



LAMPIRAN

LAMPIRAN 1

Perangkat Pendukung Band 28 Frekuensi 700 MHz di Indonesia

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PHONE FINDER

SAMSUNG	LENOVO	ALCATEL	GIONEE
APPLE	XIAOMI	ZTE	VIVO
MICROSOFT	GOOGLE	TOSHIBA	YU
NOKIA	ACER	VODAFONE	VERYKOOOL
SONY	ASUS	GIGABYTE	MAXWEST
LG	OPPO	XOLO	NIU
HTC	ONEPLUS	LAVA	YEZZ
MOTOROLA	MEIZU	MICROMAX	PARLA
HUAWEI	BLACKBERRY	BLU	PLUM

Apple iPhone 7

Released 2016, September
138g, 7.1mm thickness
iOS 10.0.1, up to iOS 10.1
32/128/256GB storage, no card slot

37%
13,780,955 HITS

439
BECOME A FAN

4.7"
750x1334 pixels

12MP
2160p

2GB RAM
Apple A10 Fusion

1960mAh
Li-Ion

REVIEW
OPINIONS
COMPARE
PICTURES
360° VIEW

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NETWORK

Technology	GSM / CDMA / HSPA / EVDO / LTE
2G bands	GSM 850 / 900 / 1800 / 1900 - A1660, A1778 CDMA 800 / 1900 / 2100 - A1660
3G bands	HSDPA 850 / 900 / 1700(AWS) / 1900 / 2100 - A1660, A1778 CDMA2000 1xEV-DO & TD-SCDMA - A1660
4G bands	LTE band 1(2100), 2(1900), 3(1800), 4(1700/2100), 5(850), 7(2600), 8(900), 12(700), 13(700), 17(700), 18(800), 19(800), 20(800), 25(1900), 26(850), 27(800), 28(700), 29(700), 30(2300), 38(2600), 39(1900), 40(2300), 41(2500) - A1660, A1778
Speed	HSPA 42.2/5.76 Mbps, LTE-A (3CA) Cat9 450/50 Mbps, EV-DO Rev.A 3.1 Mbps
GPRS	Yes
EDGE	Yes
LAUNCH	Announced 2016, September

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PHONE FINDER

SAMSUNG	LENOVO	ALCATEL	GIONEE
APPLE	XIAOMI	ZTE	VIVO
MICROSOFT	GOOGLE	TOSHIBA	YU
NOKIA	ACER	VODAFONE	VERYKOOOL
SONY	ASUS	GIGABYTE	MAXWEST
LG	OPPO	XOLO	NIU
HTC	ONEPLUS	LAVA	YEZZ
MOTOROLA	MEIZU	MICROMAX	PARLA
HUAWEI	BLACKBERRY	BLU	PLUM

Samsung Galaxy S7 edge

Released 2016, March
157g, 7.7mm thickness
Android OS, v6.0
32/64GB storage, microSD card slot

40%
17,138,516 HITS

1672
BECOME A FAN

5.5"
1440x2560 pixels

12MP
2160p

4GB RAM
Snapdragon 820

3600mAh
Li-Ion

REVIEW
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Versions: G935 (USA); G935F (Global); G935FD (Southeast Asia)
Also known as Samsung Galaxy S7 edge Duos with dual-SIM card slots

NETWORK

Technology	GSM / HSPA / LTE
2G bands	GSM 850 / 900 / 1800 / 1900 - SIM 1 & SIM 2 (dual-SIM model only)
3G bands	HSDPA 850 / 900 / 1700(AWS) / 1900 / 2100 - G935F TD-SCDMA
4G bands	LTE band 1(2100), 2(1900), 3(1800), 4(1700/2100), 5(850), 7(2600), 8(900), 12(700), 13(700), 17(700), 18(800), 19(800), 20(800), 25(1900), 26(850), 28(700), 38(2600), 39(1900), 40(2300), 41(2500) - G935F
Speed	HSPA 42.2/5.76 Mbps, LTE-A (3CA) Cat9 450/50 Mbps
GPRS	Yes
EDGE	Yes
LAUNCH	Announced 2016, February Status Available. Released 2016, March

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🔍 PHONE FINDER
Asus Zenfone 3 ZE520KL

<p>SAMSUNG</p> <p>APPLE</p> <p>MICROSOFT</p> <p>NOKIA</p> <p>SONY</p> <p>LG</p> <p>HTC</p> <p>MOTOROLA</p> <p>HUAWEI</p>	<p>LENOVO</p> <p>XIAOMI</p> <p>GOOGLE</p> <p>ACER</p> <p>ASUS</p> <p>OPPO</p> <p>ONEPLUS</p> <p>MEIZU</p> <p>BLACKBERRY</p>	<p>ALCATEL</p> <p>ZTE</p> <p>TOSHIBA</p> <p>VODAFONE</p> <p>GIGABYTE</p> <p>XOLO</p> <p>LAVA</p> <p>MICROMAX</p> <p>BLU</p>	<p>GIONEE</p> <p>VIVO</p> <p>YU</p> <p>VERYKOOOL</p> <p>MAXWEST</p> <p>NIU</p> <p>YEZZ</p> <p>PARLA</p> <p>PLUM</p>
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Released 2016, August

144g, 7.7mm thickness

<> Android OS, v6.0.1

32GB storage, microSD card slot

3.8%

971,089 HITS

96

BECOME A FAN

5.2"

1080x1920 pixels

16MP

2160p

4GB RAM

Snapdragon 625

2600mAh

Li-Ion

📁 ALL BRANDS
🔊 RUMOR MILL

🗣️ OPINIONS
🔍 COMPARE
🖼️ PICTURES

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NETWORK	Technology	GSM / HSPA / LTE	COLLAPSE ▲
	2G bands	GSM 850 / 900 / 1800 / 1900 - SIM 1 & SIM 2	
	3G bands	HSDPA 850 / 900 / 1900 / 2100 / 800 - Taiwan HSDPA 850 / 900 / 2100 - Global HSDPA 850 / 900 / 2100 - India	
	4G bands	HSDPA 850 / 900 / 1700(AWS) / 1900 / 2100 - Brazil LTE band 1(2100), 2(1900), 3(1800), 5(850), 7(2600), 8(900), 18(800), 19(800), 26(850), 28(700), 38(2600), 39(1900), 40(2300), 41(2500) - Taiwan LTE band 1(2100), 3(1800), 5(850), 8(900), 40(2300) - India LTE band 1(2100), 2(1900), 3(1800), 4(1700/2100), 5(850), 7(2600), 8(900), 17(700), 28(700) - Brazil	
	Speed	HSPA 42.2/5.76 Mbps, LTE Cat4 150/50 Mbps (Global) or LTE Cat6 300/50 Mbps (TW/HK/SG/PH)	
	GPRS	Yes	
	EDGE	Yes	
LAUNCH	Announced	2016, July	
	Status	Available. Released 2016, August	

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🔍 PHONE FINDER
Oppo F1s

<p>SAMSUNG</p> <p>APPLE</p> <p>MICROSOFT</p> <p>NOKIA</p> <p>SONY</p> <p>LG</p> <p>HTC</p> <p>MOTOROLA</p> <p>HUAWEI</p>	<p>LENOVO</p> <p>XIAOMI</p> <p>GOOGLE</p> <p>ACER</p> <p>ASUS</p> <p>OPPO</p> <p>ONEPLUS</p> <p>MEIZU</p> <p>BLACKBERRY</p>	<p>ALCATEL</p> <p>ZTE</p> <p>TOSHIBA</p> <p>VODAFONE</p> <p>GIGABYTE</p> <p>XOLO</p> <p>LAVA</p> <p>MICROMAX</p> <p>BLU</p>	<p>GIONEE</p> <p>VIVO</p> <p>YU</p> <p>VERYKOOOL</p> <p>MAXWEST</p> <p>NIU</p> <p>YEZZ</p> <p>PARLA</p> <p>PLUM</p>
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Released 2016, August

160g, 7.4mm thickness

<> Android OS, v5.1

32GB storage, microSD card slot

47%

6,161,089 HITS

109

BECOME A FAN

5.5"

720x1280 pixels

13MP

1080p

4GB RAM

MT6750

3075mAh

Li-Po

📁 ALL BRANDS
🔊 RUMOR MILL

🗣️ OPINIONS
🔍 COMPARE
🖼️ PICTURES
🔄 360° VIEW

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NETWORK	Technology	GSM / HSPA / LTE	COLLAPSE ▲
	2G bands	GSM 850 / 900 / 1800 / 1900 - SIM 1 & SIM 2 (dual-SIM model only)	
	3G bands	HSDPA 850 / 900 / 2100	
	4G bands	LTE band 1(2100), 3(1800), 5(850), 7(2600), 8(900), 20(800), 28(700), 38(2600), 39(1900), 40(2300), 41(2500) LTE band 1(2100), 3(1800), 5(850), 40(2300) - India	
	Speed	HSPA 42.2/5.76 Mbps, LTE Cat6 300/50 Mbps	
	GPRS	Yes	
	EDGE	Yes	
LAUNCH	Announced	2016, August	
	Status	Available. Released 2016, August	



LAMPIRAN 2
Data Penduduk Kota Malang 2010-2015

No	Tahun	Kecamatan					Total
		Blimbing	Klojen	Kedung Kandang	Sukun	Lowokwaru	
1	2010	172.333	105.907	174.477	181.531	186.013	820.261
2	2011	173.203	102.270	178.546	183.496	188.034	825.549
3	2012	188.314	110.700	193.779	191.255	161.204	845.252
4	2013	187.001	107.729	194.071	193.310	162.591	844.702
5	2014	191.631	109.000	199.506	198.241	166.633	865.011
6	2015	193.179	109.386	202.252	200.720	168.179	873.716

LAMPIRAN 3
Penyebaran Penduduk Kecamatan Kedung Kandang

No	Kelurahan	Proyeksi Penduduk 2015	Penyebaran Penduduk (%)	Proyeksi Pelanggan Per Kelurahan	Luas Daerah	User/km2
1	ARJOWINANGUN	10.134	5,45%	1.282	2,67	480
2	TLOGOWARU	6.256	3,36%	792	4,6	172
3	WONOKOYO	6.192	3,33%	783	5,31	148
4	BUMIAYU	16.425	8,83%	2.078	4,31	482
5	BURING	11.948	6,42%	1.512	5,1	296
6	MERGOSONO	17.719	9,52%	2.242	0,71	3158
7	KOTALAMA	30.451	16,37%	3.853	0,89	4329
8	KEDUNGKANDANG	10.397	5,59%	1.315	2,84	463
9	SAWOJAJAR	25.602	13,76%	3.239	2	1620
10	MADYOPURO	19.566	10,52%	2.476	3,62	684
11	LESANPURO	18.962	10,19%	2.399	3,37	712
12	CEMOROKANDANG	12.416	6,67%	1.571	4,91	320

LAMPIRAN 4

Tabulasi Data Penduduk Kota Malang Tiap Kecamatan

Tabulasi dilakukan ke tiap kecamatan untuk menentukan persamaan model peramalan linier, kuadratik dan eksponensial.

- Persamaan Linier: $Y_t = a + b.t$ dimana: $a = \frac{\sum Y_i}{n}$; $b = \frac{\sum Y_i.t_i}{\sum t^2}$
- Persamaan Kuadratik: $Y_t = a + b.t + c.t^2$ dimana: $a = \frac{\sum Y_i - (c.\sum t^2)}{n}$; $b = \frac{\sum Y_i.t_i}{\sum t^2}$
 $c = \frac{n(\sum Y_i.t^2) - \sum t^2.\sum Y_i}{n.\sum t^4 - (\sum t^2)^2}$
- Persamaan Eksponensial: $Y_t = a.b^t$ dimana: $a = 10^{(\sum \log Y_i/n)}$
 $b = 10^{(\sum \log Y_i.t / \sum t^2)}$

Kecamatan Blimbing

Tahun	yi	ti	yi.ti	ti^2	yi.ti^2	ti^4	log yi	log yi .ti
2010	172.333	-3	-516.999	9	1.550.997	81	5,2364	-15,7091
2011	173.203	-2	-346.406	4	692.812	16	5,2386	-10,4771
2012	188.314	-1	-188.314	1	188.314	1	5,2749	-5,2749
2013	187.001	1	187.001	1	187.001	1	5,2718	5
2014	191.631	2	383.262	4	766.524	16	5,2825	10,5649
2015	193.179	3	579.537	9	1.738.611	81	5,2860	15,8579
Jumlah	1.105.661	0	98.081	28	5.124.259	196	31,5901	0,2336

Kecamatan Klojen

Tahun	yi	ti	yi.ti	ti^2	yi.ti^2	ti^4	log yi	log yi .ti
2010	105.907	-3	-317.721	9	953.163	81	5,0249	-15,0748
2011	102.270	-2	-204.540	4	409.080	16	5,0097	-10,0195
2012	110.700	-1	-110.700	1	110.700	1	5,0441	-5,0441
2013	107.729	1	107.729	1	107.729	1	5,0323	5
2014	109.000	2	218.000	4	436.000	16	5,0374	10,0749
2015	109.386	3	328.158	9	984.474	81	5,0390	15,1169
Jumlah	644.992	0	20.926	28	3.001.146	196	30,1875	0,0857

Kecamatan Kedung Kandang

Tahun	yi	ti	yi.ti	ti^2	yi.ti^2	ti^4	log yi	log yi .ti
2010	174.477	-3	-523.431	9	1.570.293	81	5,2417	-15,7252
2011	178.546	-2	-357.092	4	714.184	16	5,2518	-10,5035
2012	193.779	-1	-193.779	1	193.779	1	5,2873	-5,2873
2013	194.071	1	194.071	1	194.071	1	5,2880	5
2014	199.506	2	399.012	4	798.024	16	5,3000	10,5999
2015	202.252	3	606.756	9	1.820.268	81	5,3059	15,9177
Jumlah	1.142.631	0	125.537	28	5.290.619	196	31,6746	0,2895

Kecamatan Sukun

Tahun	yi	ti	yi.ti	ti ²	yi.ti ²	ti ⁴	log yi	log yi .ti
2010	181.531	-3	-544.593	9	1.633.779	81	5,2590	-15,7769
2011	183.496	-2	-366.992	4	733.984	16	5,2636	-10,5273
2012	191.255	-1	-191.255	1	191.255	1	5,2816	-5,2816
2013	193.310	1	193.310	1	193.310	1	5,2863	5
2014	198.241	2	396.482	4	792.964	16	5,2972	10,5944
2015	200.720	3	602.160	9	1.806.480	81	5,3026	15,9078
Jumlah	1.148.553	0	89.112	28	5.351.772	196	31,6902	0,2027

Kecamatan Lowokwaru

Tahun	yi	ti	yi.ti	ti ²	yi.ti ²	ti ⁴	log yi	log yi .ti
2010	186.013	-3	-558.039	9	1.674.117	81	5,2695	-15,8086
2011	188.034	-2	-376.068	4	752.136	16	5,2742	-10,5485
2012	161.204	-1	-161.204	1	161.204	1	5,2074	-5,2074
2013	162.591	1	162.591	1	162.591	1	5,2111	5
2014	166.633	2	333.266	4	666.532	16	5,2218	10,4435
2015	168.179	3	504.537	9	1.513.611	81	5,2258	15,6773
Jumlah	1.032.654	0	-94.917	28	4.930.191	196	31,4098	-0,2325

LAMPIRAN 5**Perhitungan Parameter Persamaan Model Trend Tiap Kecamatan**

Parameter	Blimbing	Klojen	Kedung Kandang	Sukun	Lowokwaru	
$\sum Y$	1.105.661	644.992	1.142.631	1.148.553	1.032.654	
$\sum t.Y$	98.081	20.926	125.537	89.112	-94.917	
$\sum t^2$	28	28	28	28	28	
$\sum yi.t^2$	5.124.259	3.001.146	5.290.619	5.351.772	4.930.191	
$\sum t^4$	196	196	196	196	196	
$\sum \log yi$	31,5901	30,1875	31,6746	31,6902	31,4098	
$\sum \log yi.ti$	0,2336	0,0857	0,2895	0,2027	-0,2325	
n	6	6	6	6	6	
Linier	a	184.277	107.499	190.439	191.426	172.109
	b	3502,89	747,35	4483,46	3182,57	-3389,89
Kuadratik	a	186.812	108.128	193.414	192.007	164.171
	b	3502,89	747,35	4483,46	3182,57	-3389,89
	c	-543,25	-134,95	-637,64	-124,62	1.701,11
Eksponensial	a	184.083	107.462	190.152	191.296	171.777
	b	1,0194	1,0071	1,0241	1,0168	0,9811

LAMPIRAN 6

Tabulasi Ketepatan Forecasting Trend Linier

Setelah mendapatkan persamaan setiap model peramalan, kemudian menguji persamaan tersebut dengan mencari nilai *error* model peramalan pada setiap kecamatan.

$$\text{Nilai error } (e) = Y_t - Y_i$$

$$\text{Nilai Mean Square Error} = e^2$$

Kecamatan Blimbing

Waktu	Yi Blimbing	ti	a	b	Yt Linier	e	e ²
2010	172.333	-3	184.277	3502,893	173.768	-1.435	2.059.669
2011	173.203	-2	184.277	3502,893	177.271	-4.068	16.549.011
2012	188.314	-1	184.277	3502,893	180.774	7.540	56.852.498
2013	187.001	1	184.277	3502,893	187.780	-779	606.414
2014	191.631	2	184.277	3502,893	191.283	348	121.369
2015	193.179	3	184.277	3502,893	194.786	-1.607	2.580.881
Σ	1.105.661	0	-	-	1.105.661	0	78.769.843

Kecamatan Klojen

Waktu	Yi Klojen	ti	a	b	Yt Linier	e	e ²
2010	105.907	-3	107.499	747,3571	105.257	650	423.026
2011	102.270	-2	107.499	747,3571	106.004	-3.734	13.942.400
2012	110.700	-1	107.499	747,3571	106.751	3.949	15.592.156
2013	107.729	1	107.499	747,3571	108.246	-517	267.314
2014	109.000	2	107.499	747,3571	108.993	7	44
2015	109.386	3	107.499	747,3571	109.741	-355	125.839
Σ	644.992	0	-	-	644.992	0	30.350.780

Kecamatan Kedung Kandang

Waktu	Yi Kedung Kandang	ti	a	b	Yt Linier	e	e ²
2010	174.477	-3	190.439	3182,571	180.891	-6.414	41.136.647
2011	178.546	-2	190.439	3182,571	184.073	-5.527	30.551.677
2012	193.779	-1	190.439	3182,571	187.256	6.523	42.550.461
2013	194.071	1	190.439	3182,571	193.621	450	202.436
2014	199.506	2	190.439	3182,571	196.804	2.702	7.302.734
2015	202.252	3	190.439	3182,571	199.986	2.266	5.133.785
Σ	1.142.631	0	-	-	1.142.631	0	126.877.740

Kecamatan Sukun

Waktu	Yi Sukun	ti	a	b	Yt Linier	e	e ²
2010	181.531	-3	191.426	3182,571	181.878	-347	120.260
2011	183.496	-2	191.426	3182,571	185.060	-1.564	2.447.213
2012	191.255	-1	191.426	3182,571	188.243	3.012	9.072.574
2013	193.310	1	191.426	3182,571	194.608	-1.298	1.684.989
2014	198.241	2	191.426	3182,571	197.791	450	202.822
2015	200.720	3	191.426	3182,571	200.973	-253	64.117
Σ	1.148.553	0	-	-	1.148.553	0	13.591.976

Kecamatan Lowokwaru

Waktu	Yi Lowokwaru	ti	a	b	Yt Linier	e	e ²
2010	186.013	-3	172.109	-3389,89	182.279	3.734	13.945.157
2011	188.034	-2	172.109	-3389,89	178.889	9.145	83.634.944
2012	161.204	-1	172.109	-3389,89	175.499	-14.295	204.343.962
2013	162.591	1	172.109	-3389,89	168.719	-6.128	37.553.697
2014	166.633	2	172.109	-3389,89	165.329	1.304	1.699.857
2015	168.179	3	172.109	-3389,89	161.939	6.240	38.933.589
Σ	1.032.654	0	-	-	1.032.654	0	380.111.206



LAMPIRAN 7
Tabulasi Ketepatan Forecasting Trend Kuadratik

Kecamatan Blimbing

Waktu	Yi Blimbing	ti	a	b	c	Yt Kuadratik	e	e ²
2010	172.333	-3	186.812	3502,893	-543,25	171.414	919	844.430
2011	173.203	-2	186.812	3502,893	-543,25	177.633	-4.430	19.626.799
2012	188.314	-1	186.812	3502,893	-543,25	182.766	5.548	30.781.889
2013	187.001	1	186.812	3502,893	-543,25	189.772	-2.771	7.676.462
2014	191.631	2	186.812	3502,893	-543,25	191.645	-14	190
2015	193.179	3	186.812	3502,893	-543,25	192.431	748	558.863
Σ	1.105.661	0	-	-	-	1.105.661	0	59.488.632

Kecamatan Klojen

Waktu	Yi Klojen	ti	a	b	c	Yt Kuadratik	e	e ²
2010	105.907	-3	108.128	747,3571	-134,95	104.672	1.235	1.525.679
2011	102.270	-2	108.128	747,3571	-134,95	106.094	-3.824	14.622.352
2012	110.700	-1	108.128	747,3571	-134,95	107.246	3.454	11.929.270
2013	107.729	1	108.128	747,3571	-134,95	108.741	-1.012	1.023.814
2014	109.000	2	108.128	747,3571	-134,95	109.083	-83	6.947
2015	109.386	3	108.128	747,3571	-134,95	109.156	230	52.919
Σ	644.992	0	-	-	-	644.992	0	29.160.980

Kecamatan Kedung Kandang

Waktu	Yi Kedung Kandang	ti	a	b	c	Yt Kuadratik	e	e ²
2010	174.477	-3	193.414	4483,464	-637,64	174.225	252	63.499
2011	178.546	-2	193.414	4483,464	-637,64	181.897	-3.351	11.226.944
2012	193.779	-1	193.414	4483,464	-637,64	188.293	5.486	30.095.748
2013	194.071	1	193.414	4483,464	-637,64	197.260	-3.189	10.169.526
2014	199.506	2	193.414	4483,464	-637,64	199.831	-325	105.313
2015	202.252	3	193.414	4483,464	-637,64	201.126	1.126	1.268.336
Σ	1.142.631	0	-	-	-	1.142.631	0	52.929.366

Kecamatan Sukun

Waktu	Yi Sukun	ti	a	b	c	Yt Kuadratik	e	e ²
2010	181.531	-3	192.007	3182,571	-124,62	181.338	193	37.344
2011	183.496	-2	192.007	3182,571	-124,62	185.143	-1.647	2.714.055
2012	191.255	-1	192.007	3182,571	-124,62	188.700	2.555	6.528.651
2013	193.310	1	192.007	3182,571	-124,62	195.065	-1.755	3.080.097
2014	198.241	2	192.007	3182,571	-124,62	197.874	367	134.891
2015	200.720	3	192.007	3182,571	-124,62	200.433	287	82.264
Σ	1.148.553	0	-	-	-	1.148.553	0	12.577.300

Kecamatan Lowokwaru

Waktu	Yi Lowokwaru	ti	a	b	c	Yt Kuadratik	e	e ²
2010	186.013	-3	164.171	-3389,89	1.701,11	189.650	-3.637	13.228.808
2011	188.034	-2	164.171	-3389,89	1.701,11	177.755	10.279	105.663.715
2012	161.204	-1	164.171	-3389,89	1.701,11	169.262	-8.058	64.923.306
2013	162.591	1	164.171	-3389,89	1.701,11	162.482	109	11.943
2014	166.633	2	164.171	-3389,89	1.701,11	164.195	2.438	5.943.147
2015	168.179	3	164.171	-3389,89	1.701,11	169.311	-1.132	1.280.939
Σ	1.032.654	0	-	-	-	1.032.654	0	191.051.859



LAMPIRAN 8
Tabulasi Ketepatan Forecasting Trend Eksponensial

Kecamatan Blimbing

Waktu	Yi Blimbing	ti	a	b	Yt Eksponensial	e	e ²
2010	172.333	-3	184.083	1,0194	173.776	-1.443	2.081.071
2011	173.203	-2	184.083	1,0194	177.145	-3.942	15.543.154
2012	188.314	-1	184.083	1,0194	180.581	7.733	59.803.633
2013	187.001	1	184.083	1,0194	187.652	-651	424.241
2014	191.631	2	184.083	1,0194	191.291	340	115.377
2015	193.179	3	184.083	1,0194	195.001	-1.822	3.319.265
Σ	1.105.661	0	-	-	1.105.446	215	81.286.742

Kecamatan Klojen

Waktu	Yi Klojen	ti	a	b	Yt Eksponensial	e	e ²
2010	105.907	-3	107.462	1,0071	105.216	691	478.138
2011	102.270	-2	107.462	1,0071	105.959	-3.689	13.610.520
2012	110.700	-1	107.462	1,0071	106.708	3.992	15.934.306
2013	107.729	1	107.462	1,0071	108.222	-493	243.140
2014	109.000	2	107.462	1,0071	108.987	13	167
2015	109.386	3	107.462	1,0071	109.757	-371	137.970
Σ	644.992	0	-	-	644.850	142	30.404.242

Kecamatan Kedung Kandang

Waktu	Yi Kedung Kandang	ti	a	b	Yt Eksponensial	e	e ²
2010	174.477	-3	190.152	1,0241	177.043	-2.566	6.586.367
2011	178.546	-2	190.152	1,0241	181.309	-2.763	7.635.781
2012	193.779	-1	190.152	1,0241	185.678	8.101	65.626.533
2013	194.071	1	190.152	1,0241	194.734	-663	439.151
2014	199.506	2	190.152	1,0241	199.426	80	6.426
2015	202.252	3	190.152	1,0241	204.231	-1.979	3.916.624
Σ	1.142.631	0	-	-	1.142.421	210	84.210.883

Kecamatan Sukun

Waktu	Yi Sukun	ti	a	b	Yt Eksponensial	e	e ²
2010	181.531	-3	191.296	1,0168	181.965	-434	188.214
2011	183.496	-2	191.296	1,0168	185.023	-1.527	2.332.841
2012	191.255	-1	191.296	1,0168	188.133	3.122	9.745.010
2013	193.310	1	191.296	1,0168	194.511	-1.201	1.442.088
2014	198.241	2	191.296	1,0168	197.780	461	212.268
2015	200.720	3	191.296	1,0168	201.105	-385	147.943
Σ	1.148.553	0	-	-	1.148.517	36	14.068.364

Kecamatan Lowokwaru

Waktu	Yi Lowokwaru	ti	a	b	Yt Eksponensial	e	e ²
2010	186.013	-3	171.777	0,9811	181.920	4.093	16.755.460
2011	188.034	-2	171.777	0,9811	178.474	9.560	91.397.495
2012	161.204	-1	171.777	0,9811	175.093	-13.889	192.910.051
2013	162.591	1	171.777	0,9811	168.523	-5.932	35.187.619
2014	166.633	2	171.777	0,9811	165.331	1.302	1.695.695
2015	168.179	3	171.777	0,9811	162.199	5.980	35.758.349
Σ	1.032.654	0	-	-	1.031.540	1.114	373.704.670

LAMPIRAN 9
Existing Sites Kota Malang

No	Pemilik	Lokasi	Tinggi (m)	Koordinat		
				X	Y	Z (m)
I.	KECAMATAN KEDUNGKANDANG					
1	PT. Nurama Indotama	Jl. Raya Tutut Arjowinangun	52	0681019	9111080	451,00
2	PT.Natrindo	Jl. Ki Ageng Gribig	42	0682420	9116752	458,00
3	PT.Telkomsel	Jl. Wisnu Wardana	72	0684285	9118470	484,00
4	Identitas Tidak Ada	Jl. Raya Madyopuro	22	0684396	9118146	470,00
5	PT. Indosat Tbk	Jl. Ki Ageng gribig (Komplek Makam)	40	0684211	9118655	488,00
6	PT. Indosat Tbk	Jl. Wisnu Wardhana No.50	40	0683540	9117358	456,00
7	PT. Telkomsel	Jl. Sentani	72	0683259	9117538	463,00
8	PT. Telkomsel	Jl. Simpang Abd.Qodir.J	42	0681994	9116900	463,00
9	PT. Telkomsel (tower bersama)	Jl. Raya Sawojajar	62	0682430	9118201	487,00
10	PT. Indosat Tbk	Jl. Buring Satelit	40	0685011	9115371	607,00
11	Identitas Tidak Ada	Ds Baran Tempuran	70	0684919	9115332	607,00
12	Siemen (PT. Hutchison Telecom Indonesia)	Bumi ayu	45	0680072	9113435	444,00

No	Pemilik	Lokasi	Tinggi (m)	Koordinat		
				X	Y	Z (m)
II.	KECAMATAN SUKUN					
1	PT. Hutchison Telecom Indonesia	Bakalan Krajan	45	0677047	9114953	479,00
2	PT. Satelit Palapa Indonesia	Jl. Muh.Rasid Mulyorejo	55	0675864	9117089	519,00
3	PT. Protelindo	Sukun Pondok Indah	72	0677410	9115246	452,00
4	PT.Telkomsel, PT. Armined	Jl. Raya Langsep No.2	42	0678124	9116990	468,00
5	PT. Satelindo	Tidar Dieng	40	0677670	9117849	489,00
6	Identitas Tidak Ada	Jl. Janti Selatan	32	0679102	9114503	409,00
7	Identitas Tidak Ada	Perempatan Dieng (Sebelah Toga Mas)	42	0677807	9118270	488,00
8	Esia	Jl. Bandulan	± 15	0677260	9117204	476,00
9	PT. Hutchison Telecom Indonesia	Karangbesuki	25	0676414	9119964	518,00
10	Identitas Tidak Ada	Jl.Ir. Rais 11	32	0678293	9117124	500,00
11	Identitas Tidak Ada	Jl. Arif Margono 36	25	0679040	9116957	469,00
12	Identitas Tidak Ada	Jl. S Supriyadi 62	62	0678471	9115658	470,00
13	Identitas Tidak Ada	Jl. Segawe RT.2/IV	32	0678443	9115187	472,00
14	Identitas Tidak Ada	Jl. Raya Janti Barat 16	32	0678592	9115220	464,00
15	Identitas Tidak Ada	Jl. Satsui Tubun 47	42	0678954	9112907	449,00
16	PT. Telkom Gadang	Jl. Kol. Sugiono 42	32	0679458	9113132	456,00
17	Identitas Tidak Ada	Jl. Kol. Sugiono depan STO Gadang	55	0679376	9113179	463,00
18	Identitas Tidak Ada	Jl. Gadang 17 A No.24 Gadang	22	0679646	9113810	464,00

No	Pemilik	Lokasi	Tinggi (m)	Koordinat		
				X	Y	Z (m)
III.	KECAMATAN KLOJEN					
1	PT.KAI	Jl. Trunojoyo	72	0680437	9117651	471,00
2	PT.Telkomsel	Jl. Basuki Rahmat no.100	40	0679684	9117575	473,00
3	TK FATAYAT NU IV	Jl. Basuki Rahmat II 872 B	35	0679586	9117571	497,00
4	Identitas Tidak Ada	Jl. Merdeka	42	0679758	9117092	460,00
5	Radio Mas FM 104,5	Jl. Dr.Cipto	72	0680276	9118800	490,00
6	Hotel Regent Park	Jl. JA Suprato	42	0679956	9118711	499,00
7	Galeri Indosat	Jl. JA Suprato	42	0679905	9118679	501,00
8	Museum Brawijaya	Jl. Kawi	62	0678641	9118504	494,00
9	Museum Brawijaya	Jl. Kawi	42	0678641	9118509	508,00
10	PT.Satelite Palapa Indonesia	Jl. Bandung	40	0678694	9119516	499,00
11	Identitas Tidak Ada	Jl. Brigjend Slamaet Riadi Gg.VII	32	0678959	9119649	503,00
12	Hotel Kartika	Jl. JA. Soprpto	42	0679713	9118272	499,00
13	PT. Telkomsel	Kaliurang Barat RT.04 RW.04 Samaan	42	0679559	9119656	501,00
14	PT. Excelmindo Pratama	Kuburan Samaan	32	0679424	9119825	505,00
15	PT. Hutchison Telecom Indonesia	Bareng Tengah VF 5F Disamping Masjid	32	0678558	9117704	484,00
16	Identitas Tidak Ada	Jl. Tenes (MOG)	42	0678903	9117967	481,00
17	Radio Masjid Jami'	Jl.Depan Alun-alun Kota Malang	40	0679635	9117300	474,00
18	Identitas Tidak Ada	Pasar Besar	32	0679931	9116645	476,00
19	Identitas Tidak Ada	Jl. Muh.Yamin	32	0679868	9116488	470,03
20	PT. Telepon Seluler	Jl. Brawijaya 1 A	36	0679761	9117801	461,00
21	Identitas Tidak Ada	Jl. Janti Timur 48	53	0679262	9115103	459,00

No	Pemilik	Lokasi	Tinggi (m)	Koordinat		
				X	Y	Z (m)
IV.	KECAMATAN BLIMBING					
1	Identitas Tidak Ada	Jl. Natrium	35	0681599	9119980	489,00
2	Indosat	Jl. Karya Timur	75	0681376	9120971	485,00
3	Identitas Tidak Ada	Jl. Batubara	62	0682147	9120893	500,00
4	Identitas Belum ada	Jl. Kalimosodo VIII	42	0681809	9117277	462,00
5	PT.Satelindo	Jl. Wirote Kel.Polehan	40	0681838	9118040	450,00
6	Mujiono (Pemilik Tanah)	Jl. Wirote VII (pinggir sungai)	45	0681915	9117855	466,00
7	PT.Telkomsel	Jl. Kunta Bhaswara	42	0681668	9117853	476,00
8	PT.Telkomsel	Jl. Kunta Bhaswara	72	0681668	9117853	476,00
9	Indocabin Prima	Jl. Ters.Teluk Pacitan	52	0683239	9122430	19,00
10	PT.Isopanel Dunia (Telkomsel)	Jl. Teluk bayur	62	0683320	9121783	445,00
11	PT.Damawiba Engineering	Perum Pondok Indah	22	0683102	9121055	475,00
12	PT.Indosatelit Satelit Corp (Indosat)	Jl. Ters. Grajakan	42	0682738	9121088	474,00

13	PT.Hutchison Telecom Indonesia	Jl. LA.Sucipto	35	0682325	9121357	497,00
14	PT.Damawiba Engineering	Jl. Panji Suroso	22	0681764	9121819	500,00
15	PT.Natrindo Telepon Seluler	Jl. Panji Suroso .6	52	0681736	9122895	504,00
16	Radio FM No.3 Malang Kucecwara	Jl. Ters.Candi Kalasan	62	0681816	9122910	496,00
17	PT.Damawiba Engineering	Jl. Polowijen II	75	0681447	9123346	508,00
18	PT.Indosatelit Satelit Corp	JL. Cakalang Kav.AURI Polowijen	40	0681448	9123345	502,00
19	PT.Natrindo Telepon Seluler	Jl. Lapangan Tenaga	62	0681001	9121519	502,00
20	PT.Damawiba Engineering	Jl. Letjen S Parman I	62	0680944	9121010	484,00
21	PT. Telkom Blimbing	Jl. Letjend. S.Parman	62	0680597	9120292	472,00
22	PT.Damawiba Engineering	Jl. Sulfat	75	0681615	9119850	478,00
23	PT.Bukaka Teknik Utama	Jl. Sulfat	35	0681582	9119890	478,00
24	PT.Bukaka Teknik Utama	Jl. Sulfat Indah	35	0682174	9119652	477,00
25	PT.Damawiba Engineering	Jl. Simpang Sulfat Utara 64	35	0682508	9119859	454,00
26	Radio Cakra Bhirawa	Jl.Simpang Alumunium No.12	60	0681489	9120364	466,00
27	Identitas Tidak Ada	Jl. Raden Intan Dibelakang Panoram Arjosari	32	0682761	9122836	484,00
28	Identitas Tidak Ada	Jl Untung Suropati No 1	32	0680753	9117359	463,00
29	Identitas Tidak Ada	Jl. Melati	72	0679906	9120007	464,00
30	Telkomsel	Jl.Lowok Suruh	42	0683214	9120282	482,00
31	PT. Hutchison Telecom Indonesia	Jl.Kresno 5 RT/RW :2/3 Polehan	45	0681325	9116808	461,00
32	Identitas Tidak Ada	Jl. Sadewo	32	0681377	9116708	455,00
33	Identitas Tidak Ada	Jl. Letjend. Sutoyo 59	20	0680320	9119550	470,00

No	Pemilik	Lokasi	Tinggi (m)	Koordinat		
				X	Y	Z (m)
V.	KECAMATAN LOWOKWARU					
1	PT.Telkomsel	Belakang UIN Malang	42	0676965	9120993	525,00
2	Identitas Tidak Ada	Jl. Sudimoro	75	0679535	9122470	517,00
3	PT. Hutchison Telecom Indonesia	Tulusrejo	35	0679022	9121594	511,00
4	PT.Natrindo Telepon Seluler	Perum Griya Santha	42	0679151	9121631	517,00
5	PT. Indosat Tbk	JL. Joyosuko I	22	0676812	9121403	515,00
6	Identitas Tidak Ada	Jl. Simpang Gajayana 6 II A	43	0677394	9121321	526,00
7	PT. Hutchison Telecom Indonesia	Jl. Mertojoyo Selatan Gg.II	35	0676911	9121364	526,00
8	PT. Hutchison Telecom Indonesia	Tlogomas	35	0676697	9122272	545,00
9	PT.Satelite palapa Indonesia	Tlogomas	40	0677281	9122458	519,00
10	PT. Radio Andalus 91,80 FM	Tlogomas	75	0676842	9123000	565,00
11	PT.Telkomsel	Jl. Pinang Merah , Sukarno Hatta	32	0678444	9120950	532,00

12	PT. Nurama Indontama	Jl. Sukarno Hatta 9 (dalam Politeknik UB)	42	0678022	9121443	530,00
13	PT. Satellite Palapa Indonesia	Lowokwaru	55	0678162	9121872	534,00
14	Identitas Tidak Ada	Dsn. Kasur Tasikmadu	35	0679692	9124553	530,00
15	PT. Telkomsel	Jl. Sunan Kalijaga dalam	32	0676968	9120993	525,00
16	PT. Telkomsel	Jl. Surabaya	35	0678160	9119287	505,00
17	PT. Hutchison Telecom Indonesia	JL. Bendungan Nawangan	35	0677543	9119504	498,00
18	PT. Telkomsel	Jl. Veteran (UM)	72	0678485	9119839	496,00
19	Identitas Tidak Ada	UNIGA	52	0676568	9121998	551,00
20	PT. Indomitra Global	Jl. Kenanga Indah	42	0677530	9122579	542,00
21	Identitas Tidak Ada	Jl Soekarno Hatta A6	15	0679811	9122051	510,00

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