

Results for 2025 Remote Identity Validation Rally Selfie Match to Document Track

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Contents

Use of These Data	1
2025 Remote Identity Validation Rally Selfie Match to Document Overview	1
Data Description	1
Selfie FTXR	3
Document FTXR and FNMR	5
FMR	13
Use of These Data	

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2025 Remote Identity Validation Rally Selfie Match to Document Overview

The 2025 Remote Identity Validation Rally (RIVR) challenges industry to deliver secure, accurate, and easy-to-use remote identity validation technologies to combat identity fraud and allow users to assert their identity online. This technology is used for applying to government services, opening bank accounts, verifying social media accounts, and other purposes. RIVR evaluated the ability of systems to authenticate identity documents, assess the ‘liveness’ of selfie photos, and verify identities using selfie and document images captured with smartphones. This report provides the outcomes of the Selfie Match to Document track in RIVR.

The Selfie Match to Document track evaluates selfie Match to Document Subsystems (MTDSs) on their ability to match a selfie photo to a photo of a genuine U.S. state-issued ID card. Selfies and document images were both captured in a controlled environment on modern smartphones, with reasonable effort to control image quality. MTDSs attempted to extract the faces from the selfie and document images and compare them in 1:1 verification operations. All verifications were performed using the biometric threshold provided to achieve a false match rate below 1 in 10,000. For further information about the 2025 Remote Identity Validation Rally results and test design, please visit <https://mdtf.org>.

Select results are available below. To comply with information sharing agreements between DHS and the MTDS providers, all company names are aliased. If you are interested in contacting one or more of the companies that participated in RIVR, please send an e-mail to peoplescreening@hq.dhs.gov and specify the aliased systems of interest.

Data Description

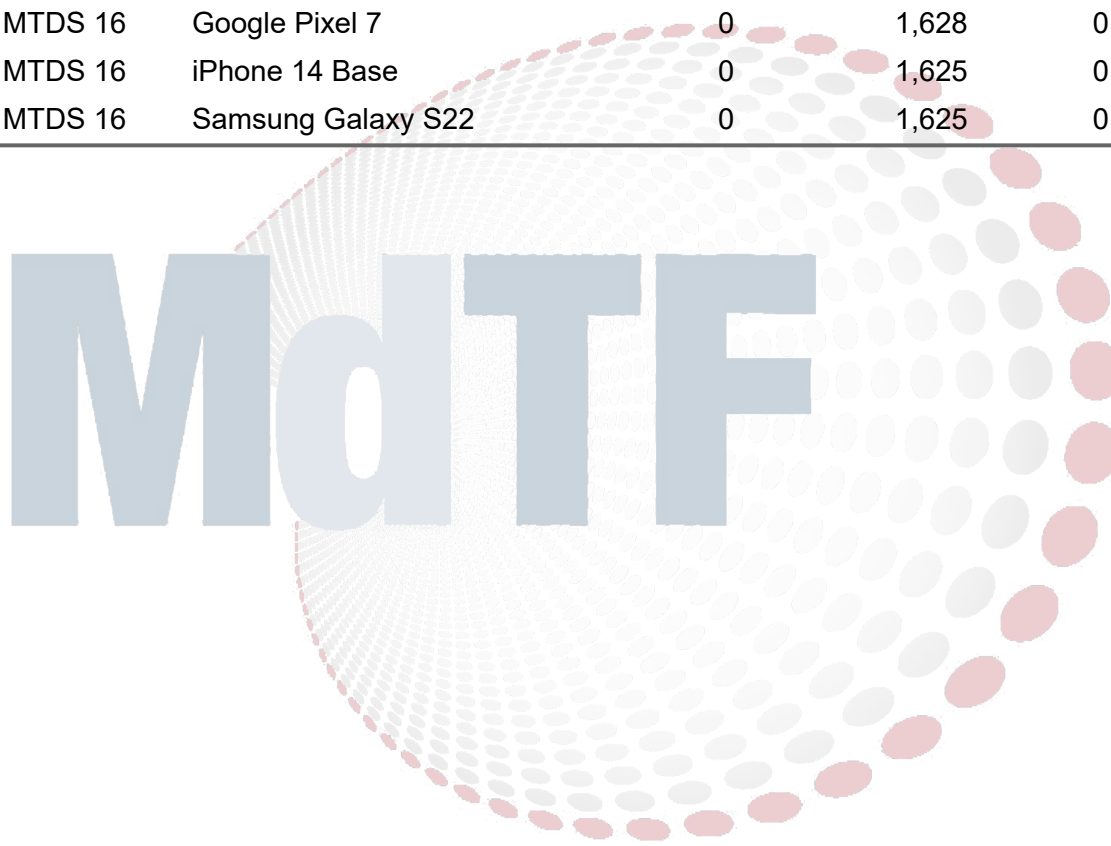
- **Selfie Match to Document Subsystem (MTDS):** Aliased selfie match to document subsystem.
- **Smartphone:** Device used to capture the selfie or document image.
- **State:** Government ID state of issue. California (CA) or Maryland (MD) for IDs issued by the specified state, or Overall for all valid IDs collected combined, regardless of state of issue.
- **Threshold:** The biometric threshold.
- **Category:** The type of impostor pairs used in FMR analysis. Overall for all impostors, and SSS for impostors with similar age, same sex and same race.
- **Total Images:** Total number of images. Each volunteer attempted to provide one image per condition. Due to variation in volunteer behavior during the data collections, some volunteers did not perform a valid transaction with all devices under all conditions, creating variation in the "Total Images" count.
- **Total Mated Comparisons:** Total number of comparisons between selfie and document images from the same volunteer.
- **Total Non-Mated Comparisons:** Total number of comparisons between selfie and document images from different volunteers.
- **Failures to Extract:** The number of volunteers for whom an image was acquired, but the MTDS did not generate a template.
- **False Matches:** The number of non-mated comparisons where the MTDS indicated the volunteers were the same person.
- **False Non-Matches:** The number of mated comparisons where the MTDS indicated the volunteers were different people.
- **Failure to Extract Rate (FTXR):** Proportion of images that did not produce a template divided by the total number of selfies or document images.
- **False Non-Match Rate (FNMR):** Proportion of mated selfie-document template pairs for which the MTDS returns a similarity score below the supplied biometric threshold setting intended to produce a 1 in 10,000 false match rate.
- **False Match Rate (FMR):** Proportion of non-mated selfie-document template pairs for which the MTDS returns a similarity score above the supplied biometric threshold setting intended to produce a 1 in 10,000 false match rate.

Selfie FTXR

Selfie FTXR values are presented by MTDS and Smartphone in the following table.

MTDS	Smartphone	Failures to Extract	Total Images	FTXR
MTDS 1	Google Pixel 7	0	1,628	0
MTDS 1	iPhone 14 Base	0	1,625	0
MTDS 1	Samsung Galaxy S22	0	1,625	0
MTDS 2	Google Pixel 7	0	1,628	0
MTDS 2	iPhone 14 Base	0	1,625	0
MTDS 2	Samsung Galaxy S22	0	1,625	0
MTDS 3	Google Pixel 7	0	1,628	0
MTDS 3	iPhone 14 Base	0	1,625	0
MTDS 3	Samsung Galaxy S22	0	1,625	0
MTDS 4	Google Pixel 7	0	1,628	0
MTDS 4	iPhone 14 Base	0	1,625	0
MTDS 4	Samsung Galaxy S22	0	1,625	0
MTDS 5	Google Pixel 7	0	1,628	0
MTDS 5	iPhone 14 Base	0	1,625	0
MTDS 5	Samsung Galaxy S22	0	1,625	0
MTDS 6	Google Pixel 7	0	1,628	0
MTDS 6	iPhone 14 Base	0	1,625	0
MTDS 6	Samsung Galaxy S22	0	1,625	0
MTDS 7	Google Pixel 7	0	1,628	0
MTDS 7	iPhone 14 Base	0	1,625	0
MTDS 7	Samsung Galaxy S22	0	1,625	0
MTDS 8	Google Pixel 7	0	1,628	0
MTDS 8	iPhone 14 Base	0	1,625	0
MTDS 8	Samsung Galaxy S22	0	1,625	0
MTDS 9	Google Pixel 7	0	1,628	0
MTDS 9	iPhone 14 Base	0	1,625	0
MTDS 9	Samsung Galaxy S22	0	1,625	0
MTDS 10	Google Pixel 7	0	1,628	0
MTDS 10	iPhone 14 Base	0	1,625	0
MTDS 10	Samsung Galaxy S22	0	1,625	0
MTDS 11	Google Pixel 7	0	1,628	0
MTDS 11	iPhone 14 Base	0	1,625	0
MTDS 11	Samsung Galaxy S22	0	1,625	0
MTDS 12	Google Pixel 7	0	1,628	0
MTDS 12	iPhone 14 Base	0	1,625	0

MTDS	Smartphone	Failures to Extract	Total Images	FTXR
MTDS 12	Samsung Galaxy S22	0	1,625	0
MTDS 13	Google Pixel 7	0	1,628	0
MTDS 13	iPhone 14 Base	0	1,625	0
MTDS 13	Samsung Galaxy S22	0	1,625	0
MTDS 14	Google Pixel 7	0	1,628	0
MTDS 14	iPhone 14 Base	0	1,625	0
MTDS 14	Samsung Galaxy S22	0	1,625	0
MTDS 15	Google Pixel 7	0	1,628	0
MTDS 15	iPhone 14 Base	0	1,625	0
MTDS 15	Samsung Galaxy S22	0	1,625	0
MTDS 16	Google Pixel 7	0	1,628	0
MTDS 16	iPhone 14 Base	0	1,625	0
MTDS 16	Samsung Galaxy S22	0	1,625	0



MdtF

Document FTXR and FNMR

Document FTXR and FNMR values are presented by MTDS, Smartphone, and State in the following table.

MTDS	Smart-phone	State	Failures to Extract	Total Images	FTXR	False Non-Matches	Total Mated Comparisons	FNMR
MTDS 1	Google Pixel 7	Overall	0	1,628	0.0000	1	1,624	0.0006
MTDS 1	Google Pixel 7	CA	0	1,298	0.0000	1	1,296	0.0008
MTDS 1	Google Pixel 7	MD	0	298	0.0000	0	296	0.0000
MTDS 1	iPhone 14 Base	Overall	0	1,625	0.0000	3	1,620	0.0019
MTDS 1	iPhone 14 Base	CA	0	1,294	0.0000	3	1,291	0.0023
MTDS 1	iPhone 14 Base	MD	0	299	0.0000	0	297	0.0000
MTDS 1	Samsung Galaxy S22	Overall	0	1,625	0.0000	3	1,620	0.0019
MTDS 1	Samsung Galaxy S22	CA	0	1,294	0.0000	2	1,291	0.0015
MTDS 1	Samsung Galaxy S22	MD	0	299	0.0000	1	297	0.0034
MTDS 2	Google Pixel 7	Overall	1	1,628	0.0006	5	1,623	0.0031
MTDS 2	Google Pixel 7	CA	1	1,298	0.0008	4	1,295	0.0031
MTDS 2	Google Pixel 7	MD	0	298	0.0000	1	296	0.0034
MTDS 2	iPhone 14 Base	Overall	0	1,625	0.0000	5	1,621	0.0031
MTDS 2	iPhone 14 Base	CA	0	1,294	0.0000	4	1,292	0.0031
MTDS 2	iPhone 14 Base	MD	0	299	0.0000	1	297	0.0034
MTDS 2	Samsung Galaxy S22	Overall	0	1,625	0.0000	4	1,621	0.0025
MTDS 2	Samsung Galaxy S22	CA	0	1,294	0.0000	2	1,292	0.0015
MTDS 2	Samsung Galaxy S22	MD	0	299	0.0000	2	297	0.0067

MTDS	Smart-phone	State	Failures to Extract	Total Images	FTXR	False Non-Matches	Total Mated Comparisons	FNMR
MTDS 3	Google Pixel 7	Overall	0	1,627	0.0000	1	1,624	0.0006
MTDS 3	Google Pixel 7	CA	0	1,297	0.0000	1	1,296	0.0008
MTDS 3	Google Pixel 7	MD	0	298	0.0000	0	296	0.0000
MTDS 3	iPhone 14 Base	Overall	0	1,622	0.0000	1	1,621	0.0006
MTDS 3	iPhone 14 Base	CA	0	1,291	0.0000	1	1,292	0.0008
MTDS 3	iPhone 14 Base	MD	0	299	0.0000	0	297	0.0000
MTDS 3	Samsung Galaxy S22	Overall	0	1,619	0.0000	1	1,621	0.0006
MTDS 3	Samsung Galaxy S22	CA	0	1,290	0.0000	1	1,292	0.0008
MTDS 3	Samsung Galaxy S22	MD	0	297	0.0000	0	297	0.0000
MTDS 4	Google Pixel 7	Overall	0	1,628	0.0000	0	1,624	0.0000
MTDS 4	Google Pixel 7	CA	0	1,298	0.0000	0	1,296	0.0000
MTDS 4	Google Pixel 7	MD	0	298	0.0000	0	296	0.0000
MTDS 4	iPhone 14 Base	Overall	0	1,625	0.0000	2	1,621	0.0012
MTDS 4	iPhone 14 Base	CA	0	1,294	0.0000	1	1,292	0.0008
MTDS 4	iPhone 14 Base	MD	0	299	0.0000	0	297	0.0000
MTDS 4	Samsung Galaxy S22	Overall	0	1,625	0.0000	1	1,621	0.0006
MTDS 4	Samsung Galaxy S22	CA	0	1,294	0.0000	1	1,292	0.0008
MTDS 4	Samsung Galaxy S22	MD	0	299	0.0000	0	297	0.0000
MTDS 5	Google Pixel 7	Overall	81	1,628	0.0498	1,029	1,544	0.6665
MTDS 5	Google Pixel 7	CA	2	1,298	0.0015	861	1,294	0.6654

MTDS	Smart-phone	State	Failures to Extract	Total Images	FTXR	False Non-Matches	Total Mated Comparisons	FNMR
MTDS 5	Google Pixel 7	MD	79	298	0.2651	144	218	0.6606
MTDS 5	iPhone 14 Base	Overall	35	1,625	0.0215	1,083	1,586	0.6828
MTDS 5	iPhone 14 Base	CA	4	1,294	0.0031	874	1,288	0.6786
MTDS 5	iPhone 14 Base	MD	31	299	0.1037	181	266	0.6805
MTDS 5	Samsung Galaxy S22	Overall	93	1,625	0.0572	1,025	1,528	0.6708
MTDS 5	Samsung Galaxy S22	CA	12	1,294	0.0093	844	1,280	0.6594
MTDS 5	Samsung Galaxy S22	MD	81	299	0.2709	153	216	0.7083
MTDS 6	Google Pixel 7	Overall	0	1,628	0.0000	1,601	1,614	0.9919
MTDS 6	Google Pixel 7	CA	0	1,298	0.0000	1,279	1,291	0.9907
MTDS 6	Google Pixel 7	MD	0	298	0.0000	291	292	0.9966
MTDS 6	iPhone 14 Base	Overall	0	1,625	0.0000	1,591	1,617	0.9839
MTDS 6	iPhone 14 Base	CA	0	1,294	0.0000	1,267	1,289	0.9829
MTDS 6	iPhone 14 Base	MD	0	299	0.0000	292	296	0.9865
MTDS 6	Samsung Galaxy S22	Overall	0	1,625	0.0000	1,584	1,617	0.9796
MTDS 6	Samsung Galaxy S22	CA	0	1,294	0.0000	1,261	1,289	0.9783
MTDS 6	Samsung Galaxy S22	MD	0	299	0.0000	291	296	0.9831
MTDS 7	Google Pixel 7	Overall	8	1,628	0.0049	1	1,616	0.0006
MTDS 7	Google Pixel 7	CA	8	1,298	0.0062	1	1,288	0.0008
MTDS 7	Google Pixel 7	MD	0	298	0.0000	0	296	0.0000
MTDS 7	iPhone 14 Base	Overall	8	1,625	0.0049	1	1,613	0.0006

MTDS	Smart-phone	State	Failures to Extract	Total Images	FTXR	False Non-Matches	Total Mated Comparisons	FNMR
MTDS 7	iPhone 14 Base	CA	8	1,294	0.0062	1	1,284	0.0008
MTDS 7	iPhone 14 Base	MD	0	299	0.0000	0	297	0.0000
MTDS 7	Samsung Galaxy S22	Overall	15	1,625	0.0092	1	1,606	0.0006
MTDS 7	Samsung Galaxy S22	CA	9	1,294	0.0070	1	1,283	0.0008
MTDS 7	Samsung Galaxy S22	MD	6	299	0.0201	0	291	0.0000
MTDS 8	Google Pixel 7	Overall	0	1,628	0.0000	912	1,624	0.5616
MTDS 8	Google Pixel 7	CA	0	1,298	0.0000	721	1,296	0.5563
MTDS 8	Google Pixel 7	MD	0	298	0.0000	172	296	0.5811
MTDS 8	iPhone 14 Base	Overall	0	1,625	0.0000	916	1,621	0.5651
MTDS 8	iPhone 14 Base	CA	0	1,294	0.0000	740	1,292	0.5728
MTDS 8	iPhone 14 Base	MD	0	299	0.0000	162	297	0.5455
MTDS 8	Samsung Galaxy S22	Overall	0	1,625	0.0000	848	1,621	0.5231
MTDS 8	Samsung Galaxy S22	CA	0	1,294	0.0000	685	1,292	0.5302
MTDS 8	Samsung Galaxy S22	MD	0	299	0.0000	150	297	0.5051
MTDS 9	Google Pixel 7	Overall	10	1,628	0.0061	45	1,610	0.0280
MTDS 9	Google Pixel 7	CA	4	1,298	0.0031	40	1,289	0.0310
MTDS 9	Google Pixel 7	MD	6	298	0.0201	2	289	0.0069
MTDS 9	iPhone 14 Base	Overall	14	1,625	0.0086	17	1,604	0.0106
MTDS 9	iPhone 14 Base	CA	9	1,294	0.0070	14	1,281	0.0109
MTDS 9	iPhone 14 Base	MD	3	299	0.0100	3	293	0.0102

MTDS	Smart-phone	State	Failures to Extract	Total Images	FTXR	False Non-Matches	Total Mated Comparisons	FNMR
MTDS 9	Samsung Galaxy S22	Overall	16	1,625	0.0098	7	1,600	0.0044
MTDS 9	Samsung Galaxy S22	CA	5	1,294	0.0039	5	1,282	0.0039
MTDS 9	Samsung Galaxy S22	MD	11	299	0.0368	2	286	0.0070
MTDS 10	Google Pixel 7	Overall	0	1,628	0.0000	0	1,624	0.0000
MTDS 10	Google Pixel 7	CA	0	1,298	0.0000	0	1,296	0.0000
MTDS 10	Google Pixel 7	MD	0	298	0.0000	0	296	0.0000
MTDS 10	iPhone 14 Base	Overall	0	1,625	0.0000	1	1,621	0.0006
MTDS 10	iPhone 14 Base	CA	0	1,294	0.0000	1	1,292	0.0008
MTDS 10	iPhone 14 Base	MD	0	299	0.0000	0	297	0.0000
MTDS 10	Samsung Galaxy S22	Overall	1	1,625	0.0006	3	1,620	0.0019
MTDS 10	Samsung Galaxy S22	CA	0	1,294	0.0000	1	1,292	0.0008
MTDS 10	Samsung Galaxy S22	MD	1	299	0.0033	2	296	0.0068
MTDS 11	Google Pixel 7	Overall	0	1,628	0.0000	17	1,624	0.0105
MTDS 11	Google Pixel 7	CA	0	1,298	0.0000	13	1,296	0.0100
MTDS 11	Google Pixel 7	MD	0	298	0.0000	4	296	0.0135
MTDS 11	iPhone 14 Base	Overall	0	1,625	0.0000	20	1,621	0.0123
MTDS 11	iPhone 14 Base	CA	0	1,294	0.0000	17	1,292	0.0132
MTDS 11	iPhone 14 Base	MD	0	299	0.0000	3	297	0.0101
MTDS 11	Samsung Galaxy S22	Overall	0	1,625	0.0000	20	1,621	0.0123

MTDS	Smart-phone	State	Failures to Extract	Total Images	FTXR	False Non-Matches	Total Mated Comparisons	FNMR
MTDS 11	Samsung Galaxy S22	CA	0	1,294	0.0000	14	1,292	0.0108
MTDS 11	Samsung Galaxy S22	MD	0	299	0.0000	6	297	0.0202
MTDS 12	Google Pixel 7	Overall	1	1,628	0.0006	0	1,623	0.0000
MTDS 12	Google Pixel 7	CA	0	1,298	0.0000	0	1,296	0.0000
MTDS 12	Google Pixel 7	MD	1	298	0.0034	0	295	0.0000
MTDS 12	iPhone 14 Base	Overall	0	1,625	0.0000	1	1,621	0.0006
MTDS 12	iPhone 14 Base	CA	0	1,294	0.0000	1	1,292	0.0008
MTDS 12	iPhone 14 Base	MD	0	299	0.0000	0	297	0.0000
MTDS 12	Samsung Galaxy S22	Overall	1	1,625	0.0006	1	1,620	0.0006
MTDS 12	Samsung Galaxy S22	CA	0	1,294	0.0000	1	1,292	0.0008
MTDS 12	Samsung Galaxy S22	MD	1	299	0.0033	0	296	0.0000
MTDS 13	Google Pixel 7	Overall	52	1,628	0.0319	105	1,572	0.0668
MTDS 13	Google Pixel 7	CA	3	1,298	0.0023	94	1,293	0.0727
MTDS 13	Google Pixel 7	MD	48	298	0.1611	8	248	0.0323
MTDS 13	iPhone 14 Base	Overall	41	1,625	0.0252	67	1,580	0.0424
MTDS 13	iPhone 14 Base	CA	8	1,294	0.0062	55	1,284	0.0428
MTDS 13	iPhone 14 Base	MD	32	299	0.1070	9	265	0.0340
MTDS 13	Samsung Galaxy S22	Overall	127	1,625	0.0782	137	1,494	0.0917
MTDS 13	Samsung Galaxy S22	CA	12	1,294	0.0093	119	1,280	0.0930

MTDS	Smart-phone	State	Failures to Extract	Total Images	FTXR	False Non-Matches	Total Mated Comparisons	FNMR
MTDS 13	Samsung Galaxy S22	MD	112	299	0.3746	17	185	0.0919
MTDS 14	Google Pixel 7	Overall	1	1,628	0.0006	0	1,623	0.0000
MTDS 14	Google Pixel 7	CA	1	1,298	0.0008	0	1,295	0.0000
MTDS 14	Google Pixel 7	MD	0	298	0.0000	0	296	0.0000
MTDS 14	iPhone 14 Base	Overall	1	1,625	0.0006	0	1,620	0.0000
MTDS 14	iPhone 14 Base	CA	1	1,294	0.0008	0	1,291	0.0000
MTDS 14	iPhone 14 Base	MD	0	299	0.0000	0	297	0.0000
MTDS 14	Samsung Galaxy S22	Overall	4	1,625	0.0025	0	1,617	0.0000
MTDS 14	Samsung Galaxy S22	CA	1	1,294	0.0008	0	1,291	0.0000
MTDS 14	Samsung Galaxy S22	MD	3	299	0.0100	0	294	0.0000
MTDS 15	Google Pixel 7	Overall	0	1,628	0.0000	6	1,624	0.0037
MTDS 15	Google Pixel 7	CA	0	1,298	0.0000	5	1,296	0.0039
MTDS 15	Google Pixel 7	MD	0	298	0.0000	1	296	0.0034
MTDS 15	iPhone 14 Base	Overall	0	1,625	0.0000	9	1,621	0.0056
MTDS 15	iPhone 14 Base	CA	0	1,294	0.0000	7	1,292	0.0054
MTDS 15	iPhone 14 Base	MD	0	299	0.0000	1	297	0.0034
MTDS 15	Samsung Galaxy S22	Overall	0	1,625	0.0000	7	1,621	0.0043
MTDS 15	Samsung Galaxy S22	CA	0	1,294	0.0000	5	1,292	0.0039
MTDS 15	Samsung Galaxy S22	MD	0	299	0.0000	2	297	0.0067

MTDS	Smart-phone	State	Failures to Extract	Total Images	FTXR	False Non-Matches	Total Mated Comparisons	FNMR
MTDS 16	Google Pixel 7	Overall	0	1,628	0.0000	28	1,624	0.0172
MTDS 16	Google Pixel 7	CA	0	1,298	0.0000	21	1,296	0.0162
MTDS 16	Google Pixel 7	MD	0	298	0.0000	6	296	0.0203
MTDS 16	iPhone 14 Base	Overall	0	1,625	0.0000	32	1,621	0.0197
MTDS 16	iPhone 14 Base	CA	0	1,294	0.0000	24	1,292	0.0186
MTDS 16	iPhone 14 Base	MD	0	299	0.0000	7	297	0.0236
MTDS 16	Samsung Galaxy S22	Overall	0	1,625	0.0000	34	1,621	0.0210
MTDS 16	Samsung Galaxy S22	CA	0	1,294	0.0000	20	1,292	0.0155
MTDS 16	Samsung Galaxy S22	MD	0	299	0.0000	13	297	0.0438

FMR

Measured FMR values are presented by MTDS and Category. Measured FMR values are the actual result of computations using the biometric threshold provided to achieve a false match rate below 1:10,000.

MTDS	Category	False Matches	Total Non-Mated Comparisons	FMR
MTDS1	Overall	60	7,881,204	0.0000
MTDS1	SSS	29	250,405	0.0001
MTDS2	Overall	1,218	7,886,169	0.0002
MTDS2	SSS	421	250,544	0.0017
MTDS3	Overall	1,122	7,887,792	0.0001
MTDS3	SSS	380	250,566	0.0015
MTDS4	Overall	79	7,887,792	0.0000
MTDS4	SSS	30	250,566	0.0001
MTDS5	Overall	34,192	7,550,592	0.0045
MTDS5	SSS	1,559	239,628	0.0065
MTDS6	Overall	95,241	7,863,895	0.0121
MTDS6	SSS	1,969	249,706	0.0079
MTDS7	Overall	583	7,837,548	0.0001
MTDS7	SSS	205	249,072	0.0008
MTDS8	Overall	12	7,887,792	0.0000
MTDS8	SSS	6	250,566	0.0000
MTDS9	Overall	4,040	7,805,121	0.0005
MTDS9	SSS	1,580	248,061	0.0064
MTDS10	Overall	136	7,886,172	0.0000
MTDS10	SSS	26	250,483	0.0001
MTDS11	Overall	1,036	7,887,792	0.0001
MTDS11	SSS	281	250,566	0.0011
MTDS12	Overall	26	7,884,549	0.0000
MTDS12	SSS	11	250,384	0.0000
MTDS13	Overall	0	7,531,236	0.0000
MTDS13	SSS	0	237,168	0.0000
MTDS14	Overall	1,074	7,878,069	0.0001
MTDS14	SSS	478	250,319	0.0019
MTDS15	Overall	146	7,887,792	0.0000
MTDS15	SSS	50	250,566	0.0002
MTDS16	Overall	10,686	7,887,792	0.0014
MTDS16	SSS	2,853	250,566	0.0114