



**ELECTRICAL SPECIFICATIONS:**

**RF OUTPUT**

FREQUENCY RANGE: 50 MHz - 20 GHz  
 FREQ. STEP @ Fout<3 GHz: 0.04 Hz (STANDARD MODE)  
 3 Hz (FAST MODE)  
 SWITCHING TIME: 80 μs (STANDARD MODE)  
 30 μs (FAST MODE)  
 OUTPUT POWER: +15 dBm  
 OUTPUT RETURN LOSSES: 14 dB  
 HARMONIC LEVEL: -30 dBc Typ.  
 SUBHARMONIC LEVEL: -30 dBc  
 SPURIOUS LEVEL: -60 dBc

**PHASE NOISE (Typ)**

	@1 GHz	@3 GHz	@10 GHz	@20 GHz	Unit
1KHz	-102	-92	-81	-75	dBc/Hz
10KHz	-110	-101	-90	-85	dBc/Hz
100KHz	-112	-106	-94	-86	dBc/Hz
1MHz	-142	-137	-128	-120	dBc/Hz
5MHz	-148	-146	-140	-131	dBc/Hz

**DIGITAL OUTPUT**

FREQUENCY RANGE: 300 kHz - 700 MHz  
 AUX1/2 OUTPUT: DIFFERENTIAL: LVPECL, LVDS, HCSL  
 2x SINGLE-ENDED: LVCMOS

**INTERNAL REFERENCE**

OCXO

**ELECTRICAL**

SUPPLY VOLTAGE: +7VDC ± 10%  
 POWER CONSUMPTION: 15 W

**AUX3 OUTPUT:**

SINGLE-ENDED: LVCMOS

**INTERNAL FREQUENCY STABILITY**

TEMPERATURE STABILITY: ±1 ppm  
 AGING: ±3 ppm (20 years)

**CONNECTORS**

RF OUT: SMA (F)  
 REF IN1: BNC (F)  
 REF IN2: BNC (F)  
 AUX1, AUX2: SMA (F)  
 AUX3: SMA (F)  
 POWER/RS232/SPI: DE-15 (M)  
 CTRL: Reserved  
 USB: Type Mini B receptacle (USB 2.0)  
 ETHERNET: 10BaseT LAN interface

**EXTERNAL REFERENCE**

INPUT FREQUENCY: 10/100 MHz  
 INPUT POWER: +5 dBm ± 10 dB

**ENVIRONMENTAL RATING:**

TEMPERATURE RANGE: -20° TO +70°C  
 IP CODE: IP67



NOTE: The above specifications are subject to change or revision. Specifications are at 25°C unless stated otherwise.

	<b>QP microWAVE</b> CÓLQUIDE 6 28231 LAS ROZAS MADRID, SPAIN	APPROVALS	DATE	SIGNED	DESCRIPTION: <b>SYNTHESIZER 50 MHz - 20 GHz</b>	REV.:	SHEET:
		DRAW	05/10/18	CRU	CODE:	000	1 DE 1
		CHECKED	05/10/18	BME	<b>QP-FSPLL-0020-02</b>		
		APPROVED	05/10/18	JAV			