

8/1/2019



**RELIABILITY MONITOR REPORT
FOR**

Fab 103 P90

MAXIM INTEGRATED

**160 RIO ROBLES
SAN JOSE, CA 95134**

**This Report was prepared by
MAXIM INTEGRATED Reliability Engineering**

Summary:

The data in the tables that follow was generated as the result of an on-going Process Reliability Monitor. The specific products in this process monitor are:

MAX16604CFN	MAX16604GFN	MAX16604GFN+	MAX17662AATE	MAX20000ATCB
MAX20780	MAX3523ETP+	MAX77501EUV	MAX77503DEW	MAX77503DEW
MAX77503EEW	MAX77511SEW	MAX77705CEW	MAX77711AEW	MAX77930EFV+
MAX77964EWJ+	MAX98937EWX	VT63		

The calculated failure rate for devices using this process is:

FAILURE RATE: MTTF (YRS): 332221 QUANTITY: 2656 FAILS: 0 FITS: 0.3

The parameters used to calculate this failure rate are as follows:

Cf: 60% Ea: 0.7 Tu: 25 °C

The reliability data follows and in this section is the detailed reliability data by stress. The reliability data section includes the latest data available. This report covers data between 4/1/2019 and 8/1/2019 .

Process Information:

Process Description: Fab 103 P90

OPERATING LIFE

DESCRIPTION	DATE	TEST	CONDITION	READPOINT	QUANTITY	FAILS	LOT
	CODE	VEHICLE					NO.
HIGH TEMP OP LIFE		MAX17662AATE+	125°C	192 HRS	95	0	CCAF0Q003D
HIGH TEMP OP LIFE		MAX77501EUV+T	125°C	500 HRS	48	0	CBZS3Q001A
HIGH TEMP OP LIFE	1747	MAX3523ETP+	125°C	500 HRS	79	0	CBUI7Q001
HIGH TEMP OP LIFE	1802	MAX77511SEWB+T	125°C	1000 HRS	32	0	CBYH9Q002
HIGH TEMP OP LIFE	1802	MAX77511SEWB+T	125°C	1000 HRS	47	0	CBYH9Q002
HIGH TEMP OP LIFE	1810	MAX77503DEWC+T	125°C	1000 HRS	80	0	CBUP2Q003B
HIGH TEMP OP LIFE	1811	MAX77503DEWC+T	125°C	1000 HRS	79	0	CBUP2Q004B
HIGH TEMP OP LIFE	1813	MAX77503DEWC+T	125°C	1000 HRS	48	0	CBUP2A006BB
HIGH TEMP OP LIFE	1813	MAX77503DEWC+T	125°C	1000 HRS	48	0	CBUP2A006CB
HIGH TEMP OP LIFE	1813	MAX77503DEWC+T	125°C	1000 HRS	36	0	CBUP2A006DB
HIGH TEMP OP LIFE	1813	MAX77503DEWC+T	125°C	1000 HRS	35	0	CBUP2A006EB
HIGH TEMP OP LIFE	1826	MAX77503EEWC+T	125°C	192 HRS	80	0	CCTX6A004C#
HIGH TEMP OP LIFE	1826	MAX77705CEWN+T	125°C	192 HRS	80	0	CCTT0Q003H
HIGH TEMP OP LIFE	1838	MAX16604GFN+	125°C	1000 HRS	78	0	GPB17369AA
HIGH TEMP OP LIFE	1838	MAX16604GFN+	125°C	500 HRS	40	0	GPB17369AA
HIGH TEMP OP LIFE	1840	MAX20000ATCB/V+	125°C	192 HRS	80	0	CCUU4Q001B/DA
HIGH TEMP OP LIFE	1846	MAX77930EFV+	125°C	120 HRS	48	0	CBZU2Q002A
HIGH TEMP OP LIFE	1846	MAX77930EFV+	125°C	192 HRS	78	0	CBZU2Q002A
HIGH TEMP OP LIFE	1846	MAX77930EFV+	125°C	1000 HRS	80	0	CBZU2Q003

HIGH TEMP OP LIFE	1846	MAX77930EFV+	125°C	500	HRS	80	0	CBZU2A004
HIGH TEMP OP LIFE	1847	MAX77503EEWC+T	125°C	1000	HRS	80	0	CCTX6Q002FM
HIGH TEMP OP LIFE	1849	MAX77503EEWC+T	125°C	1000	HRS	80	0	CCTX6Q002DC
HIGH TEMP OP LIFE	1849	MAX77503EEWC+T	125°C	1000	HRS	80	0	CCTX6Q002EJ
HIGH TEMP OP LIFE	1851	MAX20780	125°C	1000	HRS	79	0	ZOB00633AA-NPI
HIGH TEMP OP LIFE	1851	MAX20780	125°C	1000	HRS	80	0	ZOB00634AA-NPI
HIGH TEMP OP LIFE	1851	MAX20780	125°C	1000	HRS	79	0	ZOB00635AA-NPI
HIGH TEMP OP LIFE	1852	MAX20000ATCB/V+	125°C	192	HRS	80	0	CCUU4Q002CF
HIGH TEMP OP LIFE	1852	MAX20000ATCB/V+	125°C	192	HRS	80	0	CCUU4Q003CD
HIGH TEMP OP LIFE	1907	MAX77964EWJ+T	125°C	1000	HRS	80	0	CCBA3Q001D
HIGH TEMP OP LIFE	1910	MAX77964EWJ+T	125°C	620	HRS	77	0	CCBA3Q002C
HIGH TEMP OP LIFE	1911	MAX17662AATE+	125°C	192	HRS	95	0	CCAF0Q001E
HIGH TEMP OP LIFE	1911	MAX17662AATE+	125°C	192	HRS	96	0	CCAF0Q002BA
HIGH TEMP OP LIFE	1911	MAX17662AATE+	125°C	192	HRS	80	0	CCAF0Q002BA
HIGH TEMP OP LIFE	1912	MAX77964EWJ+T	125°C	192	HRS	80	0	CCBA3Q003G
HIGH TEMP OP LIFE	1912	MAX77964EWJ+T	125°C	1000	HRS	80	0	CCBA3Q003G
HIGH TEMP OP LIFE	1912	MAX77964EWJ+T	125°C	1000	HRS	46	0	CCBA3Q003F
HIGH TEMP OP LIFE	1912	MAX77964EWJ+T	125°C	1000	HRS	47	0	CCBA3Q003F
HIGH TEMP OP LIFE	1912	MAX77964EWJ+T	125°C	1000	HRS	33	0	CCBA3Q003F
HIGH TEMP OP LIFE	1912	MAX77964EWJ+T	125°C	1000	HRS	33	0	CCBA3Q003F
Total:							0	

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
STORAGE LIFE	1810	MAX77503DEWC+T	150°C	1000 HRS	79	0	CBUP2Q003B
STORAGE LIFE	1811	MAX77503DEWC+T	150°C	1000 HRS	80	0	CBUP2Q004B
STORAGE LIFE	1842	MAX98937EWX+T	150°C	1000 HRS	80	0	CCUU3Q001CN
STORAGE LIFE	1847	MAX77503EEWC+T	150°C	1000 HRS	80	0	CCTX6Q002FM
STORAGE LIFE	1849	MAX77503EEWC+T	150°C	1000 HRS	80	0	CCTX6Q002EJ
STORAGE LIFE	1851	MAX20780	150°C	1000 HRS	80	0	ZOB00633AA-NPI
STORAGE LIFE	1851	MAX20780	150°C	1000 HRS	80	0	ZOB00634AA-NPI
STORAGE LIFE	1851	MAX20780	150°C	1000 HRS	80	0	ZOB00635AA-NPI
STORAGE LIFE	1852	MAX20000ATCB/V+	150°C	1000 HRS	79	0	CCUU4Q002CF
STORAGE LIFE	1852	MAX20000ATCB/V+	150°C	500 HRS	80	0	CCUU4Q003CD
STORAGE LIFE	1907	MAX77964EWJ+T	150°C	1000 HRS	78	0	CCBA3Q001D
STORAGE LIFE	1907	MAX20000ATCB/V+	150°C	500 HRS	80	0	CCUU4Q001B/DA
STORAGE LIFE	1910	MAX77964EWJ+T	150°C	1000 HRS	80	0	CCBA3Q002C

STORAGE LIFE	1911	MAX17662AATE+	150°C	500	HRS	80	0	CCAF0Q001E
					Total:		0	

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
TEMP CYCLE, 5' RAMP, 10' DWELL		VT63	-65C TO +150C (Condition C)	1000 CYS	80	0	R40430AT1
TEMP CYCLE, 5' RAMP, 10' DWELL		VT63	-65C TO +150C (Condition C)	1000 CYS	80	0	R40430DT1
TEMP CYCLE, 15' RAMP, 15' DWELL	1809	MAX77503DEWC+T	-40C TO +125C (Condition G)	1000 CYS	80	0	CBUP2Q002B\$
TEMP CYCLE, 15' RAMP, 15' DWELL	1810	MAX77503DEWC+T	-40C TO +125C (Condition G)	1000 CYS	79	0	CBUP2Q003B
TEMP CYCLE, 15' RAMP, 15' DWELL	1811	MAX77503DEWC+T	-40C TO +125C (Condition G)	1000 CYS	80	0	CBUP2A004BD
TEMP CYCLE, 5' RAMP, 10' DWELL	1832	MAX16604GFN+	-55C TO +125C (Condition B)	1000 CYS	80	0	CCUD2Q002
TEMP CYCLE, 5' RAMP, 10' DWELL	1836	MAX16604CFN	-65C TO +150C (Condition C)	1000 CYS	79	0	CCUD2Z006A
TEMP CYCLE, 5' RAMP, 10' DWELL	1836	MAX16604GFN	-65C TO +150C (Condition C)	1000 CYS	80	0	CCUD2Z006B
TEMP CYCLE, 5' RAMP, 10' DWELL	1843	MAX17662AATE+	-65C TO +150C (Condition C)	1000 CYS	79	0	CCAF0Q003D
TEMP CYCLE, 5' RAMP, 10' DWELL	1847	MAX77503EEWC+T	-65C TO +150C (Condition C)	1000 CYS	80	0	CCTX6Q002FM
TEMP CYCLE, 5' RAMP, 10' DWELL	1849	MAX77503EEWC+T	-40C TO +125C (Condition G)	1000 CYS	80	0	CCTX6Q002DC
TEMP CYCLE, 5' RAMP, 10' DWELL	1849	MAX77503EEWC+T	-65C TO +150C (Condition C)	1000 CYS	80	0	CCTX6Q002EJ
TEMP CYCLE, 5' RAMP, 10' DWELL	1851	MAX20780	-65C TO +150C (Condition C)	1000 CYS	80	0	ZOB00633AA-NPI
TEMP CYCLE, 5' RAMP, 10' DWELL	1851	MAX20780	-65C TO +150C (Condition C)	1000 CYS	80	0	ZOB00634AA-NPI
TEMP CYCLE, 5' RAMP, 10' DWELL	1851	MAX20780	-65C TO +150C (Condition C)	1000 CYS	80	0	ZOB00635AA-NPI
TEMP CYCLE, 5' RAMP, 10' DWELL	1852	MAX20000ATCB/V+	-65C TO +150C (Condition C)	1000 CYS	80	0	CCUU4Q002CF
TEMP CYCLE, 5' RAMP, 10' DWELL	1852	MAX20000ATCB/V+	-65C TO +150C (Condition C)	500 CYS	80	0	CCUU4Q003CD

TEMP CYCLE, 5' RAMP, 10' DWELL	1907	MAX77964EWJ+T	-40C TO +125C (Condition G)	850	CYS	80	0	CCBA3Q001D
TEMP CYCLE, 5' RAMP, 10' DWELL	1907	MAX20000ATCB/V+	-65C TO +150C (Condition C)	1000	CYS	80	0	CCUU4Q001B/DA
TEMP CYCLE, 5' RAMP, 10' DWELL	1910	MAX77964EWJ+T	-65C TO +150C (Condition C)	850	CYS	80	0	CCBA3Q002C
TEMP CYCLE, 5' RAMP, 10' DWELL	1911	MAX17662AATE+	-65C TO +150C (Condition C)	1000	CYS	80	0	CCAF0Q001E
TEMP CYCLE, 5' RAMP, 10' DWELL	1911	MAX17662AATE+	-65C TO +150C (Condition C)	500	CYS	80	0	CCAF0Q002BA
TEMP CYCLE, 5' RAMP, 10' DWELL	1912	MAX77964EWJ+T	-65C TO +150C (Condition C)	850	CYS	80	0	CCBA3Q003G
Total:							0	

TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE	TEST CODE VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
BIASED MOISTURE		MAX77711AEWB+	130C, 85% R.H.	96 HRS		77	0 CCTL4Q003FM
BIASED MOISTURE		MAX17662AATE+	130C, 85% R.H.	96 HRS		78	0 CCAF0Q003D
BIASED MOISTURE		VT63	130C, 85% R.H.	96 HRS		111	0 R40430AH2
BIASED MOISTURE		VT63	130C, 85% R.H.	96 HRS		111	0 R40430BH2
BIASED MOISTURE		VT63	130C, 85% R.H.	96 HRS		111	0 R40430CH2
BIASED MOISTURE		VT63	130C, 85% R.H.	96 HRS		111	0 R40430DH2
BIASED MOISTURE	1810	MAX77503DEWC+T	110C, 85% R.H.	96 HRS		66	0 CBUP2Q003BC
BIASED MOISTURE	1810	MAX77503DEWC+T	110C, 85% R.H.	96 HRS		74	0 CBUP2Q003BC
BIASED MOISTURE	1810	MAX77503DEWC+T	85 C/85% R.H.	1000 CYS		79	0 CBUP2Q003BL
BIASED MOISTURE	1811	MAX77503DEWC+T	85 C/85% R.H.	1000 CYS		78	0 CBUP2A004BC
BIASED MOISTURE	1836	MAX16604CFN	130C, 85% R.H.	96 HRS		80	0 CCUD2Z006A
BIASED MOISTURE	1836	MAX16604GFN+	85C, 85% R.H.	96 HRS		36	0 CCUD2Z006A
BIASED MOISTURE	1836	MAX16604GFN+	85C, 85% R.H.	96 HRS		40	0 CCUD2Z006B
BIASED MOISTURE	1846	MAX77930EFV+	130C, 85% R.H.	96 HRS		19	0 CBZU2Q002A
BIASED MOISTURE	1846	MAX77930EFV+	130C, 85% R.H.	96 HRS		20	0 CBZU2Q002A
BIASED MOISTURE	1846	MAX77930EFV+	130C, 85% R.H.	96 HRS		20	0 CBZU2Q002A
BIASED MOISTURE	1849	MAX77503EEWC+T	130C, 85% R.H.	264 HRS		80	0 CCTX6Q002DC
BIASED MOISTURE	1849	MAX77503EEWC+T	130C, 85% R.H.	264 HRS		80	0 CCTX6Q002EJ
BIASED MOISTURE	1851	MAX20780	130C, 85% R.H.	96 HRS		7	0 ZOB00633AA-NPI
BIASED MOISTURE	1851	MAX20780	130C, 85% R.H.	96 HRS		19	0 ZOB00633AA-NPI
BIASED MOISTURE	1851	MAX20780	130C, 85% R.H.	96 HRS		50	0 ZOB00634AA-NPI
BIASED MOISTURE	1851	MAX20780	130C, 85% R.H.	96 HRS		20	0 ZOB00634AA-NPI

BIASED MOISTURE	1851	MAX20780	130C, 85% R.H.	96	HRS	30	0	Z0B00634AA-NPI
BIASED MOISTURE	1851	MAX20780	130C, 85% R.H.	96	HRS	20	0	Z0B00635AA-NPI
BIASED MOISTURE	1851	MAX20780	130C, 85% R.H.	96	HRS	30	0	Z0B00635AA-NPI
BIASED MOISTURE	1852	MAX20000ATCB/V+	130C, 85% R.H.	96	HRS	75	0	CCUU4Q002CF
BIASED MOISTURE	1852	MAX20000ATCB/V+	130C, 85% R.H.	96	HRS	80	0	CCUU4Q003CD
BIASED MOISTURE	1907	MAX77964EWJ+T	130C, 85% R.H.	264	HRS	80	0	CCBA3Q001D
BIASED MOISTURE	1907	MAX20000ATCB/V+	130C, 85% R.H.	96	HRS	80	0	CCUU4Q001B/DA
BIASED MOISTURE	1910	MAX77964EWJ+T	130C, 85% R.H.	264	HRS	80	0	CCBA3Q002C
BIASED MOISTURE	1911	MAX17662AATE+	130C, 85% R.H.	96	HRS	79	0	CCAF0Q001E
BIASED MOISTURE	1911	MAX17662AATE+	130C, 85% R.H.	96	HRS	80	0	CCAF0Q002BA
BIASED MOISTURE	1912	MAX77964EWJ+T	130C, 85% R.H.	264	HRS	80	0	CCBA3Q003G
Total:							0	

UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE	TEST CODE VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.	
MOISTURE SOAK		MAX17662AATE+	130C, 85% R.H.	96	HRS	80	0	CCAF0Q003D
MOISTURE SOAK	1833	MAX77503DEWC+TG7	130C, 85% R.H.	96	HRS	80	0	CBUP2A008AJ
MOISTURE SOAK	1835	MAX77503DEWC+TG7	130C, 85% R.H.	96	HRS	80	0	CBUP2A008F
MOISTURE SOAK	1846	MAX77930EFV+	130C, 85% R.H.	96	HRS	80	0	CBZU2Q002A
MOISTURE SOAK	1847	MAX77503EEWC+T	130C, 85% R.H.	96	HRS	80	0	CCTX6Q002FM
MOISTURE SOAK	1851	MAX20780	130C, 85% R.H.	96	HRS	80	0	Z0B00633AA-NPI
MOISTURE SOAK	1851	MAX20780	130C, 85% R.H.	96	HRS	80	0	Z0B00634AA-NPI
MOISTURE SOAK	1851	MAX20780	130C, 85% R.H.	96	HRS	80	0	Z0B00635AA-NPI
MOISTURE SOAK	1852	MAX20000ATCB/V+	130C, 85% R.H.	96	HRS	80	0	CCUU4Q003CD
MOISTURE SOAK	1907	MAX77964EWJ+T	130C, 85% R.H.	96	HRS	80	0	CCBA3Q001D
MOISTURE SOAK	1907	MAX20000ATCB/V+	130C, 85% R.H.	96	HRS	80	0	CCUU4Q001B/DA
MOISTURE SOAK	1910	MAX77964EWJ+T	130C, 85% R.H.	96	HRS	80	0	CCBA3Q002C
MOISTURE SOAK	1911	MAX17662AATE+	130C, 85% R.H.	96	HRS	80	0	CCAF0Q001E
MOISTURE SOAK	1911	MAX17662AATE+	130C, 85% R.H.	96	HRS	80	0	CCAF0Q002BA
MOISTURE SOAK	1912	MAX77964EWJ+T	130C, 85% R.H.	96	HRS	80	0	CCBA3Q003G
Total:							0	

FAILURE RATE: MTTF (YRS): 332221 QUANTITY: 2656 FAILS: 0 FITS: 0.3