

BSR75 (all models) RF Transceiver / Base Station Repeater

Internal Photographs

Code: D138x61PT
Version: 2.0
Date: 20/02/2018

PowerTrunk Inc. is the subsidiary of Teltronic S.A.U. responsible for business development, distribution and customer support for Teltronic's Land Mobile Radio products in North America. The company is headquartered in New Jersey. Teltronic S.A.U. distributes the same products for Land Mobile Radio under different trademarks and brand names in other regions of the world.

Disclaimer

Although every reasonable effort has been made to ensure the accuracy of the information contained herein and in any other referred document, this should not be construed as a commitment on the part of Teltronic S.A.U. and/or PowerTrunk Inc., and the liability of Teltronic S.A.U. and/or PowerTrunk Inc. for any errors and omissions shall be limited to the correction of such errors and omissions. Teltronic S.A.U. and/or PowerTrunk Inc. welcomes any comment as a way to improve any delivered documentation.

The information contained herein has been prepared for the use of appropriately trained personnel, and it is intended for the purpose of the agreement under which the information is submitted. Any party using or relying upon this information assumes full responsibility for such use and in no event shall Teltronic S.A.U. and/or PowerTrunk Inc. be liable to anyone for special, collateral, incidental, or consequential damages in connection with or arising out of the use of this information.

The information or statements given in these documents regarding the suitability, capacity or performance of the mentioned hardware or software products cannot be considered binding but shall be defined in the agreement made between Teltronic S.A.U. and/or PowerTrunk Inc. and the customer.

Teltronic S.A.U. and/or PowerTrunk Inc. reserves the right to revise these documents and to make changes to their content at any time without prior notification.

Copyright

No part of the information contained herein and in the other referred documents may be copied, distributed or transmitted by any means to any other party without prior written permission of Teltronic S.A.U. and/or PowerTrunk Inc. The distribution of this document may be also covered by NDA (non-disclosure agreement) between Teltronic S.A.U. and/or PowerTrunk Inc. and the receiver.

Please also note that part of these contents even may be covered by patent rights.

This document, the referred documents and the described product are considered protected by copyright according to the applicable laws.

PowerTrunk and the PowerTrunk logo are registered trademarks of Teltronic S.A.U.

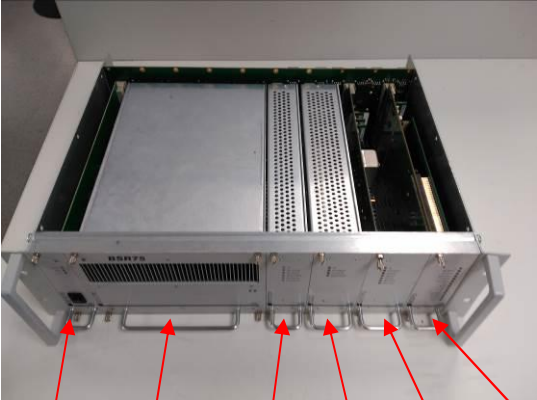
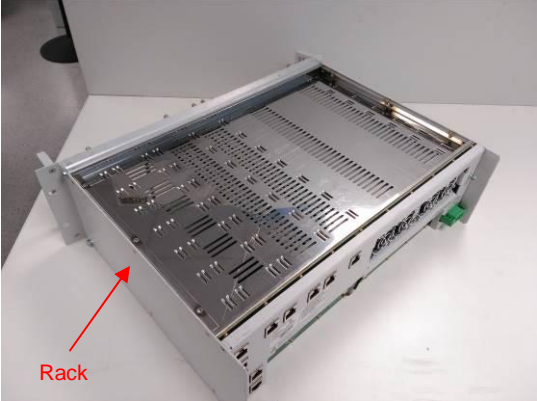
Copyright © PowerTrunk Inc. All rights reserved.

CONTENTS

1. INTERNAL STRUCTURE	4
2. BSR75 EXPLODING VIEW	5
3. BACKPLANE	6
3.1 UPPER SIDE OF THE BACKPLANE PCB.....	6
3.2 LOWER SIDE OF THE BACKPLANE PCB.....	6
4. RPS75 MODULE	7
4.1 FRONT SIDE VIEW	7
4.2 UPPER SIDE OF THE RPS75 PCB	7
4.3 LOWER SIDE OF THE RPS75 PCB	7
5. RPA75 MODULE	8
5.1 FRONT SIDE VIEW	8
5.2 UPPER SIDE OF THE RPA75 PCB	8
5.3 LOWER SIDE OF THE RPA75 PCB	9
6. RTX75 MODULE	10
6.1 FRONT SIDE VIEW	10
6.2 INTERNAL STRUCTURE	10
6.3 UPPER SIDE OF THE RTX75 PCB	11
6.4 LOWER SIDE OF THE RTX75 PCB	11
7. RRX MODULE	13
7.1 FRONT SIDE VIEW.....	13
7.2 UPPER SIDE OF THE RRX PCB.....	13
7.3 LOWER SIDE OF THE RRX PCB	14
8. BSYNC MODULE (OPTIONAL)	15
8.1 FRONT SIDE VIEW	15
8.2 UPPER SIDE OF THE BSYNC PCB	15
8.3 LOWER SIDE OF THE BSYNC PCB	16
9. RCPU MODULE	17
9.1 FRONT SIDE VIEW	17
9.2 UPPER SIDE OF THE MNI PCB.....	17
9.3 LOWER SIDE OF THE MNI PCB	17
9.4 UPPER SIDE OF THE RCPU PCB	18
9.5 LOWER SIDE OF THE RCPU PCB	18
9.6 UPPER SIDE OF THE ENCRYPTION PCB.....	19
9.7 LOWER SIDE OF THE ENCRYPTION PCB.....	19

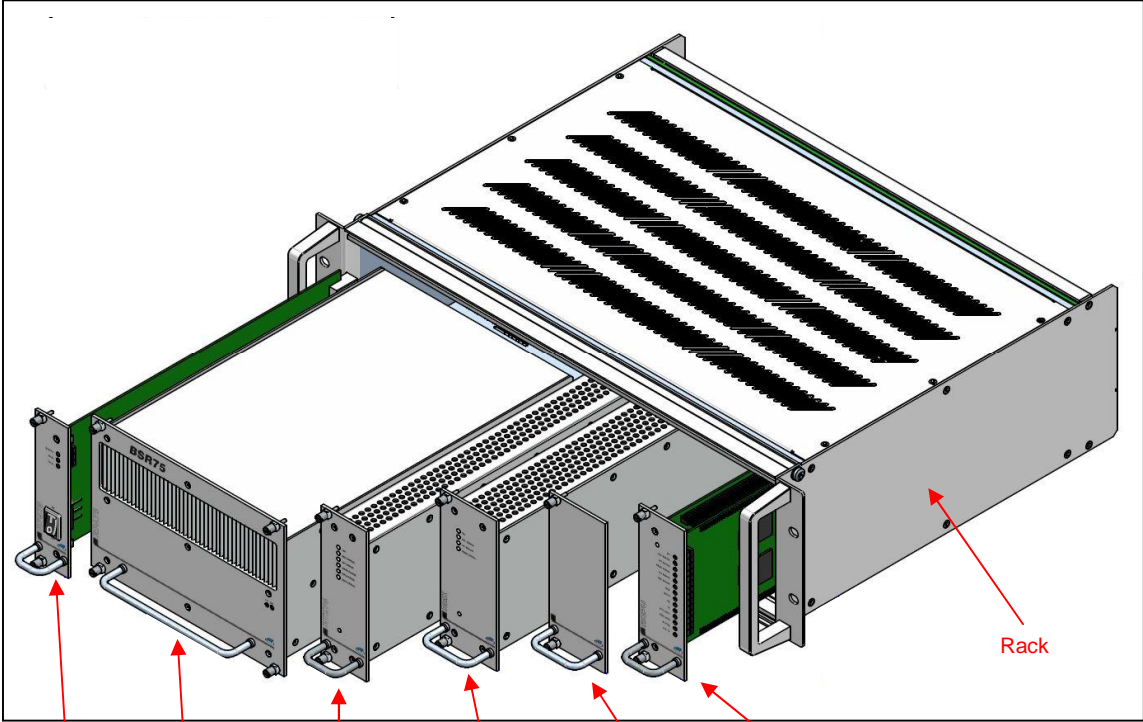
1. INTERNAL STRUCTURE

The internal structure of the BSR75 can be spotted by disassembling the respective upper and lower covers. The figures below show how the BSR75 modules are fitted inside, all of them being connected to a backplane and assembled to the front side of the rack.



- RPS75 module
- RPA75 module
- RTX75 module
- BSYN or RRX2 Module (optional)
- RRX module
- RCPU module
- Backplane

2. BSR75 EXPLODING VIEW



RPS75 module

RPA75 module

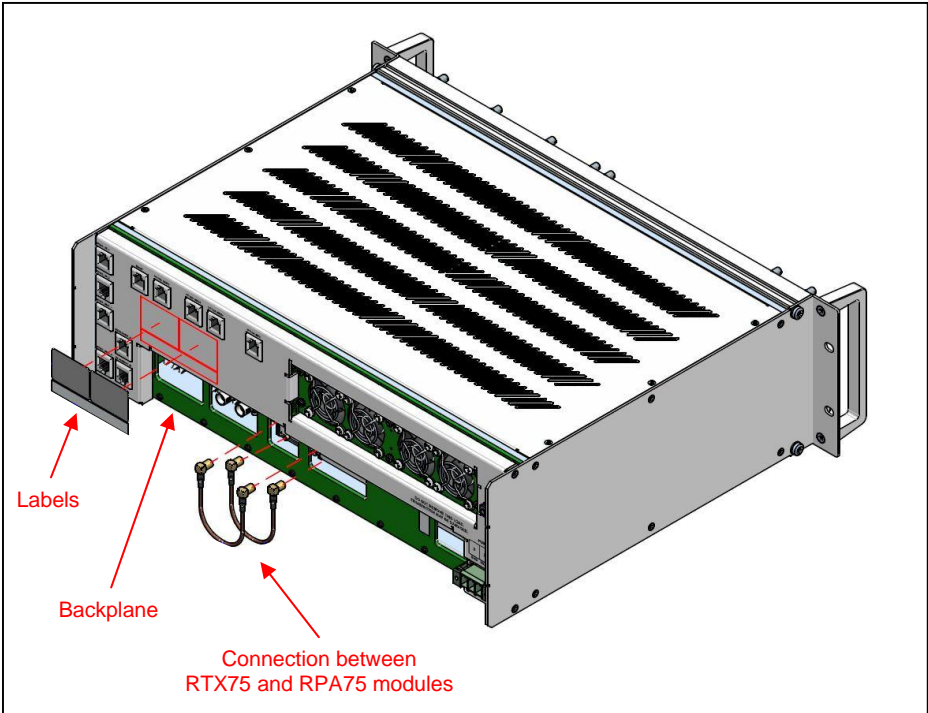
RTX75 module

RRX module

BSYNC or RRX2
Module (optional)

RCPU module

Rack



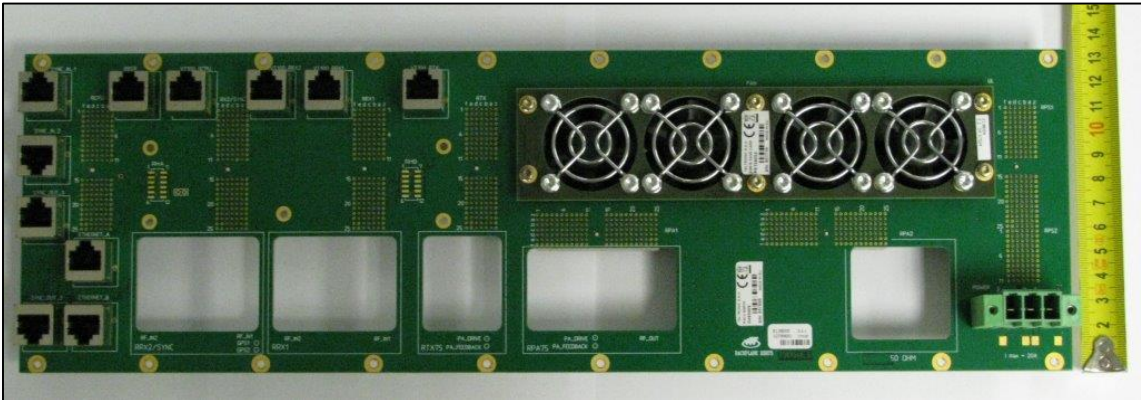
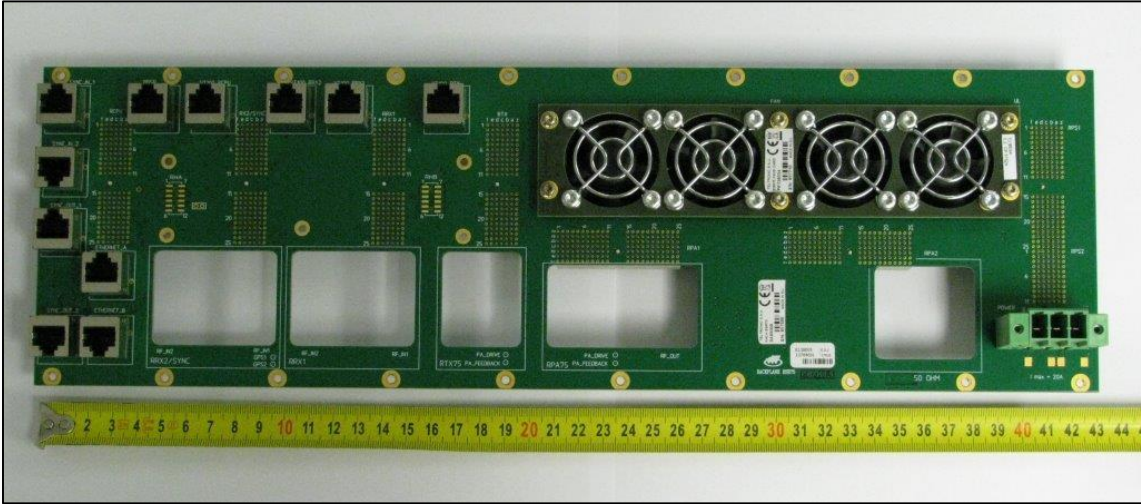
Labels

Backplane

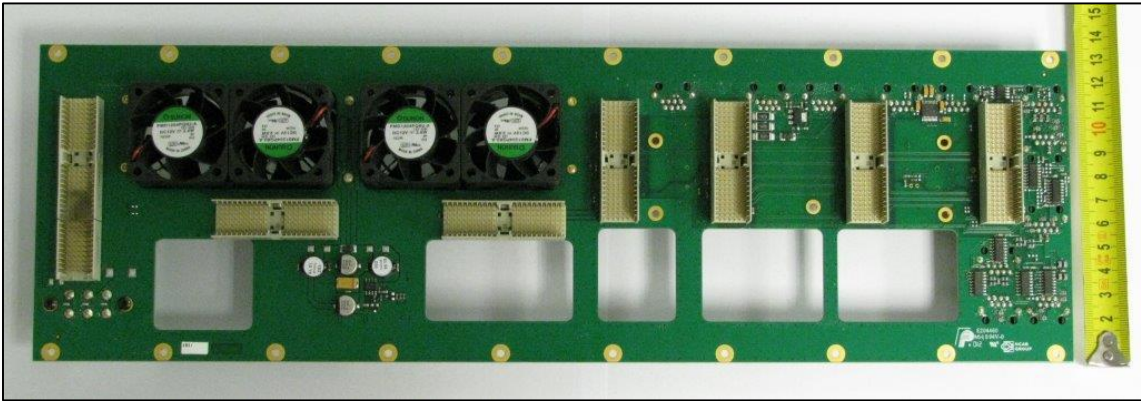
Connection between
RTX75 and RPA75 modules

3. BACKPLANE

3.1 UPPER SIDE OF THE BACKPLANE PCB



3.2 LOWER SIDE OF THE BACKPLANE PCB

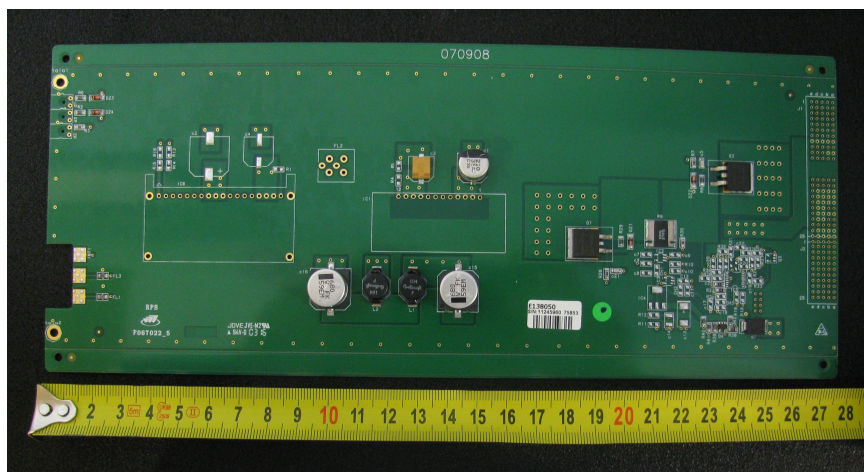


4. RPS75 MODULE

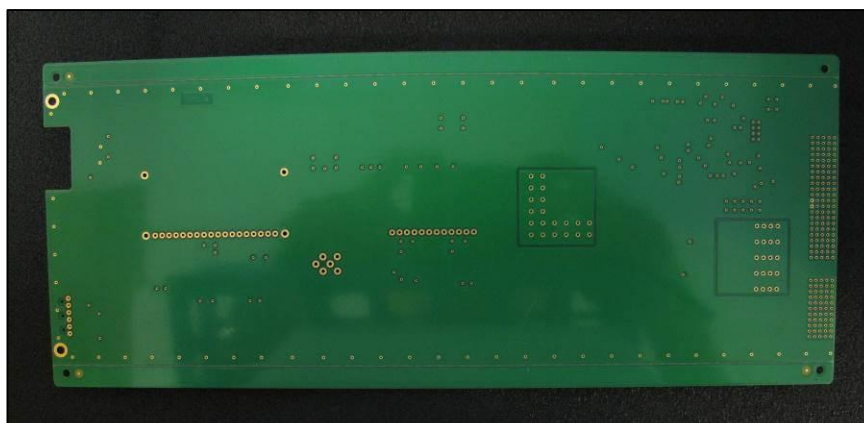
4.1 FRONT SIDE VIEW



4.2 UPPER SIDE OF THE RPS75 PCB



4.3 LOWER SIDE OF THE RPS75 PCB



5. RPA75 MODULE

5.1 FRONT SIDE VIEW

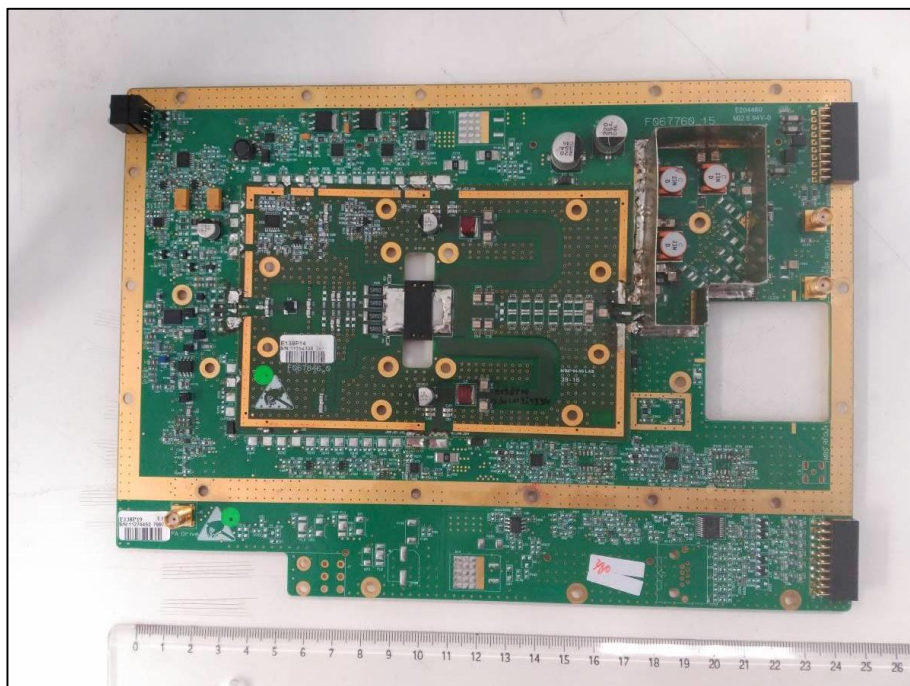


5.2 UPPER SIDE OF THE RPA75 PCB

The pictures below show the RPA75 PCB (Repeater Power Amplifier) with and without shielding enclosures, respectively. A chain of three amplifying stages is integrated on this board. The first and the second ones correspond to drivers that are located on the left side of the PCB. The third stage integrates the power amplifier and is built up on an ancillary PCB named PA PCB.

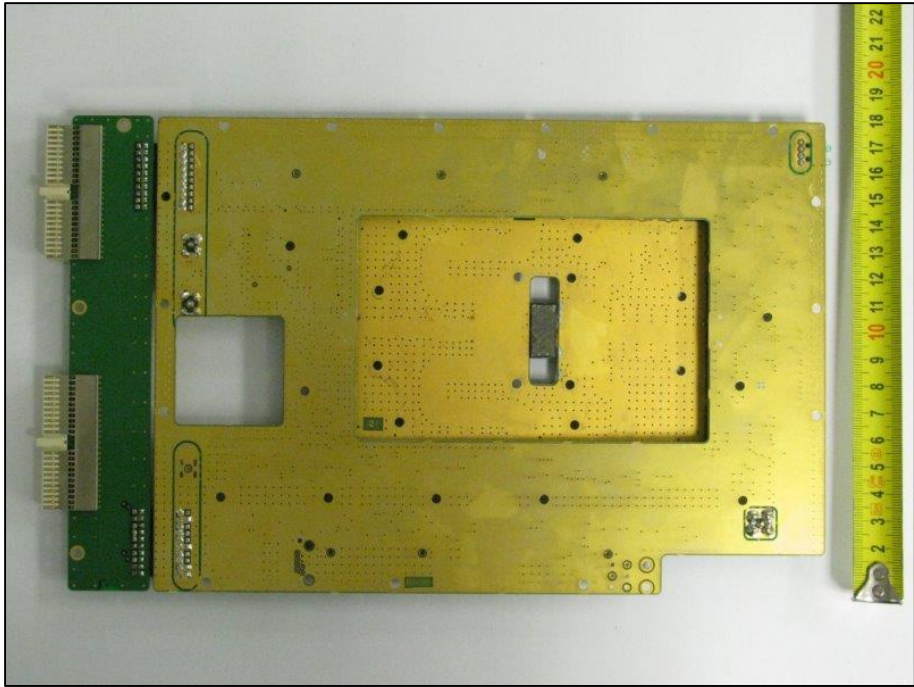
The RPA75 PCB provides a central void surrounded by a number of pads on which the PA PCB is laid and soldered. Then it is shielded with a metallic enclosure that is also soldered to the RPA board.

The enclosure on the right side is intended to shield the harmonic filter.





5.3 LOWER SIDE OF THE RPA75 PCB



6. RTX75 MODULE

6.1 FRONT SIDE VIEW

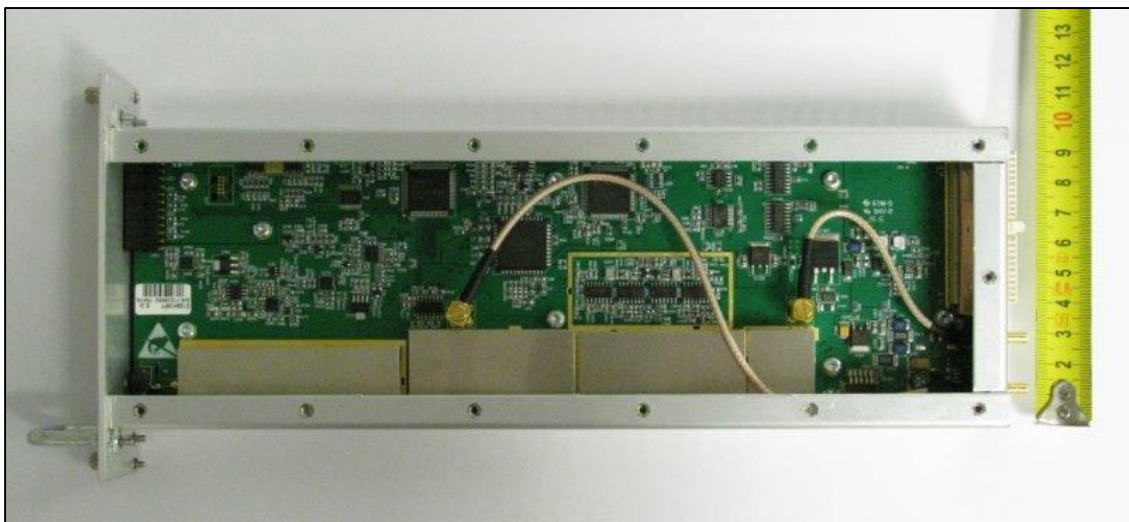


6.2 INTERNAL STRUCTURE

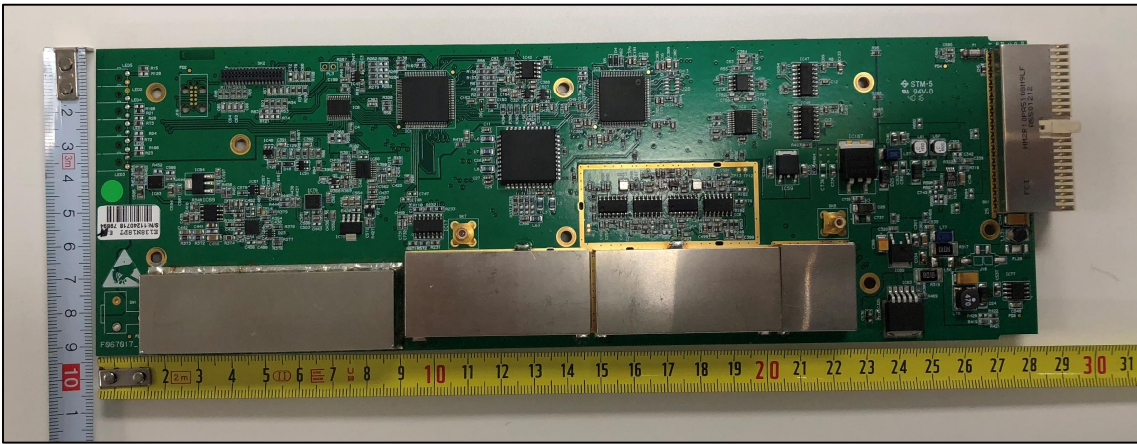
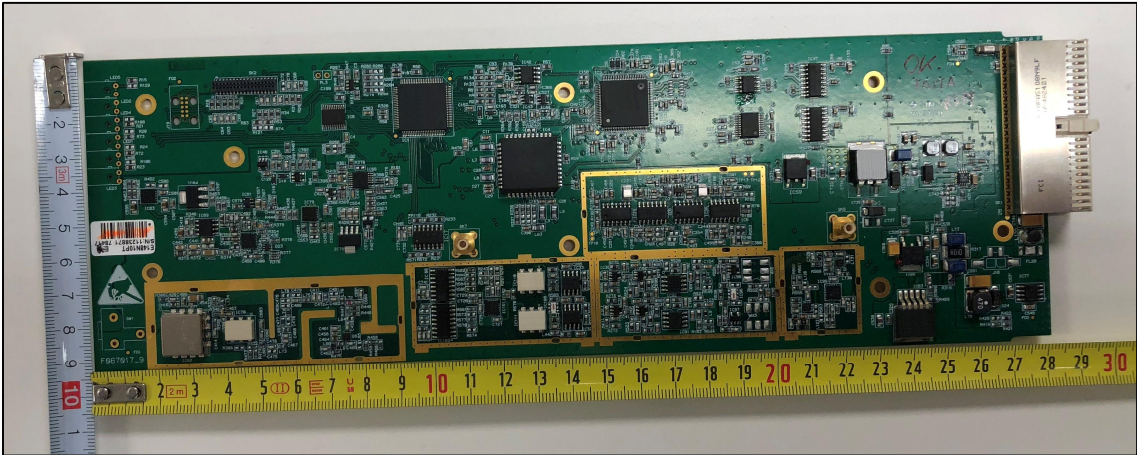
The internal structure of the RTX75 module can be spotted by descrewing the upper lid. The most sensitive RF hardware stages have been routed with care and placed in specific areas. A rectangular outline isolates each one and provides an electromagnetic enclosure that can be reinforced by soldering a metallic shield on it.

The RTX75 module integrates the Cartesian Feedback Loop (CFL) hardware of the BSR75 and bears two SMB connectors fitted on the back panel (see picture below on the right side, next to the tape measure), these interfacing the CFL forward and feedback signals respectively.

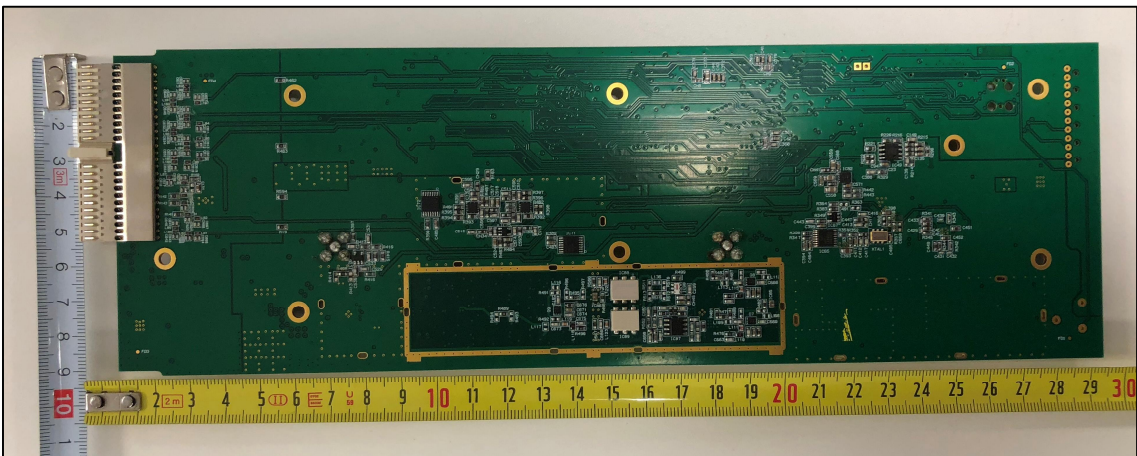
- The RTX75 module supplies an RF forward signal that is first driven to the back panel and then to the RPA module. Two short low-loss cables are used for this purpose, one of them being internal (see picture below) and the other external (see lower picture in Section 2).
- The RF feedback signal is driven from the RPA module to the RTX75 internal board by using two similar cables as well.

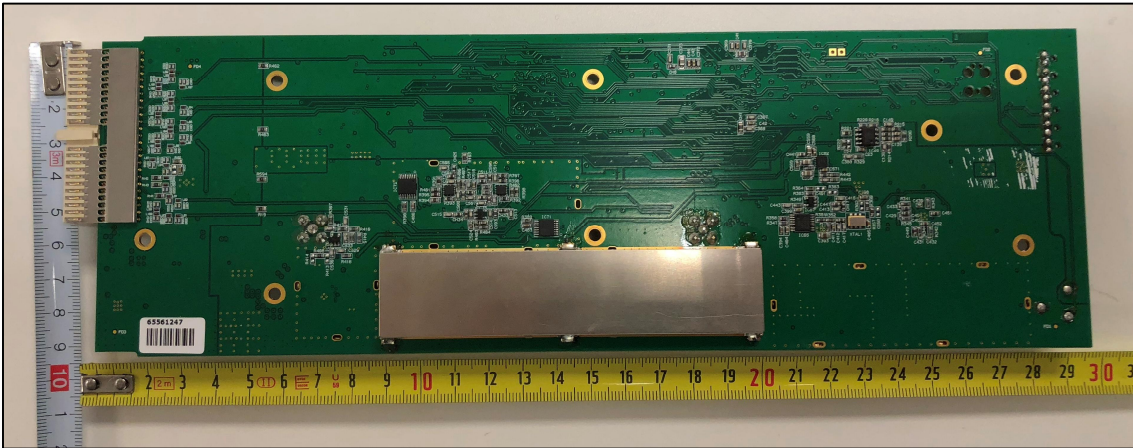


6.3 UPPER SIDE OF THE RTX75 PCB



6.4 LOWER SIDE OF THE RTX75 PCB



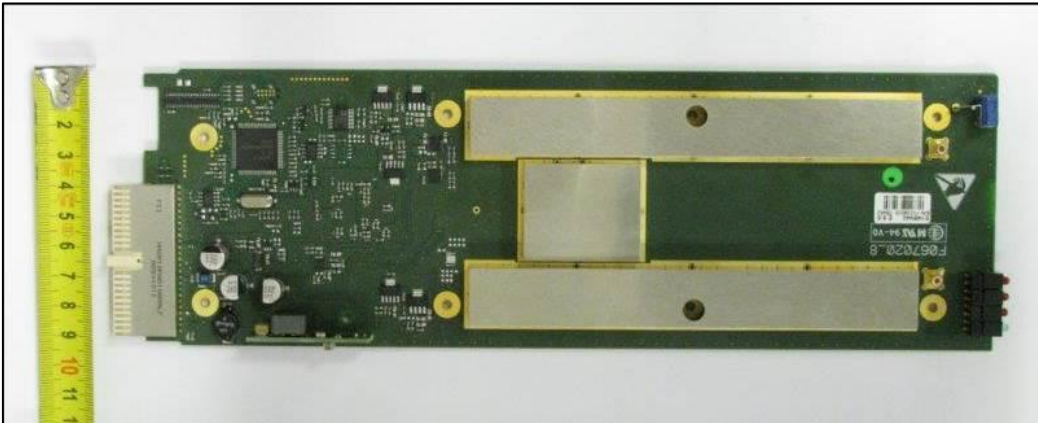
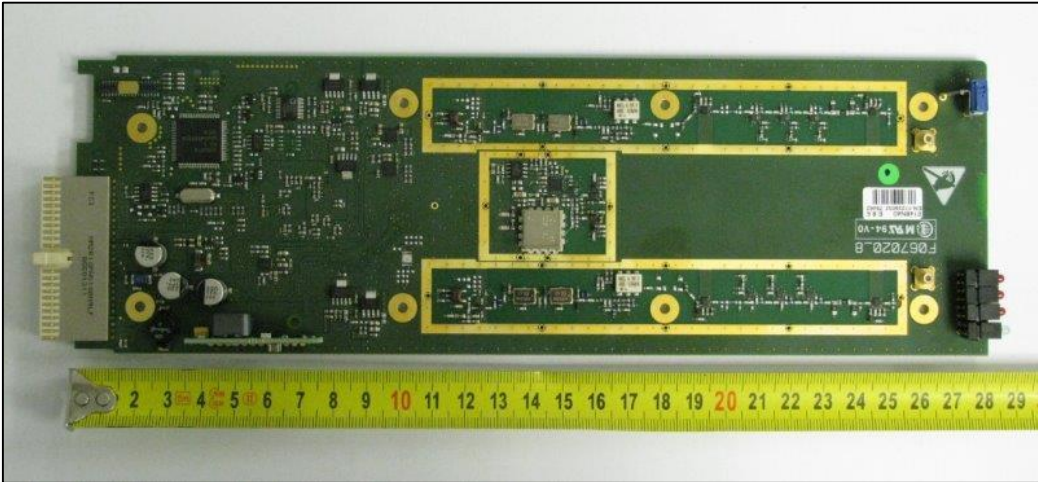


7. RRX MODULE

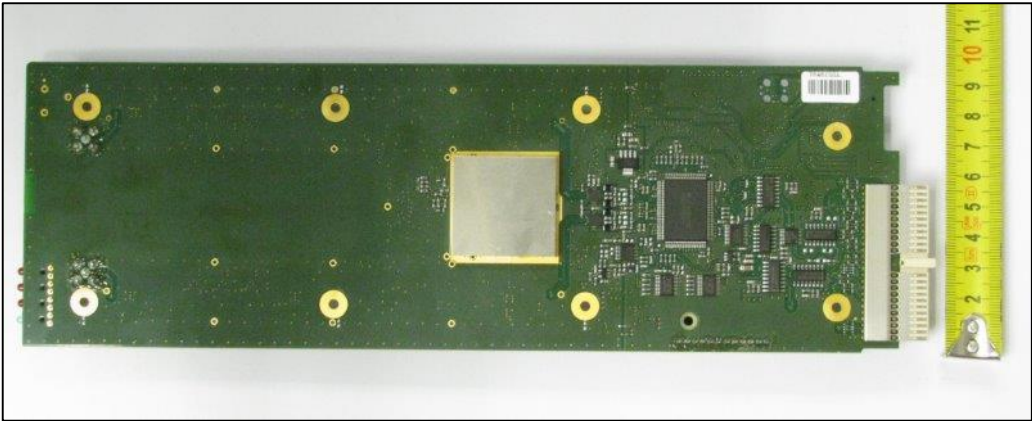
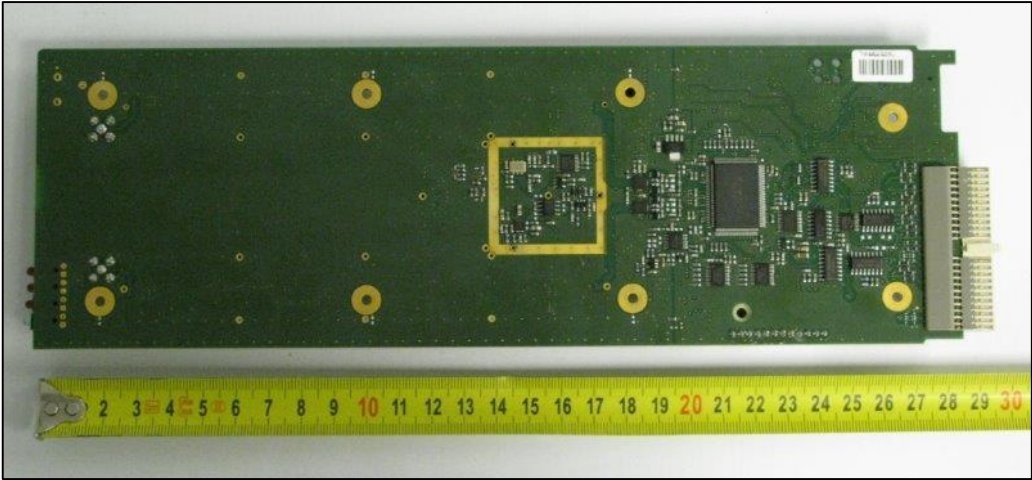
7.1 FRONT SIDE VIEW



7.2 UPPER SIDE OF THE RRX PCB



7.3 LOWER SIDE OF THE RRX PCB

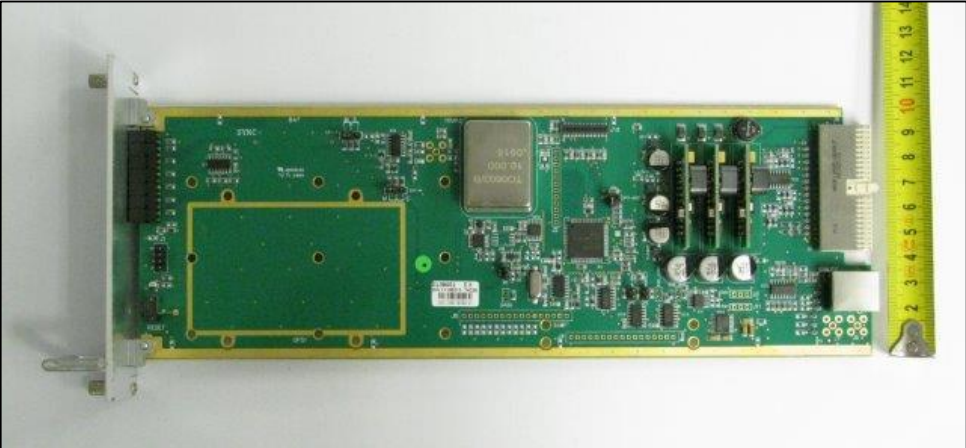
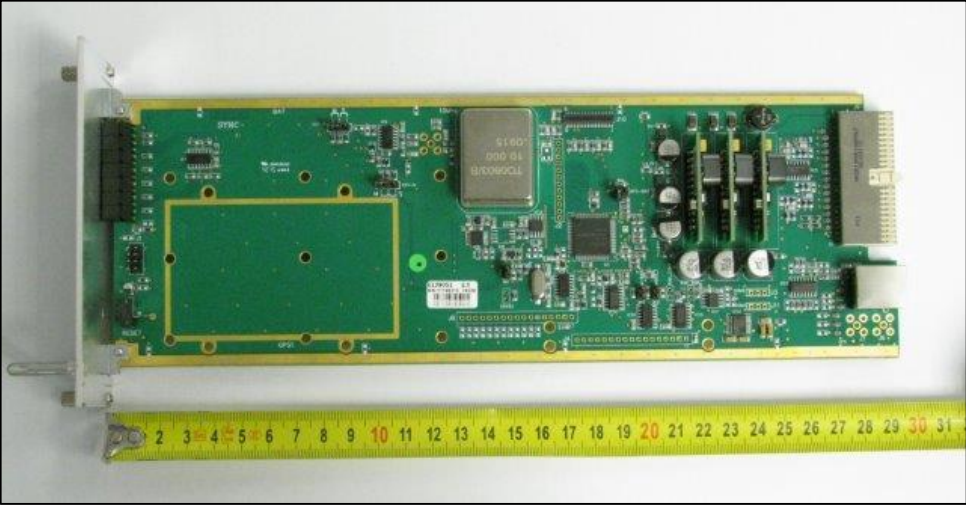


8. BSYNC MODULE (OPTIONAL)

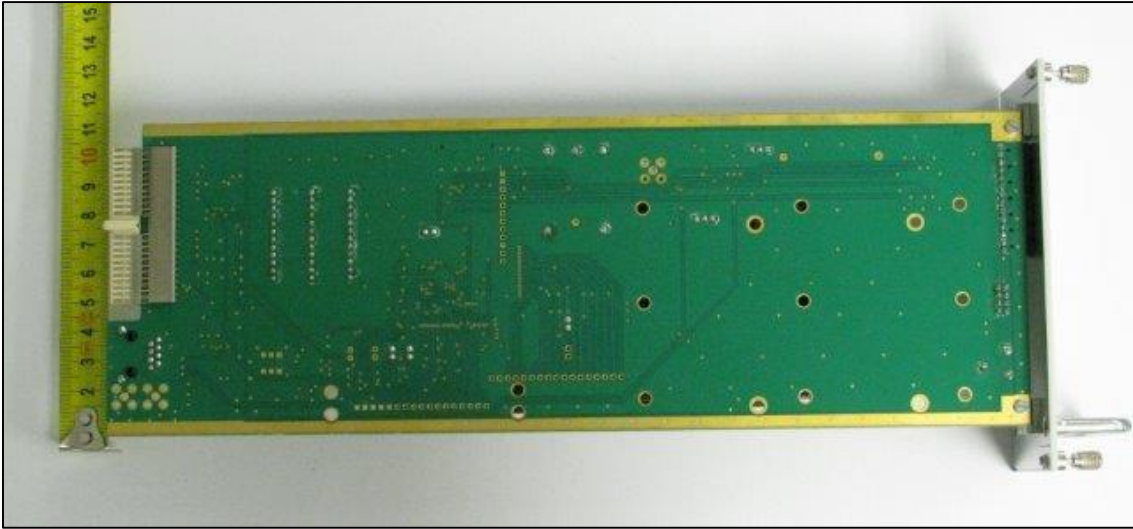
8.1 FRONT SIDE VIEW



8.2 UPPER SIDE OF THE BSYNC PCB



8.3 LOWER SIDE OF THE BSYNC PCB

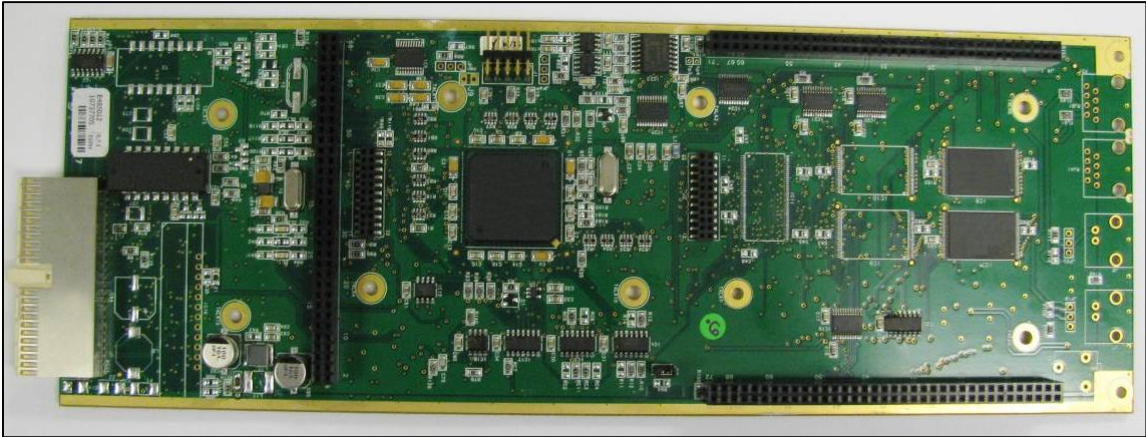


9. RCPU MODULE

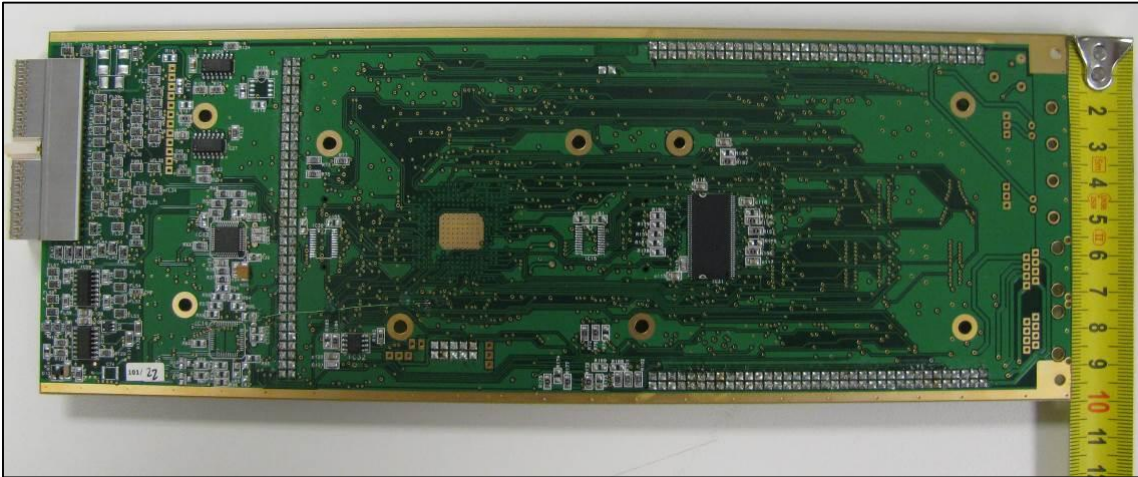
9.1 FRONT SIDE VIEW

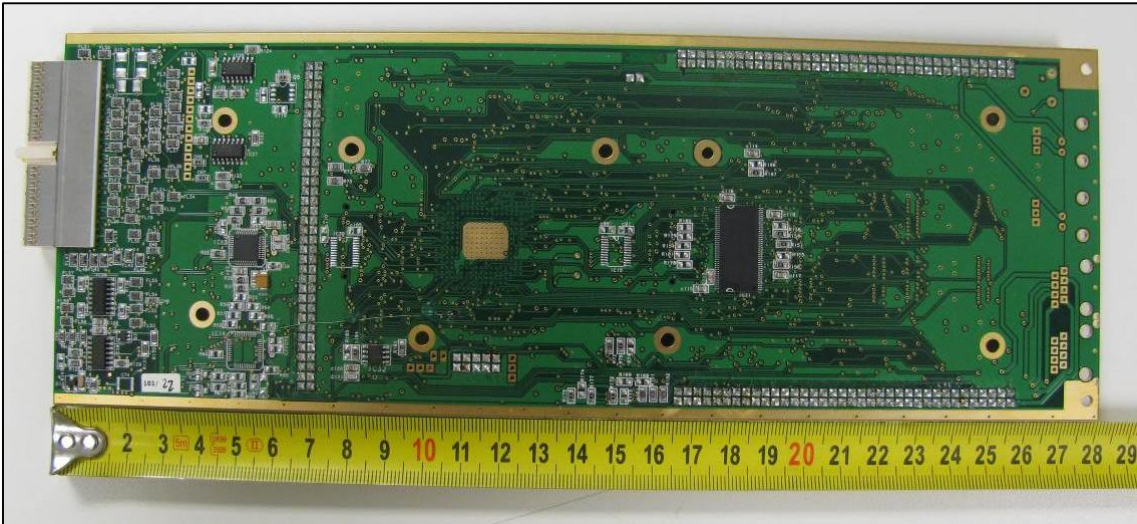


9.2 UPPER SIDE OF THE MNI PCB

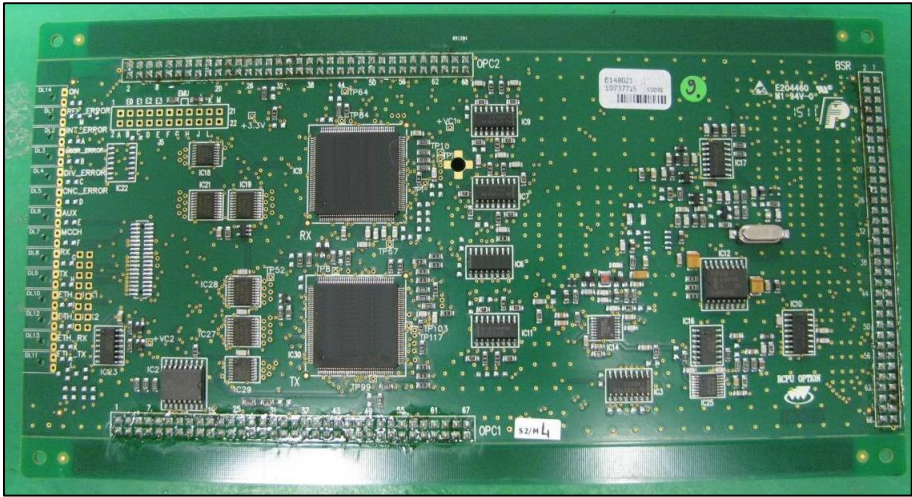


9.3 LOWER SIDE OF THE MNI PCB

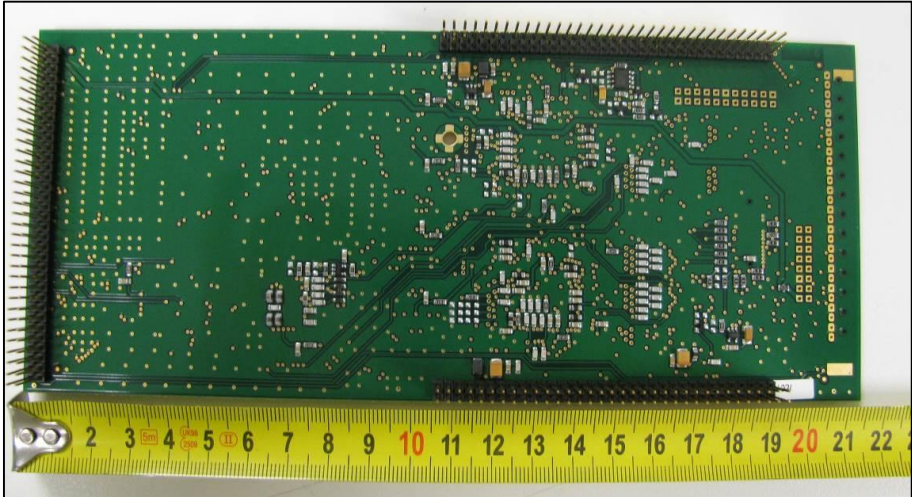




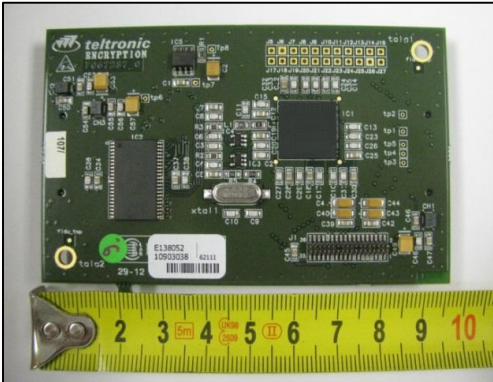
9.4 UPPER SIDE OF THE RCPU PCB



9.5 LOWER SIDE OF THE RCPU PCB



9.6 UPPER SIDE OF THE ENCRYPTION PCB



9.7 LOWER SIDE OF THE ENCRYPTION PCB

