



Product Change Notification - GBNG-18NQCZ306

Date:

22 Jul 2019

Product Category:

Temperature Sensors

Affected CPNs:**Notification subject:**

CCB 3875 Final Notice: Implement new Tape and Reel packing media for selected Atmel products of the 35.4k wafer technology available in 8L UDFN (2x3x0.6mm) and WDFN (2x3x0.8mm) packages at MTAI assembly site.

Notification text:**PCN Status:**

Final notification

PCN Type:

Manufacturing Change

Microchip Parts Affected:

Please open one of the icons found in the Affected CPNs section above.

NOTE: For your convenience Microchip includes identical files in two formats (.pdf and .xls).

Description of Change:

Implement new Tape and Reel packing media for selected Atmel products of the 35.4k wafer technology available in 8L UDFN (2x3x0.6mm) and WDFN (2x3x0.8mm) packages at MTAI assembly site.

Pre Change:

Using carrier tape with 8mm width, cover tape with 5.3mm width and white plastic reel.

Post Change:

Using carrier tape with 8mm width, cover tape with 5.4mm width and dark blue plastic reel.

Pre and Post Change Summary:

Item		Pre Change	Post Change
Carrier Tape	Width	8 +0.3	8 +0.3/-0.1
	A0	2.30 ±0.1	2.25 ±0.1
	B0	3.20 ±0.1	3.35 ±0.1
	K0	1.00 +0.1/-0.05	1.05 ±0.1
Cover Tape	Width	5.3 ±0.1	5.4 ±0.1
	Thickness	0.056 ±0.005	0.062 ±0.013
Plastic Reel	(A) Reel Diameter	330 +/- 2.0	330 +/- 2.0
	(N) Hub Diameter	100 ± 2.0	178 +0/- 2.0
	(W1) Reel Thickness	8.4 +2.0/-0	8.4 +2.0/-0
	(W2) Total Thickness	14.4	14.4
	(C) Center Hole Diameter	13 +0.5/-0.2	13 +0.5/-0.2
	Color	White	Dark Blue
Pin 1 Orientation		Quadrant 2	Quadrant 2

Note: 1) All dimensions are in millimeters (mm)

2) Please review the attached document for pre and post details of the changes.

Impacts to Data Sheet:

None

Change Impact:

None

**Reason for Change:**

To improve manufacturability by implementing new Tape and Reel packing media.

Change Implementation Status:

In Progress

Estimated First Ship Date:

August 22, 2019 (date code: 1934)

NOTE: Please be advised that after the estimated first ship date customers may receive pre and post change parts.

Time Table Summary:

	July 2019					August 2019			
Workweek	27	28	29	30	31	32	33	34	35
Final PCN Issue Date				X					
Qual Report Availability				X					
Estimated Implementation Date								X	

Method to Identify Change:

Traceability code

Qualification Report:

Please open the attachments included with this PCN labeled as PCN_#_Qual Report.

Revision History:

July 22, 2019: Issued final notification. Attached the qualification report. Provided the estimated first ship date to be on August 22, 2019.

The change described in this PCN does not alter Microchip's current regulatory compliance regarding the material content of the applicable products.

Attachment(s):

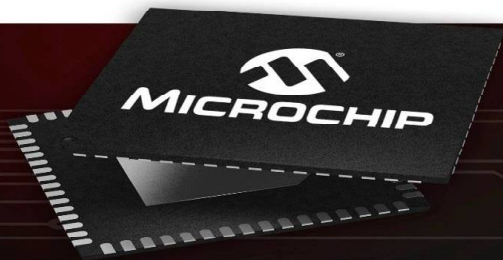
[PCN_GBNG-18NQCZ306_Qual Report and Pre and Post Change.pdf](#)

Please contact your local [Microchip sales office](#) with questions or concerns regarding this notification.

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If you wish to [receive Microchip PCNs via email](#) please register for our PCN email service at our [PCN home page](#) select register then fill in the required fields. You will find instructions about registering for Microchips PCN email service in the [PCN FAQ](#) section.

If you wish to [change your PCN profile, including opt out](#), please go to the [PCN home page](#) select login and sign into your myMicrochip account. Select a profile option from the left navigation bar and make the applicable selections.



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PCN #: GBNG-18NQCZ306

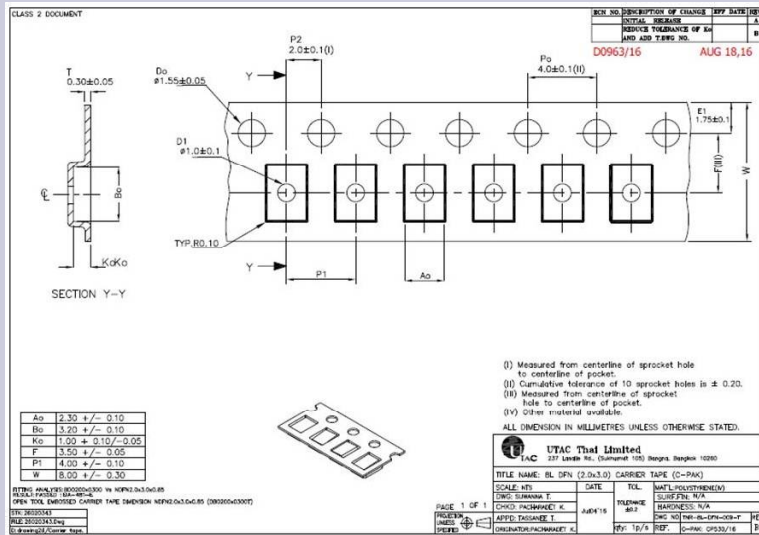
**Implement new Tape and Reel packing media for selected Atmel
products of the 35.4k wafer technology available in 8L UDFN
(2x3x0.6mm) and WDFN (2x3x0.8mm) packages at MTAI assembly site.**

CCB 3875

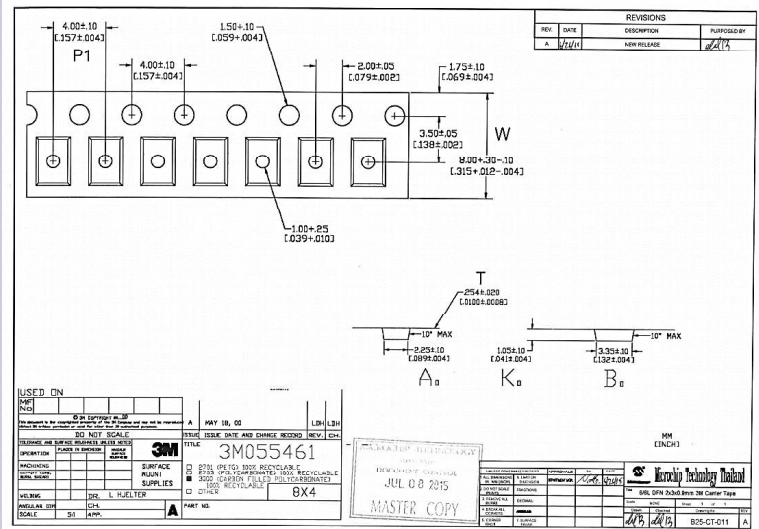


Carrier Tape Pre and Post Change

PRE CHANGE



POST CHANGE

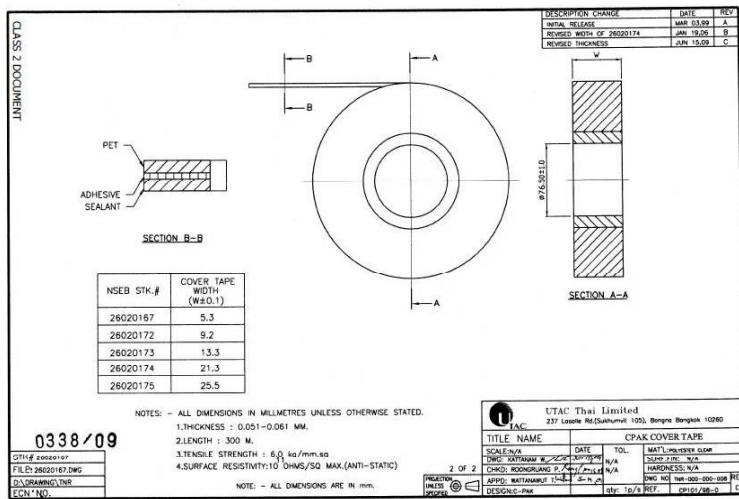


Location	Width (mm)	Pitch (mm)	A0 (mm)	B0 (mm)	K0 (mm)
Pre Change	8 \pm 0.3	4 \pm 0.1	2.30 \pm 0.1	3.20 \pm 0.1	1.00 \pm 0.1/-0.05
Post Change	8 \pm 0.3/-0.1	4 \pm 0.1	2.25 \pm 0.1	3.35 \pm 0.1	1.05 \pm 0.1



Cover Tape Pre and Post Change

Existing



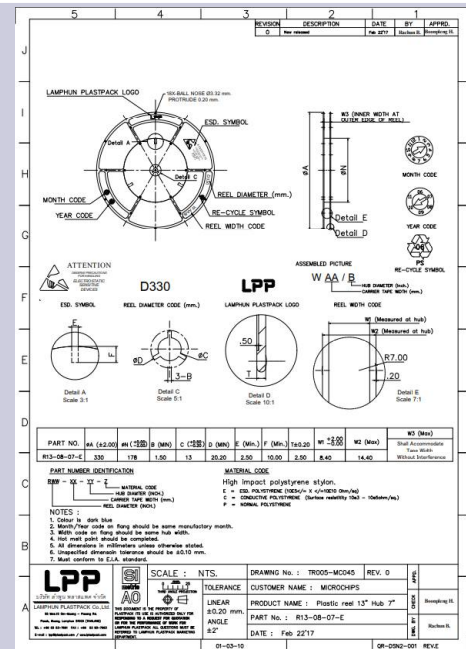
New

Item		Specification		
		Nominal	Min	Max
Dimension (mm)	Thickness	0.062	0.049	0.075
	Width	5.4	5.3	5.5
Surface Resistivity (ohms/sq)	Back Side	1.0E+10	1.0E+08	1.0E+11
	Seal Side	1.0E+10	1.0E+08	1.0E+12
Tensile Strength (Mpa)			42	
Elongation (%)			70	

Location	Width (mm) or Specific	Thickness (mm)
Pre Change	5.3 ±0.1	0.056 ±0.005
Post Change	5.4 ±0.1	0.062 ±0.013



POST CHANGE

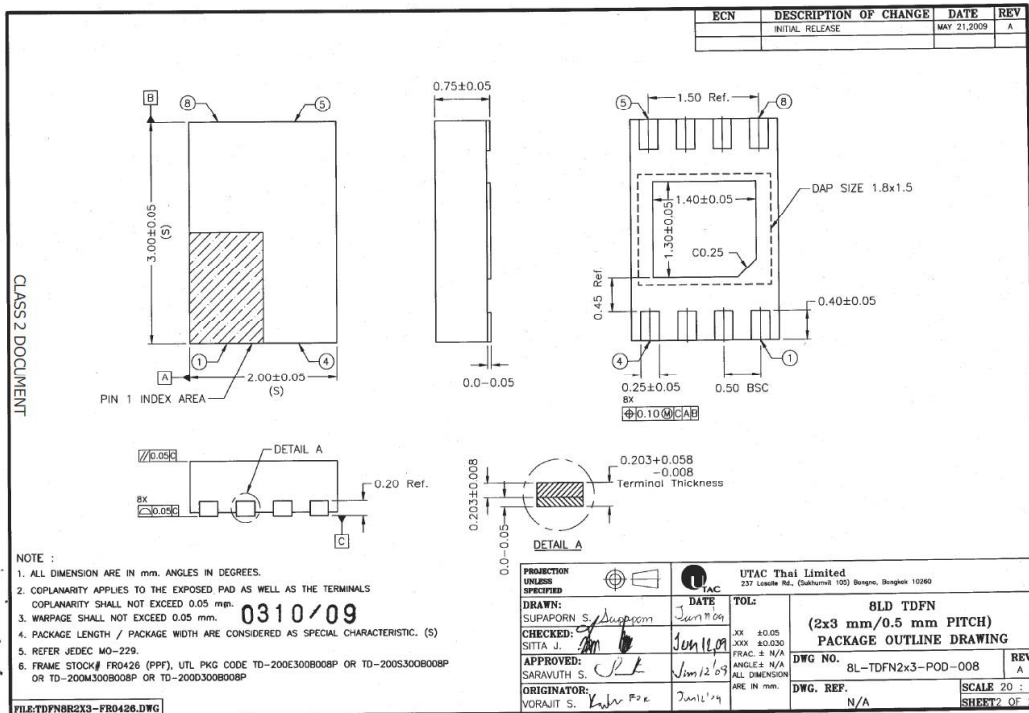


Location	Carrier Width	(A) Reel Dia. (mm) ±3.0	(N) Hub Dia. (mm) ±1.5	(W1) Reel Thickness (mm) +2.0/-0.0	(W2) Total Thickness (mm) Max	(C) Center Hole Dia. (mm) ±0.2	Color
Pre Change	8mm	330 +/- 2.0	100 ± 2.0	8.4 +2.0/-0	14.4	13 +0.5/-0.2	White
Post Change	8mm	330 +/- 2.0	178 +0/- 2.0	8.4 +2.0/-0	14.4	13 +0.5/-0.2	Dark Blue



Packing Specs

New Material Package Outline Dimension



Pkg Code	Package Code Description (50 character maximum)	Package Type (8 Char Max.)	Lead Count	Industry Standard	Package Width Or Size ³ NO SPACES	Microchip Assigned Pkg Otl'n Dwg No.
QEB	Very Thin Quad Flatpack No-Leads	WDFN	008	JEDEC	2x3x0.8mm	C04-21364
QFB	Very Thin Quad Flatpack No-Leads	WDFN	008	JEDEC	2x3x0.8mm	C04-21365



Packing Specs New Carrier Tape

REVISIONS			
REV.	DATE	DESCRIPTION	PURPOSED BY
A	7/1/11	NEW RELEASE	delB

USED ON		DATE		REV.	
MF	No	A	MAY 18, 00	LDH	LDH

DO NOT SCALE		TITLE	
OPERATION	PLACES IN SPECIFICATION	3M	3M055461

TOLERANCES AND SURFACE FINISHES UNLESS NOTED		SURFACE MOUNT SUPPLIES	
MACHINING		□ 2701 (PETG) 100% RECYCLABLE	
OUT-PUT CASE, BURN, SOLDER		□ 2703 (POLYCARBONATE) 100% RECYCLABLE	
		■ 3000 (CARBON FILLED POLYCARBONATE) 100% RECYCLABLE	
		□ OTHER	8X4

VOLUMING		DR. L. HJELTER	
ANGULAR DIM	CHL	PART NO.	
SCALE	5:1 APP.		

APPROVALS		BY		DATE	
DESIGN	CHIEF	delB	delB		

MICROCHIP TECHNOLOGY THAILAND	
Scale	5:1
Drawn	delB
Checked	delB
Copyrights	B25-CT-011
Rev	A



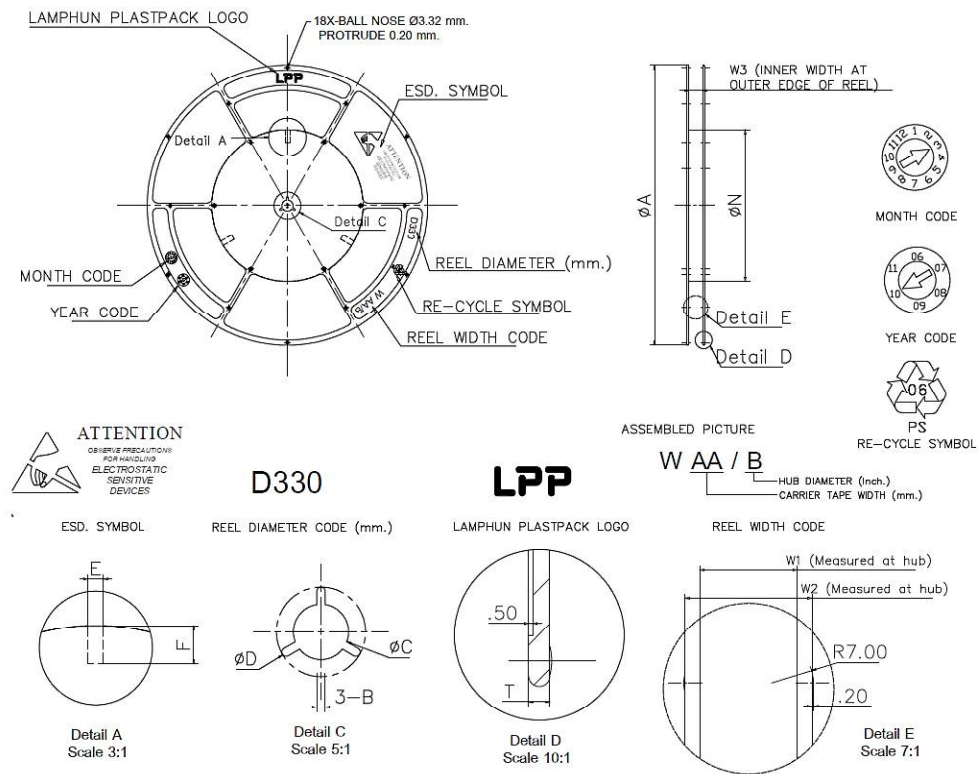
Packing Specs New Cover Tape

Description		Units	Typical performance	Test notes	Test method
Material properties	Backing type		Polyester		
	Adhesive type		Heat activated		
	Sealing temp	°C	170-220	1	
Physical properties	Tensile strength	Mpa	50	2	Modified ASTM-D3759
	Elongation	%	100	2	Modified ASTM-D3759
	Haze	%	29.5	3	ASTM-D1003
	Clarity	%	80.6	3	ASTM-D1003
	Transmission	%	85.5	3	ASTM-D1003
	Thickness	mm (in)	0.062 (0.0024)	2	Modified ASTM-D3652
Electrical properties	Resistivity (Back side)	Ohms/sq	10 ⁹	4	ASTM-D257
	Resistivity (Component side)	Ohms/sq	10 ⁹	4	ASTM-D257
Product format	Core type	Material	Plastic		
	Core inner diameter	mm (in)	76.45 (3.0)		
	Roll diameter	mm (in)	219 (8.62)		
	Roll length	m (yd)	480 (525)		

Item		Specification		
		Nominal	Min	Max
Dimension (mm)	Thickness	0.062	0.049	0.075
	Width	5.4	5.3	5.5
Surface Resistivity (ohms/sq)	Back Side	1.0E+10	1.0E+08	1.0E+11
	Seal Side	1.0E+10	1.0E+08	1.0E+12
Tensile Strength (Mpa)			42	
Elongation (%)			70	



Packing Specs New Plastic Reel



PART NO.	ØA (±2.00)	ØN (+0.00/-2.00)	B (MIN)	C (+0.50/-0.20)	D (MIN)	E (Min.)	F (Min.)	T±0.20	W1 +2.00/-0.00	W2 (Max)	W3 (Max)
R13-08-07-E	330	178	1.50	13	20.20	2.50	10.00	2.50	8.40	14.40	Shall Accommodate Tape Width Without Interference

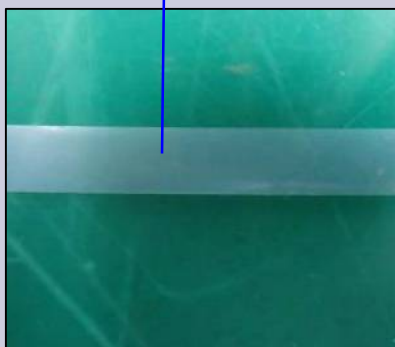
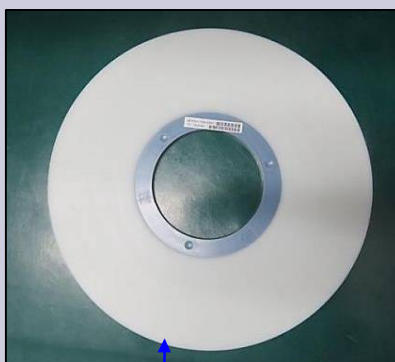


Qualification Results Packing Material (NEW)

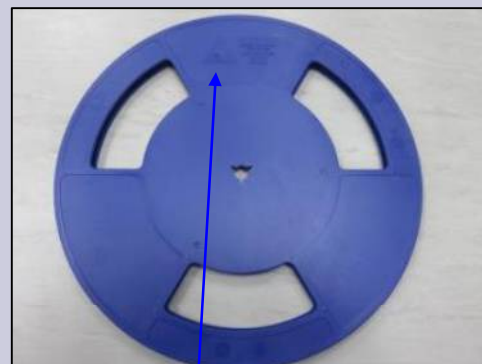
CARRIER TAPE
3M 055461



COVER TAPE
3M 2675 5.4mm



PLASTIC REEL
LPP R13-08-07-E (Dark Blue)





Qualification Results

New Carrier Tape Peel Strength Test

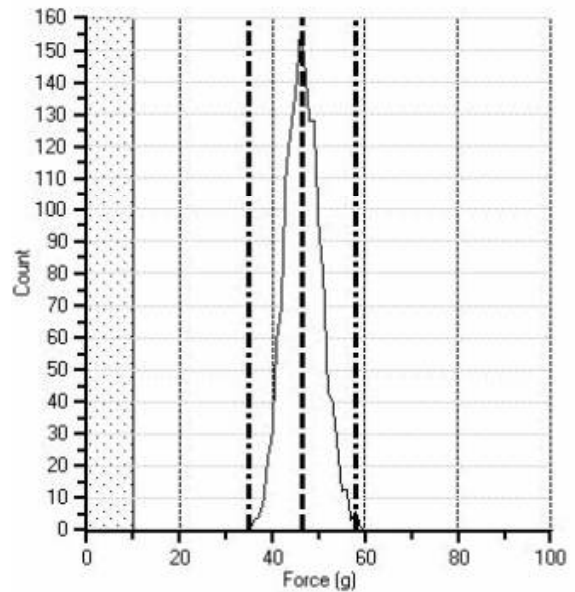
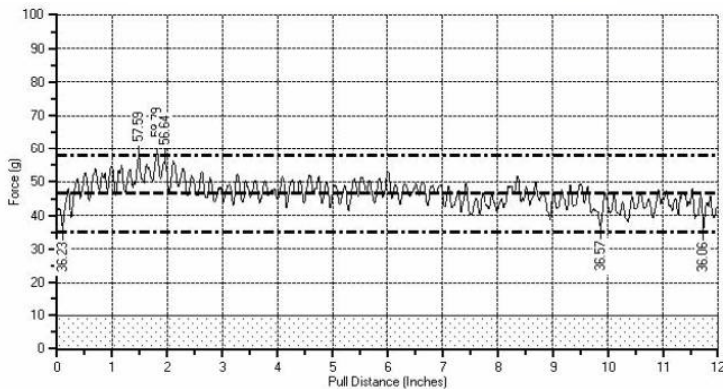
Pull Speed (mm/min): 300
Pull Distance (mm): 304.8
Carrier Tape: 3M/155049-1/22008403
Cover Tape: 3M/18349 W2HM/22100306

	Front Shoe	Rear Shoe
Temperature (C):	180	180
Pressure:	2	2
Width:	0	0

Analysis Criteria	Setting	Result
Upper Alarm Lmt (g):	100	PASS
Lower Alarm Lmt (g):	10	PASS
Upper Mean Lmt (g):	60	PASS
Lower Mean Lmt (g):	45	PASS
Cpk >:	1.67	PASS

Test Results: PASS

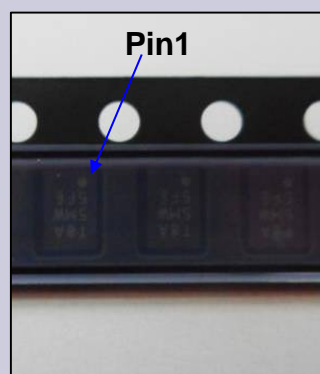
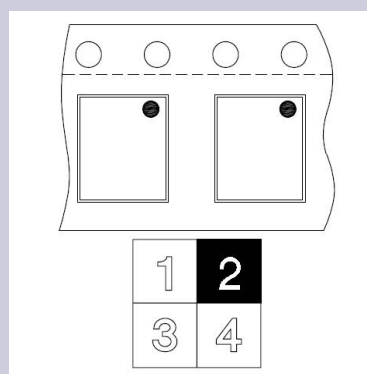
Max (g):	58.79	Range (g):	22.73
Min (g):	36.06	Std Dev (g):	3.83
Mean (g):	46.61	RMS (g):	46.77
Mn Max Mkrs (g):	57.67	Cpk:	3.19
Mn Min Mkrs (g):	36.29	Cp:	3.92





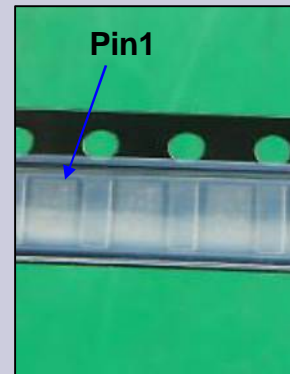
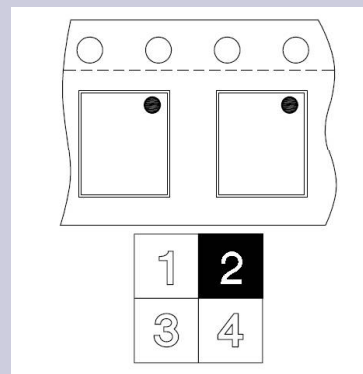
Qualification Results Packing Specification

PRE CHANGE



Quadrant 2

POST CHANGE



Quadrant 2

Package Type	Lead Count	Package Width	MSL	Pb-Free	Dry Pack	Desiccant per Bag	Tape Width (mm)	Pocket Pitch (mm)	Reel Dia. (mm)	Reel HUB size (mm) Proposal	Units per Reel	Units per Box	Component Orientation Quadrant
WDFN	8	2x3x0.8mm	1	260	N	0	8	4	330	178	5000	5000	2
WDFN	8	2x3x0.8mm	1	260	N	0	8	4	330	178	5000	5000	2



Qualification Results

New Carrier Tape Testing Result

Bent Testing



Not Found Seal off

Swing Testing



Not Found Seal off

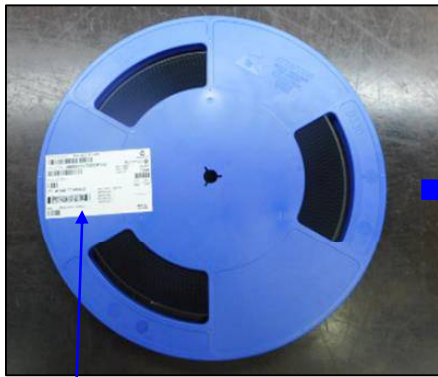
RIP Testing



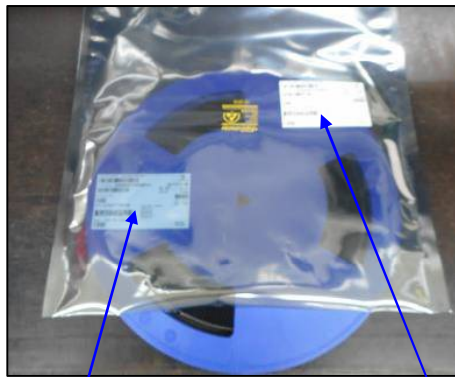
Not found Cover Tape torn



Qualification Results New Packing Method



MCHP STD Label



SSB Bag



Seal SSB Bag



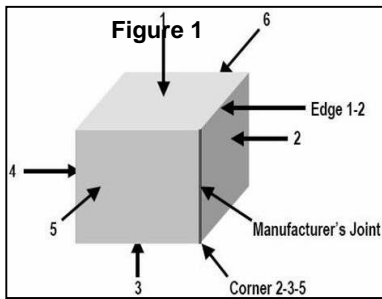
Bubble Sheet



Transparent Tape



New Material Drop Test Result



Drop Test Method:

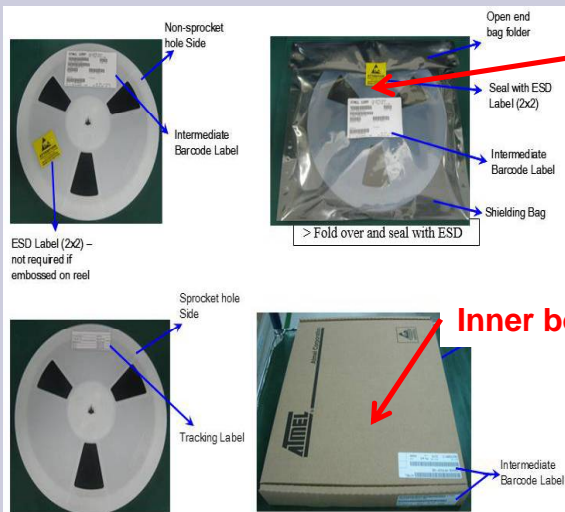
1. Pack IC per Packing Method with BQM 5000 unit per Reel
2. Drop 9 times by height 4 ft. (Per Figure 1)
3. Visual Inspection and see damaged or abnormal



FOI Visual 100% result: No Any Damage on Tape and Reel, Not Found Seal off, Not found IC damage
Box Condition: Found minor damaged at inner box

Non dry pack in 13 inch Reel (MSL – 1)

PRE CHANGE



Outer Carton



- List
- Shipping Barcode Label
- Carrier Label
- PB-Free Label (as required)

POST CHANGE

Static Shielding Bag

1-3 Reels



Outer carton



4 - 10 Reels



Bubble sheets

11- 18 Reels



Cushion

Outer carton

GBNG-18NQCZ306 - CCB 3875 Final Notice: Implement new Tape and Reel packing media for selected Ati

Affected Catalog Part Numbers(CPN)

AT30TS00-MAH-T
AT30TS01-MAA5M-T
AT30TS01-MAA5M-T-452
AT30TSE002A-MAH-T
AT30TSE002B-MAHGS-T
AT30TSE002B-MAHSB-T
AT30TSE002B-MAH-T
AT30TSE002B-MAH-T-053
AT30TSE002B-MAH-T-452
AT30TSE002B-MAH-T-975
AT30TSE004A-MA5M-T
AT30TSE004A-MAA5AK-T
AT30TSE004A-MAA5AK-T-053
AT30TSE004A-MAA5M-T
AT30TSE004A-MAA5M-T-053
AT30TSE004A-MAA5M-T-452