MANUAL.

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Contents

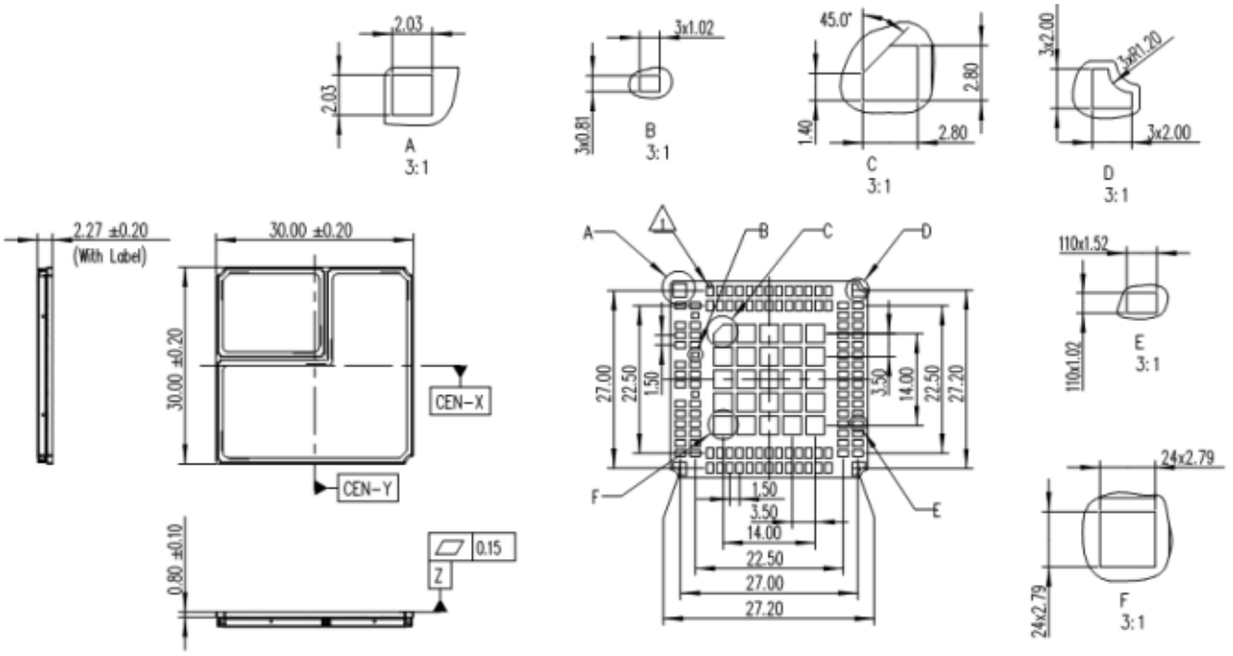
Thank you for purchasing HUAWEI MU709s-6 HSPA+ LGA Module (hereinafter referred to as the MU709)

Note:

- This manual briefly describes the preparation, the process for PCB Design, Assembly and safety precautions.
- You are recommended to read the manual before using the MU709.

Getting to Know the MU709

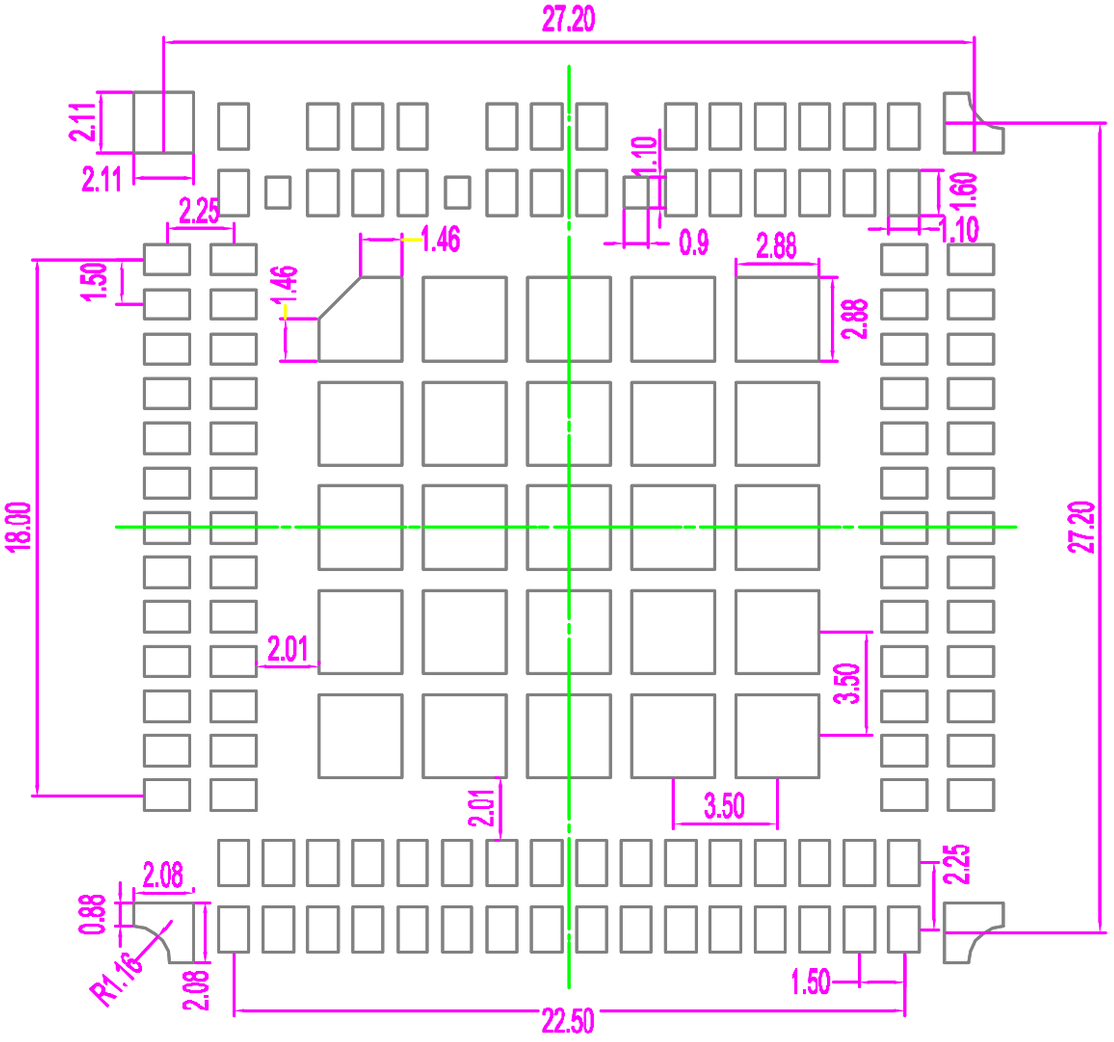
- The package of the LGA module is 145 pin LGA with a dimension of 30 mm × 30 mm × 2.27 mm. It is applied to the user interface board, and can be used as a wireless terminal in a network environment.



PCB Design

PCB Pad Design

To achieve assembly yields and solder joints of high reliability, it is recommended that the PCB pad size be designed as follows: the sizes of the solder pads on customers' PCBs are the same as those of the module's solder pads for the high production efficiency and high reliability of solder joints. For details, see the following figure:



Requirements on PCB Layout

- To reduce deformation, a thickness of at least 1.0 mm is recommended.
- Other devices must be located more than 3 mm (5 mm recommended) away from the LGA module. The minimum distance between the LGA module and the PCB edge is 0.5 mm.
- When the PCB layout is double sided, it is recommended that the LGA module be placed on the second side for assembly; so as to avoid module dropped from PCB or component (located in module) re-melding defects caused by uneven weight.

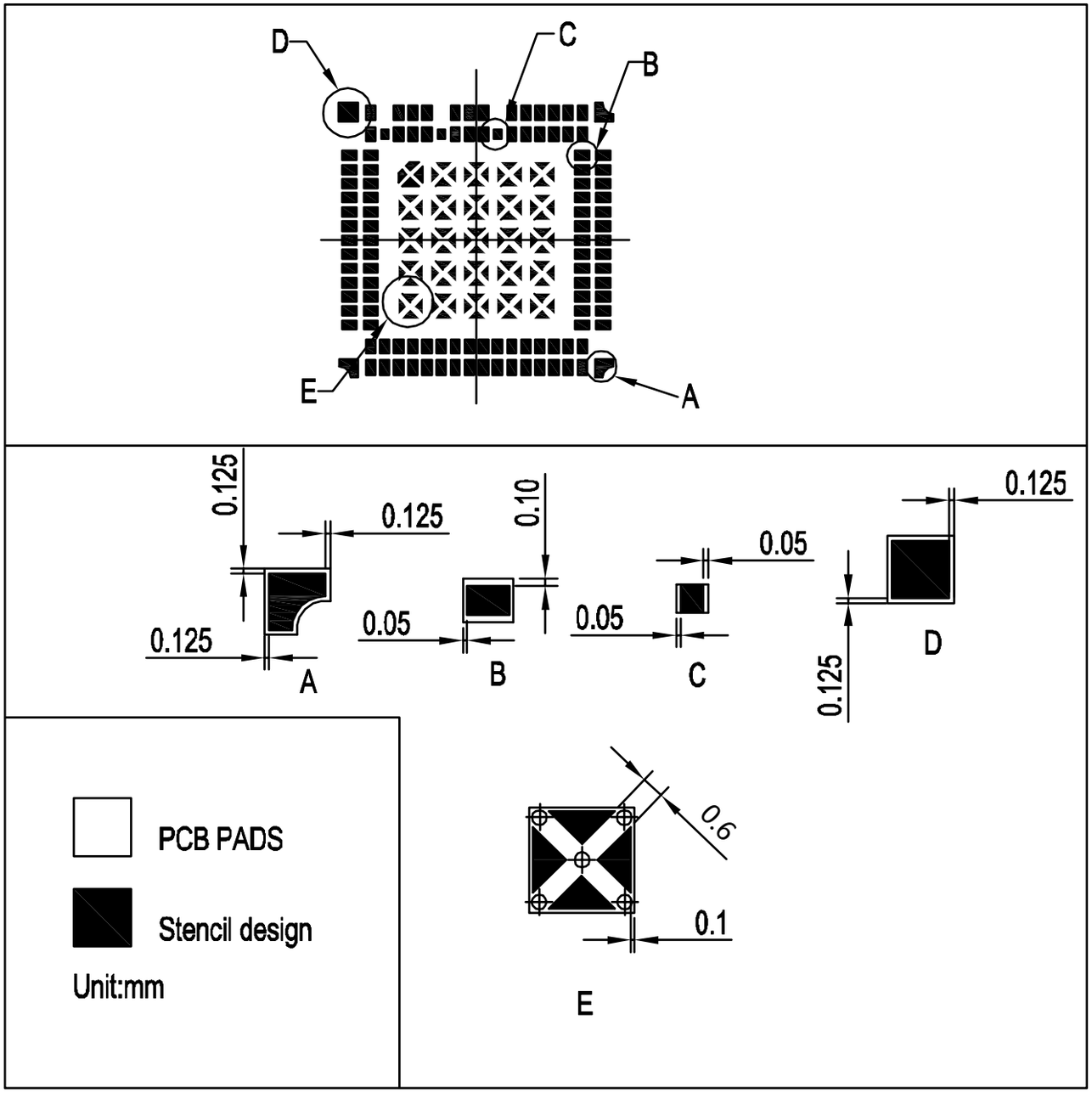
Design of Solder Mask

- The PCB pad design can be solder mask defined (SMD), or non-solder mask defined (NSMD).NSMD is recommended. In addition, the solder mask of the NSMD pad design is larger than the pad so the reliability of the solder joint can be improved.
- The solder mask must be 100 μm to150 μm larger than the pad, that is, the single side of the solder mask must be 50 μm to 75 μm larger than the pad. The specific size depends on the processing capability of the PCB manufacturer.

Assembly

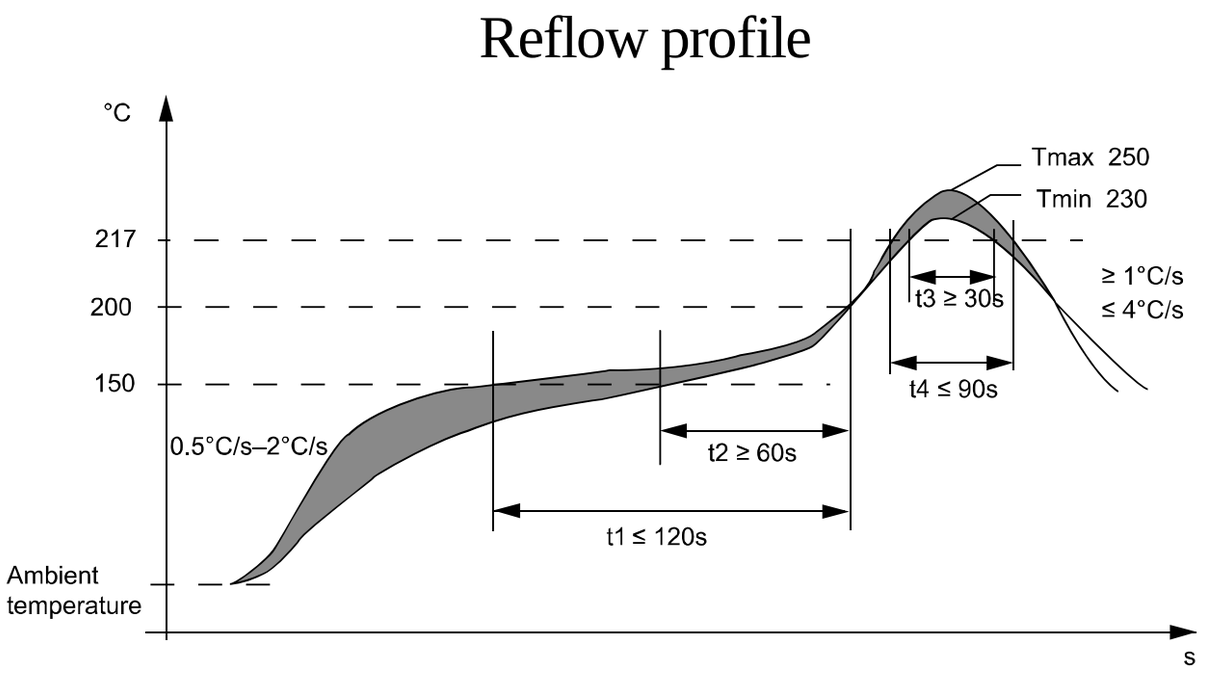
Stencil Design

It is recommended that the stencil for the LGA module be 0.15 mm in thickness. For the stencil design, see the following figure：


D
C
B
E
A
0.125
0.125
0.125
0.10
0.05
0.05
0.05
0.125
0.125
A
B
C
D
PCB PADS
Stencil design
Unit:mm
0.6
0.1
E

Reflow Profile

For the soldering temperature of the LGA module, see the following figure.



Reflow parameters

Temperature Zone	Time	Key Parameter
Preheat zone (40°C–150°C)	60s–120s	Heating rate: 0.5°C/s–2°C/s
Soak zone (150°C–200°C)	(t1–t2): 60s–120s	Heating rate: < 1.0°C/s

Reflow zone (> 217°C)	(t3–t4): 30s–90s	Peak reflow temperature: 230°C–250°C
Cooling zone	Cooling rate: 1°C/s ≤ Slope ≤ 4°C/s	