

URINALYSIS, PHD, DATA COMMUNICATION STANDARD NWIP

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ISO/TC 215

APAMI WG 1, Standards

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COMMUNICATION METHODS

Communication interface - RS-232, Bluetooth, ZigBee, and USB

Wired	RS-232 3 lines
Line speed	9,600 BPS
DATA specification	8bit data, 1stop, None Parity

(Reagent) STRIP ORDER

Defining Test Names :

0x01 Occult Blood

0x02 Bilirubin

0x03 Urobilinogen

0x04 Keton Body

0x05 Protein

0x06 Nitrite

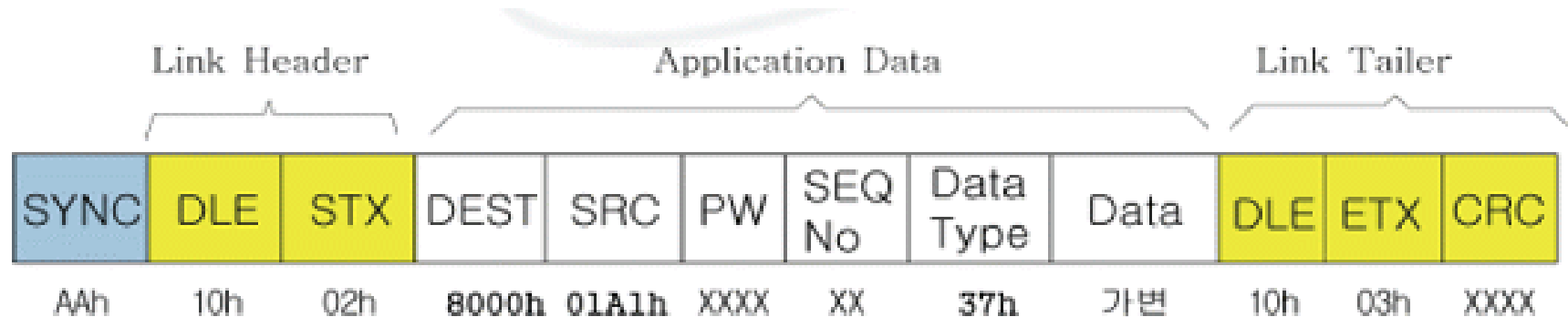
0x07 Glucose

0x08 pH

0x09 Specific Gravity

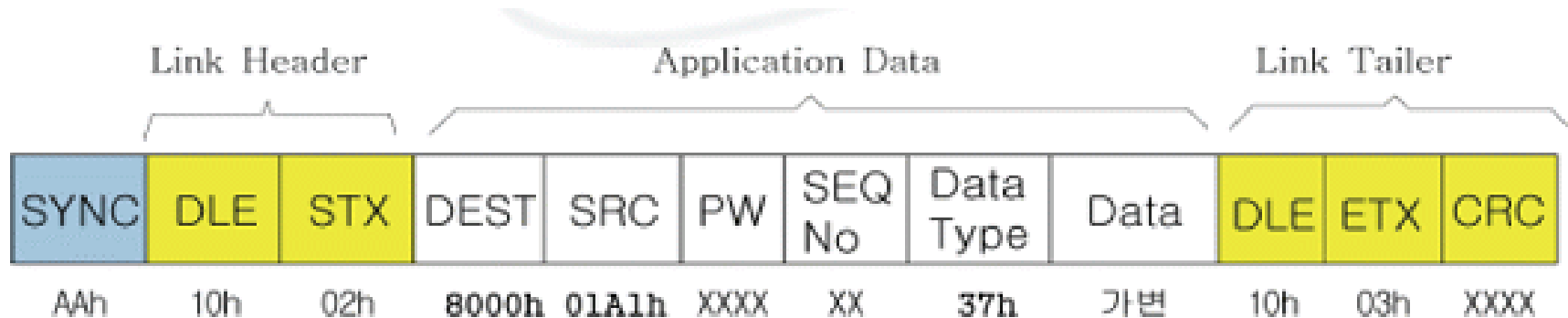
0x0A White Blood Cell Esterase

BASIC STRUCTURE OF COMMUNICATION FRAME



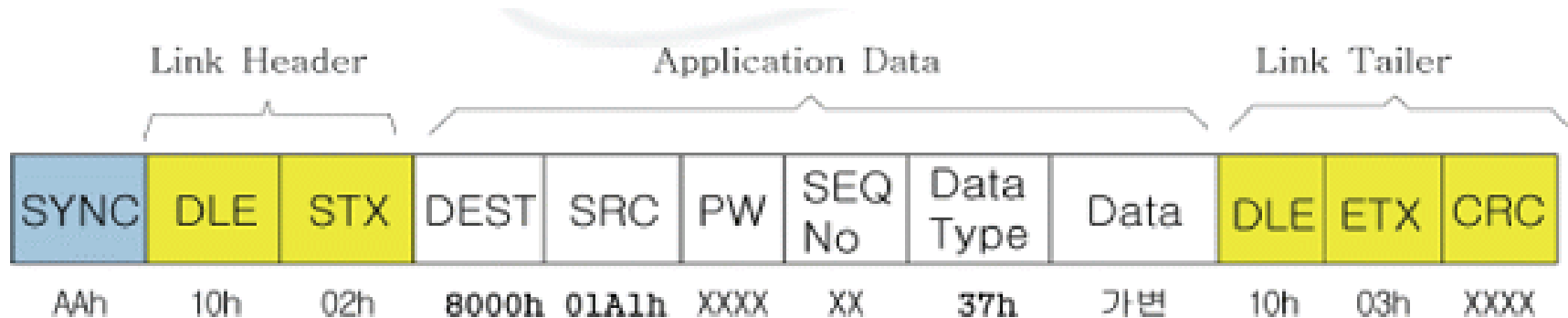
- ① SYNC : This is an AAh pattern signal transmitted at the first in sequence of the communication frame for synchronizing the Frame (if necessary SYNC character may be transmitted more than twice)
- ② DLE STX : Start Of Frame, the proper pattern for beginning of Frame (Character Stuffing/Destuffing)
- ③ DEST : Frame Receiver Device ID (4 bytes) [device 1 : 8000:01A1h]

BASIC STRUCTURE OF COMMUNICATION FRAME (2)



- ④ SRC : Frame Sending Device ID (4 bytes) [device 1 : 0000:0000h]
- ⑤ PW : Compressed Home Password (2 bytes) [device 1 : 00h]
- ⑥ SEQ : Frame serial number (during normal transmission Inc., Wrap Around) [device 1 : 00h]
- ⑦ Data Type : Module Registry code [device 1 : 37h]

BASIC STRUCTURE OF COMMUNICATION FRAME (3)



- ⑧ Data : Data by Data Type [Refer to Data Format]
- ⑨ DLE ETX : End Of Frame, Proper Pattern for end of Frame
- ⑩ CRC : CCITT CRC-16

DATA FORMAT FOR COMMUNICATION

Type	Value
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DATA FORMAT FOR COMMUNICATION (2)

Type	Define	Qualifier	Value
Manufacture	0xA1	Optional	2byte
Model	0xA2	Optional	2byte
Device ID	0xA3	Optional	2byte
Date and Time	0xA5	Optional	4byte
Strip Number*	0xA6	Mandatory	1byte
Strip Order*	0xA7	Mandatory	2~5byte
Strip Data*	0xA8	Mandatory	2~5byte

- Strip indicates reagent strip

EXPRESSION OF TEST RESULTS

항목 표기법(한글/영문)	단계별							단위표 기
	1	2	3	4	5	6	7	
Bilirubin 빌리루빈	음성	양성1단계	양성2단계	양성3단계				mg/dl umol/l
Urobilinogen 우로빌리노겐	음성	양성1단계	양성2단계	양성3단계	양성4단계			mg/dl umol/l
Ketones 케톤체	음성	양성0단계	양성1단계	양성2단계	양성3단계			mg/dl mmol/l
Glucose 노당	음성	양성0단계	양성1단계	양성2단계	양성3단계	양성4단계		mg/dl mmol/l
Protein 노단백	음성	양성1단계	양성2단계	양성3단계				mg/dl g/l
Blood 노잠혈	음성	양성1단계	양성2단계	양성3단계				Ery/ul Ery/ul
PH 산도	5	6	7	8	9			
Nitrite 아질산염	음성	양성						
Leucocytes 백혈구	음성	양성1단계	양성2단계	양성3단계				Leu/ul Leu/ul
Specific gravity 비중	1.000	1.005	1.010	1.015	1.020	1.025	1.030	

EXPRESSION OF TEST RESULTS (EXAMPLE)

Order	Define	Results value
Nitrite	0x06	Neg
Glucose	0x07	Neg
Urobilinogen	0x03	Neg
Bilirubin	0x02	Neg
Occult Blood	0x01	Neg
pH	0x08	pH7 (3 rd grade)
WBC	0x0A	Neg
SG	0x09	1.020 (5 th grade)
Keton Body	0x04	Neg
Protein	0x05	Neg

EXPRESSION OF TEST RESULTS DATA FRAME (EXAMPLE)

0xA5	0x00	0x00	0x8C	A0
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0xA6	0x0A
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0xA7	0x67	0x32	0x18	0xA9	0x45
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0xA7	0x11	0x11	0x13	0x15	0x11
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The logo for Colorful Daegu, featuring the word "Colorful" in a sans-serif font with a vertical bar of colored dots (blue, green, yellow, red) to its left, and "DAEGU" in a bold, black, sans-serif font below it.

Colorful
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The logo for the Daegu Convention and Visitors Bureau (dcvb), consisting of the lowercase letters "dcvb" in a white, sans-serif font inside a dark blue rectangular box.

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HIMSS Asia'10 Health IT Leadership Summit

HIMSS Asia'10

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EXCO, Daegu, Republic of Korea

