Data format

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Data format of S-Link

S-Link common

Word	Contents	Comment
0	0xB0FTTTTT	Beginning of fragment marker/ T = Router Trap Type Data (Removed by Router)
1	0xEE1234EE	Start of header
2	0x9	Header size
3	0x30100000	Format Version Number (Ver 3.1)
4	0x001XNNNN Pixel 0x002XNNNN SCT	Source Identifier N = Module ID, X = LS Nibble of Sub-detector ID
5	0xTTSSSSSS	Run Number: T = Run Type ➔ 0x00 > Physics 0x01 > Calibration 0x02 > Cosmics 0x0F > Test S = Sequence within Run Type
6	0xEELLLLLL	Extended Level 1 ID: E = ECR ID, L = L1ID
7	0x00000BBB	Bunch Counter ID
8	0x000000AA	ATLAS Level 1 Trigger Type
9	0x00RR000T	Detector Event Type R = ROD or T = TIM

Data format of S-Link

SCT

- 1 word is defined with 16 bits
- 1 slink packet includes 2 words

Name	Bits [15:0] or [31:16]
Header	001pLLLLBBBBBBB
Trailer	010zhvxxxxxxxxxx
1 hit condensed	1FFFFCCCCCCCxfx0
2 hits condensed	1FFFFCCCCCCCsfx1
1st hit cluster expanded	1FFFFCCCCCCC0DDD
1 hit cluster expanded	1xxxxxxx0xxx1DDD
2 hit cluster expanded	1xxxxxxx1DDD1DDD
Flagged error	000xxxxxxFFFFEEE
Raw data	011nnnxxWWWWWWWW

Data format of S-Link

Pixel

Name	Bits [31:0]
Header	001PxxxxxxxxAAAAMMMMLLLLBBBBBBBB
Trailer	010ZHVxxxxxxxxxxxxxxxxxxxxxxxxxxx
Hit	100xFFFFTTTTTTTxxxCCCCCRRRRRRR
FE Flag Error (Old)	0000FFFFxxxxxxxxxxx11110FFFFEEEE
FE Flag Error (New)	0001FFFFxxx11111eeeeeeeeEEEEEEEE
Raw Data	011DDDDDDDDDDDDDDDDDDDDDDDDDDD
Time Out Data	00100000000000000000000000000000