

Erratum

We would like to thank Nicolai Fiege for spotting an error in some experimental results. Register cost for target constant 1, used in some instances, was ignored. Tables I and II with corrected values are presented below.

Bench	RPAG						PMCM-Adders						PMCM-Bits					
	N_A	N_R	C_1	#B	$\#R_b$	C_2	N_A	N_R	C_1	#B	$\#R_b$	C_2	N_A	N_R	C_1	#B	$\#R_b$	C_2
G.3	4	2	6	43	25	68	4	1	5	45	18	63	5	0	5	52	6	58
G.5	6	4	10	69	50	119	8	1	9	99	24	123	8	1	9	91	27	118
HP5	4	5	9	42	53	95	4	3	7	42	32	74	4	3	7	42	32	74
HP9	5	5	10	50	57	107	5	3	8	50	35	85	5	3	8	50	35	85
HP15	12	8	20	122	112	234	12	4	16	122	64	186	12	4	16	122	64	186
L.3	4	2	6	45	24	69	4	1	5	45	16	61	4	1	5	45	16	61
LP5	7	2	9	75	40	115	7	1	8	67	31	98	7	1	8	67	31	98
LP9	13	7	20	152	110	262	13	4	17	155	66	221	13	4	17	155	66	221
LP15	27	27	54	300	448	748	29	5	34	319	151	470	29	5	34	319	151	470
U.3-1	4	2	6	32	34	66	4	1	5	35	21	56	4	1	5	35	21	56
U.3-2	6	3	9	62	50	112	7	0	7	75	16	91	7	0	7	75	16	91
Total:	92	67	159	992	1003	1995	97	24	121	1054	474	1528	98	23	121	1053	465	1518

Bench	MCM-Bits			PMCM-Bits		
	#B	$\#R_b$	C_2	#B	$\#R_b$	C_2
G.3	40	28	68	52	6	58
G.5	57	55	112	91	27	118
HP5	39	77	116	42	32	74
HP9	47	41	88	50	35	85
HP15	105	230	335	122	64	186
L.3	31	59	90	45	16	61
LP5	60	89	149	67	31	98
LP9	137	218	355	155	66	221
LP15	250	688	938	319	151	470
U.3-1	32	34	66	35	21	56
U.3-2	49	85	134	75	16	91
Total:	847	1604	2451	1053	465	1518

These changes in optimization results also impact synthesis results which we do not report here.

Writing this erratum, we also noted that changing RPAG parameters permits to obtain better results than what is reported in this paper. Instead of improving it, our approach actually demonstrates that RPAG, with correct parameters, provides optimal results, w. r. t. the number of adders/registers, in many cases.