

## Product Change Notification (PCN)

PCN no.: <b>PCN-075 rev.1.0</b>	Date: <b>2013-02-07</b>																																				
Device affected: <b>All variants for the following product families</b>																																					
<table style="width: 100%; border: none;"> <tr><td style="padding: 2px 10px;"><b>nRF24LE1-Fxx</b></td><td style="padding: 2px 10px;">Build code C</td></tr> <tr><td style="padding: 2px 10px;"><b>nRF24LU1P-Fxx</b></td><td style="padding: 2px 10px;">Build code D</td></tr> <tr><td style="padding: 2px 10px;"><b>nRF24LE1-O</b></td><td style="padding: 2px 10px;">Build code D and O</td></tr> <tr><td style="padding: 2px 10px;"><b>nRF24LU1P-O</b></td><td style="padding: 2px 10px;">Build code D and O</td></tr> <tr><td style="padding: 2px 10px;"><b>nRF24LU1</b></td><td style="padding: 2px 10px;">Build code E</td></tr> <tr><td style="padding: 2px 10px;"><b>nRF9E5</b></td><td style="padding: 2px 10px;">Build code C</td></tr> <tr><td style="padding: 2px 10px;"><b>nRF905</b></td><td style="padding: 2px 10px;">Build code C</td></tr> <tr><td style="padding: 2px 10px;"><b>nRF24L01</b></td><td style="padding: 2px 10px;">Build code D</td></tr> <tr><td style="padding: 2px 10px;"><b>nRF24L01P</b></td><td style="padding: 2px 10px;">Build code A and M</td></tr> <tr><td style="padding: 2px 10px;"><b>nRF24AP1</b></td><td style="padding: 2px 10px;">Build code B</td></tr> <tr><td style="padding: 2px 10px;"><b>nRF24AP2-1CH/8CH</b></td><td style="padding: 2px 10px;">Build code N</td></tr> <tr><td style="padding: 2px 10px;"><b>nRF24AP2-USB</b></td><td style="padding: 2px 10px;">Build code M</td></tr> <tr><td style="padding: 2px 10px;"><b>nRF2401AG</b></td><td style="padding: 2px 10px;">Build code B</td></tr> <tr><td style="padding: 2px 10px;"><b>nRF2402G</b></td><td style="padding: 2px 10px;">Build code C</td></tr> <tr><td style="padding: 2px 10px;"><b>nRF24E1G</b></td><td style="padding: 2px 10px;">Build code B</td></tr> <tr><td style="padding: 2px 10px;"><b>nRF24E2G</b></td><td style="padding: 2px 10px;">Build code B</td></tr> <tr><td style="padding: 2px 10px;"><b>nRF8001-R2Q32</b></td><td style="padding: 2px 10px;">Build code D</td></tr> <tr><td style="padding: 2px 10px;"><b>nRF8002-R1Q32</b></td><td style="padding: 2px 10px;">Build code B</td></tr> </table>	<b>nRF24LE1-Fxx</b>	Build code C	<b>nRF24LU1P-Fxx</b>	Build code D	<b>nRF24LE1-O</b>	Build code D and O	<b>nRF24LU1P-O</b>	Build code D and O	<b>nRF24LU1</b>	Build code E	<b>nRF9E5</b>	Build code C	<b>nRF905</b>	Build code C	<b>nRF24L01</b>	Build code D	<b>nRF24L01P</b>	Build code A and M	<b>nRF24AP1</b>	Build code B	<b>nRF24AP2-1CH/8CH</b>	Build code N	<b>nRF24AP2-USB</b>	Build code M	<b>nRF2401AG</b>	Build code B	<b>nRF2402G</b>	Build code C	<b>nRF24E1G</b>	Build code B	<b>nRF24E2G</b>	Build code B	<b>nRF8001-R2Q32</b>	Build code D	<b>nRF8002-R1Q32</b>	Build code B	
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Data sheet references: <b>N/A</b>	Agreement reference: <b>N/A</b>	Customers reference: <b>N/A</b>																																			

<b>Description of change:</b>		
Addition of a second source for leadframes as well as die attach material for the above devices manufactured at Amkor Technologies Philippines.		
<b>Impact:</b> Does the change affect <u>product</u> :		
1. Form	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes – describe:
2. Fit	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes – describe:
3. Function	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes – describe:
4. Quality or Reliability	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes – describe:
Classification of change	<input checked="" type="checkbox"/> Minor	<input type="checkbox"/> Major

## Product Change Notification (PCN)

**Reason for change:**

Availability of second source to improve supply chain flexibility and prevent possible future material shortage.

**Comparison data**

Leadframe

Comparison Item	Current	New
Base Material	C194 Alloy	C194 Alloy
2 <sup>nd</sup> bond plating	Ag	Ag
Roughening Process	Plating Rough Copper on Copper surface	Plating Rough Copper on Copper surface
	Prior Ag plating process	Prior Ag plating process
Roughened surface coverage	Top side only	Top side only

Die Attach material

Comparison Item	Current	New
Appearance	Silver Color	Silver Color
Specific Gravity	4.5	3.8
Thermal Conductivity	4.0W/mK	3.9W/mK
Volume Resistivity	0.00008ohm-cm	0.0001 ohm-cm

**Consequences of change:**

No negative impact seen.

Both the new leadframe supplier and die attach material are qualified and running in production at Amkor Technologies' facilities.

**Verification:**

Representative device were subject to qualification per applicable JEDEC standards. Reports and samples will be available upon request.

**Marking/Shipping labels:**

No change to marking / shipping labels. Change application will be identified by trace code.

**Change active from (date):**

Change will gradually be implemented device by device starting ww17 2013. Actual change over date per device will be available upon request

**Change active from (lot no/date code):**

Actual change over date code per device will be available upon request

**Last time order (date):** (optional)

N/A

**Final shipment date:** (optional)

N/A

**Attachments:**

No  Yes – describe:

**Technical contact at Nordic Semiconductor:**

Analiza Gueta  
 Project Manager – Supply Chain  
 e-mail: [analiza.gueta@nordicsemi.no](mailto:analiza.gueta@nordicsemi.no)

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 Product Manager Standard Components  
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## Product Change Notification (PCN)

**Authorization for Nordic Semiconductor**

Product Manager

Date: 2013-02-07

Sign:



Quality Director

Date: 2013-02-07

Sign:



*Please note that all last time buy orders are non-cancellable and non-returnable.*