

Specification	AXCS9100	Rev.: 2	Date: 2018-12-10
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**Oscillator type: Optically-pumped Cesium Atomic Clock
Customized Version for Telecom Industry**

Features:

- Ultra-High Stability Primary Reference Clock (PRC)
- Standard for Time Synchronisation, Calibration and Test Labs
- Full monitoring and control features with modern user interface
- Long service life – Continuous operating time >8 years
- Compatible with popular Cesium Clocks
- Applications: 4G/5G networks, DTV, DAB, CMDA and Tetra, IPTV etc.
- Equivalent to ELECSPN TA1100



Ordering Code

Model	Revision	Frequency [MHz]
AXCS9100	Rev.2	10.000

Parameter	min.	typ.	max.	Unit	Condition
Nominal output frequency RF1	2.048			MHz	
Nominal output frequency RF2	10.000			MHz	
Frequency stability @ 10 MHz					
Frequency accuracy			$1 \cdot 10^{-12}$		
Short- and long-term stability			$1.2 \cdot 10^{-11}$ $8.5 \cdot 10^{-12}$ $2.7 \cdot 10^{-12}$ $8.5 \cdot 10^{-13}$ $2.7 \cdot 10^{-13}$ $8.5 \cdot 10^{-14}$ $5.0 \cdot 10^{-14}$		@ $\tau = 1$ sec @ $\tau = 10$ sec @ $\tau = 100$ sec @ $\tau = 1,000$ sec @ $\tau = 10,000$ sec @ $\tau = 100,000$ sec @ Floor
Frequency reproducibility			$5 \cdot 10^{-13}$		
Manual synchronisation @ 10 MHz					
Synchronisation range	$\pm 1 \cdot 10^{-9}$				
Resolution	$1 \cdot 10^{-15}$				
External synchronisation input	1PPS TTL				
1 PPS output					
Rising time			10	ns	
Jitter			1	ns	
Accuracy			20	ns	
RF output RF1 & RF2					
Number of output ports	2				
Signal waveform	Sine wave				
Load R_L	75			Ω	@ 2.048 MHz
	50			Ω	@ 10.000 MHz
Output level	+7	+10	+13	dBm	
Harmonics			-40	dBc	
Spurious			-80	dBc	
Phase noise @ 10 MHz			-100	dBc/Hz	@ 1 Hz
			-130	dBc/Hz	@ 10 Hz
			-145	dBc/Hz	@ 100 Hz
			-150	dBc/Hz	@ 1 kHz
			-154	dBc/Hz	@ 10 kHz
Warm-up time			40	Min	@ +25°C
			120	Min	@ -10°C
DC Supply voltage V_s	40		60	V	
AC Supply voltage V_s	100		240	V	
AC Supply input frequency	45		55	Hz	
Power consumption (steady state)			80	W	DC Supply
Power consumption (warm-up)			130	W	DC Supply
Operating temperature range	0		+40	°C	
Storage temperature range	-20		+50	°C	
Enclosure (see drawing) (WxDxH)	456x455x177			mm	19" rack 4 HU
Environmental conditions	Consult factory				
Weight			40	kg	
MTBF	100,000			hrs	
Service life	8			years	

**Please consult factory for detailed information, operating manual
or special technical requirements**

Revision History

Rev.	Drawing	Date [dd.mm.yyyy]	Remarks	Author	Checked
1	D0	30.10.2018	First issue	HH	ME
2	D0	10.12.2018	Phase noise values and various parameters updated	HH	HH