

## LAMPIRAN

### LAMPIRAN 1 : Tabel Bilitan Stator

– Alignment Doublecise 1 hubung singkat dan level 1-3

| DB 1     | level 1 |        |         | level 2 |        |         | level 3 |        |         |
|----------|---------|--------|---------|---------|--------|---------|---------|--------|---------|
|          | bilitan | sum    | range   | energi  | sum    | range   | energi  | sum    | range   |
| 0-10(1)  | 2,0251  | 0,7702 | 10,3820 | 0,1717  | 1,0590 | 17,1348 | 0,2185  | 1,2910 | 31,1329 |
| 0-10(2)  | 0.3018  | 0.7817 | 10.3506 | 1.1694  | 1.0799 | 12.3933 | 1.1896  | 1.3782 | 33.1172 |
| 0-10(3)  | 0.3942  | 0.7160 | 10.6551 | 1.4892  | 1.0523 | 13.3263 | 1.4834  | 1.3953 | 31.8313 |
| 0-10(4)  | 2.1184  | 0.7046 | 10.1620 | 2.3328  | 1.0199 | 13.5130 | 1.8628  | 1.3663 | 31.3104 |
| 0-10(5)  | 0.6636  | 0.8607 | 10.6664 | 0.5662  | 1.1566 | 15.1368 | 0.3746  | 1.4134 | 31.2793 |
| 0-10(6)  | 1.0597  | 0.8264 | 10.6354 | 1.8925  | 0.8496 | 12.2478 | 0.9526  | 1.4029 | 29.4455 |
| 0-10(7)  | 2.0270  | 0.7636 | 11.1291 | 0.2161  | 1.0738 | 12.6221 | 1.2858  | 1.4020 | 31.2249 |
| 0-10(8)  | 1.5672  | 0.6969 | 10.4395 | 0.8388  | 1.1122 | 13.2336 | 0.4275  | 1.2306 | 31.0883 |
| 0-10(9)  | 0.2361  | 0.7055 | 10.0812 | 1.2805  | 1.0785 | 13.7283 | 0.0324  | 1.1896 | 30.5169 |
| 0-10(10) | 0.9721  | 0.8179 | 9.4937  | 1.9019  | 1.1357 | 16.7267 | 2.3455  | 1.2968 | 31.2425 |
| 0-10(11) | 0.6055  | 0.8121 | 10.3966 | 2.2621  | 1.0570 | 16.5707 | 0.2913  | 1.2777 | 30.7426 |
| 0-10(12) | 0.9816  | 0.9035 | 10.4615 | 0.2619  | 1.0428 | 15.1201 | 0.3118  | 1.3139 | 30.1899 |
| 0-10(13) | 2.4983  | 0.7426 | 11.4909 | 1.6750  | 1.0119 | 13.7403 | 4.1559  | 1.3329 | 31.8096 |
| 0-10(14) | 1.8309  | 0.7874 | 10.5101 | 0.8180  | 1.1256 | 14.5253 | 2.0799  | 1.3015 | 32.6687 |
|          |         |        |         |         |        |         |         |        |         |
| 5-25(1)  | 1.1149  | 0.9102 | 12.0366 | 0.2646  | 1.2509 | 17.7813 | 3.2595  | 1.6257 | 35.7351 |
| 5-25(2)  | 0.6874  | 0.8007 | 12.9336 | 0.4915  | 1.1512 | 17.6018 | 2.1546  | 1.6452 | 36.9113 |
| 5-25(3)  | 3.5285  | 0.8655 | 12.8285 | 0.9304  | 1.1384 | 15.7817 | 4.1549  | 1.5181 | 35.7159 |
| 5-25(4)  | 3.6837  | 0.8807 | 12.5967 | 0.5406  | 1.3330 | 16.8492 | 3.2328  | 1.7842 | 36.2740 |
| 5-25(5)  | 4.4234  | 0.8074 | 12.6388 | 2.2338  | 1.0065 | 15.1988 | 2.2622  | 1.7633 | 36.3109 |
| 5-25(6)  | 0.0609  | 0.7360 | 11.2499 | 0.1831  | 1.1613 | 15.8312 | 1.4900  | 1.4696 | 34.4791 |
| 5-25(7)  | 1.7928  | 0.7541 | 12.5434 | 1.1910  | 1.0873 | 15.5525 | 0.0424  | 1.5186 | 33.0384 |
| 5-25(8)  | 1.0521  | 0.7960 | 12.4088 | 0.4975  | 1.0610 | 15.6091 | 0.1719  | 1.5486 | 38.7016 |
| 5-25(9)  | 0.6503  | 0.8140 | 12.0332 | 1.6986  | 1.1364 | 15.8866 | 0.9535  | 1.6762 | 35.5553 |
| 5-25(10) | 1.7557  | 0.7560 | 12.4244 | 2.2594  | 1.0920 | 16.6917 | 0.1961  | 1.5795 | 39.0055 |
| 5-25(11) | 0.3494  | 0.7112 | 12.2388 | 0.2632  | 1.0348 | 14.5503 | 0.8964  | 1.4300 | 34.3683 |
| 5-25(12) | 1.1339  | 0.8455 | 11.4469 | 1.2637  | 1.0173 | 15.4133 | 1.1116  | 1.4953 | 35.4649 |
|          |         |        |         |         |        |         |         |        |         |
| 10-25(1) | 1.5795  | 0.6693 | 11.8796 | 1.8305  | 1.2509 | 16.7725 | 0.2061  | 1.3758 | 30.8775 |
| 10-25(2) | 1.9451  | 0.8588 | 13.1882 | 1.1182  | 1.2610 | 16.8251 | 0.9878  | 1.4324 | 32.2843 |
| 10-25(3) | 0.6322  | 0.8245 | 11.4274 | 0.3972  | 1.2064 | 17.6504 | 0.8883  | 1.4167 | 32.2345 |
| 10-25(4) | 0.2199  | 0.7141 | 11.4127 | 1.0536  | 1.3593 | 17.4395 | 2.9520  | 1.5843 | 41.2764 |
| 10-25(5) | 3.2600  | 0.9235 | 12.4466 | 1.6790  | 1.1425 | 15.5784 | 1.4005  | 1.4648 | 32.6244 |
| 10-25(6) | 3.9512  | 0.9283 | 12.6691 | 2.7360  | 1.1418 | 17.6232 | 0.8397  | 1.8552 | 35.2123 |
| 10-25(7) | 1.2720  | 0.8102 | 12.3236 | 0.9035  | 1.1755 | 17.4942 | 1.1939  | 1.6738 | 34.9682 |
| 10-25(8) | 1.9080  | 0.9150 | 11.7343 | 1.4959  | 1.1741 | 16.0097 | 0.3637  | 1.4505 | 28.5843 |

|           |        |        |         |        |        |         |        |        |         |
|-----------|--------|--------|---------|--------|--------|---------|--------|--------|---------|
| 10-25(9)  | 2.5212 | 1.0216 | 13.5036 | 3.0821 | 1.1263 | 16.9995 | 0.9940 | 1.7519 | 40.7412 |
| 10-25(10) | 1.3634 | 0.8569 | 13.0835 | 1.8622 | 1.1862 | 18.0711 | 2.3498 | 1.3458 | 30.1757 |
| 10-25(11) | 1.8214 | 0.8036 | 12.6769 | 0.9688 | 0.9681 | 15.4976 | 2.4283 | 1.4815 | 34.3454 |
|           |        |        |         |        |        |         |        |        |         |
| 0-25(1)   | 1.3425 | 0.6931 | 10.4162 | 1.0125 | 1.0321 | 14.2695 | 0.7664 | 1.8066 | 37.2516 |
| 0-25(2)   | 0.5360 | 0.7226 | 10.2483 | 0.4989 | 0.9459 | 14.8781 | 0.9907 | 1.8514 | 37.1955 |
| 0-25(3)   | 0.1742 | 0.8255 | 10.0169 | 0.6739 | 0.9701 | 15.3709 | 1.0116 | 1.6252 | 38.7282 |
| 0-25(4)   | 0.2104 | 0.7741 | 11.0591 | 0.8153 | 0.9748 | 16.4671 | 2.7368 | 1.8399 | 36.8770 |
| 0-25(5)   | 2.6211 | 0.7398 | 10.8667 | 2.1510 | 0.9560 | 14.9430 | 2.4312 | 1.6804 | 39.1607 |
| 0-25(6)   | 0.4303 | 0.8531 | 10.2228 | 1.6562 | 1.1142 | 15.5742 | 1.1606 | 1.7561 | 37.2859 |
| 0-25(7)   | 2.1870 | 0.7960 | 10.8312 | 0.3427 | 0.9957 | 15.7690 | 0.3689 | 1.7376 | 39.5979 |
| 0-25(8)   | 0.2076 | 0.7626 | 11.1951 | 2.0641 | 1.1122 | 14.4534 | 1.4539 | 1.6643 | 36.5904 |
| 0-25(9)   | 0.3599 | 0.7303 | 11.2255 | 0.0660 | 1.1182 | 14.8751 | 4.1835 | 1.7376 | 36.4637 |
| 0-25(10)  | 1.6595 | 0.6865 | 10.1607 | 0.4275 | 1.0105 | 14.6603 | 0.2680 | 1.7242 | 36.9865 |
| 0-25(11)  | 1.2844 | 0.7474 | 11.2674 | 0.8988 | 1.0240 | 14.9707 | 1.6676 | 1.8699 | 38.7656 |

– Alignment Doublecise 2 hubung singkat dan level 1-3

| DB 2     | LEVEL 1 |        |         | LEVEL 2 |        |        | LEVEL 3 |        |        |
|----------|---------|--------|---------|---------|--------|--------|---------|--------|--------|
|          | SUM     | RANGE  | ENERGI  | SUM     | RANGE  | ENERGI | SUM     | RANGE  | ENERGI |
| 0-10(1)  | 2.0309  | 0.7017 | 8.6770  | 0.8551  | 0.7561 | 6.9152 | 0.6108  | 0.6571 | 3.5813 |
| 0-10(2)  | 0.3013  | 0.7139 | 8.3805  | 1.6616  | 0.9484 | 7.1482 | 0.4522  | 0.5825 | 3.0354 |
| 0-10(3)  | 0.3812  | 0.6467 | 8.4787  | 1.5925  | 0.9112 | 7.8508 | 1.7717  | 0.5386 | 2.2867 |
| 0-10(4)  | 2.1291  | 0.7234 | 8.6557  | 2.1667  | 0.8072 | 6.3316 | 0.3434  | 0.5811 | 3.4458 |
| 0-10(5)  | 0.6687  | 0.7062 | 8.9774  | 0.6040  | 0.8985 | 6.9068 | 0.3973  | 0.6510 | 2.9850 |
| 0-10(6)  | 1.0506  | 0.7063 | 8.4729  | 1.2423  | 0.8735 | 6.8620 | 0.0704  | 0.6288 | 3.2456 |
| 0-10(7)  | 2.0231  | 0.6102 | 8.8100  | 0.4074  | 0.8088 | 6.3147 | 1.3971  | 0.6079 | 2.5566 |
| 0-10(8)  | 1.5321  | 0.7720 | 8.7943  | 0.0875  | 0.8154 | 6.0261 | 1.7656  | 0.5856 | 3.3028 |
| 0-10(9)  | 0.2035  | 0.7311 | 9.0167  | 1.8046  | 0.8286 | 6.4830 | 1.8801  | 0.7538 | 3.0905 |
| 0-10(10) | 0.8372  | 0.6689 | 8.2847  | 1.0988  | 0.8447 | 6.6575 | 3.1195  | 0.7182 | 3.5499 |
| 0-10(11) | 0.5649  | 0.6881 | 9.0214  | 2.3617  | 0.7965 | 7.4302 | 1.2859  | 0.6278 | 2.6883 |
| 0-10(12) | 0.9945  | 0.6674 | 8.7042  | 0.1008  | 0.8567 | 7.0810 | 2.7011  | 0.6610 | 2.7876 |
| 0-10(13) | 2.5978  | 0.6260 | 8.7502  | 0.8149  | 0.9590 | 6.7015 | 0.9541  | 0.7105 | 3.6624 |
| 0-10(14) | 1.8764  | 0.7676 | 8.1453  | 0.2555  | 0.8009 | 7.0342 | 1.7580  | 0.6245 | 3.0003 |
|          |         |        |         |         |        |        |         |        |        |
| 5-25(1)  | 1.0965  | 0.7079 | 9.9980  | 0.9235  | 0.8931 | 9.0203 | 2.7017  | 0.5978 | 3.5895 |
| 5-25(2)  | 0.6785  | 0.7065 | 10.5953 | 0.9129  | 0.9902 | 9.1387 | 0.2942  | 0.6420 | 3.4756 |
| 5-25(3)  | 3.4798  | 0.6803 | 10.1609 | 1.4084  | 0.9276 | 9.3057 | 3.5618  | 0.6254 | 3.3845 |
| 5-25(4)  | 3.6500  | 0.7905 | 10.7268 | 0.1198  | 0.9376 | 8.8159 | 2.8578  | 0.5910 | 3.3024 |
| 5-25(5)  | 4.4000  | 0.8024 | 10.0998 | 1.1067  | 0.9330 | 7.7658 | 3.0774  | 0.6110 | 3.6908 |
| 5-25(6)  | 0.0880  | 0.6960 | 8.9914  | 1.3102  | 0.9951 | 8.2256 | 1.2901  | 0.6296 | 3.4935 |
| 5-25(7)  | 1.8071  | 0.7143 | 9.9364  | 2.4149  | 1.0579 | 8.9288 | 0.7019  | 0.6171 | 3.7081 |
| 5-25(8)  | 1.0128  | 0.6448 | 10.3015 | 1.4869  | 0.8617 | 8.4391 | 0.4345  | 0.5936 | 3.2358 |
| 5-25(9)  | 0.6318  | 0.8081 | 9.7451  | 2.6729  | 0.9727 | 8.8859 | 1.3927  | 0.7072 | 3.9399 |
| 5-25(10) | 1.7819  | 0.7132 | 9.9157  | 1.9593  | 0.8983 | 7.9535 | 2.0298  | 0.8319 | 3.8442 |
| 5-25(11) | 0.3423  | 0.6929 | 9.8069  | 1.0685  | 0.8621 | 8.1660 | 1.8712  | 0.7510 | 3.9838 |

|           |        |        |         |        |        |        |        |        |        |
|-----------|--------|--------|---------|--------|--------|--------|--------|--------|--------|
| 5-25(12)  | 1.1216 | 0.7273 | 9.2985  | 2.4288 | 0.9101 | 8.0922 | 1.8770 | 0.7316 | 4.1034 |
| 10-25(1)  | 1.6562 | 0.6522 | 10.3809 | 1.8176 | 1.0432 | 9.2223 | 3.3975 | 0.6583 | 3.6503 |
| 10-25(2)  | 2.0271 | 0.7402 | 11.4720 | 0.3469 | 0.9365 | 8.7217 | 2.6888 | 0.8743 | 3.8479 |
| 10-25(3)  | 0.6400 | 0.7477 | 10.2830 | 0.0354 | 0.8205 | 8.8004 | 0.6447 | 0.6451 | 3.8139 |
| 10-25(4)  | 0.2066 | 0.6835 | 10.1070 | 1.7571 | 0.8124 | 8.6028 | 4.9719 | 0.7891 | 4.5856 |
| 10-25(5)  | 3.3189 | 0.8395 | 11.1391 | 2.8338 | 1.0397 | 9.7242 | 3.8983 | 0.7219 | 3.2189 |
| 10-25(6)  | 3.9812 | 0.7431 | 10.8052 | 2.6560 | 0.8527 | 9.0134 | 2.2083 | 0.5892 | 3.4603 |
| 10-25(7)  | 1.2824 | 0.7052 | 10.5321 | 1.6190 | 1.0142 | 9.4361 | 1.9270 | 0.6845 | 3.4542 |
| 10-25(8)  | 1.8906 | 0.7388 | 10.4825 | 0.8389 | 0.8846 | 8.2874 | 0.6461 | 0.6729 | 3.8911 |
| 10-25(9)  | 2.5519 | 0.8267 | 11.1046 | 0.3215 | 0.8947 | 9.8622 | 1.9117 | 0.6861 | 2.9491 |
| 10-25(10) | 1.4815 | 0.8050 | 11.3010 | 2.8799 | 0.9680 | 8.8728 | 2.7972 | 0.6872 | 3.9984 |
| 10-25(11) | 1.8874 | 0.7405 | 10.4330 | 0.4206 | 0.8615 | 8.1484 | 1.9346 | 0.7685 | 4.3309 |
| 0-25(1)   | 1.3491 | 0.5899 | 8.3755  | 0.3552 | 0.7990 | 6.1656 | 1.9465 | 0.6735 | 3.1983 |
| 0-25(2)   | 0.5446 | 0.6591 | 8.4101  | 0.8983 | 0.8360 | 6.1348 | 1.6874 | 0.6447 | 2.9840 |
| 0-25(3)   | 0.0240 | 0.7095 | 8.1163  | 1.7863 | 0.7560 | 6.0075 | 0.2821 | 0.6907 | 3.7740 |
| 0-25(4)   | 0.1655 | 0.7189 | 9.2441  | 0.7355 | 0.8005 | 6.3268 | 0.4710 | 0.6418 | 3.0321 |
| 0-25(5)   | 2.7588 | 0.6827 | 8.3774  | 1.4183 | 0.8084 | 6.6461 | 0.9198 | 0.5736 | 3.1137 |
| 0-25(6)   | 0.5153 | 0.6751 | 8.1574  | 1.4817 | 0.7465 | 6.2699 | 0.0567 | 0.6095 | 3.4181 |
| 0-25(7)   | 2.1933 | 0.7141 | 8.4651  | 0.0725 | 0.7450 | 6.4199 | 2.9572 | 0.6956 | 3.4934 |
| 0-25(8)   | 0.1870 | 0.6567 | 9.2264  | 2.1567 | 0.7468 | 6.2603 | 0.3653 | 0.5886 | 2.8700 |
| 0-25(9)   | 0.3460 | 0.6833 | 8.5158  | 0.8182 | 0.8462 | 7.0981 | 3.7896 | 0.6789 | 3.4019 |
| 0-25(10)  | 1.6309 | 0.5935 | 8.3629  | 0.4652 | 0.7546 | 6.0526 | 2.1494 | 0.6490 | 3.5388 |
| 0-25(11)  | 1.2382 | 0.7120 | 9.0021  | 1.3309 | 0.6167 | 5.2352 | 2.7657 | 0.6895 | 3.3726 |

*Alignment Doublecise 3 hubung singkat dan level 1-3*

| DB 3     | LEVEL 1 |        |        | LEVEL 2 |        |        | LEVEL 3 |        |        |
|----------|---------|--------|--------|---------|--------|--------|---------|--------|--------|
|          | SUM     | RANGE  | ENERGI | SUM     | RANGE  | ENERGI | SUM     | RANGE  | ENERGI |
| 0-10(1)  | 2.2169  | 0.7465 | 8.8235 | 1.6866  | 1.0126 | 6.8772 | 0.7457  | 0.6255 | 2.8932 |
| 0-10(2)  | 0.3524  | 0.6940 | 8.3606 | 1.6196  | 0.9529 | 6.9632 | 0.3943  | 0.6617 | 2.8395 |
| 0-10(3)  | 0.3538  | 0.7260 | 8.6005 | 1.2758  | 0.7584 | 7.2078 | 0.9071  | 0.6100 | 2.3810 |
| 0-10(4)  | 2.1395  | 0.6768 | 8.9641 | 1.3095  | 0.7602 | 6.7239 | 2.4617  | 0.5781 | 2.3740 |
| 0-10(5)  | 0.6400  | 0.7494 | 9.2796 | 0.5559  | 0.9217 | 6.6271 | 0.7007  | 0.5453 | 2.6499 |
| 0-10(6)  | 1.0500  | 0.6534 | 8.5577 | 0.3563  | 0.7954 | 6.4698 | 1.0490  | 0.6833 | 2.9097 |
| 0-10(7)  | 2.0346  | 0.6670 | 8.2965 | 0.4212  | 0.7727 | 6.1630 | 0.3124  | 0.6776 | 3.2012 |
| 0-10(8)  | 1.5802  | 0.7606 | 8.6251 | 0.7680  | 0.8551 | 6.2119 | 2.7760  | 0.5574 | 2.5862 |
| 0-10(9)  | 0.1206  | 0.8077 | 9.3988 | 2.0768  | 0.8173 | 5.9306 | 2.6774  | 0.6380 | 2.7033 |
| 0-10(10) | 0.8393  | 0.6983 | 9.0008 | 0.1793  | 0.7326 | 5.7543 | 0.6698  | 0.6494 | 3.0976 |
| 0-10(11) | 0.6818  | 0.6951 | 9.6526 | 2.2631  | 0.8280 | 6.2149 | 1.1495  | 0.6969 | 2.7093 |
| 0-10(12) | 1.0591  | 0.7255 | 9.0537 | 0.3465  | 0.9329 | 6.4793 | 3.1279  | 0.5771 | 2.7671 |
| 0-10(13) | 2.5656  | 0.6651 | 8.0906 | 0.0905  | 0.9059 | 7.4076 | 5.6446  | 0.6617 | 3.0359 |
| 0-10(14) | 1.9954  | 0.6738 | 8.1004 | 0.4522  | 0.7953 | 7.2516 | 0.2692  | 0.5314 | 2.7462 |

|           |        |        |         |        |        |        |        |        |        |
|-----------|--------|--------|---------|--------|--------|--------|--------|--------|--------|
|           |        |        |         |        |        |        |        |        |        |
| 5-25(1)   | 1.2166 | 0.6938 | 10.4351 | 1.0371 | 0.9371 | 8.8410 | 0.7808 | 0.6383 | 3.0805 |
| 5-25(2)   | 0.7294 | 0.7731 | 10.5623 | 1.1432 | 0.9550 | 8.6503 | 1.6189 | 0.7891 | 3.7701 |
| 5-25(3)   | 3.4966 | 0.7095 | 10.0818 | 1.5791 | 1.0030 | 9.2773 | 0.1904 | 0.5879 | 3.0032 |
| 5-25(4)   | 3.6456 | 0.7828 | 10.6181 | 0.2531 | 0.8289 | 8.3543 | 0.9628 | 0.6944 | 3.3010 |
| 5-25(5)   | 4.3988 | 0.8015 | 9.4532  | 0.2348 | 0.9818 | 8.6271 | 1.4643 | 0.6607 | 3.1786 |
| 5-25(6)   | 0.0047 | 0.7163 | 9.4159  | 2.0232 | 0.9598 | 7.7452 | 1.0969 | 0.5856 | 2.7642 |
| 5-25(7)   | 1.7096 | 0.7777 | 10.0239 | 3.1438 | 0.9299 | 9.1020 | 1.6485 | 0.6086 | 3.2822 |
| 5-25(8)   | 1.1043 | 0.7297 | 10.2504 | 2.8323 | 0.8209 | 7.4950 | 1.7593 | 0.7447 | 3.3042 |
| 5-25(9)   | 0.6302 | 0.7010 | 9.8058  | 2.9145 | 0.8536 | 8.2644 | 0.8558 | 0.7866 | 3.8516 |
| 5-25(10)  | 1.7681 | 0.7108 | 9.7536  | 0.9993 | 0.9953 | 7.9272 | 2.5198 | 0.5854 | 3.1723 |
| 5-25(11)  | 0.2203 | 0.7231 | 9.6525  | 1.9592 | 0.9831 | 8.6308 | 1.4032 | 0.7733 | 3.1031 |
| 5-25(12)  | 1.1882 | 0.7118 | 9.5466  | 2.7338 | 0.9688 | 8.0939 | 2.9108 | 0.7243 | 3.2341 |
|           |        |        |         |        |        |        |        |        |        |
| 10-25(1)  | 1.4621 | 0.7230 | 10.6047 | 1.4653 | 0.8879 | 8.6615 | 4.0437 | 0.6477 | 3.3079 |
| 10-25(2)  | 1.8499 | 0.8238 | 11.5935 | 0.5562 | 0.8565 | 8.7353 | 1.7073 | 0.7116 | 3.0623 |
| 10-25(3)  | 0.6939 | 0.8326 | 11.3359 | 0.4995 | 1.0292 | 7.8544 | 0.3921 | 0.6692 | 3.2342 |
| 10-25(4)  | 0.2377 | 0.7901 | 10.9399 | 1.9975 | 0.7889 | 8.7844 | 2.5264 | 0.7340 | 3.2231 |
| 10-25(5)  | 3.3795 | 0.7917 | 11.7674 | 3.3248 | 0.9240 | 8.7848 | 3.4122 | 0.6366 | 2.9842 |
| 10-25(6)  | 3.9330 | 0.7448 | 10.8284 | 1.8446 | 0.9461 | 8.3985 | 2.2404 | 0.7697 | 3.6764 |
| 10-25(7)  | 1.3497 | 0.7377 | 11.1815 | 2.0106 | 0.8553 | 8.2667 | 3.4271 | 0.7074 | 3.5969 |
| 10-25(8)  | 1.8638 | 0.7724 | 10.9333 | 0.0579 | 1.0249 | 8.3978 | 1.1348 | 0.6395 | 2.8200 |
| 10-25(9)  | 2.5713 | 0.6919 | 10.8830 | 2.2030 | 0.8541 | 9.4277 | 3.0797 | 0.6276 | 3.4386 |
| 10-25(10) | 1.4246 | 0.8573 | 11.1947 | 3.0897 | 0.9361 | 8.6924 | 1.3579 | 0.7929 | 4.0557 |
| 10-25(11) | 1.9304 | 0.6691 | 10.2602 | 1.7050 | 0.9361 | 8.8315 | 4.9537 | 0.6608 | 3.3366 |
|           |        |        |         |        |        |        |        |        |        |
| 0-25(1)   | 1.3588 | 0.6226 | 8.3286  | 0.1374 | 0.7902 | 6.0419 | 3.2274 | 0.6505 | 3.0226 |
| 0-25(2)   | 0.5554 | 0.7073 | 8.6395  | 1.0692 | 0.8931 | 5.6294 | 3.0748 | 0.6038 | 2.8139 |
| 0-25(3)   | 0.0257 | 0.6521 | 8.3912  | 2.3469 | 0.7939 | 6.3609 | 1.2652 | 0.6027 | 2.7872 |
| 0-25(4)   | 0.1516 | 0.6992 | 9.2111  | 0.6176 | 0.7428 | 5.9499 | 3.6731 | 0.5899 | 2.9696 |
| 0-25(5)   | 2.7343 | 0.6902 | 8.0938  | 0.2515 | 0.8860 | 6.6872 | 3.6260 | 0.4945 | 2.7405 |
| 0-25(6)   | 0.4592 | 0.6393 | 8.2872  | 1.1937 | 0.8383 | 6.2661 | 1.3131 | 0.6719 | 2.8809 |
| 0-25(7)   | 2.2036 | 0.7157 | 8.4929  | 0.2624 | 0.7148 | 6.1673 | 3.8409 | 0.6298 | 3.1377 |
| 0-25(8)   | 0.1781 | 0.7522 | 9.1833  | 1.6736 | 0.8258 | 6.3667 | 2.0492 | 0.5418 | 2.4519 |
| 0-25(9)   | 0.3140 | 0.6664 | 8.5580  | 1.3979 | 0.7733 | 6.6388 | 0.6175 | 0.5439 | 3.1391 |
| 0-25(10)  | 1.6165 | 0.6523 | 8.7699  | 1.0742 | 0.8416 | 5.9837 | 2.9596 | 0.6119 | 2.5514 |
| 0-25(11)  | 1.2757 | 0.6725 | 8.6937  | 1.3569 | 0.7854 | 5.7382 | 1.5130 | 0.6073 | 3.2351 |

- Alignment Doublecise 4 hubung singkat dan level 1-3

| DB 4      | LEVEL 1 |        |         | LEVEL 2 |        |        | LEVEL 3 |        |        |
|-----------|---------|--------|---------|---------|--------|--------|---------|--------|--------|
|           | BILITAN | SUM    | RANGE   | ENERGI  | SUM    | RANGE  | ENERGI  | SUM    | RANGE  |
| 0-10(1)   | 1.9949  | 0.7868 | 8.9169  | 2.2130  | 0.8913 | 7.5610 | 0.4376  | 0.5741 | 2.5079 |
| 0-10(2)   | 0.4865  | 0.6818 | 8.3497  | 1.4159  | 0.8297 | 6.7507 | 2.0929  | 0.5983 | 3.0928 |
| 0-10(3)   | 0.3389  | 0.7390 | 9.1346  | 0.7158  | 0.8200 | 6.2264 | 0.5041  | 0.5573 | 2.7275 |
| 0-10(4)   | 2.1936  | 0.6394 | 9.0550  | 0.3583  | 0.7343 | 5.9198 | 3.2871  | 0.5794 | 3.0419 |
| 0-10(5)   | 0.6188  | 0.7078 | 9.3608  | 0.3335  | 0.8929 | 6.6076 | 0.1487  | 0.5655 | 2.5746 |
| 0-10(6)   | 1.1067  | 0.5896 | 8.7425  | 0.5894  | 0.8002 | 6.0784 | 1.5603  | 0.6387 | 3.3313 |
| 0-10(7)   | 2.0378  | 0.7062 | 8.1882  | 0.4071  | 0.7435 | 6.3411 | 1.3200  | 0.6452 | 2.7315 |
| 0-10(8)   | 1.6069  | 0.7555 | 8.5290  | 1.3720  | 0.7936 | 6.4126 | 0.9485  | 0.5294 | 2.6096 |
| 0-10(9)   | 0.0941  | 0.7743 | 9.3875  | 2.0182  | 0.8046 | 5.7735 | 1.0485  | 0.5533 | 2.9688 |
| 0-10(10)  | 0.8318  | 0.6996 | 9.2705  | 1.3512  | 0.8312 | 5.9087 | 1.9059  | 0.6875 | 2.7293 |
| 0-10(11)  | 0.5931  | 0.7070 | 9.7951  | 1.4673  | 0.7860 | 5.4204 | 0.1430  | 0.6595 | 3.5149 |
| 0-10(12)  | 1.0775  | 0.7459 | 9.2262  | 0.5510  | 0.7773 | 5.9318 | 1.3539  | 0.5696 | 3.1735 |
| 0-10(13)  | 2.5762  | 0.7449 | 8.0937  | 1.0680  | 0.9012 | 7.2391 | 5.3146  | 0.6850 | 3.4687 |
| 0-10(14)  | 1.8947  | 0.6788 | 8.5547  | 1.0021  | 0.8307 | 6.2632 | 2.5493  | 0.5926 | 3.0462 |
|           |         |        |         |         |        |        |         |        |        |
| 5-25(1)   | 1.1483  | 0.7027 | 10.6726 | 1.0606  | 0.9144 | 8.4601 | 3.1983  | 0.8338 | 3.3928 |
| 5-25(2)   | 0.6644  | 0.7797 | 10.6084 | 1.0406  | 0.9908 | 9.1821 | 2.1573  | 0.6657 | 2.8864 |
| 5-25(3)   | 3.4635  | 0.7704 | 10.3886 | 1.3593  | 0.9628 | 8.8428 | 3.5509  | 0.6186 | 3.1504 |
| 5-25(4)   | 3.6449  | 0.7452 | 10.4868 | 0.5740  | 0.8276 | 8.4600 | 2.2306  | 0.6244 | 3.2081 |
| 5-25(5)   | 4.3866  | 0.7383 | 9.2498  | 1.4390  | 0.8635 | 8.7483 | 1.5779  | 0.6618 | 3.0473 |
| 5-25(6)   | 0.0403  | 0.8031 | 10.0281 | 2.3271  | 0.7914 | 7.4074 | 2.2143  | 0.5737 | 2.6516 |
| 5-25(7)   | 1.8879  | 0.7588 | 10.1044 | 2.8430  | 0.9378 | 8.3084 | 0.1283  | 0.6169 | 3.8160 |
| 5-25(8)   | 1.0604  | 0.8055 | 10.2658 | 3.7505  | 0.9855 | 7.3215 | 0.3719  | 0.8555 | 4.2178 |
| 5-25(9)   | 0.6327  | 0.7387 | 10.1363 | 2.5618  | 0.8874 | 8.3657 | 0.6672  | 0.6196 | 3.4370 |
| 5-25(10)  | 1.6524  | 0.7218 | 9.7439  | 0.0237  | 0.8637 | 8.0628 | 0.7840  | 0.7118 | 3.5169 |
| 5-25(11)  | 0.1317  | 0.7499 | 9.8534  | 2.3173  | 0.9978 | 8.3576 | 0.9772  | 0.7078 | 3.3392 |
| 5-25(12)  | 1.3287  | 0.7303 | 9.8833  | 2.5111  | 0.9604 | 7.8485 | 1.9202  | 0.6193 | 3.4784 |
|           |         |        |         |         |        |        |         |        |        |
| 10-25(1)  | 1.4581  | 0.7929 | 10.6624 | 0.6951  | 0.8598 | 8.3426 | 1.1314  | 0.6847 | 3.7811 |
| 10-25(2)  | 1.9310  | 0.8074 | 11.4308 | 1.5206  | 0.9460 | 8.9467 | 0.5075  | 0.6851 | 3.2334 |
| 10-25(3)  | 0.7660  | 0.8305 | 11.6964 | 0.7045  | 0.8592 | 7.3655 | 1.0758  | 0.6658 | 3.5297 |
| 10-25(4)  | 0.2342  | 0.8151 | 11.2280 | 1.8035  | 0.8797 | 7.7290 | 1.8188  | 0.6751 | 4.0293 |
| 10-25(5)  | 3.3244  | 0.7796 | 12.0634 | 3.0641  | 0.9760 | 7.6215 | 0.3302  | 0.7847 | 4.0214 |
| 10-25(6)  | 4.0429  | 0.8330 | 10.9433 | 0.7704  | 0.9410 | 8.1486 | 0.0320  | 0.6010 | 3.6761 |
| 10-25(7)  | 1.4239  | 0.8206 | 11.5850 | 1.8302  | 0.8350 | 7.8337 | 1.2950  | 0.6789 | 3.4578 |
| 10-25(8)  | 1.8800  | 0.8538 | 10.8625 | 0.6913  | 0.8421 | 7.7662 | 0.8120  | 0.7303 | 3.4662 |
| 10-25(9)  | 2.5614  | 0.7588 | 11.1045 | 4.2222  | 1.0634 | 8.4398 | 1.9702  | 0.7716 | 3.9608 |
| 10-25(10) | 1.5299  | 0.8943 | 10.8372 | 2.6125  | 0.9664 | 9.6489 | 0.6324  | 0.6289 | 3.3017 |
| 10-25(11) | 1.9189  | 0.6732 | 10.2665 | 2.5475  | 0.9197 | 8.2052 | 4.3442  | 0.7732 | 3.9703 |
|           |         |        |         |         |        |        |         |        |        |
|           |         |        |         |         |        |        |         |        |        |

|          |        |        |        |        |        |        |        |        |        |
|----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0-25(1)  | 1.3605 | 0.6574 | 8.2883 | 0.7166 | 0.8950 | 6.0629 | 1.4164 | 0.6189 | 2.9104 |
| 0-25(2)  | 0.5526 | 0.7645 | 8.6387 | 0.9977 | 0.6828 | 5.4567 | 1.8129 | 0.6247 | 3.0357 |
| 0-25(3)  | 0.1003 | 0.6774 | 8.5613 | 2.2354 | 0.9477 | 5.8904 | 1.6466 | 0.6615 | 3.0184 |
| 0-25(4)  | 0.1523 | 0.6095 | 9.1483 | 0.3259 | 0.7707 | 6.4473 | 3.6912 | 0.6480 | 2.6031 |
| 0-25(5)  | 2.6801 | 0.7076 | 8.2529 | 0.6932 | 0.9232 | 6.3704 | 3.2707 | 0.6159 | 3.0563 |
| 0-25(6)  | 0.4592 | 0.5877 | 8.5703 | 0.6647 | 0.7819 | 6.3393 | 1.4122 | 0.5519 | 2.4811 |
| 0-25(7)  | 2.1806 | 0.6822 | 8.5556 | 0.5057 | 0.8440 | 6.6203 | 1.6072 | 0.6129 | 2.6315 |
| 0-25(8)  | 0.1885 | 0.7697 | 8.9250 | 0.9303 | 0.8274 | 6.0511 | 2.2519 | 0.5654 | 2.9673 |
| 0-25(9)  | 0.3285 | 0.6962 | 8.8624 | 1.6176 | 0.6463 | 6.3973 | 3.6999 | 0.6704 | 3.3275 |
| 0-25(10) | 1.6043 | 0.7392 | 8.9501 | 1.5021 | 0.6728 | 5.7653 | 1.1849 | 0.6671 | 2.7442 |
| 0-25(11) | 1.2573 | 0.6446 | 8.2801 | 1.0976 | 0.7986 | 6.5408 | 1.1541 | 0.5912 | 2.5122 |

- Alignment Doublecise 5 hubung singkat dan level 1-3

| DB 5     | LEVEL 1 |        |         | LEVEL 2 |        |        | LEVEL 3 |        |        |
|----------|---------|--------|---------|---------|--------|--------|---------|--------|--------|
|          | BILITAN | SUM    | RANGE   | ENERGI  | SUM    | RANGE  | ENERGI  | SUM    | RANGE  |
| 0-10(1)  | 2.0563  | 0.7327 | 8.8825  | 1.9620  | 0.9302 | 7.1654 | 0.3449  | 0.7982 | 3.1436 |
| 0-10(2)  | 0.3731  | 0.6980 | 8.3597  | 0.9982  | 0.8691 | 6.8778 | 1.2522  | 0.5368 | 3.0073 |
| 0-10(3)  | 0.3439  | 0.7430 | 9.6715  | 0.0169  | 0.7815 | 6.2832 | 1.7363  | 0.4936 | 2.1925 |
| 0-10(4)  | 2.1604  | 0.6514 | 8.9495  | 0.5272  | 0.7745 | 5.8234 | 0.7374  | 0.5881 | 3.3372 |
| 0-10(5)  | 0.6410  | 0.6944 | 9.2565  | 0.0241  | 0.9421 | 6.5401 | 0.6232  | 0.5767 | 2.8917 |
| 0-10(6)  | 1.1005  | 0.6082 | 8.9639  | 1.4443  | 0.7927 | 6.0807 | 0.6084  | 0.7085 | 2.8223 |
| 0-10(7)  | 2.0231  | 0.7039 | 8.5290  | 0.3056  | 0.8069 | 6.3842 | 1.5138  | 0.5708 | 2.7412 |
| 0-10(8)  | 1.6436  | 0.7058 | 8.6344  | 1.8929  | 0.8858 | 6.0703 | 1.1966  | 0.6915 | 2.9137 |
| 0-10(9)  | 0.1962  | 0.7397 | 9.1293  | 1.6352  | 0.7640 | 6.2889 | 1.5111  | 0.6520 | 2.7219 |
| 0-10(10) | 0.8054  | 0.6671 | 9.0603  | 2.3127  | 0.7972 | 5.9694 | 2.4340  | 0.8197 | 3.1871 |
| 0-10(11) | 0.5815  | 0.7229 | 9.5223  | 0.5393  | 0.8346 | 6.6223 | 0.9404  | 0.6688 | 2.8532 |
| 0-10(12) | 1.1761  | 0.7179 | 9.1787  | 0.4944  | 0.8398 | 6.3663 | 2.1382  | 0.5925 | 2.8178 |
| 0-10(13) | 2.5568  | 0.7549 | 8.6962  | 1.8599  | 0.7768 | 6.5062 | 0.6747  | 0.6987 | 3.4663 |
| 0-10(14) | 1.9757  | 0.7136 | 9.1416  | 1.4562  | 0.8663 | 5.8852 | 2.0223  | 0.6339 | 3.1952 |
|          |         |        |         |         |        |        |         |        |        |
| 5-25(1)  | 1.1625  | 0.7341 | 10.5698 | 1.0744  | 0.9684 | 8.4870 | 3.6957  | 0.7543 | 3.4807 |
| 5-25(2)  | 0.6542  | 0.7799 | 10.7347 | 0.6874  | 0.9497 | 9.1650 | 1.0562  | 0.5705 | 3.2120 |
| 5-25(3)  | 3.4234  | 0.7441 | 10.7880 | 0.9394  | 0.9500 | 8.5373 | 4.2948  | 0.6162 | 3.0065 |
| 5-25(4)  | 3.6157  | 0.6423 | 10.4745 | 0.7955  | 0.9230 | 8.8830 | 3.6034  | 0.5883 | 2.8666 |
| 5-25(5)  | 4.3884  | 0.6432 | 9.6244  | 2.2745  | 0.8383 | 8.1060 | 3.2019  | 0.6398 | 3.6055 |
| 5-25(6)  | 0.1300  | 0.7909 | 10.3753 | 1.9899  | 0.8825 | 7.0019 | 1.3192  | 0.5782 | 2.6096 |
| 5-25(7)  | 1.7660  | 0.7618 | 10.1192 | 1.6856  | 0.9318 | 8.8431 | 1.5225  | 0.6563 | 3.4553 |
| 5-25(8)  | 1.0754  | 0.8341 | 10.3575 | 3.9045  | 0.8066 | 8.1021 | 0.7644  | 0.7934 | 2.9702 |
| 5-25(9)  | 0.6325  | 0.7112 | 10.4985 | 1.6738  | 0.8282 | 8.0477 | 1.5358  | 0.7136 | 3.3589 |
| 5-25(10) | 1.6349  | 0.7602 | 9.8592  | 1.0322  | 0.8788 | 7.8845 | 1.5668  | 0.6399 | 3.2492 |
| 5-25(11) | 0.2474  | 0.7066 | 10.2772 | 2.0461  | 0.8181 | 7.6394 | 2.2648  | 0.7356 | 3.5860 |
| 5-25(12) | 1.2608  | 0.7571 | 10.1137 | 2.0552  | 0.8568 | 7.3182 | 0.6232  | 0.6542 | 3.7053 |
|          |         |        |         |         |        |        |         |        |        |
|          |         |        |         |         |        |        |         |        |        |

|           |        |        |         |        |        |        |        |        |        |
|-----------|--------|--------|---------|--------|--------|--------|--------|--------|--------|
| 10-25(1)  | 1.4476 | 0.7691 | 10.6833 | 0.3305 | 0.9382 | 8.8146 | 2.0233 | 0.6808 | 3.4427 |
| 10-25(2)  | 2.0473 | 0.8196 | 11.2470 | 2.0130 | 1.0182 | 9.0302 | 2.5629 | 0.7122 | 3.1734 |
| 10-25(3)  | 0.9353 | 0.7354 | 11.2595 | 0.8466 | 0.8297 | 7.7414 | 1.1836 | 0.6702 | 3.6105 |
| 10-25(4)  | 0.2305 | 0.7179 | 10.9383 | 1.2482 | 0.8740 | 7.4229 | 4.7197 | 0.7745 | 4.5678 |
| 10-25(5)  | 3.3079 | 0.7717 | 11.9102 | 2.2272 | 0.9429 | 8.5015 | 3.1646 | 0.7299 | 3.3092 |
| 10-25(6)  | 3.8120 | 0.7890 | 11.1216 | 0.0573 | 0.9584 | 8.5698 | 2.2724 | 0.8100 | 3.5080 |
| 10-25(7)  | 1.3831 | 0.8179 | 11.4975 | 1.1797 | 0.8648 | 8.3625 | 1.3457 | 0.6324 | 3.2214 |
| 10-25(8)  | 1.8625 | 0.8193 | 10.4751 | 1.2519 | 0.8312 | 7.8863 | 0.2971 | 0.7214 | 3.7456 |
| 10-25(9)  | 2.5709 | 0.8135 | 11.5414 | 5.3359 | 1.0036 | 9.0811 | 0.9827 | 0.5832 | 3.0776 |
| 10-25(10) | 1.4756 | 0.8395 | 10.5691 | 1.6622 | 1.1457 | 9.9341 | 2.9597 | 0.7911 | 3.5051 |
| 10-25(11) | 2.0307 | 0.7531 | 10.5138 | 2.6785 | 0.9167 | 7.8951 | 0.8718 | 0.7144 | 4.1409 |
|           |        |        |         |        |        |        |        |        |        |
| 0-25(1)   | 1.3654 | 0.6435 | 8.3739  | 1.1958 | 0.8143 | 5.9818 | 1.2775 | 0.5746 | 3.2197 |
| 0-25(2)   | 0.5649 | 0.7231 | 8.5653  | 0.6933 | 0.9426 | 5.8323 | 0.9359 | 0.5057 | 2.6066 |
| 0-25(3)   | 0.0389 | 0.7342 | 8.5881  | 1.8864 | 0.7539 | 5.4202 | 0.4946 | 0.7016 | 3.6238 |
| 0-25(4)   | 0.1500 | 0.6788 | 9.1701  | 0.0469 | 0.8644 | 6.4309 | 0.5349 | 0.5913 | 2.5962 |
| 0-25(5)   | 2.8622 | 0.6811 | 8.7403  | 1.5441 | 0.7083 | 5.9595 | 0.1907 | 0.5315 | 3.0839 |
| 0-25(6)   | 0.4227 | 0.5972 | 8.8171  | 0.0043 | 0.8648 | 5.8048 | 0.1111 | 0.8226 | 3.2078 |
| 0-25(7)   | 2.2132 | 0.6625 | 8.6835  | 0.6326 | 0.8059 | 6.2770 | 2.3347 | 0.6056 | 2.8352 |
| 0-25(8)   | 0.1685 | 0.7104 | 8.7391  | 0.0526 | 0.8691 | 6.4538 | 0.3516 | 0.6256 | 2.8340 |
| 0-25(9)   | 0.2662 | 0.6845 | 9.2383  | 1.4106 | 0.7784 | 6.1711 | 4.7868 | 0.5319 | 2.9409 |
| 0-25(10)  | 1.5350 | 0.7789 | 8.8719  | 1.6072 | 0.7156 | 5.4949 | 1.8118 | 0.6819 | 2.9649 |
| 0-25(11)  | 1.2452 | 0.5837 | 8.1303  | 0.7006 | 0.7920 | 5.9818 | 2.7496 | 0.7580 | 3.4818 |

*Alignment Doublecise 1 normal dan level 1-3*

| DB 1     | LEVEL 1 |        |         | LEVEL 2 |        |         | LEVEL 3 |        |         |
|----------|---------|--------|---------|---------|--------|---------|---------|--------|---------|
|          | BILITAN | SUM    | RANGE   | ENERGI  | SUM    | RANGE   | ENERGI  | SUM    | RANGE   |
| 0-10(1)  | 0.6608  | 0.8093 | 9.5620  | 0.2127  | 0.9425 | 13.0551 | 1.8214  | 1.4239 | 30.7790 |
| 0-10(2)  | 0.4094  | 0.6912 | 10.7042 | 2.6620  | 1.1189 | 13.9492 | 0.6074  | 1.2187 | 30.6105 |
| 0-10(3)  | 2.2012  | 0.6655 | 10.1467 | 0.1414  | 1.0590 | 14.1477 | 2.3726  | 1.2177 | 29.9912 |
| 0-10(4)  | 0.4856  | 0.7331 | 9.8734  | 1.4340  | 1.0597 | 14.7308 | 0.7645  | 1.2825 | 30.7785 |
| 0-10(5)  | 1.4872  | 0.7169 | 10.6043 | 0.2747  | 0.9984 | 13.7581 | 0.8578  | 1.2449 | 28.4630 |
| 0-10(6)  | 0.9502  | 0.6931 | 10.0418 | 1.0314  | 1.0725 | 14.2342 | 4.0426  | 1.2430 | 28.3375 |
| 0-10(7)  | 3.2619  | 0.6912 | 9.8555  | 0.8429  | 1.0529 | 14.0914 | 1.5833  | 1.3167 | 29.8771 |
| 0-10(8)  | 2.9677  | 0.8378 | 10.4137 | 0.2929  | 0.9647 | 11.5922 | 4.2459  | 1.1830 | 26.8706 |
| 0-10(9)  | 0.5408  | 0.7693 | 10.5264 | 1.0583  | 0.9129 | 12.7065 | 2.9848  | 1.3258 | 29.1169 |
| 0-10(10) | 2.5649  | 0.8179 | 12.5190 | 0.6813  | 0.8106 | 8.4033  | 0.7893  | 1.3096 | 28.4660 |
| 0-10(11) | 0.6017  | 0.7445 | 9.4219  | 0.5467  | 0.9863 | 16.0617 | 4.3349  | 1.3610 | 31.1377 |
| 0-10(12) | 0.1771  | 0.7055 | 10.3870 | 1.4973  | 0.9863 | 15.1896 | 1.4748  | 1.2225 | 27.1063 |
| 0-10(13) | 1.1720  | 0.7998 | 10.9681 | 0.1421  | 1.2037 | 12.1005 | 0.0433  | 1.2001 | 29.1084 |
|          |         |        |         |         |        |         |         |        |         |
|          |         |        |         |         |        |         |         |        |         |
|          |         |        |         |         |        |         |         |        |         |

|           |        |        |         |        |        |         |        |        |         |
|-----------|--------|--------|---------|--------|--------|---------|--------|--------|---------|
| 5-25(1)   | 0.6893 | 0.8521 | 11.2222 | 0.3555 | 1.1075 | 15.8301 | 6.2772 | 1.3058 | 27.7365 |
| 5-25(2)   | 0.7436 | 0.7179 | 11.7838 | 1.7080 | 1.1957 | 15.2567 | 0.4670 | 1.4148 | 28.1562 |
| 5-25(3)   | 0.2561 | 0.8417 | 12.1912 | 3.5109 | 1.2778 | 15.0904 | 1.9599 | 1.2753 | 28.8063 |
| 5-25(4)   | 0.8893 | 0.7198 | 11.7831 | 0.4942 | 1.1997 | 15.4251 | 2.0261 | 1.3939 | 30.3130 |
| 5-25(5)   | 0.6998 | 0.7141 | 11.5681 | 0.6672 | 1.0502 | 14.9114 | 0.1690 | 1.3053 | 30.4105 |
| 5-25(6)   | 0.8131 | 0.8883 | 11.5171 | 1.6575 | 1.1640 | 14.4829 | 1.2549 | 1.3486 | 31.6089 |
| 5-25(7)   | 0.3627 | 0.7874 | 12.6599 | 1.6380 | 1.1660 | 15.3510 | 1.0154 | 1.3015 | 28.7760 |
| 5-25(8)   | 0.4399 | 0.8198 | 11.3775 | 0.4080 | 1.1196 | 14.5139 | 1.6928 | 1.3577 | 29.0623 |
| 5-25(9)   | 3.2828 | 0.8388 | 11.4824 | 1.6871 | 1.3525 | 15.2056 | 1.6500 | 1.2820 | 28.6098 |
| 5-25(10)  | 1.1168 | 0.7560 | 11.0179 | 1.3862 | 1.2004 | 14.3504 | 2.8596 | 1.2887 | 28.9067 |
| 5-25(11)  | 1.3225 | 0.8912 | 12.1096 | 2.4620 | 1.0644 | 14.9631 | 6.6223 | 1.2663 | 27.0226 |
|           |        |        |         |        |        |         |        |        |         |
| 10-25(1)  | 0.3627 | 0.8426 | 12.4712 | 1.0294 | 1.2165 | 17.0648 | 3.0120 | 1.3272 | 27.5873 |
| 10-25(2)  | 0.5237 | 0.8988 | 12.5154 | 0.7729 | 1.0927 | 14.7058 | 2.7649 | 1.2949 | 30.4807 |
| 10-25(3)  | 0.8893 | 0.8131 | 12.1843 | 0.7015 | 1.1829 | 15.2222 | 3.7522 | 1.2572 | 32.3718 |
| 10-25(4)  | 1.0054 | 0.7769 | 12.3182 | 1.2576 | 1.1432 | 13.7715 | 1.6652 | 1.2668 | 27.3124 |
| 10-25(5)  | 2.6192 | 0.7741 | 12.0934 | 0.4598 | 1.1149 | 15.1329 | 3.9145 | 1.2411 | 25.8632 |
| 10-25(6)  | 2.5031 | 0.9445 | 12.7419 | 1.2192 | 1.2024 | 16.6005 | 1.4553 | 1.4462 | 31.3159 |
| 10-25(7)  | 0.6208 | 0.8483 | 12.3188 | 0.3972 | 1.0341 | 13.4346 | 2.7401 | 1.3758 | 31.1382 |
| 10-25(8)  | 1.4653 | 0.8864 | 12.2278 | 1.0765 | 1.0502 | 15.3886 | 0.6060 | 1.1720 | 26.1123 |
| 10-25(9)  | 1.6271 | 0.7245 | 11.9420 | 3.5944 | 1.2239 | 14.6896 | 0.2947 | 1.2553 | 28.3314 |
| 10-25(10) | 0.2076 | 0.7817 | 11.2746 | 1.0072 | 1.0940 | 15.3636 | 0.7702 | 1.4358 | 28.6460 |
|           |        |        |         |        |        |         |        |        |         |
| 0-25(1)   | 1.8099 | 0.7284 | 10.5095 | 0.5096 | 1.0435 | 13.7959 | 0.8098 | 1.2644 | 30.7947 |
| 0-25(2)   | 2.2917 | 0.6779 | 10.2195 | 0.3521 | 1.0105 | 13.9626 | 0.7698 | 1.4001 | 28.8179 |
| 0-25(3)   | 0.3942 | 0.6969 | 10.2190 | 0.6301 | 0.9573 | 13.4318 | 0.0962 | 1.3244 | 29.7181 |
| 0-25(4)   | 0.3799 | 0.7522 | 10.5273 | 1.5693 | 1.1256 | 13.0041 | 2.4550 | 1.1677 | 28.8472 |
| 0-25(5)   | 3.8436 | 0.6969 | 10.5896 | 1.3768 | 1.1021 | 13.1714 | 2.2579 | 1.2268 | 29.1923 |
| 0-25(6)   | 0.7588 | 0.8255 | 10.2365 | 0.9957 | 0.9580 | 13.2686 | 0.4223 | 1.3720 | 31.5345 |
| 0-25(7)   | 1.0492 | 0.6512 | 10.3897 | 2.0318 | 0.8799 | 12.1213 | 0.6446 | 1.2420 | 28.0188 |
| 0-25(8)   | 1.8766 | 0.7798 | 9.9886  | 1.2435 | 0.9762 | 12.4743 | 1.3420 | 1.3210 | 31.0861 |
| 0-25(9)   | 0.2951 | 0.8588 | 10.9220 | 1.1095 | 0.8766 | 11.7692 | 0.0790 | 1.2949 | 30.3505 |
| 0-25(10)  | 0.1628 | 0.7598 | 9.7960  | 3.2107 | 1.2172 | 14.2641 | 0.9202 | 1.3525 | 31.0701 |
| 0-25(11)  | 0.1057 | 0.8969 | 10.3521 | 0.0155 | 1.0267 | 13.2531 | 2.3864 | 1.3015 | 31.4519 |



- Alignment Doublecise 2 normal dan level 1-3

| DB 2      | LEVEL 1 |        |         | LEVEL 2 |        |        | LEVEL 3 |        |        |
|-----------|---------|--------|---------|---------|--------|--------|---------|--------|--------|
| BILITAN   | SUM     | RANGE  | ENERGI  | SUM     | RANGE  | ENERGI | SUM     | RANGE  | ENERGI |
| 0-10(1)   | 0.7040  | 0.6564 | 7.9674  | 0.3608  | 0.8565 | 7.3413 | 0.7728  | 0.5582 | 2.6197 |
| 0-10(2)   | 0.3681  | 0.7004 | 8.7556  | 3.2991  | 0.8302 | 6.5194 | 1.0645  | 0.5591 | 2.8259 |
| 0-10(3)   | 2.2168  | 0.5988 | 8.6726  | 0.0741  | 0.6654 | 6.4358 | 2.7604  | 0.6201 | 2.9280 |
| 0-10(4)   | 0.4970  | 0.6128 | 7.8857  | 1.4038  | 0.8327 | 6.8171 | 0.6662  | 0.6537 | 3.3916 |
| 0-10(5)   | 1.4953  | 0.7258 | 8.1333  | 0.3740  | 0.8372 | 6.8294 | 1.6086  | 0.5303 | 2.8628 |
| 0-10(6)   | 0.9219  | 0.6673 | 8.4754  | 0.9412  | 0.7367 | 6.3007 | 2.1410  | 0.6421 | 3.5333 |
| 0-10(7)   | 3.2676  | 0.6170 | 8.3930  | 1.7666  | 0.8533 | 7.0787 | 0.5928  | 0.6167 | 2.8757 |
| 0-10(8)   | 2.7805  | 0.7121 | 9.2984  | 0.6963  | 0.8259 | 6.1929 | 2.1530  | 0.7939 | 3.7646 |
| 0-10(9)   | 0.7557  | 0.7283 | 8.9684  | 1.7946  | 0.8636 | 5.8449 | 4.3668  | 0.7508 | 3.3465 |
| 0-10(10)  | 2.8765  | 0.7548 | 10.0442 | 1.4079  | 0.8475 | 6.4177 | 0.2282  | 1.3257 | 3.7910 |
| 0-10(11)  | 0.5478  | 0.5995 | 7.5474  | 0.6047  | 0.7555 | 6.3101 | 2.5767  | 0.5900 | 2.5661 |
| 0-10(12)  | 0.1850  | 0.6283 | 9.2630  | 1.7010  | 0.7237 | 6.5862 | 0.4674  | 0.6334 | 2.2588 |
| 0-10(13)  | 1.0607  | 0.7524 | 8.6929  | 0.8487  | 0.8910 | 6.9399 | 1.2150  | 0.6419 | 2.9072 |
|           |         |        |         |         |        |        |         |        |        |
| 5-25(1)   | 0.6472  | 0.8339 | 9.6234  | 0.6263  | 0.8849 | 8.3714 | 4.8721  | 0.6556 | 3.8013 |
| 5-25(2)   | 0.7590  | 0.6777 | 9.8502  | 0.5486  | 0.9546 | 8.4004 | 2.5749  | 0.6482 | 3.8036 |
| 5-25(3)   | 0.2317  | 0.7092 | 10.1736 | 2.1692  | 0.9260 | 8.3664 | 0.7767  | 0.6449 | 3.5694 |
| 5-25(4)   | 0.8896  | 0.7109 | 10.1446 | 0.4789  | 0.8530 | 7.9685 | 1.1498  | 0.7322 | 3.2675 |
| 5-25(5)   | 0.7171  | 0.7779 | 9.6733  | 0.2759  | 0.8644 | 7.7348 | 0.2247  | 0.6223 | 3.6787 |
| 5-25(6)   | 0.7693  | 0.8164 | 10.0608 | 1.0094  | 0.8445 | 8.3036 | 4.7015  | 0.7398 | 3.7753 |
| 5-25(7)   | 0.6725  | 0.7377 | 11.0570 | 1.4185  | 0.8020 | 7.6877 | 3.3931  | 0.6730 | 3.4311 |
| 5-25(8)   | 0.3955  | 0.7426 | 9.8421  | 1.5989  | 0.9063 | 8.5152 | 2.7641  | 0.6270 | 3.1652 |
| 5-25(9)   | 3.2842  | 0.8132 | 10.1132 | 1.8916  | 0.8891 | 8.0621 | 0.5092  | 0.6148 | 3.3523 |
| 5-25(10)  | 1.0734  | 0.6949 | 9.3485  | 0.3264  | 1.0249 | 8.7565 | 0.3220  | 0.6924 | 3.2427 |
| 5-25(11)  | 1.2192  | 0.8276 | 10.0022 | 0.9239  | 0.8785 | 8.4373 | 4.9919  | 0.7050 | 3.7257 |
|           |         |        |         |         |        |        |         |        |        |
| 10-25(1)  | 0.4028  | 0.6623 | 10.5800 | 0.7853  | 0.9660 | 9.0099 | 0.2595  | 0.6815 | 3.4254 |
| 10-25(2)  | 0.5116  | 0.7217 | 10.5368 | 0.2126  | 0.9070 | 8.2585 | 2.4265  | 0.8408 | 4.2273 |
| 10-25(3)  | 0.8725  | 0.7259 | 10.7942 | 0.1312  | 0.9565 | 8.4392 | 1.6805  | 0.5986 | 2.9951 |
| 10-25(4)  | 0.9837  | 0.6927 | 9.9586  | 1.2072  | 0.8034 | 7.7168 | 4.3558  | 0.7053 | 4.3662 |
| 10-25(5)  | 2.6378  | 0.6875 | 10.2609 | 0.0935  | 0.8265 | 8.5400 | 3.4069  | 0.6756 | 3.8530 |
| 10-25(6)  | 2.2777  | 0.7989 | 10.9203 | 0.9998  | 0.9969 | 9.5588 | 2.3415  | 0.6366 | 2.9016 |
| 10-25(7)  | 0.6181  | 0.7697 | 10.3310 | 0.0355  | 0.9941 | 8.6748 | 2.5062  | 0.7292 | 3.3302 |
| 10-25(8)  | 1.4429  | 0.7304 | 10.3720 | 1.5966  | 1.0447 | 8.0770 | 2.3115  | 0.6574 | 3.6761 |
| 10-25(9)  | 1.6247  | 0.7324 | 11.0304 | 2.5730  | 0.9408 | 7.5959 | 1.0157  | 0.6055 | 3.4252 |
| 10-25(10) | 0.1511  | 0.6770 | 10.0327 | 0.3947  | 0.8620 | 8.8171 | 0.2258  | 0.7013 | 3.3430 |
|           |         |        |         |         |        |        |         |        |        |
| 0-25(1)   | 1.6167  | 0.7359 | 8.8450  | 0.8313  | 0.8396 | 7.0453 | 2.5740  | 0.7716 | 3.5237 |
| 0-25(2)   | 2.2578  | 0.6202 | 8.3711  | 0.3806  | 0.7535 | 6.6751 | 0.7863  | 0.6213 | 3.2689 |
| 0-25(3)   | 0.3748  | 0.6526 | 8.6154  | 0.2913  | 0.7756 | 6.4991 | 2.5417  | 0.6780 | 3.0625 |
| 0-25(4)   | 0.3686  | 0.7128 | 8.6968  | 1.2983  | 0.9201 | 6.1767 | 1.3272  | 0.5511 | 2.5082 |

|          |        |        |        |        |        |        |        |        |        |
|----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0-25(5)  | 3.8379 | 0.6229 | 8.7367 | 1.6942 | 0.8094 | 6.7444 | 1.1874 | 0.6574 | 3.0136 |
| 0-25(6)  | 0.8729 | 0.6670 | 8.6354 | 1.4138 | 0.7456 | 5.6144 | 0.6435 | 0.7109 | 3.0303 |
| 0-25(7)  | 0.9955 | 0.7098 | 8.5734 | 1.3613 | 0.7320 | 6.0252 | 0.2509 | 0.6078 | 2.6369 |
| 0-25(8)  | 1.8947 | 0.6979 | 8.1714 | 0.3370 | 0.7039 | 6.5221 | 1.3370 | 0.6001 | 2.8320 |
| 0-25(9)  | 0.2784 | 0.7777 | 8.5498 | 1.6620 | 0.9610 | 6.6902 | 0.3619 | 0.5536 | 3.0903 |
| 0-25(10) | 0.1499 | 0.6507 | 8.8983 | 2.6753 | 0.8017 | 6.0876 | 0.5433 | 0.6982 | 3.9761 |
| 0-25(11) | 0.1196 | 0.7608 | 8.4413 | 0.3565 | 0.8902 | 6.6939 | 0.7504 | 0.6096 | 3.0195 |

- *Alignment Doublecise 3 normal dan level 1-3*

| DB 3     | LEVEL 1 |        |         | LEVEL 2 |        |        | LEVEL 3 |        |        |
|----------|---------|--------|---------|---------|--------|--------|---------|--------|--------|
|          | BILITAN | SUM    | RANGE   | ENERGI  | SUM    | RANGE  | ENERGI  | SUM    | RANGE  |
| 0-10(1)  | 0.8462  | 0.6401 | 8.4829  | 0.6412  | 0.8502 | 6.1552 | 3.2852  | 0.7444 | 3.2168 |
| 0-10(2)  | 0.4165  | 0.6744 | 8.5796  | 2.9995  | 0.8780 | 6.6751 | 1.1215  | 0.6831 | 2.5752 |
| 0-10(3)  | 2.2299  | 0.6239 | 8.9338  | 0.3255  | 0.7660 | 6.0918 | 0.6443  | 0.6426 | 2.7088 |
| 0-10(4)  | 0.5313  | 0.6094 | 8.2711  | 0.9379  | 0.8061 | 6.2543 | 0.0534  | 0.7264 | 3.3269 |
| 0-10(5)  | 1.4952  | 0.6725 | 8.0865  | 0.8114  | 0.7376 | 6.2438 | 1.2234  | 0.6754 | 3.2274 |
| 0-10(6)  | 0.8838  | 0.7040 | 8.8943  | 0.7564  | 0.7552 | 6.1471 | 2.1100  | 0.5833 | 2.8005 |
| 0-10(7)  | 3.2424  | 0.7212 | 8.9569  | 2.0566  | 0.7926 | 6.0993 | 1.1257  | 0.6825 | 2.7983 |
| 0-10(8)  | 2.7199  | 0.7961 | 9.3721  | 0.4459  | 0.7797 | 6.5271 | 1.2069  | 0.5586 | 2.6592 |
| 0-10(9)  | 0.6105  | 0.6499 | 8.8383  | 1.7736  | 0.7763 | 6.2644 | 2.0700  | 0.6480 | 2.8798 |
| 0-10(10) | 2.7619  | 0.6223 | 8.4560  | 1.2211  | 0.8626 | 8.2868 | 0.2068  | 0.6378 | 2.6473 |
| 0-10(11) | 0.4200  | 0.6226 | 7.9208  | 0.6788  | 0.7824 | 6.1449 | 0.9625  | 0.5690 | 2.3080 |
| 0-10(12) | 0.1994  | 0.7357 | 9.5642  | 1.4911  | 0.8248 | 5.7425 | 1.4980  | 0.6739 | 2.5178 |
| 0-10(13) | 1.0978  | 0.7417 | 8.4503  | 1.4124  | 0.8421 | 6.9879 | 1.9685  | 0.6914 | 2.6558 |
|          |         |        |         |         |        |        |         |        |        |
| 5-25(1)  | 0.5837  | 0.8683 | 10.1323 | 0.3125  | 0.9419 | 7.9465 | 0.3277  | 0.7264 | 3.4959 |
| 5-25(2)  | 0.7947  | 0.6579 | 9.8839  | 0.3906  | 1.0035 | 8.6086 | 3.6771  | 0.7530 | 3.2898 |
| 5-25(3)  | 0.2266  | 0.7438 | 9.9688  | 0.3770  | 1.0182 | 8.6657 | 3.2425  | 0.7132 | 3.1306 |
| 5-25(4)  | 0.8964  | 0.7801 | 9.9657  | 0.3844  | 0.9011 | 7.4114 | 0.4510  | 0.6826 | 3.6933 |
| 5-25(5)  | 0.7326  | 0.7922 | 9.7273  | 0.0650  | 0.9880 | 7.5352 | 0.1289  | 0.6247 | 3.4451 |
| 5-25(6)  | 0.7059  | 0.7486 | 10.1079 | 0.0839  | 1.0086 | 8.3836 | 4.9158  | 0.5882 | 3.1000 |
| 5-25(7)  | 0.5405  | 0.7946 | 10.8086 | 0.7948  | 0.8485 | 7.5254 | 5.0349  | 0.6394 | 3.4559 |
| 5-25(8)  | 0.4326  | 0.9194 | 10.3563 | 3.1619  | 0.8240 | 7.6838 | 4.8938  | 0.6589 | 3.2727 |
| 5-25(9)  | 3.2658  | 0.8356 | 10.3303 | 1.5838  | 1.0218 | 7.6381 | 0.9799  | 0.6196 | 3.2056 |
| 5-25(10) | 1.1264  | 0.7985 | 9.6508  | 0.5347  | 0.8622 | 8.8391 | 2.5877  | 0.5535 | 2.5157 |
| 5-25(11) | 1.3337  | 0.8011 | 9.9820  | 0.3703  | 1.0140 | 9.0697 | 0.5882  | 0.6439 | 2.7094 |
|          |         |        |         |         |        |        |         |        |        |
| 10-25(1) | 0.5286  | 0.7581 | 10.9005 | 0.6238  | 0.9902 | 8.6083 | 3.2816  | 0.5770 | 3.4128 |
| 10-25(2) | 0.4714  | 0.7178 | 10.5947 | 0.3985  | 1.0704 | 8.0835 | 0.7137  | 0.6243 | 3.8664 |
| 10-25(3) | 0.8421  | 0.7308 | 11.1043 | 0.9382  | 0.9069 | 7.7954 | 1.9587  | 0.5891 | 3.0922 |
| 10-25(4) | 0.9693  | 0.6932 | 9.6649  | 0.7818  | 0.9431 | 8.7058 | 4.1719  | 0.6960 | 3.4895 |
| 10-25(5) | 2.6036  | 0.8272 | 10.0282 | 0.3806  | 1.0003 | 8.3117 | 0.7162  | 0.7779 | 3.8546 |
| 10-25(6) | 2.4838  | 0.8647 | 11.2595 | 0.7032  | 1.0186 | 8.9363 | 2.6042  | 0.5615 | 2.7226 |

|           |        |        |         |        |        |        |        |        |        |
|-----------|--------|--------|---------|--------|--------|--------|--------|--------|--------|
| 10-25(7)  | 0.6142 | 0.7115 | 10.4883 | 0.3775 | 0.8796 | 8.7360 | 0.2136 | 0.7172 | 3.0288 |
| 10-25(8)  | 1.3991 | 0.7381 | 10.2028 | 1.7197 | 0.9417 | 8.1941 | 3.1229 | 0.6540 | 3.2492 |
| 10-25(9)  | 1.5975 | 0.8184 | 11.3866 | 0.9763 | 0.7605 | 7.3219 | 1.6188 | 0.5942 | 2.7714 |
| 10-25(10) | 0.1992 | 0.6884 | 10.3725 | 0.2641 | 0.9151 | 7.7002 | 1.5702 | 0.7982 | 3.6546 |
|           |        |        |         |        |        |        |        |        |        |
| 0-25(1)   | 1.6239 | 0.6630 | 8.9447  | 1.3227 | 0.8436 | 6.9077 | 1.7739 | 0.6113 | 2.9898 |
| 0-25(2)   | 2.2566 | 0.6197 | 8.7889  | 0.8781 | 0.7113 | 6.6885 | 0.4741 | 0.6131 | 2.6792 |
| 0-25(3)   | 0.3512 | 0.7066 | 8.7894  | 1.0987 | 0.8298 | 6.4132 | 2.8316 | 0.5958 | 2.5232 |
| 0-25(4)   | 0.3275 | 0.7325 | 8.5390  | 0.4388 | 0.7752 | 6.3459 | 1.4889 | 0.6258 | 2.2558 |
| 0-25(5)   | 3.8428 | 0.6132 | 8.8834  | 1.5372 | 0.8904 | 6.6709 | 1.3054 | 0.5733 | 2.7329 |
| 0-25(6)   | 0.7587 | 0.6821 | 8.4137  | 0.9375 | 0.8597 | 6.0681 | 0.8424 | 0.6888 | 2.6855 |
| 0-25(7)   | 1.0123 | 0.6798 | 8.4290  | 0.5324 | 0.7520 | 5.9951 | 1.5013 | 0.6938 | 2.6324 |
| 0-25(8)   | 1.8723 | 0.6730 | 8.2749  | 0.5862 | 0.8029 | 6.2272 | 2.6527 | 0.6083 | 2.9360 |
| 0-25(9)   | 0.3140 | 0.6712 | 8.3687  | 1.8438 | 0.7878 | 6.6375 | 0.7787 | 0.5809 | 2.9710 |
| 0-25(10)  | 0.1473 | 0.7322 | 9.5160  | 1.4733 | 0.7563 | 6.1228 | 0.4955 | 0.6280 | 2.8273 |
| 0-25(11)  | 0.1331 | 0.7071 | 8.2835  | 0.5332 | 0.8070 | 6.6667 | 1.8425 | 0.5177 | 2.7521 |

- Alignment Doublecise 4 normal dan level 1-3

| DB 4     | LEVEL 1 |        |         | LEVEL 2 |        |        | LEVEL 3 |        |        |
|----------|---------|--------|---------|---------|--------|--------|---------|--------|--------|
|          | BILITAN | SUM    | RANGE   | ENERGI  | SUM    | RANGE  | ENERGI  | SUM    | RANGE  |
| 0-10(1)  | 0.8788  | 0.6713 | 8.9150  | 0.4673  | 0.8808 | 5.6386 | 3.5619  | 0.9718 | 3.5775 |
| 0-10(2)  | 0.4049  | 0.6898 | 8.6694  | 2.1590  | 0.7698 | 6.3948 | 0.5872  | 0.6124 | 2.5767 |
| 0-10(3)  | 2.1885  | 0.6457 | 9.0549  | 0.4257  | 0.7484 | 5.7737 | 2.2541  | 0.7344 | 2.8398 |
| 0-10(4)  | 0.5330  | 0.6635 | 8.7726  | 0.3982  | 0.8208 | 5.9323 | 1.1500  | 0.6019 | 3.1737 |
| 0-10(5)  | 1.4700  | 0.6485 | 8.5076  | 1.1294  | 0.7926 | 5.9278 | 0.2433  | 0.6152 | 3.0651 |
| 0-10(6)  | 0.9154  | 0.7380 | 8.9842  | 0.3694  | 0.7599 | 5.5604 | 4.7535  | 0.5738 | 3.4407 |
| 0-10(7)  | 3.1843  | 0.7598 | 9.2128  | 1.9193  | 0.7183 | 5.7867 | 2.2118  | 0.6010 | 2.9154 |
| 0-10(8)  | 2.7467  | 0.8074 | 9.1506  | 0.3200  | 0.9109 | 6.8322 | 3.8205  | 0.6284 | 2.9075 |
| 0-10(9)  | 0.4980  | 0.5993 | 8.5835  | 1.3235  | 0.9221 | 6.7635 | 2.1210  | 0.7779 | 2.9357 |
| 0-10(10) | 2.6495  | 0.6270 | 7.8215  | 1.2781  | 1.0469 | 9.1476 | 0.0558  | 1.3241 | 3.3876 |
| 0-10(11) | 0.6525  | 0.6265 | 8.3928  | 0.3078  | 0.8841 | 5.3046 | 3.2697  | 0.7549 | 2.7553 |
| 0-10(12) | 0.1907  | 0.7550 | 9.4320  | 0.9980  | 0.8061 | 5.7825 | 2.4220  | 0.6332 | 2.5558 |
| 0-10(13) | 1.2802  | 0.7293 | 8.7484  | 1.8811  | 0.8001 | 7.0201 | 0.8193  | 0.9472 | 3.1159 |
|          |         |        |         |         |        |        |         |        |        |
| 5-25(1)  | 0.4984  | 0.8503 | 10.4465 | 0.1591  | 0.8922 | 8.4727 | 5.0491  | 0.8055 | 2.8137 |
| 5-25(2)  | 0.7376  | 0.6653 | 9.9241  | 1.4000  | 0.8420 | 8.8208 | 2.0989  | 0.6563 | 3.1374 |
| 5-25(3)  | 0.1978  | 0.7596 | 9.9370  | 1.3717  | 1.0345 | 8.6578 | 2.8763  | 0.6435 | 3.1769 |
| 5-25(4)  | 0.9070  | 0.7672 | 9.6739  | 0.1889  | 0.9419 | 7.9239 | 1.5437  | 0.6743 | 3.3147 |
| 5-25(5)  | 0.7099  | 0.8490 | 9.8479  | 0.4024  | 0.9047 | 7.7293 | 0.8080  | 0.6559 | 3.1634 |
| 5-25(6)  | 0.8270  | 0.7452 | 10.0588 | 0.8612  | 1.0095 | 8.4973 | 0.4734  | 0.6813 | 3.3350 |
| 5-25(7)  | 0.3832  | 0.7440 | 10.4728 | 0.1266  | 0.9353 | 8.4858 | 2.4999  | 0.8581 | 3.3058 |
| 5-25(8)  | 0.4368  | 0.9077 | 10.6063 | 3.9188  | 1.0255 | 7.5967 | 2.8218  | 0.5943 | 3.0262 |
| 5-25(9)  | 3.2663  | 0.8215 | 10.2231 | 1.0301  | 0.8570 | 8.1641 | 1.8169  | 0.6372 | 2.8819 |

|           |        |        |         |        |        |        |        |        |        |
|-----------|--------|--------|---------|--------|--------|--------|--------|--------|--------|
| 5-25(10)  | 1.1295 | 0.8220 | 10.1172 | 1.4159 | 0.8434 | 7.9505 | 3.2664 | 0.5177 | 2.8679 |
| 5-25(11)  | 1.3621 | 0.8799 | 10.2521 | 1.6793 | 0.9952 | 8.3230 | 6.3250 | 0.6525 | 3.4189 |
|           |        |        |         |        |        |        |        |        |        |
| 10-25(1)  | 0.4299 | 0.7805 | 11.1238 | 0.0166 | 0.9658 | 8.4616 | 3.5089 | 0.7255 | 3.3344 |
| 10-25(2)  | 0.5313 | 0.7702 | 10.7334 | 0.8549 | 1.1554 | 9.1771 | 2.3140 | 0.7901 | 3.1198 |
| 10-25(3)  | 0.8509 | 0.7869 | 11.1448 | 1.4549 | 0.9209 | 7.8455 | 3.8587 | 0.6493 | 2.9425 |
| 10-25(4)  | 0.9794 | 0.6695 | 9.7956  | 0.2799 | 0.8830 | 9.2548 | 0.1957 | 0.6553 | 2.6820 |
| 10-25(5)  | 2.5775 | 0.8407 | 10.0717 | 0.8007 | 0.9851 | 8.4722 | 4.0686 | 0.6767 | 3.6811 |
| 10-25(6)  | 2.5215 | 0.8658 | 11.7350 | 0.3322 | 0.8895 | 8.0092 | 0.3335 | 0.6854 | 3.4720 |
| 10-25(7)  | 0.6171 | 0.7149 | 10.7944 | 0.6588 | 1.0078 | 8.5206 | 2.3365 | 0.5713 | 2.8959 |
| 10-25(8)  | 1.4566 | 0.7637 | 10.1298 | 1.4776 | 0.9338 | 8.1882 | 1.5660 | 0.7037 | 3.4043 |
| 10-25(9)  | 1.6521 | 0.8654 | 11.2401 | 0.6578 | 0.7534 | 7.2120 | 1.0149 | 0.6439 | 3.1488 |
| 10-25(10) | 0.0369 | 0.7207 | 10.4392 | 0.7912 | 0.9289 | 7.7789 | 1.5493 | 0.7171 | 3.5101 |
|           |        |        |         |        |        |        |        |        |        |
| 0-25(1)   | 1.6846 | 0.7329 | 9.3194  | 1.3797 | 0.7154 | 6.3922 | 0.3406 | 0.7238 | 3.3579 |
| 0-25(2)   | 2.2392 | 0.6774 | 9.2070  | 1.2182 | 0.8517 | 6.2034 | 0.8646 | 0.4972 | 2.5924 |
| 0-25(3)   | 0.4067 | 0.6858 | 9.0350  | 1.7120 | 0.8328 | 6.2751 | 1.0826 | 0.5040 | 2.5293 |
| 0-25(4)   | 0.2482 | 0.7479 | 8.6045  | 0.2758 | 0.8132 | 6.5371 | 3.4111 | 0.6258 | 2.1599 |
| 0-25(5)   | 3.8653 | 0.6680 | 9.1074  | 1.0848 | 0.7157 | 6.2568 | 2.8388 | 0.5354 | 2.7097 |
| 0-25(6)   | 0.9967 | 0.6790 | 8.1246  | 0.8294 | 0.8756 | 6.2753 | 0.6224 | 0.8952 | 3.0946 |
| 0-25(7)   | 1.0153 | 0.7416 | 8.3724  | 0.4674 | 0.7182 | 5.7176 | 1.1445 | 0.5416 | 2.9536 |
| 0-25(8)   | 1.8616 | 0.6686 | 8.5665  | 1.3189 | 0.8609 | 6.0902 | 2.0138 | 0.6374 | 2.5472 |
| 0-25(9)   | 0.2955 | 0.7199 | 8.4398  | 1.6059 | 0.8621 | 6.5319 | 0.6483 | 0.5751 | 3.0547 |
| 0-25(10)  | 0.1584 | 0.7680 | 9.6366  | 0.1171 | 0.8912 | 6.0975 | 0.5721 | 0.7055 | 2.9518 |
| 0-25(11)  | 0.1412 | 0.6909 | 8.3905  | 0.6302 | 0.7885 | 6.4798 | 2.7536 | 0.6432 | 2.9038 |

- Alignment Doublecise 5 normal dan level 1-3

| DB 5     | LEVEL 1 |        |        | LEVEL 2 |        |        | LEVEL 3 |        |        |
|----------|---------|--------|--------|---------|--------|--------|---------|--------|--------|
|          | SUM     | RANGE  | ENERGI | SUM     | RANGE  | ENERGI | SUM     | RANGE  | ENERGI |
| 0-10(1)  | 0.7629  | 0.6750 | 9.0232 | 0.0362  | 0.7830 | 6.3179 | 0.1662  | 0.9979 | 3.2563 |
| 0-10(2)  | 0.3764  | 0.6887 | 8.9832 | 0.8556  | 0.7036 | 5.9522 | 0.9006  | 0.6159 | 2.9382 |
| 0-10(3)  | 2.2028  | 0.6733 | 9.0599 | 0.3827  | 0.7135 | 5.7914 | 3.0091  | 0.7204 | 2.9154 |
| 0-10(4)  | 0.5285  | 0.7356 | 9.0765 | 0.2119  | 0.7189 | 5.6041 | 1.0111  | 0.6944 | 3.2604 |
| 0-10(5)  | 1.4018  | 0.6396 | 9.0878 | 1.2211  | 0.6924 | 5.7085 | 1.5618  | 0.6179 | 2.8466 |
| 0-10(6)  | 0.9208  | 0.7241 | 8.7780 | 0.0463  | 0.8165 | 5.7850 | 3.0132  | 0.6914 | 3.3005 |
| 0-10(7)  | 3.2132  | 0.6944 | 9.0255 | 1.4437  | 0.7413 | 6.0512 | 1.4610  | 0.6795 | 2.9352 |
| 0-10(8)  | 2.7122  | 0.7037 | 8.8569 | 0.0734  | 0.8758 | 6.7758 | 2.9194  | 0.6142 | 3.1595 |
| 0-10(9)  | 0.5344  | 0.5937 | 8.4527 | 0.7607  | 0.8324 | 6.4043 | 4.1848  | 0.7516 | 3.4284 |
| 0-10(10) | 2.5604  | 0.6583 | 8.5038 | 0.9246  | 0.9105 | 8.0984 | 0.8083  | 0.9307 | 3.5881 |
| 0-10(11) | 0.4997  | 0.6852 | 8.6132 | 0.0098  | 0.7143 | 5.1222 | 2.9235  | 0.9112 | 3.3845 |
| 0-10(12) | 0.1820  | 0.7141 | 9.0828 | 0.3078  | 0.8188 | 6.5878 | 0.9533  | 0.6014 | 2.1298 |
| 0-10(13) | 1.1279  | 0.7376 | 9.3114 | 1.9622  | 0.7680 | 6.7241 | 0.5984  | 0.8947 | 2.7007 |
|          |         |        |        |         |        |        |         |        |        |
|          |         |        |        |         |        |        |         |        |        |

|           |        |        |         |        |        |        |        |        |        |
|-----------|--------|--------|---------|--------|--------|--------|--------|--------|--------|
| 5-25(1)   | 0.5279 | 0.7248 | 10.4489 | 0.3190 | 0.8055 | 7.8986 | 6.3125 | 0.7210 | 3.4784 |
| 5-25(2)   | 0.7592 | 0.6726 | 9.9946  | 2.1585 | 1.0418 | 8.2231 | 1.7611 | 0.6947 | 3.6495 |
| 5-25(3)   | 0.2324 | 0.6927 | 10.0744 | 2.7510 | 0.9153 | 8.3517 | 0.1442 | 0.6791 | 3.3577 |
| 5-25(4)   | 0.8824 | 0.7225 | 9.5738  | 0.0752 | 0.8688 | 8.4600 | 1.4823 | 0.6712 | 3.0355 |
| 5-25(5)   | 0.7764 | 0.8198 | 9.9412  | 0.6724 | 0.9282 | 7.5081 | 0.5716 | 0.6892 | 3.2894 |
| 5-25(6)   | 0.8915 | 0.7321 | 9.9702  | 1.3911 | 0.9509 | 8.4918 | 4.4383 | 0.7325 | 3.4238 |
| 5-25(7)   | 0.3803 | 0.6230 | 10.3472 | 0.7568 | 0.9684 | 8.8213 | 1.6788 | 0.9361 | 3.3778 |
| 5-25(8)   | 0.3876 | 0.7750 | 10.4364 | 3.8617 | 0.8536 | 7.8399 | 1.4717 | 0.6225 | 3.1736 |
| 5-25(9)   | 3.2554 | 0.7554 | 9.9510  | 0.3423 | 0.9393 | 8.3486 | 1.1016 | 0.6999 | 2.9456 |
| 5-25(10)  | 1.1885 | 0.7285 | 10.3748 | 1.7739 | 0.8675 | 7.5391 | 1.0316 | 0.6385 | 3.2803 |
| 5-25(11)  | 1.2670 | 0.8647 | 10.5938 | 2.6191 | 0.9720 | 7.6725 | 6.0757 | 0.6786 | 3.6703 |
|           |        |        |         |        |        |        |        |        |        |
| 10-25(1)  | 0.5338 | 0.8304 | 11.1790 | 0.7261 | 0.8285 | 8.4710 | 1.3033 | 0.6773 | 3.3460 |
| 10-25(2)  | 0.4409 | 0.7196 | 10.8310 | 1.4142 | 0.9247 | 8.3853 | 2.7716 | 0.6869 | 3.7118 |
| 10-25(3)  | 0.8600 | 0.8335 | 10.9342 | 1.6810 | 0.9926 | 8.0487 | 2.6335 | 0.5942 | 2.9850 |
| 10-25(4)  | 0.9907 | 0.6370 | 10.1786 | 0.1841 | 0.8142 | 7.5471 | 4.2379 | 0.6267 | 4.1878 |
| 10-25(5)  | 2.4069 | 0.7781 | 10.3586 | 0.8332 | 0.8882 | 8.5562 | 4.4354 | 0.7174 | 3.5115 |
| 10-25(6)  | 2.2881 | 0.7993 | 12.1779 | 0.0590 | 0.9350 | 8.1472 | 2.4531 | 0.6422 | 2.9249 |
| 10-25(7)  | 0.6305 | 0.7534 | 11.0674 | 0.7868 | 0.9305 | 7.8989 | 2.9597 | 0.6000 | 3.2993 |
| 10-25(8)  | 1.4328 | 0.8207 | 10.2107 | 0.9009 | 0.8690 | 8.0241 | 1.4514 | 0.6102 | 3.4689 |
| 10-25(9)  | 1.6264 | 0.8249 | 10.8543 | 2.1291 | 0.8594 | 7.4786 | 0.8170 | 0.6100 | 3.1072 |
| 10-25(10) | 0.0275 | 0.6815 | 10.2639 | 1.1872 | 0.9243 | 8.5957 | 0.0801 | 0.5990 | 2.7331 |
|           |        |        |         |        |        |        |        |        |        |
| 0-25(1)   | 1.6111 | 0.8077 | 9.7285  | 1.1522 | 0.7542 | 6.0198 | 1.4248 | 0.7482 | 3.4211 |
| 0-25(2)   | 2.2326 | 0.6799 | 9.3513  | 1.3145 | 0.7225 | 5.6714 | 1.1584 | 0.6457 | 3.1068 |
| 0-25(3)   | 0.2022 | 0.6255 | 9.2912  | 2.0372 | 0.7451 | 5.9320 | 1.7373 | 0.5588 | 2.6259 |
| 0-25(4)   | 0.2437 | 0.7326 | 8.8542  | 0.9451 | 0.7730 | 6.0525 | 1.8969 | 0.7092 | 2.5581 |
| 0-25(5)   | 3.8543 | 0.6758 | 9.2777  | 0.4128 | 0.7654 | 5.9743 | 1.9242 | 0.5880 | 2.9986 |
| 0-25(6)   | 0.8638 | 0.6312 | 7.9920  | 0.6963 | 0.8546 | 6.2930 | 0.5917 | 0.8508 | 3.3147 |
| 0-25(7)   | 1.0012 | 0.7273 | 8.5122  | 1.3920 | 0.6957 | 5.7959 | 0.1038 | 0.5844 | 2.7935 |
| 0-25(8)   | 1.8476 | 0.6594 | 8.8830  | 1.7270 | 0.7667 | 5.6498 | 0.3483 | 0.5862 | 2.9197 |
| 0-25(9)   | 0.2757 | 0.6759 | 8.7502  | 0.9681 | 0.8111 | 6.3196 | 0.2318 | 0.5757 | 3.0264 |
| 0-25(10)  | 0.1432 | 0.7384 | 9.3557  | 1.2490 | 0.8213 | 5.6189 | 0.5674 | 0.6897 | 3.5592 |
| 0-25(11)  | 0.1635 | 0.6659 | 8.7098  | 0.5236 | 0.7732 | 6.2352 | 1.3599 | 0.5653 | 2.8526 |

- Program Fuzzy C-Means

```
Untitled x fcm_fuzzy_cluster_misali... x
1
2
3
4 - cluster_n = 3;
5 - expo = 2.0 ;
6 - max_iter = 100 ;
7 - min_impro = 1e-6 ;
8 - min_display = 5 ;
9 - clusteringOptions = [expo max_iter min_impro true];
0 - clusteringOptions = [expo max_iter min_impro min_display];
1 - [center,U,obj] = fcm(db1_level1,cluster_n,clusteringOptions);
2 - maxU = max(U);
3 - index = cell(cluster_n, 1);
4 - for i = 1 : cluster_n
5 -     index{i} = find(U(i,:) == maxU) ;
6 - end
7
- for j=1 : 15
-     sample = db1_level1_tes(j,:);
-     jarak = [] ;
-     center1 = sortrows(center,3);
-     for i = 1:3
-         jarak(i) = norm(center1(i,:) - sample) ;
-     end
-     [value, indeks] = sort(jarak) ;
-     indeks_terkecil = indeks(1) ;
-     hasil(j) = indeks_terkecil ;
- end
```