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 0.8 mm	2.5 x 2.5 x 0.84 mm	4.2 x 5 x 1.1 mm	4.2 x 5 x 1.1 mm	4.2 x 5 x 1.1 mm	4.2 x 5 x 1.1 mm
RNG Data Output	N/A	N/A	1.47 Mbps (@ SPI Interface)	4.90 Mbps	4.90 Mbps	4.90 Mbps
Quantum Entropy Source	250 Kbps (typical)	250 Kbps (typical)	5.88 Mbps (@ SPI Interface)	19.64 Mbps	19.64 Mbps	19.64 Mbps
POWER SUPPLY INFORMATION						
Single Input Voltage (Embedded LDO)	2.8 V	2.8 V	2.8 V	2.8 V	2.8 V	2.8 V
I/O Interface Voltage	1.8 V	1.8 V	1.8 V	1.8 V	1.8 V	1.8 V
POWER CONSUMPTION						
RNG Output Mode	N/A	N/A	59.94 mW	83.44 mW	83.44 mW	83.44 mW
Entropy Output (sample mode)	15 mW (typical)	15 mW (typical)	58.24 mW	75.88 mW	75.88 mW	75.88 mW
Power Down Mode	100 uW	100 uW	N/A	N/A	N/A	N/A
SET-UP TIME						
Initial set-up time	3 ms	3 ms	171 ms	184 ms	184 ms	184 ms
OPERATION FREQUENCY CLOCK & TEMPERATURE						
Embedded ROSC	11 MHz ~ 14 MHz (Typ. 12 MHz)	11 MHz ~ 14 MHz (Typ. 12 MHz)	41 MHz ~ 58 MHz (Typ. 48 MHz)	41 MHz ~ 58 MHz (Typ. 48 MHz)	41 MHz ~ 58 MHz (Typ. 48 MHz)	41 MHz ~ 58 MHz (Typ. 48 MHz)
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			24 MHz	24 MHz x 4 CH	24 MHz x 4 CH	24 MHz x 4 CH
I2C	400 KHz	400 KHz	100 KHz			