JN516x 串口波特率计算方法

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6.3.2 Setting the Baud-rate

The following functions are provided for setting the baud-rate of a UART:

- **vAHI_UartSetBaudRate()**

  This function allows one of the following standard baud-rates to be set: 4800, 9600, 19200, 38400, 76800 or 115200 bps.

- **vAHI_UartSetBaudDivisor()**

  This function allows a 16-bit integer divisor (*Divisor*) to be specified which will be used to derive the baud-rate from a 1MHz frequency, given by:

$$\frac{1 \times 10^6}{Divisor}$$

- **vAHI_UartSetClocksPerBit()**

  This function can be used to obtain a more refined baud-rate than can be achieved using **vAHI_UartSetBaudDivisor()** alone. The divisor from the latter function is used in conjunction with an 8-bit integer parameter (*Cpb*) from **vAHI_UartSetClocksPerBit()** to derive a baud-rate from the 16MHz peripheral clock, given by:

$$\frac{16 \times 10^6}{Divisor \times (Cpb + 1)}$$

  Based on the above formula, the highest recommended baud-rate that can be achieved is 4Mbps (*Divisor*=1, *Cpb*=3).

JN-516x 的串口波特率通过 16MHz 外设时钟进行分频，设置合适 ClocksPerBit 和 Divisor 分频因子，可以获得不同的波特率。下面是常用波特率的分频因子：

BaudRate(bps)	CalcBaudRate(bps)	BaudError	ClocksPerBit	Divisor
4800	4807	0.145833%	15	208
9600	9615	0.156250%	15	104
19200	19230	0.156250%	15	52
38400	38461	0.158854%	15	26
57600	57971	0.644097%	11	23
76800	76923	0.160156%	15	13
115200	114285	0.794271%	13	10
1000000	1000000	0.000000%	15	1

通过下面二个函数设置串口的参数，配置合适的分频因子

```
//API函数vAHI_UartSetBaudRate设置的波特率不准确!! 请使用下面二个函数设置分频系数
/* Set the calculated clocks per bit */
vAHI_UartSetClocksPerBit(u8UART, u8ClocksPerBit);
/* Set the calculated divisor */
vAHI_UartSetBaudDivisor(u8UART, u16Divisor);
```

设置 115200bsp 时，通过逻辑分析仪抓取 JN516x 串口 Tx 波形：