อธิบาย Code 2-2 : MP45DT02

Read Value from I2S :

```
HAL_I2S_Receive(&hi2s2, buffer, 20, 1000);
```

Amplification finding process :

```
tick = tick+1;
for(it=0; it<20; it++){
        pcm = -8;
        pdm = buffer[it];
        // Count high bit
        while ( pdm != 0 ) {
          pcm ++;
          pdm ^= pdm & -pdm;
        }
        pcm_buffer += pcm;
        pcm_buffer *= 0.95;
        amp += absfunc(pcm_buffer);
        amp *= 0.95;
}
```

Find max amplification value in every 1000 ticks and transmit the value :

```
// replace with new Max amp
if(max_amp <amp) {
  max_amp = amp;
}

// reset every 1000 ticks
if(tick == 1000){
  DoutoC(max_amp,max_amp_str);
  HAL_UART_Transmit(&huart2,max_amp_str,10, 1000);
  HAL_UART_Transmit(&huart2,"\n\r",2, 1000);
  max_amp = 0;
  tick = 0;
}
```

Additional functions to find absolute value of float-type valuable and convert Double to Char :

```
float absfunc(float x){
  if (x < 0) return -1*x;
  else return x;
}
void DoutoC(double f,char * buffer){
    gcvt(f,10,buffer);
}
```