PCN: V19-018-E47540-MB

Product Change Notice/ EOL notice

Issue Date: 11 Dec 2020

Change Type:

Major

Parts Affected:

Current P/N (Gen1)	New P/N (Gen2)
AFBR-89CDDZ-xxx	AFBR-89CDHZ-xxx
AFBR-89CTDZ-xxx	AFBR-89CTHZ-xxx
AFBR-89CEDZ-xxx	AFBR-89CEHZ-xxx
AFBR-89CDDZ-DC5	AFBR-89CDHZ-DC5
AFBR-89CAMDZ-xxx	No replacement

Description and Extent of Change:

Release the 2nd generation 100G SR4 product family.

Reason for Change:
Consolidate the 100G SR4 short reach into a single platform.

Table 1: 100G SR4 Gen 1 vs Gen 2 comparison

	100G SR4 Gen 1	**100G SR4 Gen 2**
Status	Release	Pending PCN Approval
VCSEL	V-1 (25G)	V-1 (25G)
PIN	PD-1	PD-1
Lens-Tx	L-1 – 100G SR4	L-2 – 100G SR4
Lens-Rx	L-1 – 100G SR4	L-2 – 100G SR4
PCBA	P-1	P-2
CDR	Broadcom	MACOM
Controller	uC-1	CXP2-uC
Mechanicals	M-1	M-1'

Effect of Change on Fit, Form, Function, Quality, or Reliability:
There is no change to form, fit, function, quality and reliability of the products. However, the bill of material has differences as outlined in the Table 1. Broadcom has conducted reliability testing to qualify next gen.

Effective Date of Change:

Samples are available now. Product shipments using this change will begin on 90 days upon customer approval. Timing of shipment will depend on customer demand and inventory on-hand of current products.

With the introduciton of Gen2, the Gen1 parts will be obsoleted.

- Last time buy (LTB) for current (Gen1) Broadcom P/Ns: 11 Jun 2021
- Last time ship (LTS) for current (Gen1) Broadcom P/Ns: 11 Dec 2021

Recommended Actions to be Taken by Customer:

Samples can be requested by contacting local Sales team.

Qualification Data:

Leg	Test	Reference	Stress Condition	Sample Size	Result
1	High Temperature Operating Life (HTOL)	GR-468-CORE Section 3.4.1	Tcase = 70°C, Vcc=3.3V Qual Release: 2000Hrs	11	Passed
2	High Temperature Storage (HTS)	GR-468-CORE Section 3.4.1	Ta = 85°C Qual Release: 2000Hrs	11	Passed
3	Temperature Cycling (TMCL)	MIL-STD-883 Method 1010	Ta = -40°C/85°C 15 min. dwell @ Cold & Hot Temp Qual Release: 500 Cyc	11	Passed
4	Biased Damp Heat (BDH)	MIL-STD-202 Method 103	Tcase = 70°C, RH=85% Vcc=3.3V Qual Release: 1000Hrs	11	Passed
5	Un-Biased Damp Heat (uBDH)	MIL-STD-202 Method 103	Ta = 85°C, RH = 85% Qual Release: 1000Hrs	11	Passed
6	Biased Cyclic Moisture Resistance (BCMR)	MIL-STD-883 Method 1004	Ta = -10°C to +65°C, Biased, Power On/Off @30min, 95%RH Qual Release: 20 Cyc	11	Passed
7	Mechanical Shock (MS) + Mechanical Vibration (MV)	MS: MIL-STD-883 Method 2002B	1500g, 0.5ms, 5 shock/axis, 6 axis	11	Passed
		MV: MIL-STD-883 Method 2007	20g, 20 to 2000Hz, 3 axis, 4min/cycle, 4cycle/axis		
8	Thermal Shock (TS)	MIL-STD-883 Method 1011.9	Ta= -40°C/85°C 5 min dwell @ Cold & Hot Temp Qual Release: 20 Cyc	11	Passed
9	Air Discharge	IEC 61000-4-2	15KV	3	Passed
10	Contact Discharge	IEC 61000-4-2	8KV	3	Passed
11	In-Direct Discharge	IEC 61000-4-2	15KV	3	Passed
12	ESD-HBM	JS-001-2017	1KV (High Speed Pins) 2KV (Low Speed Pins)	6	Passed

Leg	Test	Reference	Stress Condition	Sample Size	Result
13	Proof Test	GR-326-CORE	Required: 4.5 Kgf Apply load for 5sec. Take measurement after remove load for 10 sec.	11	Passed
14	Insertion / Extraction Test	EIA-364-13B	FOCIS/MSA Spec	3	Passed
15	Optical Mate / Demate	GR-326-CORE GR-1435-CORE	200 Insertions	11	Passed
16	Electrical Mate / Demate	GR-1217-CORE	200 Insertions	11	Passed
17a	End Cap Shipping	-	Same as MS/MV . Endcap remain in place without packaging retention features pushing on endcap. Fiber Endface must not have any contamination	5	Passed
b	End Cap Abrasion	-	200 Insertion No particles on Endface @ 200X or Endcap @ 10x	5	Passed
18	Mixed Flowing Gas	GR-63-CORE	Non - Controlled Environment (10 Days @ 30°C, 70%RH, 20ppb Cl2, 100 ppb H2S, 200 ppb NO2, 200 ppb SO2, Balance - Air)	3	Passed
19	Dust Test	GR-326-CORE	4 Dust Application cycle per spec	5 Functional + 5 Mech	Passed
20	Good Device Analysis	-	-	1	Passed