximal nominal current (in each mode if necessary) **not applicable**

13. Nominal charging voltage **not applicable**

14. Basic ESA interface functions: ex. L1/L2/L3/N/PE/control pilot **not applicable**

15. Minimum  $R_{scc}$  value (see paragraph 7.11. of this Regulation) **not applicable**





Baugruppe: **85/12062**  
 Druck-Datum: 08.05.2018  
 Druck-Benutzer: ROMMELEY  
 Änderungs-Nr.: 3  
 Änder.-Datum: 05.10.2015



GPS Antenne GLON "High Gain" PLA003 GA

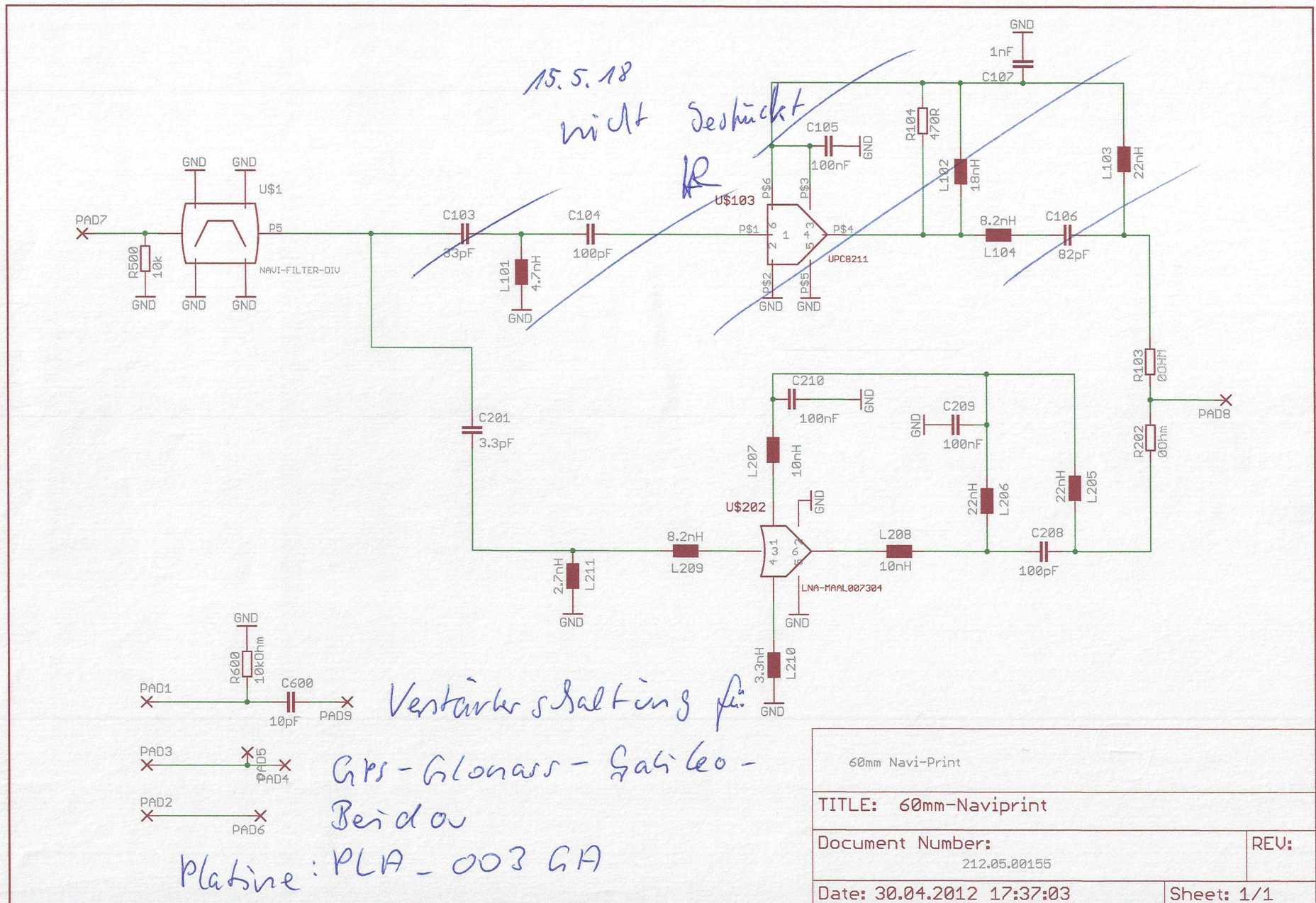
**Stückliste**

Brückmann Elektronik GmbH

Kunde: **REEL**  
 Kunden-Nr.: PLA003\_GA  
 Versions-Nr.:  
 Versions.-Datum:  
 Ansp.-Partner: Herr Reinheime  
 Besonderheiten: keine  
 keine

| Teile-Nr.: | Position: | Bezeichnung:                                                                                                                                                                                                                               | Anzahl je Position | beige-stellt |
|------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------|
| 10/04907   | A001      | !!! TEXT !!! Leerplatine GPS Antenne GLON , D=60 mm Tol: +0/-0,20mm, doppels. dk, eins. Lötst.-lack, 6-fach-Nutzen; Oberfl.: chem. Zinn, ACHTUNG: ### 6 fach Nutzen ### mit Passermarken auf Rand 5 mm Abstand der Passer zur Aussenkontur | 1,00 Stück         | -            |
| 05/03431   | C201      | Keramik-Viensch.-Chip-Kond. 3,3 pF/50 V, Bf. 0603, Keramik: COG, Tol.: +/-0,1 pF, z.B. Murata: GRM 39 COG 3 R 3 B 50                                                                                                                       | 1,00 Stück         | -            |
| 05/00850   | C208      | !!! TEXT !!! Keramik-Viensch.-Chip-Kond. 100 pF/50 V, 5%., Bf. 0603, COG                                                                                                                                                                   | 1,00 Stück         | -            |
| 05/01719   | C209      | Keramik-Viensch.-Chip-Kond. 100 nF/50 V/ X 7 R, Bf. 0603, 10 % Tol. z.B. TDK C 1608 X 7 R 1 H 104 KT                                                                                                                                       | 1,00 Stück         | -            |
| 05/01719   | C210      | Keramik-Viensch.-Chip-Kond. 100 nF/50 V/ X 7 R, Bf. 0603, 10 % Tol. z.B. TDK C 1608 X 7 R 1 H 104 KT                                                                                                                                       | 1,00 Stück         | -            |
| 05/01132   | C600      | Keramik-Viensch.-Chip-Kond. 10 pF/50 V, Bf. 0603, +/- 5%, COG od. NPO, Kemet C 0603 C 221 J 5 RAC od. Samsung                                                                                                                              | 1,00 Stück         | -            |
| 35/04386   | F001      | !!!TEXT!!! SMD-GPS Patch Antenne PA 1575 MZ 50 J 4 G-17-SMD, Mittenfrequenz: 1593 MHz, 18,4 x18,4 mm; Glonas; Endrich Part No.: E05881NP00253 Beistellung REEL CER 006                                                                     | 1,00 Stück         | Ja           |
| 06/00979   | L205      | SMD Chip-Induktivität 22 nH, BF: 0603, NUR Typ: CIH 10 T 22 N JNC; Samsung oder HK 160822 NJ-T, Taiyo Yuden                                                                                                                                | 1,00 Stück         | -            |
| 06/00979   | L206      | SMD Chip-Induktivität 22 nH, BF: 0603, NUR Typ: CIH 10 T 22 N JNC; Samsung oder HK 160822 NJ-T, Taiyo Yuden                                                                                                                                | 1,00 Stück         | -            |
| 06/02066   | L207      | SMD-Chip-Induktivität 10 nH, BF 0603, 300 mA; Tol. 5 %; -40 bis + 85°C; NUR Typ: CIH 10 T 10 N JNC; Samsung oder HK 160810 NJ-T, Taiyo Yuden                                                                                               | 1,00 Stück         | -            |
| 06/02066   | L208      | SMD-Chip-Induktivität 10 nH, BF 0603, 300 mA; Tol. 5 %; -40 bis + 85°C; NUR Typ: CIH 10 T 10 N JNC; Samsung oder HK 160810 NJ-T, Taiyo Yuden                                                                                               | 1,00 Stück         | -            |
| 06/00980   | L209      | SMD Chip-Induktivität 8,2 nH, BF: 0603, NUR Typ: CIH 10 T 8 N 2 SNC; auch CIH 10 T 8 N2 JNC Samsung oder HK 16088 N 2 J-T, Taiyo Yuden                                                                                                     | 1,00 Stück         | -            |
| 06/02069   | L210      | SMD Chip-Induktivität 3,3 nH, BF: 0603, Tol. +/-0,3 nH; 200 mA; -40 bis +85 °C; NUR Typ: CIH 10 T 3 N 3 SNC Samsung oder HK 16083 N 3 S-T, Taiyo Yuden                                                                                     | 1,00 Stück         | -            |
| 06/02070   | L211      | SMD Chip-Induktivität 2,7 nH, BF: 0603, 300 mA; Tol. +/-0,3 nH; -40 bis +85 °C; NUR Typ: CIH 10 T 2 N 7 SNC Samsung oder HK 16082 N 7 S-T, Taiyo Yuden                                                                                     | 1,00 Stück         | -            |
| 09/01684   | R202      | SMD-Chip-Widerstand Bf.0603; 0 R                                                                                                                                                                                                           | 1,00 Stück         | -            |
| 09/01683   | R500      | SMD-Chip-Widerstand Bf. 0603; 10 K; TK 100; 1 %; 0,1 W                                                                                                                                                                                     | 1,00 Stück         | -            |
| 09/01683   | R600      | SMD-Chip-Widerstand Bf. 0603; 10 K; TK 100; 1 %; 0,1 W                                                                                                                                                                                     | 1,00 Stück         | -            |
| 35/03371   | U\$001    | SMD-SAW-Filter 1,59 GHz, SMD-5; 3 V; 10 dB; -55...+85°C; TAI-SAW TA 0638 A; FIL 002; Beistellung REEL                                                                                                                                      | 1,00 Stück         | Ja           |
| 35/03373   | U\$202    | SMD-IC, MAAL-007304 TR, SOT-26-Geh.; low Noise Amplifier, 0,5... 3,0 GHz; Tyco M/A-COM; Beistellung REEL VST 004                                                                                                                           | 1,00 Stück         | Ja           |









OK

**Stückliste**

Brückmann Elektronik GmbH



60 mm Naviprint-V 9 PLA 003\_GA\_Revers\_2

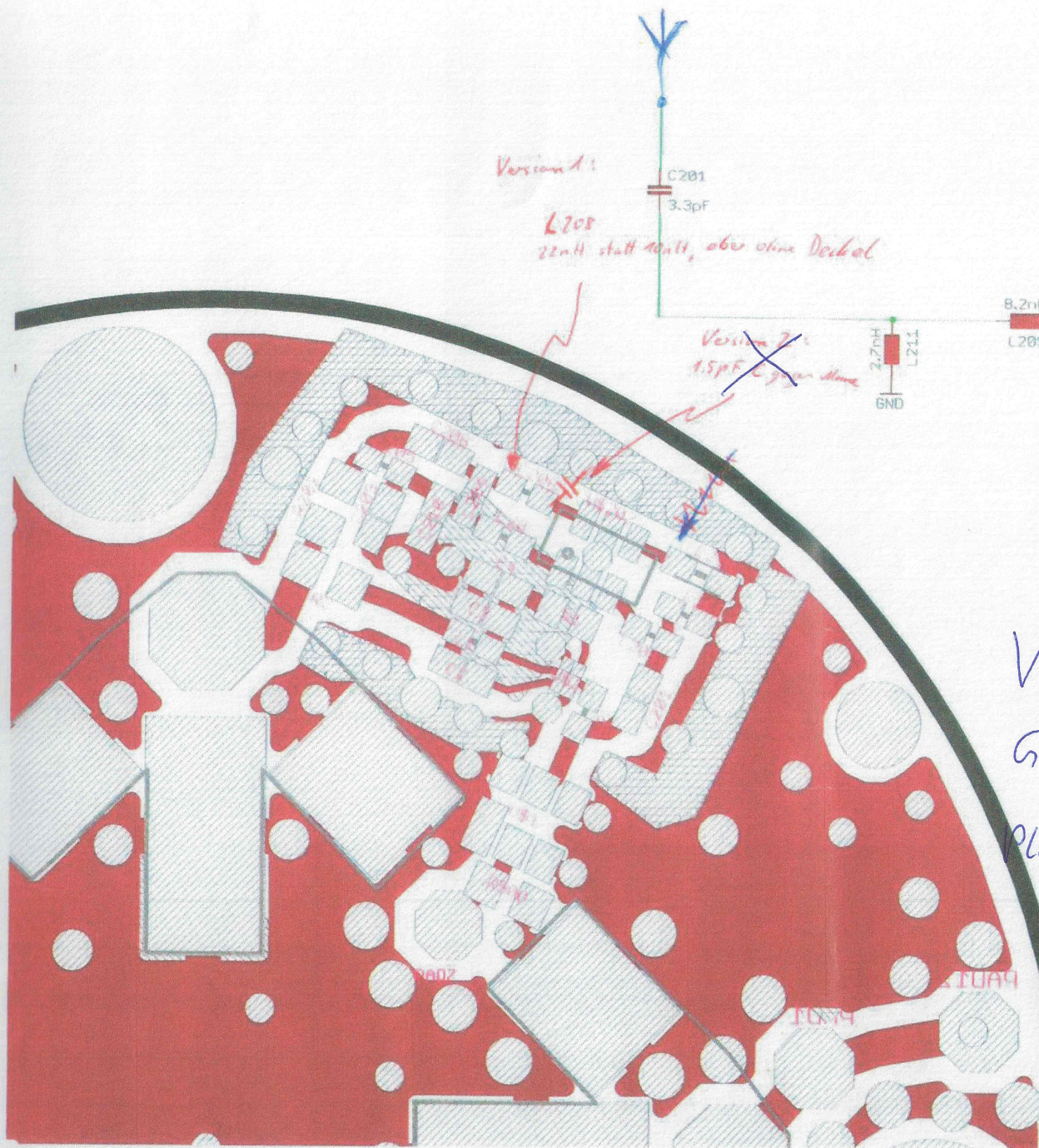
Baugruppe: **85/14186**  
 Druck-Datum: 08.05.2018  
 Druck-Benutzer: ROMMELEY  
 Änderungs-Nr.: 4  
 Änder.-Datum: 06.03.2018

Kunde: **REEL**  
 Kunden-Nr.: PLA003\_GA\_Revers  
 Versions-Nr.:  
 Versions.-Datum:  
 Ansp.-Partner: Herr Reinheime  
 Besonderheiten: keine  
 keine

| Teile-Nr.: | Position: | Bezeichnung:                                                                                                                                                                                | Anzahl je Position | beige-stellt |
|------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------|
| 10/07356   | A001      | Leerplatine Naviprint PLA 003; V 9; Durchmesser 60 mm; Dicke 0,8 mm; FR 4/Cu 35 µm; im 6-fach-Nutzen gefräst mit "Phoenix-Anbindung", 2-lagig, beids. Lötst.-lack, Chem. Sn, E-Test,        | 1,00 Stück         | -            |
| 05/02894   | C201      | Keramik-Viensch.-Chip-Kond. 3,3 pF / 50 V, Bf. 0402, COG/ NPO, +/-0,25 pF, z.B.: Kemet: C 0402 C 339 C 5 GACTU                                                                              | 1,00 Stück         | -            |
| 05/02599   | C208      | !!! TEXT !!! Keramik-Viensch.-Chip-Kond. 100 pF/50 V, Bf. 0402, +/-5% COG/ NPO Betriebstemp.-ber. -40 bis + 125°C z.B. Yageo CC 0402 JRNP 09 BN 1 01 oder Murata GRM 1555 C 1 H 101 JZ 01 D | 1,00 Stück         | -            |
| 05/02599   | C209      | !!! TEXT !!! Keramik-Viensch.-Chip-Kond. 100 pF/50 V, Bf. 0402, +/-5% COG/ NPO Betriebstemp.-ber. -40 bis + 125°C z.B. Yageo CC 0402 JRNP 09 BN 1 01 oder Murata GRM 1555 C 1 H 101 JZ 01 D | 1,00 Stück         | -            |
| 05/01942   | C210      | Keramik-Viensch.-Chip-Kond. 100 nF/16 V, Bf. 0402, 10% X 7 R, z.B.: Murata: GRM 155 R 71 C 104 KA 88 D                                                                                      | 1,00 Stück         | -            |
| 05/01838   | C600      | Keramik-Viensch.-Chip-Kond. 10 pF/50 V, Bf. 0603, Keramik: COG, Tol.: +/-5 %, n u r Murata: GRM 1885 C 1 H 100 J(R)A 01 D                                                                   | 1,00 Stück         | -            |
| 35/06281   | F001      | SMD-Schirmblech Rahmen, gemäß Zeichnung; Nickel Silber 0,2mm; Standard Surface Mount Shields, 17,5 x 9,5 mm, heigh 2,5 mm, Mekoprint 1023074 A; Beistellung REEL;                           | 1,00 Stück         | Ja           |
| 06/01390   | L205      | SMD Chip-Induktivität 22 nH, BF: 0402, +/- 5 % Typ: MLK 1005 S 22 NJ(T 000); TDK oder LQW 15 AN 22 NJ 00 D; muRata                                                                          | 1,00 Stück         | -            |
| 06/01390   | L206      | SMD Chip-Induktivität 22 nH, BF: 0402, +/- 5 % Typ: MLK 1005 S 22 NJ(T 000); TDK oder LQW 15 AN 22 NJ 00 D; muRata                                                                          | 1,00 Stück         | -            |
| 06/02105   | L207      | SMD Chip-Induktivität 10 nH, BF: 0402, Tol.: ± 5 %, 300 mA, n u r Murata LQG 15 HN 10 NJ 02 D                                                                                               | 1,00 Stück         | -            |
| 06/02998   | L208      | SMD-Chip-Induktivität 22 nH, Tol.: ± 5%, 300 mA, BF: 0402, nur Murata LQG 15 HN 22 NJ 02 D                                                                                                  | 1,00 Stück         | -            |
| 06/01391   | L209      | SMD Chip-Induktivität 8,2 nH, BF: 0402, +/- 0,5 nH; Typ: MLK 1005 S 8 N 2 D; TDK                                                                                                            | 1,00 Stück         | -            |
| 06/03028   | L210      | SMD-Chip-Induktivität 2,2 nH, Tol.: ± 3 nH; 300 mA, BF: 0402, nur Johanson L-07 C 2 N 2 SV 6 T                                                                                              | 1,00 Stück         | -            |
| 06/02963   | L211      | SMD Chip-Induktivität 2,7 nH, BF: 0402, +/- 0,3 nH; Typ: MLK 1005 S 2 N 7 S (T 000); TDK                                                                                                    | 1,00 Stück         | -            |
| 09/01684   | R202      | SMD-Chip-Widerstand Bf.0603; 0 R                                                                                                                                                            | 1,00 Stück         | -            |
| 09/01683   | R500      | SMD-Chip-Widerstand Bf. 0603; 10 K; TK 100; 1 %; 0,1 W                                                                                                                                      | 1,00 Stück         | -            |
| 09/01683   | R600      | SMD-Chip-Widerstand Bf. 0603; 10 K; TK 100; 1 %; 0,1 W                                                                                                                                      | 1,00 Stück         | -            |
| 35/03371   | U\$001    | SMD-SAW-Filter 1,59 GHz, SMD-5; 3 V; 10 dB; -55...+85°C; TAI-SAW TA 0638 A; FIL 002; Beistellung REEL                                                                                       | 1,00 Stück         | Ja           |
| 35/04386   | U\$007    | !!!TEXT!!! SMD-GPS Patch Antenne PA 1575 MZ 50 J 4 G-17-SMD, Mittenfrequenz: 1593 MHz, 18,4 x18,4 mm; Glonas; Endrich Part No.: E0588INP00253 Beistellung REEL CER 006                      | 1,00 Stück         | Ja           |
| 35/03373   | U\$202    | SMD-IC, MAAL-007304 TR, SOT-26-Geh.; low Noise Amplifier, 0,5... 3,0 GHz; Tyco M/A-COM; Beistellung REEL VST 004                                                                            | 1,00 Stück         | Ja           |



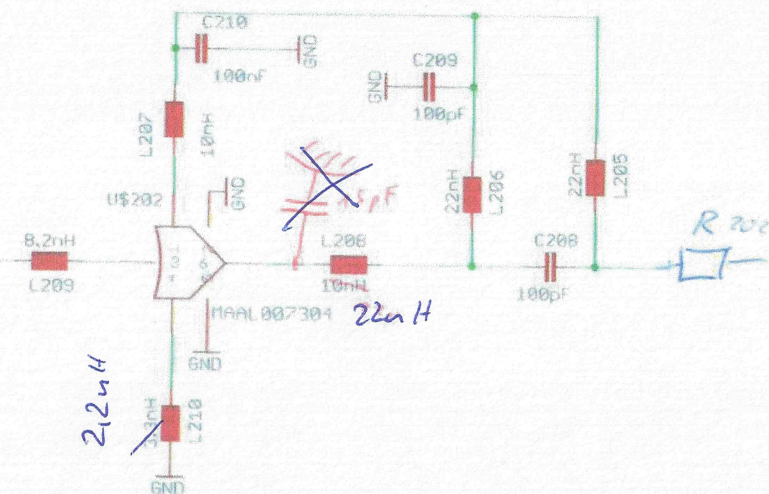
15.5.18



Version 1:

L208  
22nH statt 10nH, aber ohne Deckel

Version 2:  
~~1.5pF C-gitter ohne~~



Verstärkerschaltung für  
GPS - Glonass - Galileo - Beidou  
Platine PLA - 003 - GA - Revers - 2

- Verstärkerschaltung auf der Rückseite der Platine
- Isolation LTE/Nav > 30dB