

	A	B	C	D	E	F	G
1	Calculations for Non-Detection Probability of Tampering, With Five (5) Random Cross Checks Per Assembly Segment In A Parliamentary Constituency With 2000 Voting Booths (With One EVM - VVPAT Pair In Each Booth, When VVPAT Counts Are Cross Checked With EVM Counts) (This is "Source Excel File-2000 Booths with 40 Cross Checks" or "SEF-2000 booths - 40 Cr Cks", Sheet-10) (Prepared By Dr Ramesh Bellamkonda, 2019-04-15)						
2	No. of booths in constituency =	2000			Assumed No of Booths Tampered =	10	
3	Assumed Average No. of Booths Per Segment = 250			No. of Segments In Constituency = 8			
4	Number of Random Cross Checks In Parliamentary Constituency = (No. of Segments*5) = (8*5) = 40						
5	Random Cross Check No. (for VVPAT-EVM Counts)	Total No. of EVM-VVPAT Pairs in the pool that are yet to be cross checked	Absolute no. of EVMs Assumed to be tampered in the constituency	Absolute no. of non-tampered EVMs that remain, given that no tampered EVMs detected thus far	Probability of not detecting tampering of any EVM, in the particular random cross check of VVPAT-EVM counts	Probability of not detecting tampering of any EVM, in the cumulative random cross checks of VVPAT-EVM counts, till that point	Probability of not detecting tampering of any EVM, in the cumulative random cross checks of VVPAT-EVM counts, till that point, % age
6	1	2000	10	1990	0.995	0.995	99.50%
7	2	1999	10	1989	0.994997499	0.990022511	99.00%
8	3	1998	10	1988	0.994994995	0.985067444	98.51%
9	4	1997	10	1987	0.994992489	0.980134707	98.01%
10	5	1996	10	1986	0.99498998	0.975224213	97.52%
11	6	1995	10	1985	0.994987469	0.970335871	97.03%
12	7	1994	10	1984	0.994984955	0.965469593	96.55%
13	8	1993	10	1983	0.994982439	0.96062529	96.06%
14	9	1992	10	1982	0.99497992	0.955802874	95.58%
15	10	1991	10	1981	0.994977398	0.951002256	95.10%
16	11	1990	10	1980	0.994974874	0.946223351	94.62%
17	12	1989	10	1979	0.994972348	0.941466069	94.15%
18	13	1988	10	1978	0.994969819	0.936730324	93.67%
19	14	1987	10	1977	0.994967287	0.932016029	93.20%
20	15	1986	10	1976	0.994964753	0.927323099	92.73%
21	16	1985	10	1975	0.994962217	0.922651446	92.27%
22	17	1984	10	1974	0.994959677	0.918000985	91.80%
23	18	1983	10	1973	0.994957136	0.913371631	91.34%
24	19	1982	10	1972	0.994954591	0.908763297	90.88%
25	20	1981	10	1971	0.994952044	0.904175901	90.42%
26	21	1980	10	1970	0.994949495	0.899609356	89.96%
27	22	1979	10	1969	0.994946943	0.895063578	89.51%
28	23	1978	10	1968	0.994944388	0.890538484	89.05%
29	24	1977	10	1967	0.994941831	0.88603399	88.60%
30	25	1976	10	1966	0.994939271	0.881550013	88.16%
31	26	1975	10	1965	0.994936709	0.877086468	87.71%
32	27	1974	10	1964	0.994934144	0.872643274	87.26%
33	28	1973	10	1963	0.994931576	0.868220348	86.82%
34	29	1972	10	1962	0.994929006	0.863817608	86.38%
35	30	1971	10	1961	0.994926433	0.859434972	85.94%
36	31	1970	10	1960	0.994923858	0.855072358	85.51%
37	32	1969	10	1959	0.99492128	0.850729685	85.07%
38	33	1968	10	1958	0.994918699	0.846406871	84.64%
39	34	1967	10	1957	0.994916116	0.842103837	84.21%
40	35	1966	10	1956	0.99491353	0.837820501	83.78%
41	36	1965	10	1955	0.994910941	0.833556783	83.36%
42	37	1964	10	1954	0.99490835	0.829312604	82.93%
43	38	1963	10	1953	0.994905756	0.825087884	82.51%
44	39	1962	10	1952	0.99490316	0.820882543	82.09%
45	40	1961	10	1951	0.994900561	0.816696503	81.67%
46							
47	Non-Detection Probability With Five (5) Random Cross Checks Per Segment (Same As Forty (40) Random Cross Checks Per Parliamentary Constituency With 2000 Booths) =						81.67%
48	Detection Probability With Five (5) Random Cross Checks Per Segment (Same As Forty (40) Random Cross Checks Per Parliamentary Constituency With 2000 Booths) =						18.33%