

Product Change Notice

Issue Date: February 8, 2021

Updated: August 9, 2021

Change Type:

Add PBGA substrate 2nd source supplier

Parts Affected:

- BCM89231B1BPBG
- BCM89231B1BPBGT
- BCM89530B1BPBG
- BCM89530B1BPBGT
- BCM89531B1BPBG
- BCM89531B1BPBGT
- BCM89531B2BPBG
- BCM89535B1BPBG
- BCM89535B1BPBGT

Description and Extent of Change:

Add 2nd source for package substrate - KCC. There is no change to the substrate design or construction (see table below):

Items from the CDCQ	Existing Supplier	KCC
a. Substrate material (e.g., FR5, BT, etc.):	Laminate	Laminate
b. Substrate thickness (mm):	0.56	0.56
c. Number of substrate metal layers:	4	4
d. Plating composition of ball solderable surface:	Electrolytic Ni/Au	Electrolytic Ni/Au
e. Panel singulation method:	Punch	Punch
f. Solder ball composition:	96.5Sn/3.0Ag/0.5Cu	96.5Sn/3.0Ag/0.5Cu
g: Solder ball diameter (mils):	23.62mils (0.6mm)	23.62mils (0.6mm)

Reasons for Change:

Short Term: Increased capacity and flexibility.

Long Term: The existing substrate supplier has announced EOL plan for PBGA substrates (EOL June 2022).

Effect of Change on Fit, Form, Function, Quality, or Reliability:

The device specification will remain the same, which will ensure product electrical performance remains the same. Appropriate electrical validation and reliability qualification was performed on representative products to ensure normal parametric distribution, consistent electrical performance, and reliability.

Effective Date of Change:

Product shipments using this change will begin after **15-Aug-2021**. Timing of shipment of the changed part will vary by part number depending on qualification completion, customer demand, and inventory levels.



Sample Availability:

Samples with the updated substrate will be available after **30-Apr-2021**. Please contact your Broadcom Sales Representative by 12-Mar-2021 to reserve your samples.

Qualification Data:

See the table below for the qualification results.

Test	AEC#	Method	Condition	Sample Size	Duration	Result
PC/MSL	A1	JESD22-A113, J-STD-020	Level 3 (soak: 30°C, 60%RH); Peak Reflow Temp = 260°C.	All units for bHAST, uHAST, TC, PTC	192 hrs	PASSED
bHAST	A2	JESD22-A110	Pre-con Parts; 130°C, 85%RH.	3 lots * 77 units/lot = 231 units	96 hrs	PASSED
uHAST	A3	JESD22-A118	Pre-con Parts; 130°C, 85%RH.	3 lots * 77 units/lot = 231 units	96 hrs	PASSED
TC	A4	JESD22-A104	Pre-con Parts; air to air; -55°C to 125°C.	3 lots * 77 units/lot = 231 units	1000 cys	PASSED
PTC	A5	JESD22-A105	Pre-con Parts; Ta=-40°C to 105°C.	1 lot * 45 units	1000 cys	PASSED
HTSL	A6	JESD22-A103	Ta = +150°C	1 lot * 45 units	1000 hrs	PASSED
HTOL	B1	JESD22-A108	Ta = 125°C, >80% Node Toggle; VDD=1.1*VDDnom.	1 lot * 77 units	1000 hrs	PASSED
WBS	C1	AEC-Q100-001	Cpk > 1.67	1 lot * 5 units (30 bonds/each)	-	PASSED
WBP	C2	MIL-STD-883, Method 2011, Cond. C or D	Cpk > 1.67	1 lot * 5 units (30 bonds/each)	-	PASSED
SBS	C5	AEC-Q100-010	Cpk > 1.67	3 lots * 10 units/lot = 30 units (5 balls/each)	-	PASSED

Please contact your Broadcom field sales engineer or Contact Center for any questions or support requirements. Please return any response as soon as possible, but **not to exceed 30 days**.