SRR Key Data Protocol based on mmWave Platform v04.03

Abstract:

This document dedicated description for SRR Key Data Protocol based on mmWave Platform
For more easier to connect to microprcessor's UART port baud rate as 115200/8/n/1

Description:

The Key Data Protocol structure as followings,
<Structure> := H F L I X Y T (more detail see Appendix A1)

Alert: the data will be reported when r <= 2 meter
the distance r between Objects and Antenna
computed by r = sqrt(X^2 + Y^2)/128.0

Appendix:

(A1) Key Data Protocol for SRR project, total 9 bytes per SINGLE point

Item	Name	Location	Length	Type	Description
1	H	0	1	U8	Header (0x7B) or ('{')
2	F	1	1	'0'..'9'	Flow for readable; (flow % 10) + '0'
3	L	2	1	U8	Length of total points per frame
4	I	3	1	U8	Index of point
5	X	4 5	2	I16	X value; (x=X/128.0, unit:m)
6	Y	6 7	2	I16	Y value; (y=Y/128.0, unit:m)
7	T	8	1	U8	Tail (0x7D) or ('}')

Notes: Type definition as followings,
U8 := unsigned char (1 bytes)
I16 := integer (2 bytes in LittleEndian format)

(A2) Frame Period Time :
30 ms (based on mmWave board firmware v04.05)

(A3) example on data logged in Real case, convert X example see following,
see on line 6, X is (C5 FF) => (0xFFC5) => (0+0xFFC5-65536)/128.0 => -0.46 meter