Integrated Device Technology, Inc.
6024 Silver Creek Valley Road, San Jose, CA - 95138

PRODUCT/PROCESS CHANGE NOTICE (PCN)

PCN #: **W1911-01** DATE: **19-Dec-2019**

Product Affected: F1431NBGK, F1431NBGK8

Date Effective: **19-Mar-2020**

MEANS OF DISTINGUISHING CHANGED DEVICES:

☐ Product Mark
☐ Back Mark
☒ Date Code Datecode 2018 and above
☐ Other

Contact: PCN DESK

E-mail: idt-pcn@lm.renesas.com

Attachment: ☒ Yes ☐ No

Samples: N/A

DESCRIPTION AND PURPOSE OF CHANGE:

☐ Die Technology
☒ Wafer Fabrication Process
☐ Assembly Process
☐ Equipment
☐ Material
☐ Testing
☐ Manufacturing Site
☐ Data Sheet
☐ Other

This notification is to advise our customers that the MIM capacitor architecture has been re-designed by the foundry WaveTek to improve device robustness. This change is to address the CGR (Capacitive Guard Ring) MIMCAP design that is susceptible to peeling of nitride layer between metal layers.

	Current	**New**
MIMCAP Architecture	CGR	TPM

RELIABILITY/QUALIFICATION SUMMARY:

There is no expected change to the product quality or reliability performance.

CUSTOMER ACKNOWLEDGMENT OF RECEIPT:

IDT records indicate that you require written notification of this change. Please use the acknowledgement below or E-Mail to grant approval or request additional information. If IDT does not receive acknowledgement within 30 days of this notice it will be assumed that this change is acceptable.
IDT reserves the right to ship either version manufactured after the process change effective date until the inventory on the earlier version has been depleted.

Customer: ____________________ ☐ ***Approval for shipments prior to effective date.***

Name/Date: ____________________ E-Mail Address: ____________________

Title: ____________________ Phone# /Fax# : ____________________

CUSTOMER COMMENTS: ____________________

IDT ACKNOWLEDGMENT OF RECEIPT:

RECD. BY: ____________________ DATE: ____________________

Product Qualification Report
(Re-Spin)

Date: 11/19/2019

Product:	F1431ZJNBGK		
Fab Base:	GRF2014B C2018	**Process Technology:**	ED25_5V GaAs E/D-HEMT
Package Type:	NBG24	**Fab Location:**	WaveTek
Assembly Location:	Carsem	**Qual Plan#:**	Q19-11-005

Test Description	Conditions	Sample Size	Results (rej/SS)	Comments
Early Life Failure Rate	JESD22-A108, Ta 97°C, 5.0V, 48 hrs	320	0/320	Pass
ESD: Human Body Model	JESD22-A114 (JS-001) Classification ±2000V	3	0/3	Pass
ESD: Charged Device Model	JESD22-C101 Classification ±500V	3	0/3	Pass
Latch-Up	JESD78, T_A at 85°C	6	0/6	Pass
Electrical Characterization	Datasheet	3	Results reported in Datasheet	Complete

Package Qual				
Temperature Cycling [1]	JESD22-A104, -55°C to +125°C, 700 cycles	25	0/25, x3 lots	Pass
Highly Accelerated Temperature and Humidity stress (Biased) [1]	JESD22-A110, +130°C, 85% RH, Vcc_{max}, 96 hrs	25	0/25, x3 lots	Pass
High Temperature Storage Life[1]	JESD22-A103, +150°C, 1000 hrs	25	0/25, x3 lots	Pass
Bond Pull Strength	M2011	5	0/5, x3 lots	Pass
Bond Shear	JESD22-B116	5	0/5, x3 lots	Pass
Physical Dimension	JESD22-B100 (Per applicable IDT Package Outline Drawing)	30	0/30, x3 lots	Pass
Solderability Test	MIL-STD-883 (Method 2003), J-STD-002D	5	0/5, x3 lots	Pass

Note:

1. Preconditioning per JESD22-A113, MSL 1 (260°C)