

## Product Change Notice (PCN)

**Subject:** Assembly materials change for RL78 family LQFP 44pin Greatek assembled products.

**Publication Date:** 11/11/2022

**Effective Date:** 1/1/2023

### Revision Description:

Initial release.

### Description of Change:

Partial change of RL78 family LQFP 10x10mm 44pin Greatek Electronics Inc. (Greatek) assembled products.

- Assembly material: Suspension lead's edge shape of lead frame and appearance of that part.  
"Refer to the difference specification document for details."

MCP-AB-22-0101\_RL78\_LQFP\_Difference specification\_1010 44pin GTK\_LF

Products that are newly produced at Greatek from January will be produced with the changed specifications.

### Affected Product List:

R5F100FAAFP#10	R5F100FAAFP#50	R5F100FAGFP#10	R5F100FAGFP#50
R5F100FCAFP#10	R5F100FCAFP#50	R5F100FCGFP#10	R5F100FCGFP#50
R5F100FDAFP#10	R5F100FDAFP#50	R5F100FDGFP#10	R5F100FDGFP#50
R5F100FEAFP#10	R5F100FEAFP#50	R5F100FEGFP#10	R5F100FEGFP#50
R5F101FAAFP#10	R5F101FAAFP#50	R5F101FCAFP#10	R5F101FCAFP#50
R5F101FDAFP#10	R5F101FDAFP#50	R5F101FEAFP#10	R5F101FEAFP#50
R5F100FFAFP#10	R5F100FFAFP#50	R5F100FFGFP#10	R5F100FFGFP#50
R5F100FGAFP#10	R5F100FGAFP#50	R5F100FGGFP#10	R5F100FGGFP#50
R5F100FHAFP#10	R5F100FHAFP#50	R5F100FHGFP#10	R5F100FHGFP#50
R5F100FJAFP#10	R5F100FJAFP#50	R5F100FJGFP#10	R5F100FJGFP#50
R5F101FFAFP#10	R5F101FFAFP#50	R5F101FGAFP#10	R5F101FGAFP#50
R5F101FHAFP#10	R5F101FHAFP#50	R5F101FJAFP#10	R5F101FJAFP#50
R5F100FKAFP#10	R5F100FKAFP#50	R5F100FLAFP#10	R5F100FLAFP#50
R5F101FKAFP#10	R5F101FKAFP#50	R5F101FLAFP#10	R5F101FLAFP#50
R5F104FAAFP#10	R5F104FAAFP#50	R5F104FAGFP#10	R5F104FAGFP#50
R5F104FCAFP#10	R5F104FCAFP#50	R5F104FCGFP#10	R5F104FCGFP#50
R5F104FDAFP#10	R5F104FDAFP#50	R5F104FDGFP#10	R5F104FDGFP#50
R5F104FEAFP#10	R5F104FEAFP#50	R5F104FEGFP#10	R5F104FEGFP#50
R5F104FFAFP#10	R5F104FFAFP#50	R5F104FFGFP#10	R5F104FFGFP#50
R5F104FGAFP#10	R5F104FGAFP#50	R5F104FGGFP#10	R5F104FGGFP#50
R5F104FHAFP#10	R5F104FHAFP#50	R5F104FHGFP#10	R5F104FHGFP#50
R5F104FJAFP#10	R5F104FJAFP#50	R5F104FJGFP#10	R5F104FJGFP#50
R5F10RF8AFP#10	R5F10RF8AFP#50	R5F10RF8GFP#10	R5F10RF8GFP#50
R5F10RFAAFP#10	R5F10RFAAFP#50	R5F10RFAGFP#10	R5F10RFAGFP#50
R5F10RFCAFP#10	R5F10RFCAFP#50	R5F10RFCGFP#10	R5F10RFCGFP#50
R5F100FKDFP#10	R5F100FKDFP#50	R5F100FLDFP#10	R5F100FLDFP#50
R5F101FKDFP#10	R5F101FKDFP#50	R5F101FLDFP#10	R5F101FLDFP#50

**Reason for Change:**

Improve productivity.

**Impact on Fit, Form, Function, Quality & Reliability:**

No impact.

**Product Identification:**

Possible to confirm the production history data from the packing label or trace code.

**Qualification Status:** Please contact your Renesas sales representative.

**Sample Availability Date:** N/A

**Device Material Declaration:** Contact Renesas sales, distributor, or agency.

**Note:**

Acknowledgement must be received by Renesas within the end of December then Renesas will consider the change as approved.

**For additional information regarding this notice, please contact your Renesas sales representative.**

## To Sales/Marketing Members

MCP-AC-22-0046

PC-MCU-B015A/E

November 11, 2022

MCU Device Solution Business Division  
IoT and Infrastructure Business Unit Renesas Electronics Co., Ltd.

**Subject:** Assembly materials change for RL78 family LQFP 44pin Greatek assembled products.

### **Dear colleague,**

Thank you for your cooperation in PCN issues.

Renesas Electronics Corp. would like to hereby request your kind understanding and acceptance for the following change on above subject matter.

There is no change in product specifications (including package outline), characteristics, and quality.

### **1. Applicable products:**

RL78 family LQFP 10x10mm 44pin Greatek assembled products.

Refer to the PCN document (MCP-AC-22-0044) for the target P/N (Products manufactured by Greatek only).

There is no change in the ordering P/N and production P/N.

### **2. Request:**

It is applied from January to secure the productivity improvement. Please get the customer's agreement by the end of December.

If you have any inquiries, please contact us as soon as possible.

### **3. Background**

As one of the ways to secure the production volume, we have been evaluating the change in the suspension lead's edge shape of the lead frame, which has been improved in other packages. Since the evaluation has been completed, we apologize for the sudden request, but we ask that you contact customer as soon as possible.

### **4. Contacts:**

If you have any inquiries, please ask following window person.

Issue	Division	Name	e-mail
-Follow up of customer situation -Shipping after change	SCM Demand Planning Division	S. Matsuoka	shinobu.matsuoka.yn@renesas.com
		T. Suzuki	takako.suzuki.fn@renesas.com
		M. Shimose	mariko.shimose.xw@renesas.com
-Request of reliability report (by e-MAIL)	MCU Business Division	T. Nishikubo	tetsuya.nishikubo.xf@renesas.com
		S. Okada	shinichi.okada.jg@renesas.com
Individual inquiry about the following contents -Quality, Reliability	Quality Assurance Division	K. Itou	katsumi.itou.bx@renesas.com
		T. Ichikawa	takashi.ichikawa.jc@renesas.com

**【Revision history】**

Revision	Date	Content
1	November11, 2022	New release

# **Difference of specification (RL78 family LQFP products) 10x10mm 0.8mm pitch 44pin**

**Assembly factory: Gretek**

November 7, 2022

MCU PRODUCT MARKETING DEPARTMENT  
MCU DEVICE SOLUTION BUSINESS DIVISION  
IoT AND INFRASTRUCTURE BUSINESS UNIT  
RENESAS ELECTRONICS CO., LTD.

MCP-AB-22-0101  
PC-MCU-B015A/E

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(Rev. 5.0-1 October 2020)

## Difference outline

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- Assembly factory:  
Greatek Electronics Inc. (Greatek)
- Package outline:  
10mm x 10mm 0.8mm pitch 44pin LQFP
- Difference point  
Assembly material: Lead frame suspension lead edge shape and appearance of the part.
  - Specification and characteristics of product:  
No impact
  - Quality and reliability  
No impact





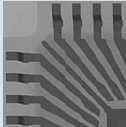
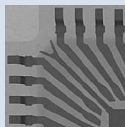
## Difference of specification

Item		New	Current
Assembly factory		Greatek	
Sorting factory		Greatek	
Package	Outline	No difference	
Lead frame	Suspension lead edge shape	There is difference (Refer to page 5)	
	Material	No difference	
	Inner lead design	No difference	
Die mount	Material	No difference	
Bonding wire	Material	No difference	
Mold resin	Material	No difference	
Plating	Material	No difference	
Marking	Font	No difference	
	Digit number	No difference	



# DETAIL OF DIFFERENCE POINT

Change the edge shape of the suspension lead on the 1-pin side. (Already used in other packages)  
(Suspension lead is a lead for fixing the Die pad that mounts the Die on the lead frame in the package.)  
The surface shape of the 1pin part change.

Difference Point	New	Current
Top photo of 1pin part		
Side photo of 1pin part		
X-ray photograph showing the edge shape of suspension lead		

# EFFORTS IN CHANGE

Item	Failure mode	Cause	Response at startup	Judgement
Suspension lead edge shape change	Outline failure	Defective outline of package edge	Outline dimensions comparison	No problem
	Impact on reliability	Delamination after reflow	Reliability confirmation	No problem

## 4M change points

### (Suspension lead edge shape change material application)

Item	Check Result	Judgement
<b>Machine</b>	There is no difference. The products are certificated same as existing products and no problem.	<b>No risk</b>
<b>Method</b>	There is no difference.	<b>No risk</b>
<b>Operator</b>	Adopt operator certification system. Only certificated operator can work for the production.	<b>No risk</b>
<b>Material</b>	Only use certificated materials. (Refer to the photo on page 6 for the difference in shape) The products are certificated same as existing products and no problem.	<b>No risk</b>

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