

PRODUCT AND PROCESS CHANGE NOTIFICATION

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ISSUE DATE: 03-Jun-2016

NOTIFICATION: 17193

TITLE: Second Source Assembly for RF PQFN/MLF Product Lines

EFFECTIVE DATE: 15-Jul-2016

DEVICE(S)

| MPN |
|--------------|
| MMA20312BT1 |
| MMA20312BVT1 |
| MMDS09254HT1 |
| MMDS20254HT1 |
| MMDS25254HT1 |
| MMG20271HT1 |
| MMG3006NT1 |
| MML09211HT1 |
| MML09212HT1 |
| MML09231HT1 |
| MML20211HT1 |
| MML20242HT1 |
| MMT20303HT1 |
| MMZ09312BT1 |
| MMZ09332BT1 |
| MMZ25332B4T1 |
| MMZ25332BT1 |
| MMZ25333BT1 |
| MMZ27333BT1 |

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AFFECTED CHANGE CATEGORIES

ASSEMBLY SITE

DESCRIPTION OF CHANGE

This is a notification of NXP's qualifying of second assembly site for RF PQFN/MLF packages. This formal notification describes the qualification process.

Qualification schedules by device, as well as reliability and electrical results are provided in the PCN. All electrical and reliability data is shown for qualification vehicles and schedule for sample availability is also included. Qualification dates are based on current orders and forecasts and are subject to change without notice after PCN expiration. There is no change in fit, form, or function with the new assembly site.

| Part | Estimated 2nd Assembly Qualification | Sample Date | REASON FOR |
|------------|-----------------------------------------|-------------|-----------------------------|
| MML09211H | Jul - 16 | Aug - 16 | <u>CHANGE</u> |
| MML20211H | Jul - 16 | Aug - 16 | Qualification of second |
| MML09231H | Jul - 16 | Aug - 16 | assembly site. |
| MMG20271H | Jul - 16 | Aug - 16 | |
| MML09212H | Jul - 16 | Aug - 16 | |
| MML20242H | Jul - 16 | Aug - 16 | ANTICIPATED |
| MMZ09312B | Jul - 16 | Aug - 16 | IMPACT OF |
| MMA20312B | Jul - 16 | Aug - 16 | PRODUCT CHANGE |
| MMA20312BV | Jul - 16 | Aug - 16 | (FORM, FIT, |
| MMZ25332B | Jul - 16 | Aug - 16 | FUNCTION, OR |
| MMZ09332B | Jul - 16 | Aug - 16 | RELIABILITY) |
| MMT20303H | Jul - 16 | Aug - 16 | None. |
| MMZ25332B4 | Jul - 16 | Aug - 16 | INOTIC. |
| MMZ25333B | Jul - 16 | Aug - 16 | |
| MMZ27333B | Jul - 16 | Aug - 16 | |
| MMG3006N | Jul - 16 | Aug - 16 | |
| MMDS09254H | Jul - 16 | Aug - 16 | According to JEDEC |
| MMDS20254H | Jul - 16 | Aug - 16 | Standard JESD46, lack of |
| MMDS36254H | Jul - 16 | Aug - 16 | acknowledgement of |
| MMDS25254H | Jul - 16 | Aug - 16 | this PCN within 30 |

days will be considered acceptance of change. To request further data or inquire about the notification, please enter a <u>Support Case</u>. Be aware that after you select this link to enter your request, you must choose the topic "Product Change Notification" once on the Salesforce page.

For sample inquiries - please go to www.nxp.com

QUAL DATA AVAILABILITY DATE: 03-Nov-2016

QUALIFICATION STATUS: N/A

QUALIFICATION PLAN:

1st Qual Vehicle Reliability Test Plan

| Reliability Test | 2nd Assy Site Lot 1 | 2nd Assy Site Lot 2 | 2nd Assy Site Lot 3 | Original Assy Site Control Lot |
|------------------|------------------------|---------------------------|------------------------------|--------------------------------------|
| THB | 25 | 25 | 25 | 25 |
| | | | | |
| Temp Cycle | 25 | 25 | 25 | 25 |
| HTSL | 25 | 25 | 25 | 25 |
| Electricals | 100 | 100 | 100 | Historical |
| Wire Pull | 5 | 5 | 5 | 5 |
| Die Attach | 10 | 10 | 10 | 10 |

2nd Qual Vehicle Reliability Test Plan

| Doliability Toot | 2nd Assy Site Lot | 2nd Assy | 2nd Assy Site Lot | Original Assy Site Control |
|------------------|-------------------------|------------|----------------------------|-------------------------------|
| Reliability Test | l | Site Lot 2 | 3 | Lot |
| Electricals | 100 | 100 | 100 | Historical |
| Wire Pull | 5 | 5 | 5 | 5 |
| Die Attach | 10 | 10 | 10 | 10 |

3rd Qual Vehicle Reliability Test Plan

| Reliability Test | 2nd Assy Site Lot 1 | 2nd Assy Site Lot 2 | 2nd Assy Site Lot 3 | Original Assy Site Control Lot |
|------------------|------------------------------|------------------------|---------------------------|--------------------------------------|
| THB | 25 | 25 | 25 | 25 |
| Temp Cycle | 25 | 25 | 25 | 25 |
| HTSL | 77 | 77 | | |
| Electricals | 100 | 100 | 100 | Historical |
| Wire Pull | 5 | 5 | 5 | 5 |
| Die Attach | 10 | 10 | 10 | 10 |

4th Qual Vehicle Reliability Test Plan

| | 2nd | | | |
|------------------|----------|------------|----------|-------------|
| | Assy | | 2nd Assy | Original |
| | Site Lot | 2nd Assy | Site Lot | Assy Site |
| Reliability Test | 1 | Site Lot 2 | 3 | Control Lot |
| | 1 | | | |

| THB | 25 | 25 | 25 | 25 |
|-------------|-----|-----|-----|------------|
| Temp Cycle | 25 | 25 | 25 | 25 |
| HTSL | 77 | 77 | | |
| Electricals | 100 | 100 | 100 | Historical |
| Wire Pull | 5 | 5 | 5 | 5 |
| Die Attach | 10 | 10 | 10 | 10 |

RELIABILITY DATA SUMMARY:

Reliability Data Summary - 1st Qual Vehicle

| | 2nd | | | | |
|------------------|----------|------------|----------|------------|--------------|
| | Assy | | 2nd Assy | Original | |
| | Site Lot | 2nd Assy | Site Lot | Assy | |
| Reliability Test | 1 | Site Lot 2 | 3 | Controls | Results |
| THB | 25 | 25 | 25 | 25 | Pass (504hr) |
| | | | | | Pass (500 |
| Temp Cycle | 25 | 25 | 25 | 25 | cycles) |
| | | | | | Pass |
| HTSL | 25 | 25 | 25 | 25 | (1008hr) |
| Electricals | 100 | 100 | 100 | Historical | Pass |
| Wire Pull | 5 | 5 | 5 | 5 | Pass |
| Die Attach | 10 | 10 | 10 | 10 | Pass |

Reliability Data Summary -

2nd Qual Vehicle

| | | 2nd | 2nd | | |
|------------------|------------|-------|-------|---------------|---------|
| | | Assy | Assy | | |
| | 2nd Assy | Site | Site | Original Assy | |
| Reliability Test | Site Lot 1 | Lot 2 | Lot 3 | Controls | Results |
| Electricals | 100 | 100 | 100 | Historical | Pass |
| Wire Pull | 5 | 5 | 5 | 5 | Pass |
| Die Attach | 10 | 10 | 10 | 10 | Pass |

Reliability Data Summary -

3rd Qual Vehicle

| <u> </u> | | | | | |
|------------------|---------------|-------|-------|------------|---------------|
| | | 2nd | 2nd | | |
| | | Assy | Assy | Original | |
| | 2nd Assy Site | Site | Site | Assy | |
| Reliability Test | Lot 1 | Lot 2 | Lot 3 | Controls | Results |
| THB | 25 | 25 | 25 | 25 | Pass (504hr) |
| | | | | | Pass (500 |
| Temp Cycle | 25 | 25 | 25 | 25 | cycles) |
| HTSL | 25 | 25 | 25 | 25 | Pass (1008hr) |
| Electricals | 100 | 100 | 100 | Historical | Pass |
| | | | | | |

| Wire Pull | 5 | 5 | 5 | 5 | Pass |
|------------|----|----|----|----|------|
| Die Attach | 10 | 10 | 10 | 10 | Pass |

Reliability Data Summary -

4th Qual Vehicle

| | | 2nd | 2nd | | |
|------------------|---------------|-------|-------|------------|-----------|
| | | Assy | Assy | Original | |
| | 2nd Assy Site | Site | Site | Assy | |
| Reliability Test | Lot 1 | Lot 2 | Lot 3 | Controls | Results |
| THB | 25 | 25 | 25 | 25 | July-2016 |
| Temp Cycle | 25 | 25 | 25 | 25 | July-2016 |
| HTSL | 25 | 25 | 25 | 25 | July-2016 |
| Electricals | 100 | 100 | 100 | Historical | July-2016 |
| Wire Pull | 5 | 5 | 5 | 5 | July-2016 |
| Die Attach | 10 | 10 | 10 | 10 | July-2016 |

ELECTRICAL CHARACTERISTIC SUMMARY:

Electrical Characteristic Summary - 1st Qual Vehicle

| MML09211HT1 MLF/QFN | | 2nd | Production |
|---------------------|---------|----------|------------|
| 2x2 | | Assembly | |
| | | Site | |
| S21 900MHz (dB) | Avg | 20.91 | 20.78 |
| | Std Dev | 0.16 | 0.19 |
| | | | |
| Icq (mA) | Avg | 61.48 | 64.2 |
| | Std Dev | 1.71 | 1.86 |
| | | | |
| Irf (mA) | Avg | 64.37 | 66.64 |
| | Std Dev | 1.46 | 1.77 |

Electrical Characteristic Summary – 2nd Qual Vehicle

| MMG3006NT1 MLF/QFN 4x4 | | 2nd Assembly | Production |
|---------------------------|---------|-----------------|------------|
| | | Site | |
| S21 900MHz (dB) | Avg | 14.41 | 14.27 |
| | Std Dev | 0.09 | 0.12 |
| | | | |
| Icq (mA) | Avg | 832.97 | 833.72 |
| | Std Dev | 9.89 | 10.03 |

Electrical Characteristic Summary – 3rd Qual Vehicle

| MMZ25254HT1 MLF/QFN | | 2nd | Production |
|----------------------------|------|----------|------------|
| 6x6 | | Assembly | |
| | | Site | |
| ldd (mA) | Avg | 11.18 | 10.97 |
| Std Dev | 0.31 | 0.12 | |
| The rest of the parameters | | | • |
| are discrete | | | |

Electrical Characteristic Summary – 4th Qual Vehicle

| MMZ20312BV MLF 3x3 | | 2nd | Production |
|--------------------|---------|----------|------------|
| | | Assembly | |
| | | Site | |
| S21 2140 MHz (dB) | Avg | 26.06 | 26.01 |
| | Std Dev | 0.58 | 0.41 |
| | | | |
| Icq (mA) | Avg | 62.56 | 57.01 |
| | Std Dev | 1.12 | 0.86 |
| | | | |
| Irf (mA) | Avg | 125.09 | 127.65 |
| | Std Dev | 5.48 | 4.69 |

CHANGED PART IDENTIFICATION:

Parts assembled at new site will be marked with a date code beginning work week 35 of 2016.

SAMPLE AVAILABILITY DATE: 03-Jun-2016

ATTACHMENT(S): N/A