


## AFE 2 ADC 3.3V/5V 20-Pin TSSOP T/R

<b>Manufacturer:</b>	<a href="#">STMicroelectronics, Inc</a>
<b>Package/Case:</b>	TSSOP-20
<b>Product Type:</b>	Data Conversion ICs
<b>RoHS:</b>	RoHS Compliant/Lead free 
<b>Lifecycle:</b>	NRND



Images are for reference only

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### General Description

The STPM10 is designed for effective measurement of active, reactive and apparent energy in a power line system using current transformer and shunt sensors. The device can be implemented for peripheral measurement in a microcontroller-based single-phase or poly-phase energy meter. The STPM10 consists of two main sections: analog and digital. The analog part is composed of preamplifier and first-order sigma-delta A/D converter blocks, a band-gap voltage reference and low-drop voltage regulator. The digital part is composed of system control, oscillator, hard-wired DSP and SPI interface. There is also an internal volatile memory, which is controlled through the SPI by means of a dedicated command set. The configured bits are used for configuration and calibration purposes. From a pair of sigma-delta output signals produced by the analog section, the DSP unit computes the amount of active, reactive and apparent energy consumed, as well as the RMS and instantaneous voltage and current values. The results of the computation are available as pulse frequencies and states on the digital outputs of the device, or as data bits in a data stream, which can be read from the device by means of the SPI interface. The system bus interface is also used for temporary programming of bits of internal volatile memory. The STPM10 generates an output signal with a pulse frequency proportional to the energy, and this signal is used in the calibration phase of the energy metering application.

### Key Features

- Measures active, reactive, and apparent energies
- Current, voltage RMS and instantaneous measurement
- Frequency measurement
- Ripple-free active energy pulsed output
- Live and neutral monitoring for tamper detection
- Fast and simple one-point digital calibration over the whole current range

### Recommended For You

**STIS14PHR**

STMicroelectronics, Inc  
HSOP-8

**ST890CDR**

STMicroelectronics, Inc  
SOP-8

**STWD100YNYWY3F**

STMicroelectronics, Inc  
SOT23-5

**STC3100IQT**

STMicroelectronics, Inc  
QFN

**STM706TM6F**

STMicroelectronics, Inc  
SOP-8

**STWD100NYWY3F**

STMicroelectronics, Inc  
SOT23-5

**STPD01PUR**

STMicroelectronics, Inc  
24-QFN

**STGAP2SICSNIR**

STMicroelectronics, Inc  
SOIC-8

**STSPIN230**

STMicroelectronics, Inc  
VFQFPN16

**STNS01PUR**

STMicroelectronics, Inc  
DFN-12

**STWBC**

STMicroelectronics, Inc  
QFN32

**STWBC2**

STMicroelectronics, Inc  
SOP

**STMPS2171MIR**

STMicroelectronics, Inc  
SO-8

**STSPIN240**

STMicroelectronics, Inc  
QFN16

**STMPS2151MIR**

STMicroelectronics, Inc  
SOP8