



Quectel RM510Q-GL + RA510T + 5G-mmWave-EVB Kit

Assembly Instruction

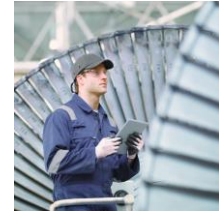
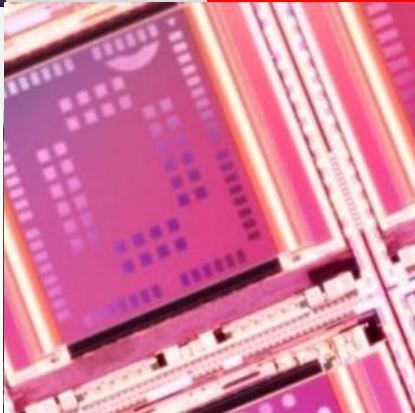
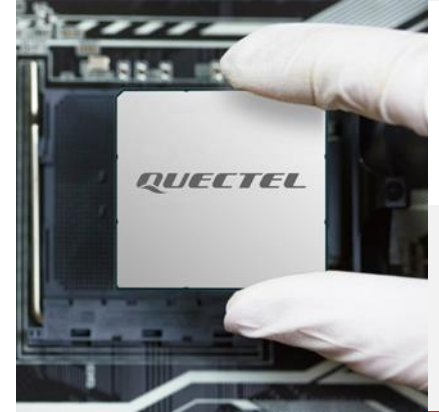
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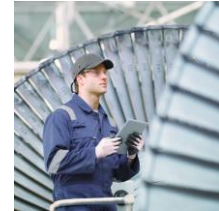
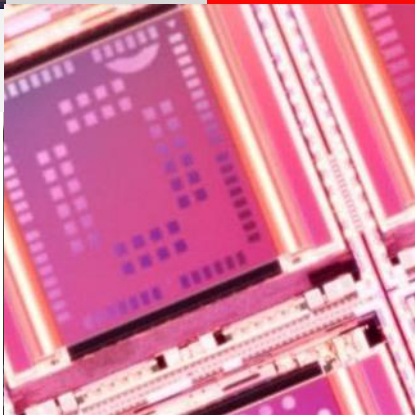
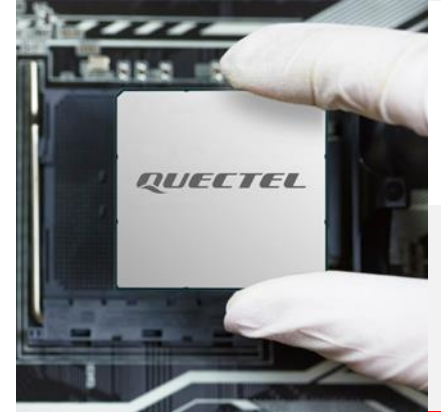


Pre-process

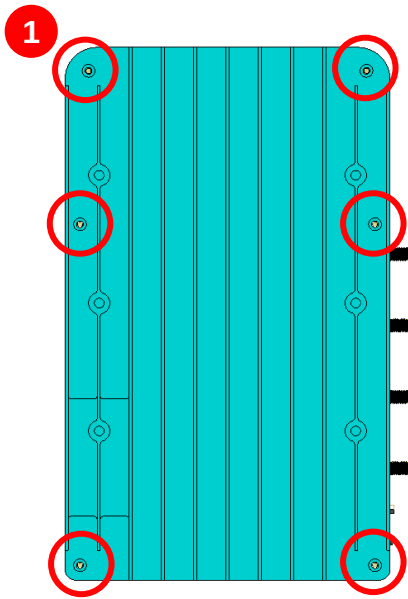
Assembly Steps

Function of Accessories

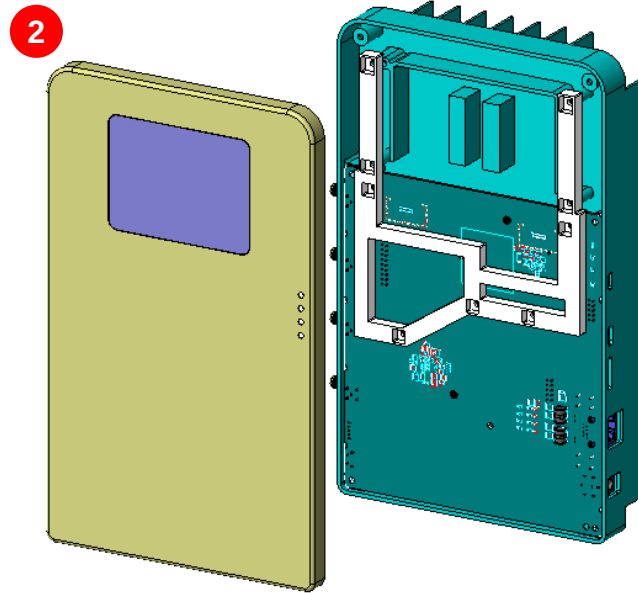
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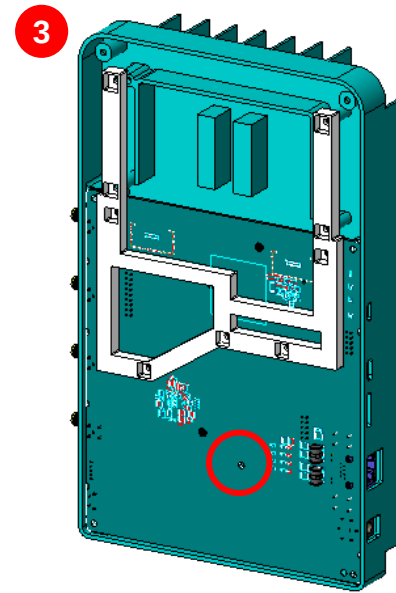
Pre-process – Housing Dismantling



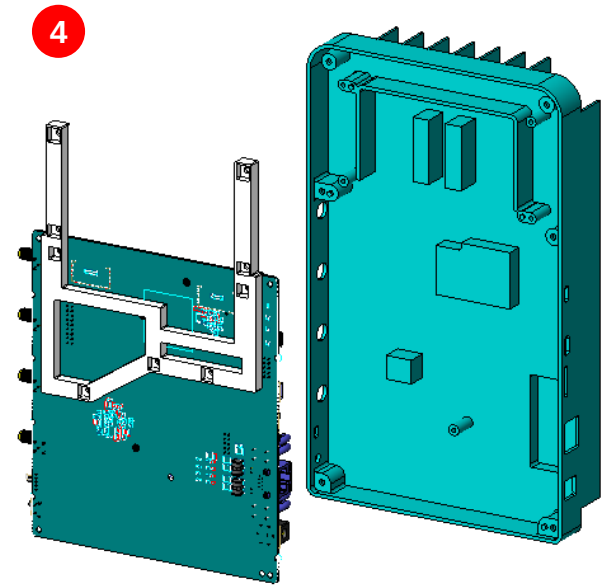
1. Remove the 6 self-tapping screws (M3 × L8) from the back of the CPE.



2. Remove the front housing.



3. Remove the screw (M3 × L8) on the EVB.



4. Then remove the EVB. Please loosen the side where network port locates first, and then loosen the other side where the SMA connector locates.

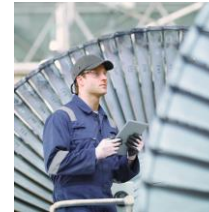
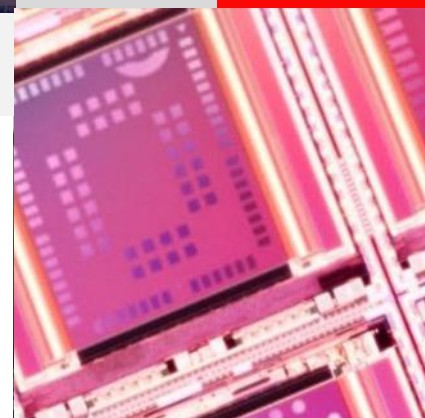
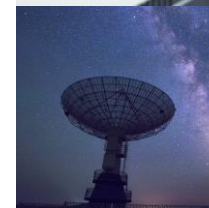
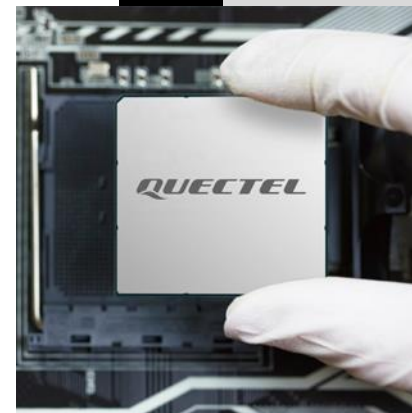


Pre-process

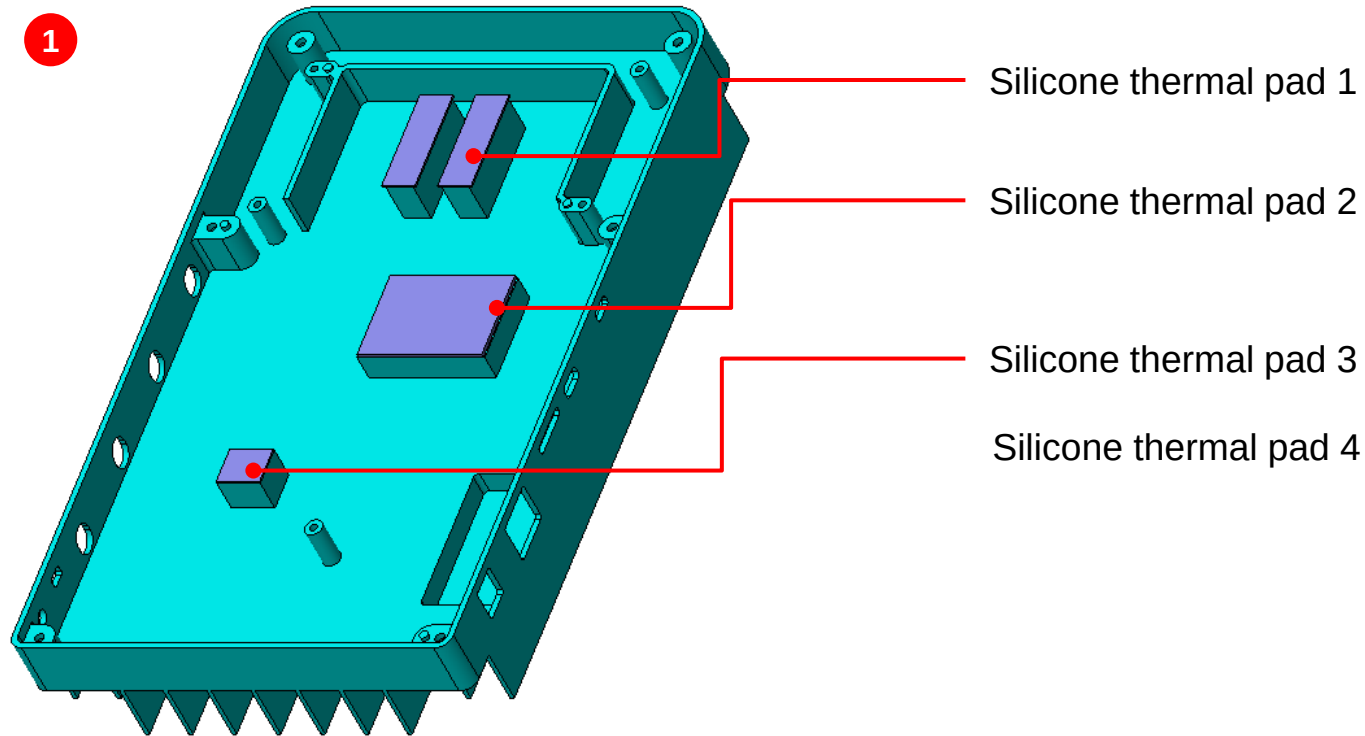
Assembly Steps

Function of Accessories

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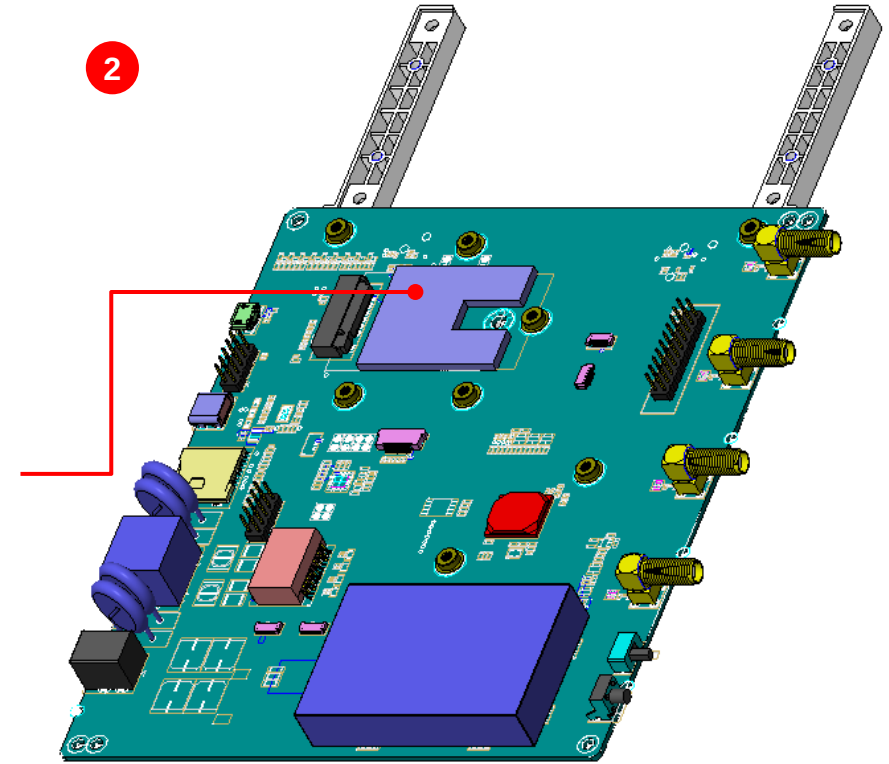


Assembly Steps (1–2)



1. Take the silicone thermal pad 1–3 and stick them to the corresponding position on the inside the rear cover.

- Silicone thermal pad 1 (35.5 mm × 11.5 mm, T0.7 mm), 2 pcs
- Silicone thermal pad 2 (43 mm × 31 mm, T0.65 mm), 1 pcs
- Silicone thermal pad 3 (15 mm × 36 mm, T0.65 m), 1 pcs

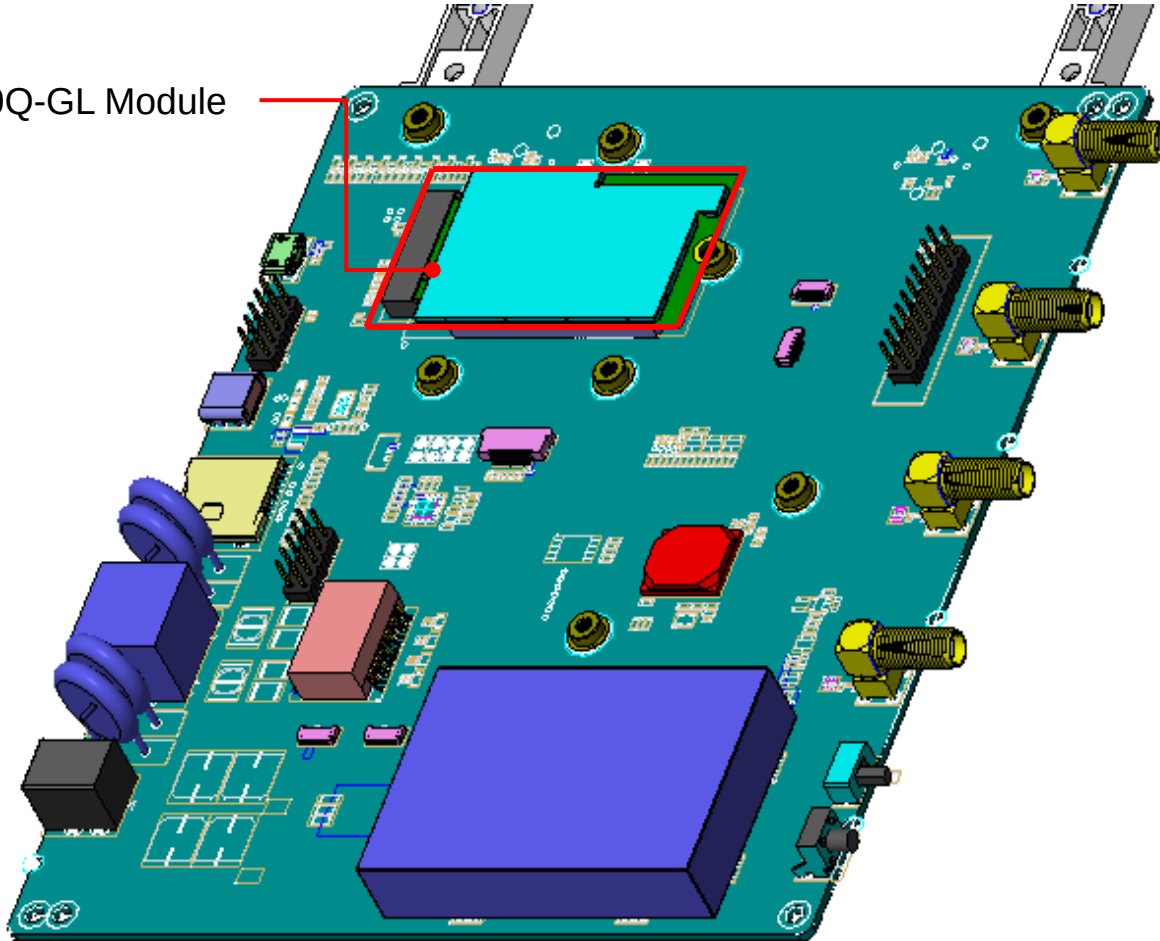


2. Take the Silicone thermal pad 4 (37 mm × 30 mm, T2.5 mm) and stick it to the corresponding position on the EVB.

Assembly Steps (3)

3

RM510Q-GL Module



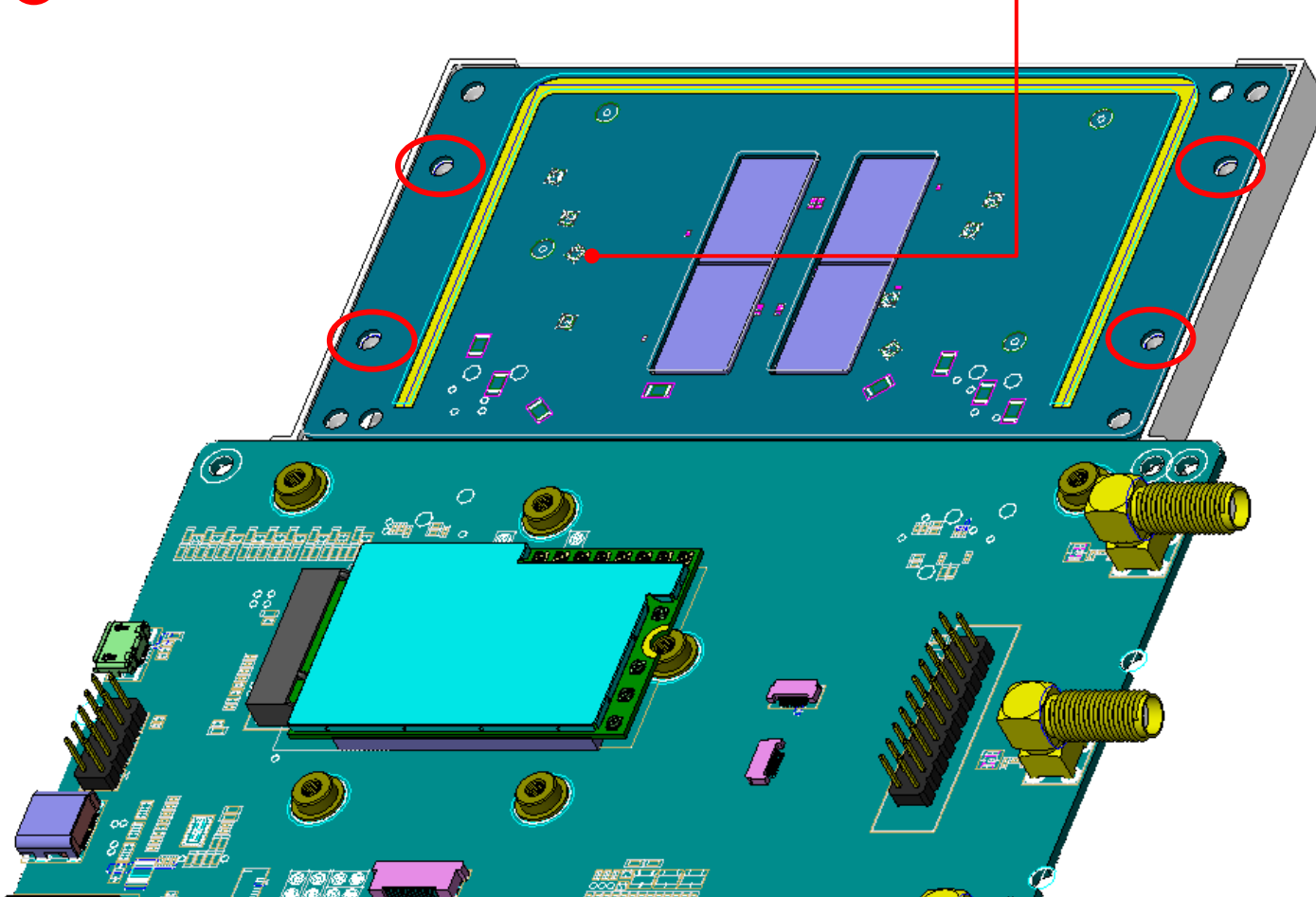
3. Assemble the RM510Q-GL module to the EVB and fix it with the screw (1 pcs, M2.5 × L6).

NOTE: RM510Q-GL module and RA510T are not contained in the EVB kit.

Assembly Steps (4)

4

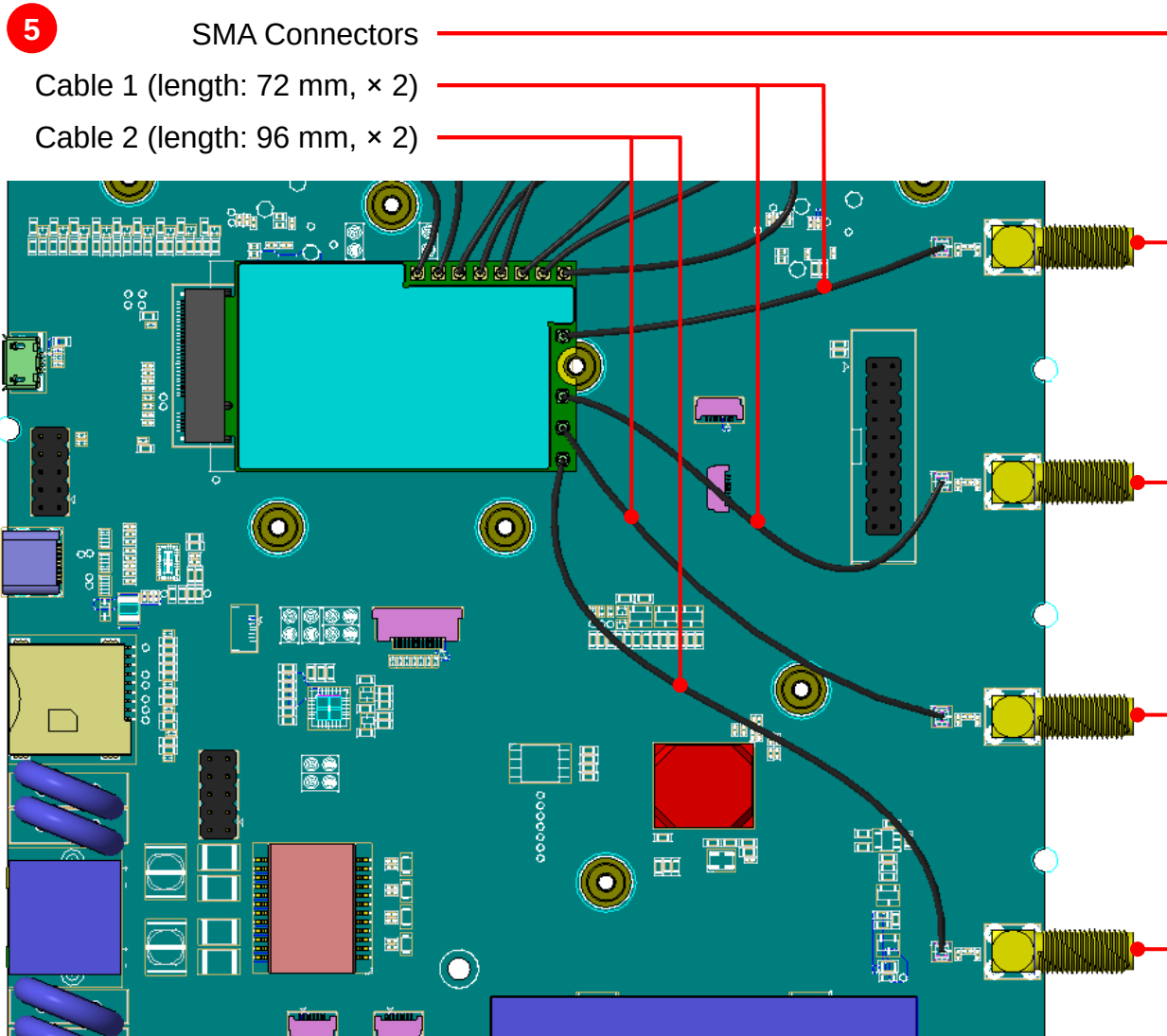
mmWave RF Carrier Board



4. Assemble the mmWave RF carrier board (RA510T) to the fixed bracket, and fasten it with these 4 self-tapping screws (M3 × L6).

NOTE: RM510Q-GL module and RA510T are not contained in the EVB kit.

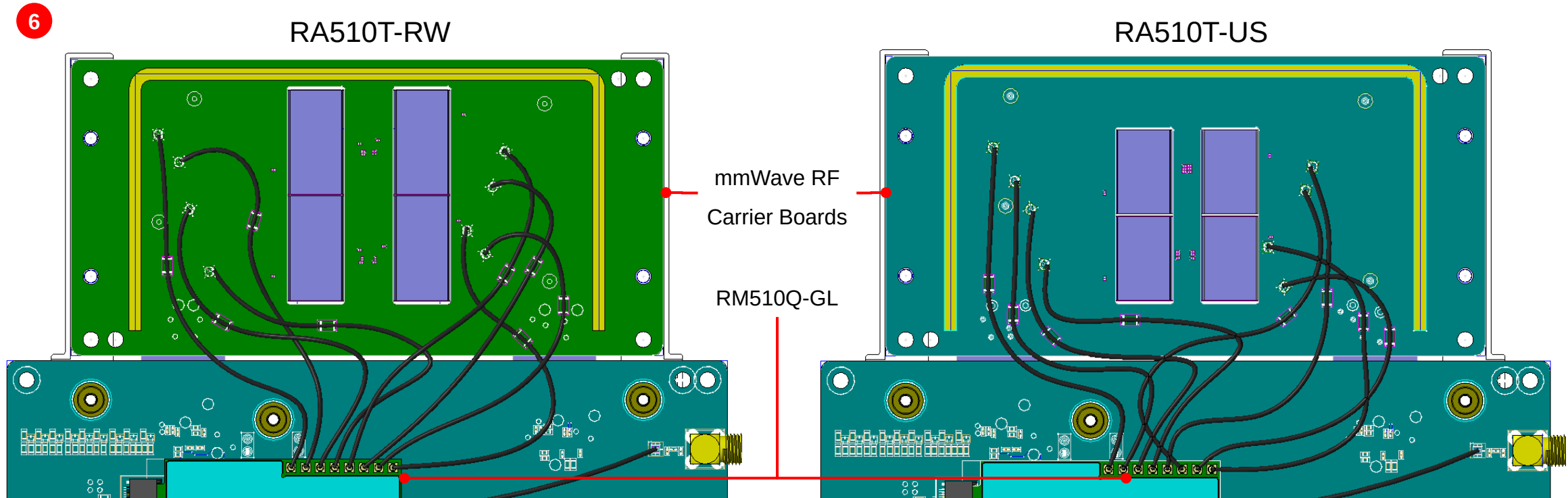
Assembly Steps (5)



5. Connect the RF connector and SMA connectors with cables.

NOTE: RM510Q-GL module and RA510T are not contained in the EVB kit.

Assembly Steps (6)



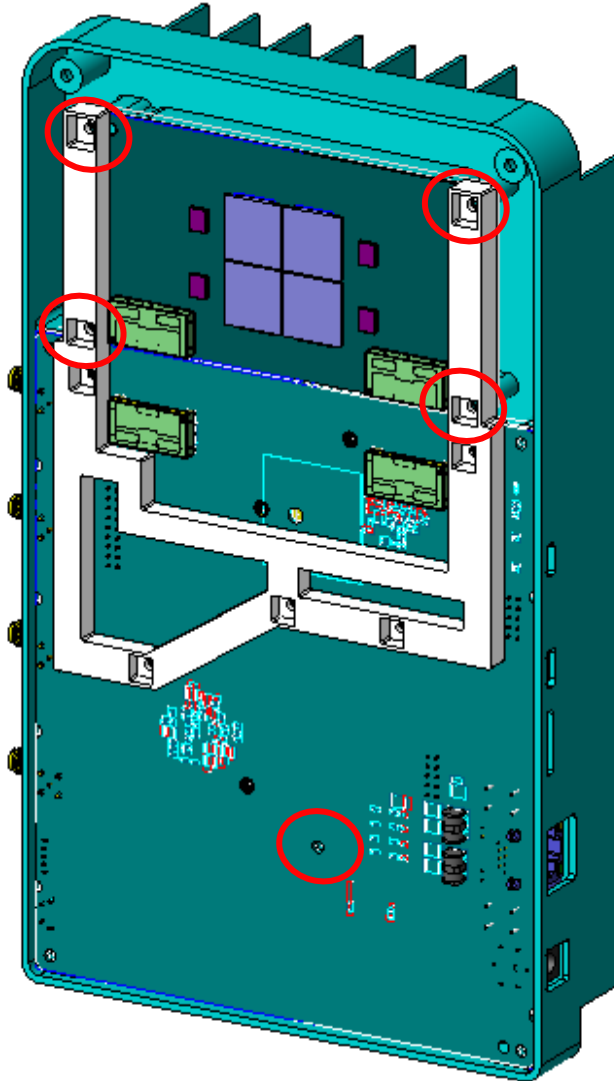
6. Connect the RF connectors of RM510Q-GL module and the mmWave RF carrier board (RA510T-RW or RA510T-US) with Cable 3 (length: 82 mm, × 8).

NOTE:

1. RM510Q-GL module and RA510T are not contained in the EVB kit.
2. There are two models of RA510T: RA510T-RW and RA510T-US

Assembly Steps (7)

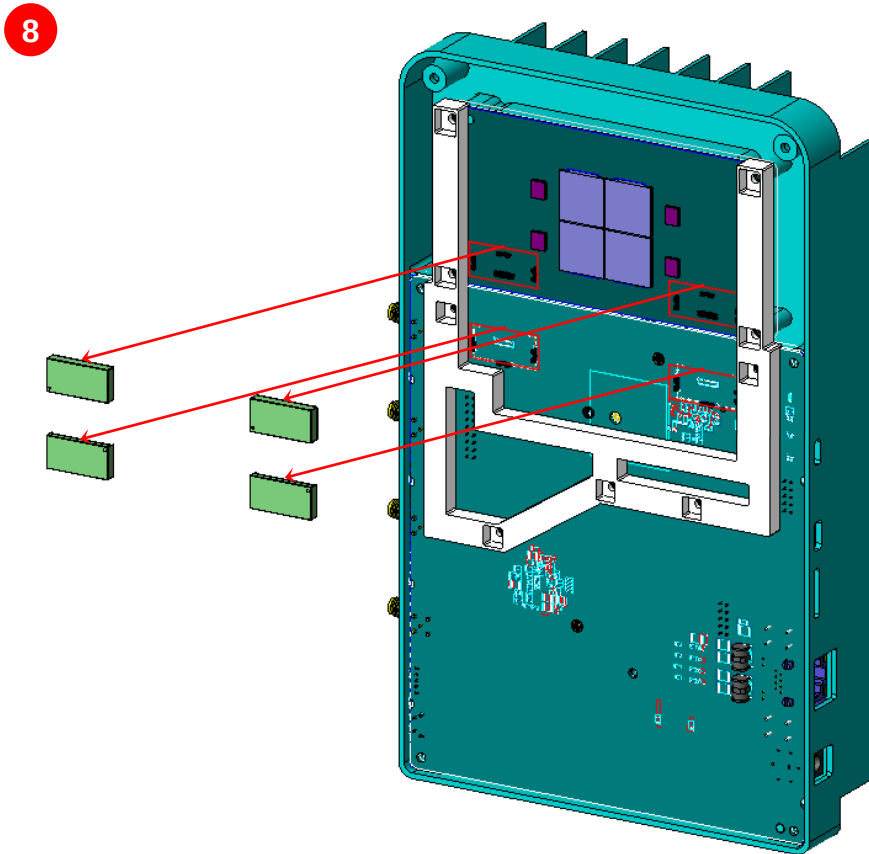
7



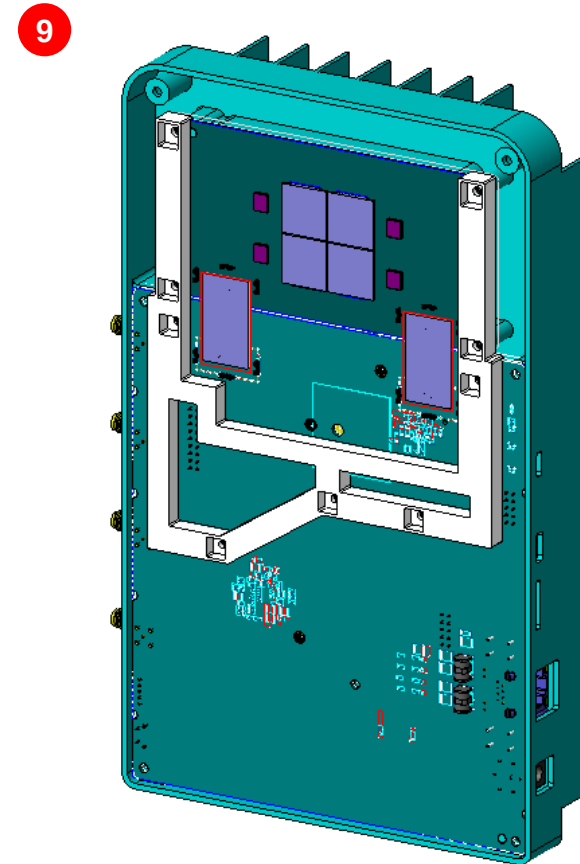
7. Install the EVB with the mmWave RF carrier board (please pass the SMA connectors through the corresponding openings first, and then press the whole EVB into place) to the rear housing, and fasten it with screws (M3 × L8, 5 pcs).

NOTE: RM510Q-GL module and RA510T are not contained in the EVB kit.

Assembly Steps (8–9)



8. Remove shielding covers shown above (2 on the EVB and 2 on the mmWave RF Carrier Board).

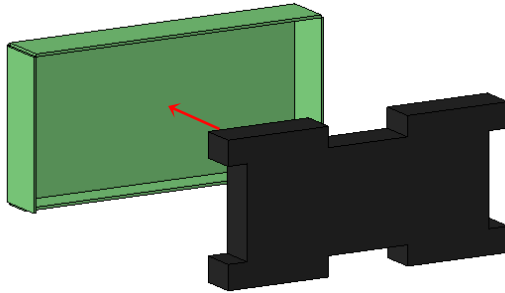


9. Fasten the FPCs (2 pcs).

NOTE: RM510Q-GL module and RA510T are not contained in the EVB kit.

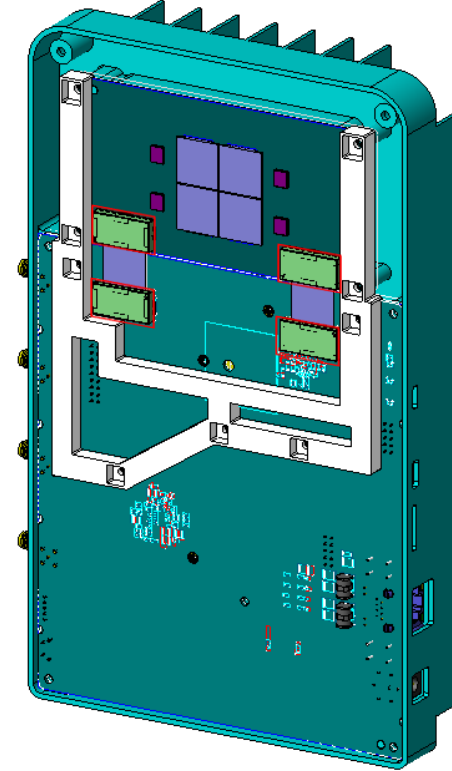
Assembly Steps (10–11)

10



10. Install the silicone pads to the shielding covers (4 pcs).

11

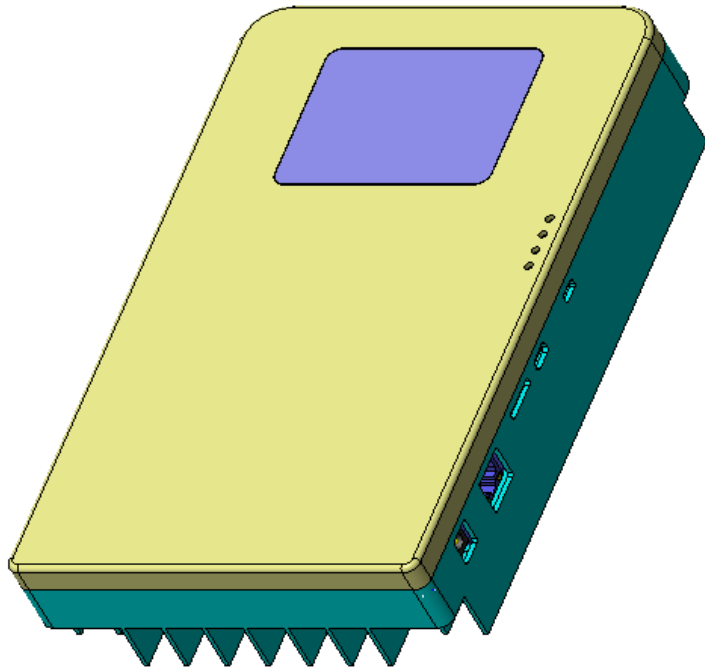


11. Assemble the shielding covers back to the EVB and mmWave RF carrier board (4 pcs).

NOTE: RM510Q-GL module and RA510T are not contained in the EVB kit.

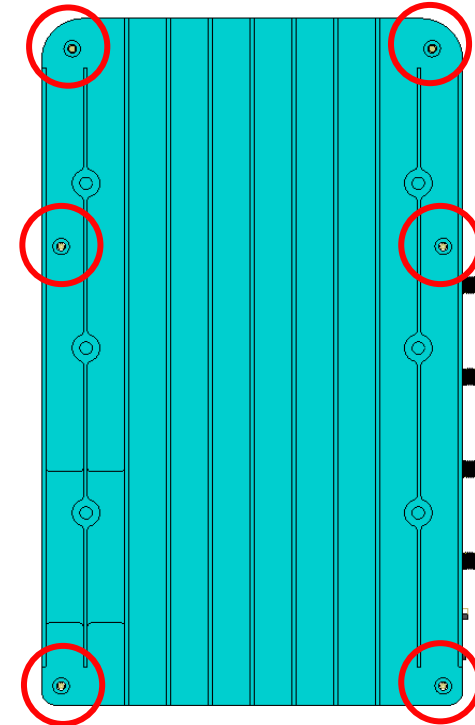
Assembly Steps (12–13)

12



12. Mount the front cover onto the rear housing.

13



13. Fasten the front housing with these 6 self-tapping screws (M3 × L8).

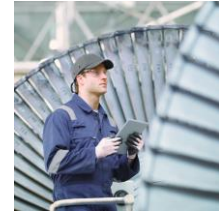
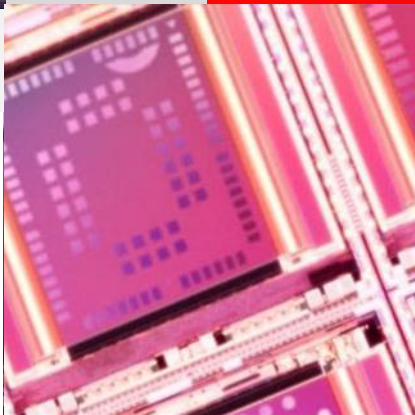
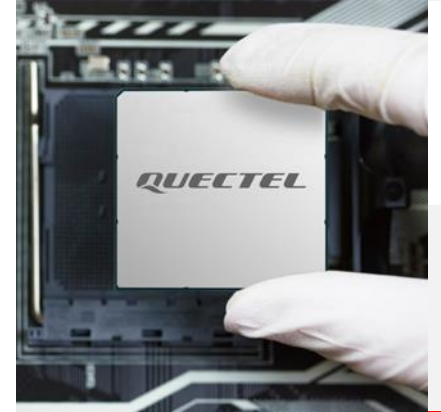


Pre-process

Assembly Steps

Function of Accessories

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Function of Accessories



Type	Description	Qty.	Size	Pre-installed by Quectel	Use for Customers
Screw	Machine screw pan-head_M3 × L8 RO	5	M3 × L8	1 piece for locking the EVB and rear housing	4 pcs for installing mmWave carrier board and rear housing
	Self-tapping screw 3 × 8 mm RO	6	M3 × L8	6 pcs for locking the front cover and the rear housing	-
	Screws SC-PM2.5X5-2L RO	7	M2.5 × L6	5 pcs for fastening the EVB to the bracket	1 piece for installing the RM510Q-GL module, 1 piece reserved
	Plastic self-tapping screw pan-head _M3 × L6 RO	4	M3 × L6 Self-tapping	-	4 pcs for fastening the mmWave RF carrier board to the bracket
Silicone Thermal Pad	Silicone thermal pad 1: XK-P80 35.5 mm × 11.5 mm × 0.7 t 7.9 W/(m·K) RO	2	35.5 × 11.5 × 0.7 mm	-	Silicone thermal pad to be stuck to the rear housing
	Silicone thermal pad 2: XK-P60 43 mm × 31 mm × 0.65 t 6.0 W/(m·K) RO	1	43 × 31 × 0.65 mm	-	Silicone thermal pad to be stuck to the rear housing
	Silicone thermal pad 3: XK-P60 15 mm × 13 mm × 0.65 t 6.0 W/(m·K) RO	1	15 × 13 × 0.65 mm	-	Silicone thermal pad to be stuck to the rear housing
	Silicone thermal pad 4: XK-P60 37 mm×30 mm×2.5 t 6.0 W/(m·K) RO	1	37 × 30 × 2.5 mm	-	Silicone thermal pad to be stuck to the EVB
	Silicone Pad 5G- mmWave-EVB 22 × 10.6 mm H2.8 mm LST RO	4	22 × 10.6 × 2.8 mm	-	4 pcs for pressing FPC conn
Cable	Cable 1: RF cable DC-6 GHz Length: 72 mm Diameter: 1.13 mm with IPEX MHF4L RO	2	72 mm	-	For connecting RM510Q-GL RF connectors to the SMA connectors.
	Cable 2: RF cable DC-6 GHz Length: 96 mm Diameter: 1.13 mm with IPEX MHF4L RO	2	96 mm	-	For connecting RM510Q-GL RF connectors to the SMA connectors.
	Cable 3: RF cable DC-12 GHz Length: 82 mm Diameter: 1.13 mm with IPEX MHF7S RO	8	82 mm	-	For connecting RM510Q-GL RF connectors to the mmWave RF carrier board.
	mmWave-EVB-FPC_V3.1 3L FPC 30 × 17 mm HB RO	2	30 × 17 mm	-	For the power supply to RA510T mmWave RF carrier board.



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Thank You

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