

Produkte
Products

Prüfbericht - Nr.: 14034448 001			Seite 1 von 12 Page 1 of 12		
<i>Test Report No.:</i>					
Auftraggeber: <i>Client:</i>		ConnecteDevice Ltd. 8F, Tai Yip Building 141 Thomson Road, Wanchai Hong Kong			
Gegenstand der Prüfung: <i>Test Item:</i>		Bluetooth Low Energy Smart Watch			
Bezeichnung: <i>Identification:</i>	COGITO POP	Serien-Nr.: <i>Serial No.:</i>	Engineering sample		
Wareneingangs-Nr.: <i>Receipt No.:</i>	A000034570-001, A000036502-001	Eingangsdatum: <i>Date of Receipt:</i>	09.01.2014, 27.01.2014		
Prüfart: <i>Testing Location:</i>	TÜV Rheinland Hong Kong Ltd. 8/F, First Group Centre, 14 Wang Tai Road, Kowloon Bay, Kowloon, Hong Kong Hong Kong Productivity Council HKPC Building, 78 Tat Chee Avenue, Kowloon, Hong Kong				
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of test item at delivery:</i>		Test sample(s) is/are not damaged and suitable for testing.			
Prüfgrundlage: <i>Test Specification:</i>	FCC Part 15 Subpart C RSS-210 Issue 8 RSS-Gen Issue 3 ANSI C63.4-2003 CISPR 22:1997				
Prüfresultat: <i>Test Results:</i>	Das vorstehend beschriebene Gerät wurde geprüft und entspricht oben genannter Prüfgrundlage. The above mentioned product was tested and passed .				
Prüflaboratorium: <i>Testing Laboratory:</i>	TÜV Rheinland Hong Kong Ltd. 8 - 10/F., Goldin Financial Global Square, 7 Wang Tai Road, Kowloon Bay Kowloon, Hong Kong				
geprüft/ tested by:		kontrolliert/ reviewed by:			
11.02.2014 Hugo Wan Senior Project Manager		11.02.2014 Mika Chan Project Manager			
Datum <i>Date</i>	Name/Stellung <i>Name/Position</i>	Unterschrift <i>Signature</i>	Datum <i>Date</i>	Name/Stellung <i>Name/Position</i>	Unterschrift <i>Signature</i>
					
Sonstiges: FCCID: QITCD003 IC: 7343A-CD003					
Other Aspects					
Abkürzungen: P(ass) = entspricht Prüfgrundlage F(ail) = entspricht nicht Prüfgrundlage N/A = nicht anwendbar N/T = nicht getestet			Abbreviations: P(ass) = passed F(ail) = failed N/A = not applicable N/T = not tested		
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. This test report relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any safety mark on this or similar products.					

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Product information

Manufacturers declarations

	Transceiver BLE Mode
Operating frequency range	2402 - 2480 MHz
Type of modulation	GFSK
Number of channels	40
Channel separation	2 MHz
Type of antenna	Chip Antenna
Antenna gain (dBi)	3.1
Power level	fix
Type of equipment	stand alone radio device
Connection to public utility power line	No
Nominal voltage	V _{nor} : 3.0 VDC
Independent Operation Modes	Transmitting Receiving

Product function and intended use

The COGITO POP is a Bluetooth connected watch with analog movement that connects with the iPhone and android device with the following features

- Notifications for incoming calls, missed calls, messages chat, calendar reminders, etc
- Remind when the device is out of range or at critical battery level
- Locate the phone with the press of a button from the COGITO POP watch

For details, please refer to the datasheet.

Submitted documents

Circuit Diagram
Block Diagram
Bill of material
User manual

Remark

Special accessories and auxiliary equipment

Nil

List of Test and Measurement Instruments

Hong Kong Productivity Council

(FCC Registration number: 90656, IC Registration number: 4780A)

Equipment	Manufacturer	Type	S/N	Due Date
Semi-anechoic Chamber	Frankonia	Nil	Nil	12-Apr-14
Test Receiver	R & S	ESU40	100190	19-Feb-14
Bi-conical Antenna	R & S	HK116	100241	11-Jun-15
Log Periodic Antenna	R & S	HL223	841516/017	10-Jun-15
Coaxial cable 50ohm	Rosenberger	RTK081-05S-05S-10m	LA2-001-10M / 001	15-Nov-15
Microwave amplifier 0.5-26.5GHz, 25dB gain	HP	83017A	3123A00437	30-Dec-15
High Pass Filter (cutoff freq. =1000MHz)	Trilithic	23042	9829213	28-Oct-15
Horn Antenna	EMCO	3115	9002-3347	11-Jun-15
Active Loop Antenna	EMCO	6502	9107-2651	21-Jun-14

TÜV Rheinland Hong Kong Ltd.

Equipment	Manufacturer	Type	S/N	Due Date
FSP 30 Spectrum Analyser	Rohde & Schwarz	FSP 30	100007	03-Dec-14
Test Receiver	Rohde & Schwarz	ESCS30	100201	26-Feb-14
LISN	Rohde & Schwarz	ENV216	100273	06-Mar-14

Results FCC Part 15 – Subpart C / RSS-Gen, RSS-210

FCC 15.203 / RSS-Gen 7.1.2 – Antenna Requirement 1		Pass
FCC Requirement:	No antenna other than that furnished by the responsible party shall be used with the device	
IC Requirement:	A transmitter can only be sold or operated with antennas with which it was approved. Any antenna of the same type having equal or lesser gain as an antenna that had been successfully tested with the transmitter, will also be considered approved with the transmitter, and may be used and marketed with the transmitter.	
Results:	Permanent attached antenna	
Verdict:	Pass	

FCC 15.204 / RSS-Gen 7.1.2 – Antenna Requirement 2		Pass
FCC Requirement:	Provide information for every antenna proposed for the use with the EUT	
IC Requirement:	When a measurement at the antenna connector is used to determine RF output power, the effective gain of the device's antenna shall be stated, based on measurement or on data from the antenna manufacturer.	
Results:	a) Antenna type: Chip Antenna b) Manufacturer and model no: N.A. c) Gain with reference to an isotropic radiator: 3.1 dBi	
Verdict:	Pass	

RSS-Gen 5.4 – Transmitter External Control		Pass
IC Requirement:	The device shall not have any external controls accessible to the user that enable it to be adjusted, selected or programmed to operate in violation of the limits prescribed in the applicable RSS.	
Results:	The device does not have any transmitter external controls accessible to the user that can be adjusted and operated in violation of the limits of this standard.	
Verdict:	Pass	

FCC 15.207 / RSS-Gen 7.2.4 – Disturbance Voltage on AC Mains		N/A
The EUT does not have AC mains power input power, hence this test is not applicable.		

FCC 15.247 (a)(2) / RSS-210 A8.2 (a) – 6dB Bandwidth Measurement			Pass
FCC Requirement: Systems using digital modulation techniques may operate in the 902 – 928 MHz, 2400 – 2483.5 MHz, and 5725 – 5850 MHz bands. The minimum 6dB bandwidth shall be at least 500kHz.			
IC Requirement: The minimum -6 dB bandwidth shall be at least 500 kHz.			
Test Specification : FCC Part 15 Subpart A – Subclause 15.31 / RSS-Gen Mode of operation : BLE Tx mode, (2402MHz, 2440MHz, 2480MHz) Port of testing : Temporary antenna port Detector : Peak RBW/VBW : 100KHz/ 300KHz Supply voltage : 3.0 VDC from DC power supply Temperature : 23°C Humidity : 50%			
Results: For test protocols please refer to Appendix 1, page 2-3.			
Channel frequency (MHz)	6 dB left (MHz)	6 dB right (MHz)	6dB bandwidth (MHz)
2402	0.588	0.108	0.696
2440	0.588	0.096	0.684
2480	0.096	0.582	0.678

FCC 15.247 (b) (1), (3) / RSS-210 A8.4 (4) – Maximum Peak Output Power					Pass
BLE Tx mode					
FCC Requirement: For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850MHz bands: 1 Watt (30dBm) IC Requirement: For systems employing digital modulation techniques operating in the bands 902-928 MHz, 2400-2483.5 MHz and 5725-5850 MHz, the maximum peak conducted output power shall not exceed 1 W.					
Test Specification : FCC Part 15 Subpart A – Subclause 15.31 / RSS-Gen Mode of operation : BLE Tx mode, (2402MHz, 2440MHz, 2480MHz) Port of testing : Temporary antenna port Detector : Peak RBW/VBW : $\geq$ DTS BW / $\geq$ 3xRBW Span : $\geq$ 3 x RBW Supply voltage : 3.0 VDC from DC power supply Temperature : 23°C Humidity : 50%					
Results: For test protocols please refer to Appendix 1, page 4-5.					
Frequency (MHz)	Maximum peak output power (dBm)	Cable attenuation (dB)	Output power (dBm)	Limit (W/dBm)	Verdict
2402	-2.86	0.00	-2.86	1 / 30.0	Pass
2440	-3.64	0.00	-3.64	1 / 30.0	Pass
2480	-4.26	0.00	-4.26	1 / 30.0	Pass

FCC 15.247 (d) / RSS-210 A8.5 – Spurious Conducted Emissions					Pass
Test Specification : FCC Part 15 Subpart A – Subclause 15.31 / RSS-Gen Mode of operation : Tx mode (2402MHz, 2440MHz, 2480MHz) Port of testing : Temporary antenna port Detector : Peak RBW/VBW : 100 kHz / 300 kHz Supply voltage : 3.0 VDC from DC power supply Temperature : 23 °C Humidity : 50 %					
FCC Requirement: In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.					
IC Requirement: In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided that the transmitter demonstrates compliance with the peak conducted power limits.					
Results: All three transmit frequency modes comply with the limit stated in subclause 15.247(d). For test protocols refer to Appendix 1, page 6-7.					
BLE Tx mode					
Operating frequency (MHz)	Spurious frequency (MHz)	Spurious Level (dBm)	Reference value (dBm)	Delta (dB)	Verdict
2402	4850.007	-59.41	-6.18	-53.23	Pass
2440	4850.007	-59.76	-7.10	-52.66	Pass
2480	4950.007	-63.80	-7.77	-56.03	Pass

FCC 15.247 (d) / RSS-Gen 7.2.2, 7.2.5 – Spurious Radiated Emissions		Pass
Test Specification : ANSI C63.4 – 2003 Mode of operation : Tx mode (2402MHz, 2440MHz, 2480MHz), hopping off Port of testing : Enclosure Detector : Peak RBW/VBW : 100 kHz / 300 kHz for f < 1 GHz 1 MHz / 1 MHz for f > 1 GHz Supply voltage : 3.0 VDC from battery Temperature : 23°C Humidity : 50%		
FCC Requirement: In any 100kHz bandwidth outside the frequency band at least 20dB below the highest level of the desired power. In addition, radiated emissions which fall in the restricted bands, as defined in section 15.205(a), must also comply with the radiated emission limits specified in section 15.209(a). IC Requirement: Spurious emissions from licence-exempt transmitters shall comply with the field strength limits shown in RSS-Gen table 5. Unwanted emissions falling into restricted bands of Table 3 shall comply with the limits specified in RSS-Gen. Unwanted emissions not falling within restricted frequency bands shall either comply with the limits specified in the applicable RSS, or with those specified in RSS-Gen.		
Results: Pre-scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and packet types. All three transmit frequency modes comply with the field strength within the restricted bands. There is no spurious found below 30MHz.		
BLE Tx mode		
Tx frequency 2402MHz Vertical Polarization		
Freq MHz	Level dBµV/m	Limit/ Detector dBµV/m
4804.535	50.6	74.0 / P
4804.183	40.6	54.0 / A
Tx frequency 2402MHz Horizontal Polarization		
Freq MHz	Level dBµV/m	Limit/ Detector dBµV/m
4804.603	50.6	74.0 / P
4804.138	44.8	54.0 / A
Tx frequency 2440MHz Vertical Polarization		
Freq MHz	Level dBµV/m	Limit/ Detector dBµV/m
4880.660	49.2	74.0 / P
4880.147	41.1	54.0 / A
Tx frequency 2440MHz Horizontal Polarization		
Freq MHz	Level dBµV/m	Limit/ Detector dBµV/m
4880.593	51.4	74.0 / P

4880.128	43.6	54.0 / A
Tx frequency 2480MHz Vertical Polarization		
Freq MHz	Level dBμV/m	Limit/ Detector dBμV/m
4958.141	49.8	74.0 / P
4958.173	38.4	54.0 / A
Tx frequency 2480MHz Horizontal Polarization		
Freq MHz	Level dBμV/m	Limit/ Detector dBμV/m
4958.093	50.7	74.0 / P
4958.141	42.4	54.0 / A

FCC 15.247 (d) / RSS-210 A8.5 – Band Edge Emissions		Pass
Test Specification : FCC Part 15 Subpart A – Subclause 15.31 / RSS-Gen Mode of operation : BLE Tx mode (2402MHz, 2480MHz) Port of testing : Temporary antenna port Detector : Peak RBW/VBW : 100 kHz / 300 kHz Supply voltage : 3.0 VDC from DC power supply Temperature : 23°C Humidity : 50%		
FCC Requirement: In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. IC Requirement: In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided that the transmitter demonstrates compliance with the peak conducted power limits.		
Results:	The peak found outside any 100 kHz bandwidth of the operating frequency band comply with the requirement. For test protocols refer to Appendix 1, page 8.	

FCC 15.205 / RSS-Gen 7.2.2 – Restricted Bands Next to The Band Edge		Pass
Test Specification : FCC Part 15 Subpart A – Subclause 15.31 / RSS-Gen Mode of operation : BLE Tx mode (2402MHz, 2480MHz) Port of testing : Enclosure Detector : Peak RBW/VBW : 1 MHz / 1 MHz Supply voltage : 3.0 VDC from battery Temperature : 23°C Humidity : 50%		
FCC Requirement: Radiated emissions which fall in the restricted bans, as defined in 15.205 (a), must also comply with the radiated emission limits specified in 15.209(a). IC Requirement: Unwanted emissions falling into restricted bands of Table 3 shall comply with the limits specified in RSS-Gen		
Results:	There is no peak found in the restricted bands. For test protocols refer to Appendix 1, page 9-12.	

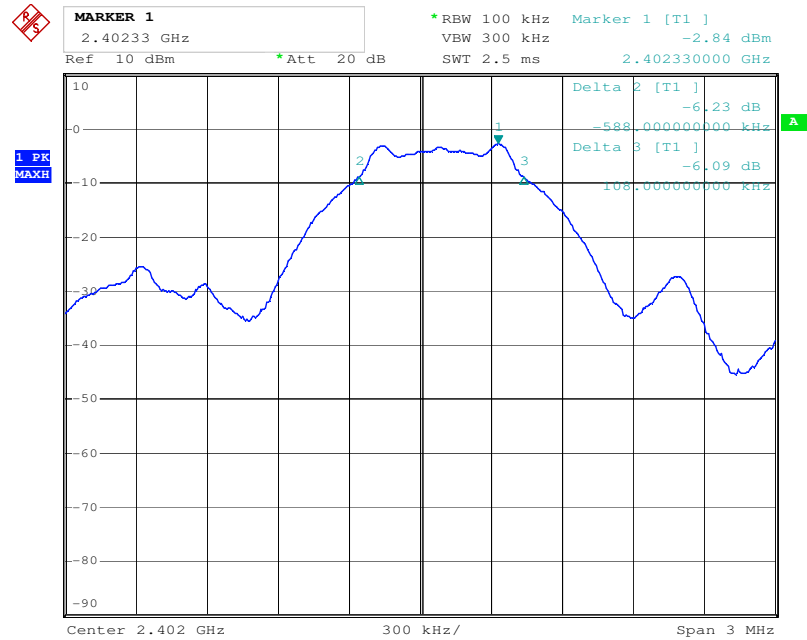
FCC 15.247 (e) / RSS-210 A8.2 (b) – Power Spectral Density			Pass
FCC Requirement: For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. IC Requirement: The transmitter power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.			
Test Specification : FCC Part 15 Subpart A – Subclause 15.31 / RSS-Gen Mode of operation : BLE Tx mode (2402MHz, 2440MHz, 2480MHz) Port of testing : Temporary antenna port Detector : Peak RBW/VBW : ≥ 100 KHz / $\geq 3 \times$ RBW span : $\geq 1.5 \times$ DTS BW Supply voltage : 3.0 VDC from DC power supply Temperature : 23°C Humidity : 50%			
Results: For test protocols please refer to Appendix 1, page 13-14.			
Operating frequency (MHz)	Power density (dBm)	Limit (dBm)	Verdict
2402	-2.83	8.0	Pass
2440	-3.61	8.0	Pass
2480	-4.40	8.0	Pass

Appendix 1

Test Results

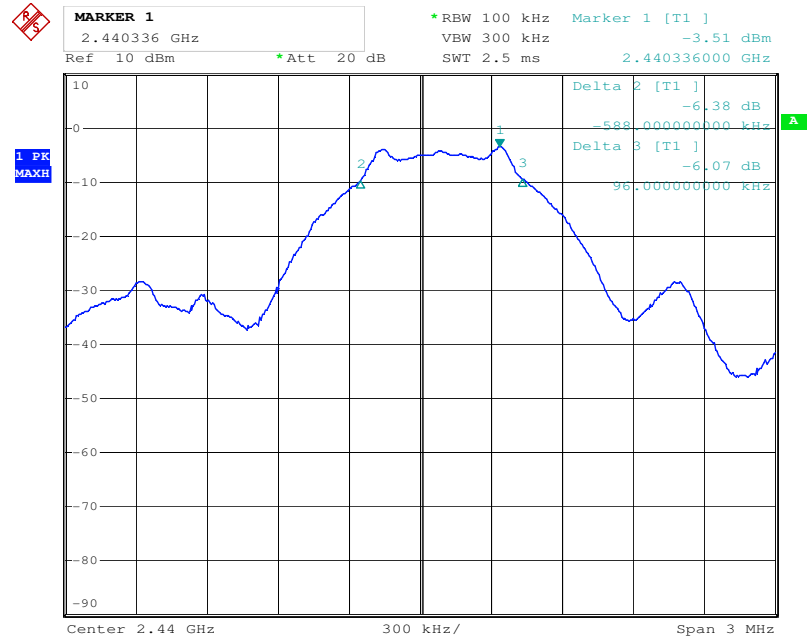
6 dB Bandwidth Measurement

Tx frequency: 2402MHz



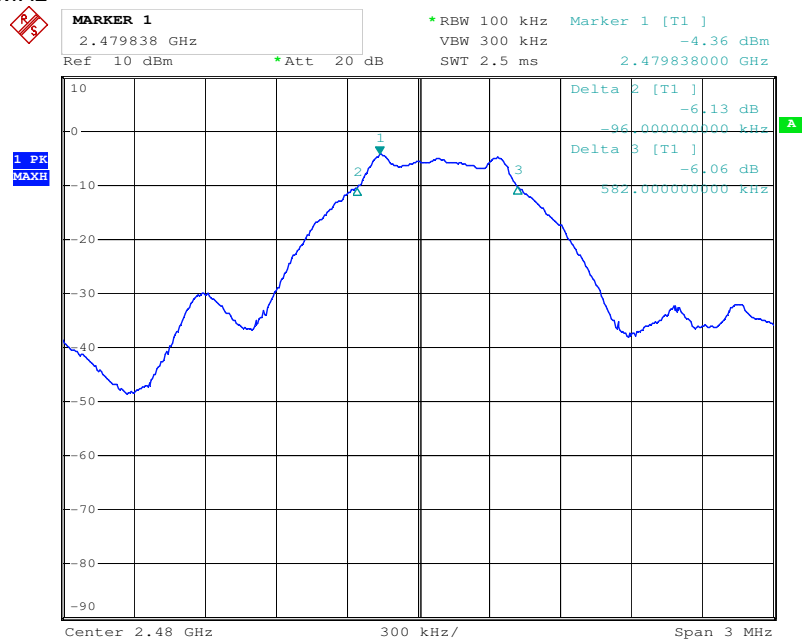
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Tx frequency: 2440MHz



Date: 27.JAN.2014 10:56:36

Tx frequency: 2480MHz

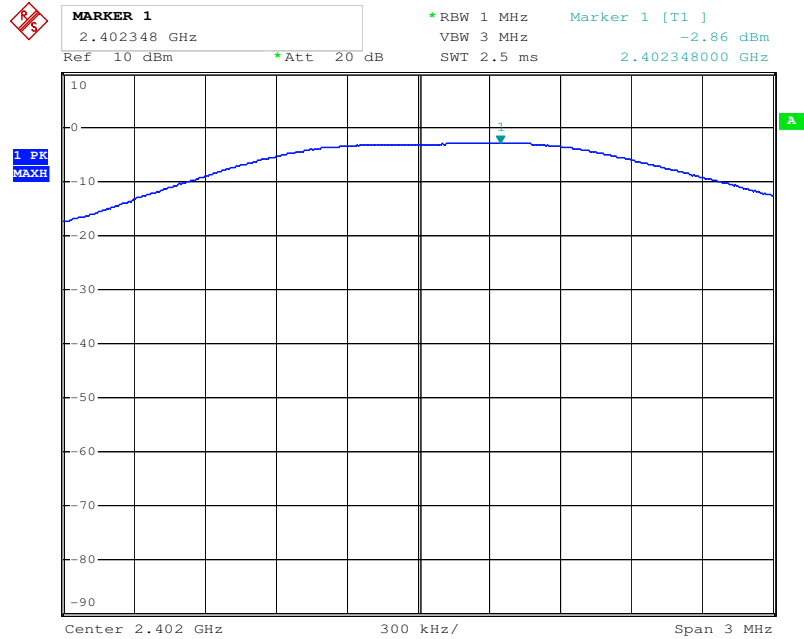


Date: 27.JAN.2014 10:57:55

Peak Output Power

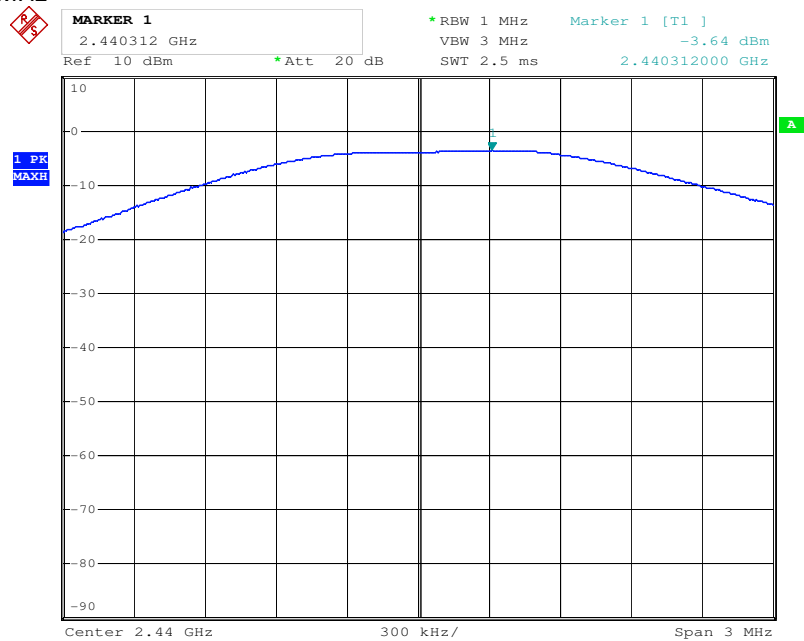
BLE Mode

Tx frequency: 2402MHz



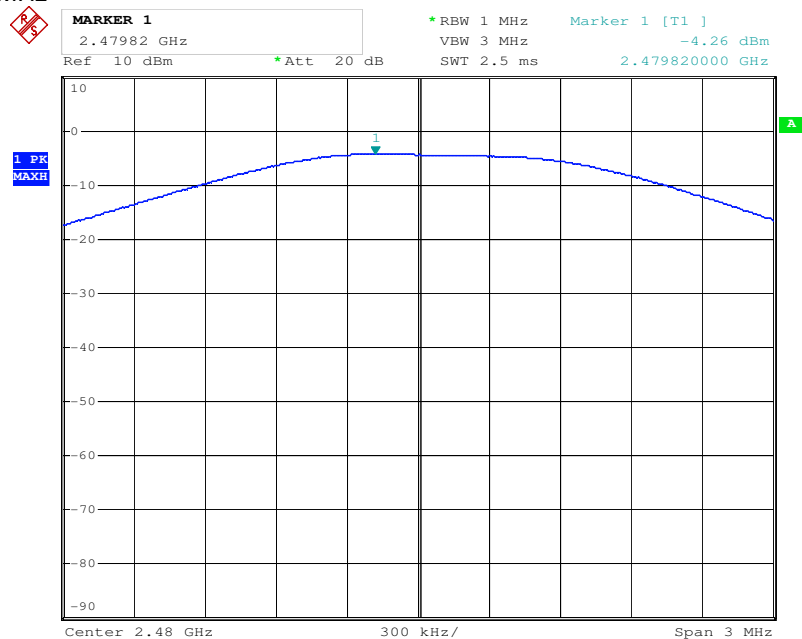
Date: 27.JAN.2014 11:01:40

Tx frequency: 2440MHz



Date: 27.JAN.2014 11:02:11

Tx frequency: 2480MHz

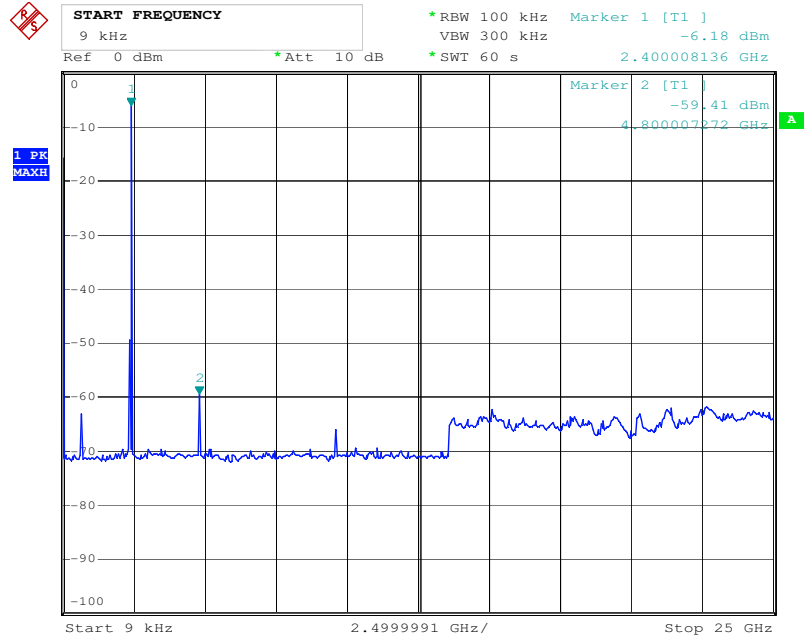


Date: 27.JAN.2014 11:00:26

Spurious Conducted Emissions

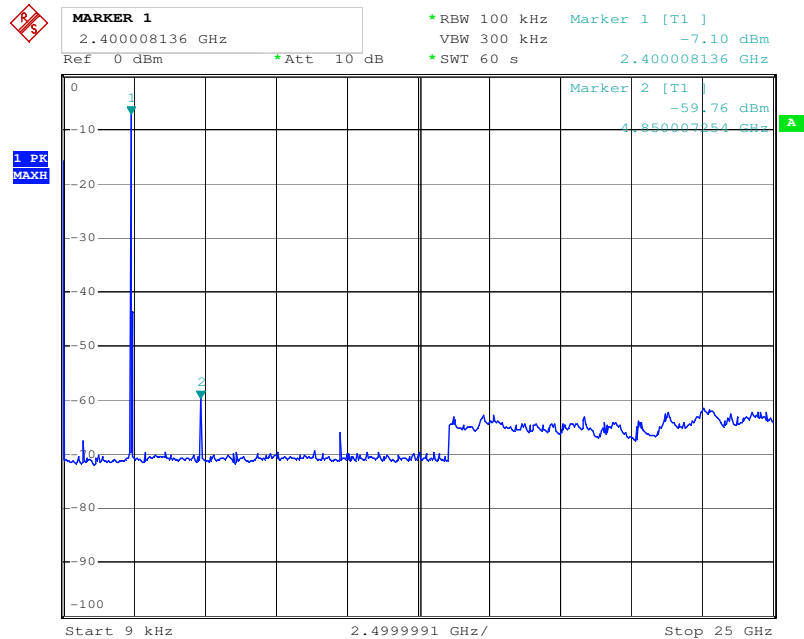
BLE mode

Tx frequency: 2402MHz



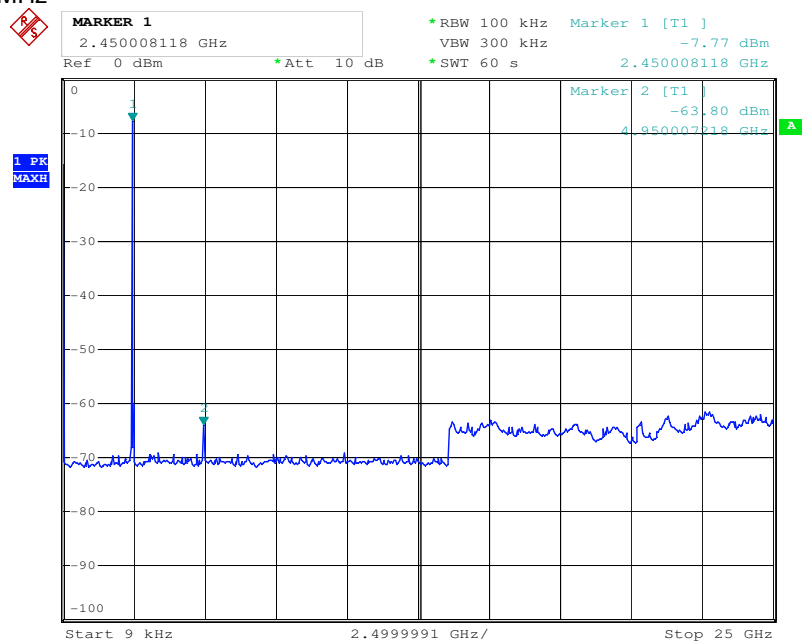
Date: 12.FEB.2014 14:22:31

Tx frequency: 2440MHz



Date: 12.FEB.2014 14:14:07

Tx frequency: 2480MHz

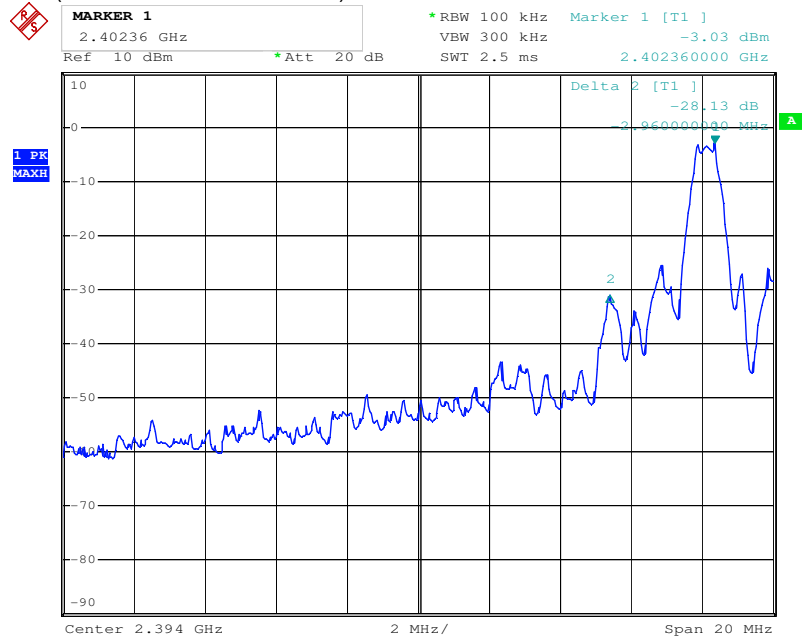


Date: 12.FEB.2014 14:25:42

Band Edge Compliance

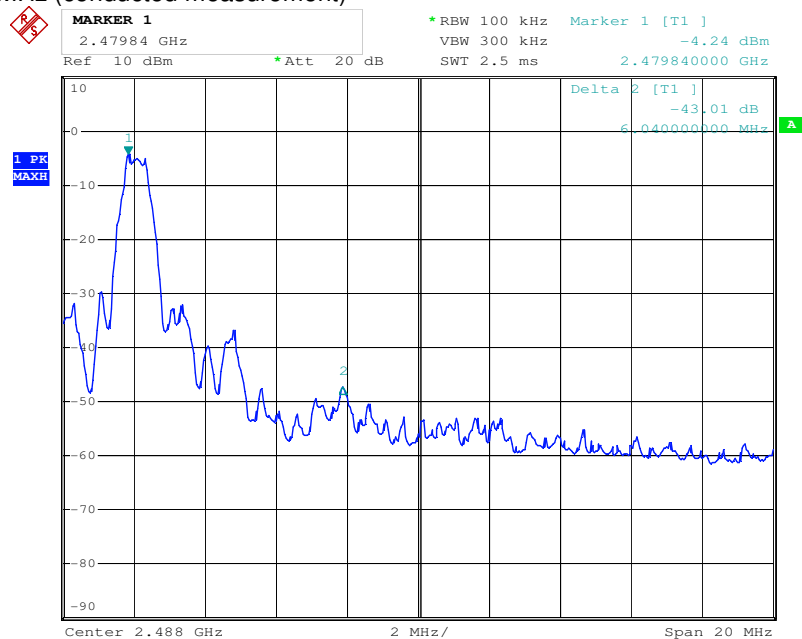
BLE mode

Tx frequency: 2402MHz (conducted measurement)



Date: 27.JAN.2014 13:20:30

Tx frequency: 2480MHz (conducted measurement)

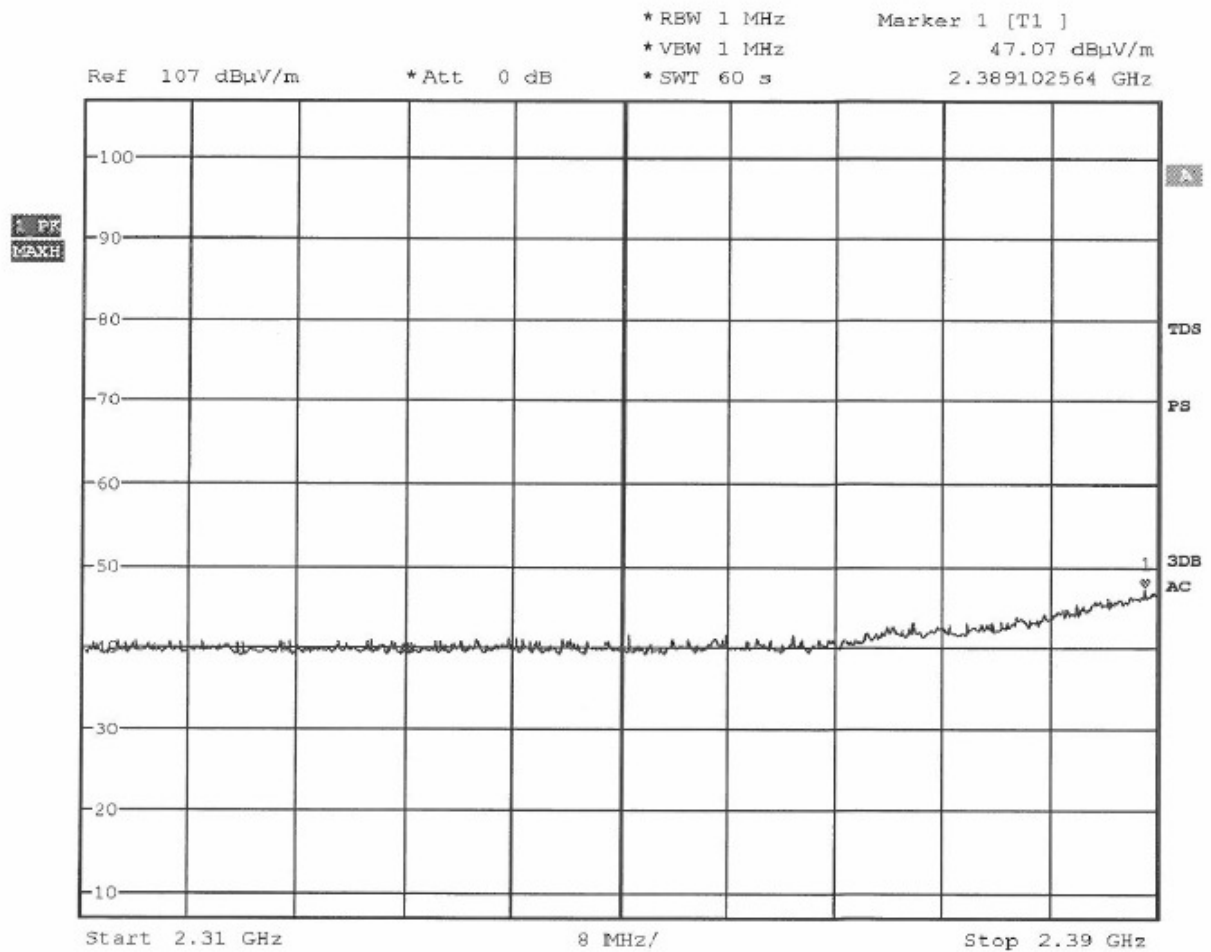


Date: 27.JAN.2014 13:23:18

Restricted Bands Next to The Band Edge

BLE mode

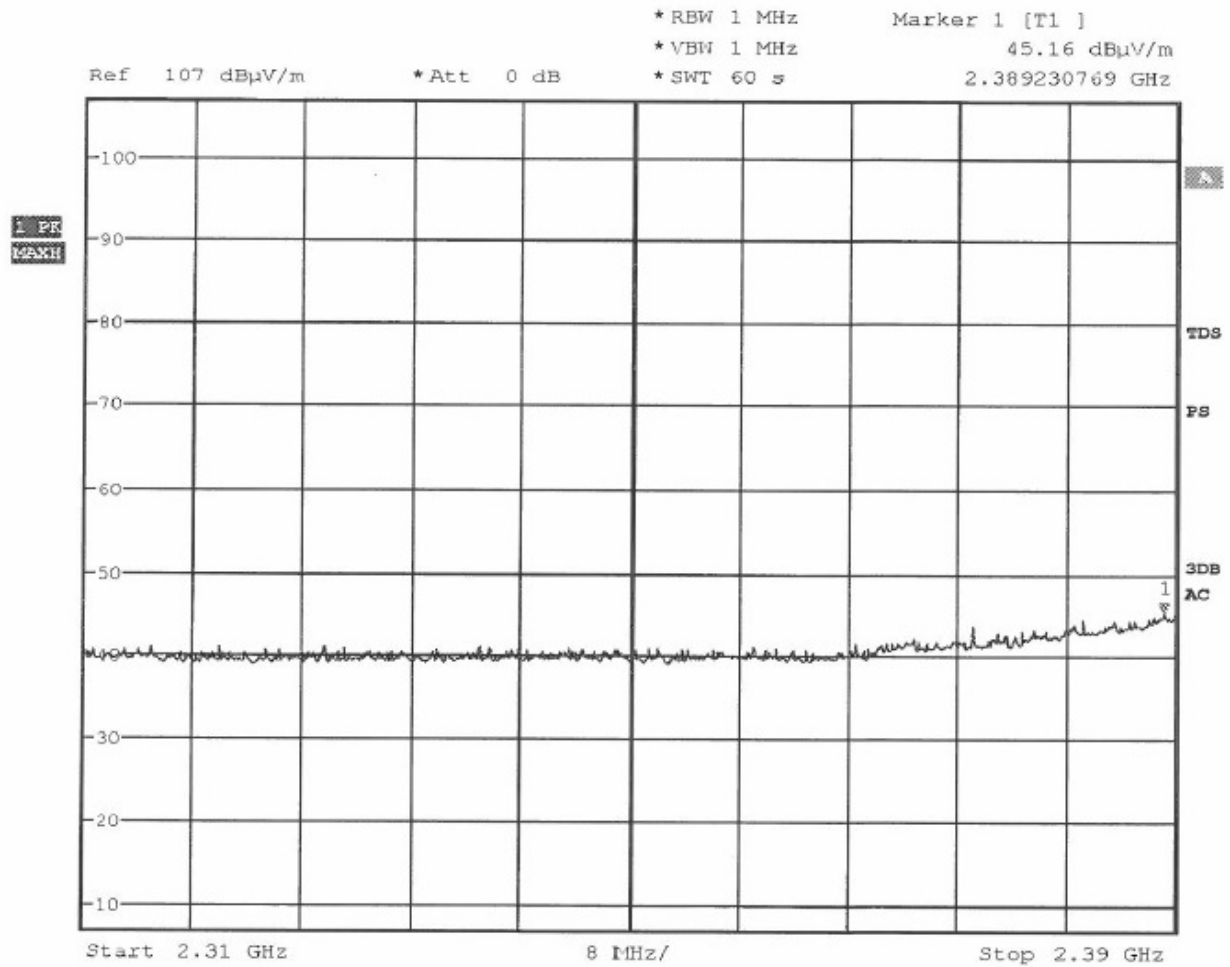
Tx frequency: 2402MHz (radiated measurement)



CONNECT DEVICE/ BLE 4.0 WATCH/ POP/ A000036502-001/ 2402MHZ/
VERT.

Date: 29.JAN.2014 12:12:16

Vertical Polarization



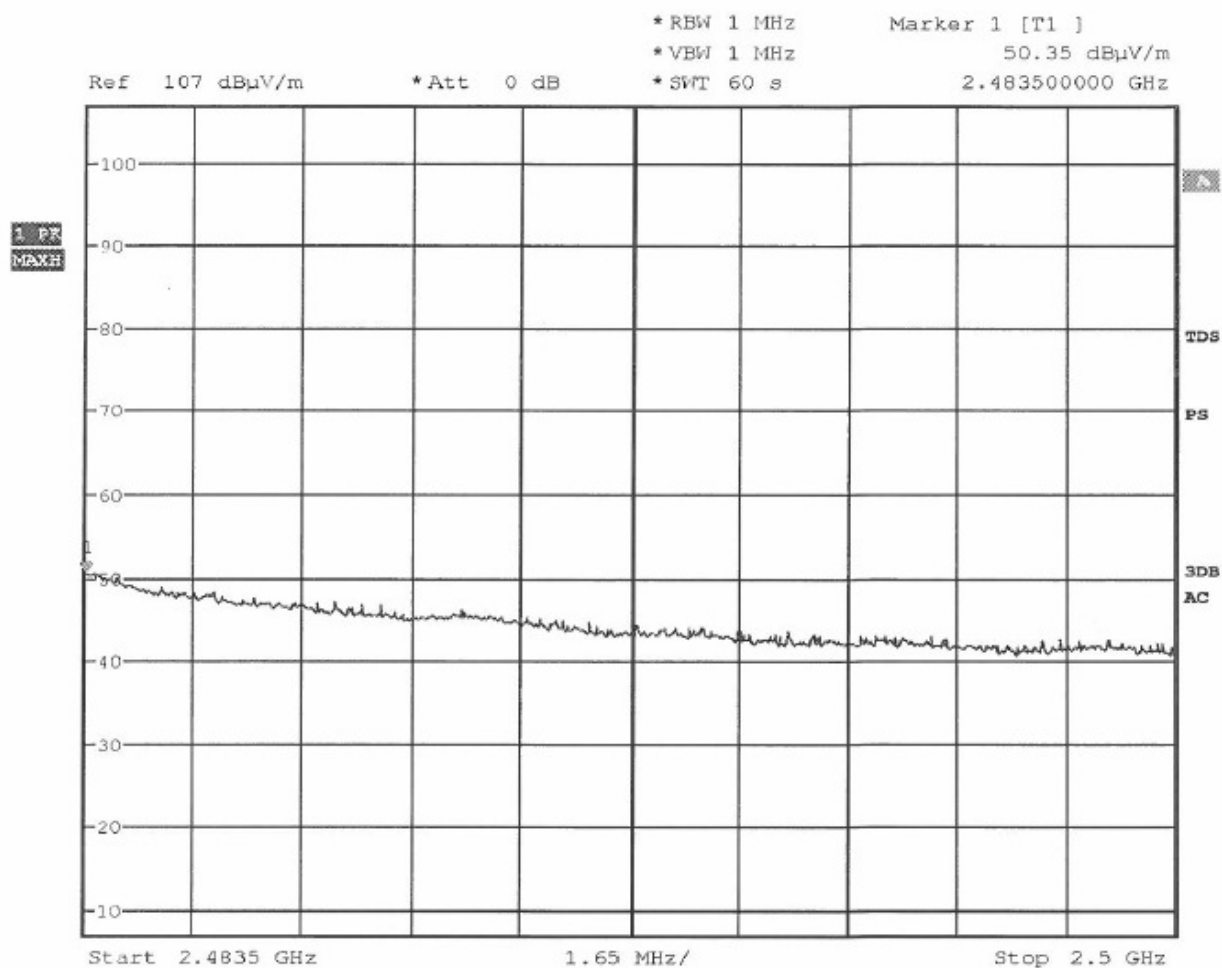
CONNECT DEVICE/ BLE 4.0 WATCH/ POP/ A000036502-001/ 2402MHz/

HORI.

Date: 29.JAN.2014 12:10:46

Horizontal Polarization

Tx frequency: 2480MHz (radiated measurement)

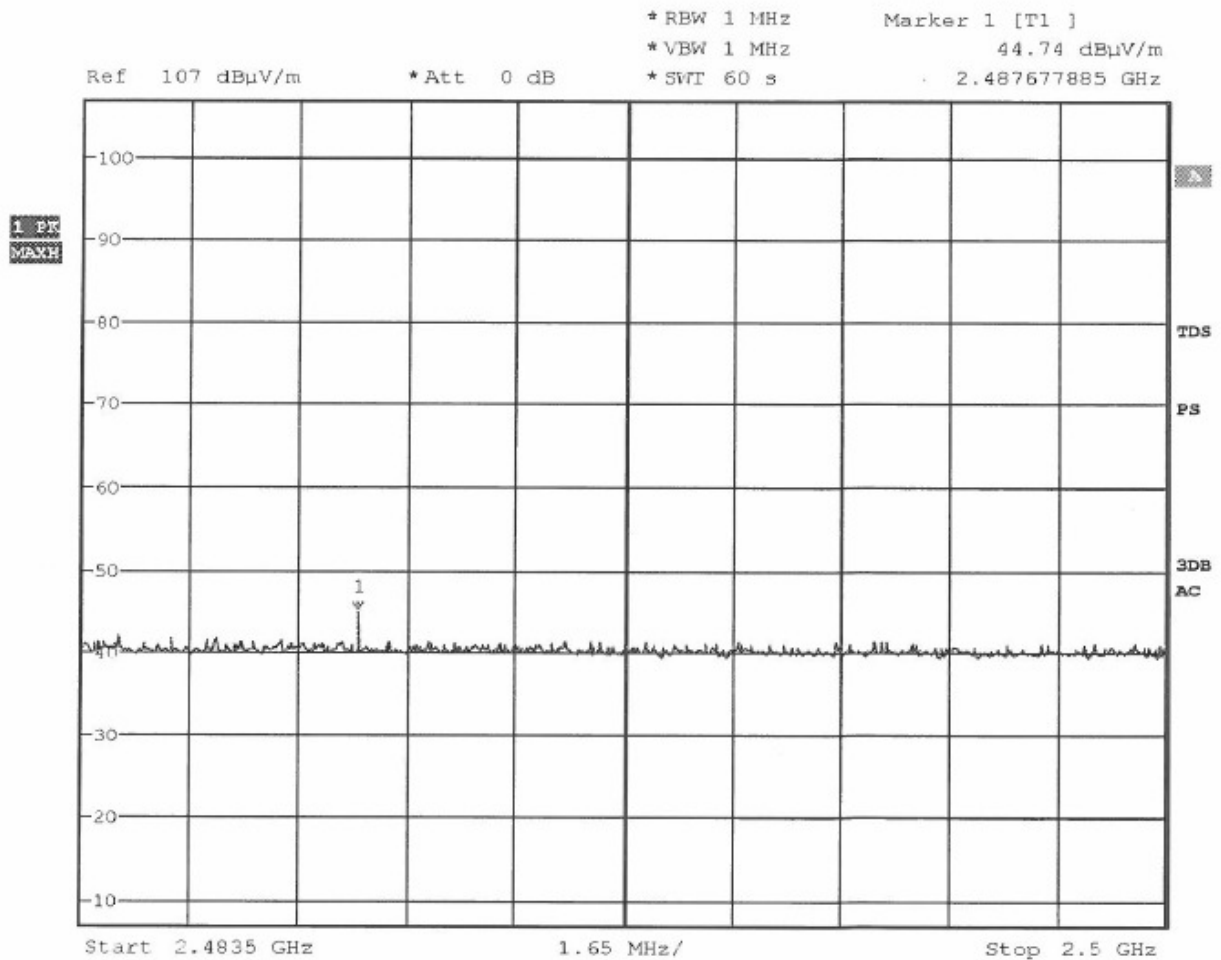


CONNECT DEVICE/ BLE 4.0 WATCH/ POP/ A000036502-001/ 2480MHz/

VERT.

Date: 29.JAN.2014 12:37:42

Vertical Polarization



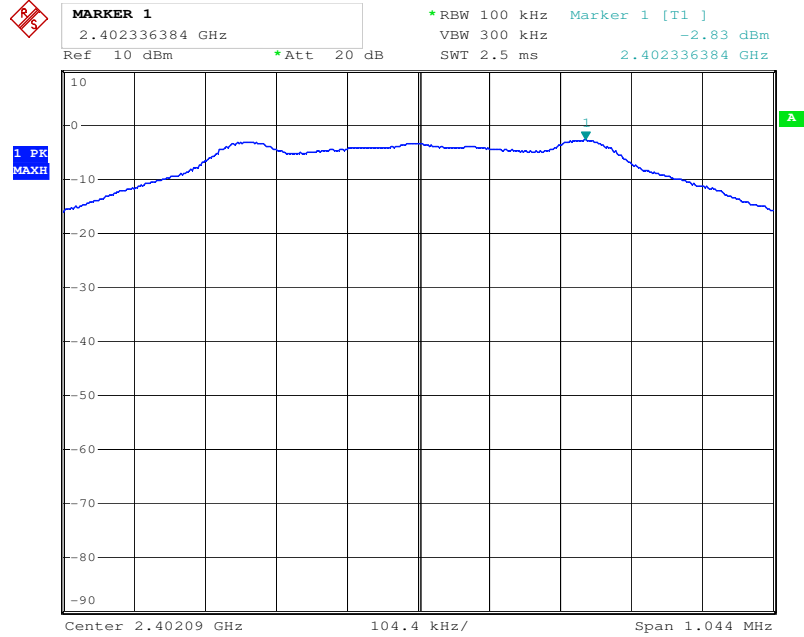
CONNECT DEVICE/ BLE 4.0 WATCH/ POP/ A000036502-001/ 2480MHz/
HORI.

Date: 29.JAN.2014 12:40:04

Horizontal Polarization

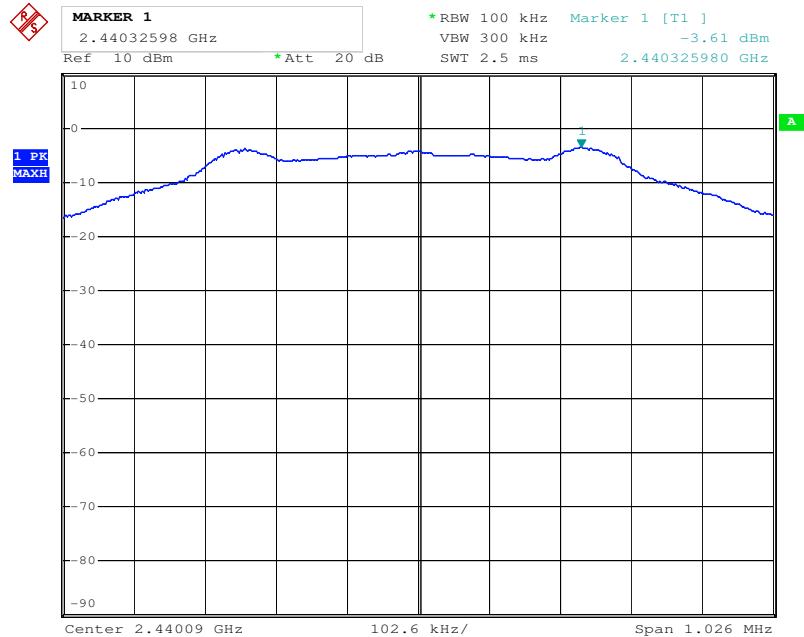
Power Spectral Density

Tx frequency: 2402MHz



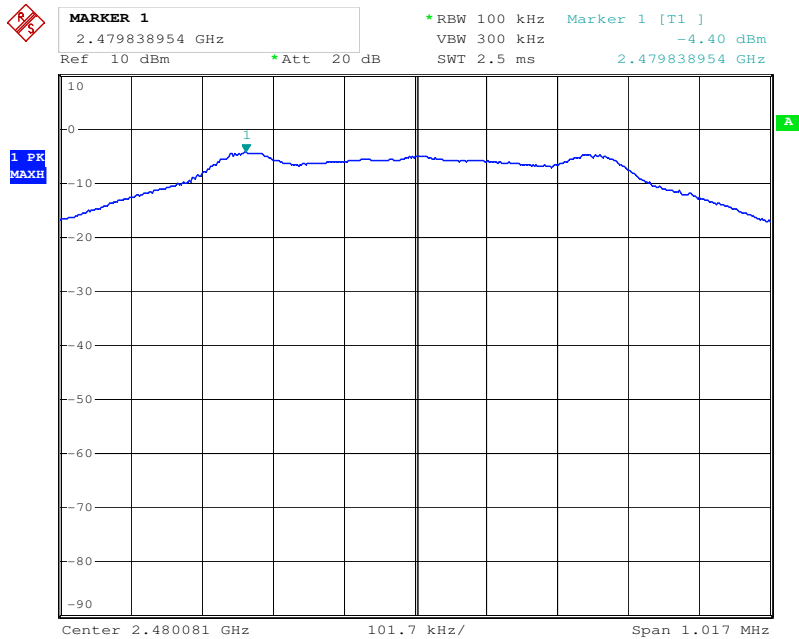
Date: 27.JAN.2014 13:10:50

Tx frequency: 2440MHz



Date: 27.JAN.2014 13:15:08

Tx frequency: 2480MHz



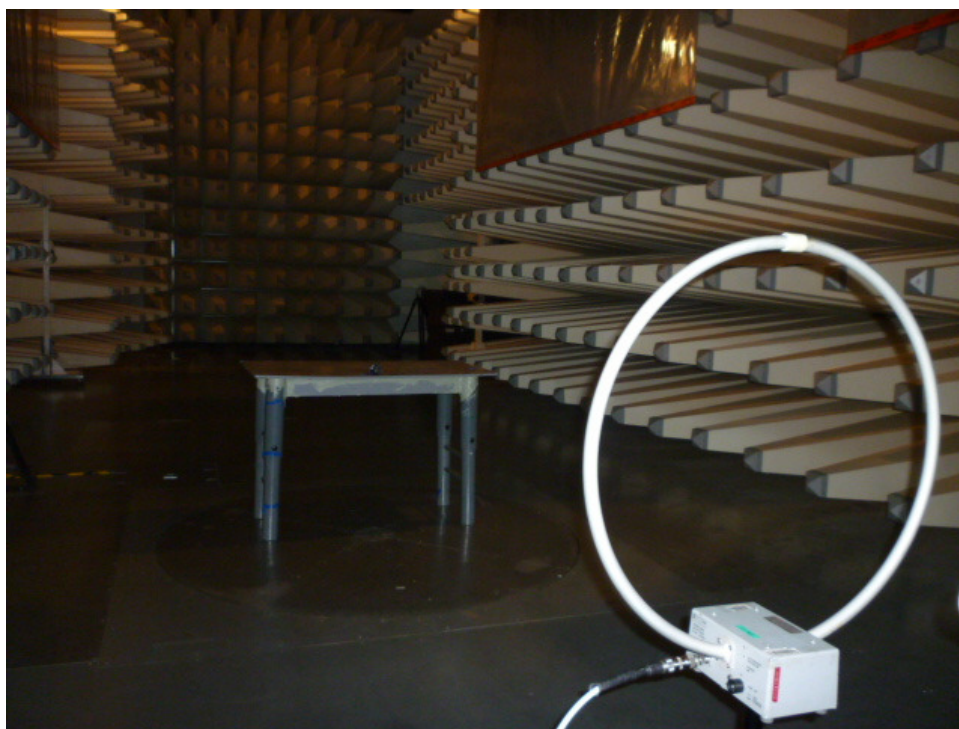
Date: 27.JAN.2014 13:17:10

Appendix 2

Test Setup Photos



Set-up for Radiated Emission



Set-up for Radiated Emission

Appendix 3

Construction Photos



External View



External View



External View



External View



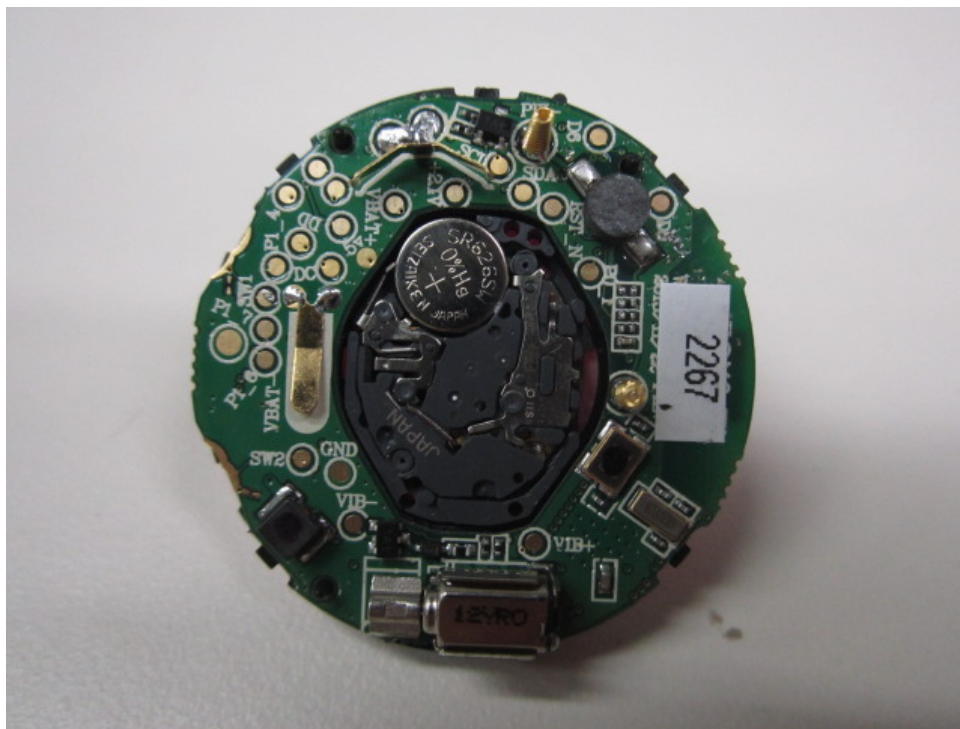
External View



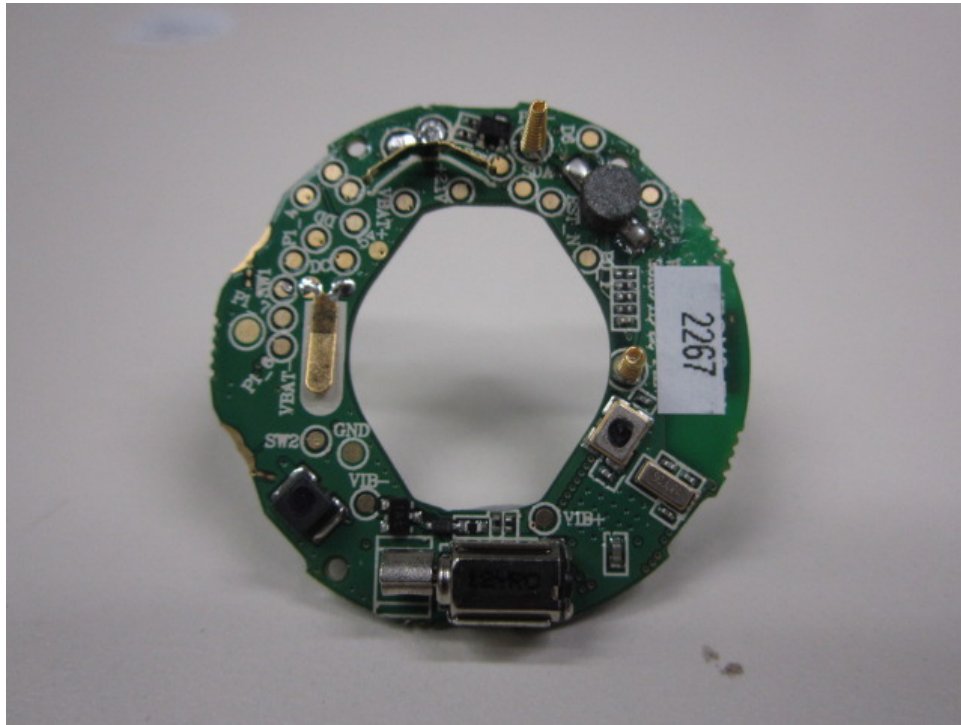
External View



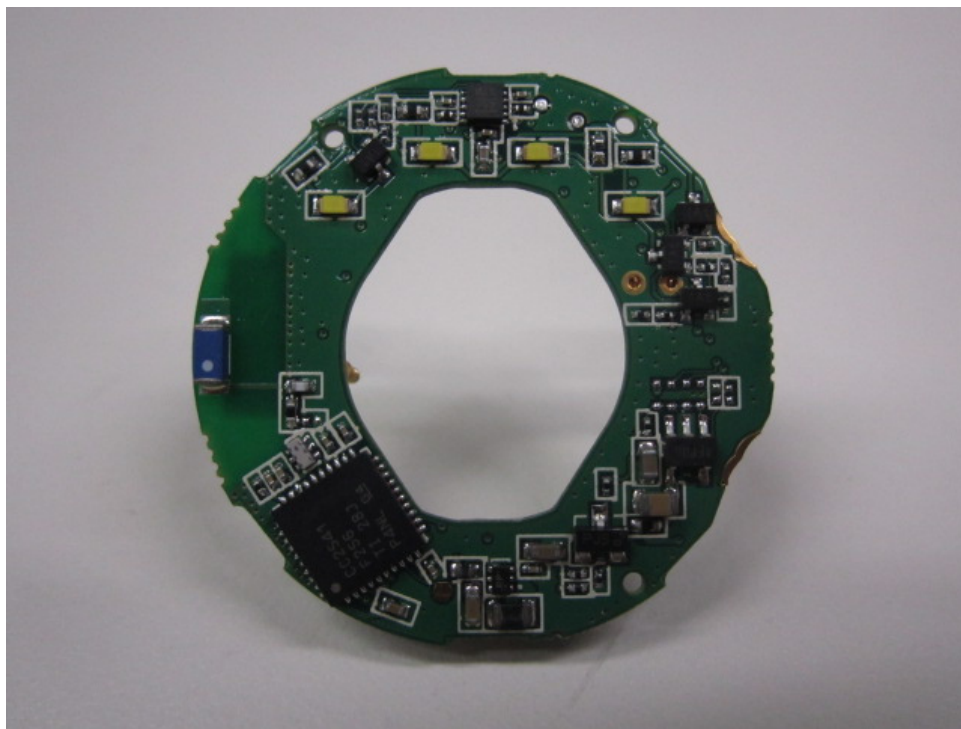
Internal View



Internal View



Internal View



Internal View

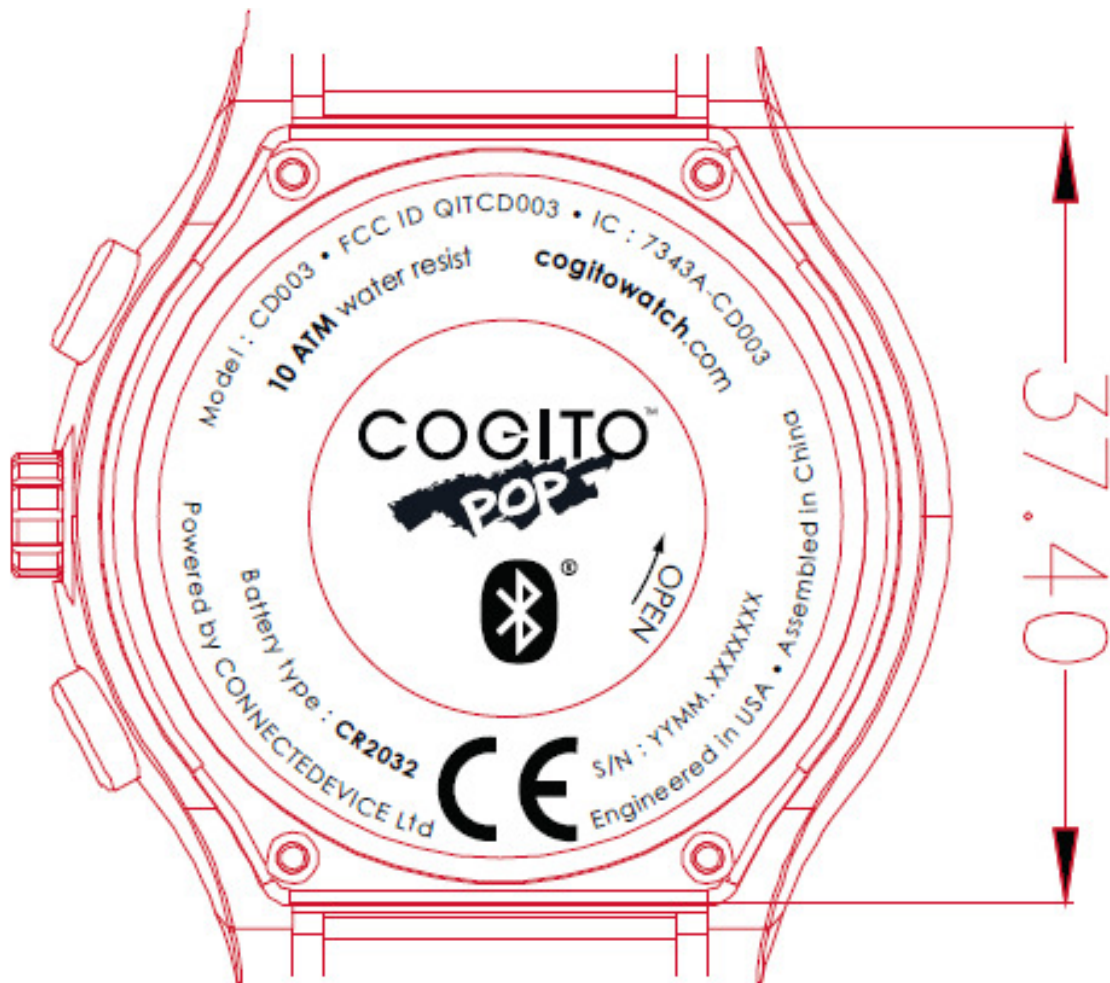


Internal View

Appendix 4

Technical Documents

1.1 FCCID / IC Label Artwork



1.2 Operational Descriptions

1.2.1 Product Descriptions

The COGITO POP is a Bluetooth connected watch with analog movement that connects with the iPhone and android device with the following features

- Notifications for incoming calls, missed calls, messages chat, calendar reminders, etc
- Remind when the device is out of range or at critical battery level
- Locate the phone with the press of a button from the COGITO POP watch

For details, please refer to the datasheet.

1.2.2 Technical Background of the Wireless Technology

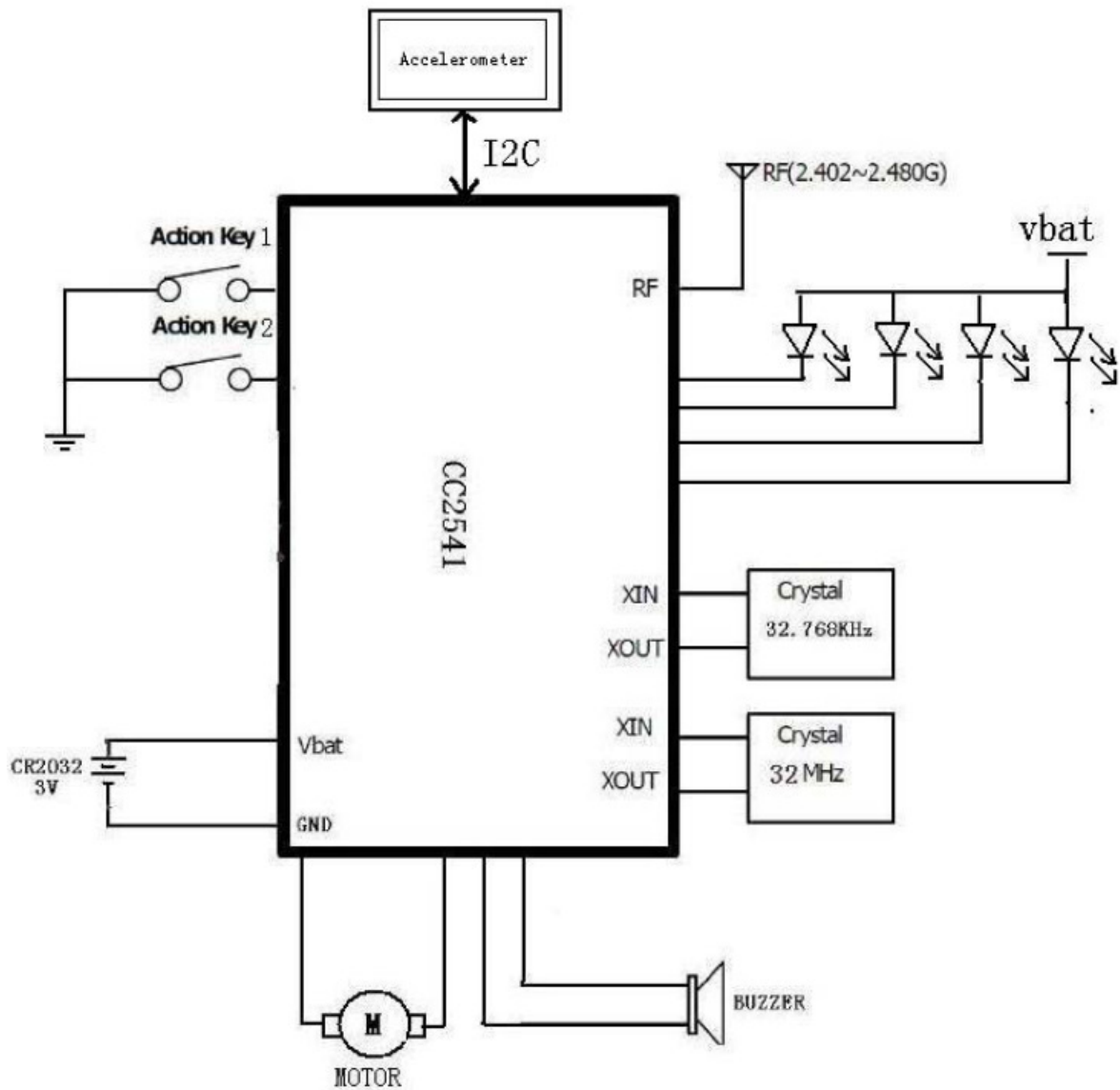
There are three characteristics of Bluetooth low-energy technology that underlie its ULP performance: maximized standby time, fast connection, and low peak transmit/receive power.

Switching the radio "on" for anything other than very brief periods dramatically reduces battery life, so any transmitting or receiving that has to be done needs to be done quickly. The first trick Bluetooth low-energy technology uses to minimize time on air is to employ only three "advertising" channels to search for other devices or promote its own presence to devices that might be looking to make a connection. In comparison, Classic Bluetooth technology uses 32 channels.

This means Bluetooth low-energy technology has to switch "on" for just 0.6 to 1.2 ms to scan for other devices, while Classic Bluetooth technology requires 22.5ms to scan its 32 channels. Consequently, Bluetooth low-energy technology uses 10 to 20 times less power than Classic Bluetooth technology to locate other radios.

Once connected, Bluetooth low-energy technology switches to one of its 37 data channels. During the short data transmission period the radio switches between channels in a pseudo-random pattern using the Adaptive Frequency Hopping (AFH) technology pioneered by Classic Bluetooth technology

1.3 Block Diagram



Connected Watch V3

Model no: Des: LED's Version

Prepared By: YQ Document No.: Revision: VA10

Checked By: Date: 2013-12-18 Size:

Approved By: Sheet 1 of 1 Total: 1

Component List:

- U1: LFBIEN4-BG3D380
- U2: VIN1P96A730 SW
- U3: XC3140A01MR-G
- U4: CC3141_SWR51109
- U5: SCL10A852FC
- Q1: BC346AW
- Q2: BC346AW
- Q3: BC346AW
- Q4: BC346AW
- Q5: BC346AW
- Q6: BC346AW
- Q7: BC346AW
- Q8: BC346AW
- Q9: BC346AW
- Q10: BC346AW
- Q11: BC346AW
- Q12: BC346AW
- Q13: BC346AW
- Q14: BC346AW
- Q15: BC346AW
- Q16: BC346AW
- Q17: BC346AW
- Q18: BC346AW
- Q19: BC346AW
- Q20: BC346AW
- Q21: BC346AW
- Q22: BC346AW
- Q23: BC346AW
- Q24: BC346AW
- Q25: BC346AW
- Q26: BC346AW
- Q27: BC346AW
- Q28: BC346AW
- Q29: BC346AW
- Q30: BC346AW
- Q31: BC346AW
- Q32: BC346AW
- Q33: BC346AW
- Q34: BC346AW
- Q35: BC346AW
- Q36: BC346AW
- Q37: BC346AW
- Q38: BC346AW
- Q39: BC346AW
- Q40: BC346AW
- Q41: BC346AW
- Q42: BC346AW
- Q43: BC346AW
- Q44: BC346AW
- Q45: BC346AW
- Q46: BC346AW
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- Q48: BC346AW
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- Q89: BC346AW
- Q90: BC346AW
- Q91: BC346AW
- Q92: BC346AW
- Q93: BC346AW
- Q94: BC346AW
- Q95: BC346AW
- Q96: BC346AW
- Q97: BC346AW
- Q98: BC346AW
- Q99: BC346AW
- Q100: BC346AW

1.5 Bill of Materials

Part Name	Manufacturer	CASE	Description	Quantity	Designators
0R-1%-0201,0R,1%	YAGEO	0201	0R Resistor Chip	6	R34
0R-1%-0402,0R,1%	YAGEO	0402	0R Resistor Chip	1	R3
R15R-1%-0402,15R,1%	YAGEO	0402	15R Resistor	1	R32
R4.7K-1%-0402,4.7K,1%	YAGEO	0402	4.7K Resistor	4	R14,R15,R16,R17
R1K-1%-0201,1K,1%	YAGEO	0201	1K Resistor Chip	3	R27,R28,R29
R2.7K-1%-0201,2.7K,1%	YAGEO	0201	2.7K Resistor Chip	1	R12
R5.1K-1%-0201,5.1K,1%	YAGEO	0201	5.1K Resistor	1	R24
R249K-1%-0201,249K,1%	YAGEO	0201	249K Resistor Chip	1	R10
R56K-1%-0201,56K,1%	YAGEO	0201	56K Resistor Chip	1	R11
R100K-1%-0201,100K,1%	YAGEO	0201	100K Resistor Chip	6	R1,R2,R9,R25,R26,,R30,R31
R1M-1%-0201,1M,1%	YAGEO	0201	1M Resistor Chip	6	R42,R18,R19,R20,R21,R22,R23
C-1PF-0.5%-25V-0402,1pF,0.5%	MURATA	0402	GRM1555C1H1R0CZ01B	1	C1
C-8.2PF-0.5%-25V-0201,8.2pF,0.5%	MURATA	0201	8.2pF Monolithic Ceramic Capacitor COG GRM0335C1E8R2DA01D	2	C19,C20
C-15PF-5%-25V-0201,15pF,5%	MURATA	0201	15pF Monolithic Ceramic Capacitor COG GRM0335C1E150JA01D	2	C9,C10
C-220PF-5%-25V-0201,220pF,0.5%	MURATA	0201	220pF Monolithic Ceramic Capacitor X5R/GRM033R71E221JA01D	1	C18
C-1nF-10%-6V3-0201,1nF,10%	MURATA	0201	1nF Monolithic Ceramic Capacitors X7R/GRM033R71C102KA01D	1	C21
C-100nF-10%-6V3-0201,100nF,10%	MURATA	0201	100nF Monolithic Ceramic Capacitor X5R	9	C3,C4,C11,C12,C13,C14,C15,C16,C17
C-1uF-10%-6V3-0402,1uF,±10% GRM155R60J105KE19D	MURATA	0402	1uF Monolithic Ceramic Capacitor X5R GRM155R60J105KE19D	3	C23,C24,C25
C-4.7uF-10%-6V3-0603,4.7uF,10% X5RGRM188R60J475KE19D	MURATA	0603	4.7uF Monolithic Ceramic Capacitor X5RGRM188R60J475KE19D	2	C5,C6
C-2.2uF-10%-6V3-0603,2.2uF,10% GRM188R60J225KE19D	MURATA	0603	2.2uF Monolithic Ceramic Capacitor X5R GRM188R60J225KE19D	1	C8
C-10uF-10%-6V3-0805,10uF,10% GRM21BF50J106ZE01	MURATA	0805	10uF Monolithic Ceramic Capacitor X5R GRM21BF50J106ZE01	1	C22
LQM21PN2R2NGC 2.2uH	MURATA	0805	2.2uH Chip Coil	1	L2
LQH32CN4R7M33 4.7uH,20%	MURATA	1210	4.7uH Chip Coil For low DC Resistance Type	1	L3
BLM15HG102SN1D	MURATA	0402	EMI Filter Beads	1	L4
0R-1%-0402,0R,1%		0402		1	L1
10mH 210 OHM		2814	ALM Coil 2814 180Ω使用	1	L5
KPT-1608-CW506-UB	KINGBRIGHT	1.6mmX0.8	White LED	4	D5,D6,D7,D8
MM5Z3V6T1G	ONSEMI	SOD-523	3.6V ZENER Diode	1	D9
32MHZ	siward/TXC	3225	XTL571100-R68-053 +/-10ppm	1	X1
32.768K	siward/XTL721-R68-054	3215	XTL721-R68-054_32.768K +/-10ppm	1	Y1
BSH105	NXP	SOT-23	N-Channel Logic Level Enhancement Mode Field Effect Transistor	1	Q1
BC846AW	NXP	SOT-323	General Purpose Transistors NPN Silicon	6	Q2,Q3,Q4,Q5,Q6,Q7
TPS62730	TEXAS INSTRUMENTS	SON-6	Step Down Converter with Bypass Mode	1	U2
LFB182G45BG2D280	MURATA	1608	Balance Matching BAND PASS FILTER	1	U1
CC2541F256	TEXAS INSTRUMENTS	6x6 QFN40	2.4GHZ Bluetooth low energy and proprietary system -on-Chip	1	U4
MMA8652FC	Freescale Semiconductor	DFN-10	3-Axis, 12-bit Digital Accelerometer	1	U5
3C-9.5Z-1.4BL	MAFUKBU	3"4"10MM	VIBRATOR MOTOR	1	VIB1
CAN4311712002453K	YAGEO	3216	2.4G Chip Type Antenna	1	ANT1
PCB		FR4	PCB 32.00mm x 32mmx0.8mm(max)	1	PCB
XC9140A501MR-G	TORREX	SOT-25	Step-Up Synchronous PFM DC/DC Converter	1	U3

1.6 User Manual

English only

COGITO™ POP

Quick Start Guide



COMMAND
Set time
Pull 1/2 way and turn to set the time

POWER
Power on/off > 3sec
Check connection Short press

Pairing: Press **COMMAND + POWER** > 3 sec until 2nd beep and all icons blink in every 2 sec.

Reset the watch: Press **COMMAND + POWER** at the same time > 12 sec until 2nd beep to reset the watch.

Step 1: Download the CONNECTED WATCH app

For iOS users: Search for the "CONNECTED WATCH" app in the App Store. Compatible with iOS7 devices that support Bluetooth 4.0 Smart such as the iPhone 5s, iPhone 5c, iPhone 5, iPhone 4s, iPad, iPad mini, iPad (3rd and 4th generation), and iPod touch (5th generation). The CONNECTED WATCH app is available for selected Android 4.3 and Android 4.4 devices that support Bluetooth 4.0. See www.cogitowatch.com for a full compatibility list.

For Android users: Download the CONNECTED WATCH app from the Google Play store.

Step 2: Pair and connect the COGITO watch with your mobile phone or tablet

- Place the watch into PAIRING mode by pressing the **COMMAND + POWER** > 3 sec until 2nd beep and all icons blink in every 2 sec.
- If you are an **iOS7 user**, open your Bluetooth settings and select "COGITO POP" in the device list. Press "PAIR" when prompted.
- If you are an **Android user**, open the CONNECTED WATCH app and tap the Device List icon at the bottom left. The App will search for your watch. Select "COGITO POP" in the device list to connect.

Step 3: Customize your COGITO watch's notification settings.

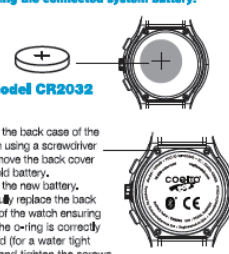
Tap the Notification Settings icon at the top right of the CONNECTED WATCH app (iOS7 and Android) and select which notifications you wish to receive on your COGITO watch.

To acknowledge the notification - press any button

To send a command - press the COMMAND button (command action please refer to the setting of the app)

To check connection - press the POWER button - if the watch beeps and the icons turn ON for 1sec then connection is active. If they blink 3 times, then the connection is not active.

Replacing the connected system battery:



model CR2032

- Open the back case of the watch using a screwdriver to remove the back cover and old battery.
- Insert the new battery.
- Carefully replace the back case of the watch ensuring that the o-ring is correctly seated (for a water tight seal) and tighten the screws.

WARNING: Do not over-tighten the screws.

Front

Replacing the analog movement battery:



model SR626SW

- Open the back case of the watch using a screwdriver and remove the CR2032 call button battery.
- Remove the protective sticker and carefully set it aside.
- Remove analog system battery located beneath the protected sticker. (model SR626SW, battery life lasts up to 3 years**)
- Carefully replace the protective sticker.
- Insert the CR2032 connected system battery and carefully replace the back case of the watch ensuring that the o-ring is correctly seated (for a water tight seal) and tighten the screws.

** Battery life may vary depending on the volume of the notification, brand and condition of battery

One year free limited warranty

Register your product by setting-up a CONNECTEDDEVICE account in the CONNECTED WATCH app. You will need to keep your original receipt as proof of purchase.

To keep your watch in good condition and to avoid voiding the warranty:

- Do not expose the watch to excessive pressure, impact, dust, open flames, or extreme temperatures.
- Operating temperature: -20 to +55°C, (-4 to +131°F)
- Always ensure the case back O-ring is correctly in place and the watch is tightly sealed before exposing the watch to any moisture or liquid.
- Avoid submerging the watch for an extended period of time.
- 10 ATM of water resistance means that your COGITO watch can be worn for most indoor or outdoor activities, including most water sports. Do not wear it while bathing, snorkeling or scuba diving.
- To maintain water resistance, do not press any buttons or pull out the crown while under water.
- Keep the front glass away from sharp or hard objects to prevent scratches.
- Do not attempt to repair or modify the watch yourself. Service and maintenance should be performed by authorized technicians.
- Exposure to high or low temperatures or frequent successive alerts may shorten battery life.
- Keep the watch, accessories, and any small parts out of the reach of children.

For support, please email us at support@cogitowatch.com

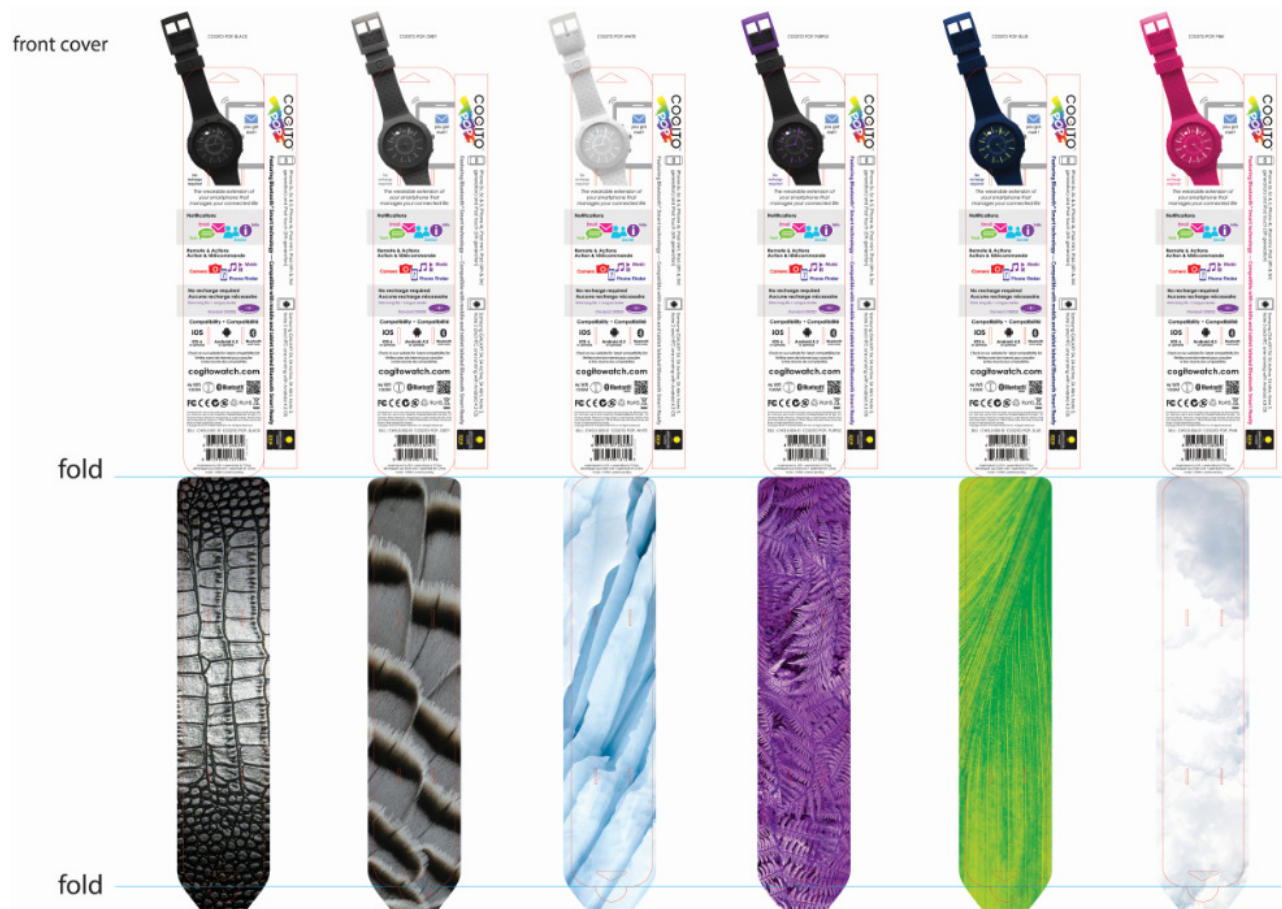
COGITO™ POP

For more information about the watch and CONNECTED WATCH app, visit cogitowatch.com

Thank you for supporting COGITO™

750-00336-02A_EN

Back



inside of each
same content for each of them

FCC/ Industry Canada Notice

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference. (2) This device must accept any interference received, including interference that may cause undesired operation.

Caution: Changes or modifications to this Bluetooth® device not expressly approved by the party responsible for compliance could void the user's authority to operate it.


Certification and Safety approvals

This product is CE marked according to the provisions of the R&TTE Directive (99/5/EC). We declare that this product is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC. For further information, please refer to website.

Bluetooth® is a trademark owned by Bluetooth SIG, Inc. and is used by the manufacturer under license.

EN Note on environmental protection:

After the implementation of the European Directive 2002/96/EU in the national legal system, the following applies: Electrical and electronic devices may not be disposed of with domestic waste. Consumers are obliged by law to return electrical and electronic devices at the end of their service lives to the public collecting points set up for this purpose or point of sale. Details to this are defined by the national law of the respective country. This symbol on the product, the instruction manual or the package indicates that a product is subject to these regulations. By recycling, reusing the materials or other forms of utilizing old devices, you are making an important contribution to protecting our environment.

IC Statement

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device. Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

NCC

本產品符合低功率電波輻射性電機管理辦法第十二條、第十四條等條文規定：
1. 經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。
2. 低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前項合法通信，指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

Company name: CONNECTEDDEVICE Ltd -8/F, Tai Yip Building, 141 Thomson Rd, Wan Chai, HongKong

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2. 低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前項合法通信，指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

Company name : CONNECTEDDEVICE Ltd -8/F, Tai Yip Building, 141 Thomson Rd, Wan Chai, HongKong

FR Remarques concernant la protection de l'environnement:

Conformément à la directive européenne 2002/96/CE et 2006/66/CE, et afin d'atteindre un certain nombre d'objectifs en matière de protection de l'environnement, les règles suivantes doivent être appliquées:

Les appareils électriques et électroniques ainsi que les batteries ne doivent pas être éliminés avec les déchets ménagers. Le pictogramme "picto" présent sur le produit, son manuel d'utilisation ou son emballage indique que le produit est soumis à cette réglementation. Le consommateur doit retourner le produit/batterie usagé aux points de collecte prévus à cet effet. Il peut aussi le remettre à un revendeur. En permettant enfin le recyclage des produits ainsi que les batteries, le consommateur contribuera à la protection de notre environnement. C'est un acte écologique.

ES Nota sobre la protección medioambiental:

Después de la puesta en marcha de la directiva Europea 2002/96/CE y 2006/66/CE en el sistema legislativo nacional, se aplicará lo siguiente: Los aparatos eléctricos y electrónicos, así como las baterías, no se deben evacuar en la basura doméstica. El usuario está legalmente obligado a llevar los aparatos eléctricos y electrónicos, así como pilas y pilas recargables, al final de su vida útil a los puntos de recogida comunales o a devolverlos al lugar donde los adquirió. Los detalles quedaran definidos por la ley de cada país. El símbolo en el producto, en las instrucciones de uso o en el embalaje hace referencia a ello. Gracias al reciclaje, al reciclaje del material o a otras formas de reciclaje de aparatos/pilas usados, contribuye Usted de forma importante a la protección de nuestro medio ambiente.

DE Hinweis zum Umweltschutz:

Ab dem Zeitpunkt der Umsetzung der europäischen Richtlinien 2002/96/EG und 2006/66/EG in nationales Recht gilt folgendes:

Elektrische und elektronische Geräte sowie Batterien dürfen nicht mit dem Hausmüll entsorgt werden. Der Verbraucher ist gesetzlich verpflichtet, elektrische und elektronische Geräte sowie Batterien am Ende ihrer Lebensdauer an den dafür eingerichteten, öffentlichen Sammelstellen oder an die Verkaufsstelle zurückzugeben. Einzelheiten dazu regelt das jeweilige Landesrecht. Das Symbol auf dem Produkt, der Gebrauchsanleitung oder der Verpackung weist auf diese Bestimmungen hin. Mit der Wiederverwertung, der stofflichen Verwertung oder anderen Formen der Verwertung von Altgeräten/Batterien leisten Sie einen wichtigen Beitrag zum Schutz unserer Umwelt.

IT Informazioni per protezione ambientale:

Dopo l'implementazione della Direttiva Europea 2002/96/CE e 2006/66/CE nel sistema legale nazionale, ci sono le seguenti applicazioni: Le apparecchiature elettriche ed elettroniche e le batterie non devono essere smaltite con i rifiuti domestici. I consumatori sono obbligati dalla legge a restituire i dispositivi elettrici ed elettronici e le batterie alla fine della loro vita utile ai punti di raccolta pubblici preposti per questo scopo o nei punti vendita. Dettagli di quanto riportato sono definiti dalle leggi nazionali di ogni stato. Questo simbolo sul prodotto, sul manuale d'istruzioni o sull'imballo indicano che questo prodotto è soggetto a queste regole. Riciclando, ri-utilizzando i materiali o utilizzando sotto altra forma i vecchi prodotti/le batterie, darete un importante contributo alla protezione dell'ambiente.

DU Notitie aangaande de bescherming van het milieu:

Ten gevolge van de invoering van de Europese Richtlijn 2002/96/CE en 2006/66/CE in het nationaal juridisch systeem, is het volgende van toepassing: Elektrische en elektronische apparatuur, zoals batterijen mag niet met het huisvuil weggegooid worden. Consumenten zijn wettelijk verplicht om elektrische en elektronische apparaten zoals batterijen op het einde van gebruik in te dienen bij openbare verzamelplaatsen speciaal opgezet voor dit doeleinde of bij een verkooppunt. Verdere specificaties aangaande dit onderwerp zijn omschreven door de nationale wet van het betreffende land. Dit symbool op het product, de gebruiksaanwijzing of de verpakking duidt erop dat het product onderworpen is aan deze richtlijnen. Door te recyclen, hergebruiken van materialen of andere vormen van hergebruiken van oude toestellen/batterijen, levert u een grote bijdrage aan de bescherming van het milieu.

Fin Ympäristönsuojelua koskeva ohje:

Sitä lähtien, kun Euroopan unionin direktiivi 2002/96/EU ja 2006/66/EU otetaan käyttöön kansallisessa lainsäädännössä, pätevät seuraavat määräykset: Sähkö- ja elektroniikkalaitteita ja paristoja ei saa hävittää talousjätteen mukana. Kuluttajalla on lain mukaan velvollisuus toimittaa sähkö- ja elektroniikkalaitteet niiden käyttöänsä päätyttyä niille varattuun julkisiin keräyspisteisiin tai palauttaa ne myyntipaikkaan. Tähän liittyvistä yksityiskohdista säädetään kulloisenkin osavaltion laissa. Näistä määräyksistä mainitaan myös tuotteen symbolissa, käyttöohjeessa tai pakkauksessa. Uudelleenkäytöllä, materiaalien/paristojen uudelleenkäytöllä tai muilla vanhojen laitteiden uudelleenkäyttötavoilla on tärkeä vaikutus yhteisen ympäristömme suojelussa.

FR Remarques concernant la protection de l'environnement:

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Les appareils électriques et électroniques ainsi que les batteries ne doivent pas être éliminés avec les déchets ménagers. Le pictogramme "picto" présent sur le produit, son manuel d'utilisation ou son emballage indique que le produit est soumis à cette réglementation. Le consommateur doit retourner le produit/la batterie usagé aux points de collecte prévus à cet effet. Il peut aussi le remettre à un revendeur. En permettant enfin le recyclage des produits ainsi que les batteries, le consommateur contribuera à la protection de notre environnement. C'est un acte écologique.

ES Nota sobre la protección medioambiental:

Después de la puesta en marcha de la directiva Europea 2002/96/CE y 2006/66/CE en el sistema legislativo nacional, se aplicará lo siguiente: Los aparatos eléctricos y electrónicos, así como las baterías, no se deben evacuar en la basura doméstica. El usuario está legalmente obligado a llevar los aparatos eléctricos y electrónicos, así como pilas y pilas recargables, al final de su vida útil a los puntos de recogida comunales o a devolverlos al lugar donde los adquirió. Los detalles quedaran definidos por la ley de cada país. El símbolo en el producto, en las instrucciones de uso o en el embalaje hace referencia a ello. Gracias al reciclaje, al reciclaje del material o a otras formas de reciclaje de aparatos/pilas usados, contribuye Usted de forma importante a la protección de nuestro medio ambiente.

DE Hinweis zum Umweltschutz:

Ab dem Zeitpunkt der Umsetzung der europäischen Richtlinien 2002/96/EG und 2006/66/EG in nationales Recht gilt folgendes:

Elektrische und elektronische Geräte sowie Batterien dürfen nicht mit dem Hausmüll entsorgt werden. Der Verbraucher ist gesetzlich verpflichtet, elektrische und elektronische Geräte sowie Batterien am Ende ihrer Lebensdauer an den dafür eingerichteten, öffentlichen Sammelstellen oder an die Verkaufsstelle zurückzugeben. Einzelheiten dazu regelt das jeweilige Landesrecht. Das Symbol auf dem Produkt, der Gebrauchsanleitung oder der Verpackung weist auf diese Bestimmungen hin. Mit der Wiederverwertung, der stofflichen Verwertung oder anderen Formen der Verwertung von Altgeräten/Batterien leisten Sie einen wichtigen Beitrag zum Schutz unserer Umwelt.

IT Informazioni per protezione ambientale:

Dopo l'implementazione della Direttiva Europea 2002/96/CE e 2006/66/CE nel sistema legale nazionale, ci sono le seguenti applicazioni:

Le apparecchiature elettriche ed elettroniche e le batterie non devono essere smaltite con i rifiuti domestici. I consumatori sono obbligati dalla legge a restituire i dispositivi elettrici ed elettronici e le batterie alla fine della loro vita utile ai punti di raccolta pubblici preposti per questo scopo o nei punti vendita. Dettagli di quanto riportato sono definiti dalle leggi nazionali di ogni stato. Questo simbolo sul prodotto, sul manuale d'istruzioni o sull'imballo indicano che questo prodotto è soggetto a queste regole. Riciclando, ri-utilizzando i materiali o utilizzando sotto altra forma i vecchi prodotti/le batterie, darete un importante contributo alla protezione dell'ambiente.

DU Notitie aangaande de bescherming van het milieu:

Ten gevolge van de invoering van de Europese Richtlijn 2002/96/CE en 2006/66/CE in het nationaal juridisch systeem, is het volgende van toepassing:

Elektrische en elektronische apparatuur, zoals batterijen mag niet met het huisvuil weggegooid worden. Consumenten zijn wettelijk verplicht om elektrische en elektronische apparaten zoals batterijen op het einde van gebruik in te dienen bij openbare verzamelplaatsen speciaal opgezet voor dit doeleinde of bij een verkooppunt. Verdere specificaties aangaande dit onderwerp zijn omschreven door de nationale wet van het betreffende land. Dit symbool op het product, de gebruiksaanwijzing of de verpakking duidt erop dat het product onderworpen is aan deze richtlijnen. Door te recyclen, hergebruiken van materialen of andere vormen van hergebruiken van oude toestellen/batterijen, levert u een grote bijdrage aan de bescherming van het milieu.

Fin Ympäristönsuojelua koskeva ohje:

Sitä lähtien, kun Euroopan unionin direktiivi 2002/96/EU ja 2006/66/EU otetaan käyttöön kansallisessa lainsäädännössä, pätevät seuraavat määräykset:

Sähkö- ja elektroniikkalaitteita ja paristoja ei saa hävittää talousjätteen mukana. Kuluttajalla on lain mukaan velvollisuus toimittaa sähkö- ja elektroniikkalaitteet niiden käyttöänsä päätyttyä niille varattuun julkisiin keräyspisteisiin tai palauttaa ne myyntipaikkaan. Tähän liittyvistä yksityiskohdista säädetään kulloisenkin osavaltion laissa. Näistä määräyksistä mainitaan myös tuotteen symbolissa, käyttöohjeessa tai pakkauksessa. Uudelleenkäytöllä, materiaalien/paristojen uudelleenkäytöllä tai muilla vanhojen laitteiden uudelleenkäyttötavoilla on tärkeä vaikutus yhteisen ympäristömme suojelussa.