

















AMS1086	Comment	Designator	Footprint	Quantity	Description
Antenna	AMS1086 Antenna	U2 ANT1	TO-252 ANTENNA	+	1
Antenna Batt	Battery	B1	CR2032 bat holder	1	
Ceramic Capacitor	10?	1	0805_Cap	1	
Ceramic Capacitor	101	C18, C19	0603_Cap	2	
Ceramic Capacitor	104	C1, C5, C6, C7, C9, C10, C11, C12, C13, C14, C16, C21, C22, C23, C24, C25, C26, C47, C48, C51, C52, C55, C56, C60	0603_Cap	24	
Ceramic Capacitor Ceramic Capacitor	104	C15, C17, C59	0805_Cap 0603_Cap	3	
Ceramic Capacitor	105	C38	1206_CAP	1	
Ceramic Capacitor	106	C61	0603_Cap	1	
Diode Diode	1N4007 1N4148	D1, D2, D3, D5, D6 D11	SMA - DO-214AC SOD-323	5	
Diode	RS3M	D4	SMC - DO-214	1	
OS3231	DS3231	IC1	SOIC-16	1	Real Time Clock (RTC) IC Clock/Calendar - IÅ <sup>2</sup> C, 2-Wire Serial 8 SOIC (0.154, 3.90mm Width)
EL3H7-G	EL3H7-G	U7, U8, U9, U11, U13	SSOP-4	5	Optoisolator Transistor Output
SP32-S	ESP32-S	U1	ESP32-S	- 1	3750Vrms 1 Channel 4-SSOP
use	0.1A	F3, F4	1812_FUSE	2	Polymeric PTC Resettable Fuse 12V 2.6A lh Surface Mount 1206 (3216
Fuse	1A	F1	1812_FUSE	1	Metric), Concave Polymeric PTC Resettable Fuse 12V 2.6A lh Surface Mount 1206 (3216
Fuse	5A	F2	1812_FUSE	1	Metric), Concave Polymeric PTC Resettable Fuse 12V 2.6A Ih Surface Mount 1206 (3216
				<u>'</u>	Metric), Concave
Header 2P Header 2P	Header 2P Header 2P	H4 H5, H10, H11, H12	CON 2 EDG5.08-2P JP 1x2	1 !	THT THT
Header 2P Header 3P	Header 2P Header 3P	H5, H10, H11, H12 H7, H8, H21, H22	JP 1x2 JP 1X3	4	THT
Header 3P	Header 3P	H9	CON 3 EDG5.08-3P	1	THT
Header 4P	Header 4P	H3	JP 1X4	1	THT
Header 5P Header 5P	Header 5P Header 5P	H2, H16 H14	JP 1X5 CON 5 EDG5.08-5P	2	THT THT
Header 5P	Header 6P	H14 H6	CON 6 EDG5.08-6P	1	THT
Header 6P	Header 6P	H15	JP 1X6	i	THT
Header 6P 2.54 Duc	Header 6P 2.54 Duc	Н1	Header 6P DC 2.54	1	Cẩm
Cong HEADER 5	Cong HD5	P1	JUMP 5	<del>                                     </del>	
nductor	4.7uH 5A	L3	Inductor 5A	1	Inductors from EPCOS include SMT Inductors, SMT Power Inductors, Transponder Coils, ISDN Transforme XDSL Transformers, DC/DC Converte RF Transformers and SMT Current Sense Transformers.
nductor	10uH	L4	0603_Inductor	1	Inductors from EPCOS include SMT Inductors, SMT Power Inductors, Transponder Coils, ISDN Transforme xDSL Transformers, DC/DC Converte RF Transformers and SMT Current Sense Transformers.
nductor	10uH 1A	L1	0603_Inductor	1	Inductors, SMT Power Inductors, Transponder Coils, ISDN Transforme xDSL Transformers, DC/DC Converte RF Transformers and SMT Current Sense Transformers.
nductor_1	AMC7060_701	L2	Double inductor	1	Common mode choke cuon cam xuyen
P4x2	JP4x2 LED	C1 LED1, LED2, LED3, LED4, LED5, LED7, LED9, LED10, LED11.	JP4-D2T 0603 LED	1	WR-PHD 2.54 mm Dual Socket Heade  LED single color 2 leads
		LED12, LED13, LED14, LED15, LED17	_		LED single color 2 leads
	LM1117-3V3	U5, U19, U20, U21	SOT-223	- 4	9 (8 + 1) Position Card Connector
M1117-3V3 Viicro SD card socket	Micro SD card socket				microSD Surface Mount, Right Angle
		J1 C2, C3, C4, C8, C20,	Micro SD card socket		Gold
Micro SD card socket OP Polarized Capacitor	Micro SD card socket		1206_CAP	11	Gold Polarized Capacitor
Micro SD card socket  Polarized Capacitor  Polarized Capacitor  Polarized Capacitor	Micro SD card socket 9P 10uF	C2, C3, C4, C8, C20, C45, C46, C49, C50, C53, C54		11 2 2 2	Gold
Micro SD card socket PP Polarized Capacitor Polarized Capacitor Polarized Capacitor Polarized Capacitor Polarized Capacitor	Micro SD card socket 9P 10uF 220 35V	C2, C3, C4, C8, C20, C45, C46, C49, C50, C53, C54 C31, C32 C33, C34 C35, C37	1206_CAP 8x12 radial capacitor	11 2 2 2	Gold Polarized Capacitor Polarized Capacitor
Vicro SD card socket  Polarized Capacitor  Polarized Capacitor  Polarized Capacitor  Polarized Capacitor  Capacitor  Resistor	Micro SD card socket 9P 10uF 220 35V 1000 10V 106	C2, C3, C4, C8, C20, C45, C46, C49, C50, C53, C54 C31, C32 C33, C34 C35, C37 R2, R39, R40, R57, R88, R59, R60, R61, R62, R74, R75	1206_CAP 8x12 radial capacitor 8x12 radial capacitor 1206_CAP 0603_Res	2	Gold  Polarized Capacitor  Polarized Capacitor  Polarized Capacitor
Alicro SD card socket Alicro SD card socket Polarized Capacitor Polarized Capacitor Polarized Capacitor Polarized Capacitor Resistor	Micro SD card socket 9P 10uF 220 35V 1000 10V 106 1k	C2, C3, C4, C8, C20, C45, C46, C49, C50, C53, C54 C31, C32 C33, C34 C35, C37 R2, R39, R40, R57, R58, R59, R60, R61, R62, R74, R75 R3	1206_CAP  8x12 radial capacitor 8x12 radial capacitor 1206_CAP  0603_Res 0603_Res	2 2 2 2 11	Gold  Polarized Capacitor  Polarized Capacitor  Polarized Capacitor
Micro SD card socket pp Polarized Capacitor Polarized Capacitor Polarized Capacitor Polarized Capacitor Polarized Capacitor Resistor	Micro SD card socket 9P 10uF 220 35V 1000 10V 106	C2, C3, C4, C8, C20, C45, C46, C49, C50, C53, C54 C31, C32 C33, C34 C35, C37 R2, R39, R40, R57, R88, R59, R60, R61, R62, R74, R75 R3 R9, R13, R17, R21, R25, R34	1206_CAP 8x12 radial capacitor 8x12 radial capacitor 1206_CAP 0603_Res	2 2 2	Gold  Polarized Capacitor  Polarized Capacitor  Polarized Capacitor
Micro SD card socket	Micro SD card socket 9P 10uF 220 35V 1000 10V 106 1k	C2, C3, C4, C8, C20, C45, C46, C49, C50, C53, C54, C53, C54, C53, C34, C35, C37, C32, C39, R40, R57, R58, R59, R40, R57, R58, R59, R40, R57, R58, R59, R40, R57, R58, R59, R40, R57, R58, R58, R57, R68, R11, R12, R15, R17, R21, R25, R34, R1, R6, R7, R8, R11, R20, R24, R28, R32, R41, R42, R63, R61, R55, R66, R67, R68, R65, R66, R67, R68,	1206_CAP  8x12 radial capacitor 8x12 radial capacitor 1206_CAP  0603_Res 0603_Res	2 2 2 2 11	Gold Polarized Capacitor Polarized Capacitor Polarized Capacitor
Wilcro SD card socket  PP  Polarized Capacitor  Polarized Capacitor  Polarized Capacitor  Polarized Capacitor  Polarized Capacitor  Polarized Capacitor  Resistor  Resistor  Resistor  Resistor	Micro SD card socket 9P 10uF 220 35V 1000 10V 106 1k 2k 4k3	C2, C3, C4, C8, C20, C45, C46, C49, C50, C53, C54 C31, C32 C33, C34 C35, C37 R2, R39, R40, R57, R82, R59, R60, R61, R62, R74, R75 R3, R81, R77, R21, R22, R34, R74, R75 R3, R34, R75, R34, R34, R34, R34, R34, R34, R34, R34	1206_CAP  8x12 radial capacitor 8x12 radial capacitor 1206_CAP  0603_Res  0603_Res  0603_Res	2 2 2 2 11 11 6	Gold Polarized Capacitor Polarized Capacitor Polarized Capacitor
Micro SD card socket  pp  Notarized Capacitor  Nesistor  Nesistor  Nesistor  Nesistor  Nesistor  Nesistor  Nesistor  Nesistor	Micro SD card socket 9P  200 55V 1000 10V 106  1k 2k 4k3  4k7	C2. C3. C4. C8. C20. C45. C46. C49. C50. C45. C46. C49. C50. C53. C54 C31. C32 C33. C34 C35. C37 C25. C37 C28. R39. R40. R57. R28. R59. R40. R57. R62. R74. R75 R3 R9. R13. R17. R21. R25. R34 R1, R6. R7, R88. R11. R12, R15. R16. R19. R20. R24. R28. R32. R41. R42. R63. R64. R65. R66. R67. R68. R60. R81. R10. R81. R23. R34. R112. R113. R114. R115. R27. R33. R23. R54. R55. R66.	1206_CAP 8x12 radial capacitor 8x12 radial capacitor 1206_CAP 0603_Res 0603_Res 0603_Res 0603_Res	2 2 2 2 2 11 11 1 6 6 2 2 5 7 7	Gold Polarized Capacitor Polarized Capacitor Polarized Capacitor
effero SD card socket  P  Totalrized Capacitor  Totalrized Capacitor  Totalrized Capacitor  Totalrized Capacitor  Totalrized Capacitor  Totalrized Capacitor  Testificacy  Tes	Micro SD card socket 9P 10uF 220 35V 1000 10V 106 1k 2k 4k3 4k7	C2, C3, C4, C8, C20, C45, C46, C49, C50, C53, C54 C31, C32 C33, C34 C35, C37 C37, C38, C39, R40, R57, R28, R59, R40, R57, R58, R59, R40, R57, R58, R59, R40, R57, R58, R59, R40, R57, R59, R11, R17, R21, R58, R34, R59, R59, R59, R59, R59, R59, R59, R59	1206_CAP  1206_CAP  8112 radial capacitor  8121 radial capacitor  1206_CAP  0603_Res  0603_Res  0603_Res  0603_Res  0603_Res  0603_Res	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Gold Polarized Capacitor Polarized Capacitor Polarized Capacitor
Micro SD card socket P P Statistical Capacitor Subarized Capacitor	Micro SD card socket 9P 10uF 10uF 10u00 10V 106 1k 2k 4k3 4k7	C2. C3. C4. C8. C20. C45. C46. C49. C50. C45. C46. C49. C50. C53. C54 C31. C32 C33. C34 C35. C37 C25. C37 C28. R39. R40. R57. R28. R59. R40. R57. R62. R74. R75 R3 R9. R13. R17. R21. R25. R34 R1, R6. R7, R88. R11. R12, R15. R16. R19. R20. R24. R28. R32. R41. R42. R63. R64. R65. R66. R67. R68. R60. R81. R10. R81. R23. R34. R112. R113. R114. R115. R27. R33. R23. R54. R55. R66.	1206_CAP  1206_CAP  8112 radial capacitor  8112 radial capacitor  1206_CAP  0603_Res  0603_Res  0603_Res  0603_Res  0603_Res	2 2 2 2 11 1 1 6 6 25 7 7 2 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Gold  Polarized Capacitor  Polarized Capacitor  Polarized Capacitor
effero SD card socket  P  Volarized Capacitor  Resistor	Micro SD card socket  9P  10uF  10uF  12c0 35V  1000 10V  106  1k  2k  4k3  4k7  10k  2c  110c	C2, C3, C4, C8, C20, C45, C46, C49, C50, C53, C54 C53, C54 C53, C32 C53, C32 C55, C37 C55, C37 C58, C59, R60, R61, R62, R74, R75 R3 R9, R13, R17, R21, R12, R15, R16, R17, R12, R15, R16, R17, R17, R17, R17, R17, R18, R17, R17, R17, R113, R174, R175, R175, R113, R174, R175, R175, R138, R154, R155, R56, R10, R15, R156, R17, R113, R174, R175, R175, R138, R154, R155, R56, R10, R15, R156, R170, R111, R171, R171, R113, R171, R171, R114, R171, R114, R171, R114, R171, R114, R171, R114, R171, R114, R114, R114, R114, R114, R114, R114, R114, R114, R114, R114, R114, R114, R114, R114, R114, R114, R1	1206_CAP 8112 radial capacitor 8112 radial capacitor 1206_CAP 0603_Res 0603_Res 0603_Res 0603_Res 0603_Res 0603_Res	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Gold  Polarized Capacitor  Polarized Capacitor  Polarized Capacitor
Micro SD card socket  PP  Advanced Capacitor  Thalarized Capacitor  Thalarized Capacitor  Thalarized Capacitor  Thalarized Capacitor  Thalarized Capacitor  Thalarized Capacitor  Resistor	Micro SD card socket 9P 10uF 220 35V 1000 10V 166 1k 2k 4k3 4k7 10k 22 100 120 120	C2, C3, C4, C8, C20, C45, C46, C49, C50, C45, C46, C49, C50, C53, C54, C53, C52, C53, C52, C53, C52, C52, C52, C52, C52, C52, C52, C52	1206_CAP 8x12 radial capacitor 8x12 radial capacitor 1206_CAP 1206_CAP 0603_Res 0603_Res 0603_Res 0603_Res 0603_Res 0603_Res 0603_Res 0603_Res 0603_Res	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Gold  Polarized Capacitor  Polarized Capacitor  Polarized Capacitor
Micro SD card socket  PP  **Delarized Capacitor  **Resistor	Micro SD card socket P  10uF  12u3 SSV  1000 10V  106  1k  2k  4k3  4k7  10k  22  100  120  100  120  100  150  150	C2, C3, C4, C8, C20, C45, C46, C49, C50, C45, C46, C49, C50, C53, C54, C53, C54, C53, C52, C53, C52, C53, C52, C52, C52, C52, C52, C52, C52, C52	1206_CAP 8x12 radial capacitor 8x12 radial capacitor 1206_CAP 0603_Res	2 2 2 2 11 11 6 6 2 5 5 5 1 1 1 2 2 2 5	Gold Polarized Capacitor Polarized Capacitor Polarized Capacitor Polarized Capacitor Polarized Capacitor, [NoValue]
Wicro SD card socket  PP  Polarized Capacitor  Polarized Capacitor  Polarized Capacitor  Polarized Capacitor  Polarized Capacitor  Polarized Capacitor  Resistor  Resistor  Resistor	Micro SD card socket P  10uF  10uF  1200 30V  1000 10V  106  1k  2k  4k3  4k7  10k  22  100  120  200  220	C2, C3, C4, C8, C20, C45, C46, C49, C50, C45, C46, C49, C50, C53, C54, C53, C52, C53, C52, C53, C52, C52, C52, C52, C52, C52, C52, C52	1206_CAP 8x12 radial capacitor 8x12 radial capacitor 1206_CAP 1206_CAP 0603_Res 0603_Res 0603_Res 0603_Res 0603_Res 0603_Res 0603_Res 0603_Res 0603_Res	2 2 2 2 11 11 6 6 2 5 5 5 1 1 1 2 2 2 5	Gold  Polarized Capacitor  Polarized Capacitor  Polarized Capacitor
Micro SD card socket  PP  Abstract Capacitor  Abstract Capacitor  Abstract Capacitor  Abstract Capacitor  Abstract Capacitor  Abstract Capacitor  Resistor	Micro SD card socket P  10uF  10uF  1200 50V  1000 10V  106  1k  2k  4k3  4k7  10k  22  100  120  120  510  510  5W  SK1278_Lora	C2, C3, C4, C8, C20, C45, C46, C49, C50, C45, C46, C49, C50, C53, C54 C53, C54 C53, C52 C53, C54 C53, C32 C53, C34 C55, C37 C56, C37 C57 C57 C57 C57 C57 C57 C57 C57 C57 C5	1206_CAP 8x12 radial capacitor 8x12 radial capacitor 1206_CAP 1206_CAP 1206_CAP 0603_Res	2 2 2 2 11 11 6 6 2 5 5 5 1 1 1 2 2 2 5	Gold Polarized Capacitor Polarized Capacitor Polarized Capacitor Polarized Capacitor Polarized Capacitor, [NoValue]
Micro SD card socket  PP  Abstract Capacitor  Abstract Capacitor  Abstract Capacitor  Abstract Capacitor  Abstract Capacitor  Abstract Capacitor  Resistor	Micro SD card socket  9P  10uF  10uF  10u00 10v  10o  1k  2k  4k7  10k  22  100  100  100  100  100  100	C2, C3, C4, C8, C20, C45, C46, C49, C50, C45, C46, C49, C50, C53, C54 C31, C32 C33, C34 C35, C37 R2, R39, R40, R57, R80, R59, R40, R61, R80, R59, R40, R61, R80, R59, R40, R61, R80, R59, R60, R61, R80, R59, R60, R61, R12, R15, R16, R19, R12, R15, R16, R11, R12, R15, R16, R19, R12, R13, R111, R11, R12, R13, R11, R11, R12, R13, R11, R11, R12, R13, R11, R11, R12, R13, R11, R11, R13, R111, R115, R27, R33 R38, R54, R55, R56, R50, R56, R56, R56, R50,	1206_CAP 8x12 radial capacitor 8x12 radial capacitor 1206_CAP 1206_CAP 0603_Res	2 2 2 2 11 11 6 6 2 5 5 5 1 1 1 2 2 2 5	Gold Polarized Capacitor Polarized Capacitor Polarized Capacitor Polarized Capacitor, [NoValue]  Switch-Button TTL to R5485
Micro SD card socket  P  P  Poblarized Capacitor  Poblarized Capacitor  Volatized Capacitor  Volatized Capacitor  Volatized Capacitor  Volatized Capacitor  Volatized Capacitor  Volatized Capacitor  Resistor	Micro SD card socket  P  10uF  10uF  12u3 SSV  10000 10V  106  1k  2k  4k3  4k7  10K  22  100  120  200  200  SSV  SSV  SSV  SSV  SSV  S	C2, C3, C4, C8, C20, C45, C46, C49, C50, C45, C46, C49, C50, C53, C54 C51, C32 C53, C34 C55, C37 R2, R39, R40, R57, R82, R78, R60, R61, R82, R74, R75 R2, R78, R78, R3, R78, R78, R59, R59, R50, R50, R50, R50, R50, R51, R50, R50, R50, R50, R50, R51, R51, R51, R52, R51, R51, R51, R52, R51, R51, R51, R52, R51, R51, R51, R52, R51, R51, R51, R51, R51, R51, R51, R52, R51, R51, R51, R51, R52, R51,	1206_CAP  8112 radial capacitor 8112 radial capacitor 8112 radial capacitor 1206_CAP  6603_Res	2 2 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	Gold Polarized Capacitor Polarized Capacitor Polarized Capacitor Polarized Capacitor, [NoValue]
Micro SD card socket  Problatized Capacitor  Tolarized Capacitor  Tolari	Micro SD card socket  P  10uF  10uF  120 35V  1000 10V  106  1k  2k  4k3  4k7  10k  22  100  120  200  510  51V  51V  51V  51V  51V  51V  5	C2, C3, C4, C8, C20, C45, C46, C49, C50, C45, C46, C49, C50, C53, C54 C53, C54 C53, C54 C53, C54 C53, C32 C53, C34 C55, C37 C58, C39, C40, C59, C59, C59, C59, C59, C59, C59, C59	1206_CAP 8112 radial capacitor 8112 radial capacitor 1206_CAP 1206_CAP 1206_CAP 0603_Res	2 2 2 2 11 11 6 6 2 5 5 5 1 1 1 2 2 2 5	Gold Polarized Capacitor Polarized Capacitor Polarized Capacitor Polarized Capacitor Polarized Capacitor, [NoValue]  Switch-Button Switch-Button TIL to R5485 Doptosolator Transistor Output
Micro SD card socket  P  P  Poblarized Capacitor  Poblarized Capacitor  Volatized Capacitor  Volatized Capacitor  Volatized Capacitor  Volatized Capacitor  Volatized Capacitor  Volatized Capacitor  Resistor	Micro SD card socket  P  10uF  10uF  12u3 SSV  10000 10V  106  1k  2k  4k3  4k7  10K  22  100  120  200  200  SSV  SSV  SSV  SSV  SSV  S	C2, C3, C4, C8, C20, C45, C46, C49, C50, C45, C46, C49, C50, C53, C54 C31, C32 C33, C34 C35, C37 C2, R39, R40, R57, R82, R74, R75 R83, R84, R84, R84, R84, R84, R84, R84, R84	1206_CAP  8x12 radial capacitor 8x12 radial capacitor 1206_CAP  6603_Res  6603_Res	2 2 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	Gold Polarized Capacitor Polarized Capacitor Polarized Capacitor Polarized Capacitor Polarized Capacitor, [NoValue]  Switch-Button TIL to RS485 Doptosolator Transistor Output
Micro SD card socket  P  Tolarized Capacitor  Tolar	Micro SD card socket  9P  10uF  10uF  12c0 35V  1000 10V  106  1k  2k  4k3  4k7  10K  22  100  120  200  220  SW  SX1278_Lora  TDS01D485H-A  TUP290-4  SSC3333	C2, C3, C4, C8, C20, C45, C46, C49, C50, C45, C46, C49, C50, C53, C54 C53, C54 C53, C54 C53, C54 C53, C32 C53, C34 C55, C37 C58, C39, C40, C59, C59, C59, C59, C59, C59, C59, C59	1206_CAP 8112 radial capacitor 8112 radial capacitor 1206_CAP 1206_CAP 1206_CAP 0603_Res	2 2 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	Gold Polarized Capacitor Polarized Capacitor Polarized Capacitor Polarized Capacitor Polarized Capacitor, [NoValue]  Switch-Button TIL to RS485 Doptosolator Transistor Output
Micro SD card socket  P  P  Polarized Capacitor  Resistor	Micro SD card socket  P  10uF  10uF  120u SW  10000 10V  106  1k  2k  4k3  4k7  10k  22  100  200  200  510  SW  5X1278_Lora  10p5011b4551-A  TIP290-4  2522833  SMB150 AA  SMB150 AA  SMB150 AA	C2, C3, C4, C8, C20, C45, C46, C49, C50, C45, C46, C49, C50, C531, C32 C53, C34 C53, C34 C53, C37 C53,	1206_CAP  8112 radial capacitor 812 radial capacitor 1206_CAP  1206_CAP  0603_Res	2 2 2 2 3 3 3 1 1	Gold Polarized Capacitor Polarized Capacitor Polarized Capacitor Polarized Capacitor, [NoValue]  Polarized Capacitor, [NoValue]  Switch-Button TIL to RS485 Optoisolator Transistor Output 2500Vrms 4 Channel 16-50