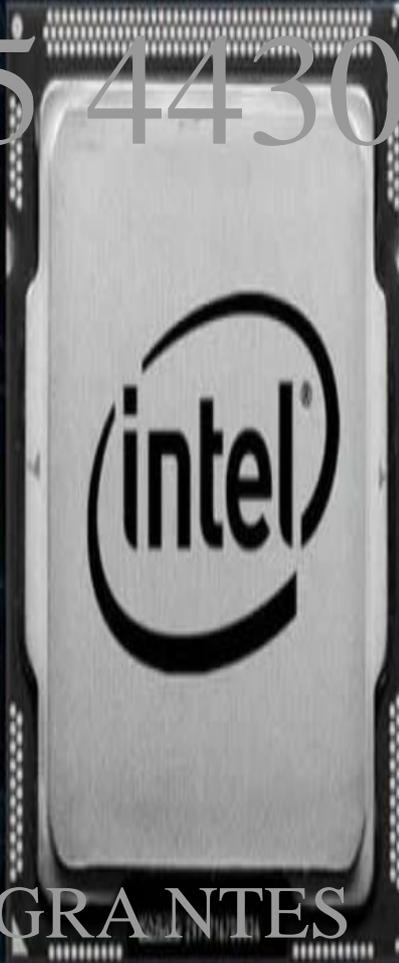


I3 4130

VS

I5 4430



INTEGRANTES

- Raby, Javier
- Romero, Tomas

BUS RATIO	JP1	JP2	JP3
x1.5/3.5	OFF	OFF	
x2.0	ON	OFF	OFF
x2.5	ON	OFF	ON
x3.0	OFF	OFF	ON

JP8	JP9	JP10	JP11	2.2V	2.8V	2.9V	1.2V
OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
ON	ON	ON	ON	ON	ON	ON	ON
50MHZ	60MHZ	66MHZ	75MHZ				

B/N:

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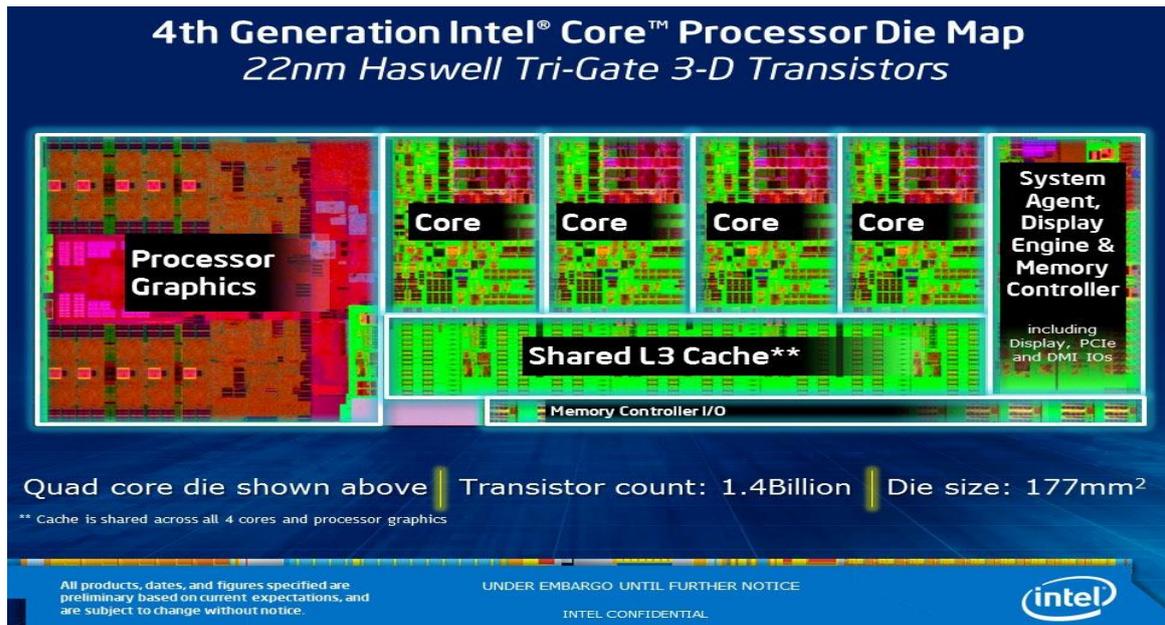
INDICE

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¿Qué es un procesador?

Un procesador en la Informática es una Unidad Central de procesamiento (CPU) este suele ser una placa de silicio de distintos tipos integrado por múltiples transistores conectados entre sí.

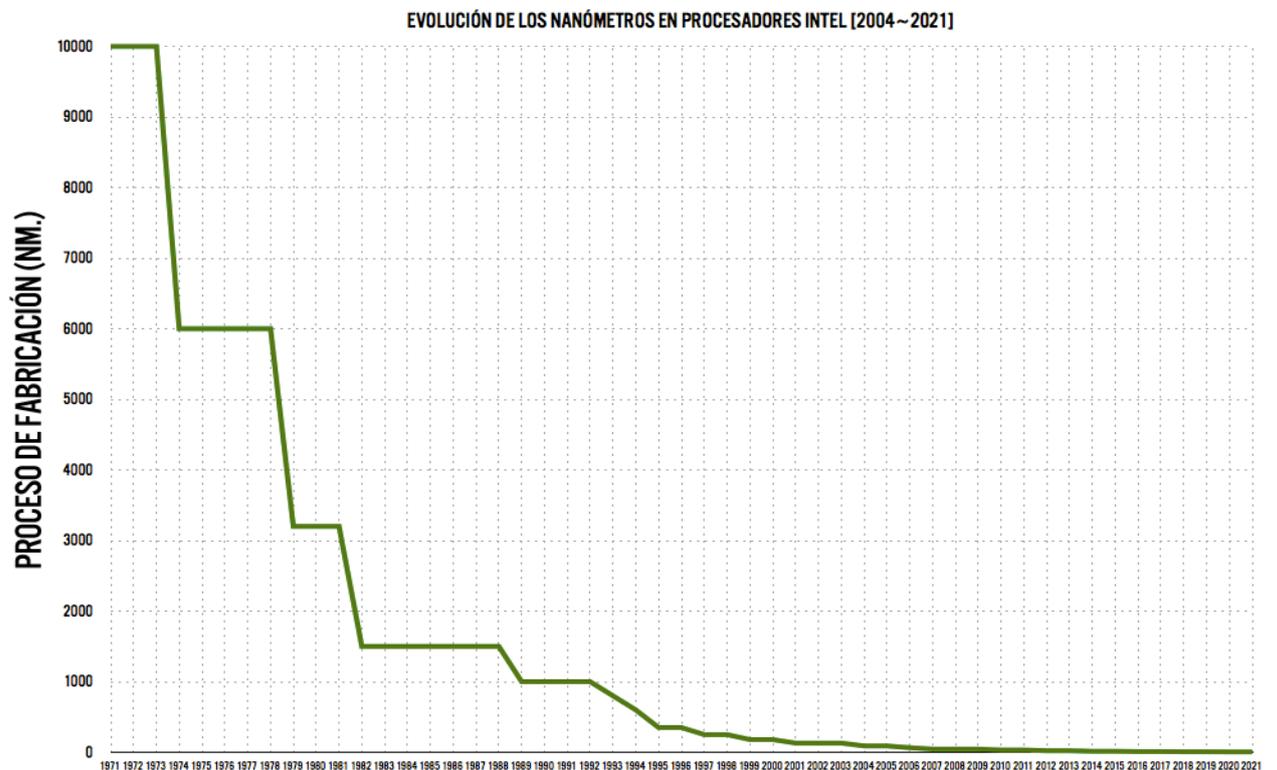
La arquitectura de un procesador se puede definir como la distribución de los componentes en las plaquetas que forman el mismo, la arquitectura haswell es la 4ta generación de procesadores intel.



***En este caso analizaremos el i3 4130 y el i5 4430 ambos con la misma arquitectura.**

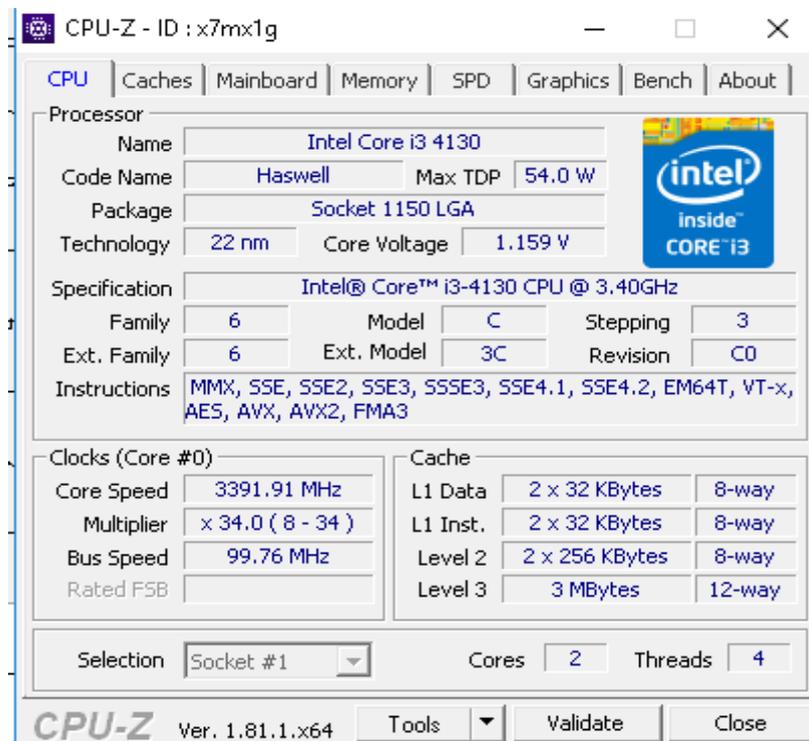
Transistores: Los transistores son la unidad mínima fundamental de un procesador, y en general de cualquier dispositivo electrónico. El transistor permite emular el comportamiento básico de un bit, con sus estados 0 y 1, según se permita o no el paso de la energía por él. Teniendo uno o más transistores se puede crear una puerta lógica para poder realizar sencillas operaciones matemáticas, y con una o más puertas lógicas se emulan operaciones básicas de bajo nivel, que son las que gestionan las instrucciones de código máquina.

Nanómetro: Unidad de medida en los cuales se miden los transistores usado en los procesadores, en estos casos a menos Nanómetros mayor es la cantidad de Transistores que se puede incluir dentro del procesado.



I3 4130

Este procesador salio al mercado en septiembre del año 2013, tiene una frecuencia de 3,40ghz contiene 2 núcleos y 4 hilos su TDP es de 54w esta construido en una tecnología a 22 Nanómetros



The image shows a screenshot of the CPU-Z application window. The window title is "CPU-Z - ID : x7mx1g". The "CPU" tab is selected, displaying the following information:

Processor					
Name	Intel Core i3 4130				
Code Name	Haswell	Max TDP	54.0 W		
Package	Socket 1150 LGA				
Technology	22 nm	Core Voltage	1.159 V		
Specification					
Intel® Core™ i3-4130 CPU @ 3.40GHz					
Family	6	Model	C	Stepping	3
Ext. Family	6	Ext. Model	3C	Revision	C0
Instructions	MMX, SSE, SSE2, SSE3, SSSE3, SSE4.1, SSE4.2, EM64T, VT-x, AES, AVX, AVX2, FMA3				

Clocks (Core #0)		Cache	
Core Speed	3391.91 MHz	L1 Data	2 x 32 KBytes 8-way
Multiplier	x 34.0 (8 - 34)	L1 Inst.	2 x 32 KBytes 8-way
Bus Speed	99.76 MHz	Level 2	2 x 256 KBytes 8-way
Rated FSB		Level 3	3 MBytes 12-way

Selection: Socket #1 Cores: 2 Threads: 4

CPU-Z Ver. 1.81.1.x64 Tools Validate Close

I5 4430

Este procesador fue lanzado al mercado en junio del año 2013 tiene una frecuencia de 3,00ghz y cuenta con 4 núcleos y 4 hilos tiene un TDP de 84w.

Está construido en base a una tecnología de 22 nanómetros al igual que su hermano menor el i3 4130

The image shows the CPU-Z software interface for an Intel Core i5 4430 processor. The interface is divided into several sections: Processor, Caches, Mainboard, Memory, SPD, Graphics, Bench, and About. The Processor section is currently selected and displays the following information:

Name	Intel Core i5 4430				
Code Name	Haswell	Max TDP	84 W		
Package	Socket 1150 LGA				
Technology	22 nm	Core Voltage	0.943 V		
Specification	Intel(R) Core(TM) i5-4430 CPU @ 3.00GHz				
Family	6	Model	C	Stepping	3
Ext. Family	6	Ext. Model	3C	Revision	C0
Instructions	MMX, SSE, SSE2, SSE3, SSSE3, SSE4.1, SSE4.2, EM64T, VT-x, AES, AVX, AVX2, FMA3				

Below the Processor section, there are two sub-sections: Clocks (Core #0) and Cache.

Clocks (Core #0)		Cache	
Core Speed	2992.86 MHz	L1 Data	4 x 32 KBytes 8-way
Multiplier	x 30.0 (8 - 32)	L1 Inst.	4 x 32 KBytes 8-way
Bus Speed	99.76 MHz	Level 2	4 x 256 KBytes 8-way
Rated FSB		Level 3	6144 KBytes 12-way

At the bottom of the Processor section, there is a Selection dropdown menu set to "Processor #1", and fields for Cores (4) and Threads (4).

The CPU-Z logo and version number (Ver. 1.75.0.x64) are visible at the bottom left, and there are buttons for Tools, Validate, and Close at the bottom right.

Diferencia entre I3 4130 / I5 4430

-La diferencia más notable entre estos dos procesadores es la cantidad de núcleos ya que el i3 posee solamente 2 núcleos mientras que el i5 posee 4 esto se puede notar mejor en el rendimiento con programas que hagan uso de varios núcleos como pueden ser sony vegas, adobe premier, adobe after effect, etc.

-El I5 4430 tiene un TDP de 84w mientras que el I3 solamente 54w esto en algunos casos puede beneficiar al I3 ya que al necesitar menos voltaje genera mucho menos calor y esto ayuda cuando el procesador esta trabajando al máximo no corra el riesgo de llegar a temperaturas muy altas y que empiece a tener problemas el equipo

-Otra diferencia es que el intel i5 4430 soporta tecnología de turbo boost. Esta tecnología lo que hace es acelerar aquellos núcleos que se estén usando, siempre controlando el límite máximo de temperatura lo que conlleva al aumento de rendimiento sin gastar mucha energía.

*** Las pruebas seran realizadas en una pc con las siguientes especificaciones:**

GPU: Msi GamingX gtx 1050ti 4gb ddr5

Motherboard: ASUS h81m-k

Memoria Ram: -Kingston 8192 MB (DDR3-1600)
-Hyundai Electronics 4096 MB (DDR3-1600)

Almacenamiento: HDD Western digital 500gb 7200rpm

PSU: Sentey Xplus power 725w (que entregan 576 watts reales)

Programas usados:

- Cpu-z:
- MSI Afterburner

Juegos usados:

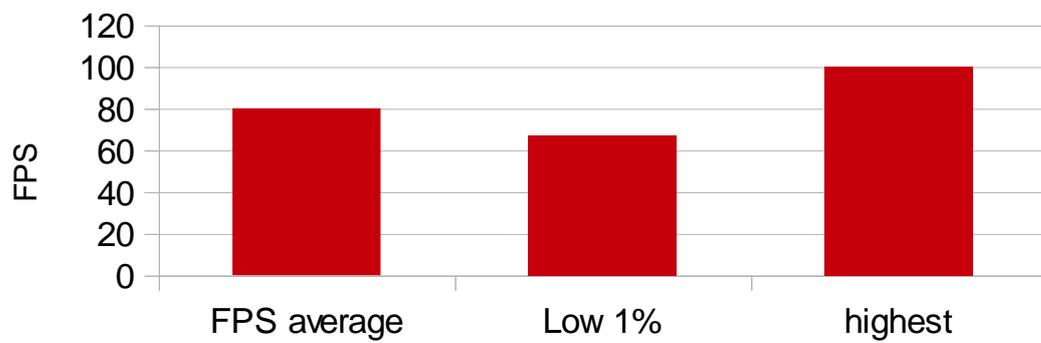
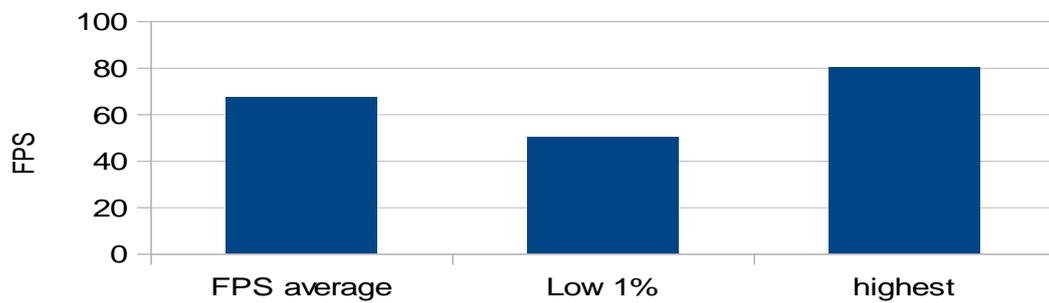
- Battlefield 1
- Counter Strike Global Offensive
- Player unknow battlegrounds(PUBG)

(Azul -i3 4130) (Rojo i5 4430) (Mayor FPS Mejor)

BATTLEFIELD 1



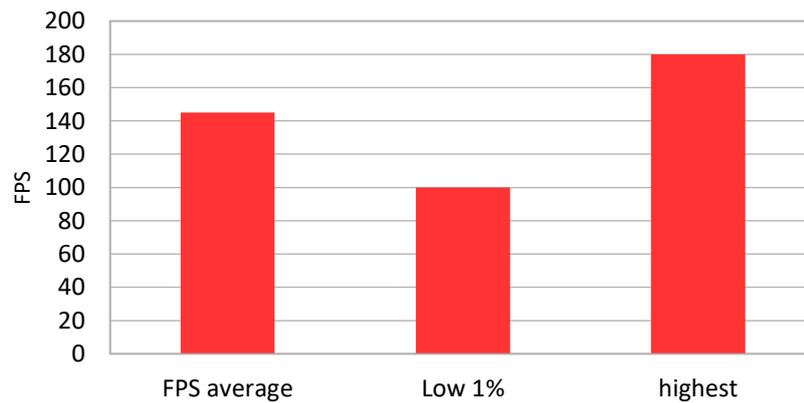
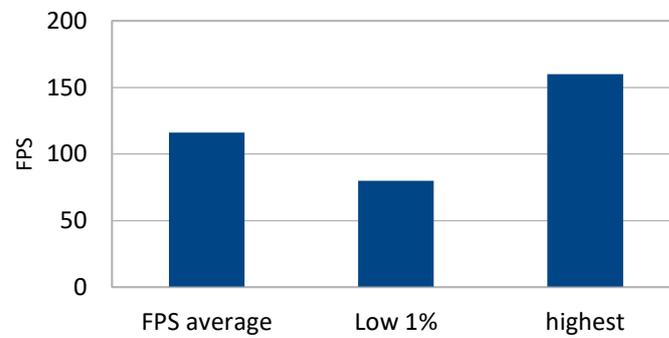
Battlefield 1
(Medium graphics)



Counter Strike Global Offensive



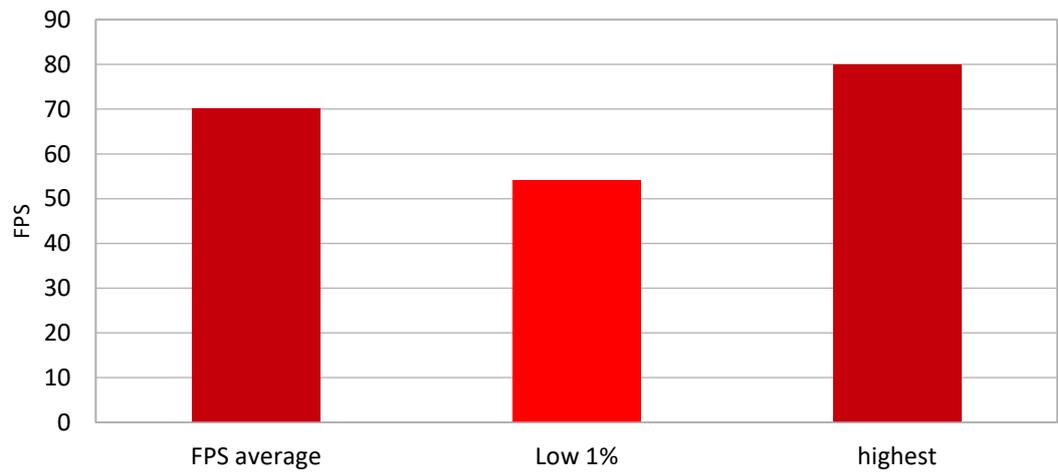
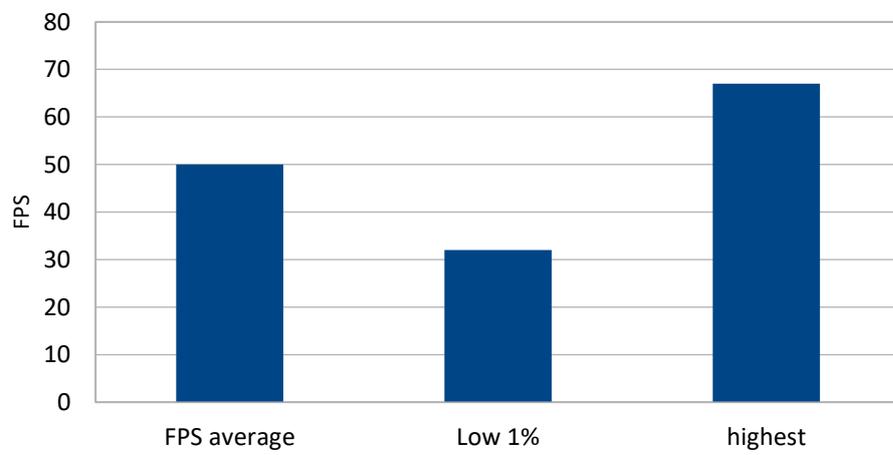
CS GO



PLAYER UNKNOWN BATTLE GROUND



PUBG



CONCLUSION

Como conclusión podemos notar un rendimiento superior en el i5 4430 en títulos de mayor CPU dependiente y con mejor optimización, en potencia mono núcleo es posible decir que el i3 4130 es un poco mejor, pero en tareas multinúcleo el i5 4430 lleva la delantera.

Al momento de jugar, que es a lo que está enfocada esta comparación, estos procesadores no presentan una diferencia muy grande.

En otros campos como es la edición de vídeo y el renderizado o la edición de fotos el i5 al contar con una mayor cantidad de núcleos obtiene una ventaja contra el i3.

Estos 2 procesadores son muy buenos para comenzar en el mundo de los videojuegos acompañados de una decente tarjeta gráfica pueden dar un muy buen resultado

Glosario

CPU-Z :es un software freeware, disponible únicamente para todas las versiones desde windows 95 hasta windows 10(32-bits como 64-bits) además también en las nuevas versiones de windows 8/8.1/10; brindándonos información detallada del procesador, chipset de sistema y el chipset de video entre otros que está instalado en la computadora personal. El programa contiene seis fichas que nos informa:

- Ficha CPU: Nombre, fabricante, nombre código, tipo de Socket, tamaño en nm, voltaje del core, familia, modelo, frecuencia de trabajo, cantidad de caché, cantidad de cores, cantidad de threads.
- Ficha Caches: informa la cantidad de memoria cache, como así también los niveles.
- Ficha Mainboard: informa el tipo de placa madre y versión del BIOS instalados.
- Ficha Memory: informa la cantidad, velocidad y tipo de Memoria RAM.
- Ficha SPD: informa detalladamente cada módulo de Memoria RAM instalada.
- Ficha Graphics: informa el tipo el nombre y fabricante, cantidad de memoria de la GPU.

MSI Afterburner: Programa gratuito que permite monitorear el rendimiento del equipo al estar usando un programa.



FPS: (Frame Per second) son la cantidad de imagenes que un programa en este caso un videojuego muestra cada 1 segundo. Entre mayor sea la cantidad de imágenes mas fluido se vera en la pantalla.

TDP: TDP es el acrónimo de Thermal Design Power y se define como la máxima potencia que es capaz de usar un dispositivo, la medida normalmente se da en Watios.

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