

BOM for RF 60dB Step Attenuator							
QEX September 2021 Miniature SMA Step Attenuator pp 9-21 by Tom Alldred VA7TA							
Manufacturer Part #	Manufacturer	Digi-Key #	Reference	QTY	Description	ea	extended
PAT1220-C-10DB-T5	Susumu	PAT1210CT-ND	RFATN1,2,6,7,8	5	RF ATTENUATOR 10DB 50OHM 0805	\$0.33	\$1.65
PAT1220-C-1DB-T5	Susumu	PAT121CT-ND	RFATN3	1	RF ATTENUATOR 1DB 50OHM 0805	\$0.33	\$0.33
PAT1220-C-3DB-T5	Susumu	PAT123CT-ND	RFATN4	1	RF ATTENUATOR 3DB 50OHM 0805	\$0.33	\$0.33
PAT1220-C-6DB-T5	Susumu	PAT126CT-ND	RFATN5	1	RF ATTENUATOR 6DB 50OHM 0805	\$0.33	\$0.33
CC0805CRNPO9BNR50	Yageo	311-1094-1-ND	C5,6	2	CAP CER 0.5PF 50V C0G/NPO 0805	\$0.12	\$0.24
CC0805CRNPO9BN4R0	Yageo	311-1093-1-ND	C4	1	CAP CER 4PF 50V C0G/NPO 0805	\$0.12	\$0.12
CC0805JRNPO9BN100	Yageo	311-1099-1-ND	C3	1	CAP CER 10PF 50V C0G/NPO 0805	\$0.11	\$0.11
LC2255EESP	E-Switch	EG5891-ND	sw1,2,3,4,5,6	6	SWITCH PUSH DPDT 0.3A 30V	\$1.06	\$6.36
732512120	Molex	WM5536-ND	J1,2	2	CONN SMA JACK STR 50OHM EDGE MNT	\$4.01	\$8.02
1590A	Hammond Manufacturing	HM150-ND	RF tight Enclosure	1	BOX ALUM UNPAINTED 3.64"LX1.52"W	\$7.86	\$7.86
BS22BL05X06RP	Bumper Specialties Inc.	2042-1050-ND	rubber feet	1	BUMPER HEMI .37" DIA X .21" BLK	\$1.67	\$1.67
GerberStepAtten....zip	JLPCB	N/A	Bare PC Board	1	Order direct from Mfr or contact VA7TA	\$15.00	\$15.00
							\$42.02
Manufacturer Part #	Manufacturer	Mouser #	Reference	QTY	Description	ea	extended
PAT1220-C-10DB-T5	Susumu	754-PAT1220C10DBT5	RFATN1,2,6,7,8	5	RF ATTENUATOR 10DB 50OHM 0805	\$0.35	\$1.75
PAT1220-C-1DB-T5	Susumu	754-PAT1220C-1DBT5	RFATN3	1	RF ATTENUATOR 1DB 50OHM 0805	\$0.35	\$0.35
PAT1220-C-3DB-T5	Susumu	754-PAT1220C-3DBT5	RFATN4	1	RF ATTENUATOR 3DB 50OHM 0805	\$0.35	\$0.35
PAT1220-C-6DB-T5	Susumu	754-PAT1220C-6DBT5	RFATN5	1	RF ATTENUATOR 6DB 50OHM 0805	\$0.35	\$0.35
CC0805CRNPO9BNR50	Yageo	603-CC805CRNPO9BNR50	C5,6	2	CAP CER 0.5PF 50V C0G/NPO 0805	\$0.14	\$0.28
CC0805CRNPO9BN4R0	Yageo	603-CC805CRNPO9BN4R0	C4	1	CAP CER 4PF 50V C0G/NPO 0805	\$0.14	\$0.14
CC0805JRNPO9BN100	Yageo	603-CC805JRNPO9BN100	C3	1	CAP CER 10PF 50V C0G/NPO 0805	\$0.12	\$0.12
LC2255EESP	E-Switch	612-LC2255EESP	sw1,2,3,4,5,6	6	SWITCH PUSH DPDT 0.3A 30V	\$0.87	\$5.22
73251-2120	Molex	538-73251-2120	J1,2	2	CONN SMA JACK STR 50OHM EDGE MNT	\$4.00	\$8.00
1590A	Hammond Manufacturing	546-1590A	RF tight Enclosure	1	BOX ALUM UNPAINTED 3.64"LX1.52"W	\$7.07	\$7.07
GerberStepAtten....zip	JLPCB	N/A	Bare PC Board	1	Order direct from Mfr or K9IVB limited supply	\$3.00	\$3.00
							\$26.63
* NOTES:							
1 The Molex part # for the SMA connector does not include the mounting hardware [nut & washer]							
2 If you have a 3D printer there is a 1590A design with OpenSCAD and stl files at the thingiverse link below:							
https://www.thingiverse.com/thing:2801379							
Note: You need a log on for the ARRL site to see / download the files in the links below							
Link to Article	Members: read the latest issue of QEX --->			http://edition.pagesuite-professional.co.uk/Launch.aspx?PBID=1025e13a-735b-4a99-8b09-149c006f5765			
Link to supp files	QEX-2107-Alldread-QEXfiles.zip --->			http://www.arrl.org/files/file/QEX%20Binaries/2021/09%20Sep-Oct%202021/QEX-2107-Alldread-QEXfiles.zip			

4 QEX September/October 2021

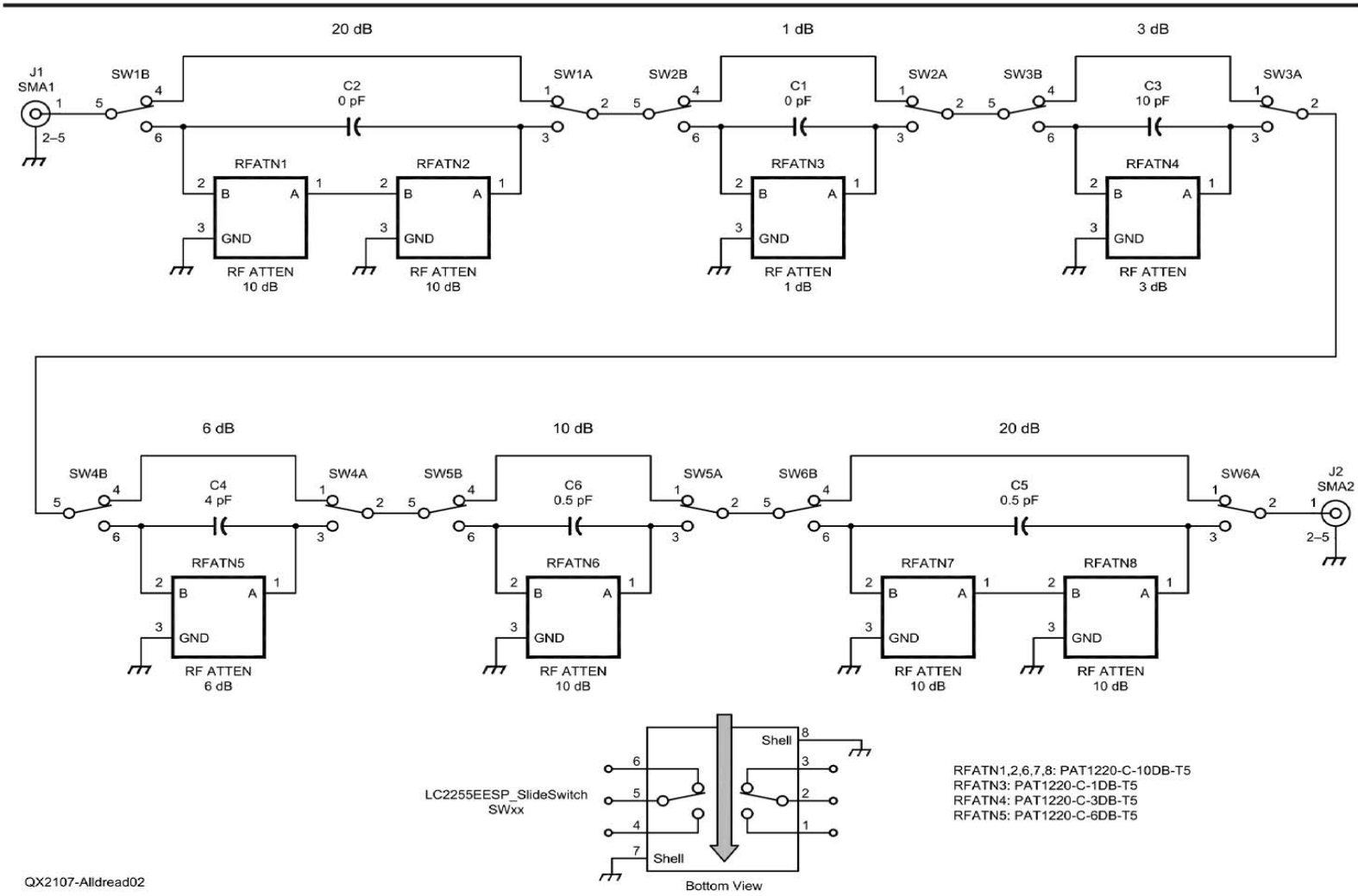


Figure 2 — SMA step attenuator schematic. The parts are listed in Table 3.



QEX

September/October 2021

www.arrl.org

A Forum for Communications Experimenters

Issue No. 328



VA7TA uses integrated RF SMD components in a step attenuator design.
CT1EOJ applies drafting tools to solve a network problem.