BSR75 (all models)
RF Transceiver / Base Station Repeater

Internal Photographs

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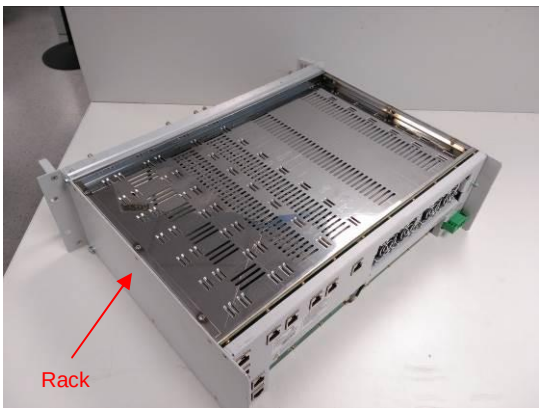
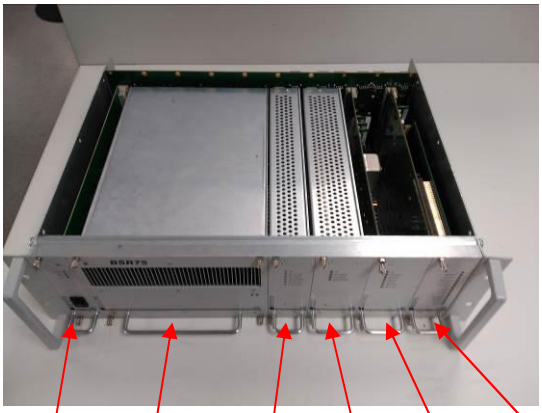
1. INTERNAL STRUCTURE

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

RRX module

BSYNC or RRX2
Module (optional)

RCPU module

Backplane

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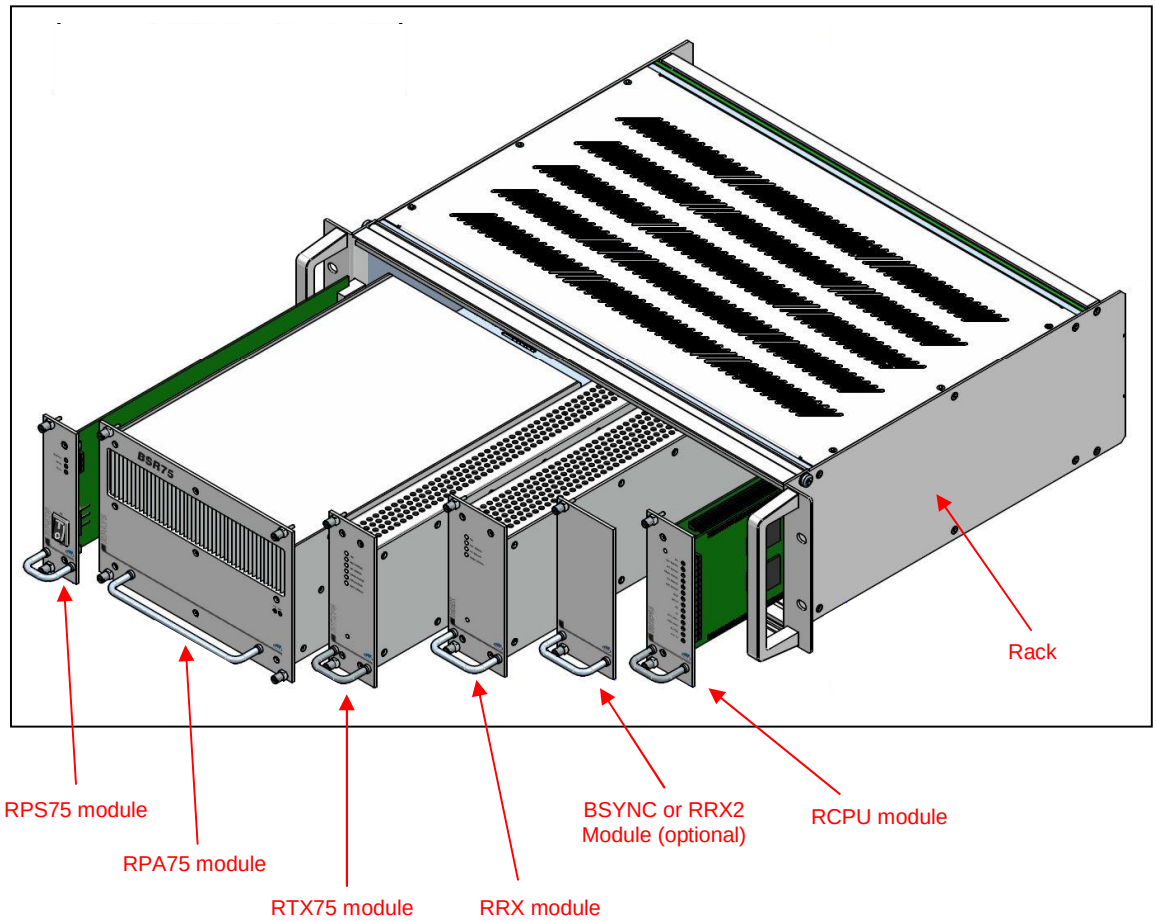
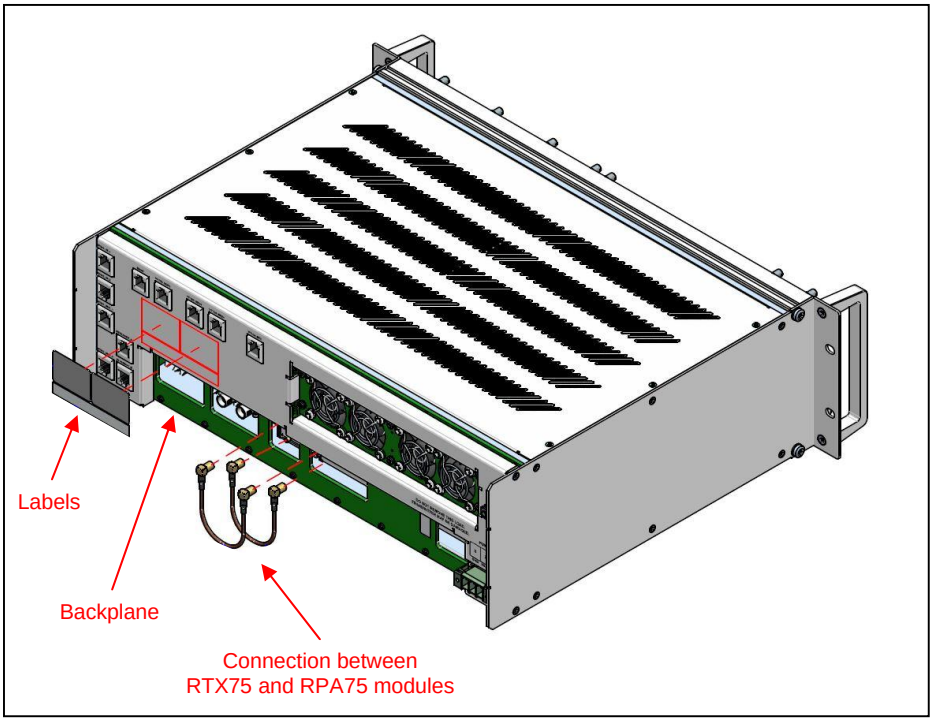
2. BSR75 EXPLODING VIEW





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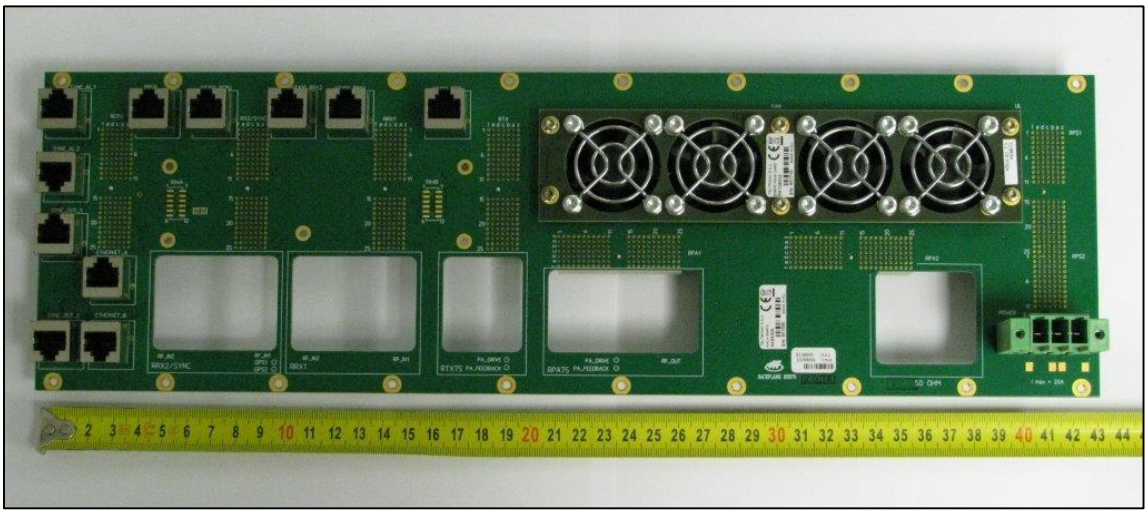
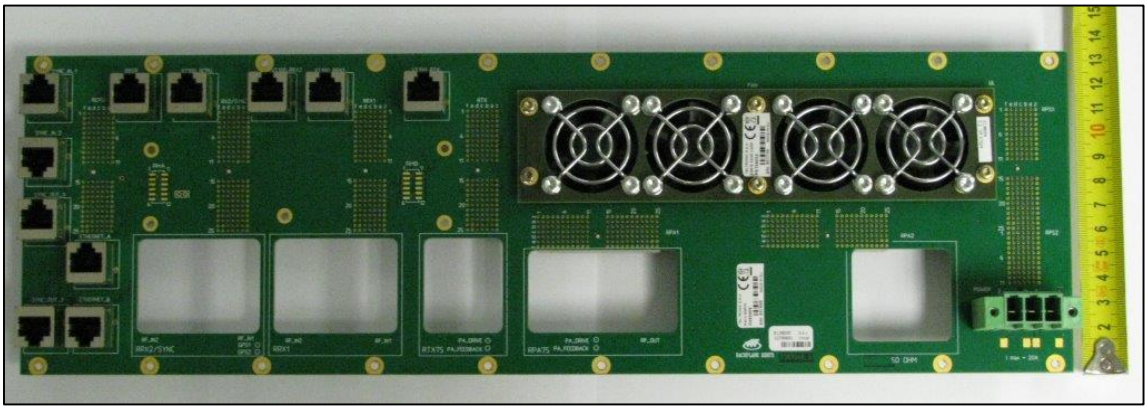
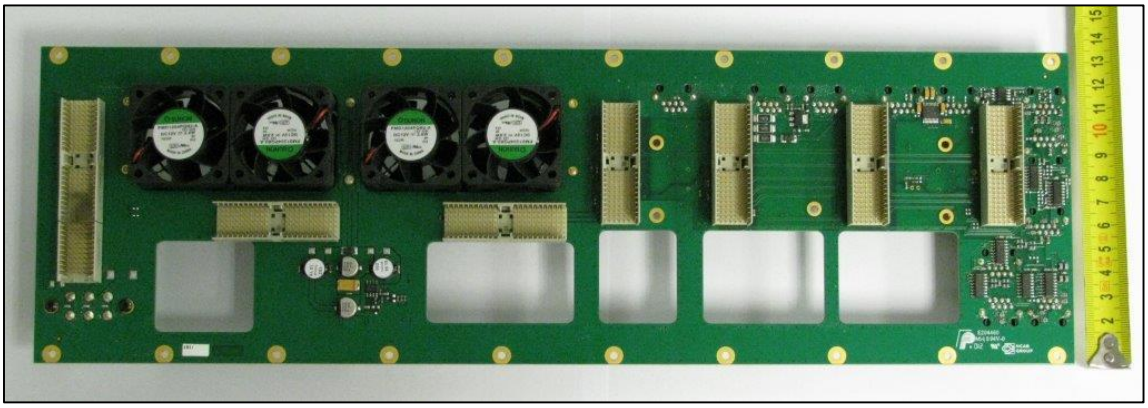
3. BACKPLANE

3.1 UPPER SIDE OF THE BACKPLANE PCB





3.2 LOWER SIDE OF THE BACKPLANE PCB



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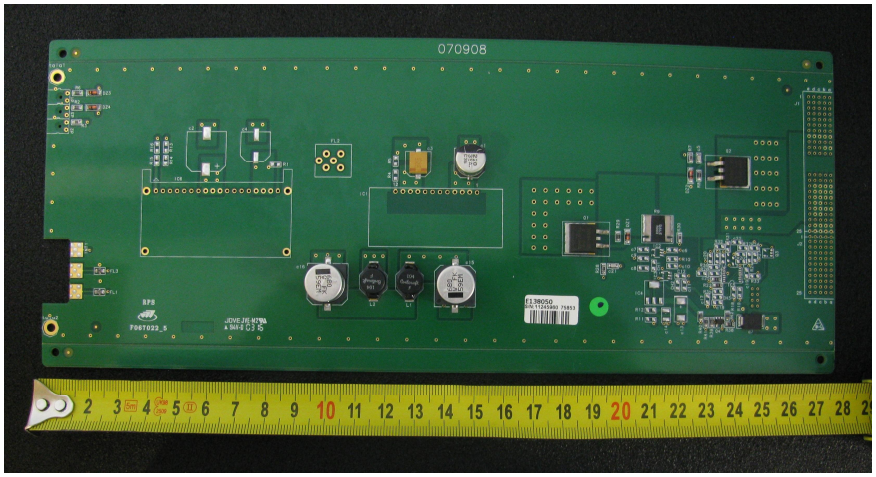
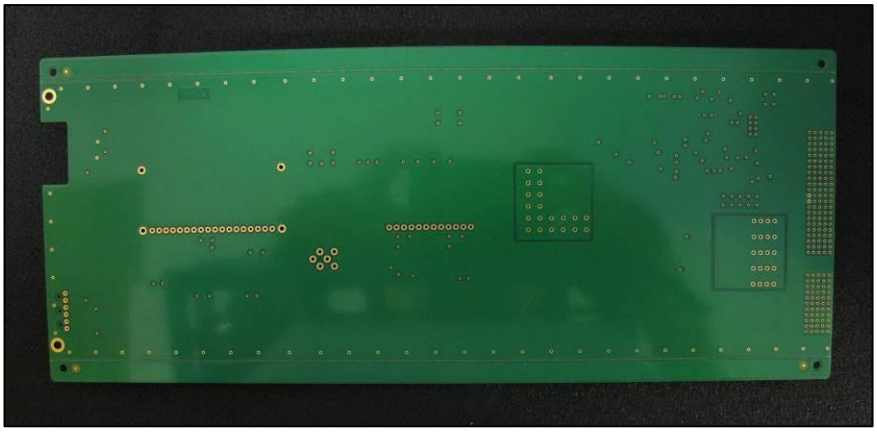
4. RPS75 MODULE

4.1 FRONT SIDE VIEW

4.2 UPPER SIDE OF THE RPS75 PCB



4.3 LOWER SIDE OF THE RPS75 PCB



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5. RPA75 MODULE

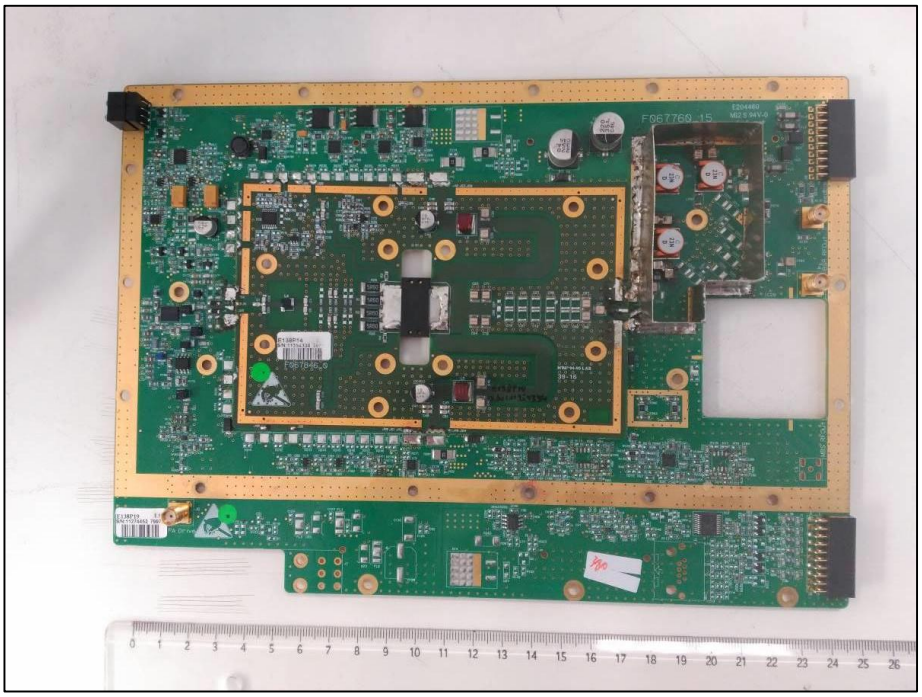
5.1 FRONT SIDE VIEW

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.



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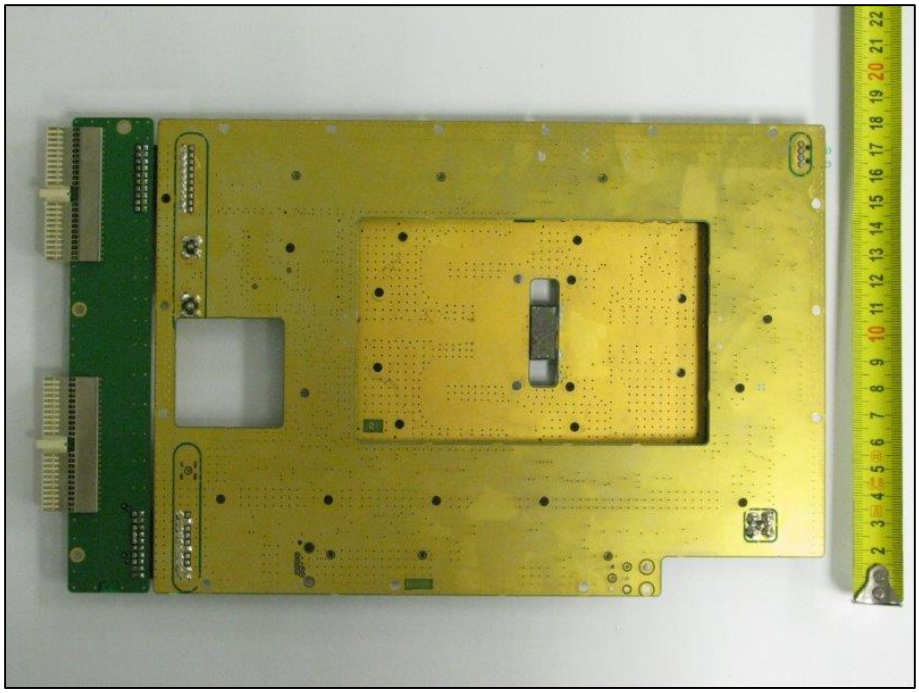
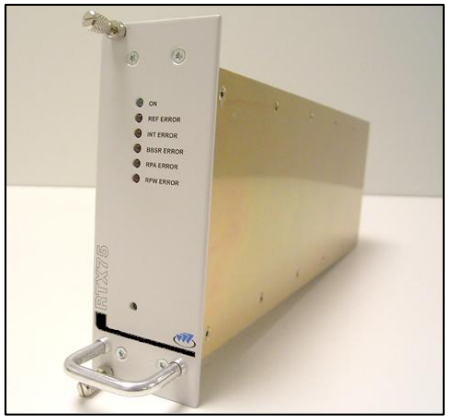
5.3 LOWER SIDE OF THE RPA75 PCB



6. RTX75 MODULE

6.1 FRONT SIDE VIEW



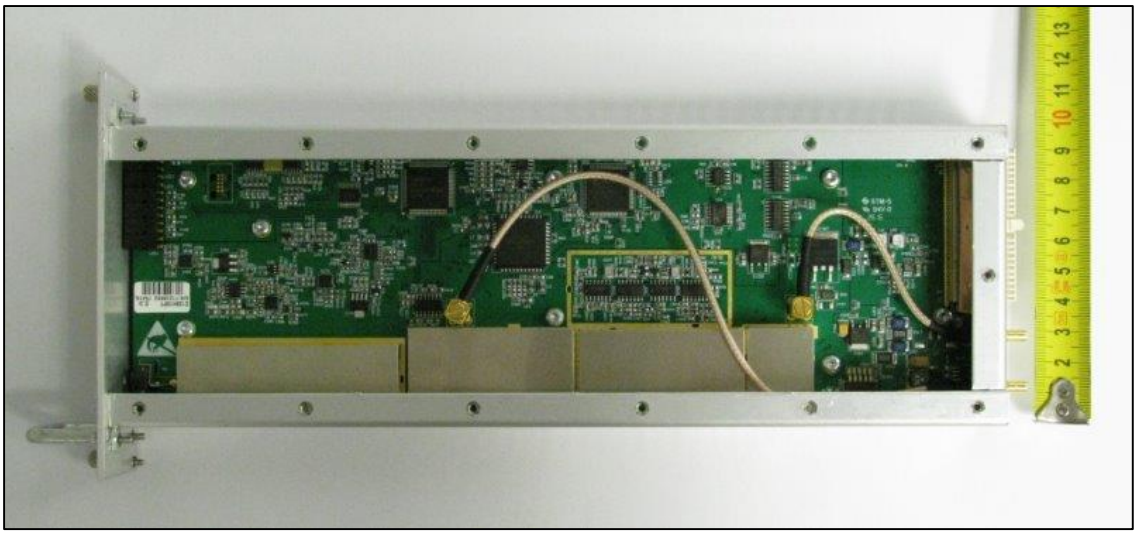
6.2 INTERNAL STRUCTURE

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.



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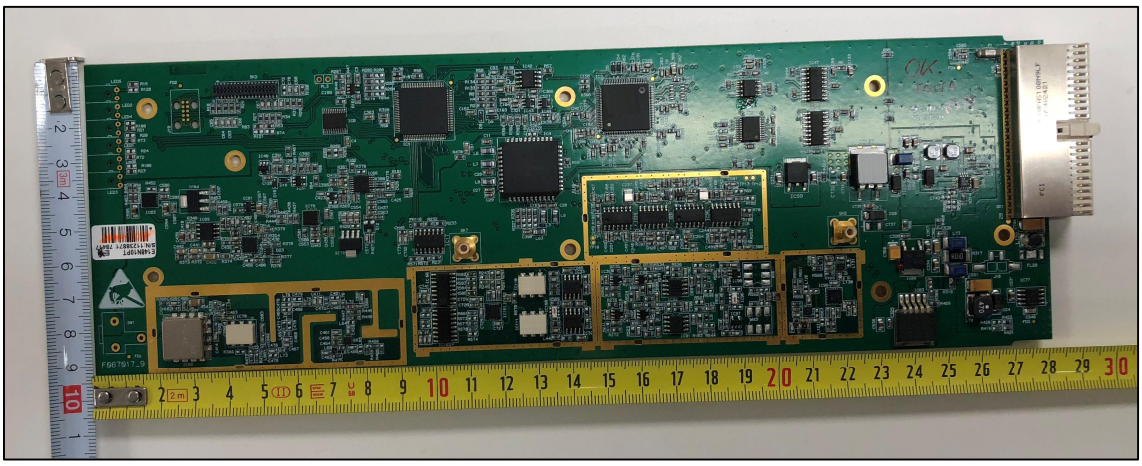
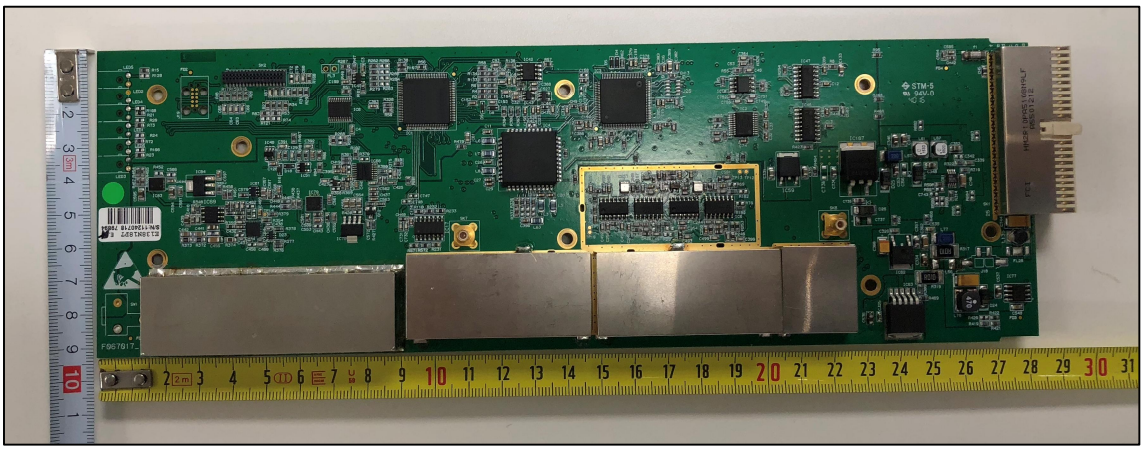
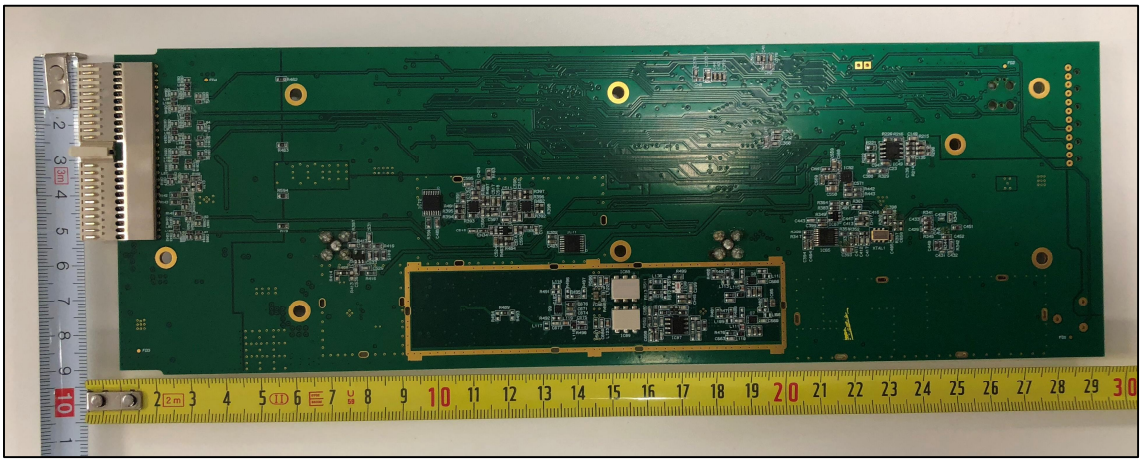
6.3 UPPER SIDE OF THE RTX75 PCB





6.4 LOWER SIDE OF THE RTX75 PCB



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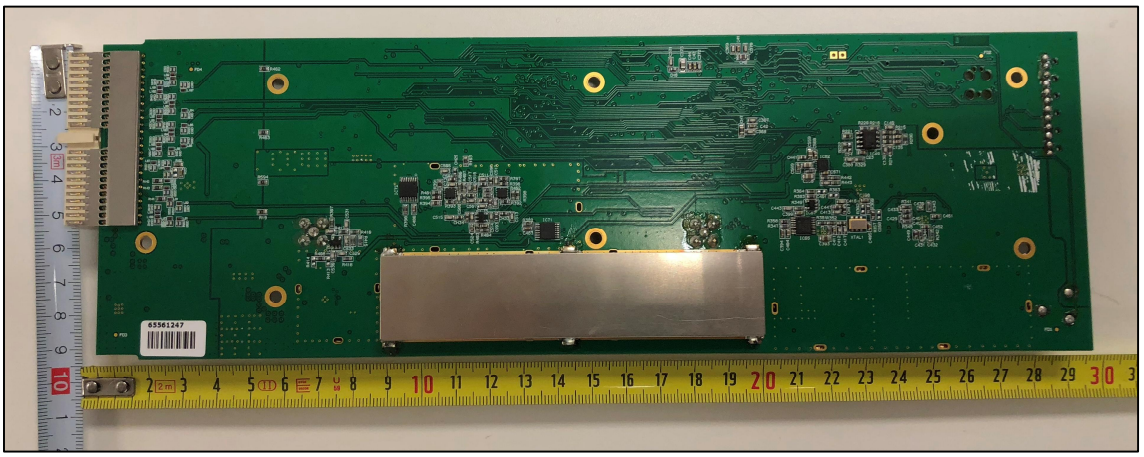

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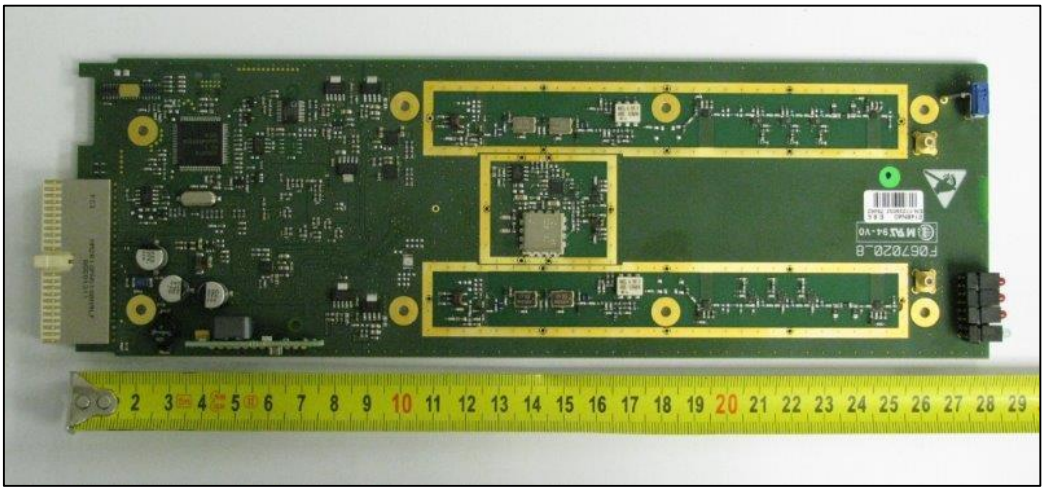
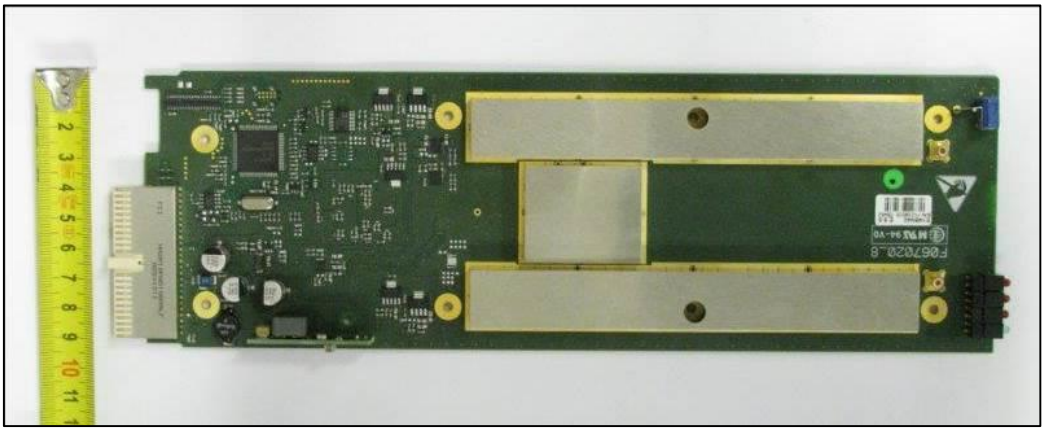
7. RRX MODULE

7.1 FRONT SIDE VIEW

7.2 UPPER SIDE OF THE RRX PCB





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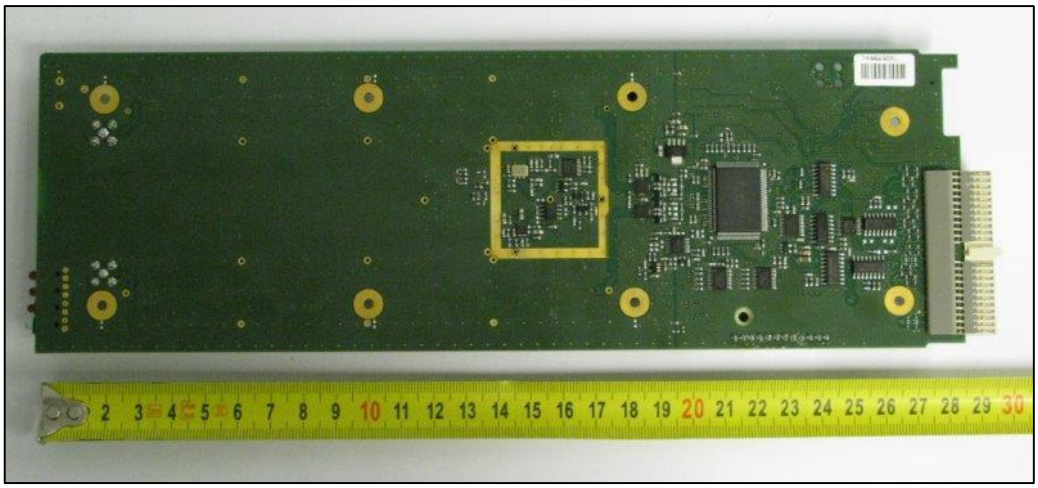
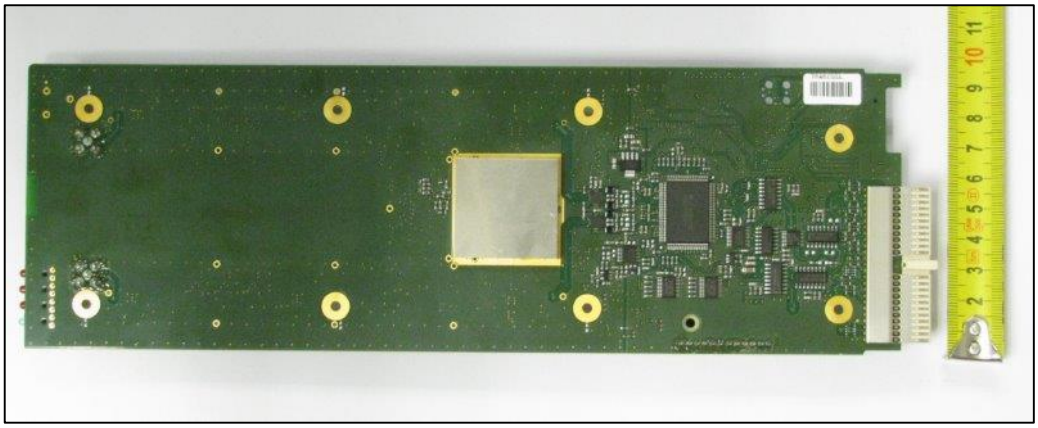
7.3 LOWER SIDE OF THE RRX PCB





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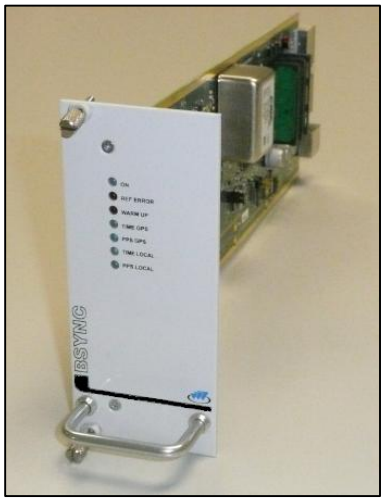
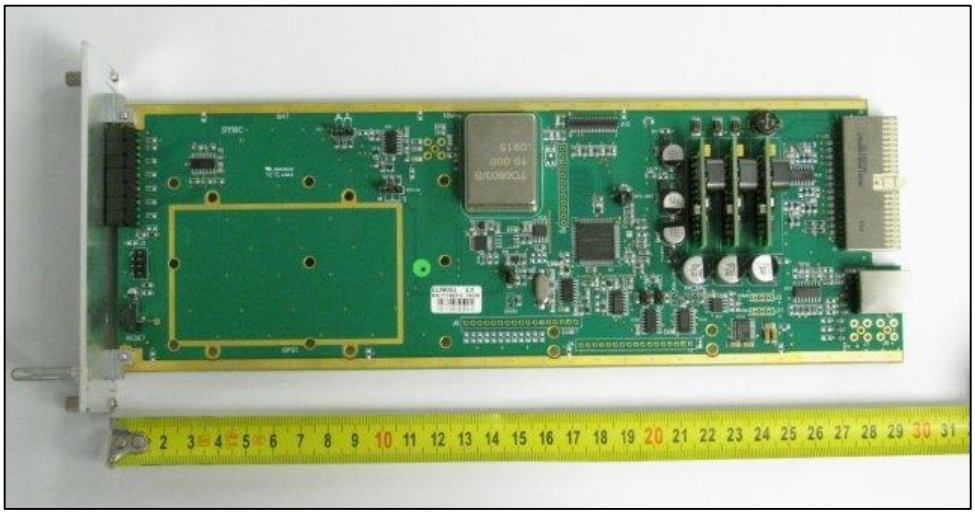
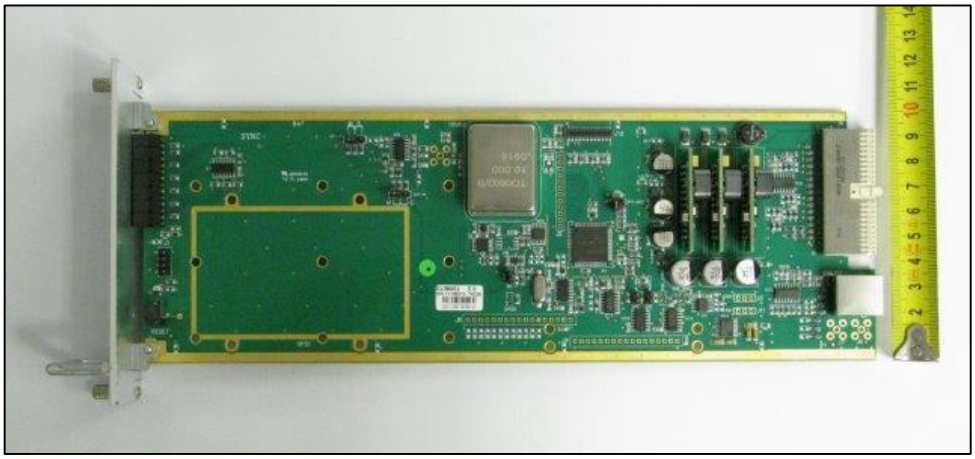
8. BSYNC MODULE (OPTIONAL)

8.1 FRONT SIDE VIEW



8.2 UPPER SIDE OF THE BSYNC PCB





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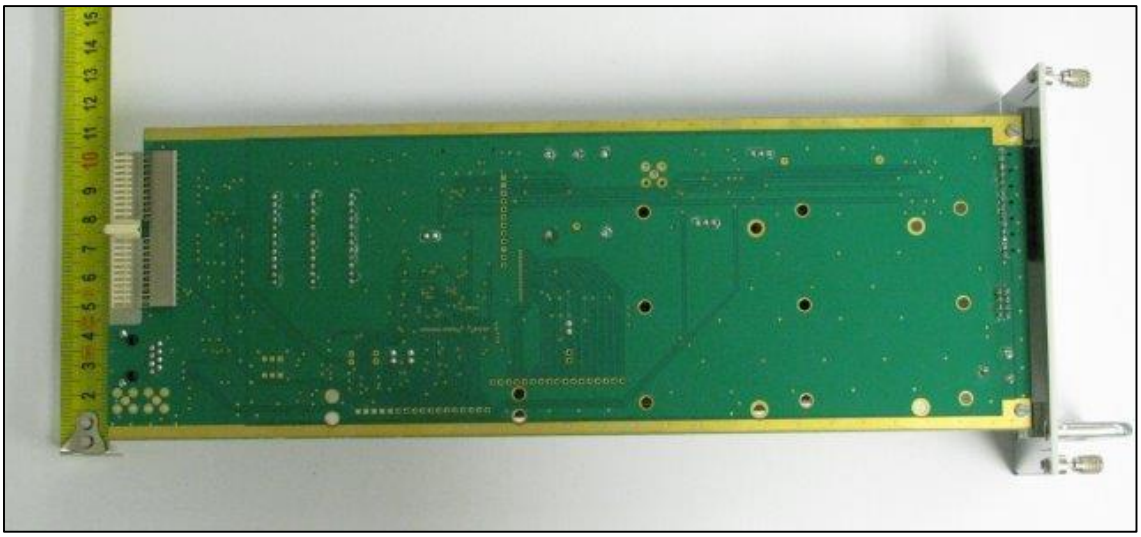
8.3 LOWER SIDE OF THE BSYNC PCB



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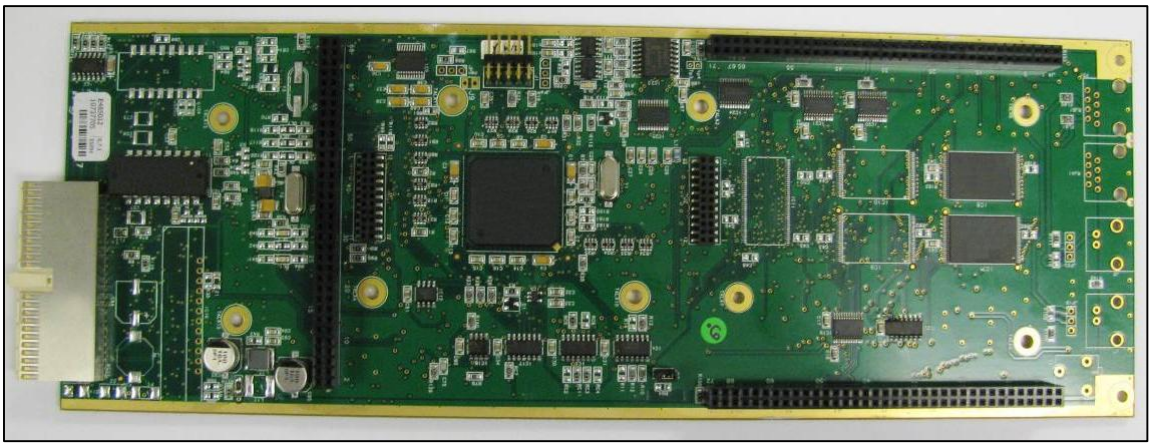
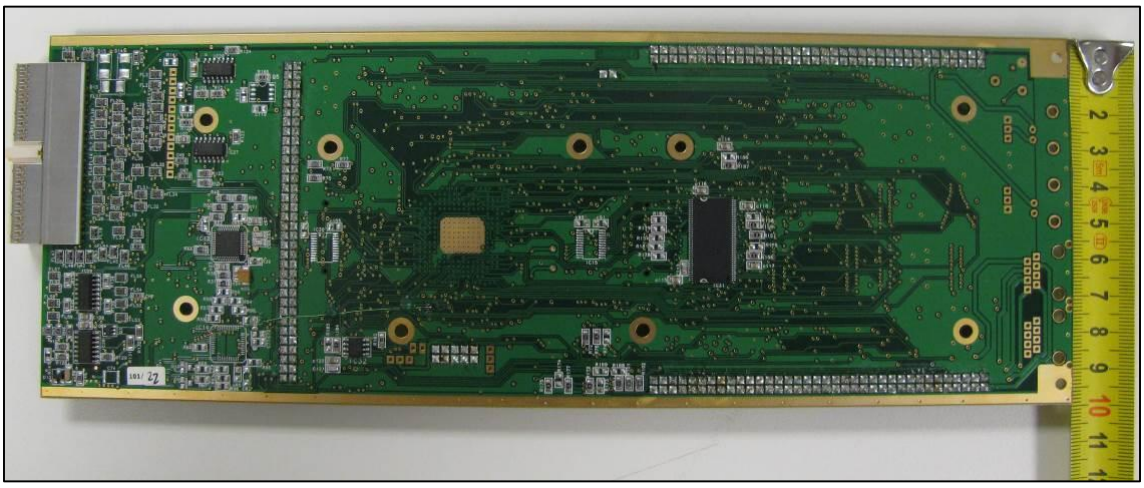
9. RCPU MODULE

9.1 FRONT SIDE VIEW

9.2 UPPER SIDE OF THE MNI PCB



9.3 LOWER SIDE OF THE MNI PCB



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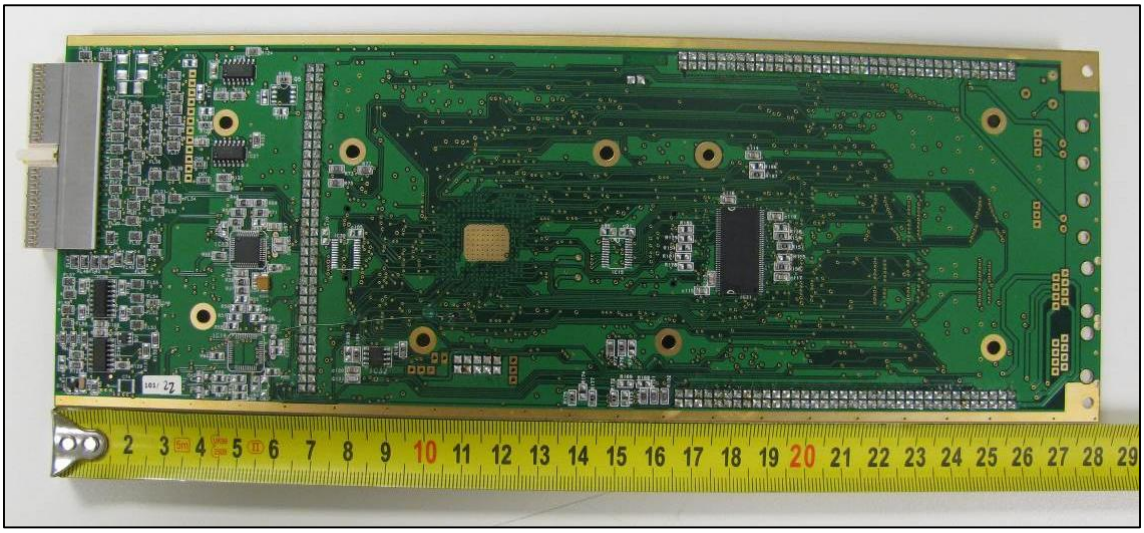
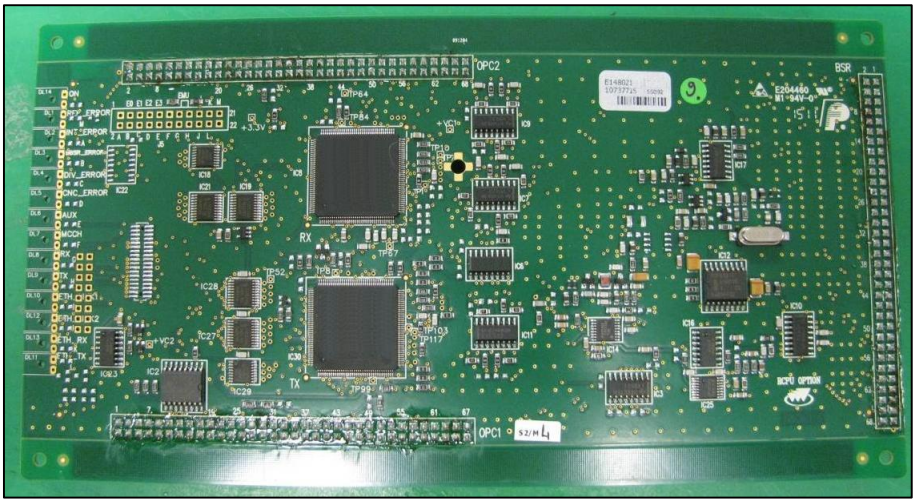
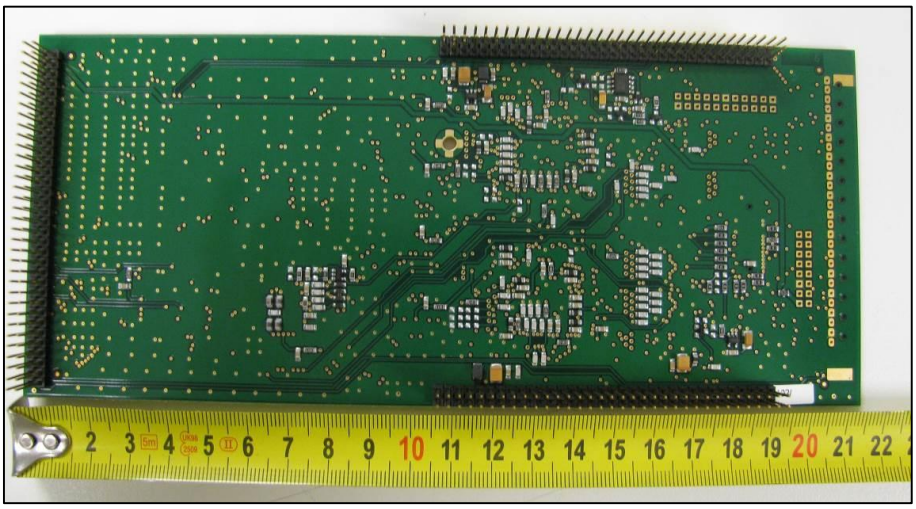


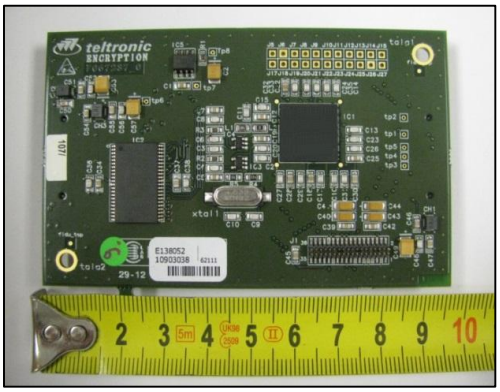
9.4 UPPER SIDE OF THE RCPU PCB

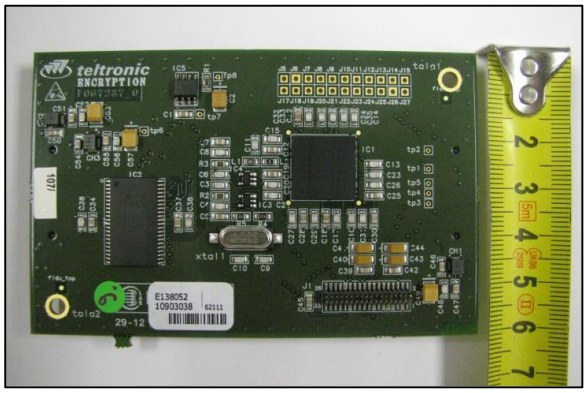


9.5 LOWER SIDE OF THE RCPU PCB

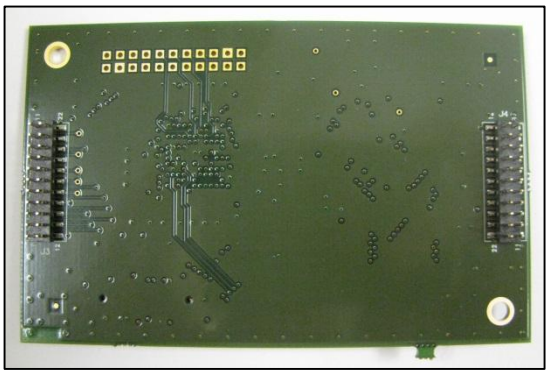


9.6 UPPER SIDE OF THE ENCRYPTION PCB





9.7 LOWER SIDE OF THE ENCRYPTION PCB



Document Maintenance

Edition	Date	Author	Description
1.0	15/02/2018	Carlos Casanova Juan Luis Romera	Initial release.
2.0	20/02/2018	Carlos Casanova José María Vélez Juan Luis Romera	Resolution of RPS, RTX75 and RCPU photographs increased.

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