

## FCC 47 CFR MPE REPORT

CHOICE FORTUNE HOLDINGS LIMITED

LED TV

Model Number: SC-40FK700N

FCC ID: 2AMYC-SC-40FK700N

|                          |                                                           |
|--------------------------|-----------------------------------------------------------|
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|                 |                       |
|-----------------|-----------------------|
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## Maximum Permissible Exposure

### 1、Applicable Standard

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2m normally can be maintained between the user and the device.

#### (a)、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 <sup>2</sup> ) | Averaging Times   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                                                |
| 1500-10000            |                                  |                                   | 5                                       | 6                                                |

#### (b)、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 <sup>2</sup> ) | Averaging Times   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                                               |
| 1500-10000            |                                  |                                   | 1.0                                     | 30                                               |

Note: f=frequency in MHz; \*Plane-wave equivalent power density

### 2、MPE Calculation Method

$$E \text{ (V/m)} = (30 \cdot P \cdot G)^{0.5} / d \quad \text{Power Density: } P_d \text{ (W/m}^2\text{)} = E^2 / 377$$

E = Electric Field (V/m)

P = Peak RF output Power (W)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

$$P_d = (30 \cdot P \cdot G) / (377 \cdot d^2)$$

From the peak EUT RF output power, the minimum mobile separation distance, d=0.2m, as well as the gain of the used antenna, the RF power density can be obtained

### 3、Conducted Power Result

#### 3.1 Antenna 0

| Mode                    | Frequency<br>(MHz) | Peak output power<br>(dBm) | Peak output power<br>(mW) | Target<br>power<br>( dBm ) | Antenna gain |          |
|-------------------------|--------------------|----------------------------|---------------------------|----------------------------|--------------|----------|
|                         |                    |                            |                           |                            | (dBi)        | (Linear) |
| IEEE<br>802.11b         | 2412               | 11.55                      | 14.289                    | $11 \pm 1$                 | 2.94         | 1.968    |
|                         | 2437               | 10.05                      | 10.116                    | $10 \pm 1$                 | 2.94         | 1.968    |
|                         | 2462               | 13.50                      | 22.387                    | $13 \pm 1$                 | 2.94         | 1.968    |
| IEEE<br>802.11g         | 2412               | 8.05                       | 6.383                     | $8 \pm 1$                  | 2.94         | 1.968    |
|                         | 2437               | 6.51                       | 4.477                     | $6 \pm 1$                  | 2.94         | 1.968    |
|                         | 2462               | 9.81                       | 9.572                     | $9 \pm 1$                  | 2.94         | 1.968    |
| IEEE<br>802.11n<br>HT20 | 2412               | 8.00                       | 6.310                     | $8 \pm 1$                  | 2.94         | 1.968    |
|                         | 2437               | 6.40                       | 4.365                     | $6 \pm 1$                  | 2.94         | 1.968    |
|                         | 2462               | 9.95                       | 9.886                     | $9 \pm 1$                  | 2.94         | 1.968    |
| IEEE<br>802.11n<br>HT40 | 2422               | 6.15                       | 4.121                     | $6 \pm 1$                  | 2.94         | 1.968    |
|                         | 2437               | 5.15                       | 3.273                     | $5 \pm 1$                  | 2.94         | 1.968    |
|                         | 2452               | 5.08                       | 3.221                     | $5 \pm 1$                  | 2.94         | 1.968    |

#### 3.2 Antenna 1

| Mode                    | Frequency<br>(MHz) | Peak output power<br>(dBm) | Peak output power<br>(mW) | Target<br>power<br>( dBm ) | Antenna gain |          |
|-------------------------|--------------------|----------------------------|---------------------------|----------------------------|--------------|----------|
|                         |                    |                            |                           |                            | (dBi)        | (Linear) |
| IEEE<br>802.11b         | 2412               | 12.11                      | 16.255                    | $12 \pm 1$                 | 2.94         | 1.968    |
|                         | 2437               | 10.39                      | 10.940                    | $10 \pm 1$                 | 2.94         | 1.968    |
|                         | 2462               | 13.33                      | 21.528                    | $13 \pm 1$                 | 2.94         | 1.968    |
| IEEE<br>802.11g         | 2412               | 8.35                       | 6.839                     | $8 \pm 1$                  | 2.94         | 1.968    |
|                         | 2437               | 6.47                       | 4.436                     | $6 \pm 1$                  | 2.94         | 1.968    |
|                         | 2462               | 9.58                       | 9.078                     | $9 \pm 1$                  | 2.94         | 1.968    |
| IEEE<br>802.11n<br>HT20 | 2412               | 8.28                       | 6.730                     | $8 \pm 1$                  | 2.94         | 1.968    |
|                         | 2437               | 6.43                       | 4.395                     | $6 \pm 1$                  | 2.94         | 1.968    |
|                         | 2462               | 9.54                       | 8.995                     | $9 \pm 1$                  | 2.94         | 1.968    |
| IEEE<br>802.11n<br>HT40 | 2422               | 5.86                       | 3.855                     | $5 \pm 1$                  | 2.94         | 1.968    |
|                         | 2437               | 4.95                       | 3.126                     | $4 \pm 1$                  | 2.94         | 1.968    |
|                         | 2452               | 4.51                       | 2.825                     | $4 \pm 1$                  | 2.94         | 1.968    |

#### 4、Calculated Result and Limit

##### 4.1 Antenna 0

| Mode              | Target power<br>( dBm ) | Antenna gain |          | Power Density<br>(S)<br>(mW /cm2) | Limited of Power Density<br>(S)<br>(mW /cm2) | Test Result |
|-------------------|-------------------------|--------------|----------|-----------------------------------|----------------------------------------------|-------------|
|                   |                         | (dBi)        | (Linear) |                                   |                                              |             |
| 2.4G Band         |                         |              |          |                                   |                                              |             |
| IEEE 802.11b      | 14                      | 2.94         | 1.968    | <b>0.00983</b>                    | 1                                            | Compiles    |
| IEEE 802.11g      | 10                      | 2.94         | 1.968    | <b>0.00391</b>                    | 1                                            | Compiles    |
| IEEE 802.11n HT20 | 10                      | 2.94         | 1.968    | <b>0.00391</b>                    | 1                                            | Compiles    |
| IEEE 802.11n HT40 | 7                       | 2.94         | 1.968    | <b>0.00196</b>                    | 1                                            | Compiles    |

##### 4.2 Antenna 1

| Mode              | Target power<br>( dBm ) | Antenna gain |          | Power Density<br>(S)<br>(mW /cm2) | Limited of Power Density<br>(S)<br>(mW /cm2) | Test Result |
|-------------------|-------------------------|--------------|----------|-----------------------------------|----------------------------------------------|-------------|
|                   |                         | (dBi)        | (Linear) |                                   |                                              |             |
| 2.4G Band         |                         |              |          |                                   |                                              |             |
| IEEE 802.11b      | 14                      | 2.94         | 1.968    | <b>0.00983</b>                    | 1                                            | Compiles    |
| IEEE 802.11g      | 10                      | 2.94         | 1.968    | <b>0.00391</b>                    | 1                                            | Compiles    |
| IEEE 802.11n HT20 | 10                      | 2.94         | 1.968    | <b>0.00391</b>                    | 1                                            | Compiles    |
| IEEE 802.11n HT40 | 6                       | 2.94         | 1.968    | <b>0.00156</b>                    | 1                                            | Compiles    |

## 4.3Antenna 0+1

| Mode              | Power<br>Density<br>(S)<br>(mW<br>/cm2)<br>Antenna 0 | Power<br>Density<br>(S)<br>(mW<br>/cm2)<br>Antenna 1 | Power<br>Density<br>(S)<br>(mW<br>/cm2)<br>Total | Limited<br>of<br>Power<br>Density<br>(S)<br>(mW<br>/cm2) | Test<br>Result |
|-------------------|------------------------------------------------------|------------------------------------------------------|--------------------------------------------------|----------------------------------------------------------|----------------|
| 2.4G Band         |                                                      |                                                      |                                                  |                                                          |                |
| IEEE 802.11n HT20 | 0.00391                                              | 0.00391                                              | <b>0.00782</b>                                   | 1                                                        | Compiles       |
| IEEE 802.11n HT40 | 0.00196                                              | 0.00156                                              | <b>0.00352</b>                                   | 1                                                        | Compiles       |