

	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 1500 Voting Booths (With One EVM - VVPAT Pair In Each Booth, When VVPAT Counts Are Cross Checked With EVM Counts) (This is "Source Excel File-1500 Booths with 30 Cross Checks" or "SEF-1500 booths - 30 Cr Cks", Sheet-10) (Prepared By Dr Ramesh Bellamkonda, 2019-04-15)						
2	No. of booths in constituency =	1500	Assumed No of Booths Tampered =	10			
3	Assumed Average No. of Booths Per Segment = 250				No. of Segments In Constituency = 6		
4	Number of Random Cross Checks In Parliamentary Constituency = (No. of Segments*5) = (6*5) = 30						
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	1500	10	1490	0.993333333	0.993333333	99.33%
7	2	1499	10	1489	0.993328886	0.986706693	98.67%
8	3	1498	10	1488	0.993324433	0.980119866	98.01%
9	4	1497	10	1487	0.993319973	0.973572639	97.36%
10	5	1496	10	1486	0.993315508	0.967064801	96.71%
11	6	1495	10	1485	0.993311037	0.96059614	96.06%
12	7	1494	10	1484	0.99330656	0.954166447	95.42%
13	8	1493	10	1483	0.993302076	0.947775513	94.78%
14	9	1492	10	1482	0.993297587	0.94142313	94.14%
15	10	1491	10	1481	0.993293092	0.935109092	93.51%
16	11	1490	10	1480	0.993288591	0.928833192	92.88%
17	12	1489	10	1479	0.993284083	0.922595225	92.26%
18	13	1488	10	1478	0.99327957	0.916394989	91.64%
19	14	1487	10	1477	0.99327505	0.910232279	91.02%
20	15	1486	10	1476	0.993270525	0.904106893	90.41%
21	16	1485	10	1475	0.993265993	0.898018631	89.80%
22	17	1484	10	1474	0.993261456	0.891967293	89.20%
23	18	1483	10	1473	0.993256912	0.885952679	88.60%
24	19	1482	10	1472	0.993252362	0.87997459	88.00%
25	20	1481	10	1471	0.993247806	0.874032831	87.40%
26	21	1480	10	1470	0.993243243	0.868127203	86.81%
27	22	1479	10	1469	0.993238675	0.862257513	86.23%
28	23	1478	10	1468	0.9932341	0.856423565	85.64%
29	24	1477	10	1467	0.993229519	0.850625166	85.06%
30	25	1476	10	1466	0.993224932	0.844862123	84.49%
31	26	1475	10	1465	0.993220339	0.839134244	83.91%
32	27	1474	10	1464	0.993215739	0.833441339	83.34%
33	28	1473	10	1463	0.993211134	0.827783217	82.78%
34	29	1472	10	1462	0.993206522	0.82215969	82.22%
35	30	1471	10	1461	0.993201903	0.816570569	81.66%
36							
37	Non-Detection Probability With Five (5) Random Cross Checks Per Segment (Same As Thirty (30) Random Cross Checks Per Parliamentary Constituency With 1500 Booths) =						81.66%
38	Detection Probability With Five (5) Random Cross Checks Per Segment (Same As Thirty (30) Random Cross Checks Per Parliamentary Constituency With 1500 Booths) =						18.34%