American Aires Inc.
Research and Development department

研究與開發部門

REPORT **報告**

R&D: Evaluation of the effective range of the LIFETUNE ONE (2022 model) at a frequency of 4.9 GHz (Wi-Fi 5 G)

R&D：評估 LIFETUNE ONE（2022 年型）在 4.9 GHz（Wi-Fi 5G）頻率下的有效範圍

The protective properties of the LT ONE are due to its ability to coherently convert the technogenic electromagnetic radiation of mobile communications without weakening the original signal.

LT ONE 的防護特性來自其能夠相干轉換行動通訊的人工電磁輻射，同時不削弱原始訊號。

An electromagnetic field converted using the LT ONE is a stationary coherent wave superposition with a corresponding energy density characterized by intensity I (see table). Calculations were made for the frequency 4.9 GHz , which is standard for Wi-Fi radiation and 5G mobile communications. The effectiveness of the LT ONE was estimated based on the intensity of the field transformed into a coherent form, determining the zone of maximum action.

使用 LT ONE 轉換後的電磁場是一種靜態的相干波疊加，其對應的能量密度以強度 I 為特徵（參見表格）。計算是針對頻率 4.9 GHz 進行的，這是 Wi-Fi 輻射與 5G 行動通訊的標準頻率。LT ONE 的有效性是基於被轉換成相干形式的場強度來估算，從而確定最大作用區域。

The stable electromagnetic field generated by the LT ONE has several fractal levels due to the number of ring elements in the topological circuit of its microprocessor and the size of the circuit itself. Outside the zone of maximum action, the density of the highly coherent field begins to decrease and, accordingly, the effectiveness of the device decreases.

LT ONE 所產生的穩定電磁場由於其微處理器拓撲電路中環形元件的數量以及電路本身的尺寸，呈現出數個分形層次。在最大作用區域之外，高度相干場的密度開始下降，因此裝置的效能也相應降低。

Table 1: Table of the basic parameters of the LT ONE

表 1：LT ONE 的基本參數表

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Diameter of the 16S5G microprocessor circuit **16S5G 微處理器電路的直徑**	0.01 m
Number of elements in the topological circuit of the microprocessor **微處理器拓撲電路中的元件數量**	69905
Device size **裝置尺寸**	0.02 m **0.02 公尺**
Diameter of the maximum effective zone of influence **最大有效影響區域的直徑**	0.24 m **0.24 公尺**
Recommended coverage diameter of the effective influence **建議的有效影響覆蓋直徑**	5.6 m **5.6 公尺**
Intensity I of the EM field in the maximum effective zone for the frequency 4.9GHz(5G) **在最大有效區域內，頻率為 $4.9\mathrm{GHz}(5\mathrm{G})$ 時電磁場的強度 I**	$5.12 * 10^4\ \mathrm{W/m^2}$

Fig. 1 shows the scale of the drop in the LT ONE's effectiveness using the example of its interaction with Wi-Fi radiation at a frequency of 4.9 GHz ($I \sim 5.76\ \mathrm{W/m^2}$).

圖 1 顯示了 LT ONE 在與頻率為 4.9 GHz 的 Wi-Fi 輻射相互作用時，其效能衰減的尺度（ $I \sim 5.76\ \mathrm{W/m^2}$ ）。

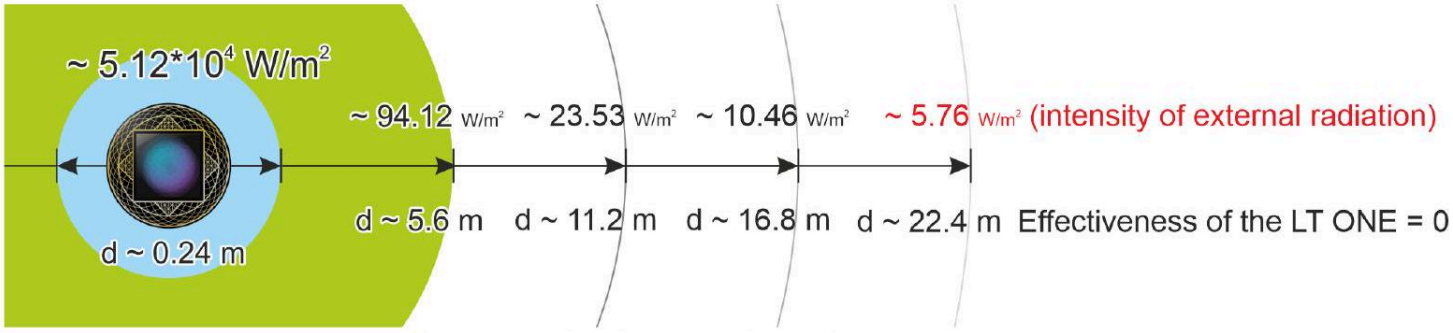

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Figure 1: Fig. 1. Scale of the drop in the effectiveness of protection for the LT ONE from EMR at a frequency of 4.9 GHz (5G).

圖 1：圖 1. 在 4.9 GHz（5G）頻率下，LT ONE 對電磁輻射保護效能下降的範圍。

When the protective electromagnetic field's intensity decreases to the parameters of the intensity of external radiation, the LT ONE's effectiveness drops to zero.

當保護性電磁場的強度降低到與外部輻射強度相當的參數時，LT ONE 的效能降為零。

If there are several external sources of radiation, it is necessary to additionally use a more powerful devices (LT ZONE or LT ZONE MAX) or several devices LT ONE, since the external radiation's total intensity dramatically reduces the LT ONE's zone of effective influence.

若存在多個外部輻射源，則需額外使用功率更大的裝置（LT ZONE 或 LT ZONE MAX）或多個 LT ONE，因為外部輻射的總強度會顯著縮減 LT ONE 的有效影響範圍。

The decrease in effectiveness is determined by the decrease in the intensity of the protective EM field, which is inversely proportional to the square of the distance from the device (LT ONE) and is estimated using the following formula:

效能的下降由保護性電磁場強度的減弱決定，該強度與距離裝置（LT ONE）的距離平方成反比，可用下列公式估算：

$$I \sim \frac{1}{R^2}.$$

At a distance of ~ 2.8 m from the center of the LT ONE (for EMR at a frequency of 4.9 GHz), the intensity of the protective field reaches a value at which the effectiveness drops to a critical level (see Fig. 2), determining the boundary of a highly coherent spherical field with a diameter of ~ 5.6 m.

在距離 LT ONE 中心 ~ 2.8 m 處（對於頻率為 4.9 GHz 的電磁輻射），保護場的強度降至使效能降到臨界水準的值（見圖 2），由此決定了一個高度相干球形場的邊界，其直徑為 ~ 5.6 m 。

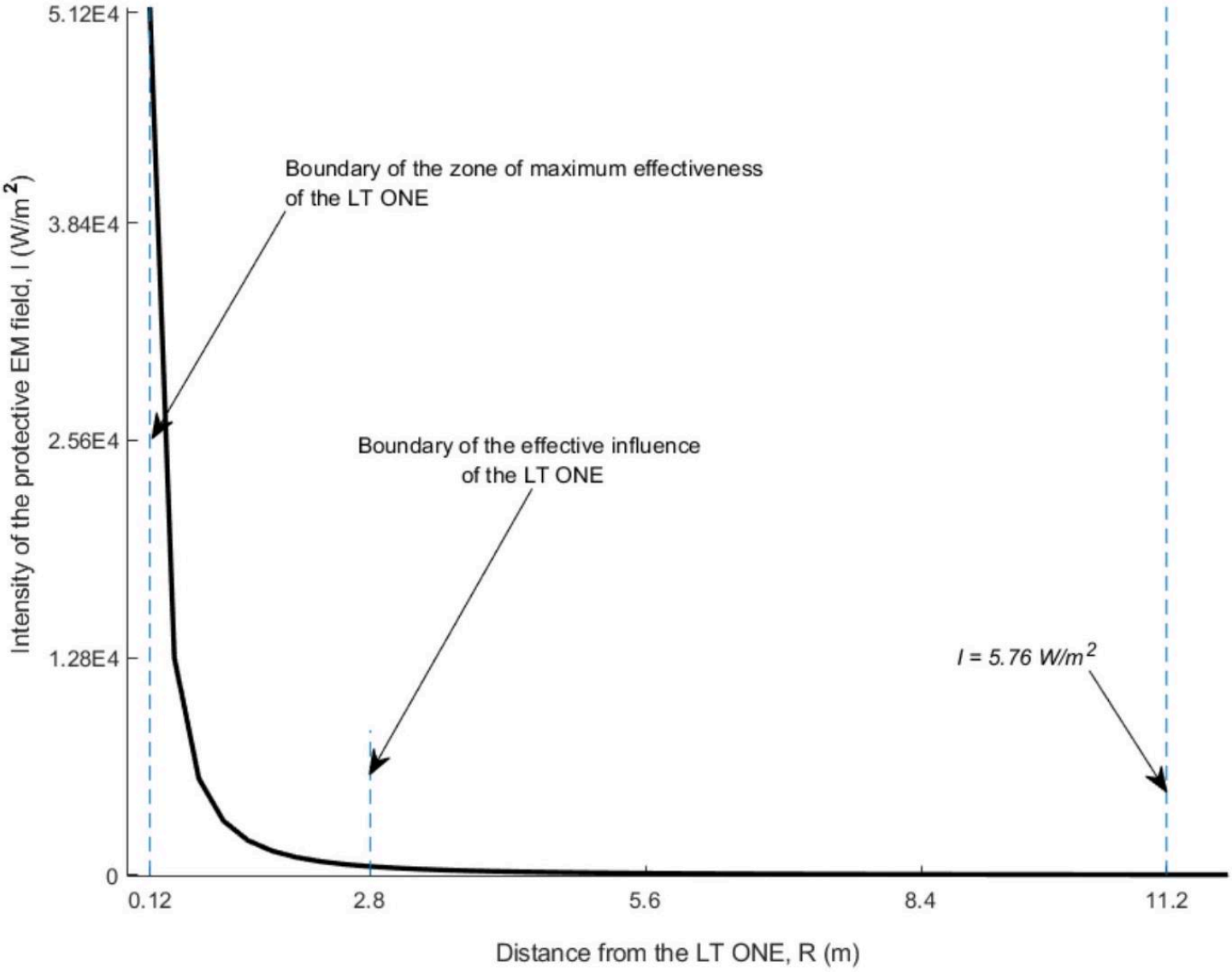

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Figure 2: Fig. 2. Graph of the effectiveness of the LT ONE as a function of distance for EMR at a frequency of 4.9 GHz.

圖 2：圖 2. LT ONE 對頻率為 4.9 GHz 的電磁輻射效能隨距離變化的圖表。

Thus, the recommended coverage diameter of the effective influence of the LT ONE is ~ 5.6 m.

因此，LT ONE 有效影響的建議覆蓋直徑為 ~ 5.6 m 。

The indicated distances are reached in open space.

所示距離是在開放空間中達到的。