

## 22 Infrared interface (IRTIM)

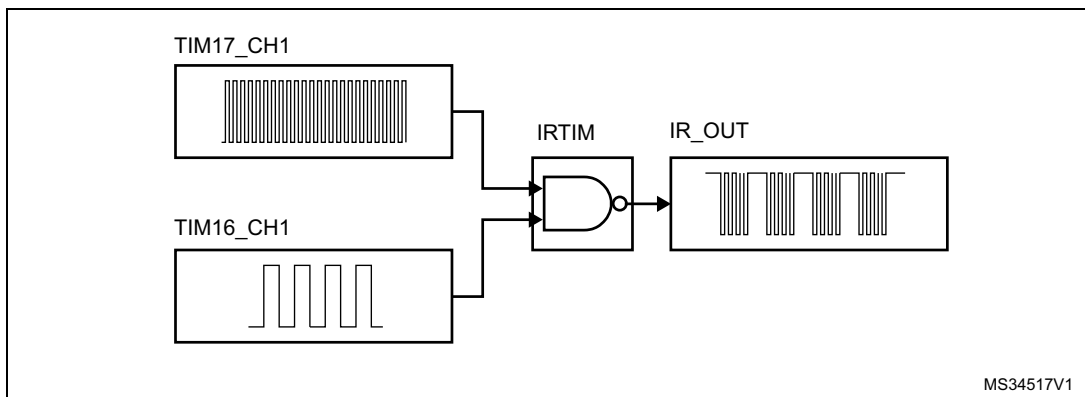
An infrared interface (IRTIM) for remote control is available on the device. It can be used with an infrared LED to perform remote control functions.

It uses internal connections with TIM16 and TIM17 as shown in [Figure 309](#).

To generate the infrared remote control signals, the IR interface must be enabled and TIM16 channel 1 (TIM16\_OC1) and TIM17 channel 1 (TIM17\_OC1) must be properly configured to generate correct waveforms.

The infrared receiver can be implemented easily through a basic input capture mode.

**Figure 309. IRTIM internal hardware connections with TIM16 and TIM17**



All standard IR pulse modulation modes can be obtained by programming the two timer output compare channels.

TIM17 is used to generate the high frequency carrier signal, while TIM16 generates the modulation envelope.

The infrared function is output on the IR\_OUT pin. The activation of this function is done through the GPIOx\_AFRx register by enabling the related alternate function bit.

The high sink LED driver capability (only available on the PB9 pin) can be activated through the I2C\_PB9\_FMP bit in the SYSCFG\_CFGR1 register and used to sink the high current needed to directly control an infrared LED.