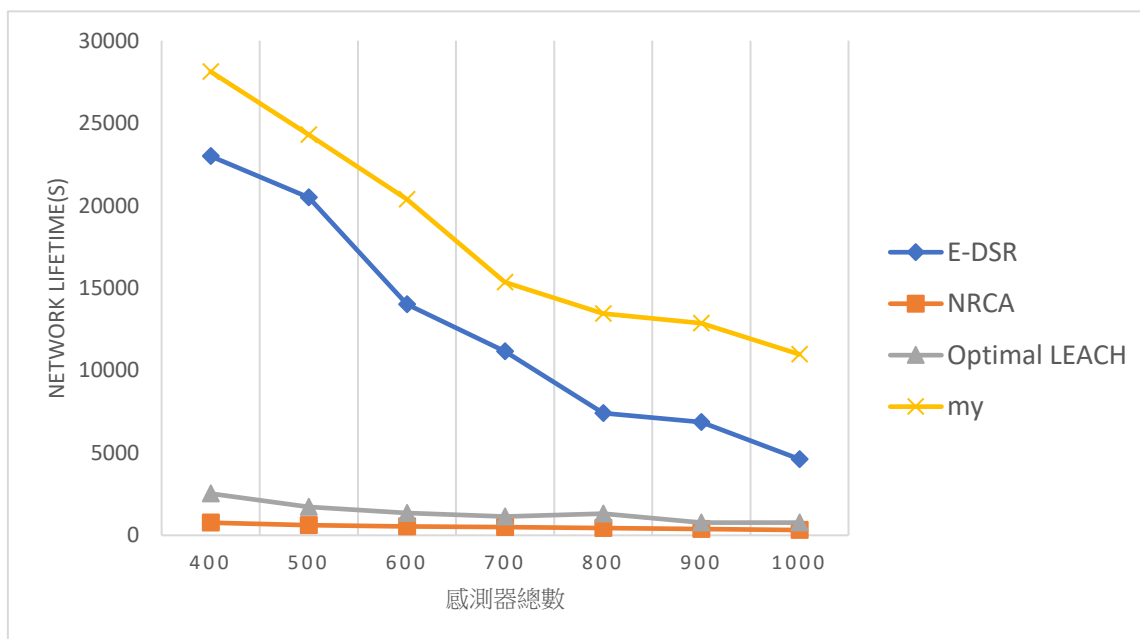
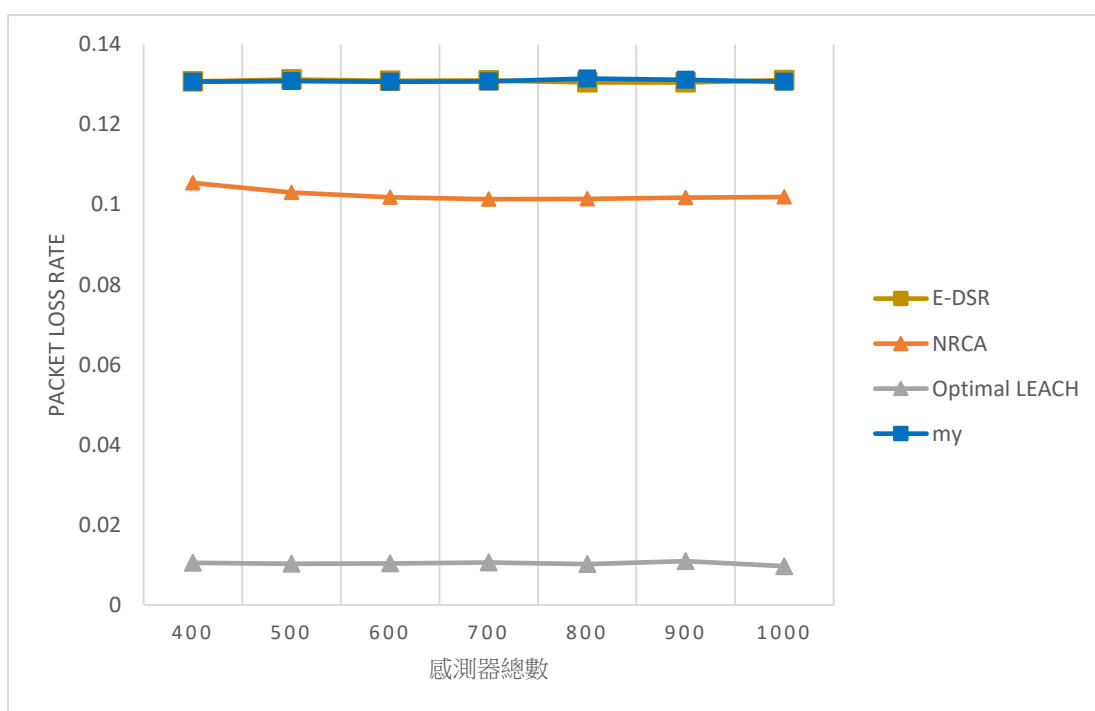


# Normal 場景

| PACKET LOSS RATE |               | 400       | 500      | 600       | 700      | 800       | 900       | 1000      |
|------------------|---------------|-----------|----------|-----------|----------|-----------|-----------|-----------|
| normal 1400      | E-DSR         | 0.130749  | 0.13122  | 0.130933  | 0.130963 | 0.130513  | 0.130486  | 0.131103  |
|                  | NRCA          | 0.105403  | 0.102995 | 0.101853  | 0.101343 | 0.101418  | 0.101736  | 0.101916  |
|                  | Optimal LEACH | 0.0105013 | 0.010311 | 0.0103551 | 0.010635 | 0.0101825 | 0.0109557 | 0.0096989 |
|                  | my            | 0.130706  | 0.130844 | 0.130673  | 0.130737 | 0.131463  | 0.13113   | 0.130675  |

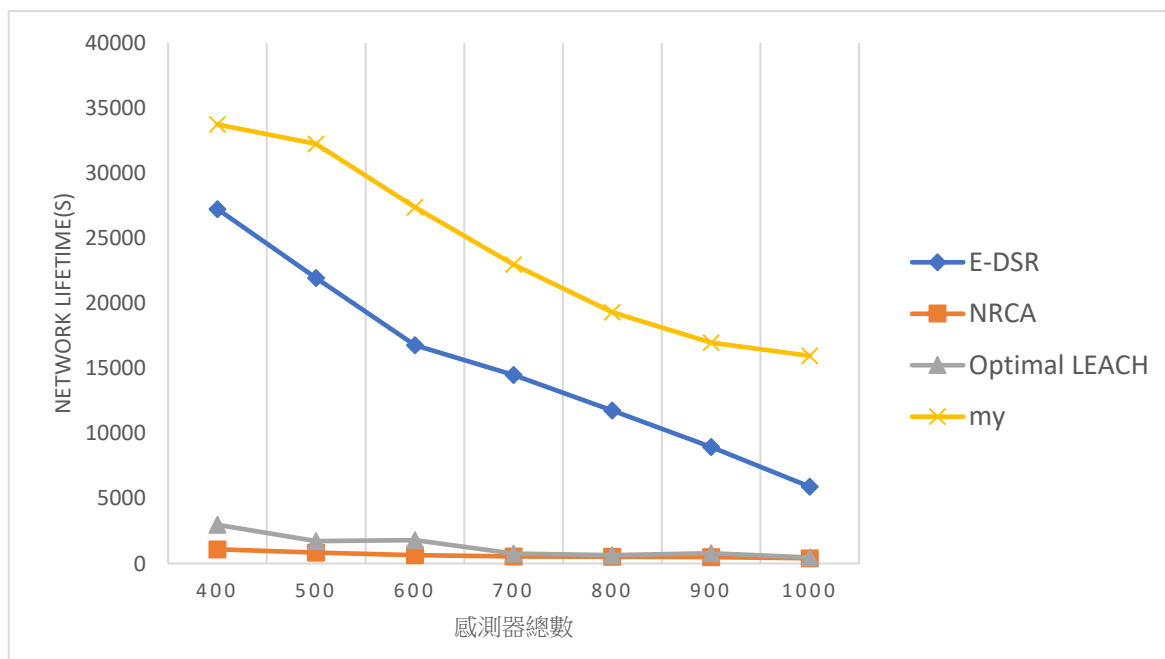
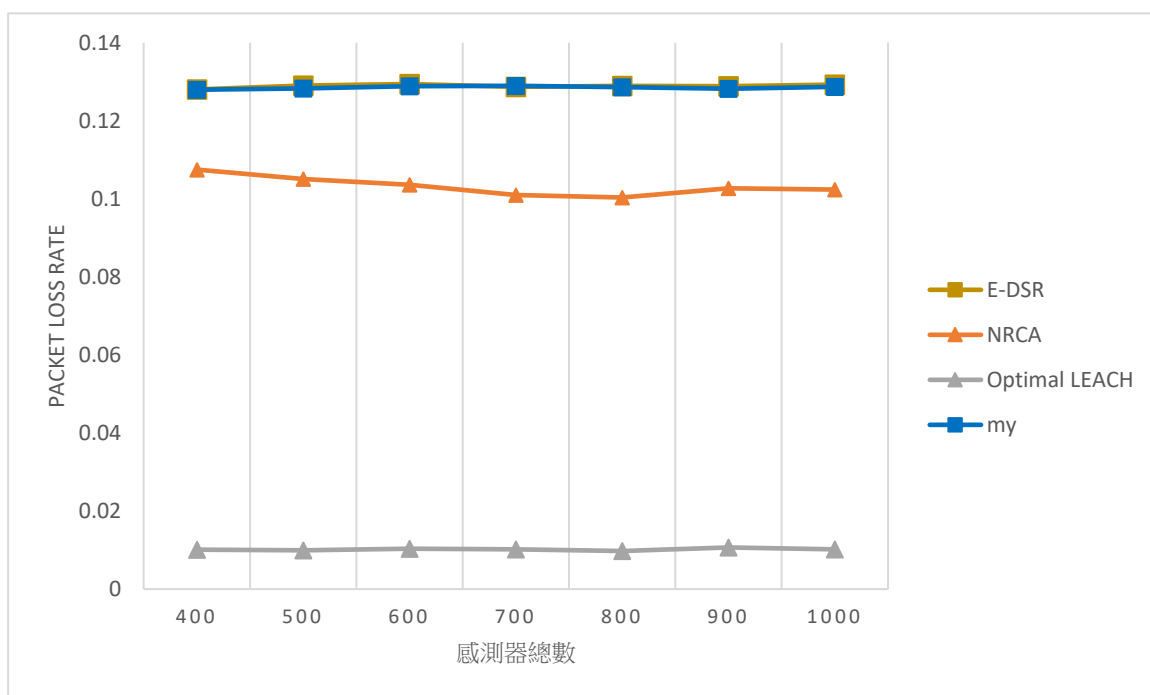
| AVG_LIFETIME |               | 400   | 500   | 600     | 700     | 800     | 900     | 1000   |
|--------------|---------------|-------|-------|---------|---------|---------|---------|--------|
| normal 1400  | E-DSR         | 22995 | 20493 | 14019   | 11160   | 7419    | 6860    | 4621   |
|              | NRCA          | 766   | 619.3 | 546.965 | 503.348 | 436.167 | 392.808 | 320.64 |
|              | Optimal LEACH | 2531  | 1731  | 1351    | 1141    | 1311    | 771     | 781    |
|              | my            | 28121 | 24291 | 20371   | 15349   | 13450   | 12871   | 10977  |



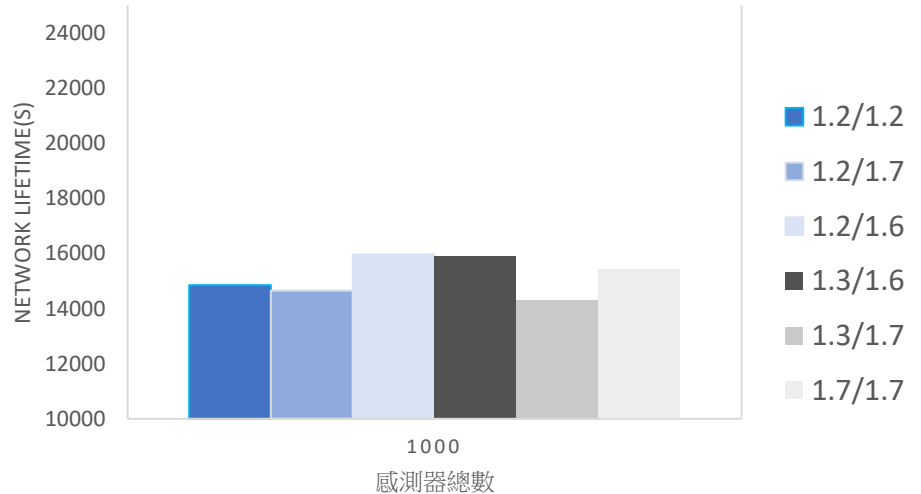
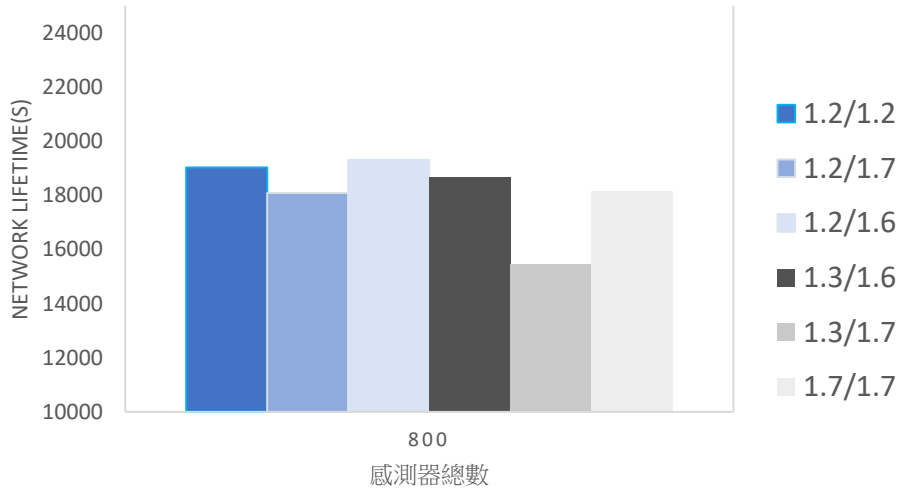
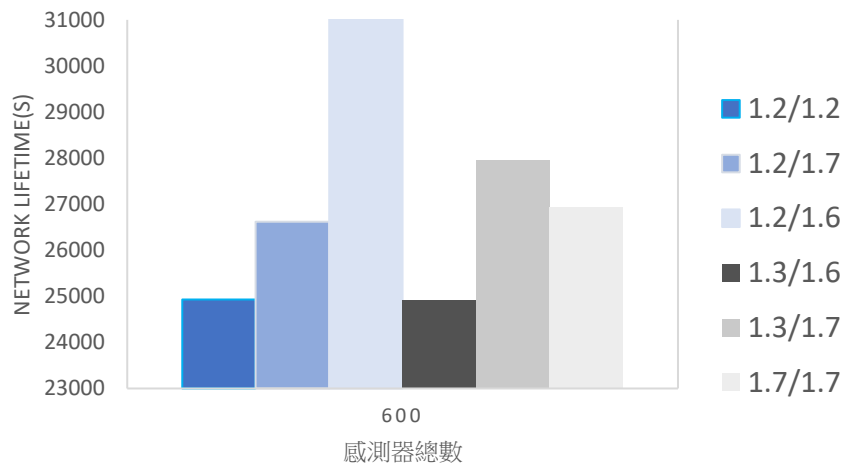
## Special 場景

| PACKET LOSS RATE |               | 400       | 500       | 600      | 700       | 800       | 900       | 1000      |
|------------------|---------------|-----------|-----------|----------|-----------|-----------|-----------|-----------|
| special 1400     | E-DSR         | 0.128033  | 0.129001  | 0.129415 | 0.128703  | 0.128956  | 0.128897  | 0.129289  |
|                  | NRCA          | 0.107489  | 0.105066  | 0.1036   | 0.100937  | 0.10034   | 0.102663  | 0.102345  |
|                  | Optimal LEACH | 0.0100972 | 0.0099576 | 0.010361 | 0.0101978 | 0.0097579 | 0.0106726 | 0.0102226 |
|                  | my            | 0.12796   | 0.128282  | 0.128885 | 0.128955  | 0.128593  | 0.128195  | 0.128692  |

| AVG_LIFETIME |               | 400   | 500   | 600   | 700     | 800   | 900   | 1000  |
|--------------|---------------|-------|-------|-------|---------|-------|-------|-------|
| special 1400 | E-DSR         | 27236 | 21950 | 16778 | 14498.5 | 11756 | 8951  | 5901  |
|              | NRCA          | 1091  | 831   | 641   | 551     | 521   | 481   | 401   |
|              | Optimal LEACH | 2971  | 1731  | 1791  | 751     | 640   | 781   | 461   |
|              | my            | 33736 | 32248 | 27386 | 22961   | 19313 | 16966 | 15961 |



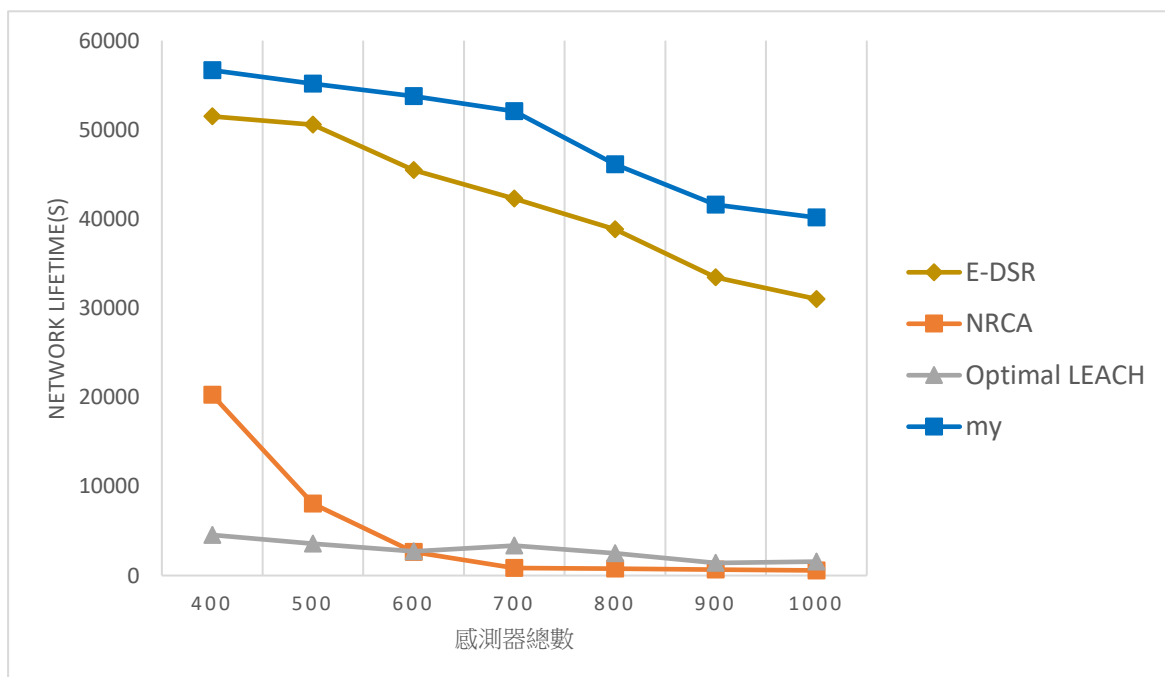
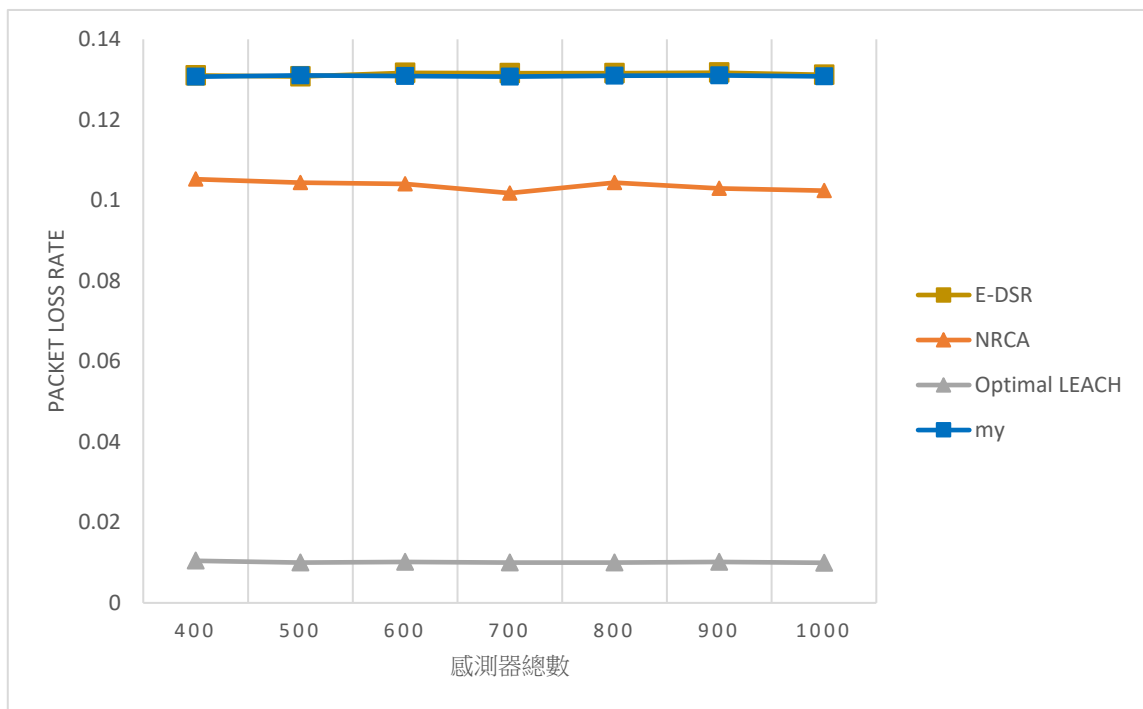
| AVG_LIFETIME |         | 600   | 800   | 1000  |
|--------------|---------|-------|-------|-------|
|              | 1.2/1.2 | 24933 | 19031 | 14846 |
|              | 1.2/1.7 | 26621 | 18081 | 14652 |
|              | 1.2/1.6 | 31168 | 19313 | 15961 |
|              | 1.3/1.6 | 24926 | 18666 | 15881 |
|              | 1.3/1.7 | 27963 | 15451 | 14291 |
|              | 1.7/1.7 | 26931 | 18131 | 15431 |
|              |         |       |       |       |
|              |         |       |       |       |
|              |         |       |       |       |



## Normal 場景(comp)

| PACKET LOSS RATE |               | 400       | 500       | 600       | 700       | 800       | 900       | 1000      |
|------------------|---------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| normal 1400      | E-DSR         | 0.130992  | 0.130759  | 0.131663  | 0.131553  | 0.131553  | 0.131706  | 0.131225  |
|                  | NRCA          | 0.105248  | 0.104407  | 0.104106  | 0.101794  | 0.104432  | 0.102948  | 0.102436  |
|                  | Optimal LEACH | 0.0104606 | 0.0100376 | 0.0102047 | 0.0100103 | 0.0100458 | 0.0101701 | 0.0099681 |
|                  | my            | 0.130734  | 0.131039  | 0.130904  | 0.130732  | 0.130926  | 0.131016  | 0.130804  |

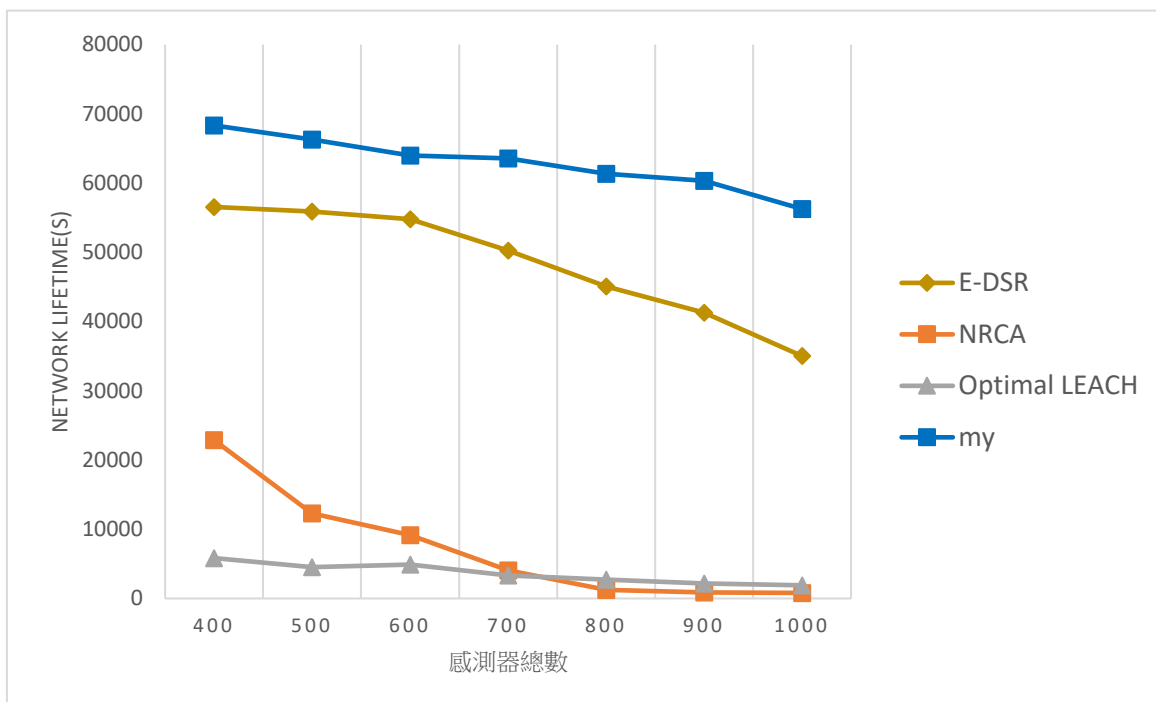
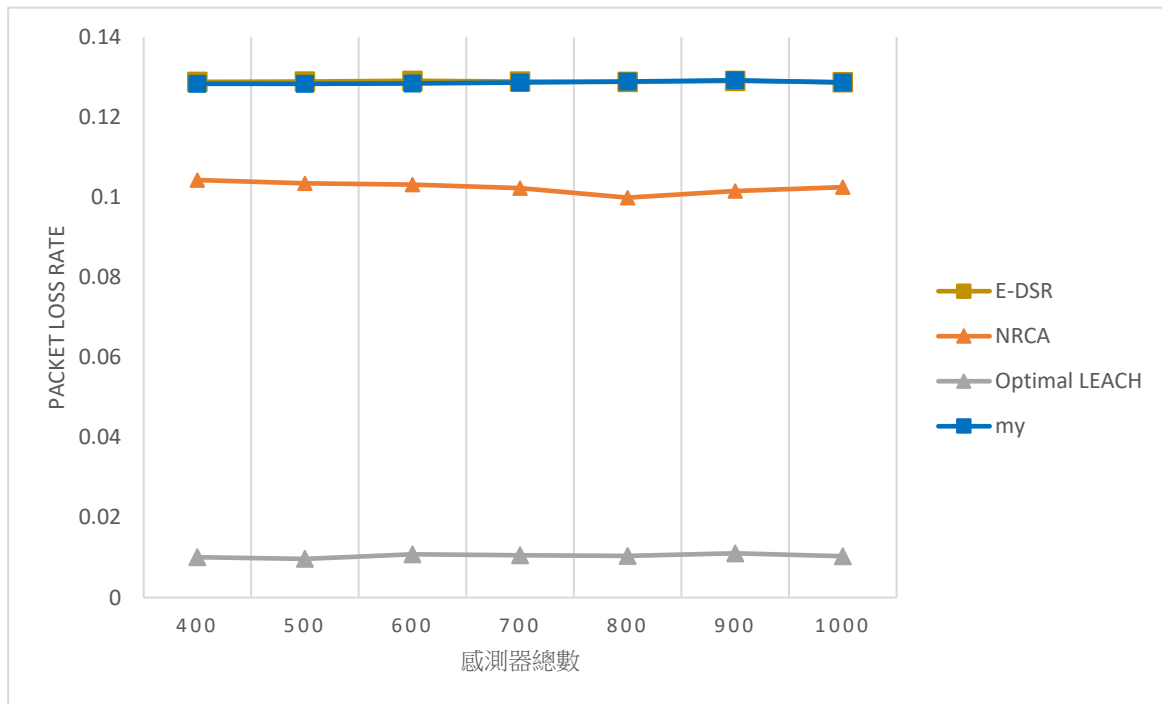
| AVG_LIFETIME |               | 400   | 500   | 600   | 700   | 800   | 900   | 1000  |
|--------------|---------------|-------|-------|-------|-------|-------|-------|-------|
| normal 1400  | E-DSR         | 51500 | 50556 | 45475 | 42283 | 38814 | 33427 | 31018 |
|              | NRCA          | 20251 | 8061  | 2641  | 841   | 771   | 671   | 571   |
|              | Optimal LEACH | 4551  | 3561  | 2721  | 3341  | 2501  | 1411  | 1551  |
|              | my            | 56676 | 55156 | 53781 | 52068 | 46105 | 41586 | 40151 |



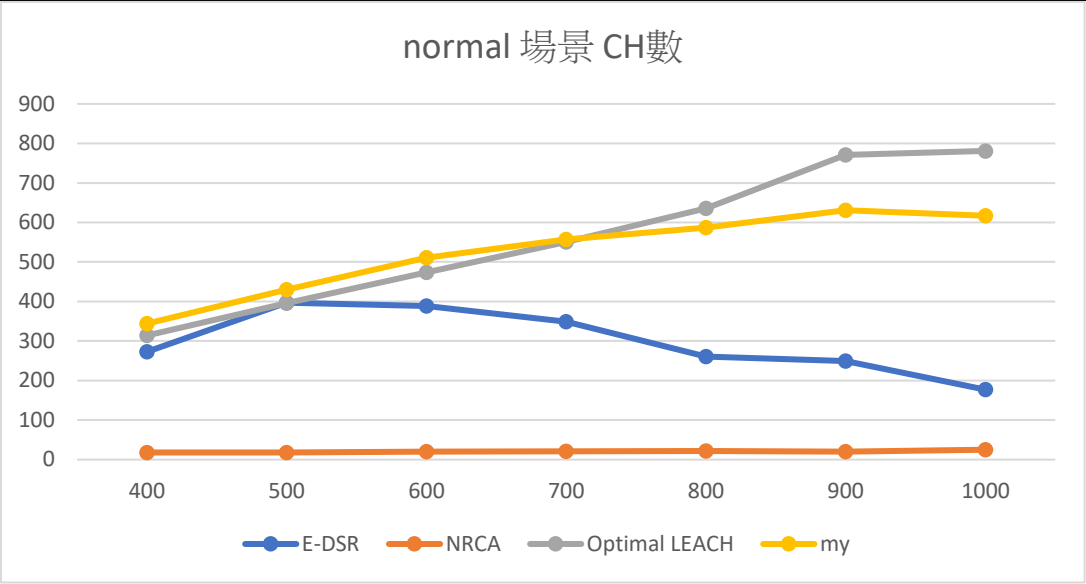
# Special 場景(comp)

| PACKET LOSS RATE |               | 400       | 500       | 600       | 700       | 800       | 900       | 1000      |
|------------------|---------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| special 1400     | E-DSR         | 0.128781  | 0.128834  | 0.12906   | 0.128885  | 0.128785  | 0.129019  | 0.128726  |
|                  | NRCA          | 0.104279  | 0.103415  | 0.103115  | 0.102278  | 0.099883  | 0.101508  | 0.102472  |
|                  | Optimal LEACH | 0.0101246 | 0.0096754 | 0.0107875 | 0.0105996 | 0.0103792 | 0.0110705 | 0.0103337 |
|                  | my            | 0.128313  | 0.128299  | 0.128401  | 0.128653  | 0.128859  | 0.129184  | 0.128645  |

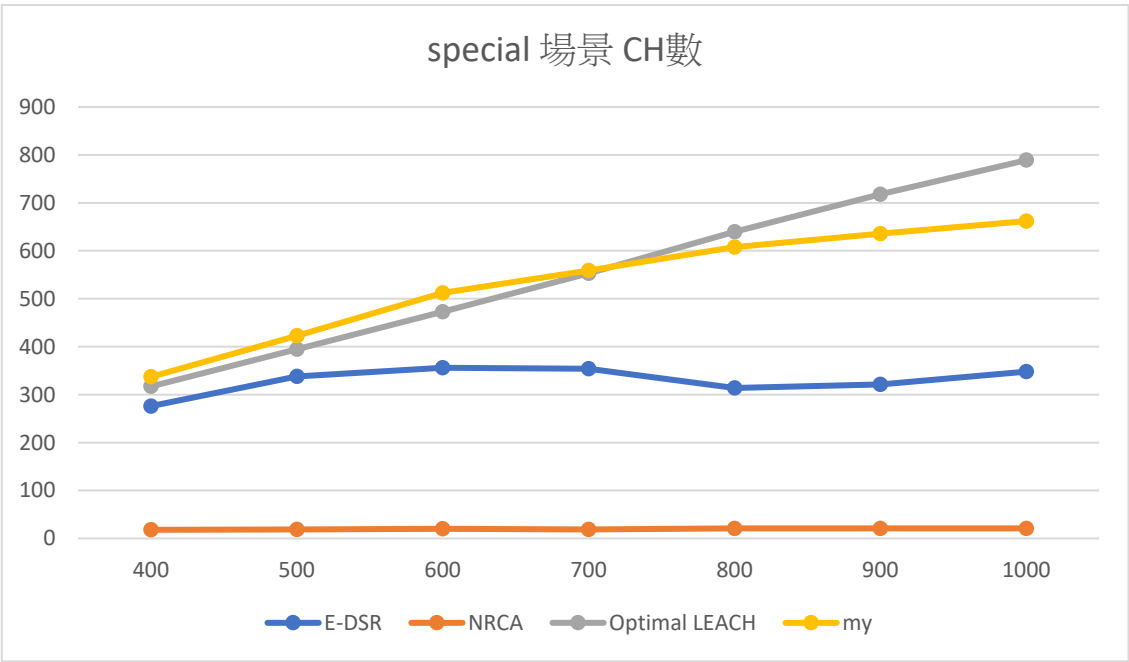
| AVG_LIFETIME |               | 400   | 500   | 600   | 700   | 800   | 900   | 1000  |
|--------------|---------------|-------|-------|-------|-------|-------|-------|-------|
| special 1400 | E-DSR         | 56540 | 55888 | 54757 | 50252 | 45086 | 41254 | 35013 |
|              | NRCA          | 22871 | 12271 | 9141  | 4081  | 1231  | 891   | 801   |
|              | Optimal LEACH | 5831  | 4531  | 4891  | 3321  | 2741  | 2171  | 1901  |
|              | my            | 68313 | 66272 | 63961 | 63571 | 61336 | 60301 | 56251 |



| CH 數        |               | 400 | 500 | 600 | 700 | 800 | 900 | 1000 |
|-------------|---------------|-----|-----|-----|-----|-----|-----|------|
| normal 1400 | E-DSR         | 273 | 397 | 389 | 349 | 261 | 249 | 177  |
|             | NRCA          | 18  | 18  | 20  | 21  | 22  | 20  | 25   |
|             | Optimal LEACH | 314 | 396 | 474 | 551 | 636 | 771 | 781  |
|             | my            | 344 | 430 | 511 | 557 | 587 | 631 | 617  |



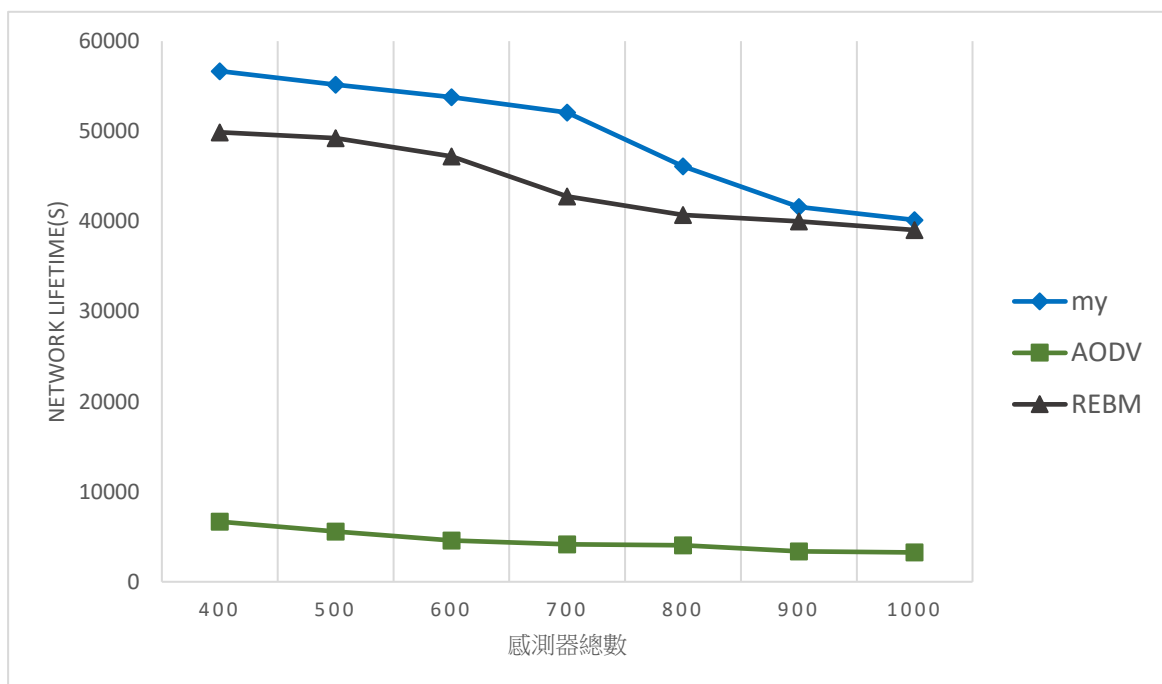
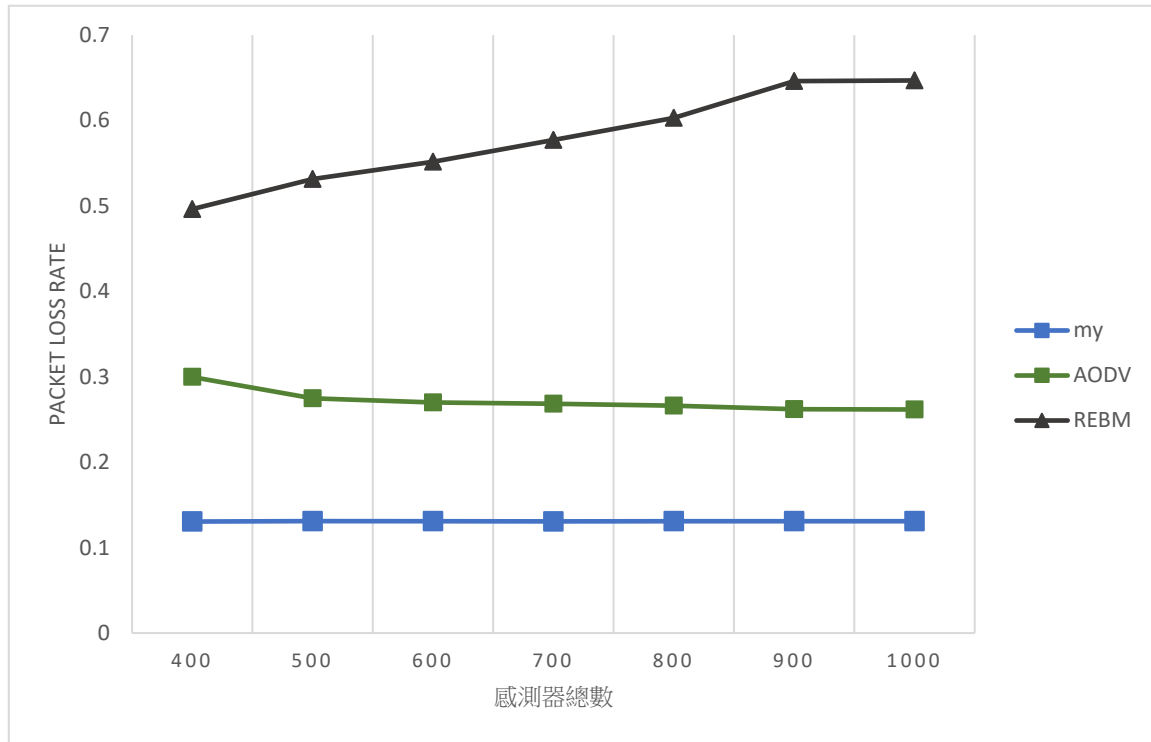
| CH 數         |               | 400 | 500 | 600 | 700 | 800 | 900 | 1000 |
|--------------|---------------|-----|-----|-----|-----|-----|-----|------|
| special 1400 | E-DSR         | 276 | 338 | 356 | 354 | 314 | 321 | 348  |
|              | NRCA          | 18  | 19  | 20  | 19  | 21  | 21  | 21   |
|              | Optimal LEACH | 317 | 395 | 473 | 553 | 640 | 718 | 789  |
|              | my            | 337 | 423 | 512 | 559 | 608 | 636 | 662  |



## Normal 場景(平面)

| PACKET LOSS RATE |      | 400      | 500      | 600      | 700      | 800      | 900      | 1000     |
|------------------|------|----------|----------|----------|----------|----------|----------|----------|
| normal 1400      | my   | 0.130734 | 0.131039 | 0.130904 | 0.130732 | 0.130926 | 0.131016 | 0.130804 |
|                  | AODV | 0.299729 | 0.274907 | 0.270039 | 0.268483 | 0.266095 | 0.262236 | 0.261709 |
|                  | REBM | 0.496266 | 0.531299 | 0.551583 | 0.577258 | 0.60297  | 0.645942 | 0.64688  |

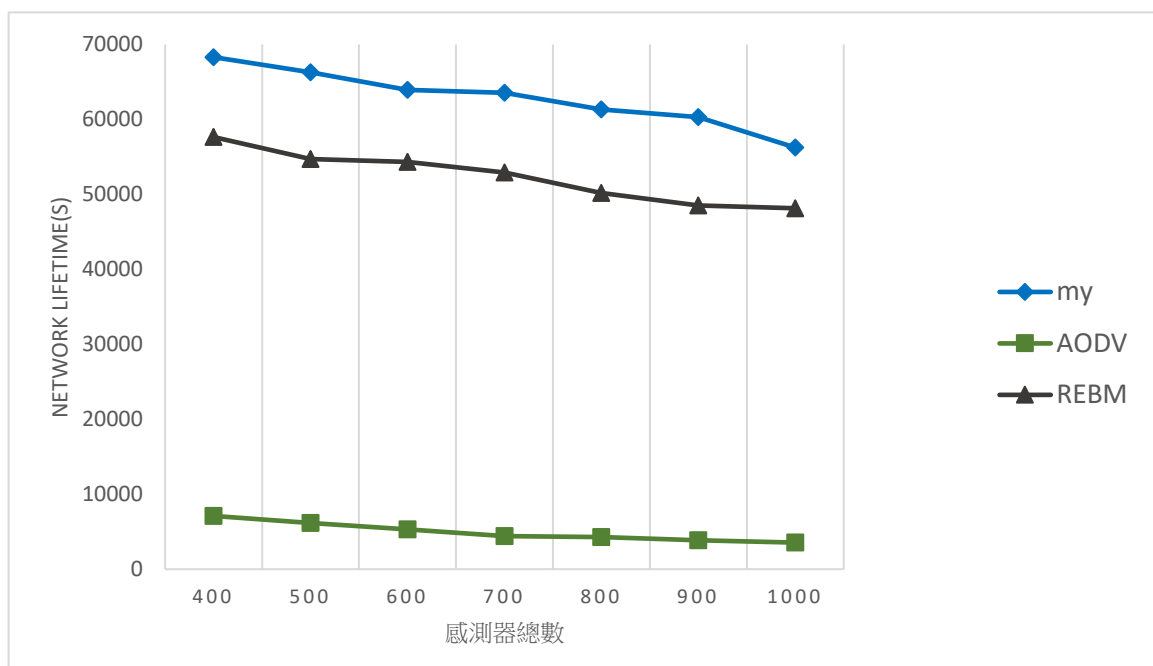
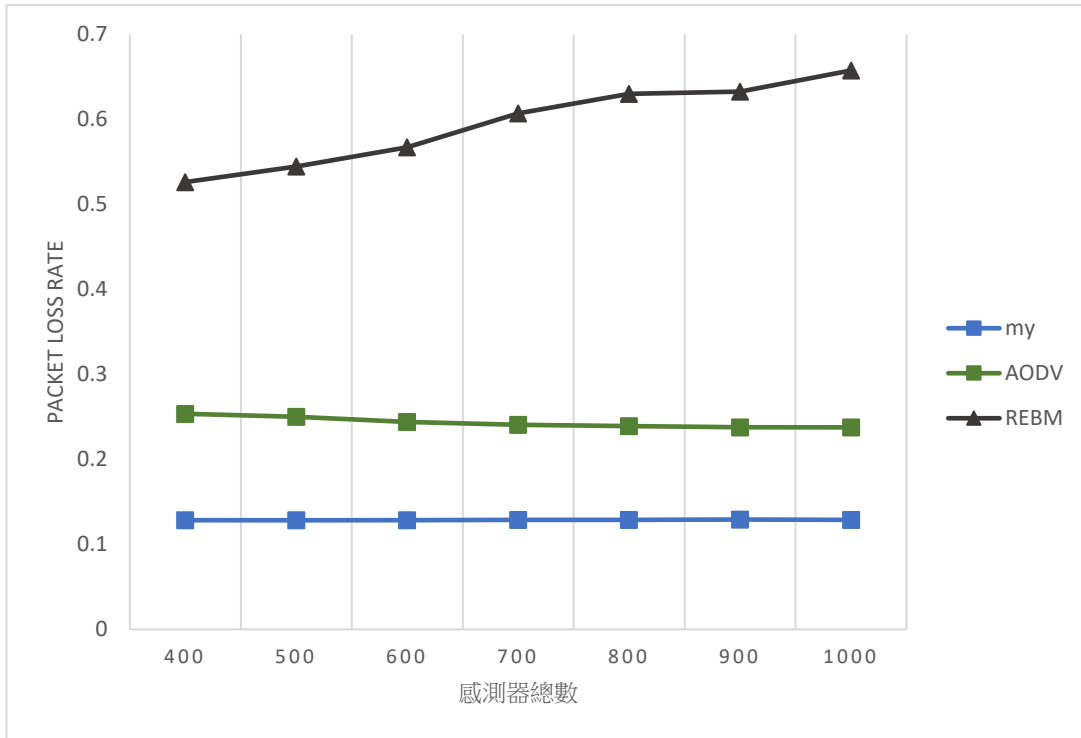
| AVG_LIFETIME |      | 400   | 500     | 600     | 700     | 800     | 900     | 1000    |
|--------------|------|-------|---------|---------|---------|---------|---------|---------|
| normal 1400  | my   | 56676 | 55156   | 53781   | 52068   | 46105   | 41586   | 40151   |
|              | AODV | 6673  | 5591.46 | 4596.63 | 4146.53 | 4057.13 | 3372.54 | 3256.85 |
|              | REBM | 49885 | 49225   | 47227   | 42769   | 40701   | 39991   | 39037   |



# Special 場景(平面)

| PACKET LOSS RATE |      | 400      | 500      | 600      | 700      | 800      | 900      | 1000     |
|------------------|------|----------|----------|----------|----------|----------|----------|----------|
| special 1400     | my   | 0.128313 | 0.128299 | 0.128401 | 0.128653 | 0.128859 | 0.129184 | 0.128645 |
|                  | AODV | 0.253588 | 0.249881 | 0.244133 | 0.240689 | 0.239225 | 0.237736 | 0.237745 |
|                  | REBM | 0.52612  | 0.544533 | 0.566918 | 0.606926 | 0.629963 | 0.632597 | 0.657459 |

| AVG_LIFETIME |      | 400     | 500     | 600     | 700     | 800     | 900    | 1000    |
|--------------|------|---------|---------|---------|---------|---------|--------|---------|
| special 1400 | my   | 68313   | 66272   | 63961   | 63571   | 61336   | 60301  | 56251   |
|              | AODV | 7103.63 | 6148.47 | 5327.17 | 4404.74 | 4280.09 | 3843.2 | 3548.26 |
|              | REBM | 57655   | 54715   | 54343   | 52939   | 50197   | 48511  | 48151   |





Special2 場景(平面)

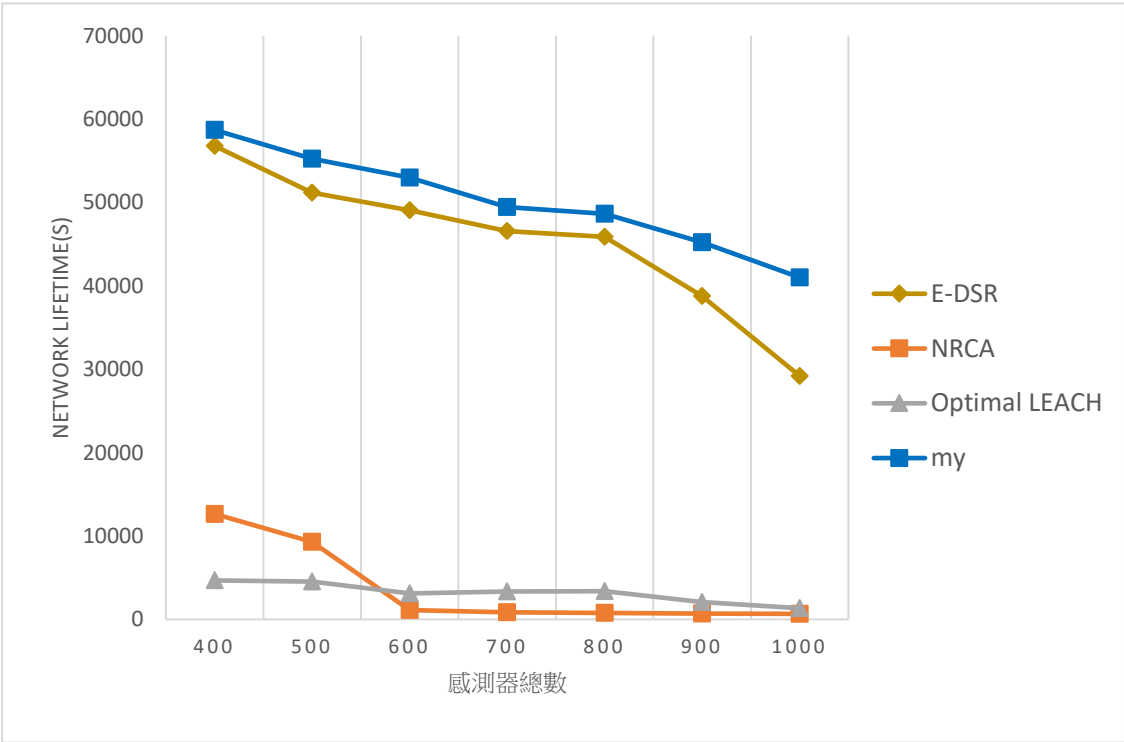
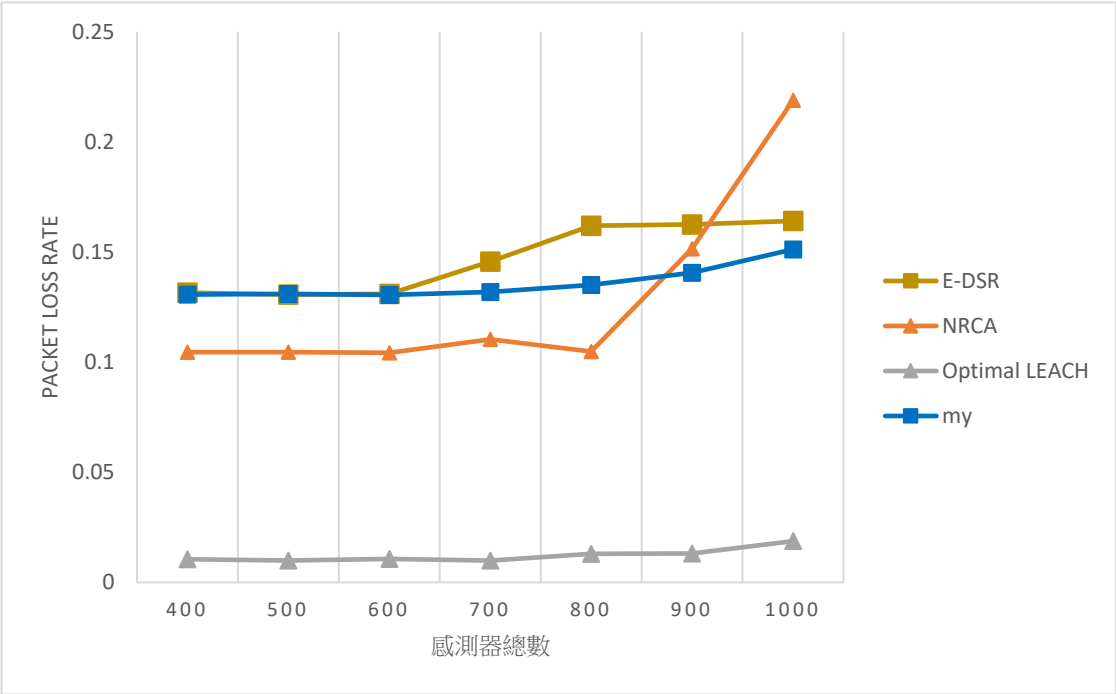
| PACKET LOSS RATE |      | 400 | 500 | 600 | 700 | 800 | 900 | 1000 |
|------------------|------|-----|-----|-----|-----|-----|-----|------|
| special 1400     | my   |     |     |     |     |     |     |      |
|                  | AODV |     |     |     |     |     |     |      |
|                  | REBM |     |     |     |     |     |     |      |

| AVG_LIFETIME |      | 400 | 500 | 600 | 700 | 800 | 900 | 1000 |
|--------------|------|-----|-----|-----|-----|-----|-----|------|
| special 1400 | my   |     |     |     |     |     |     |      |
|              | AODV |     |     |     |     |     |     |      |
|              | REBM |     |     |     |     |     |     |      |

# Normal 場景(400comp)

| PACKET LOSS RATE |               | 400      | 500       | 600       | 700       | 800       | 900       | 1000      |
|------------------|---------------|----------|-----------|-----------|-----------|-----------|-----------|-----------|
| special 400      | E-DSR         | 0.131539 | 0.130618  | 0.131016  | 0.145591  | 0.161869  | 0.162526  | 0.164078  |
|                  | NRCA          | 0.104574 | 0.104482  | 0.104246  | 0.110309  | 0.10477   | 0.151406  | 0.218842  |
|                  | Optimal LEACH | 0.010493 | 0.0098918 | 0.0107186 | 0.0098795 | 0.0130395 | 0.0131774 | 0.0187263 |
|                  | my            | 0.13069  | 0.13093   | 0.130513  | 0.131791  | 0.134985  | 0.140625  | 0.151189  |

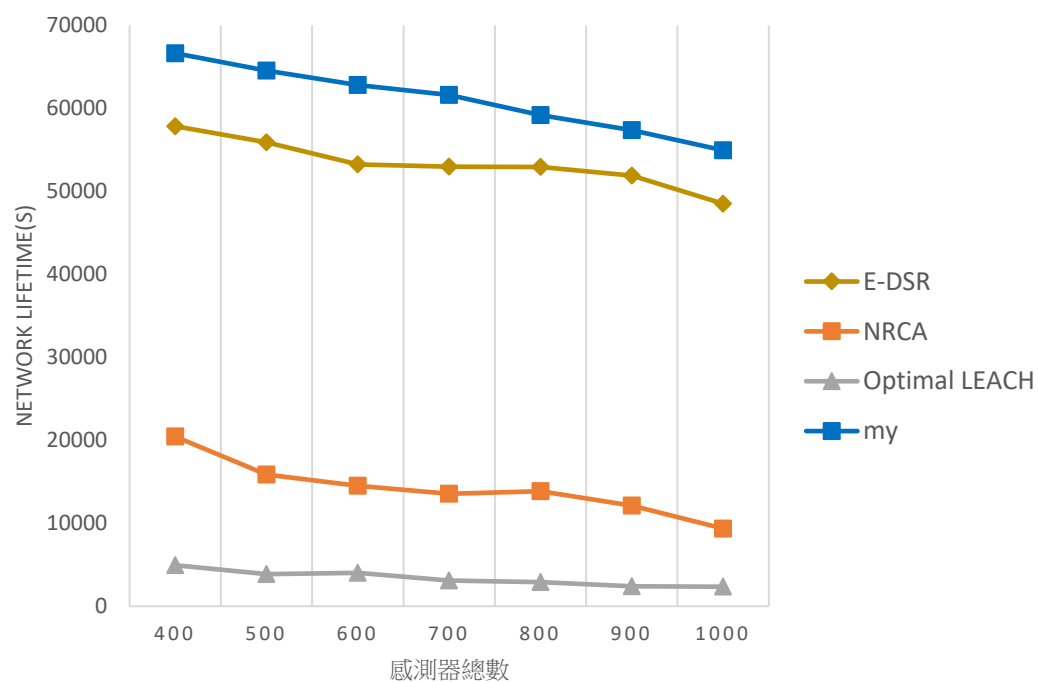
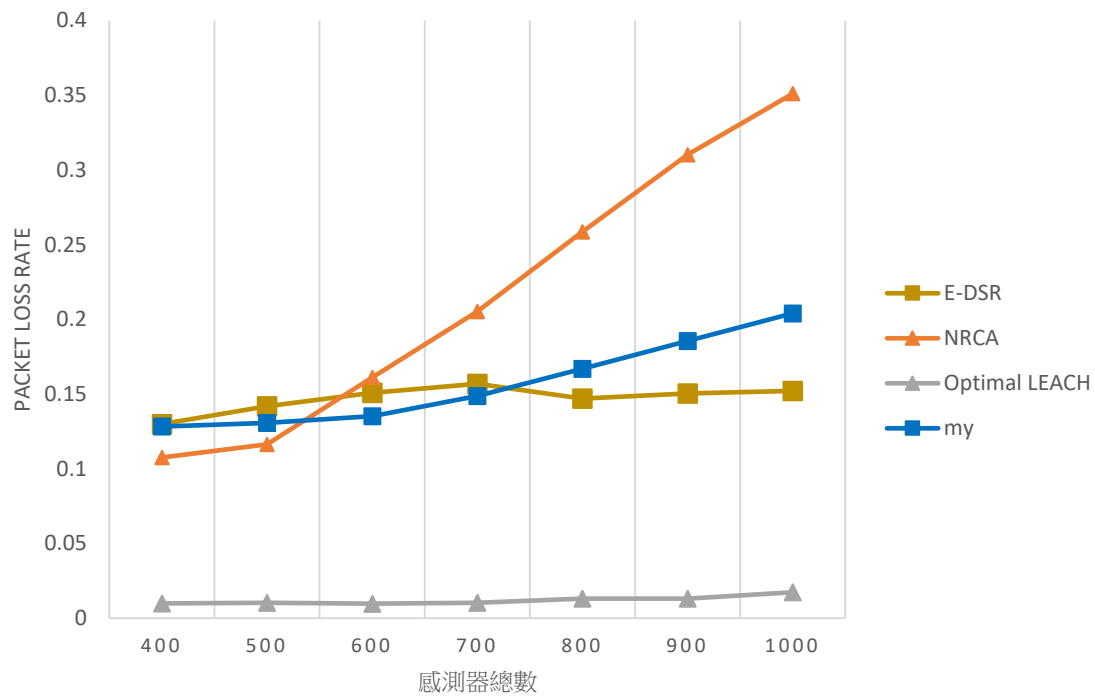
| AVG_LIFETIME |               | 400   | 500   | 600   | 700   | 800   | 900   | 1000  |
|--------------|---------------|-------|-------|-------|-------|-------|-------|-------|
| special 400  | E-DSR         | 56766 | 51170 | 49056 | 46541 | 45867 | 38761 | 29191 |
|              | NRCA          | 12647 | 9281  | 1131  | 851   | 771   | 701   | 661   |
|              | Optimal LEACH | 4671  | 4531  | 3111  | 3361  | 3381  | 2091  | 1341  |
|              | my            | 58681 | 55226 | 52977 | 49431 | 48618 | 45196 | 41002 |



## Special 場景(400comp)

| PACKET LOSS RATE |               | 400       | 500      | 600       | 700       | 800       | 900       | 1000      |
|------------------|---------------|-----------|----------|-----------|-----------|-----------|-----------|-----------|
| special 400      | E-DSR         | 0.129922  | 0.141883 | 0.150872  | 0.156852  | 0.146973  | 0.150346  | 0.152071  |
|                  | NRCA          | 0.107534  | 0.116404 | 0.161211  | 0.205311  | 0.258553  | 0.310252  | 0.351055  |
|                  | Optimal LEACH | 0.0098649 | 0.010251 | 0.0097213 | 0.0103277 | 0.0131687 | 0.0130638 | 0.0173193 |
|                  | my            | 0.128249  | 0.130608 | 0.135226  | 0.148675  | 0.166953  | 0.185646  | 0.204014  |

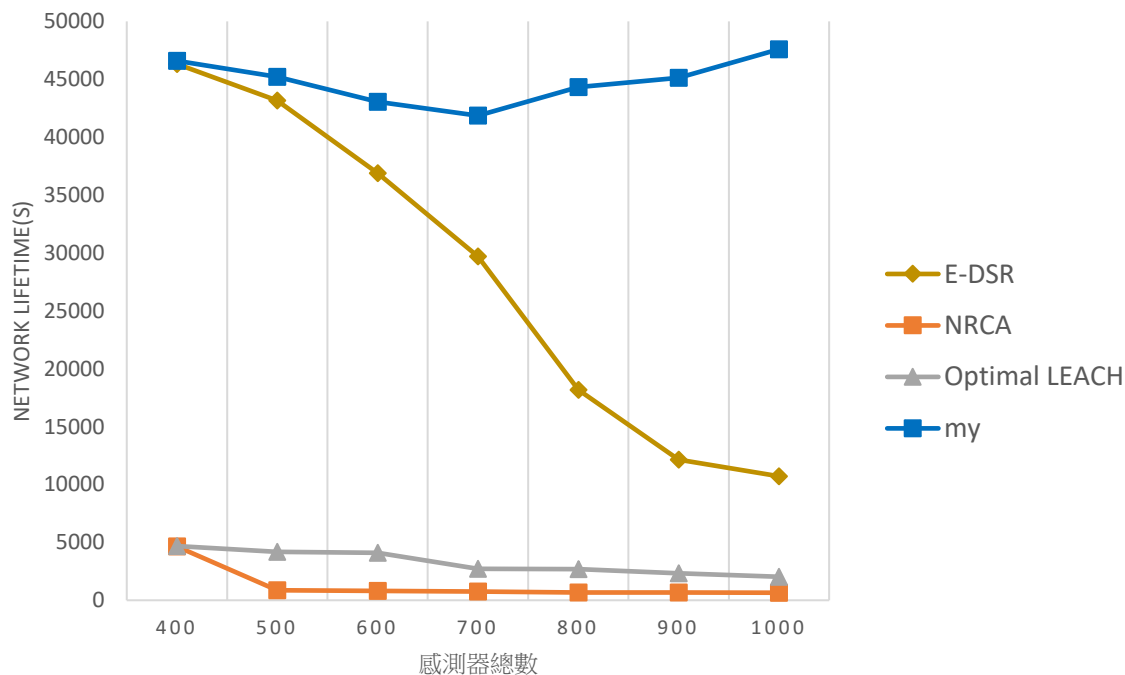
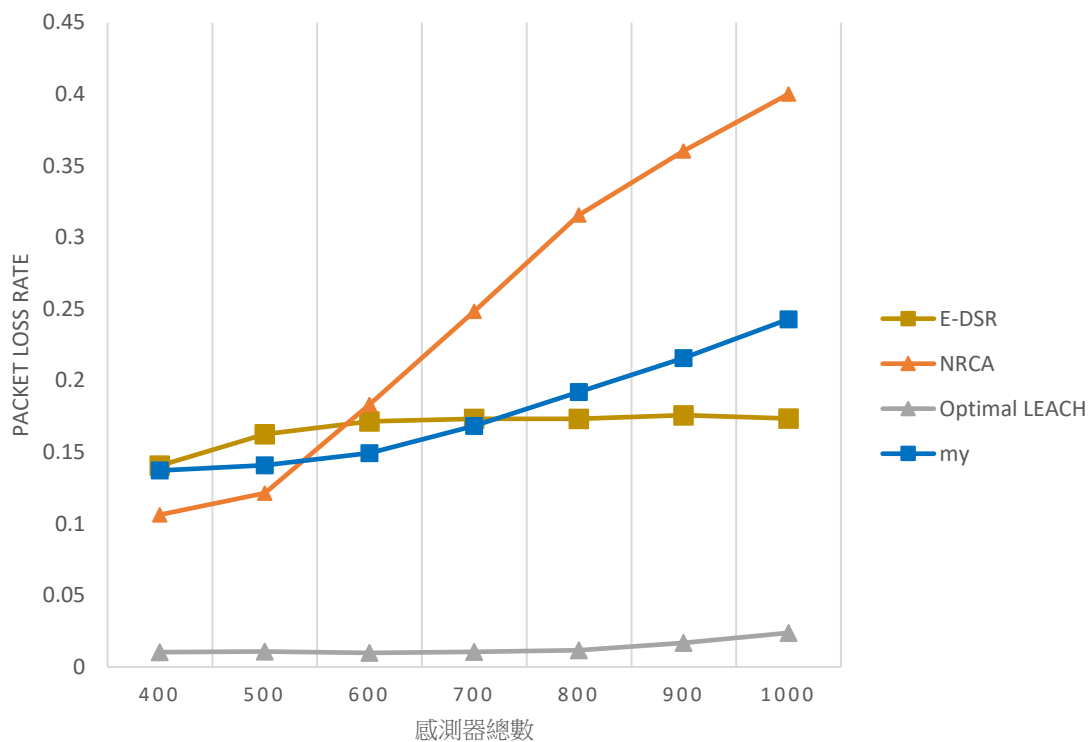
| AVG_LIFETIME |               | 400   | 500   | 600   | 700   | 800   | 900   | 1000  |
|--------------|---------------|-------|-------|-------|-------|-------|-------|-------|
| special 400  | E-DSR         | 57847 | 55896 | 53248 | 52973 | 52930 | 51891 | 48511 |
|              | NRCA          | 20437 | 15881 | 14531 | 13541 | 13861 | 12121 | 9361  |
|              | Optimal LEACH | 4941  | 3861  | 4021  | 3101  | 2901  | 2391  | 2351  |
|              | my            | 66649 | 64534 | 62828 | 61621 | 59201 | 57357 | 54948 |



# Specia2I 場景(400comp)

| PACKET LOSS RATE |               | 400      | 500       | 600       | 700       | 800       | 900       | 1000     |
|------------------|---------------|----------|-----------|-----------|-----------|-----------|-----------|----------|
| Special2 400     | E-DSR         | 0.14062  | 0.162625  | 0.171583  | 0.173368  | 0.173266  | 0.17584   | 0.17357  |
|                  | NRCA          | 0.106298 | 0.121374  | 0.183323  | 0.248416  | 0.31565   | 0.360446  | 0.40012  |
|                  | Optimal LEACH | 0.010353 | 0.0107463 | 0.0098157 | 0.0105244 | 0.0116066 | 0.0169032 | 0.023821 |
|                  | my            | 0.137193 | 0.140961  | 0.149367  | 0.168394  | 0.192091  | 0.215847  | 0.242875 |

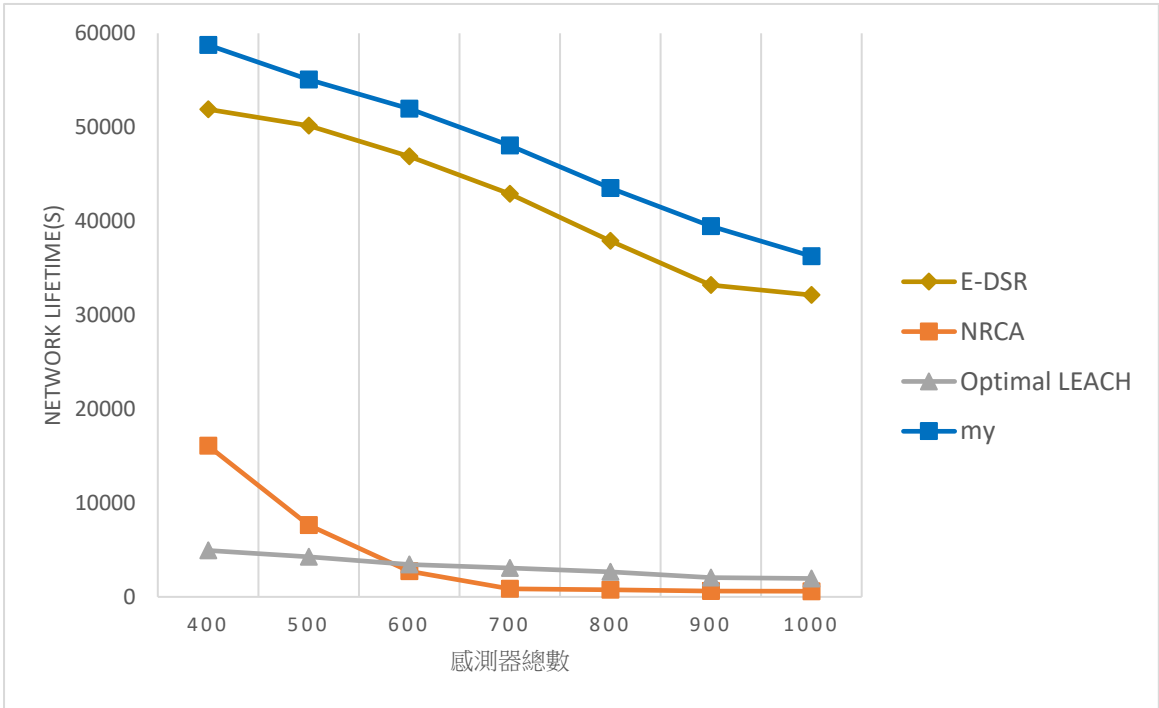
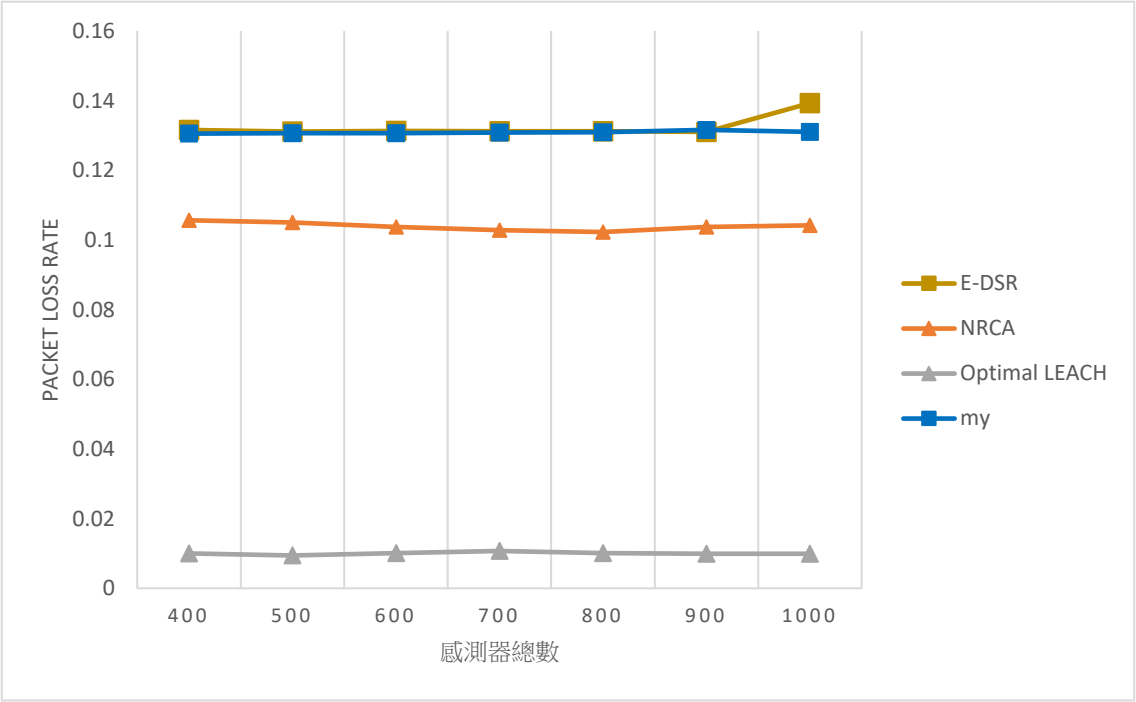
| AVG_LIFETIME |               | 400   | 500   | 600   | 700   | 800   | 900   | 1000  |
|--------------|---------------|-------|-------|-------|-------|-------|-------|-------|
| Special2 400 | E-DSR         | 46318 | 43173 | 36891 | 29701 | 18183 | 12141 | 10711 |
|              | NRCA          | 4641  | 851   | 801   | 741   | 671   | 661   | 651   |
|              | Optimal LEACH | 4681  | 4181  | 4091  | 2721  | 2681  | 2341  | 2031  |
|              | my            | 46589 | 45211 | 43041 | 41857 | 44312 | 45136 | 47592 |



Normal 場景(600comp)

| PACKET LOSS RATE |               | 400      | 500      | 600      | 700      | 800      | 900      | 1000     |
|------------------|---------------|----------|----------|----------|----------|----------|----------|----------|
| special 600      | E-DSR         | 0.131609 | 0.131113 | 0.131273 | 0.131255 | 0.131246 | 0.131037 | 0.139279 |
|                  | NRCA          | 0.105656 | 0.105041 | 0.103753 | 0.102776 | 0.102285 | 0.103781 | 0.104178 |
|                  | Optimal LEACH | 0.010039 | 0.009425 | 0.010057 | 0.010713 | 0.010122 | 0.009932 | 0.009925 |
|                  | my            | 0.130535 | 0.130659 | 0.130644 | 0.130875 | 0.130927 | 0.131616 | 0.131024 |

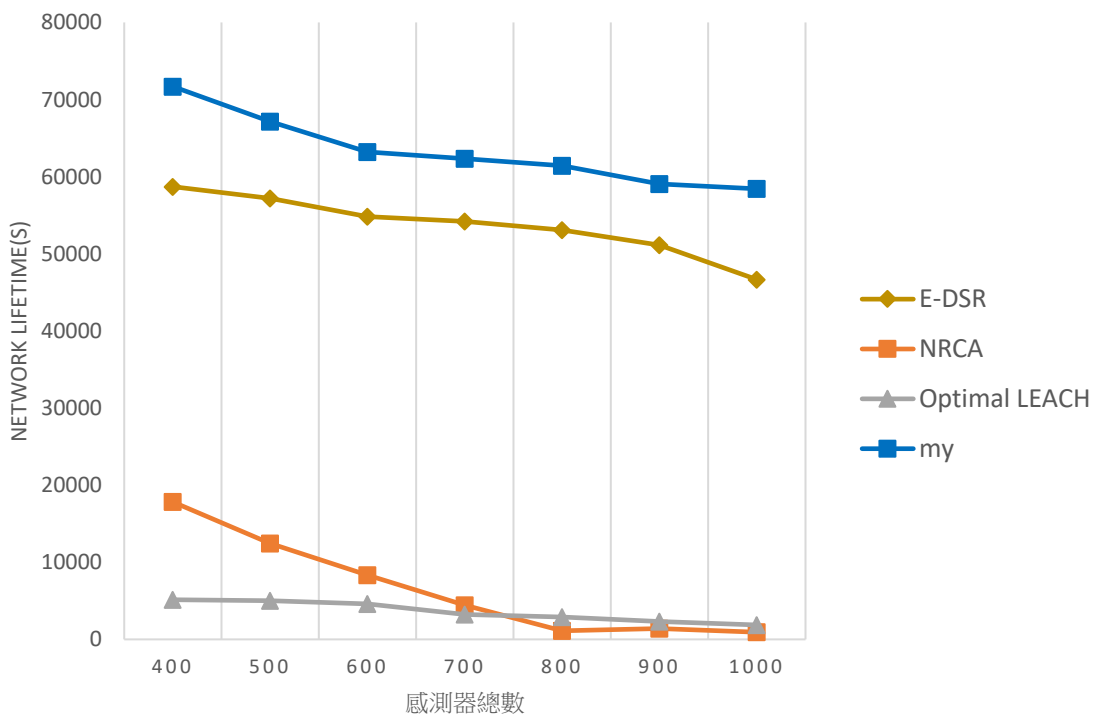
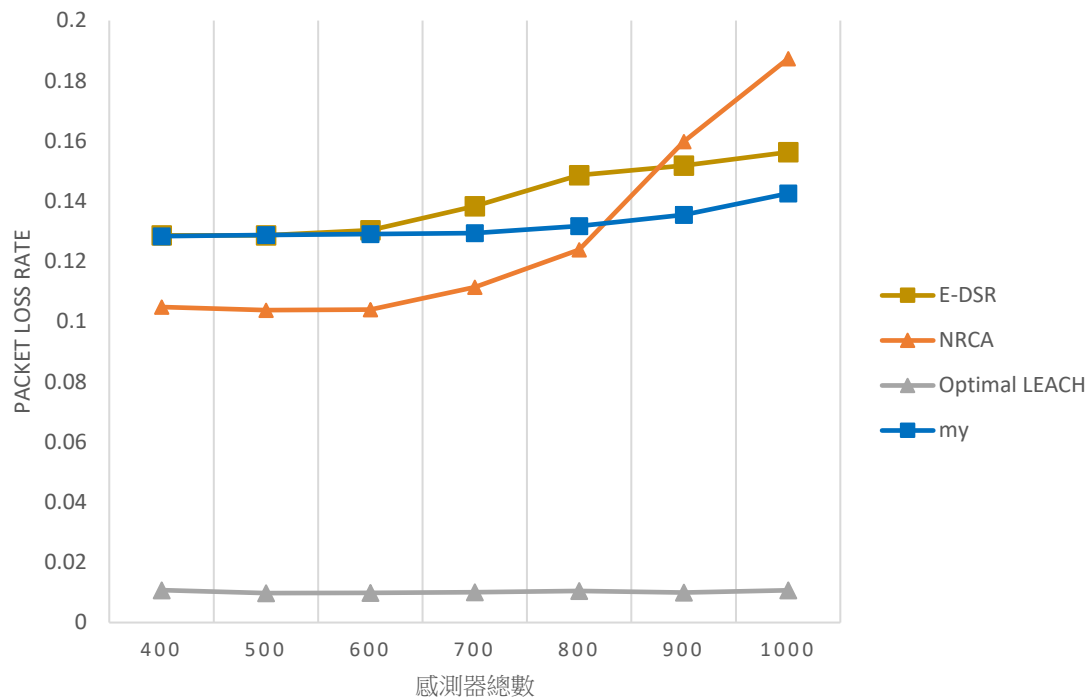
| AVG_LIFETIME |               | 400   | 500   | 600   | 700   | 800   | 900   | 1000  |
|--------------|---------------|-------|-------|-------|-------|-------|-------|-------|
| special 600  | E-DSR         | 51906 | 50161 | 46891 | 42891 | 37891 | 33190 | 32134 |
|              | NRCA          | 16081 | 7651  | 2731  | 861   | 751   | 621   | 601   |
|              | Optimal LEACH | 4941  | 4269  | 3431  | 3061  | 2671  | 2061  | 1961  |
|              | my            | 58756 | 55072 | 51981 | 48061 | 43517 | 39453 | 36271 |



## Special 場景(600comp)

| PACKET LOSS RATE |               | 400      | 500      | 600      | 700      | 800      | 900      | 1000     |
|------------------|---------------|----------|----------|----------|----------|----------|----------|----------|
| special 600      | E-DSR         | 0.12862  | 0.128665 | 0.130372 | 0.138328 | 0.148652 | 0.151859 | 0.156267 |
|                  | NRCA          | 0.104777 | 0.103796 | 0.103936 | 0.111436 | 0.123815 | 0.15978  | 0.18735  |
|                  | Optimal LEACH | 0.010769 | 0.009782 | 0.009886 | 0.010085 | 0.010496 | 0.010014 | 0.01072  |
|                  | my            | 0.12837  | 0.128709 | 0.129053 | 0.12934  | 0.131687 | 0.135411 | 0.142558 |

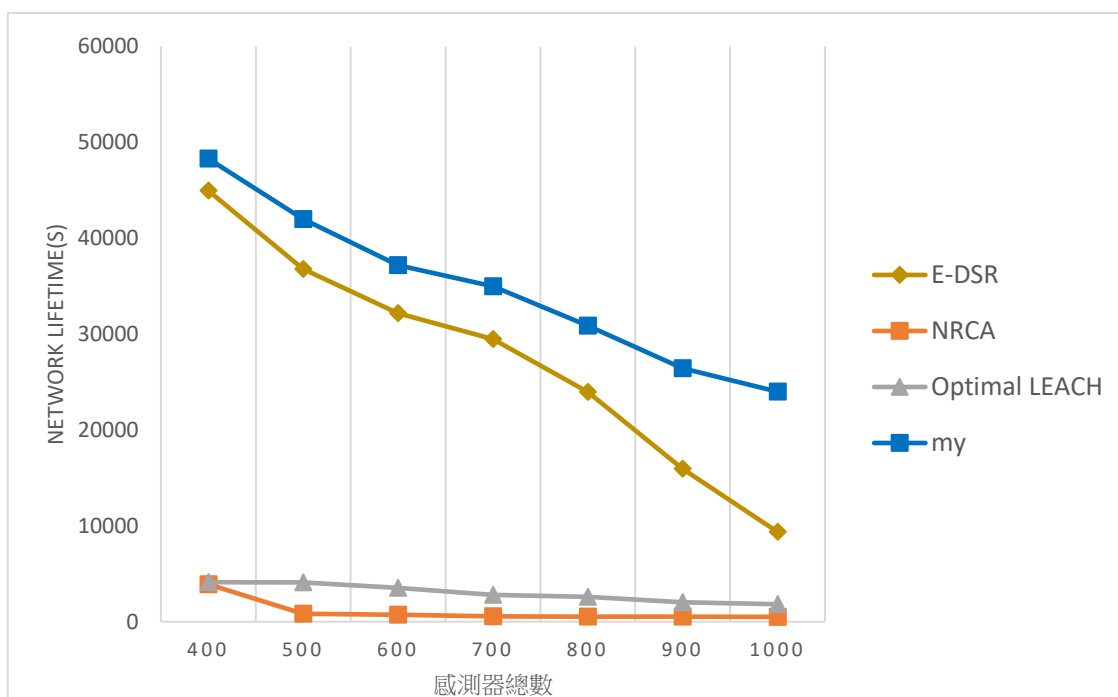
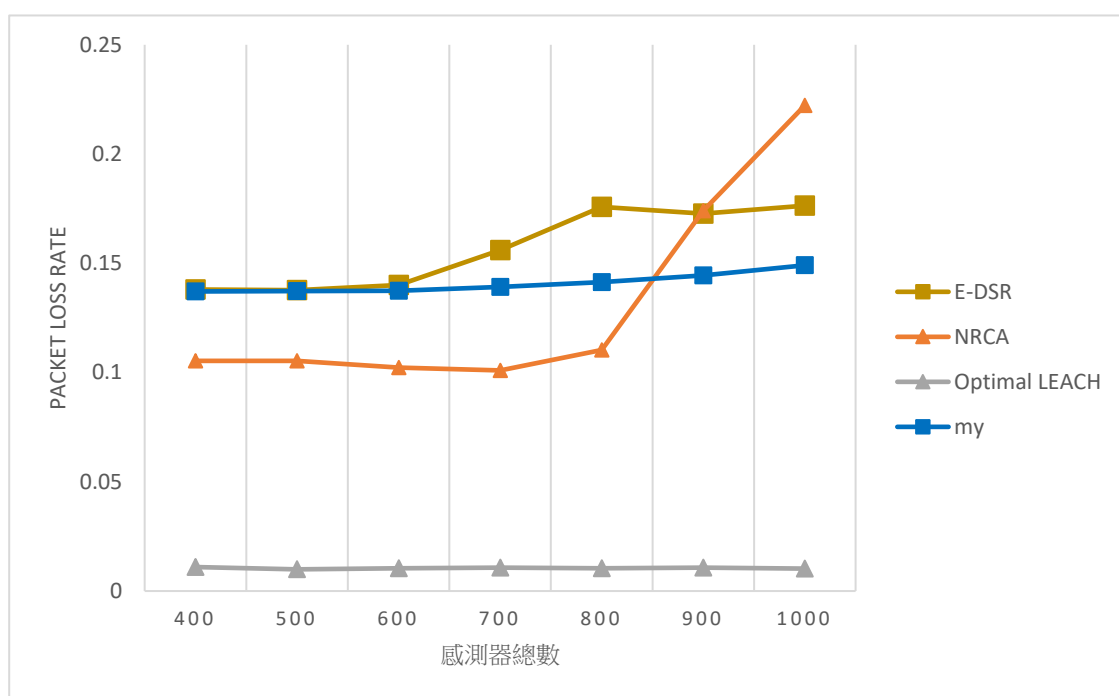
| AVG_LIFETIME |               | 400   | 500   | 600   | 700   | 800   | 900   | 1000  |
|--------------|---------------|-------|-------|-------|-------|-------|-------|-------|
| special 600  | E-DSR         | 58701 | 57196 | 54819 | 54200 | 53075 | 51138 | 46662 |
|              | NRCA          | 17821 | 12431 | 8321  | 4451  | 1131  | 1411  | 931   |
|              | Optimal LEACH | 5141  | 5001  | 4581  | 3251  | 2881  | 2311  | 1871  |
|              | my            | 71691 | 67165 | 63206 | 62337 | 61441 | 59076 | 58427 |



## Special2 場景(600comp)

| PACKET LOSS RATE |               | 400      | 500      | 600      | 700      | 800      | 900      | 1000     |
|------------------|---------------|----------|----------|----------|----------|----------|----------|----------|
| Special2 600     | E-DSR         | 0.137954 | 0.137697 | 0.140003 | 0.1561   | 0.175857 | 0.172673 | 0.176368 |
|                  | NRCA          | 0.105288 | 0.105387 | 0.102245 | 0.100969 | 0.110317 | 0.174066 | 0.222228 |
|                  | Optimal LEACH | 0.010974 | 0.009934 | 0.010458 | 0.01071  | 0.010381 | 0.010749 | 0.010318 |
|                  | my            | 0.137109 | 0.137348 | 0.137363 | 0.139143 | 0.141367 | 0.144443 | 0.149083 |

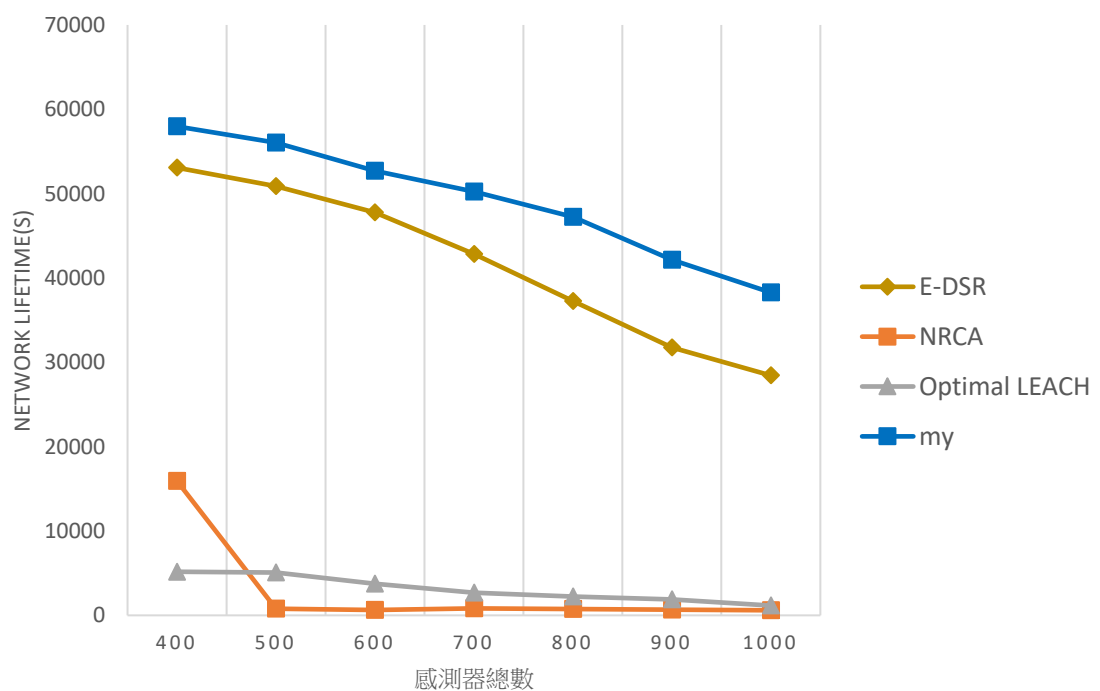
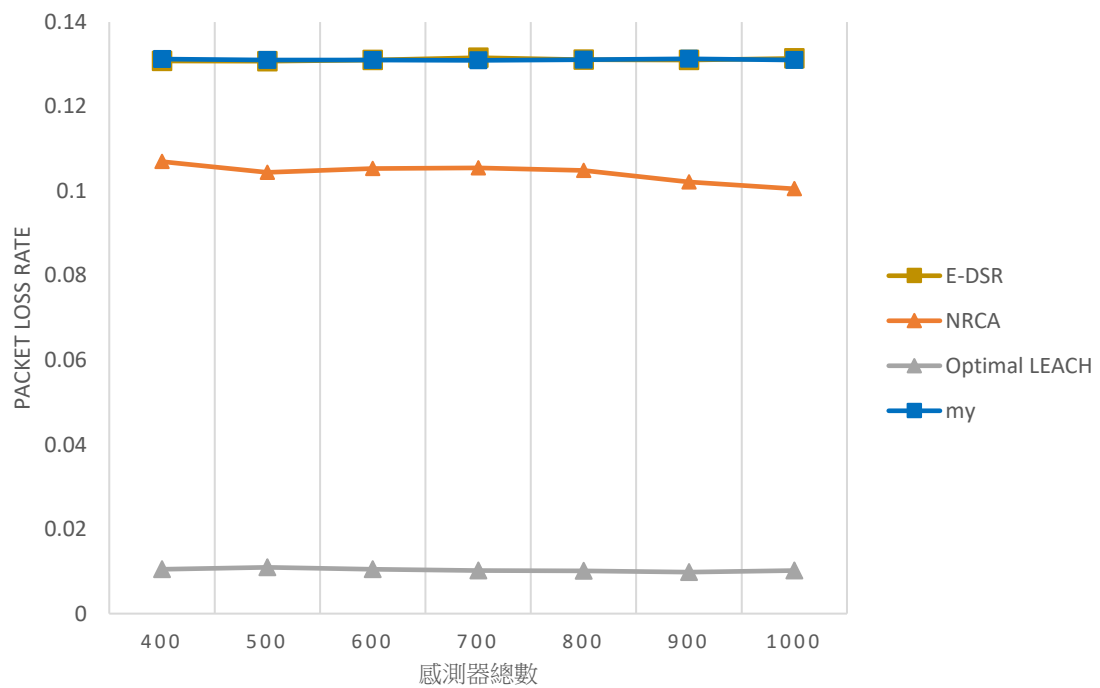
| AVG_LIFETIME |               | 400   | 500   | 600   | 700   | 800   | 900   | 1000  |
|--------------|---------------|-------|-------|-------|-------|-------|-------|-------|
| Special2 600 | E-DSR         | 44949 | 36769 | 32172 | 29463 | 23971 | 15961 | 9361  |
|              | NRCA          | 3901  | 811   | 731   | 551   | 511   | 511   | 501   |
|              | Optimal LEACH | 4121  | 4111  | 3541  | 2801  | 2581  | 2021  | 1821  |
|              | my            | 48291 | 41991 | 37187 | 34995 | 30867 | 26445 | 23990 |



## Normal 場景(800comp)

| PACKET LOSS RATE |               | 400      | 500      | 600      | 700      | 800      | 900      | 1000     |
|------------------|---------------|----------|----------|----------|----------|----------|----------|----------|
| special 600      | E-DSR         | 0.130818 | 0.130743 | 0.131032 | 0.13157  | 0.131081 | 0.130988 | 0.131417 |
|                  | NRCA          | 0.106964 | 0.104429 | 0.105349 | 0.10549  | 0.104875 | 0.102137 | 0.100531 |
|                  | Optimal LEACH | 0.010482 | 0.010956 | 0.010498 | 0.010232 | 0.010152 | 0.009821 | 0.010208 |
|                  | my            | 0.131263 | 0.131023 | 0.131004 | 0.130929 | 0.131122 | 0.131294 | 0.131043 |

| AVG_LIFETIME |               | 400   | 500   | 600   | 700   | 800   | 900   | 1000  |
|--------------|---------------|-------|-------|-------|-------|-------|-------|-------|
| special 600  | E-DSR         | 53077 | 50864 | 47752 | 42841 | 37273 | 31774 | 28441 |
|              | NRCA          | 15921 | 801   | 631   | 841   | 761   | 681   | 601   |
|              | Optimal LEACH | 5171  | 5081  | 3751  | 2681  | 2221  | 1881  | 1161  |
|              | my            | 57966 | 56031 | 52701 | 50241 | 47228 | 42143 | 38277 |

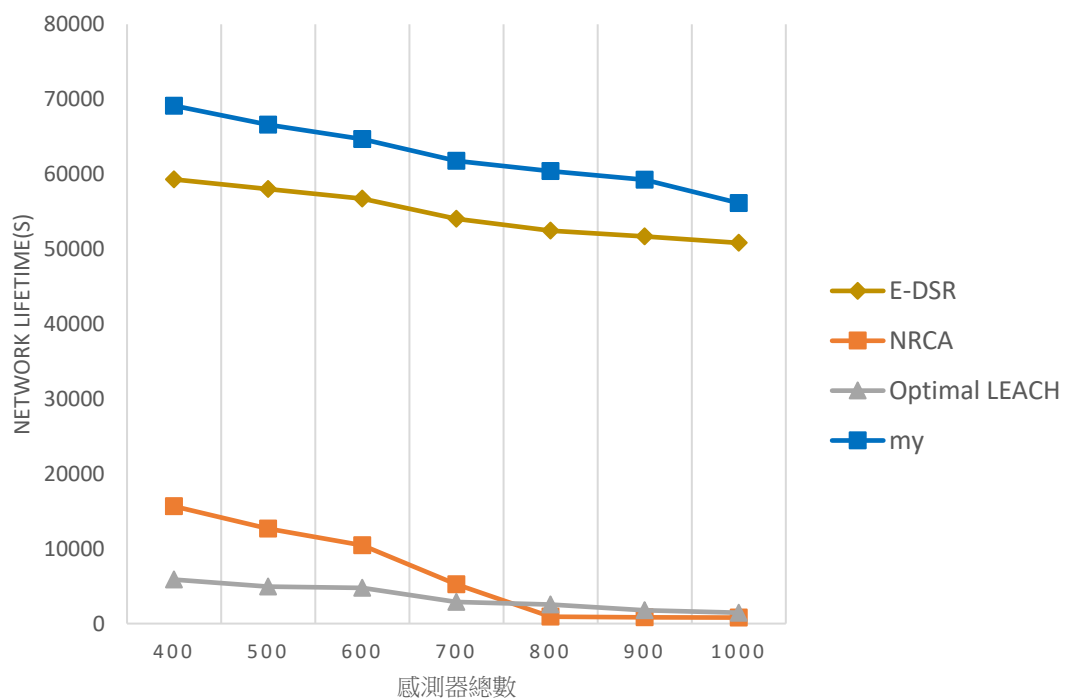
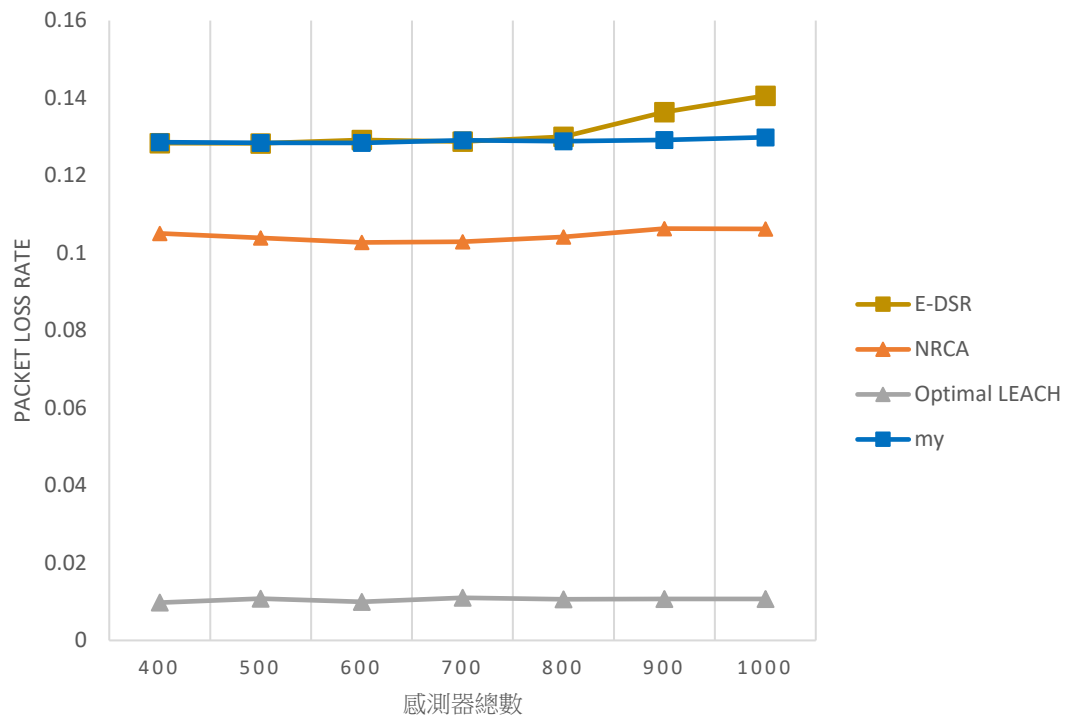




# Special 場景(800comp)

| PACKET LOSS RATE |               | 400      | 500      | 600      | 700      | 800      | 900      | 1000     |
|------------------|---------------|----------|----------|----------|----------|----------|----------|----------|
| special 800      | E-DSR         | 0.128331 | 0.12831  | 0.129203 | 0.12876  | 0.130023 | 0.13637  | 0.140613 |
|                  | NRCA          | 0.105074 | 0.103905 | 0.102723 | 0.10295  | 0.104112 | 0.106307 | 0.106235 |
|                  | Optimal LEACH | 0.009761 | 0.010802 | 0.009951 | 0.011001 | 0.010641 | 0.010693 | 0.010682 |
|                  | my            | 0.128577 | 0.12847  | 0.128413 | 0.12912  | 0.128854 | 0.129197 | 0.129866 |

| AVG_LIFETIME |               | 400   | 500   | 600   | 700   | 800   | 900   | 1000  |
|--------------|---------------|-------|-------|-------|-------|-------|-------|-------|
| special 800  | E-DSR         | 59290 | 58011 | 56734 | 54033 | 52455 | 51685 | 50818 |
|              | NRCA          | 15651 | 12651 | 10441 | 5231  | 921   | 831   | 801   |
|              | Optimal LEACH | 5871  | 4931  | 4781  | 2891  | 2561  | 1771  | 1451  |
|              | my            | 69131 | 66597 | 64684 | 61780 | 60405 | 59229 | 56136 |



## Special2 場景(800comp)

| PACKET LOSS RATE |               | 400      | 500      | 600      | 700      | 800      | 900      | 1000     |
|------------------|---------------|----------|----------|----------|----------|----------|----------|----------|
| Special2 800     | E-DSR         | 0.13778  | 0.137918 | 0.138591 | 0.137837 | 0.139939 | 0.152832 | 0.162535 |
|                  | NRCA          | 0.106354 | 0.104517 | 0.103619 | 0.104581 | 0.101177 | 0.102018 | 0.10111  |
|                  | Optimal LEACH | 0.010101 | 0.010115 | 0.009361 | 0.010196 | 0.009807 | 0.009919 | 0.010633 |
|                  | my            | 0.13734  | 0.137684 | 0.137939 | 0.138199 | 0.138043 | 0.138471 | 0.139103 |

| AVG_LIFETIME |               | 400   | 500   | 600   | 700   | 800   | 900   | 1000  |
|--------------|---------------|-------|-------|-------|-------|-------|-------|-------|
| Special2 800 | E-DSR         | 44914 | 37450 | 29707 | 24211 | 18124 | 14611 | 13967 |
|              | NRCA          | 9101  | 851   | 701   | 561   | 521   | 501   | 411   |
|              | Optimal LEACH | 4991  | 4271  | 3931  | 3741  | 2971  | 2341  | 2381  |
|              | my            | 50110 | 42611 | 35600 | 30741 | 27284 | 23690 | 22634 |

