all data is interpreted as 32-bit words (Intel byte order) 2006-03-16
highest 4 bits are data type (code) => (0x0, 0x1, 0x2, ..., 0xF)

UInt_t word => 4 bytes or 32 bites

31 bit	**30** bit	**29** bit	**28** bit	**27** bit	**26** bit	**25** bit	**24** bit	**23** bit	**22** bit	**21** bit	**20** bit	**19** bit	**18** bit	**17** bit	**16** bit	**15** bit	**14** bit	**13** bit	**12** bit	**11** bit	**10** bit	**09** bit	**08** bit	**07** bit	**06** bit	**05** bit	**04** bit	**03** bit	**02** bit	**01** bit	**00** bit

word >> 28

0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**31** bit	**30** bit	**29** bit	**28** bit

data type, 4bit

event header	0xA	1	0	1	0
module header	0x8	1	0	0	0
TDC leading edge measurement	0x4	0	1	0	0

word >> 24 & 0xF

0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**31** bit	**30** bit	**29** bit	**28** bit	**27** bit	**26** bit	**25** bit	**24** bit
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1

=> 0xF

0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**27** bit	**26** bit	**25** bit	**24** bit

tdc_id, 4bit

word >> 19 & 0x1F

0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**31** bit	**30** bit	**29** bit	**28** bit	**27** bit	**26** bit	**25** bit	**24** bit	**23** bit	**22** bit	**21** bit	**20** bit	**19** bit
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1

=> 0x1F

0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**23** bit	**22** bit	**21** bit	**20** bit	**19** bit

tdc_ch, 5bit

word & 0x7FFFF

0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
0	0	0	0	0	0	0	0	0	0	0	0	0	**18** bit	**17** bit	**16** bit	**15** bit	**14** bit	**13** bit	**12** bit	**11** bit	**10** bit	**09** bit	**08** bit	**07** bit	**06** bit	**05** bit	**04** bit	**03** bit	**02** bit	**01** bit	**00** bit

=> 0x7FFFF

fTdc, leading time, 19 bit

tdc_id = 1 => tdc_num = 0
tdc_id = 2 => tdc_num = 1
tdc_id = 4 => tdc_num = 2
tdc_id = 8 => tdc_num = 3

tdc_id < 16 (4 bit)
tdc_ch < 32 (5 bit)

fTdc*(1 / (40e6*256)) time in sec.

phtdc_norm_map_ch_code[tdc_num][tdc_ch/2] // [4][16] => array of fNtdc