

RS232 transmission format

When *EN_UART* pin (pin21 of ES51919) is pulled to VDD, it means the UART port is available. Push RS232 function key to enable the RS232 transmission. The packet rate is two times per second. Each transmission includes 17 bytes totally.

<i>Baud rate</i>	9600 bps
<i>Start bit</i>	1 bit
<i>Data bits</i>	8 bits
<i>Stop bit</i>	1 bit
<i>Parity</i>	No Parity

Data transmission configuration

Byte 0	Byte 1	Byte 2 - 14	Byte 15	Byte 16
00H	0DH	Data	0DH	0AH

Data format description

Byte No.	Data byte	Function
0	START	The content of start byte is 00h
1	LENGTH	The data length of transmission is 13 bytes (0Dh)
2	STATUS0	Status0 indication
3	STATUS1	Status1 indication
4	STATUS2	Status2 indication
5	MMOD	Operation mode of primary display
6	MREADH	High byte of primary display data
7	MREADL	Low byte of primary display data
8	MSCOPE	Ranging information of primary display data
9	MSTATUS	Status byte of primary display data
10	SMOD	Operation mode of secondary display
11	SREADH	High byte of secondary display data
12	SREADL	Low byte of secondary display data
13	SSCOPE	Ranging information of secondary display data
14	SSTATUS	Status byte of secondary display data
15	END0	The content of end0 byte is 0Dh
16	END1	The content of end1 byte is 0Ah

STATUS0 (Byte 2)

Bit No.	Data bit	Function
0	HOLD	Set to 1 when data hold is active
1	RELRF	Set to 1 when relative reference mode is active
2	REL	Set to 1 when relative % mode is active
3	CAL	Set to 1 when open/short calibration mode is active
4	SORT	Set to 1 when sorting mode is active
5	AUTOLCR	Set to 1 when auto LCR smart mode is active
6	AMOD	Set to 1 when auto series/parallel mode is active
7	MOD	LCR test mode: 0: in series 1: in parallel

STATUS1 (Byte 3)

Bit No.	Data bit	Function
0	Extra4	User define LCD segment
1	Extra5	User define LCD segment
2	Extra6	User define LCD segment
3 4	BAT0 BAT1	Battery life indication: 00: Lower than 5% 01: Lower than 30% 10: Lower than 60% 11: Higher than 60%
5 6 7	FREQ0 FREQ1 FREQ2	Test frequency ranges: 000: 100Hz 001: 120Hz 010: 1kHz 011: 10kHz 100: 100kHz

STATUS2 (Byte 4)

Bit No.	Data bit	Function
0 1 2 3	SORTP0 SORTP1 SORTP2 SORTP3	Tolerance range at sorting mode: 0011: $\pm 0.25\%$ 0100: $\pm 0.5\%$ 0101: $\pm 1.0\%$ 0110: $\pm 2.0\%$ 0111: $\pm 5.0\%$ 1000: $\pm 10.0\%$ 1001: $\pm 20.0\%$ 1010: $+80\%/-20\%$
4	Extra1	User define LCD segment
5	Extra2	User define LCD segment
6	Extra3	User define LCD segment
7	X	Not available

MMOD (Byte 5)

Bit No.	Data bit	Function
0 1 2	MMOD0 MMOD1 MMOD2	Primary display mode: 000: None 001: L (Inductance) mode 010: C (Capacitance) mode 101: R (Resistance) mode 100: DCR mode
3	X	Not available
4	X	Not available
5	X	Not available
6	X	Not available
7	X	Not available

MREADH (Byte 6) / MREADL (Byte 7)

Bit No.	Data bit	Function
0 1 2 3 4 5 6 7	MRL0 MRL7	Primary data readings: 16-bit binary code
0 1 2 3 4 5 6 7	MRH0 MRH7	

MSCOPE (Byte 8)

Bit No.	Data bit	Function
0 1 2	MDOT0 MDOT1 MDOT2	Decimal point location on primary display : 000: 19999 001: 1999.9 010: 199.99 011: 19.999 100: 1.9999
3 4 5 6 7	MUNIT0 MUNIT1 MUNIT2 MUNIT3 MUNIT4	Unit of ranging on primary display: 00000: None 00001: Ω 00010: k Ω 00011: M Ω 00100: None 00101: uH 00110: mH 00111: H 01000: kH 01001: pF 01010: nF 01011: uF 01100: mF

MSTATUS (Byte 9)

Bit No.	Data bit	Function
0 1 2 3 4	MDIS0 MDIS1 MDIS2 MDIS3 MDIS4	The contents on primary display: 00000: Number 00001: Space 00010: Dash 00011: OL 00100: OFF 00101: None 00110: Err 00111: Pass 01000: Fail 01001: Open 01010: Short (Srt)
5	MDASH	Set to 1 if dash"----" shown on display
6	MOL	Set to 1 if OL shown on display
7	MCNT	Primary display count: 0: 20000 counts 1: 2000 counts

SMOD (Byte 10)

Bit No.	Data bit	Function
0 1 2	SMOD0 SMOD1 SMOD2	Secondary display mode: 000: None 001: D (Dissipation factor) 010: Q (Quality factor) 101: ESR or Rp (Equivalent resistance) 100: θ (Phase angle)
3	X	Not available
4	X	Not available
5	X	Not available
6	X	Not available
7	X	Not available

SREADH (Byte 11) / SREADL (Byte 12)

Bit No.	Data bit	Function
0 1 2 3 4 5 6 7	SRL0 SRL7	Secondary data readings: 16-bit binary signed code
0 1 2 3 4 5 6 7	SRH0 SRH7	

SSCOPE (Byte 13)

Bit No.	Data bit	Function
0 1 2	SDOT0 SDOT1 SDOT2	Decimal point location on secondary display : 000: 19999 001: 1999.9 010: 199.99 011: 19.999 100: 1.9999
3 4 5 6 7	SUNIT0 SUNIT1 SUNIT2 SUNIT3 SUNIT4	Unit of ranging on secondary display: 00000: None 00001: Ω 00010: k Ω 00011: M Ω 00100: None 00101: uH 00110: mH 00111: H 01000: kH 01001: pF 01010: nF 01011: uF 01100: mF 01101: % 01110: deg

SSTATUS (Byte 14)

Bit No.	Data bit	Function
0 1 2 3 4	MDIS0 MDIS1 MDIS2 MDIS3 MDIS4	The contents on secondary display: 00000: Number 00001: Space 00010: Dash 00011: OL 00100: OFF 00101: None 00110: Err 00111: Pass 01000: Fail 01001: Open 01010: Short (Srt)
5	MDASH	Set to 1 if dash("----") shown on display
6	MOL	Set to 1 if OL shown on display
7	MCNT	Primary display count: 0: 20000 counts 1: 2000 counts