

TIDA-01425 REV E1 Bill of Materials

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
!PCB1	1		TIDA-01425	Any	Printed Circuit Board	
C1, C160, C163, C248	4	56pF	GRM1885C1H560JA01D	MuRata	CAP, CERM, 56 pF, 50 V, +/- 5%, C0G/NP0, 0603	0603
C2, C161	2	4700pF	GCM188R71H472KA37D	MuRata	CAP, CERM, 4700 pF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
C3, C4, C7	3	0.01uF	0402ZC103KAT2A	AVX	CAP, CERM, 0.01 μF, 10 V, +/- 10%, X7R, 0402	0402
C5	1	0.1uF	GRM155R71C104JA88D	MuRata	CAP, CERM, 0.1 μF, 16 V, +/- 5%, X7R, 0402	0402
C6, C14	2	0.1uF	CEU4J2X7R1H104K125AE	TDK	CAP, CERM, 0.1 μF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0805	0805
C8, C11, C12, C270	4	0.1uF	C0402C104K4RACAUTO	Kemet	CAP, CERM, 0.1 μF, 16 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0402	0402
C9, C10, C21, C27, C98, C99, C100, C101, C109, C110, C111	11	1uF	LLL219R70J105MA01L	MuRata	CAP, CERM, 1 μF, 6.3 V, +/- 20%, X7R, 0508	0508
C13	1	10uF	293D106X9010C2TE3	Vishay-Sprague	CAP, TA, 10 μF, 10 V, +/- 10%, 1.8 ohm, SMD	6032-28
C15, C32, C34, C36, C42, C48, C49, C51, C59, C124, C125, C126, C127, C128, C129, C130, C149, C150, C151, C152, C153, C154, C155, C156, C157, C158, C159, C189, C195, C239	30	0.1uF	GRM155R71C104KA88D	MuRata	CAP, CERM, 0.1 μF, 16 V, +/- 10%, X7R, 0402	0402
C16, C22, C199, C235	4	100pF	CGA2B2C0G1H101J050BA	TDK	CAP, CERM, 100 pF, 50 V, +/- 5%, C0G/NP0, AEC-Q200 Grade 1, 0402	0402
C17, C23, C232, C236	4	10uF	CGA6P1X7R1E106M250AC	TDK	CAP, CERM, 10 μF, 25 V, +/- 20%, X7R, AEC-Q200 Grade 1, 1210	1210
C18, C24, C233, C237	4	0.01uF	CGA2B3X7R1H103K050BB	TDK	CAP, CERM, 0.01 μF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0402	0402
C19, C25, C234, C238	4	1000pF	CGA2B2C0G1H102J050BA	TDK	CAP, CERM, 1000 pF, 50 V, +/- 5%, C0G/NP0, AEC-Q200 Grade 1, 0402	0402
C20, C26	2	0.1uF	06035C104KAT2A	AVX	CAP, CERM, 0.1 μF, 50 V, +/- 10%, X7R, 0603	0603
C28	1	4700pF	C0603C472K5RACTU	Kemet	CAP, CERM, 4700 pF, 50 V, +/- 10%, X7R, 0603	0603
C29, C30	2	4.7uF	C2012X7R1A475M125AC	TDK	CAP, CERM, 4.7 μF, 10 V, +/- 20%, X7R, 0805	0805
C31, C33, C35, C37, C38, C39, C40, C41, C43, C44, C45, C46, C50, C52, C53, C54, C55, C56, C57, C58, C64	21	1uF	GCM155C71A105KE38D	MuRata	CAP, CERM, 1 μF, 10 V, +/- 10%, X7S, AEC-Q200 Grade 1, 0402	0402

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C47, C61, C62, C71, C72, C73, C74, C75, C76, C77, C78, C79, C87, C88, C89, C90, C91, C92, C93, C94, C95, C96, C97, C102, C103, C104, C105, C106, C114, C115, C116, C117, C118, C119, C123, C133, C134, C135, C136, C137, C138, C139, C140, C142, C143, C144, C146, C148, C162, C181, C182	51	0.47uF	GCM155C71A474KE36D	MuRata	CAP, CERM, 0.47 µF, 10 V, +/- 10%, X7S, 0402	0402
C60, C107, C108, C112, C113, C120, C230, C243, C258, C262	10	10uF	GCM21BR71A106KE22L	MuRata	CAP, CERM, 10 µF, 10 V, +/- 10%, X7R, 0805	0805
C63, C65, C66, C67, C68, C69, C80, C81, C82, C83, C84, C85, C200	13	0.1uF	GCM155R71C104KA55D	MuRata	CAP, CERM, 0.1 µF, 16 V, +/- 10%, X7R, 0402	0402
C70, C86	2	10uF	LMK212BJ106KG-T	Taiyo Yuden	CAP, CERM, 10 µF, 10 V, +/- 10%, X5R, 0805	0805
C121	1	0.47uF	JMK105B7474KVHF	Taiyo Yuden	CAP, CERM, 0.47 µF, 6.3 V, +/- 10%, X7R, 0402	0402
C122, C147	2	1uF	C1005X7S1A105K050BC	TDK	CAP, CERM, 1 µF, 10 V, +/- 10%, X7S, 0402	0402
C131, C132	2	4700pF	08055C472JAT2A	AVX	CAP, CERM, 4700 pF, 50 V, +/- 5%, X7R, 0805	0805
C141	1	4.7uF	GRM21BR71C475KA73L	MuRata	CAP, CERM, 4.7 µF, 16 V, +/- 10%, X7R, 0805	0805
C145, C201	2	1000pF	1812GC102KA1	AVX	CAP, CERM, 1000 pF, 2000 V, +/- 10%, X7R, 1812	1812
C164	1	150uF	UUD1H151MNL1GS	Nichicon	CAP, AL, 150 µF, 50 V, +/- 20%, 0.18 ohm, SMD	10x10
C165, C167	2	4700pF	GRM155R71H472KA01D	MuRata	CAP, CERM, 4700 pF, 50 V, +/- 10%, X7R, 0402	0402
C166	1	10uF	GRM32ER71H106KA12L	MuRata	CAP, CERM, 10 µF, 50 V, +/- 10%, X7R, 1210	1210
C168	1	0.68uF	GRM32NR71H684KA01L	MuRata	CAP, CERM, 0.68 µF, 50 V, +/- 10%, X7R, 1210	1210
C169, C171	2	10uF	CL31B106KBHNNNE	Samsung	CAP, CERM, 10 µF, 50 V, +/- 10%, X7R, 1206	1206
C170, C175	2	4.7uF	C3216X7R1H475K160AC	TDK	CAP, CERM, 4.7 µF, 50 V, +/- 10%, X7R, 1206	1206
C172, C176	2	0.047uF	GRM21BR71H473KA01L	MuRata	CAP, CERM, 0.047 µF, 50 V, +/- 10%, X7R, 0805	0805
C173, C174	2	22uF	C3225X7R1C226K250AC	TDK	CAP, CERM, 22 µF, 16 V, +/- 10%, X7R, 1210	1210
C177	1	0.01uF	520L103KT16T	AT Ceramics	CAP, CERM, 0.01 µF, 16 V, +/- 10%, X7R, 0402	0402
C178	1	0.1uF	C1608X7R1E104K080AA	TDK	CAP, CERM, 0.1 µF, 25 V, +/- 10%, X7R, 0603	0603
C179	1	2.2uF	CGA3E1X7S1C225M080AC	TDK	CAP, CERM, 2.2 µF, 16 V, +/- 20%, X7S, AEC-Q200 Grade 1, 0603	0603
C180	1	4.7uF	GCM31CR71C475KA37L	MuRata	CAP, CERM, 4.7 µF, 16 V, +/- 10%, X7R, AEC-Q200 Grade 1, 1206	1206
C183	1	4.7uF	1210ZC475KAT2A	AVX	CAP, CERM, 4.7 µF, 10 V, +/- 10%, X7R, 1210	1210

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C184, C185, C186, C188, C197, C198	6	10uF	CGA5L1X7R1C106K160AC	TDK	CAP, CERM, 10 µF, 16 V, +/- 10%, X7R, AEC-Q200 Grade 1, 1206_190	1206_190
C187, C190	2	0.47uF	C0402C104K4RACAUTO	Kemet	CAP, CERM, 0.1 µF, 16 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0402	0402
C191	1	10pF	CGA3E2C0G1H100D080AA	TDK	CAP, CERM, 10 pF, 50 V, +/- 5%, C0G/NP0, AEC-Q200 Grade 1, 0603	0603
C192, C193, C196, C231	4	1000pF	CGA1A2X7R1E102K030BA	TDK	CAP, CERM, 1000 pF, 25 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0201	0201
C224	1	2.2uF	GRM21BR71C225KA12L	MuRata	CAP, CERM, 2.2 µF, 16 V, +/- 10%, X7R, 0805	0805
C240, C244, C259, C263	4	22uF	GCM31CR71A226KE02	MuRata	CAP, CERM, 22 µF, 10 V, +/- 10%, X7R, AEC-Q200 Grade 1, 1206	1206
C245, C246, C264, C265	4	2.2uF	GRM188R71A225KE15D	MuRata	CAP, CERM, 2.2 µF, 10 V, +/- 10%, X7R, 0603	0603
C247, C266	2	0.1uF	C1005X7R1E104M050BB	TDK	CAP, CERM, 0.1 µF, 25 V, +/- 20%, X7R, 0402	0402
C249, C250, C267, C268	4	1uF	GCM188R71C105KA64D	MuRata	CAP, CERM, 1 µF, 16 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
C252, C253	2	0.1uF	06033C104JAT2A	AVX	CAP, CERM, 0.1 µF, 25 V, +/- 5%, X7R, 0603	0603
C255, C256	2	10uF	EMK212BB7106MG-T	Taiyo Yuden	CAP, CERM, 10 µF, 16 V, +/- 20%, X7R, 0805	0805
C269	1	4.7uF	GCM21BR71C475KA73L	MuRata	CAP, CERM, 4.7 µF, 16 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0805	0805
D2	1	26V	SMBJ26A-13-F	Diodes Inc.	Diode, TVS, Uni, 26 V, 42.1 Vc, SMB	SMB
D3	1	14V	SMBJ14A-13-F	Diodes Inc.	Diode, TVS, Uni, 14 V, 23.2 Vc, SMB	SMB
FL1, FL2, FL3, FL4, FL5, FL6, FL7	7	0.47uF	NFM21PC474R1C3D	MuRata	Chip EMIFIL Chip 3-Terminal Capacitor for Large Current for General	2x1.25mm
H1, H2, H3, H4	4		NY PMS 440 0025 PH	B&F Fastener Supply	Machine Screw, Round, #4-40 x 1/4, Nylon, Philips panhead	Screw
H5, H6, H7, H8	4		1902E	Keystone	Standoff, Hex, 1"L #4-40 Nylon	Standoff
J1	1		1734354-1	TE Connectivity	Receptacle, D-Sub, 9 Position, R/A, TH	Receptacle, D-Sub, 9 Position, R/A, TH
J2	1		ARJ012-110553	Abracon Corporation	Connector, RJ-45, R/A, TH	Connector, RJ-45, R/A, TH
J3	1		0-2290024-1	TE Connectivity	Header(shrouded), 6 Power, 2 Signal, TH	Header(shrouded), 6 Power, 2 Signal, R/A, TH
J4	1		QSH-030-01-L-D-A	Samtec	Receptacle, 0.5 mm, 30x2, Gold, TH	Receptacle, 0.5 mm, 30x2, TH
J5	1		OSTTA024163	On-Shore Technology	Terminal Block, 2x1, 5.08mm, TH	2x1 Terminal Block
L1, L11	2	100uH	B82789C0104N002	TDK	Coupled inductor, 100 µH, 0.15 A, 1.5 ohm, SMD	4.5x3.0x3.2mm
L2, L12, L13, L14	4	470nH	DFE252012PD-R47M	MuRata Toko	Inductor, Shielded, 470 nH, 4.7 A, 0.021 ohm, SMD	1008
L3	1	200uH	DLW43MH201XK2L	MuRata	Coupled inductor, 200 µH, 4.5 ohm, AEC-Q200 Grade 2, SMD	4.5x3.2mm
L4	1	1uH	SRN4012TA-1R0M	Bourns	Inductor, Shielded, Ferrite, 1 µH, 2.2 A, 0.0504 ohm, AEC-Q200 Grade 1, SMD	4.0x4.0x1.2mm
L5	1	2.2uH	7440650022	Würth Elektronik	Inductor, Shielded Drum Core, Ferrite, 2.2 µH, 5.9 A, 0.0104 ohm, SMD	WE-TPC-XLH2
L6	1	2.2uH	B82462G4222M	TDK	Inductor, Shielded Drum Core, Ferrite, 2.2 µH, 2.55 A, 0.025 ohm, AEC-Q200 Grade 0, SMD	6.3x3.0x6.3mm
LBL1	1		THT-14-423-10	Brady	Thermal Transfer Printable Labels, 0.650" W x 0.200" H - 10,000 per roll	PCB Label 0.650"H x 0.200"W
Q1	1	40V	SQJ422EP-T1-GE3	Vishay-Siliconix	MOSFET, N-CH, 40 V, 75 A, PowerPAK_SO-8L	PowerPAK_SO-8L
R1, R19	2	33.0	RC0603FR-0733RL	Yageo America	RES, 33.0, 1%, 0.1 W, 0603	0603
R3, R15, R16, R25, R29, R57, R59, R146	8	0	CRCW02010000Z0ED	Vishay-Dale	RES, 0, 5%, 0.05 W, 0201	0201
R5, R7, R150, R151	4	60.4	CRCW120660R4FKEA	Vishay-Dale	RES, 60.4, 1%, 0.25 W, 1206	1206

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R6, R10, R32, R33, R34, R35, R69, R124	8	10.0k	RCG060310K0FKEA	Vishay Draloric	RES, 10.0 k, 1%, 0.1 W, 0603	0603
R11, R12, R13, R14, R17, R20, R136, R137, R138, R139, R140, R141, R142, R143	14	49.9	CRCW060349R9FKEA	Vishay-Dale	RES, 49.9, 1%, 0.1 W, 0603	0603
R18	1	2.49k	RC0201FR-072K49L	Yageo America	RES, 2.49 k, 1%, 0.05 W, 0201	0201
R21	1	4.87k	RC0201FR-074K87L	Yageo America	RES, 4.87 k, 1%, 0.05 W, 0201	0201
R22, R42, R92, R94	4	75.0	CRCW040275R0FKED	Vishay-Dale	RES, 75.0, 1%, 0.063 W, 0402	0402
R23, R24, R97	3	0	CRCW04020000Z0ED	Vishay-Dale	RES, 0, 5%, 0.063 W, 0402	0402
R26, R27	2	2.00k	ERJ-2RKF2001X	Panasonic	RES, 2.00 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0402	0402
R28	1	100k	CRCW0402100KFKED	Vishay-Dale	RES, 100 k, 1%, 0.063 W, 0402	0402
R30	1	68.0	RC0603FR-0768RL	Yageo America	RES, 68.0, 1%, 0.1 W, 0603	0603
R31, R48, R131, R132	4	4.99k	RC0201FR-074K99L	Yageo America	RES, 4.99 k, 1%, 0.05 W, 0201	0201
R36, R37	2	240	ERJ-2RKF2400X	Panasonic	RES, 240, 1%, 0.1 W, AEC-Q200 Grade 0, 0402	0402
R38, R39, R73	3	10.0	CRCW060310R0FKEA	Vishay-Dale	RES, 10.0, 1%, 0.1 W, 0603	0603
R40	1	0	ERJ-3GEY0R00V	Panasonic	RES, 0, 5%, 0.1 W, 0603	0603
R41, R91, R93, R145	4	10.0k	MCR01MRTF1002	Rohm	RES, 10.0 k, 0.1%, 0.063 W, 0402	0402
R44, R46, R101, R105, R109, R113, R119, R123	8	0	RMCF0603ZT0R00	Stackpole Electronics Inc	RES, 0, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R49	1	100	MCR01MZPF1000	Rohm	RES, 100, 1%, 0.063 W, 0402	0402
R50, R51, R52, R53, R54, R55	6	4.70k	CRG0402F4K7	TE Connectivity	RES, 4.70 k, 1%, 0.063 W, 0402	0402
R58	1	4.75k	CRCW08054K75FKEA	Vishay-Dale	RES, 4.75 k, 1%, 0.125 W, 0805	0805
R60	1	100k	RR1220P-104-D	Susumu Co Ltd	RES, 100 k, 0.5%, 0.1 W, 0805	0805
R61	1	3.0	CRCW06033R00JNEA	Vishay-Dale	RES, 3.0, 5%, 0.1 W, 0603	0603
R62, R63, R64, R65, R66, R67, R68, R71, R72, R74, R76, R77, R78, R80, R81, R82, R83, R84, R85, R86, R87, R88, R89, R90	24	49.9	CRCW040249R9FKED	Vishay-Dale	RES, 49.9, 1%, 0.063 W, 0402	0402
R70	1	100k	RC0603FR-07100KL	Yageo America	RES, 100 k, 1%, 0.1 W, 0603	0603
R75, R79	2	10.0k	CRCW060310K0FKEA	Vishay-Dale	RES, 10.0 k, 1%, 0.1 W, 0603	0603
R95	1	1.00Meg	RC1206FR-071ML	Yageo America	RES, 1.00 M, 1%, 0.25 W, 1206	1206
R98	1	91	CRCW060391R0JNEA	Vishay-Dale	RES, 91, 5%, 0.1 W, 0603	0603

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R99, R100, R103, R104, R107, R108, R111, R112, R116, R117, R118, R121, R122, R125, R126, R128, R129	17	10.0k	CRCW020110K0FKED	Vishay-Dale	RES, 10.0 k, 1%, 0.05 W, 0201	0201
R114	1	100	RC0201FR-07100RL	Yageo America	RES, 100, 1%, 0.05 W, 0201	0201
R127	1	2.2k	RC0201JR-072K2L	Yageo America	RES, 2.2 k, 5%, 0.05 W, 0201	0201
R133, R134, R135	3	22	CRCW040222R0JNED	Vishay-Dale	RES, 22, 5%, 0.063 W, 0402	0402
R147	1	2.49k	CRCW040222K49FKED	Vishay-Dale	RES, 2.49 k, 1%, 0.063 W, 0402	0402
T1	1	350uH	HX1188FNLT	Pulse Engineering	Transformer, 350 uH, SMT	12.7x9.09mm
U1, U2	2		TCAN1042VDRBRQ1	Texas Instruments	Automotive Fault Protected CAN Transceiver With Flexible Data-Rate, DRB0008F (VSON-8)	DRB0008F
U4, U6, U7, U8, U10, U11	6		TPD1E10B06QDPYRQ1	Texas Instruments	Automotive 1-Channel ESD in 0402 Package With 12pF Capacitance and 6V Breakdown, DPY0002A (X1SON-2)	DPY0002A
U5	1		DP83848QSQX/NOPB	Texas Instruments	PHYTER Extended Temperature Single Port 10/100 Mb/s Ethernet Physical Layer Transceiver, RTA0040A (WQFN-40)	RTA0040A
U9	1		DP83TC811RND	Texas Instruments	DP83TC811,RND0036A	RND0036A
U12	1		CDCE913QPWRQ1	Texas Instruments	Programmable 1-PLL VCXO Clock Synthesizer with 2.5-V or 3.3-V LVCMOS Outputs, PW0014A (TSSOP-14)	PW0014A
U13	1		DRA710CBD	Texas Instruments	Infotainment Applications Processor, CBD0538A (BGA-538)	CBD0538A
U14, U15	2		MT41K64M16TW-107 AAT:J	Micron Technology	SDRAM 1GBIT 933MHZ 96FBGA	BGA, 96-Balls, Body 9x14mm, Pitch 0.8mm
U16	1		S25FL256SAGMFB010	Cypress Semiconductor	256 Mbit (32 Mbyte) 3.0V SPI Flash Memory	SOIC, 16-Leads, Body 10.3x7.5mm, Pitch 1.27mm
U17	1		LM536253QRNLRQ1	Texas Instruments	2.5/3.5A, 36 V Synchronous, 2.1MHz, Automotive Step Down DC-DC Converter, RNL0022A (VQFN-HR-22)	RNL0022A
U18	1		TPS61240IDRVRQ1	Texas Instruments	Automotive Catalog 5V, 400mA, 4MHz Step-Up DC/DC Converter, DRV0006A	DRV0006A
U19	1		TPS51200QDRCRQ1	Texas Instruments	Single Output Automotive LDO, 3 A, 2.3 to 3.5 V Input, with DDR Termination, 10-pin SON (DRC), -40 to 125 degC, Green (RoHS & no Sb/Br)	DRC0010J
U21, U23	2		TPD2E007DCKR	Texas Instruments	ESD Protection Array for AC Signal Data Interface, 2 Channels, -40 to +85 degC, 3-pin SC70 (DCK), Green (RoHS & no Sb/Br)	DCK0003A
U24	1		LM74610QDGKRQ1	Texas Instruments	Zero Iq Reverse Polarity Protection Smart Diode Controller, DGK0008A (VSSOP-8)	DGK0008A
U25	1		LP87332DRHDRQ1	Texas Instruments	Dual High-Current Buck Converters And Dual Linear Regulators, RHD0028W (VQFN-28)	RHD0028W
U26	1		LP873220RHDRQ1	Texas Instruments	Dual High-Current Buck Converters And Dual Linear Regulators, RHD0028W (VQFN-28)	RHD0028W
U27	1		TPS22965QWDSGRQ1	Texas Instruments	5.5V, 4A, 16mΩ Automotive Load Switch With Adjustable Rise Time and Optional Quick Output Discharge, DSG0008B (WSON-8)	DSG0008B
Y1	1		NX5032GA-25.000M-STD-CSK-4	NDK	Crystal, 25MHz, SMD	5x3.2mm
C194, C222	0	13pF	GRM1885C1H130JA01D	MuRata	CAP, CERM, 13 pF, 50 V, +/- 5%, C0G/NP0, 0603	0603

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C228, C229, C241, C242, C251, C257, C260, C261	0	22uF	GRM32ER71C226KE18L	MuRata	CAP, CERM, 22 µF, 16 V, +/- 10%, X7R, 1210	1210
C271	0	220pF	06035A221FAT2A	AVX	CAP, CERM, 220 pF, 50 V, +/- 1%, C0G/NP0, 0603	0603
FID1, FID2, FID3, FID4, FID5, FID6	0		N/A	N/A	Fiducial mark. There is nothing to buy or mount.	Fiducial
R2, R9	0	2.49k	RC0201FR-072K49L	Yageo America	RES, 2.49 k, 1%, 0.05 W, 0201	0201
R4, R8	0	0	ERJ-3GEY0R00V	Panasonic	RES, 0, 5%, 0.1 W, 0603	0603
R43, R45, R47, R102, R106, R110, R115, R120	0	0	RMCF0603ZT0R00	Stackpole Electronics Inc	RES, 0, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R56	0	0	CRCW02010000Z0ED	Vishay-Dale	RES, 0, 5%, 0.05 W, 0201	0201
R96	0	0	CRCW04020000Z0ED	Vishay-Dale	RES, 0, 5%, 0.063 W, 0402	0402
R148	0	2.49k	CRCW06032K49FKEA	Vishay-Dale	RES, 2.49 k, 1%, 0.1 W, 0603	0603
U3	0		TCAN1046VDMTRQ1	Texas Instruments	Automotive High Speed Dual CAN Transceiver, DMT0014A (VSON-14)	DMT0014A

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