



As I just shared on [our Antenna Design slack channel](#), I was fortunate enough to pass the Extra exam yesterday. I had some top-notch instructors – Skip Ferguson/K5LLR and Keith Dutson/NM5G, who invested their time with a bunch of us over two weekends to help pull us up from the General to the Extra level in order to pass the test.

They also introduced me to the [HamTestOnline.com](#) test, which I highly recommend. I could not have aced the Extra exam without it. As you can see below, I started off failing the simulated extra exam at first, and within one week and two Saturday instruction sessions, passed the exam with flying colors. It took a commitment and a lot of testing, studying and retesting to get there, as you can see by my HamTestOnline journey below.

I started out failing, after weeks of self-study and taking the QRZ.com free simulated test, reading Gordon West's book (also highly recommended). Then I enrolled in Keith and Skip's Extra Class, and discovered HamTestOnline.com. As you can see below, my results improved immediately. That's because HamTestOnline reinforces learning as you go in many different ways. It shows you the correct answer at the top of the screen after each question is answered, along with the right answer, reinforcing your learning as you go. When you miss a question, it provides links to the study material, formulas and actual calculations (where applicable) in context, saving an enormous amount of time vs. thumbing back and forth to the books. As you can see below, I used a combination of Simulated Exams (just like the actual FCC test), coupled with studying my "weak areas" with exams comprised of primarily questions from the exam areas I was missing, then periodically I mixed in a Random test (randomly chosen questions vs. number of questions per category), along with occasionally testing against the "Unseen Items" (questions I had never seen yet).

I fully expected to pass the test when I took it, because I knew for certain I was ready based upon taking the test 58 times during a one week period (plus the QRZ.com test runs not shown here). That's an average of more than 8 times per day! That kind of constant testing, learning and reinforcement and cramming for the test using the book plus superb tools like HamTestOnline are unbelievably powerful. Note that these tests are also available for



ResonantOne Switched Multiband Antenna Design

Technician and General.



ResonantOne Switched Multiband Antenna Design



ResonantOne Switched Multiband Antenna Design

The practice exam with memory™ — Results

Number of items: 50
Number answered: 50
Number correct: 50 (37 required to pass)
Number incorrect: 0
Score: **Pass!** 100%

The practice exam with memory™ — History

Exam number	Last access	Question pool	Exam type	Most frequently asked	Most frequently missed	Selected topics	Result	Exam size	Not answered	Incorrect	Correct	View questions
1		New Xtra	Simulated exam	All	All	No	<div><div></div></div> Fail!	50	0 (0%)	16 (32%)	34 (68%)	View questions
2		New Xtra	Weak areas	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	8 (16%)	42 (84%)	View questions
3		New Xtra	Simulated exam	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	9 (18%)	41 (82%)	View questions
4		New Xtra	Simulated exam	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	9 (18%)	41 (82%)	View questions
5		New Xtra	Simulated exam	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	8 (16%)	42 (84%)	View questions
6		New Xtra	Weak areas	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	7 (14%)	43 (86%)	View questions
7		New Xtra	Simulated exam	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	5 (10%)	45 (90%)	View questions
8		New Xtra	Simulated exam	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	5 (10%)	45 (90%)	View questions
9		New Xtra	Weak areas	All	75%	No	<div><div></div></div> Pass!	50	0 (0%)	9 (18%)	41 (82%)	View questions
10		New Xtra	Unseen items	All	75%	No	<div><div></div></div> Pass!	50	0 (0%)	10 (20%)	40 (80%)	View questions
11		New Xtra	Simulated exam	All	75%	No	<div><div></div></div> Pass!	50	0 (0%)	5 (10%)	45 (90%)	View questions
12		New Xtra	Simulated exam	All	75%	No	<div><div></div></div> Pass!	50	0 (0%)	7 (14%)	43 (86%)	View questions
13		New Xtra	Weak areas	All	75%	No	<div><div></div></div> Pass!	50	0 (0%)	12 (24%)	38 (76%)	View questions
14		New Xtra	Unseen items	All	75%	No	<div><div></div></div> Fail!	50	0 (0%)	15 (30%)	35 (70%)	View questions
15		New Xtra	True random	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	10 (20%)	40 (80%)	View questions
16		New Xtra	True random	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	4 (8%)	46 (92%)	View questions
17		New Xtra	True random	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	8 (16%)	42 (84%)	View questions
18		New Xtra	True random	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	3 (6%)	47 (94%)	View questions
19		New Xtra	True random	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	5 (10%)	45 (90%)	View questions
20		New Xtra	True random	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	6 (12%)	44 (88%)	View questions
21		New Xtra	True random	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	4 (8%)	46 (92%)	View questions
22		New Xtra	True random	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	6 (12%)	44 (88%)	View questions
23		New Xtra	True random	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	4 (8%)	46 (92%)	View questions
24		New Xtra	Simulated exam	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	3 (6%)	47 (94%)	View questions
25		New Xtra	True random	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	4 (8%)	46 (92%)	View questions
26		New Xtra	Weak areas	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	7 (14%)	43 (86%)	View questions
27		New Xtra	True random	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	5 (10%)	45 (90%)	View questions
28		New Xtra	True random	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	1 (2%)	49 (98%)	View questions
29		New Xtra	Simulated exam	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	3 (6%)	47 (94%)	View questions
30		New Xtra	True random	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	3 (6%)	47 (94%)	View questions
31		New Xtra	True random	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	1 (2%)	49 (98%)	View questions
32		New Xtra	True random	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	2 (4%)	48 (96%)	View questions
33		New Xtra	Simulated exam	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	7 (14%)	43 (86%)	View questions
34		New Xtra	Simulated exam	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	5 (10%)	45 (90%)	View questions
35		New Xtra	Simulated exam	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	2 (4%)	48 (96%)	View questions
36		New Xtra	Simulated exam	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	5 (10%)	45 (90%)	View questions
37		New Xtra	Simulated exam	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	5 (10%)	45 (90%)	View questions
38		New Xtra	Simulated exam	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	0 (0%)	50 (100%)	View questions
39		New Xtra	Simulated exam	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	3 (6%)	47 (94%)	View questions
40		New Xtra	Simulated exam	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	6 (12%)	44 (88%)	View questions
41		New Xtra	Simulated exam	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	4 (8%)	46 (92%)	View questions
42		New Xtra	Simulated exam	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	4 (8%)	46 (92%)	View questions
43		New Xtra	Simulated exam	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	1 (2%)	49 (98%)	View questions
44		New Xtra	Simulated exam	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	1 (2%)	49 (98%)	View questions
45		New Xtra	Simulated exam	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	3 (6%)	47 (94%)	View questions
46		New Xtra	Simulated exam	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	0 (0%)	50 (100%)	View questions
47		New Xtra	Simulated exam	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	2 (4%)	48 (96%)	View questions
48		New Xtra	Simulated exam	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	3 (6%)	47 (94%)	View questions
49		New Xtra	Unseen items	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	9 (18%)	41 (82%)	View questions
50		New Xtra	Simulated exam	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	1 (2%)	49 (98%)	View questions
51		New Xtra	Simulated exam	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	0 (0%)	50 (100%)	View questions
52		New Xtra	Simulated exam	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	3 (6%)	47 (94%)	View questions
53		New Xtra	Simulated exam	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	3 (6%)	47 (94%)	View questions
54		New Xtra	Simulated exam	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	0 (0%)	50 (100%)	View questions
55		New Xtra	Simulated exam	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	6 (12%)	44 (88%)	View questions
56		New Xtra	Simulated exam	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	2 (4%)	48 (96%)	View questions
57		New Xtra	Simulated exam	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	3 (6%)	47 (94%)	View questions
58		New Xtra	Simulated exam	All	All	No	<div><div></div></div> Pass!	50	0 (0%)	0 (0%)	50 (100%)	View questions

Exam bar key:

Not answered

Incorrect

Correct



ResonantOne Switched Multiband Antenna Design

Very glad to have my Extra license. The additional bandwidth will be interesting. Mostly just glad it's over and I can check this one off the list!