



1 Maximum Permissible Exposure

1.1 Maximum Permissible Exposure

1.1.1 Limit of Maximum Permissible Exposure

| Limits for Occupational / Controlled Exposure | | | | |
|---|-----------------------------------|-----------------------------------|--|--|
| Frequency Range (MHz) | Electric Field Strength (E) (V/m) | Magnetic Field Strength (H) (A/m) | Power Density (S) (mW/ cm ²) | Averaging Time E ² , H ² or S (minutes) |
| 0.3-3.0 | 614 | 1.63 | (100)* | 6 |
| 3.0-30 | 1842 / f | 4.89 / f | (900 / f)* | 6 |
| 30-300 | 61.4 | 0.163 | 1.0 | 6 |
| 300-1500 | | | F/300 | 6 |
| 1500-100,000 | | | 5 | 6 |

| Limits for General Population / Uncontrolled Exposure | | | | |
|---|-----------------------------------|-----------------------------------|--|--|
| Frequency Range (MHz) | Electric Field Strength (E) (V/m) | Magnetic Field Strength (H) (A/m) | Power Density (S) (mW/ cm ²) | Averaging Time E ² , H ² or S (minutes) |
| 0.3-1.34 | 614 | 1.63 | (100)* | 30 |
| 1.34-30 | 824/f | 2.19/f | (180/f)* | 30 |
| 30-300 | 27.5 | 0.073 | 0.2 | 30 |
| 300-1500 | | | F/1500 | 30 |
| 1500-100,000 | | | 1.0 | 30 |

Note 1: f = frequency in MHz ; *Plane-wave equivalent power density
Note 2: For the applicable limit, see FCC 1.1310



| RF Field Strength Limits for Controlled Use Devices (Controlled Environment) | | | | |
|--|--------------------------|--------------------------|----------------------|--------------------------|
| Frequency Range (MHz) | Electric Field (V/m rms) | Magnetic Field (A/m rms) | Power Density (W/m2) | Averaging Time (minutes) |
| 0.003-1 | 600 | 4.9 | - | 6 |
| 1-10 | 600/ f | 4.9/ f | - | 6 |
| 10-30 | 60 | 4.9/ f | - | 6 |
| 30-300 | 60 | 0.163 | 10* | 6 |
| 300-1500 | 3.54 f 0.5 | 0.0094 f 0.5 | f /30 | 6 |
| 1500-15000 | 137 | 0.364 | 50 | 6 |
| 15000-150000 | 137 | 0.364 | 50 | 616000/ f 1.2 |
| 150000-300000 | 0.354 f 0.5 | 9.4 x 10-4 f 0.5 | 3.33 x 10-4 f | 616000/ f 1.2 |
| RF Field Strength Limits for Devices Used by the General Public (Uncontrolled Environment) | | | | |
| Frequency Range (MHz) | Electric Field (V/m rms) | Magnetic Field (A/m rms) | Power Density (W/m2) | Averaging Time (minutes) |
| 0.003-1 | 280 | 2.19 | - | 6 |
| 1-10 | 280/ f | 2.19/ f | - | 6 |
| 10-30 | 28 | 2.19/ f | - | 6 |
| 30-300 | 28 | 0.073 | 2* | 6 |
| 300-1500 | 1.585 f 0.5 | 0.0042 f 0.5 | f /150 | 6 |
| 1500-15000 | 61.4 | 0.163 | 10 | 6 |
| 15000-150000 | 61.4 | 0.163 | 10 | 616000/ f 1.2 |
| 150000-300000 | 0.158 f 0.5 | 4.21 x 10-4 f 0.5 | 6.67 x 10-5 f | 616000/ f 1.2 |

Note 1: f is frequency in MHz.
 Note 2: For the applicable limit, see IC RSS-102



1.2 Testing Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ FCC KDB 680106 D01 RF Exposure Wireless Charging Apps v02 - Part 2 Section 2.109

1.3 Ancillary Equipment

| Ancillary Equipment | | | | |
|----------------------------|------------------|-------------------|-------------------|---------------|
| No. | Equipment | Brand Name | Model Name | FCC ID |
| 1 | Notebook | DELL | E5530 | DoC |
| 2 | Phone | Samsung S3 | GT-I9300 | DoC |

1.4 Testing Location Information

| Testing Location | | | | |
|-------------------------------------|--------|--|----------------------|-------------------------|
| <input checked="" type="checkbox"/> | HWA YA | ADD : No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. | TEL : 886-3-327-3456 | FAX : 886-3-327-0973 |
| Test Condition | | Test Site No. | Test Engineer | Test Environment |
| RF Conducted | | TH01-HY | Ian | 24.8°C / 61% |

1.5 The Worst Charging Condition

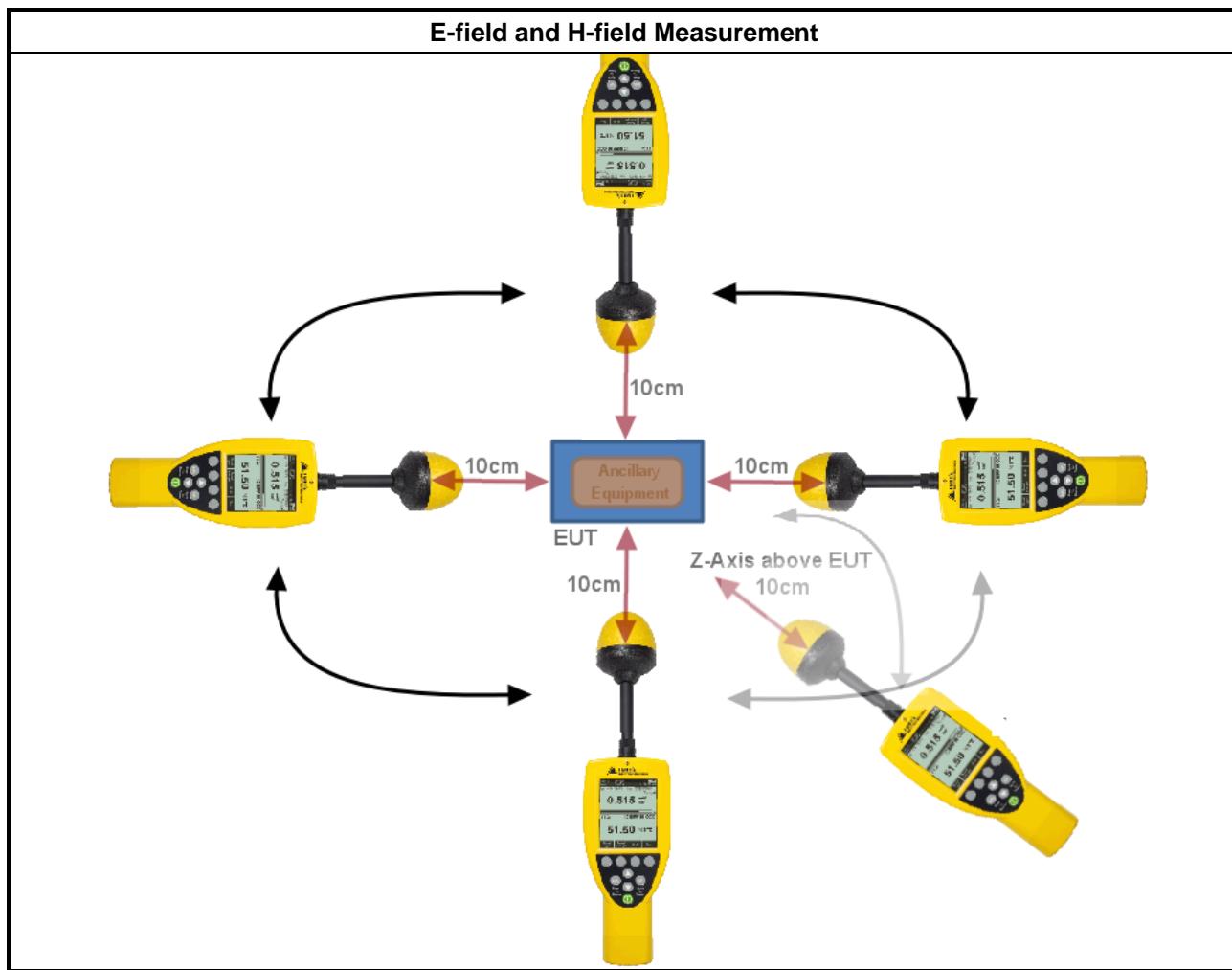
| Ancillary Equipment | Charging Condition | Worst Charging Condition |
|---------------------|---------------------|--------------------------|
| Phone | < 1% Battery Status | < 1% Battery Status |
| Phone | 50% Battery Status | |

Note 1: For Wireless Power Consortium Qi specification, a lower operating frequency or high duty cycle result in the transfer of a higher amount of power and charging current.

1.5.1 Test Method

| Test Method |
|---|
| <input checked="" type="checkbox"/> Performed aggregate both leakage E-field and H-field at surrounding the device from all simultaneous transmitting coils. |
| <input checked="" type="checkbox"/> During testing, the EUT was placed on a non-conductive table top and the ancillary equipment (e.g., mobile phone) was placed on the EUT for charging. Maximum E-field and H-field measurements were tested 10cm from each side of the EUT. Along the side of the EUT to center of E-field probe and H-field probe were positioned at the location to search maximum field strength. |

1.5.2 Test Setup



**1.5.3 Result of Maximum Permissible Exposure**

| Maximum Permissible Exposure | | | | |
|-------------------------------------|-------------------|----------------------------|----------------------|----------------------------|
| Charging Condition | Separation | Probe from EUT Side | E-field (V/m) | H-field Limit (A/m) |
| < 1% Battery Status | 10cm | Left | 1.12 | 0.318 |
| < 1% Battery Status | 10cm | Right | 1.03 | 0.317 |
| < 1% Battery Status | 10cm | Top | 0.76 | 0.323 |
| < 1% Battery Status | 10cm | Bottom | 0.91 | 0.309 |
| < 1% Battery Status | 10cm | Z-axis above EUT | 2.22 | 0.383 |
| Limit | | | 614 | 1.63 |
| Margin Limit (%) | | | 0.36% | 23.51% |



2 Test Equipment and Calibration Data

| Instrument | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Date | Remark |
|-----------------------|----------------------------------|-----------------------------------|------------|-----------------|------------------|---------------------|
| B-Field Probe | Narda Safety Test Solutions GmbH | B-Field Probe 100 cm ² | M-0652 | 50Hz~400KHz | Jun. 17, 2013 | Conducted (TH01-HY) |
| Exposure Level Teste | Narda Safety Test Solutions GmbH | ELT-400 | N-0210 | 100KHz~3MHz | Jun. 26, 2013 | Conducted (TH01-HY) |
| Probe EF | Narda Safety Test Solutions GmbH | 0391 E-Field | D-0667 | 0.1MHz ~ 3GHz | Jun. 24, 2013 | Conducted (TH01-HY) |
| Broadband Field Meter | Narda Safety Test Solutions GmbH | NBM-550 | E-0847 | 0.1MHz ~ 3GHz | Jun. 07, 2013 | Conducted (TH01-HY) |

Note: Calibration Interval of instruments listed above is two year.