

## Qualification Results

Data Displayed as: Number of lots / Total sample size / Total failed

Type	Test Name / Condition	Duration	Qual Device: <u>Q27Z561YPHR-R1</u>	QBS Product Reference: <u>BQ27Z561YYPH</u>	QBS Product Reference: <u>BQ9035YYPH</u>	QBS Process Reference: <u>BQ8030DBT</u>	QBS Package Reference: <u>SN27546YYPH-A2</u>	QBS Package Reference: <u>SN27546YYPH-A2</u>	QBS Package Reference: <u>TPA2010D1YZF</u>	QBS Package Reference: <u>TPA4411YZH</u>	QBS Package Reference: <u>TSC2007IYZG</u>
ED	Electrical Characterization	Per Datasheet Parameters	-	-	Pass	Pass	-	Pass	Pass	Pass	Pass
FW	Firmware Validation	EVM or Customer	Pass	Pass	-	-	-	-	-	-	-
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	-	-	1/77/0	1/77/0	3/231/0	1/76/0	-
HBM	ESD - HBM	2000 V	-	-	1/3/0	1/3/0	-	-	-	-	-
CDM	ESD - CDM	1000 V	-	-	1/3/0	1/3/0	1/3/0	1/3/0	-	-	-
HTOL	Life Test, 125C	1000 Hours	-	-	1/77/0	-	-	-	-	-	-
HTOL	Life Test, 150C	300 Hours	-	-	-	-	-	-	3/231/0	1/77/0	-
HTOL	Life Test, 155C	240 Hours	-	-	-	1/77/0	-	-	-	-	-
HTSL	High Temp. Storage Bake, 170C	420 Hours	-	-	1/77/0	-	-	-	3/231/0	1/77/0	1/77/0
LU	Latch-up	(per JESD78)	-	-	1/6/0	1/5/0	1/6/0	1/6/0	-	-	-
PD	Physical Dimensions	--	-	-	-	-	1/20/0	1/20/0	3/15/0	1/5/0	1/5/0
SBS	Bump Shear	Wires	-	-	-	-	-	-	3/150/0	1/50/0	1/50/0
SBS	Solder Ball Shear	--	-	-	-	-	1/5/0	1/5/0	-	-	-
SD	Solderability	8 Hours Steam	-	-	-	-	1/5/0	1/5/0	-	-	-
TC	Temperature Cycle, -55/125C	700 Cycles	-	-	1/77/0	-	1/77/0	1/77/0	3/231/0	1/77/0	1/77/0
TS	Thermal Shock, -65/150C	500 Cycles	-	-	-	1/77/0	-	-	-	-	-
UHAST	Unbiased HAST, 130C/85%RH	96 Hours	-	-	1/77/0	-	1/78/0	1/77/0	3/231/0	1/77/0	1/77/0

- Preconditioning was performed for Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle, Thermal Shock, and HTSL, as applicable
- The following are equivalent HTOL options based on an activation energy of 0.7eV : 125C/1k Hours, 140C/480 Hours, 150C/300 Hours, and 155C/240 Hours
- The following are equivalent HTSL options based on an activation energy of 0.7eV : 150C/1k Hours, and 170C/420 Hours
- The following are equivalent Temp Cycle options per JESD47 : -55C/125C/700 Cycles and -65C/150C/500 Cycles

Quality and Environmental data is available at TI's external Web site: <http://www.ti.com/>

**Green/Pb-free Status:**

Qualified Pb-Free(SMT) and Green

- QBS: Qual By Similarity
- Qual Device Q27Z561YYPH-R1 is qualified at LEVEL1-260CG

TI Qualification ID: 20190226-128730

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