



Quantis QRNG chips at a glance

Model	IDQ250C3	IDQ250C2	IDQ6MC1	IDQ20MC1	IDQ20MC1-S1	IDQ20MC1-S3
Best for	Mobile, IoT, and edge devices	Mobile, IoT, and edge devices	Automotive and any security applications	Any security applications	Space	Space
QRNG CORE						
Compliant to the Standard NIST 800-90A/B/C	✓ (B)	✓ (B)	✓	✓	✓	✓
Certified AEC-Q100			✓			
Robust to harsh space conditions (ECSS-Q-ST-60-13)					Class 1	Class 3
Size	3 x 3 x 0.8mm	2.5 x 2.5 x 0.84mm	4.2 x 5 x 1.1mm	4.2 x 5 x 1.1mm	4.2 x 5 x 1.1 mm	4.2 x 5 x 1.1 mm
RNG Data Output	N/A	N/A	1.47Mbps (@ SPI Interface)	4.90Mbps	4.90Mbps	4.90Mbps
Quantum Entropy Source	250Kbps (typical)	250Kbps (typical)	5.88Mbps (@ SPI Interface)	19.64Mbps	19.64Mbps	19.64Mbps
POWER SUPPLY INFORMATION						
Single Input Voltage (Embedded LDO)	2.8V	2.8V	2.8V	2.8V	2.8V	2.8V
I/O Interface Voltage	1.8V	1.8V	1.8V	1.8V	1.8V	1.8V
POWER CONSUMPTION						
RNG Output Mode	N/A	N/A	59.94mW	83.44mW	83.44mW	83.44mW
Entropy Output (sample mode)	15mW (typical)	15mW (typical)	58.24mW	75.88mW	75.88mW	75.88mW
Power Down Mode	100uW	100uW	N/A	N/A	N/A	N/A
SET-UP TIME						
Initial set-up time	3ms	3ms	171ms	184ms	184ms	184ms
OPERATION FREQUENCY CLOCK & TEMPERATURE						
Embedded ROSC	11MHz ~ 14MHz (Typ. 12MHz)	11MHz ~ 14MHz (Typ. 12MHz)	41MHz ~ 58MHz (Typ. 48MHz)	41MHz ~ 58MHz (Typ. 48MHz)	41MHz ~ 58MHz (Typ. 48MHz)	41MHz ~ 58MHz (Typ. 48MHz)
Recommended temperature	-20°C ~ +85°C	-20°C ~ +85°C	-20°C ~ +85°C	-30°C ~ +85°C	-30°C ~ +85°C	-30°C ~ +85°C
Absolute maximum rated temperature	-40°C ~ +105°C	-40°C ~ +105°C	-40°C ~ +105°C	-40°C ~ +105°C	-40°C ~ +105°C	-40°C ~ +105°C
INTERFACE PROTOCOL						
SPI			24MHz	24MHz x 4 CH	24MHz x 4 CH	24MHz x 4 CH
I2C	400KHz	400KHz	100KHz			