UNITED STATES DISTRICT COURT FOR THE WESTERN DISTRICT OF TEXAS WACO DIVISION

TERRESTRIAL COMMS LLC,

Plaintiff

v.

Case No. 6:20-cv-00106

JURY TRIAL DEMANDED

BEST BUY CO., INC.,

Defendant

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Terrestrial Comms LLC ("Plaintiff" or "Terrestrial") hereby asserts the following claims for patent infringement against Defendant Best Buy Co., Inc. ("Defendant" or "BBY"), and alleges, on information and belief, as follows:

THE PARTIES

1. Terrestrial is a limited liability company organized and existing under the laws of the Texas with its principal place of business at 17330 Preston Road, Suite 200D, Dallas, Texas 75252.

2. Defendant is a corporation organized and existing under the laws of Minnesota with corporate address of 7601 Penn Avenue South, Richfield, Minnesota 55423.

JURISDICTION AND VENUE

3. This action arises under the patent laws of the United States, 35 U.S.C. § 1, *et seq*. This Court has subject matter jurisdiction under 28 U.S.C. §§ 1331 and 1338(a).

4. Defendant has committed acts of infringement in this judicial district.

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5. On information and belief, the Court has personal jurisdiction over Defendant because Defendant has committed, and continues to commit, acts of infringement in the state of Texas, has conducted business in the state of Texas, and/or has engaged in continuous and systematic activities in the state of Texas.

6. On information and belief, Defendant's instrumentalities that are alleged herein to infringe were and continue to be used, imported, offered for sale, and/or sold in the Western District of Texas.

 Defendant has a regular established place of business in this judicial district at 11066 Pecan Park Blvd, Unit 300, Cedar Park, Texas 78613.

8. Venue is proper in the Western District of Texas pursuant to 28 U.S.C. § 1400(b).

ACUSED PRODUCTS

9. Upon information and belief, Defendant makes, uses, imports, sells, and/or offers for sale the Insignia Wireless Keyboard and Mouse Combo, (collectively the "Accused Products").

10. Upon information and belief, Defendant encourages and supports the use of the Accused Products through its online support and advertising.

THE PATENTS-IN_SUIT

11. On August 12, 2008, United States Patent No. 7,411,552 (the "552 patent"), entitled "Grounded Antenna for a Wireless Communication Device and Method," was duly and lawfully issued by the U.S. Patent and Trademark Office.

12. Terrestrial is the assignee and owner of the right, title and interest in and to the '552 patent, including the right to assert all causes of action arising under said patents and the right to any remedies for infringement of them.

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13. On December 6, 2005, United States Patent No. 6,973,133 (the "133 patent"), entitled "Integrated Radio Frequency Interface," was duly and lawfully issued by the U.S. Patent and Trademark Office.

14. Terrestrial is the assignee and owner of the right, title and interest in and to the '133 patent, including the right to assert all causes of action arising under said patents and the right to any remedies for infringement of them.

15. On February 11, 2003, United States Patent No. 6,519,290 (the "290 patent"), entitled "Integrated Radio Frequency Interface," was duly and lawfully issued by the U.S. Patent and Trademark Office.

16. Terrestrial is the assignee and owner of the right, title and interest in and to the '290 patent, including the right to assert all causes of action arising under said patents and the right to any remedies for infringement of them.

COUNT I – INFRINGEMENT OF U.S. PATENT NO. 7,411,552

17. Terrestrial repeats and realleges the allegations of paragraphs 1 through 15 as if fully set forth herein.

18. Claim 1 of the '552 Patent recites:

 A wireless communication device, comprising: a substrate;

a ground plane positioned on one side of the substrate;

a wireless communication chip electrically connected to said ground plane

and proximate thereto;

an antenna having a first end and a second end, said first end electrically connected to said ground plane; and said second end comprising an open circuit.

19. Without license or authorization and in violation of 35 U.S.C. § 271(a), Defendant has infringed and continues to infringe the '552 Patent by making, using, importing, offering for sale, and/or selling the Accused Products.

20. As exemplified below, the Accused Products are a wireless communication device that communicates via Bluetooth and Wi-Fi.

A wireless communication device, comprising:

The Accused Instrument communicates via Wireless USB radio and Bluetooth.



Features	104 keys
reatures	Offer a comfortable typing experience.
	Multimedia controls
	Promote simple operation.
	Integrated numeric keypad
	Allows simple data entry for multifunction use.
	USB receiver
	Provides reliable wireless connection.
	PC and Mac compatible
	For use with your existing computer.
What's Included	Insignia NS-PNC7011 - keyboard and mouse set
	USB wireless receiver

https://www.bestbuy.com/site/insignia-wireless-keyboard-and-mouseblack/5502800.p?skuId=5502800&ref=17&loc=11&CampaignID=1032052 &SubscriberID=606795535

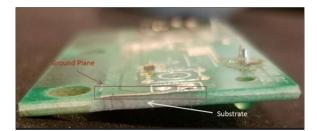
a substrate; a ground plane positioned on one side of the substrate;

The chipset of the Accused Instrument comprises of a substrate and a ground

plane positioned on one side of that substrate:



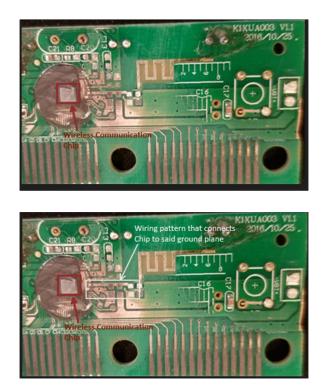
https://fccid.io/PRDKB25/Internal-Photos/Internal-Photos-3218125





a wireless communication chip electrically connected to said ground plane and proximate thereto;

The Keyboard features a wireless communication chip that, through a wiring



pattern, connects to said ground plane

an antenna having a first end and a second end, said first end electrically connected to said ground plane; and

The Accused Products comprise an antenna having two ends, one electrically

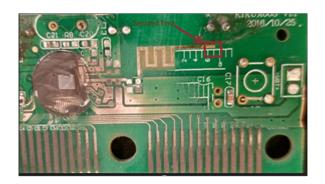
connected to said ground plane and another comprising an open circuit:



said second end comprising an open circuit.

The second end of the antenna comprises an open circuit (e.g. not electrically

connected).



21. Terrestrial is entitled to recover from Defendant the damages sustained by Terrestrial as a result of Defendant's infringement of the '552 Patent in an amount subject to proof at trial, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

COUNT II - INFRINGEMENT OF U.S. PATENT NO. 6,973,133

22. Terrestrial repeats and realleges the allegations of paragraphs 1 through 15 as if fully set forth herein.

23. Claim 1 of the '133 Patent recites:

- 1. An apparatus comprising:
 - a circuit configured to (i) communicate one or more Universal Serial Bus (USB) data signals via a wireless radio signal comprising a single frequency hopping sequence configured to support one or more USB devices and (ii) enumerate said one or more USB devices.

24. Without license or authorization and in violation of 35 U.S.C. § 271(a), Defendant has infringed and continues to infringe the '133 Patent by making, using, importing, offering for sale, and/or selling the Accused Products.

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25. As exemplified below, the Accused Products are an apparatus comprising a circuit configured to communicate USB data signals over a wireless frequency.

An apparatus comprising:

The Accused Products are an apparatus comprising a circuit configured to communicate USB data signals over a wireless frequency to one or more USB devices (e.g. keyboard and mouse) and to enumerate the USB devices.



https://www.insigniaproducts.com/pdp/NS-PNC7011/5502800

a circuit configured to (i) communicate one or more Universal Serial Bus (USB) data signals via a wireless radio signal comprising a single frequency hopping sequence configured to support one or more USB devices and

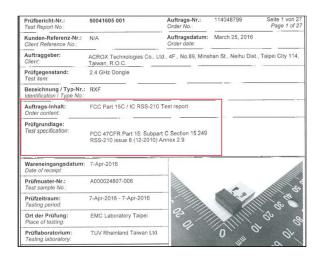
The Accused Products include a circuit configured to communicated one or more

USB data signals to support one more USB devices.

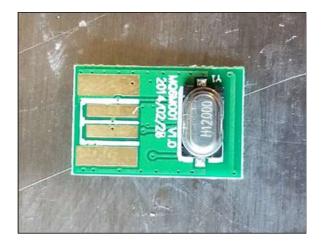
The Accused Products include a USB Transceiver unit.



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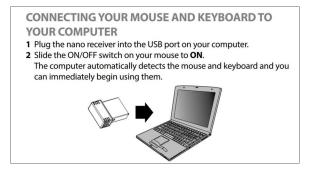


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The circuit is a device configured to communicate via wireless radio frequency.

The circuit is operable to communicate with one or more USB devices.



https://files.bbystatic.com/LV619s%2FNMB19S8bD9Nb%2BvA%3D%3D/NS-PNC7011 16-0816 QSG V2 EN Final lr.pdf

The host device (e.g. computer) communicates data through the circuit (e.g. USB COMPLAINT FOR PATENT INFRINGEMENT

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dongle) to a USB device (e.g. keyboard) via wireless radio signal.

As an example of this communication, after a user presses the "Caps Lock" key on a computer which hosts the circuit, then, when the user presses a key on the wireless keyboard the "Caps Lock" indicator on the wirelessly connected keyboard lights up.





The circuit operates on a frequency hopping sequence (e.g. frequency-shift keying).

able 4: Basic Informa	ition of EUT
Item	EUT information
Kind of Equipment	2.4 GHz Dongle
Type Designation	RXF
FCC ID	PRDRX0F
Canada ID	6180A-RXF
HVIN	RXF
Technical Specification	Value
Technical Specification Operating Frequencies	
Technical Specification Operating Frequencies Channel Spacing	Value 2408 2440 2474 MHz
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https://fccid.io/PRDRX0F/Test-Report/Test-Report-3013862

The circuit operates between 2408, 2440, and 2474 MHz.

The frequency hopping sequence supports one or more USB devices (e.g. mouse and keyboard).

(ii) enumerate said one or more USB devices.

The Accused Products are operable to enumerate the USB devices.

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Information	Date and 1	ime 3:14:49 PM	Source Kernel-PnP		Task Category None	
		5.14/49 PM	Kernei-Priz	410	None	_
ent 400, Kernel-	PnP					
General Details						
Driver Name: I Class Guid: (4c Driver Date: 06 Driver Version: Driver Provide Driver Section:	136e96b-e325-11ce-bfc1-0 /21/2006 10.0.17763.348 r: Microsoft HID_Keyboard_Inst.NT		as configured.			
Driver Rank: On		A KEVROARD				
Matching Devi Outranked Dri Device Update Parent Device:	ce Id: HID_DEVICE_SYSTEI vers: input.inf:HID_DEVICE d: false USB\VID_3938&PID_10320	:00FF1005 &MI_00\78c2a32d15b&08				
Matching Devi Outranked Dri Device Update Parent Device: Log Name:	ice Id: HID_DEVICE_SYSTEI vers: input.inf:HID_DEVICE d: false USB\VID_3938&PID_1032/ Microsoft-Windows-	:00FF1005 &MI_00\78:2a32d15b&08 Kernel-PnP/Device Config	juration			
Matching Devi Outranked Dri Device Update Parent Device:	ce Id: HID_DEVICE_SYSTEI vers: input.inf:HID_DEVICE d: false USB\VID_3938&PID_10320	:00FF1005 &MI_00\78c2a32d15b&08	uration 12/31/2019 3:14:49 PM			
Matching Devi Outranked Dri Device Update Parent Device: Log Name: Source:	ice Id: HID_DEVICE_SYSTEI vers: input.inf:HID_DEVICE d: false USB\VID_3938&PID_10320 Microsoft-Windows- Kernel-PnP	:00FF1005 &MI_00\78:2a32d15b&08 Kernel-PnP/Device Config Logged:	uration 12/31/2019 3:14:49 PM			
Matching Devi Outranked Dri Device Update Parent Device: Log Name: Source: Event ID:	ice Id: HID_DEVICE_SYSTEI vers: input.inf.HID_DEVICE d: false USB/VID_3938&PID_1032/ Microsoft-Windows- Kernel-PnP 400	:00FF1005 &MI_00\78k2a32d15b&08 Kernel-PnP/Device Config Logged: Task Category:	uration 12/31/2019 3:14:49 PM			
Matching Devi Outranked Dri Device Update Parent Device: Log Name: Source: Event ID: Level:	ice Id: HID_DEVICE_SYSTEI vers: input.inf.HID_DEVICE d: false US8\VID_39388.PID_10320 Microsoft-Windows- Kernel-PnP 400 Information	500FF1005 &MI_00\78x2a32d15b&08 Kernel-PnP/Device Config Logged: Task Category: Keywords:	uration 12/31/2019 3:14:49 PM None			

"A hardware ID is a vendor-defined string that Windows uses to match a device to an INF file."

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https://docs.microsoft.com/en-us/windows-hardware/drivers/install/hardware-ids

26. Terrestrial is entitled to recover from Defendant the damages sustained by Terrestrial as a result of Defendant's infringement of the '133 Patent in an amount subject to proof at trial, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

COUNT III – INFRINGEMENT OF U.S. PATENT NO. 6,519,290

27. Terrestrial repeats and realleges the allegations of paragraphs 1 through 15 as if fully set forth herein.

28. Claim 1 of the '290 Patent recites:

1. An apparatus comprising:

a circuit configured to generate a wireless radio signal in response to one or more first Universal Serial Bus (USB) data signals,

wherein said wireless radio signal comprises a single frequency hopping sequence configured to support one or more USB peripheral wireless network devices, and

said circuit is configured to (i) generate said one or more first USB data signals in response to said wireless radio signal and

(ii) enumerate said one or more USB devices.

29. Without license or authorization and in violation of 35 U.S.C. § 271(a), Defendant has infringed and continues to infringe the '290 Patent by making, using, importing, offering for sale, and/or selling the Accused Products.

30. As exemplified below, the Accused Products are a circuit configured to communicate USB data signals over a wireless frequency.

An apparatus comprising:

The Accused Products are an apparatus comprising a circuit configured to communicate USB data signals over a wireless frequency to one or more USB devices (e.g. keyboard and mouse) and to enumerate the USB devices.



https://www.insigniaproducts.com/pdp/NS-PNC7011/5502800

a circuit configured to generate a wireless radio signal in response to one or more first Universal Serial Bus (USB) data signals,

The Accused Products include a circuit configured to generate a wireless radio signal in response to one or more first Universal Serial Bus (USB) data signals.

The first data signal below is communicated between the host device and the USB

interface.

To set up the USB interface, the client drivers (provided by the host) communicate

with the receiver to establish the protocol as described below:

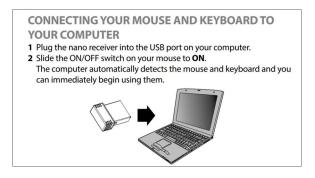
Number of even	ts: 2				
vel	Date and Time		Source	Event ID	Task Category
Information	12/17/2019 11:5	2:58 AM	Kernel-PnP	410	None
Information	12/17/2019 11:5	258 AM	Kernel-PnP	400	None
ent 410, Kernel-PnP Seneral Details					
Driver Name: usb. Class Cuid. (2000) Service: usbccqp Lower Filters: Upper Filters:	inf 60-c465-11cf-8056-444553	540000)			
Class Cuid, (265-0 Service: usbccqp Lower Filters:	inf 0-c465-11cf-8056-444553 Microsoft-Windows-Kerne		uration		
Service: usbccqp Lower Filters: Upper Filters:	60-c465-11cf-8056-444553		uration 12/17/2019 11:50:58 AM		
Class Cuide (2000) Service: usbccqp Lower Filters: Upper Filters: Log Name:	Microsoft-Windows-Kerne	I-PnP/Device Config	12/17/2019 11:50:58 AM		
Service: usbccqp Lower Filters: Upper Filters: Log Name: Source:	Microsoft-Windows-Kerne Kernel-PnP	I-PnP/Device Config Logged:	12/17/2019 11:50:58 AM		None
Service: usbccqp Cower Filters: Upper Filters: Log Name: Source: Event ID:	Microsoft-Windows-Kerne Kernel-PnP 410	II-PnP/Device Config Logged: Task Category:	12/17/2019 11:50:58 AM		None
Service: usbccqp Lower Filters: Upper Filters: Log Name: Source: Event ID: Level:	Microsoft-Windows-Kerne Kernel-PnP 410 Information	I-PnP/Device Config Logged: Task Category: Keywords:	12/17/2019 11:50:58 AM None		None

The service shown above is the USB generic parent driver

https://docs.microsoft.com/en-us/windows-hardware/drivers/usbcon/usb-common-classgeneric-parent-driver



In response to said first data transaction the device is then registered to the computer and begins transmitting a wireless frequency device to connect to peripheral devices (a mouse and keyboard)



https://files.bbystatic.com/LV619s%2FNMB19S8bD9Nb%2BvA%3D%3D/NS-PNC7011_16-0816_QSG_V2_EN_Final_lr.pdf

Then once the peripheral device is turned on, the USB Transceiver registers and

communicates with said device.



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wherein said wireless radio signal comprises a single frequency hopping sequence configured to support one or more USB peripheral wireless network devices, and

The radio signal generated comprises a frequency hopping sequence to support

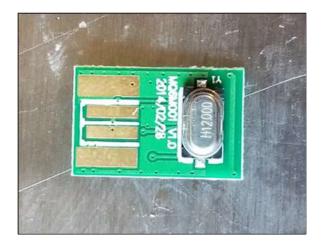
one or more peripheral devices





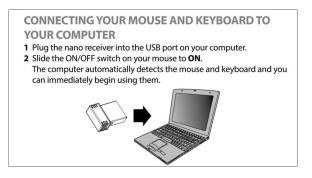
https://fccid.io/PRDRX0F/Test-Report/Test-Report-3013862.iframe

The circuit is a device configured to communicate via wireless radio frequency.



https://files.bbystatic.com/LV619s%2FNMB19S8bD9Nb%2BvA%3D%3D/NS-PNC7011_16-0816_QSG_V2_EN_Final_lr.pdf

The circuit is operable to communicate with one or more USB devices.



https://files.bbystatic.com/LV619s%2FNMB19S8bD9Nb%2BvA%3D%3D/NS-

PNC7011_16-0816_QSG_V2_EN_Final_lr.pdf

The circuit operates on a frequency hopping sequence (e.g. frequency-shift keying).

able 4: Basic Informa		
Item	EUT information	
Kind of Equipment	2.4 GHz Dongle	
Type Designation	RXF	
FCC ID	PRDRX0F	
Canada ID	6180A-RXF	
HVIN	RXF	
Technical Specification	Value	
Technical Specification Operating Frequencies	Value	
Technical Specification Operating Frequencies Channel Spacing	Value 2408 2440 2474 MHz	
Technical Specification Operating Frequencies Channel Spacing Channel number	Value 2408 2440 2474 MHz 2 MHz minimum	
Technical Specification Operating Frequencies Channel Spacing Channel number Operation Voltage	Value 2408 2440 2474 MHz 24 MHz minimum 32 32	
able 5: Technical Spe Technical Specification Operating Frequencies Channel Apacing Channel number Operation Voltage Modulation Pulse Width	Value 2408 2440 2474 MHz 2 MHz minimum 32 11.5Vdc	

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https://fccid.io/PRDRX0F/Test-Report/Test-Report-3013862

The circuit operates between 2405 and 2474 MHz.

The frequency hopping sequence supports one or more USB peripheral devices

(e.g. mouse and keyboard).

said circuit is configured to (i) generate said one or more first USB data signals in response to said wireless radio signal and

The device generates a USB data signal in response to said wireless radio signal.

The circuit is a device configured to communicate via wireless radio frequency (e.g.

2.4 GHz wireless radio).



The circuit is operable to communicate with one or more USB devices (e.g. Mouse

and Keyboard).



https://fccid.io/PRDKB25/Label/Label-3218124

The transmitter in the wireless keyboard sends a data signal via a radio frequency to the USB device which receives the radio signals and converts that data into a USB data signal which is then communicated to the host device

abling the user to commun	ss Keyboard. It contains a 2.4GHz Wireless compatible module incate data through a Wireless interface. Guide, Data Sheet and Circuit Diagram.
2 Ratings and	System Natails
z natings and	System Details
ble 4: Basic Informa	
tem	EUT information
Kind of Equipment	2.4GHz Keyboard
Type Designation	K1X , NS-PNC7011,NS-PNC7011-C, XXXXXXPNXXXXXX NS-(the combo model number
FCC ID	PRDKB25
Canada ID	6180A-K1X1
HVIN	K1X1
Technical Specification	Value
Technical Specification Operating Frequencies	Value 2408, 2440, 2474 MHz
Technical Specification Operating Frequencies Channel Spacing	Value 2408, 2440, 2474 MHz 2 MHz minimum
Technical Specification Operating Frequencies Channel Spacing Channel number	Value 2408, 2440, 2474 MHz 2 MHz minimum 32
able 5: Technical Spe Technical Specification Operating Frequencies Channel Spacing Channel number Operation Voltage Modulation	Value 2408, 2440, 2474 MHz 2 MHz minimum

https://fccid.io/PRDKB25/Test-Report/Test-Report-3218127

When the caps lock light when pressed on the wireless keyboard turns on the caps

lock light on the host computers keyboard



(ii) enumerate said one or more USB devices.

The Accused Products are operable to enumerate the USB devices.

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HID-com	pliant m	nouse Pro	operties			×
General	Driver	Details	Events	Power Ma	anagement	
9	HID-co	mpliant m	ouse			
Property	/					
Enume	rator					~
Value						
HID						
				[OK	Cancel

HID Keyb	oard De	evice Pro	perties			×
General	Driver	Details	Events	Power N	lanagement	
~	HID Ke	eyboard D	evice			
Property	y					
Enume	erator					~
Value						
HID						
					OK	Cancel

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vel	Date and Tim	ie .	Source	Event ID	Task Category
Information	12/17/2019 1	1:50:58 AM	Kernel-PnP	400	None
ent 400, Kernel-PnF	1				
Seneral Details					
Driver Name: msn Class Guid: (4d36) Driver Date: 06/21 Driver Version: 10. Driver Provider: M Driver Section: HII Driver Rank: 0xFT Matching Device	9667-e325-1 2006 0.17763.1 licrosoft D_Mouse_Inst.NT 003 ld: HID_DEVICE_SYSTEM_	02be10318} MOUSE	0000 was configured.		^
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Device Updated: f Parent Device: US Log Name:	alse B\VID_3938&PID_1032&M Microsoft-Windows-Ke	/I_01\7&2a32d15b&08	uration 12/17/2019 11:50:58 AM		
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evel	Date and T	ime	Source	Event ID	Task Category
Information	12/31/2019	3:14:49 PM	Kernel-PnP	410	None
ivent 400, Kernel-Pr	P				
General Details					
Driver Name: ke Class Guid: (4d3 Driver Date: 06/2 Driver Provider: Driver Provider: Driver Section: H Driver Rank: 0xF Matching Devic	5e96b-e325-11ce-bfc1-0 1/2006 0.0.17763.348 Microsoft IID_Keyboard_Inst.NT 1003 e1d: HID_DEVICE_SYSTEM rs: input:inf:HID_DEVICE:	8002be10318) 4_KEYBOARD			
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"A hardware ID is a vendor-defined string that Windows uses to match a device to an INF file."

https://docs.microsoft.com/en-us/windows-hardware/drivers/install/hardware-ids

31. Terrestrial is entitled to recover from Defendant the damages sustained by Terrestrial as a result of Defendant's infringement of the '290 Patent in an amount subject to proof at trial, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

PRAYER FOR RELIEF

WHEREFORE, Terrestrial requests that this Court enter judgment against Defendant as follows:

A. An adjudication that Defendant has infringed the '552 Patent, the '133

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Patent, and the '290 Patent;

B. An award of damages to be paid by Defendant adequate to compensate Terrestrial for Defendant's past infringement of the '552 Patent, the '133 Patent, and the '290 Patent, and any continuing or future infringement through the date such judgment is entered, including interest, costs, expenses and an accounting of all infringing acts including, but not limited to, those acts not presented at trial;

C. A declaration that this case is exceptional under 35 U.S.C. § 285, and an award of Terrestrial's reasonable attorneys' fees; and

D. An award to Terrestrial of such further relief at law or in equity as the Court deems just and proper.

JURY DEMAND

Plaintiff demands trial by jury, Under Fed. R. Civ. P. 38.

Dated: February 11, 2020

Respectfully Submitted

/s/ Raymond W. Mort, III

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