

## EVALUATION REPORT

**Applicant Name:**

Samsung Electronics Co., Ltd.

**Address:**

129, Samsung-ro, Maetan dong,  
Yeongtong-gu, Suwon-si Gyeonggi-  
do, 16677, Korea

**Date of Evaluation:**

December 23, 2016

**Test Site/Location:**

HCT CO., LTD., 74,Seoicheon-ro 578beon-gil,Majang-  
myeo,Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA

**FCC ID : A3LSMA320Y**

**APPLICANT : Samsung Electronics Co., Ltd.**

### Test Data Re-Use Summary

**Introduction**

FCC ID: A3LSMA320Y

Equipment Class(es): DXX, NII, DTS, DSS, PCE

Rule Part(s): 2, 15, 22, 24

Applicant's Statement: The applicant takes full responsibility that the test data referenced below represents compliance for this FCC ID. This is confirmed by the applicant (Samsung Electronics Co., Ltd.)

**Differences**

Brief Description: Some cellular parts, Bluetooth, WLAN, NFC, ANT+ hardware and software of this device are identical to the implementation in A3LSMA320F. The Product Equality Declaration document includes detailed information about the changes between the devices. The data from that application has been verified through appropriate spot checks to demonstrate compliance for this device as shown in the summary table below.

**Spot Check Verification Result Summary**

(Note: The detail test data can be found in this documents, Appendix A, hereafter)

| Category       | Spot Check         | Verdict |
|----------------|--------------------|---------|
| SAR:           | GSM 850/1900       | Share   |
|                | WCDMA 850/1900     | Share   |
|                | LTE B2/5           | Share   |
|                | 2.4 /5 GHz WLAN    | Share   |
| Licensed EMC   | ERP/EIRP           | Share   |
|                | RSE                | Share   |
| Unlicensed EMC | Band Edge          | Share   |
|                | Spurious Emissions | Share   |

**Reference Detail Section**

| Equipment Class | Reference FCC ID | Folder Test/RF Exposure | Report Title/Section |
|-----------------|------------------|-------------------------|----------------------|
| PCE             | A3LSMA320F       | SAR Report              | All Sections         |
|                 | A3LSMA320F       | GSM WCDMA report        | All Sections         |
|                 | A3LSMA320F       | LTE report              | All Sections         |
| DXX             | A3LSMA320F       | NFC report              | All Sections         |
| DSS             | A3LSMA320F       | Bluetooth Report        | All Sections         |
| DTS             | A3LSMA320F       | WLAN DTS Report         | All Sections         |
|                 | A3LSMA320F       | BT LE Report            | All Sections         |
|                 | A3LSMA320F       | SAR report              | All Sections         |
| NII             | A3LSMA320F       | UNII Report             | All Sections         |
|                 | A3LSMA320F       | DFS Report              | All Sections         |
|                 | A3LSMA320F       | SAR report              | All Sections         |



Manager / Chang Seok. Choi  
HCT CO.,LTD

## Appendix A

| 1. Title : A3LSMA320Y Spot checking result |                                                                              |         |                     |                            |         |                            |         |           |         |
|--------------------------------------------|------------------------------------------------------------------------------|---------|---------------------|----------------------------|---------|----------------------------|---------|-----------|---------|
| Report                                     | Test Item                                                                    | Channel | Measured Frequency  | A3LSMA320F Result [dBuV/m] |         | A3LSMA320Y Result [dBuV/m] |         | Gap [dB]  |         |
|                                            |                                                                              |         |                     | Peak                       | Average | Peak                       | Average | Peak      | Average |
| ANT+                                       | Fundamental                                                                  | 39      | 2441 MHz            | 91.01                      | -       | 92.03                      | -       | -1.02     | -       |
|                                            | Band Edge                                                                    | 0       | 2400 MHz            | 66.99                      | 14.6    | 67.76                      | 16.01   | -0.77     | -1.41   |
|                                            | RSE                                                                          | 78      | 4960 MHz            | 51.82                      | 43.3    | 51.25                      | 42.14   | 0.57      | 1.16    |
|                                            |                                                                              |         | 7440 MHz            | 55.5                       | 43.74   | 55.26                      | 43.61   | 0.24      | 0.13    |
| BT                                         | Band Edge                                                                    | 78      | 2483.5 MHz~2500 MHz | 63.69                      | 35.5    | 64.8                       | 36.94   | -1.11     | -1.44   |
|                                            | RSE                                                                          | 78      | 4960 MHz            | 54.79                      | 47.52   | 53.69                      | 45.08   | 1.1       | 2.44    |
|                                            |                                                                              |         | 7440 MHz            | -                          | -       | -                          | -       | -         | -       |
| BT LE                                      | Band Edge                                                                    | 39      | 2483.5 MHz~2500 MHz | 52.71                      | 41.91   | 53.49                      | 42.13   | -0.78     | -0.22   |
|                                            | RSE                                                                          | 39      | 4960 MHz            | 53.05                      | 43.91   | 52.06                      | 42.94   | 0.99      | 0.97    |
|                                            |                                                                              |         | 7440 MHz            | -                          | -       | -                          | -       | -         | -       |
| DTS                                        | Band Edge                                                                    | 11      | 2483.5 MHz~2500 MHz | 60.55                      | 49.09   | 59.6                       | 48.07   | 0.95      | 1.02    |
|                                            | RSE                                                                          | 6       | 4874 MHz            | 53.66                      | 47.16   | 54.13                      | 47.86   | -0.47     | -0.70   |
|                                            |                                                                              |         | 7311 MHz            | -                          | -       | -                          | -       | -         | -       |
| NFC                                        | Fundamental                                                                  | -       | 13.56 MHz           | 13.4                       |         | 14.41                      |         | -1.01     |         |
| UNII<br>(20MHz)                            | Band Edge                                                                    | 100     | 5350 MHz~5460 MHz   | 55.29                      | 42.36   | 54.13                      | 41.33   | 1.16      | 1.03    |
|                                            |                                                                              |         | 5460 MHz~5470 MHz   | 57.43                      | -       | 56.33                      | -       | 1.1       |         |
|                                            | RSE                                                                          | 100     | 11000 MHz           | 62.85                      | 47.03   | 63.42                      | 48.24   | -0.57     | -1.21   |
| UNII<br>(40MHz)                            | Band Edge                                                                    | 102     | 5350 MHz~5460 MHz   | 56.91                      | 43.24   | 56.15                      | 41.83   | 0.76      | 1.41    |
|                                            |                                                                              |         | 5460 MHz~5470 MHz   | 59.64                      | -       | 58.2                       | -       | 1.44      |         |
|                                            | RSE                                                                          | 102     | 11020 MHz           | 53.45                      | 40.45   | 53.75                      | 40.53   | -0.3      | -0.08   |
| UNII<br>(80MHz)                            | Band Edge                                                                    | 42      | 4500 MHz~5150 MHz   | 57.74                      | 46.02   | 57.75                      | 45.58   | -0.01     | 0.44    |
|                                            | RSE                                                                          | 155     | 17325 MHz           | 56.02                      | -       | 56.62                      | -       | -0.6      |         |
| DFS                                        | Channel Move Time ( Limit 10s)                                               | 58      | 5290 MHz            | 0.251874                   |         | 0.011575                   |         | 0.240299  |         |
|                                            | Channel Closing Transmission Time, Aggregate Time After 200ms ( Limit 60 ms) | 58      | 5290 MHz            | 0.00014                    |         | 0.000195                   |         | -0.000055 |         |

## 2. Subject: Summary of the spot check for RF Exposure

Per FCC KDB 484596 D01 Referencing Test Data DR01-42712 4) e)

For RF exposure purposes, each combination of frequency band, wireless mode, and exposure test conditions shall be considered separately. A KDB inquiry is recommended for complex device configurations to confirm appropriate RF exposure test cases

| Band               | A3LSMA320F<br>Measured 1g SAR(W/kg)<br>Result |              | A3LSMA320Y<br>Measured 1g<br>SAR(W/kg)<br>Spot check Result | Deviation<br>(%) |
|--------------------|-----------------------------------------------|--------------|-------------------------------------------------------------|------------------|
| GSM/GPRS/EDGE 850  | Head                                          | <b>0.252</b> | 0.213                                                       | -15.48           |
|                    | Body worn                                     | <b>0.3</b>   | 0.278                                                       | -7.33            |
|                    | Hotspot                                       | <b>0.665</b> | 0.6                                                         | -9.77            |
| GSM/GPRS/EDGE 1900 | Head                                          | <b>0.132</b> | 0.169                                                       | 28.03            |
|                    | Body worn                                     | <b>0.308</b> | 0.341                                                       | 10.71            |
|                    | Hotspot                                       | <b>0.662</b> | 0.798                                                       | 20.54            |
| WCDMA850           | Head                                          | <b>0.324</b> | 0.28                                                        | -13.58           |
|                    | Body worn                                     | <b>0.244</b> | 0.205                                                       | -15.98           |
|                    | Hotspot                                       | <b>0.615</b> | 0.55                                                        | -10.57           |
| WCDMA1900          | Head                                          | <b>0.37</b>  | 0.371                                                       | 0.27             |
|                    | Body worn                                     | <b>0.701</b> | 0.751                                                       | 7.13             |
|                    | Hotspot                                       | <b>0.868</b> | 0.809                                                       | -6.80            |
| LTE Band 2         | Head                                          | <b>0.373</b> | 0.306                                                       | -17.96           |
|                    | Body worn                                     | <b>0.523</b> | 0.614                                                       | 17.40            |
|                    | Hotspot                                       | <b>0.591</b> | 0.668                                                       | 13.03            |
| LTE Band 5         | Head                                          | <b>0.258</b> | 0.313                                                       | 21.32            |
|                    | Body worn                                     | <b>0.33</b>  | 0.255                                                       | -22.73           |
|                    | Hotspot                                       | <b>0.681</b> | 0.775                                                       | 13.80            |
| 2.4GHz WLAN        | Head                                          | <b>0.722</b> | 0.598                                                       | -17.17           |
|                    | Body worn                                     | <b>0.11</b>  | 0.121                                                       | 10.00            |
|                    | Hotspot                                       | <b>0.338</b> | 0.33                                                        | -2.37            |
| 5GHz WLAN          | Head                                          | <b>0.451</b> | 0.558                                                       | 23.73            |
|                    | Body worn                                     | <b>0.313</b> | 0.238                                                       | -23.96           |
|                    | Hotspot                                       | <b>0.597</b> | 0.605                                                       | 1.34             |

### 3. Summary of the spot check for Licensed EMC

FCC ID(s) : A3LSMA320F (Reference test data) vs A3LSMA320Y (Spot check data)

#### EFFECTIVE RADIATED POWER

(GSM850) / (WCDMA850)

| Modulation | Frequency |      | Mode  | A3LSMA320F<br>(Reference) | A3LSMA320Y<br>(Reuse)  | deviation |
|------------|-----------|------|-------|---------------------------|------------------------|-----------|
|            |           |      |       | (Reference test data)     | (Spot check test data) |           |
|            | ERP       |      |       | ERP                       |                        |           |
|            | MHz       | Ch.  |       | (dBm)                     | (dBm)                  |           |
| GSM850     | 824.2     | 128  | VOICE | 27.77                     | 26.60                  | -1.17     |
|            | 836.6     | 190  |       | 29.18                     | 27.96                  | -1.22     |
|            | 848.8     | 251  |       | 29.15                     | 27.93                  | -1.22     |
| WCDMA850   | 826.4     | 4132 | RMC   | 20.09                     | 19.23                  | -0.86     |
|            | 836.6     | 4183 |       | 20.51                     | 19.52                  | -0.99     |
|            | 846.6     | 4233 |       | 20.09                     | 19.08                  | -1.01     |

#### RADIATED SPURIOUS EMISSIONS

(GSM850) / (WCDMA850)

| Modulation | Frequency |      | Mode  | A3LSMA320F<br>(Reference) | A3LSMA320Y<br>(Reuse)  | deviation |
|------------|-----------|------|-------|---------------------------|------------------------|-----------|
|            |           |      |       | (Reference test data)     | (Spot check test data) |           |
|            | EIRP      |      |       | EIRP                      |                        |           |
|            | MHz       | Ch.  |       | (dBm)                     | (dBm)                  |           |
| GSM850     | 1,648.40  | 128  | VOICE | -54.96                    | -57.84                 | -2.88     |
|            | 2,472.60  |      |       | -44.39                    | -45.83                 | -1.44     |
|            | 3,296.80  |      |       | -50.48                    | -49.59                 | 0.89      |
| WCDMA850   | 1,652.80  | 4132 | RMC   | -52.44                    | -59.71                 | -7.27     |
|            | 2,479.20  |      |       | -50.43                    | -51.98                 | -1.55     |
|            | 3,305.60  |      |       | -53.11                    | -54.05                 | -0.94     |

## EQUIVALENT ISOTROPIC RADIATED POWER (GSM1900) / (WCDMA1900)

| Modulation | Frequency |      | Mode  | A3LSMA320F<br>(Reference) | A3LSMA320Y<br>(Reuse)  | deviation |
|------------|-----------|------|-------|---------------------------|------------------------|-----------|
|            |           |      |       | (Reference test data)     | (Spot check test data) |           |
|            |           |      |       | EIRP                      | EIRP                   |           |
|            | MHz       | Ch.  |       | (dBm)                     | (dBm)                  |           |
| GSM1900    | 1850.2    | 512  | VOICE | 28.17                     | 28.27                  | 0.10      |
|            | 1880.0    | 661  |       | 28.29                     | 28.15                  | -0.14     |
|            | 1909.8    | 810  |       | 27.68                     | 27.42                  | -0.26     |
| WCDMA1900  | 1,693.20  | 9262 | RMC   | 22.91                     | 21.85                  | -1.06     |
|            | 2,539.80  | 9400 |       | 23.02                     | 21.75                  | -1.27     |
|            | 3,386.40  | 9538 |       | 22.64                     | 21.50                  | -1.14     |

## RADIATED SPURIOUS EMISSIONS (GSM1900) / (WCDMA1900)

| Modulation | Frequency |      | Mode  | A3LSMA320F<br>(Reference) | A3LSMA320Y<br>(Reuse)  | deviation |
|------------|-----------|------|-------|---------------------------|------------------------|-----------|
|            |           |      |       | (Reference test data)     | (Spot check test data) |           |
|            |           |      |       | EIRP                      | EIRP                   |           |
|            | MHz       | Ch.  |       | (dBm)                     | (dBm)                  |           |
| GSM1900    | 3,700.40  | 512  | VOICE | -51.60                    | -52.07                 | -0.47     |
|            | 5,550.60  |      |       | -45.09                    | -45.58                 | -0.49     |
|            | 7,400.80  |      |       | -41.70                    | -41.48                 | 0.22      |
| WCDMA1900  | 3,815.20  | 9538 | RMC   | -50.18                    | -50.93                 | -0.75     |
|            | 5,722.80  |      |       | -45.39                    | -45.10                 | 0.29      |
|            | 7,630.40  |      |       | -42.02                    | -43.43                 | -1.41     |

## EQUIVALENT ISOTROPIC RADIATED POWER

(LTE – Band 2)

| Modulation | Frequency |       | Mode<br><br>Bandwidth | A3LSMA320F<br>(Reference) | A3LSMA320Y<br>(Reuse)  | deviation |
|------------|-----------|-------|-----------------------|---------------------------|------------------------|-----------|
|            |           |       |                       | (Reference test data)     | (Spot check test data) |           |
|            |           |       |                       | EIRP                      | EIRP                   |           |
|            | MHz       | Ch.   |                       | (dBm)                     | (dBm)                  |           |
| LTE - B2   | 1855.0    | 18650 | QPSK(10M)             | 22.13                     | 22.16                  | 0.03      |

## RADIATED SPURIOUS EMISSIONS

(LTE – Band 2)

| Modulation | Frequency |       | Mode<br><br>Bandwidth | A3LSMA320F<br>(Reference) | A3LSMA320Y<br>(Reuse)  | deviation |
|------------|-----------|-------|-----------------------|---------------------------|------------------------|-----------|
|            |           |       |                       | (Reference test data)     | (Spot check test data) |           |
|            |           |       |                       | EIRP                      | EIRP                   |           |
|            | MHz       | Ch.   |                       | (dBm)                     | (dBm)                  |           |
| LTE - B2   | 3,720.00  | 18700 | QPSK                  | -51.24                    | -52.25                 | -1.01     |
|            | 5,580.00  |       | 20M                   | -45.08                    | -45.62                 | -0.54     |
|            | 7,440.00  |       |                       | -40.50                    | -41.44                 | -0.94     |

## EFFECTIVE RADIATED POWER

(LTE – Band 5)

| Modulation | Frequency |       | Mode<br><br>Bandwidth | A3LSMA320F<br>(Reference) | A3LSMA320Y<br>(Reuse)  | deviation |
|------------|-----------|-------|-----------------------|---------------------------|------------------------|-----------|
|            |           |       |                       | (Reference test data)     | (Spot check test data) |           |
|            |           |       |                       | ERP                       | ERP                    |           |
|            | MHz       | Ch.   |                       | (dBm)                     | (dBm)                  |           |
| LTE – B5   | 829.0     | 20450 | QPSK (10M)            | 20.31                     | 19.81                  | -0.50     |

## RADIATED SPURIOUS EMISSIONS

(LTE – Band 5)

| Modulation | Frequency |       | Mode<br>Bandwidth | A3LSMA320F<br>(Reference) | A3LSMA320Y<br>(Reuse)  | deviation |
|------------|-----------|-------|-------------------|---------------------------|------------------------|-----------|
|            |           |       |                   | (Reference test data)     | (Spot check test data) |           |
|            |           |       |                   | EIRP                      | EIRP                   |           |
|            | MHz       | Ch.   |                   | (dBm)                     | (dBm)                  |           |
| LTE – B5   | 1,673.00  | 20525 | QPSK              | -57.22                    | -58.43                 | -1.21     |
|            | 2,509.50  |       | 10M               | -45.92                    | -48.19                 | -2.27     |
|            | 3,346.00  |       |                   | -52.54                    | -52.91                 | -0.37     |