V20 TMD PROTOCOL based on mmWave Platform v20.11

Abstract:
This document dedicated description for TMD Protocol based on mmWave Platform

Description:
This Protocol structure includes two sections as followings,
<Structure> := <TitleSection(22Bytes)> [<DataSection(22Bytes)>]
here [<DataSection>] is optional item depended by Target be found
TotalByesNumber := 22 + (22 * numberOfTargets)
FramePeriodTime := 100 ms
UART port Baud Rate : 921600/8/n/1

Appendix:

(A1) <TitleSection>

Item	Abbre	Name	Location	Length	Type	Description
0	h	Header	0	1	'['	Header, 0x5B
1	f	"frame="	1	6	U8 Array	"frame="
2	F	FrameNumber	7 8 9 10	4	U32	FrameNumber
3	P	"target="	11..17	7	U8 Array	"target="
4	T	TotalTargetNumber	18	1	U8	TotalTargetNumber
5	O	ObjectNumber	19 20	2	U16	ObjectNumber
6	t	Tail	21	1	']'	Tail, 0x5D

(A2) <DataSection>

Item	Abbre	Name	Location	Length	Type	Description
0	h	Header	0	1	'<'	Header, 0x3C
1	i	Index	1	1	U8	index
2	x	Position x	2 3 4 5	4	F32	position x
3	y	Position y	6 7 8 9	4	F32	position y
4	vx	Velocity x	10 11 12 13	4	F32	velocity vx
5	vy	Velocity y	14 15 16 17	4	F32	velocity vy
6	T	TargetID	18	1	U8	TagrgetID
7	I	Intensity	19 20	2	U16	Intensity
8	t	Tail	21	1	'>'	Tail, 0x3E

Alert: TargetID is assigned by program
Intensity is accumulated points by successive 10 frames in 2 meter radius circle

Notes: Type definition as followings,
U8 := unsigned char (1 bytes)
U16 := unsigned int (2 bytes in LittleEndian format)
U32 := unsigned long (4 bytes in LittleEndian format)
F32 := float (4 bytes in LittleEndian format)

(A3) Example on data logged in Real case
Software Tool : Tera Term V4.104