Additional Crystal/Oscillator Information

PPM Values:
There is no specific requirement for the crystal package size.
Our chip's frequency tolerance is greater than 30PPM and we can accept 50PPM crystals.
But, the crystal output frequency has to be checked and crystal's drift due to temperature must also be controlled.
Also, the capacitors used with crystal can have great impact on frequency and operating stability.
Again, crystal output frequency must be measured when using different crystals and capacitor values.
Power on tests must be performed to ensure the crystal circuit will oscillate when powered on.

Oscillator, on the other hand, outputs a stable frequency that does not vary much. We can also accept 50PPM oscillators as well.

The difference of XT1 and XT2 is there is a clock delay. No matter XT1 and XT2 can be used but we recommend XT1.

DM9162:
TXCLK can OUTPUT 50Mhz clock when it has a pull-up AND 25Mhz crystal is used. If a 50Mhz oscillator should be used, it has to be connected either XT1 or XT2, depending on timing delays between clock and data in RMII mode. In this case, there is no need to pull-up TXCLK.

ESR of 25 Ohm?
We keep the old value but the new crystals now are also ok. The ESR affect the Q-factor but it is minor to the fundamental mode of frequency.

One of Davicoms vendors for Crystals: http://www.itti-co.com/products.php

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Also refer to Chapter 3.2 of the following document:

http://www.dacomwest.de/images/Dateien/Davicom/Dokumente/ETH-Brevier_20111118.pdf

Chapter 9 of the following document:

http://www.dacomwest.de/images/Dateien/Davicom/Dokumente/DM_General-Layout-Guide.pdf