Product Document

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EVM Software Description

PD000548

TMF882X

Logfile Format Description

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Content Guide

1 Log File Format

This document describes the log file format of the TMF882X EVM GUI. The user shall be able to log all data, which the TMF882X EVM GUI displays, into a single log file.

1.1 Overview

The TMF882X EVM GUI uses CSV as output format for the log file.

The first two lines are always (to allow usage independent of the Excel regional settings):

```
sep=;
VersionGUI "<version of the used GUI>"
```

After that, the TMF882X EVM GUI adds a header line for each tag with the description of fields. This is the same format as in the data lines but instead of actual data there is a field description.

All but the very first two lines always start with a hash mark "#" and the content as described in the next sections.

2 Log Tags

2.1 #VER – Version Information

Figure 1:
#VER Example

`#VER;a7-81-00-00;3.224.33.11;4.4.5.0;3.17.3.7;8;3;EVM v3.27`

Figure 2:
#VER Field Description

Field	Description
1	Line tag #VER
2	The serial number of the ToF device, readout from the fuses
3	The version number of the application running on ToF
4	The version number of the EVM GUI
5	The version number of the host driver
6	Chip ID
7	Chip Revision
8	EVM Version

2.2 #TMP - Measurement SPAD Temperature

Figure 3:
 # TMP Example

`#TMP;1592894662781;160;35`

Figure 4:
#TMP Field Description

Field	Description
1	Line tag #TMP
2	Unix timestamp of the EVM GUI host

Field	Description
3	Transaction ID from the target (RasPi)
4	Temperature of the measurement SPAD in degrees celsius

2.3 #CAL - Calibration Data

Figure 5:
#CAL Example

```
#CAL;1595322352869;0;0;00;02;01;00;01;FF;26;02;79;56;34;12;53;49;47;F7;9B;A3;07;00
;9B;A3;07;00;9B;A3;07;00;9B;A3;07;00;9B;A3;07;00;9B;A3;07;00;9B;A3;07;00;9B;A3;07;
00;9B;A3;07;00;9B;A3;07;00;BC;09;02;00;02;00;00;00;02;00;00;00;02;00;00;00;02;00;0
0;00;02;00;00;00;02;00;00;00;02;00;00;00;01;00;00;00;00;00;00;00;00;00;00
;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;
00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;0
0;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00
;00;00;00;00
```

Figure 6:
#CAL Field Description

Field	Description
1	Line tag #CAL
2	Unix timestamp of the EVM GUI host
3	Transaction ID from the target (RasPi)
4	Calibration operation: 00 .. new calibration, 01 .. clear calibration, 02 .. get current calibration
5	Calibration data, 2 character hex values

2.4 #LIGHT - Light Information

Figure 7:
#LIGHT Example

```
#LIGHT;1595322354641;8;21615;196380;21798
```

Figure 8:
#Light Field Description

Field	Description
1	Line tag #LIGHT
2	Unix timestamp of the EVM GUI host
3	Transaction ID from the target (RasPi)
4	Object photon count (only closest object)
5	Reference photon count
6	Background light

2.5 #OBJ - Objects Per Pixel

Figure 9:
#OBJ Example

```
#OBJ;1595322354641;8;3;3;1935;22;0;0;1941;33;0;0;0;0;0;0;1928;41;0;0;1943;86;0;0;1
995;30;0;0;1935;15;0;0;1961;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;0;0;0;0;0;0;0;0;0;0;0;0;0
```

Figure 10:
#OBJ Field Description

Field	Description
1	Line tag #OBJ
2	Unix timestamp of the EVM GUI host
3	Transaction ID from the target (RasPi)
4	Number of pixel columns
5	Number of pixel rows
6	Pixel 1 object 0 distance
7	Pixel 1 object 0 confidence
8	Pixel 1 object 1 distance
9	Pixel 1 object 0 confidence
…	…
…	Pixel 18 object 0 distance
…	Pixel 18 object 0 confidence

Field	Description
…	Pixel 18 object 1 distance
…	Pixel 18 object 1 confidence
…	(only in 8x8 mode)
…	Pixel 72 object 0 distance (only in 8x8 mode)
…	Pixel 72 object 0 confidence (only in 8x8 mode)
…	Pixel 72 object 1 distance (only in 8x8 mode)
…	Pixel 72 object 1 confidence (only in 8x8 mode)

Information for pixels not in use for the current mode will be all zeroes.

In 4x4 mode pixel 9 is not used. Information is only in pixels 1-8 and 10-17 (caused by the TMF882X application firmware reporting structure). In 8x8 mode every ninth pixel is not used. Information is in these pixels:

```
 1, 2, 3, 4, 5, 6, 7, 8,
10,11,12,13,14,15,16,17,
19,20,21,22,23,24,25,26,
28,29,30,31,32,33,34,35,
37,38,39,40,41,42,43,44,
46,47,48,49,50,51,52,53,
55,56,57,58,59,60,61,62,
64,65,66,67,68,69,70,71
```

Figure 11:
Pixel Assignment

Mode	Information in Pixels
3x3	1 – 9
4x4	1 – 8, 10 – 17
3x6	1 – 18
8x8	See above

2.6 #HECAL - Electrical Calibration Histograms

Figure 12:
#HECAL Example

```
#HECAL0;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;0;0;0;0;0;0;0;0;
0;0;0;0;0;0;0;0;0;0;0;0;4;825;2586;572;7;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;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;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;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;0;0;0;0;0;0;0;0;1;375;1885;1520;206;7;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;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;0;0;0;0;0;0;0;0;0;0;0;0;0
```

Tags: #HECAL0 .. #HECAL4

Figure 13:
#HECAL Field Description

Field	Description
1	Line tag #HECAL
2	Bin0 .. Bin255 with histogram values, 32-bit decimal

2.7 #HOCAL - Optical Reference Histograms

Figure 14:
#HOCAL Example

```
#HOCAL0;35;22;27;28;27;22;27;28;27;28;34;24;31;37;13936;128335;52632;16625;8506;46
30;2973;2034;1579;1216;1018;916;764;615;463;447;367;241;242;146;145;109;80;74;50;4
1;36;37;26;17;25;21;17;20;17;17;13;18;13;10;15;15;12;12;8;18;19;11;18;8;12;14;23;1
7;19;13;20;17;11;18;14;14;20;16;10;15;14;18;5;27;21;13;15;17;15;17;12;19;14;10;13;
14;20;13;15;13;8;17;20;24;17;13;22;9;18;15;28;15;19;12;18;20;15;11;14;10;9;28;12;8
;18;13;13;22
```

Tags: #HOCAL0 .. #HOCAL1

Figure 15:
#HOCAL Field Description

Field	Description
1	Line tag #HOCAL
2	Bin0 .. Bin127 with histogram values, 32-bit decimal

With each target measurement, a histogram of the optical reference channel is also captured.

In 3x3 mode all measurement histograms (histograms from TMF882X) are captured in one go.

In 4x4 and 3x6 mode two reference histograms are captured in time-multiplexed mode.

Figure 16:
Optical Reference Histograms

Tag	Description
HOCAL0	The only optical reference histogram in non-multiplexed mode (3x3)
HOCAL1	Additional optical reference histogram in multiplexed mode (4x4)

2.8   #HLONG - Long Range Histograms

Information

Measurement histograms are still reported as long-range histograms. As there are no short-range histograms available this is outdated. The tag "#HLONG" is used for compatibility reasons.

Figure 17:
#HLONG Example

```
#HLONG01;2310;2276;2372;2352;2288;2284;2206;2268;2277;2258;2156;2321;2290;2195;225
2;2144;2278;2182;2191;2059;2145;2267;2080;2217;2125;2230;2097;2039;2058;2066;2110;
2142;2092;2087;2074;2043;2084;2015;1987;2015;2057;2027;2039;2024;1929;1954;1938;19
69;2236;2654;2307;2005;2035;1880;1823;1953;1861;1805;1854;1857;1896;1871;1732;1860
;1860;1808;1803;1723;1714;1723;1681;1715;1715;1706;1706;1697;1721;1707;1691;1706;1
638;1655;1671;1669;1676;1604;1585;1636;1618;1619;1586;1627;1518;1560;1491;1598;151
1;1502;1556;1542;1507;1578;1544;1578;1433;1450;1448;1509;1532;1483;1463;1477;1414;
1440;1387;1363;1432;1439;1403;1358;1393;1324;1392;1431;1374;1368;1413;1395
```

Tags: #HLONG01 .. #HLONG18 (one for each pixel)

Figure 18:
#HLONG Field Description

Field	Description
1	Line tag #HLONG
2	Bin0 .. Bin127 with histogram values, 32-bit decimal

2.9 #ITT - Iterations and Threshold

Figure 19:
#ITT Example

`#ITT;1595322354873;550;6;1;2.5 m;3 x 3;0;1`

Figure 20:
#ITT Field Description

Field	Description
1	Line tag #ITT
2	Unix timestamp of the EVM GUI host
3	Number of iterations
4	Object detection threshold
5	Current SPAD map ID
6	Measurement range (2.5 m, 5 m)
7	Operation mode (3x3, 4x4, 3x6, 8x8)
8	De-scattering enabled (0..disabled, 1..enabled)
9	Short range mode enabled (0..disabled, 1..enabled)

2.10 #STATISTIC - Statistical Data

Figure 21:
#STATISTIC Example

`#STATISTIC;1595325684524;200;40;563200;0;1665032;429343;1678;389836;1678;486935;16`
`78;428141;1678;365199;1677;1677;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;0;0;0;0;0`

Figure 22:
#STATISTIC Field Description

Field	Description
1	Line tag #STATISTIC
2	Unix timestamp of the EVM GUI host

Field	Description
3	Transaction ID from the target (RasPi)
4	Two sets of statistical data fields (one for each measurement in multiplexed mode)

The TMF882X EVM GUI logs these data fields:

Figure 23:
#STATISTIC Data Fields

Data Field	Description
TMF8X2X_COM_TDCIF_STATUS	TDCIF status
TMF8X2X_COM_ITERATIONS_CONFIGURED	Number of iterations configured
TMF8X2X_COM_REMAINING_ITERATIONS	Number of iterations remaining iterations
TMF8X2X_COM_ACCUMULATED_HITS	Sum of TDC channels
TMF8X2X_COM_RAW_HITS_TDC0	Raw hits in TDC0 both channels
TMF8X2X_COM_RAW_HITS_TDC1	Raw hits in TDC1 both channels
TMF8X2X_COM_RAW_HITS_TDC2	Raw hits in TDC2 both channels
TMF8X2X_COM_RAW_HITS_TDC3	Raw hits in TDC3 both channels
TMF8X2X_COM_RAW_HITS_TDC4	Raw hits in TDC4 both channels
TMF8X2X_COM_SATURATION_CNT_TDC0	Saturation counter in TDC0 both channels
TMF8X2X_COM_SATURATION_CNT_TDC1	Saturation counter in TDC1 both channels
TMF8X2X_COM_SATURATION_CNT_TDC2	Saturation counter in TDC2 both channels
TMF8X2X_COM_SATURATION_CNT_TDC3	Saturation counter in TDC3 both channels
TMF8X2X_COM_SATURATION_CNT_TDC4	Saturation counter in TDC4 both channels
TMF8X2X_COM_CHANNEL_SUM_0	Sum of hits in channel 0 (only calculated if enabled in config page 0)
TMF8X2X_COM_CHANNEL_SUM_1	Sum of hits in channel 0 (only calculated if enabled in config page 0)
TMF8X2X_COM_CHANNEL_SUM_2	Sum of hits in channel 0 (only calculated if enabled in config page 0)
TMF8X2X_COM_CHANNEL_SUM_3	Sum of hits in channel 0 (only calculated if enabled in config page 0)
TMF8X2X_COM_CHANNEL_SUM_4	Sum of hits in channel 0 (only calculated if enabled in config page 0)
TMF8X2X_COM_CHANNEL_SUM_5	Sum of hits in channel 0 (only calculated if enabled in config page 0)
TMF8X2X_COM_CHANNEL_SUM_6	Sum of hits in channel 0 (only calculated if enabled in config page 0)

Data Field	Description
TMF8X2X_COM_CHANNEL_SUM_7	Sum of hits in channel 0 (only calculated if enabled in config page 0)
TMF8X2X_COM_CHANNEL_SUM_8	Sum of hits in channel 0 (only calculated if enabled in config page 0)
TMF8X2X_COM_CHANNEL_SUM_9	Sum of hits in channel 0 (only calculated if enabled in config page 0)

2.11 #ERR - Error Information

Figure 24:
#ERR Example

#ERR;Get results. Command failed. Error code: 2

Figure 25:
#ERR Field Description

Field	Description
1	Line tag #ERR
2	Error text

2.12 #RES - Result Data

Figure 26:
#RES Example

#RES;1595327915955;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;
00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;0
0;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00
;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;
00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;0
0;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00
;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;00;
00;00;00;00

Figure 27:
#RES Field Description

Field	Description
1	Line tag #RES
2	Unix timestamp of the EVM GUI host
3	Transaction ID from the target (RasPi)
4	Result data as list of hexadecimal numbers, basically just a copy of the firmware result data page

Information

As minimum, the TMF882X EVM GUI logs everything from TMF8X2X_COM_RESULT_NUMBER to TMF8X2X_COM_RES_DISTANCE_35_MSB. If requested by the EVM software the TMF882X EVM GUI logs diagnostic data (36 bytes) and optional data (24 bytes).

Information

In 8 x 8 mode all data fields are repeated four times (except the result number) to get all object data into a single message.

Figure 28:
#RES Data Fields

Data Field	Description
TMF8X2X_COM_RESULT_NUMBER	Running counter or results
TMF8X2X_COM_TEMPERATURE	Temperature range is -128..127
TMF8X2X_COM_NUMBER_VALID_RESULTS	How many zones have reported 1 or 2 results (also no-target counts as a valid result here)
TMF8X2X_COM_RESERVED_0	Reserved for future use
TMF8X2X_COM_AMBIENT_LIGHT_0	Ambient light summed LSB
TMF8X2X_COM_AMBIENT_LIGHT_1	Ambient light summed 2nd byte
TMF8X2X_COM_AMBIENT_LIGHT_2	Ambient light summed 3rd byte
TMF8X2X_COM_AMBIENT_LIGHT_3	Ambient light summed MSB
TMF8X2X_COM_PHOTON_COUNT_0	Photon count LSB
TMF8X2X_COM_PHOTON_COUNT_1	Photon count 2nd Byte
TMF8X2X_COM_PHOTON_COUNT_2	Photon count 3rd Byte
TMF8X2X_COM_PHOTON_COUNT_3	Photon count MSB

Data Field	Description
TMF8X2X_COM_REFERENCE_COUNT_0	Reference photon count LSB
TMF8X2X_COM_REFERENCE_COUNT_1	Reference photon count 2nd Byte
TMF8X2X_COM_REFERENCE_COUNT_2	Reference photon count 3rd Byte
TMF8X2X_COM_REFERENCE_COUNT_3	Reference photon count MSB
TMF8X2X_COM_SYS_TICK_0	System tick LSB with a granularity of 5 MHz
TMF8X2X_COM_SYS_TICK_1	System tick
TMM8X2X_COM_SYS_TICK_2	System tick
TMF8X2X_COM_SYS_TICK_3	System tick MSB
TMF8X2X_COM_RES_CONFIDENCE_0	Confidence of 1. result
TMF8X2X_COM_RES_DISTANCE_0_LSB	Distance LSB of 1. result
TMF8X2X_COM_RES_DISTANCE_0_MSB	Distance MSB of 1. result
TMF8X2X_COM_RES_CONFIDENCE_1	Confidence of 2. result
TMF8X2X_COM_RES_DISTANCE_1_LSB	Distance LSB of 2. result
TMF8X2X_COM_RES_DISTANCE_1_MSB	Distance MSB of 2. result
TMF8X2X_COM_RES_CONFIDENCE_2	Confidence of 3. result
TMF8X2X_COM_RES_DISTANCE_2_LSB	Distance LSB of 3. result
TMF8X2X_COM_RES_DISTANCE_2_MSB	Distance MSB of 3. result
TMF8X2X_COM_RES_CONFIDENCE_3	Confidence of 4. result
TMF8X2X_COM_RES_DISTANCE_3_LSB	Distance LSB of 4. result
TMF8X2X_COM_RES_DISTANCE_3_MSB	Distance MSB of 4. result
TMF8X2X_COM_RES_CONFIDENCE_4	Confidence of 5. result
TMF8X2X_COM_RES_DISTANCE_4_LSB	Distance LSB of 5. result
TMF8X2X_COM_RES_DISTANCE_4_MSB	Distance MSB of 5. result
TMF8X2X_COM_RES_CONFIDENCE_5	Confidence of 6. result
TMF8X2X_COM_RES_DISTANCE_5_LSB	Distance LSB of 6. result
TMF8X2X_COM_RES_DISTANCE_5_MSB	Distance MSB of 6. result
TMF8X2X_COM_RES_CONFIDENCE_6	Confidence of 7. result
TMF8X2X_COM_RES_DISTANCE_6_LSB	Distance LSB of 7. result
TMF8X2X_COM_RES_DISTANCE_6_MSB	Distance MSB of 7. result
TMF8X2X_COM_RES_CONFIDENCE_7	Confidence of 8. result
TMF8X2X_COM_RES_DISTANCE_7_LSB	Distance LSB of 8. result
TMF8X2X_COM_RES_DISTANCE_7_MSB	Distance MSB of 8. result
TMF8X2X_COM_RES_CONFIDENCE_8	Confidence of 9. result
TMF8X2X_COM_RES_DISTANCE_8_LSB	Distance LSB of 9. result
TMF8X2X_COM_RES_DISTANCE_8_MSB	Distance MSB of 9. result

Data Field	Description
TMF8X2X_COM_RES_CONFIDENCE_9	Confidence of 10. result
TMF8X2X_COM_RES_DISTANCE_9_LSB	Distance LSB of 10. result
TMF8X2X_COM_RES_DISTANCE_9_MSB	Distance MSB of 10. result
TMF8X2X_COM_RES_CONFIDENCE_10	Confidence of 11. result
TMF8X2X_COM_RES_DISTANCE_10_LSB	Distance LSB of 11. result
TMF8X2X_COM_RES_DISTANCE_10_MSB	Distance MSB of 11. result
TMF8X2X_COM_RES_CONFIDENCE_11	Confidence of 12. result
TMF8X2X_COM_RES_DISTANCE_11_LSB	Distance LSB of 12. result
TMF8X2X_COM_RES_DISTANCE_11_MSB	Distance MSB of 12. result
TMF8X2X_COM_RES_CONFIDENCE_12	Confidence of 13. result
TMF8X2X_COM_RES_DISTANCE_12_LSB	Distance LSB of 13. result
TMF8X2X_COM_RES_DISTANCE_12_MSB	Distance MSB of 13. result
TMF8X2X_COM_RES_CONFIDENCE_13	Confidence of 14. result
TMF8X2X_COM_RES_DISTANCE_13_LSB	Distance LSB of 14. result
TMF8X2X_COM_RES_DISTANCE_13_MSB	Distance MSB of 14. result
TMF8X2X_COM_RES_CONFIDENCE_14	Confidence of 15. result
TMF8X2X_COM_RES_DISTANCE_14_LSB	Distance LSB of 15. result
TMF8X2X_COM_RES_DISTANCE_14_MSB	Distance MSB of 15. result
TMF8X2X_COM_RES_CONFIDENCE_15	Confidence of 16. result
TMF8X2X_COM_RES_DISTANCE_15_LSB	Distance LSB of 16. result
TMF8X2X_COM_RES_DISTANCE_15_MSB	Distance MSB of 16. result
TMF8X2X_COM_RES_CONFIDENCE_16	Confidence of 17. result
TMF8X2X_COM_RES_DISTANCE_16_LSB	Distance LSB of 17. result
TMF8X2X_COM_RES_DISTANCE_16_MSB	Distance MSB of 17. result
TMF8X2X_COM_RES_CONFIDENCE_17	Confidence of 18. result
TMF8X2X_COM_RES_DISTANCE_17_LSB	Distance LSB of 18. result
TMF8X2X_COM_RES_DISTANCE_17_MSB	Distance MSB of 18. result
TMF8X2X_COM_RES_CONFIDENCE_18	Confidence of 19. result
TMF8X2X_COM_RES_DISTANCE_18_LSB	Distance LSB of 19. result
TMF8X2X_COM_RES_DISTANCE_18_MSB	Distance MSB of 19. result
TMF8X2X_COM_RES_CONFIDENCE_19	Confidence of 20. result
TMF8X2X_COM_RES_DISTANCE_19_LSB	Distance LSB of 20. result
TMF8X2X_COM_RES_DISTANCE_19_MSB	Distance MSB of 20. result
TMF8X2X_COM_RES_CONFIDENCE_20	Confidence of 21. result
TMF8X2X_COM_RES_DISTANCE_20_LSB	Distance LSB of 21. result

Data Field	Description
TMF8X2X_COM_RES_DISTANCE_20_MSB	Distance MSB of 21. result
TMF8X2X_COM_RES_CONFIDENCE_21	Confidence of 22. result
TMF8X2X_COM_RES_DISTANCE_21_LSB	Distance LSB of 22. result
TMF8X2X_COM_RES_DISTANCE_21_MSB	Distance MSB of 22. result
TMF8X2X_COM_RES_CONFIDENCE_22	Confidence of 23. result
TMF8X2X_COM_RES_DISTANCE_22_LSB	Distance LSB of 23. result
TMF8X2X_COM_RES_DISTANCE_22_MSB	Distance MSB of 23. result
TMF8X2X_COM_RES_CONFIDENCE_23	Confidence of 24. result
TMF8X2X_COM_RES_DISTANCE_23_LSB	Distance LSB of 24. result
TMF8X2X_COM_RES_DISTANCE_23_MSB	Distance MSB of 24. result
TMF8X2X_COM_RES_CONFIDENCE_24	Confidence of 25. result
TMF8X2X_COM_RES_DISTANCE_24_LSB	Distance LSB of 25. result
TMF8X2X_COM_RES_DISTANCE_24_MSB	Distance MSB of 25. result
TMF8X2X_COM_RES_CONFIDENCE_25	Confidence of 26. result
TMF8X2X_COM_RES_DISTANCE_25_LSB	Distance LSB of 26. result
TMF8X2X_COM_RES_DISTANCE_25_MSB	Distance MSB of 26. result
TMF8X2X_COM_RES_CONFIDENCE_26	Confidence of 27. result
TMF8X2X_COM_RES_DISTANCE_26_LSB	Distance LSB of 27. result
TMF8X2X_COM_RES_DISTANCE_26_MSB	Distance MSB of 27. result
TMF8X2X_COM_RES_CONFIDENCE_27	Confidence of 28. result
TMF8X2X_COM_RES_DISTANCE_27_LSB	Distance LSB of 28. result
TMF8X2X_COM_RES_DISTANCE_27_MSB	Distance MSB of 28. result
TMF8X2X_COM_RES_CONFIDENCE_28	Confidence of 29. result
TMF8X2X_COM_RES_DISTANCE_28_LSB	Distance LSB of 29. result
TMF8X2X_COM_RES_DISTANCE_28_MSB	Distance MSB of 29. result
TMF8X2X_COM_RES_CONFIDENCE_29	Confidence of 30. result
TMF8X2X_COM_RES_DISTANCE_29_LSB	Distance LSB of 30. result
TMF8X2X_COM_RES_DISTANCE_29_MSB	Distance MSB of 30. result
TMF8X2X_COM_RES_CONFIDENCE_30	Confidence of 31. result
TMF8X2X_COM_RES_DISTANCE_30_LSB	Distance LSB of 31. result
TMF8X2X_COM_RES_DISTANCE_30_MSB	Distance MSB of 31. result
TMF8X2X_COM_RES_CONFIDENCE_31	Confidence of 32. result
TMF8X2X_COM_RES_DISTANCE_31_LSB	Distance LSB of 32. result
TMF8X2X_COM_RES_DISTANCE_31_MSB	Distance MSB of 32. result
TMF8X2X_COM_RES_CONFIDENCE_32	Confidence of 33. result

Data Field	Description
TMF8X2X_COM_RES_DISTANCE_32_LSB	Distance LSB of 33. result
TMF8X2X_COM_RES_DISTANCE_32_MSB	Distance MSB of 33. result
TMF8X2X_COM_RES_CONFIDENCE_33	Confidence of 34. result
TMF8X2X_COM_RES_DISTANCE_33_LSB	Distance LSB of 34. result
TMF8X2X_COM_RES_DISTANCE_33_MSB	Distance MSB of 34. result
TMF8X2X_COM_RES_CONFIDENCE_34	Confidence of 35. result
TMF8X2X_COM_RES_DISTANCE_34_LSB	Distance LSB of 35. result
TMF8X2X_COM_RES_DISTANCE_34_MSB	Distance MSB of 35. result
TMF8X2X_COM_RES_CONFIDENCE_35	Confidence of 36. result
TMF8X2X_COM_RES_DISTANCE_35_LSB	Distance LSB of 36. result
TMF8X2X_COM_RES_DISTANCE_35_MSB	Distance MSB of 36. result
TMF8X2X_COM_DIAGNOSTICS_0	Start of optional diagnostics info block (36 bytes)
TMF8X2X_COM_DIAGNOSTICS_35	End of optional diagnostic info block
Reserved	Start of optional data (24 bytes)

3　Revision Information

Changes from previous version to current revision v4-00	Page
Fixed pixel assignment in 8x8 mode.	7

- Page and figure numbers for the previous version may differ from page and figure numbers in the current revision.
- Correction of typographical errors is not explicitly mentioned.

4   Legal Information

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