

## FCC - TEST REPORT

Report Number : **60.780.16.078.01R01** Date of Issue : August 8, 2016

Model : **HSTNW-D10W, HSTNW-D09W, DA14900**

Product Type : **BLE SMART WATCH**

Applicant : DAYTON INDUSTRIAL CO., LTD

Address : 2-12 Kwai Fat Road, 11-A Kwai Chung, New Territories, Hong Kong

Production Facility : KENDY Enterprise (Dongguan) Co. Ltd

Address : Xingsi Huangtang Village, Hengli Town, Dongguan City, Guangdong Province, P. R. China

Test Result :  **Positive**       **Negative**

Total pages including Appendices : 52

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## 2 Description of Equipment Under Test

### Description of the Equipment Under Test

Product:	BLE SMART WATCH
Model no.:	HSTNW-D10W, HSTNW-D09W, DA14900
FCC ID:	O4GTEIIP
Rating:	1) For Bluetooth module: 3.6VDC (1 x 3.6VDC rechargeable button cell battery, Model: LIR2025)  2) For watch: 1.55VDC (1 x 1.55VDC button cell battery, Model:SR626SW)
Frequency:	2402MHz-2480MHz
Antenna gain:	0 dBi
Number of operated channel:	40
Modulation:	GFSK



### 3 Summary of Test Standards

Test Standards
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FCC Part 15 Subpart C 10-1-15 Edition Federal Communications Commission, PART 15 — Radio Frequency Devices, Subpart C — Unintentional Radiators
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## 4 Details about the Test Laboratory

### Site 1

Company name: TÜV SÜD Hong Kong Ltd.  
3/F, West Wing, Lakeside 2,  
10 Science Park West Avenue,  
Science Park, Shatin, Hong Kong

### Site 2

Company name: TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch  
Building 12&13 Zhiheng Wisdomland Business Park,  
Nantou Checkpoint Road 2,  
Shenzhen 518052, P.R.China  
FCC Registration Number: 502708

Emission Tests	
Test Item	Test Site
<b>FCC Part 15 Subpart C</b>	
FCC Title 47 Part 15.205, 15.209 & 15.247(d) Spurious Radiated Emission	Site 2
FCC Title 47 Part 15.207 Conduct Emission	Site 2
FCC Title 47 Part 15.247(a)(2) 6dB & 99% Bandwidth	Site 2
FCC Title 47 Part 15.247(b) Peak Output Power	Site 2
FCC Title 47 Part 2.1051 & 15.247(d) Spurious Emissions at Antenna Terminals	Site 2
FCC Title 47 Part 15.247(d) 100kHz Bandwidth of band edges	Site 2
FCC Title 47 Part 15.247(e) Power Spectral Density	Site 2
FCC Title 47 Part 15.203 & 15.247(b) Antenna Requirement	Site 2

## 4.1 Test Equipment Site List

### Radiated emission Test – Site 2

DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	CAL. DUE DATE
EMI Test Receiver	Rohde & Schwarz	ESR 26	101269	17-Aug-16
Trilog Super Broadband Test Antenna	Schwarzbeck	VULB 9163	707	17-Aug-17
Horn Antenna	Rohde & Schwarz	HF907	102294	17-Aug-17
Pre-amplifier	Rohde & Schwarz	SCU 18	102230	17-Aug-16
3m Semi-anechoic chamber	TDK	9X6X6	----	29-May-19

### 6dB & 99% Bandwidth, Peak Output Power, Spurious Emissions at Antenna Terminals, 100kHz Bandwidth of band edges, Power Spectral Density – Site 2

DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	CAL. DUE DATE
Signal Generator	Rohde & Schwarz	SMB100A	108272	17-Aug-16
Signal Analyzer	Rohde & Schwarz	FSV40	101030	17-Aug-16
Vector Signal Generator	Rohde & Schwarz	SMU 200A	105324	17-Aug-16
RF Switch Module	Rohde & Schwarz	OSP120/OSP-B157	101226/100851	17-Aug-16

### Conducted emission Test – Site 2

DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	CAL. DUE DATE
EMI Test Receiver	Rohde & Schwarz	ESR 3	101782	17-Aug-16
LISN	Rohde & Schwarz	ENV4200	100249	17-Aug-16
LISN	Rohde & Schwarz	ENV216	100326	17-Aug-16
ISN	Rohde & Schwarz	ENY81	100177	17-Aug-16
ISN	Rohde & Schwarz	ENY81-CAT6	101664	17-Aug-16
High Voltage Probe	Rohde & Schwarz	TK9420(VT9420)	9420-58	17-Aug-16
RF Current Probe	Rohde & Schwarz	EZ-17	100816	17-Aug-16

## 4.2 Measurement System Uncertainty

### Measurement System Uncertainty Emissions

System Measurement Uncertainty	
Items	Extended Uncertainty
Uncertainty for Radiated Emission in 3m chamber 9kHz-30MHz	4.54dB
Uncertainty for Radiated Emission in 3m chamber 30MHz-1000MHz	Horizontal: 4.83dB; Vertical: 4.91dB;
Uncertainty for Radiated Emission in 3m chamber 1000MHz-25000MHz	Horizontal: 4.89dB; Vertical: 4.88dB;
Uncertainty for Conducted RF test	2.04dB
Uncertainty for Conducted Emission 150kHz-30MHz	3.50dB

## 5 Summary of Test Results

Emission Tests				
FCC Part 15 Subpart C				
Test Condition	Pages	Test Result		
		Pass	Fail	N/A
FCC Title 47 Part 15.205, 15.209 & 15.247(d) Spurious Radiated Emission	10-15	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FCC Title 47 Part 15.207 Conduct Emission	16-17	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FCC Title 47 Part 15.247(a)(2) 6dB & 99% Bandwidth	18-23	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FCC Title 47 Part 15.247(b) Peak Output Power	24-26	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FCC Title 47 Part 2.1051 & 15.247(d) Spurious Emissions at Antenna Terminals	27-29	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FCC Title 47 Part 15.247(d) 100kHz Bandwidth of band edges	30-33	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FCC Title 47 Part 15.247(e) Power Spectral Density	34-36	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FCC Title 47 Part 15.203 & 15.247(b) Antenna Requirement	37	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



## 6 General Remarks

### Remarks

Client informs that the model HSTNW-D09W. DA14900 has the same technical construction including circuit diagram, PCB Layout, components and component layout, all electrical construction and mechanical construction, with BLE SMART WATCH, HSTNW-D10W. The difference lies only in outlook/ color of the different models. (Client's confirmation letter shown at appendix C)

EMC tests were performed on model: HSTNW-D10W

### SUMMARY:

- All tests according to the regulations cited on page 5 were

■ - Performed

□ - **Not** Performed

- The Equipment Under Test

■ - **Fulfills** the general approval requirements.

□ - **Does not** fulfill the general approval requirements.

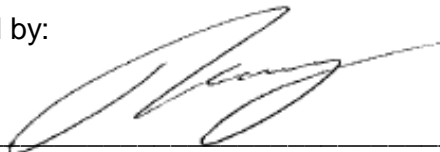
Sample Received Date: July 21, 2016

Testing Start Date: July 22, 2016

Testing End Date: August 1, 2016

- TÜV SÜD HONG KONG LTD. -

Reviewed by:



TSENG Chi Kit  
EMC Project Engineer



Prepared by:



CHAN Kwong Ngai  
EMC Test Engineer

## 7 Emission Test Results

### 7.1 Spurious Radiated Emission

EUT: HSTNW-D10W  
 Op Condition: Operated, TX Mode (2402MHz)  
 Test Specification: FCC15.205, 15.209 & 15.247(d) Antenna: Horizontal  
 Comment: 3.6VDC  
 Remark: 9kHz to 25GHz

Test Result	
<input checked="" type="checkbox"/>	Passed
<input type="checkbox"/>	Not Passed

Frequency MHz	Result dB $\mu$ V/m	Limit dB $\mu$ V/m	Margin dB	Detector
45.358	29.25	40	-10.75	Quasi Peak
55.489	23.05	40	-16.95	Quasi Peak
59.746	24.25	40	-15.75	Quasi Peak
886.294	28.20	46	-17.8	Quasi Peak
1253.133	28.74	74	-45.26	Peak
1253.133	18.51	54	-35.79	Average
2079.267	28.49	74	-45.51	Peak
2079.267	18.40	54	-35.60	Average
4804.500	46.10	74	-27.90	Peak
4804.500	35.18	54	-18.82	Average
7207.000	51.83	74	-22.17	Peak
7207.000	39.51	54	-14.49	Average
9608.000	50.62	74	-23.38	Peak
9608.000	38.87	54	-15.13	Average

**Spurious Radiated Emission**

EUT: HSTNW-D10W  
 Op Condition: Operated, TX Mode (2402MHz)  
 Test Specification: FCC15.205, 15.209 & 15.247(d) Antenna: Vertical  
 Comment: 3.6VDC  
 Remark: 9kHz to 25GHz

Test Result	
<input checked="" type="checkbox"/>	Passed
<input type="checkbox"/>	Not Passed

Frequency MHz	Result dBµV/m	Limit dBµV/m	Margin dB	Detector
45.358	28.69	40	-11.31	Quasi Peak
55.489	23.53	40	-16.47	Quasi Peak
59.746	22.36	40	-17.64	Quasi Peak
886.294	30.12	46	-15.88	Quasi Peak
1253.133	27.76	74	-46.24	Peak
1253.133	18.62	54	-35.38	Average
2079.267	28.17	74	-45.83	Peak
2079.267	17.22	54	-36.78	Average
4804.500	47.36	74	-26.64	Peak
4804.500	34.75	54	-19.25	Average
7207.000	51.93	74	-22.07	Peak
7207.000	40.07	54	-13.93	Average
9608.000	52.19	74	-21.81	Peak
9608.000	40.18	54	-13.82	Average

**Spurious Radiated Emission**

EUT: HSTNW-D10W  
 Op Condition: Operated, TX Mode (2440MHz)  
 Test Specification: FCC15.205, 15.209 & 15.247(d) Antenna: Horizontal  
 Comment: 3.6VDC  
 Remark: 9kHz to 25GHz

Test Result	
<input checked="" type="checkbox"/>	Passed
<input type="checkbox"/>	Not Passed

Frequency MHz	Result dBµV/m	Limit dBµV/m	Margin dB	Detector
45.265	27.54	40	-12.46	Quasi Peak
55.991	28.66	40	-11.34	Quasi Peak
59.739	27.15	40	-12.85	Quasi Peak
886.389	30.09	46	-15.91	Quasi Peak
1258.066	29.44	74	-44.56	Peak
1258.066	17.16	54	16.84	Average
1821.400	28.53	74	-45.47	Peak
1821.400	19.97	54	34.03	Average
4881.000	42.59	74	-31.41	Peak
4881.000	34.07	54	-19.93	Average
7321.600	50.78	74	-23.22	Peak
7321.600	40.62	54	-13.38	Average
9762.500	51.70	74	-22.30	Peak
9762.500	40.12	54	13.88	Average

**Spurious Radiated Emission**

EUT: HSTNW-D10W  
 Op Condition: Operated, TX Mode (2440MHz)  
 Test Specification: FCC15.205, 15.209 & 15.247(d) Antenna: Vertical  
 Comment: 3.6VDC  
 Remark: 9kHz to 25GHz

Test Result	
<input checked="" type="checkbox"/>	Passed
<input type="checkbox"/>	Not Passed

Frequency MHz	Result dBµV/m	Limit dBµV/m	Margin dB	Detector
45.265	26.88	40	-13.12	Quasi Peak
55.991	27.42	40	-12.58	Quasi Peak
59.739	28.59	40	-11.41	Quasi Peak
886.389	30.07	46	-15.93	Quasi Peak
1258.066	28.01	74	-45.99	Peak
1258.066	19.61	54	-34.39	Average
1821.400	28.37	74	-45.63	Peak
1821.400	19.86	54	-34.14	Average
4881.000	46.18	74	-27.82	Peak
4881.000	34.33	54	-19.67	Average
7321.600	52.60	74	-21.40	Peak
7321.600	40.08	54	-13.92	Average
9762.500	51.11	74	-22.89	Peak
9762.500	39.88	54	-14.12	Average

**Spurious Radiated Emission**

EUT: HSTNW-D10W  
 Op Condition: Operated, TX Mode (2480MHz)  
 Test Specification: FCC15.205, 15.209 & 15.247(d) Antenna: Horizontal  
 Comment: 3.6VDC  
 Remark: 9kHz to 25GHz

Test Result	
<input checked="" type="checkbox"/>	Passed
<input type="checkbox"/>	Not Passed

Frequency MHz	Result dBµV/m	Limit dBµV/m	Margin dB	Detector
45.127	27.16	40	-12.84	Quasi Peak
55.048	28.92	40	-11.08	Quasi Peak
59.558	29.22	40	-10.78	Quasi Peak
886.409	30.28	46	-15.72	Quasi Peak
1253.437	28.96	74	-45.04	Peak
1253.437	19.24	54	-34.76	Average
1966.187	29.25	74	-44.75	Peak
1966.187	20.47	54	-33.53	Average
4960.500	41.80	74	-32.20	Peak
4960.500	30.26	54	23.74	Average
7441.000	52.73	74	-21.27	Peak
7441.000	40.91	54	-13.09	Average
9923.000	51.35	74	-22.65	Peak
9923.000	39.08	54	-14.92	Average

**Spurious Radiated Emission**

EUT: HSTNW-D10W  
 Op Condition: Operated, TX Mode (2480MHz)  
 Test Specification: FCC15.205, 15.209 & 15.247(d) Antenna: Vertical  
 Comment: 3.6VDC  
 Remark: 9kHz to 25GHz

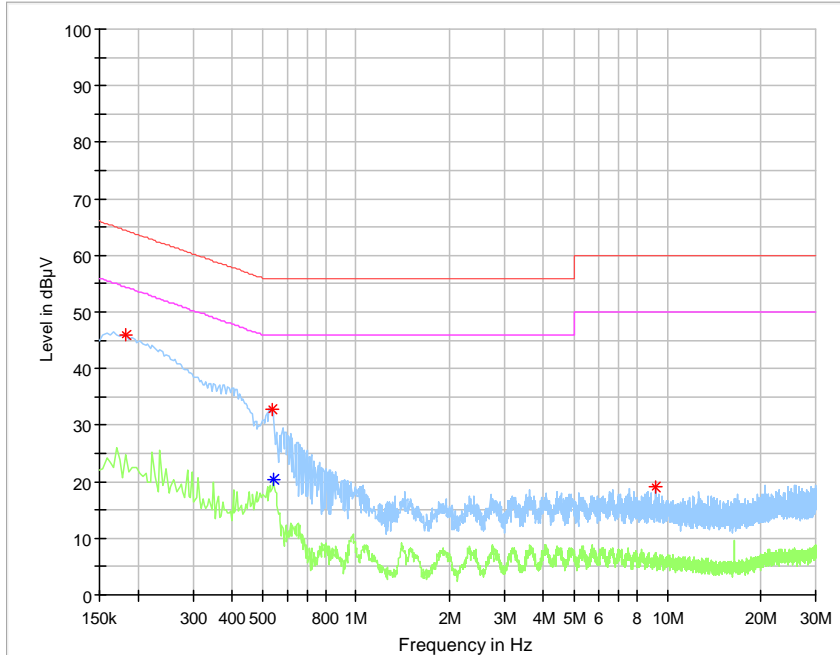
Test Result	
<input checked="" type="checkbox"/>	Passed
<input type="checkbox"/>	Not Passed

Frequency MHz	Result dBµV/m	Limit dBµV/m	Margin dB	Detector
45.127	28.76	40	-11.24	Quasi Peak
55.048	28.58	40	-11.42	Quasi Peak
59.558	29.29	40	-10.71	Quasi Peak
886.409	31.64	46	-14.36	Quasi Peak
1253.437	29.65	74	-44.35	Peak
1253.437	20.75	54	-33.25	Average
1768.500	30.47	74	-43.53	Peak
1768.500	21.33	54	-32.67	Average
4960.500	44.45	74	-29.55	Peak
4960.500	35.56	54	-18.44	Average
7441.000	41.40	74	-32.60	Peak
7441.000	32.12	54	-21.88	Average
9923.000	41.77	74	-32.23	Peak
9923.000	32.58	54	-21.42	Average

## 7.2 Conducted Emission

EUT: HSTNW-D10W  
 Op Condition: Normal Link  
 Test Specification: AC Mains, L Line  
 Comment: 120VAC, 60Hz (From external adaptor)

Test Result	
<input checked="" type="checkbox"/>	Passed
<input type="checkbox"/>	Not Passed



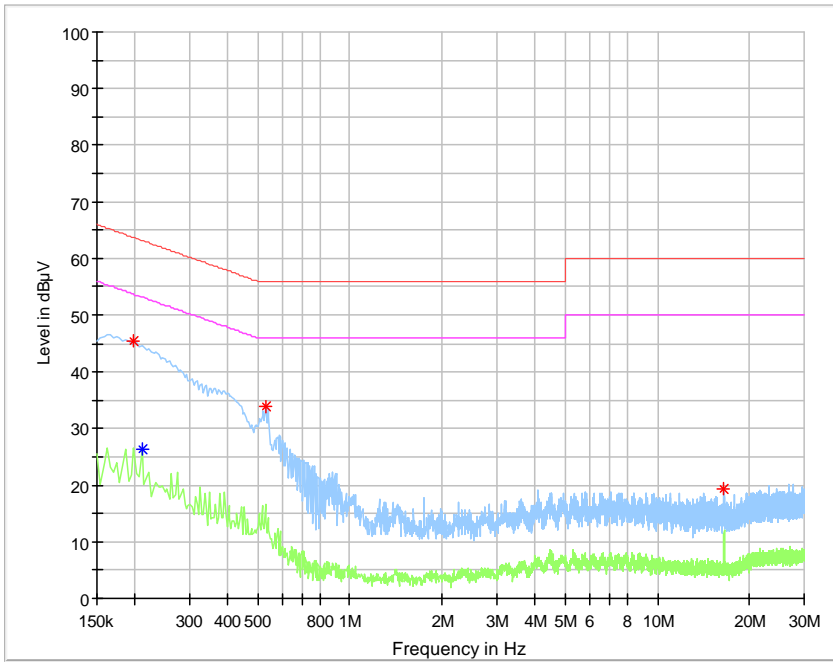
Frequency (MHz)	MaxPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)
0.182000	45.85	---	64.39	-18.55
0.538000	32.90	---	56.00	-23.10
0.542000	---	20.46	46.00	-25.54
9.186000	19.21	---	60.00	-40.79



**Conducted Emission**

EUT: HSTNW-D10W  
 Op Condition: Normal Link  
 Test Specification: AC Mains, N Line  
 Comment: 120VAC, 60Hz (From external adaptor)

Test Result	
<input checked="" type="checkbox"/>	Passed
<input type="checkbox"/>	Not Passed

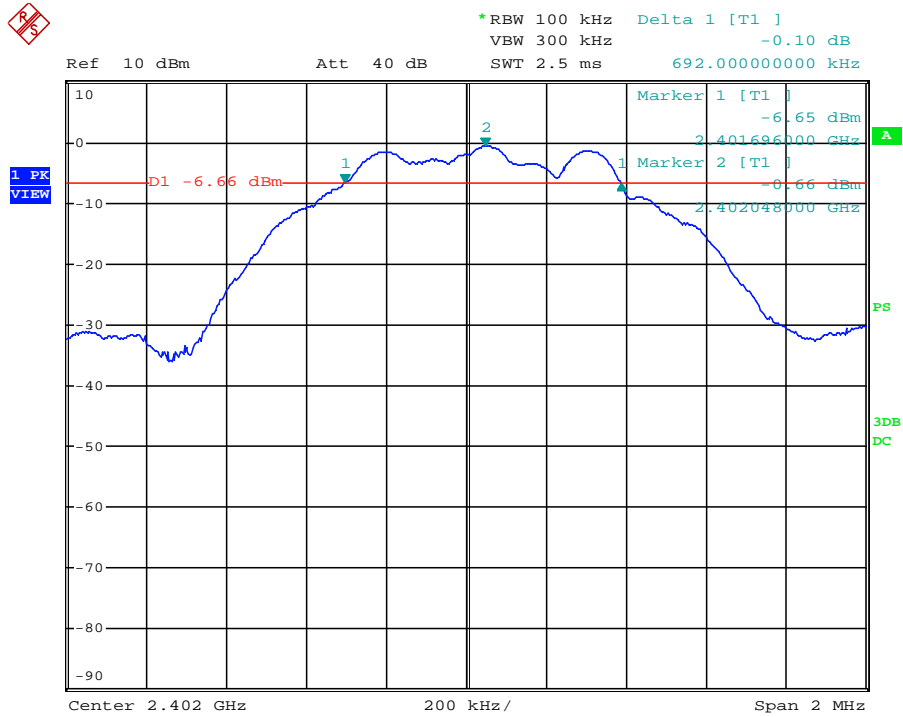


Frequency (MHz)	MaxPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)
0.198000	45.35	---	63.69	-18.34
0.210000	---	26.38	53.21	-26.83
0.530000	33.95	---	56.00	-22.05
16.494000	19.27	---	60.00	-40.73

### 7.3 6dB & 99% Bandwidth

EUT: HSTNW-D10W  
 Op Condition: Operated, TX Mode (2402MHz)  
 Test Specification: FCC15.247(a)(2), 6dB Bandwidth  
 Comment: 3.6VDC

Test Result	
<input checked="" type="checkbox"/>	Passed
<input type="checkbox"/>	Not Passed

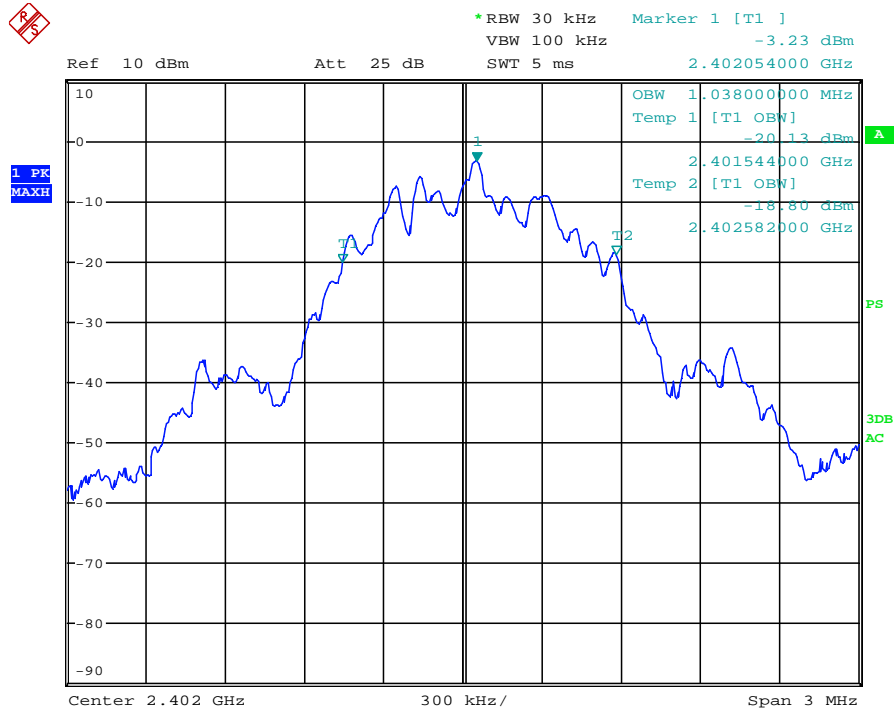


6dB bandwidth	Limit
692 kHz	> 500 kHz

**6dB & 99% Bandwidth**

EUT: HSTNW-D10W  
 Op Condition: Operated, TX Mode (2402MHz)  
 Test Specification: FCC15.247(a)(2), 99% bandwidth  
 Comment: 3.6VDC

Test Result	
<input checked="" type="checkbox"/>	Passed
<input type="checkbox"/>	Not Passed

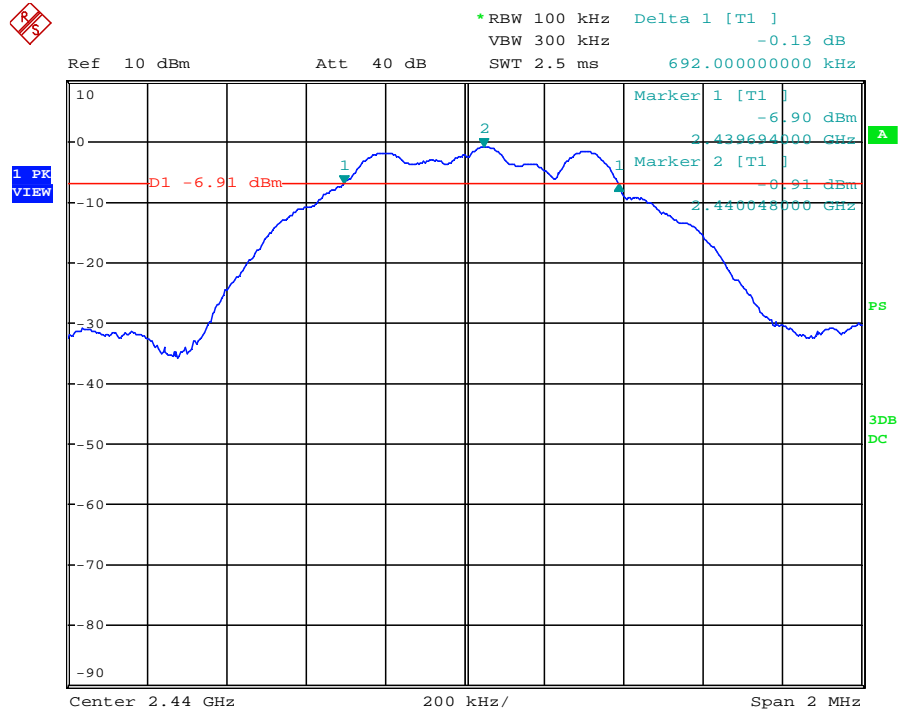


<b>99% bandwidth</b>
1038 kHz

**6dB & 99% Bandwidth**

EUT: HSTNW-D10W  
 Op Condition: Operated, TX Mode (2440MHz)  
 Test Specification: FCC15.247(a)(2), 6dB Bandwidth  
 Comment: 3.6VDC

Test Result	
<input checked="" type="checkbox"/>	Passed
<input type="checkbox"/>	Not Passed

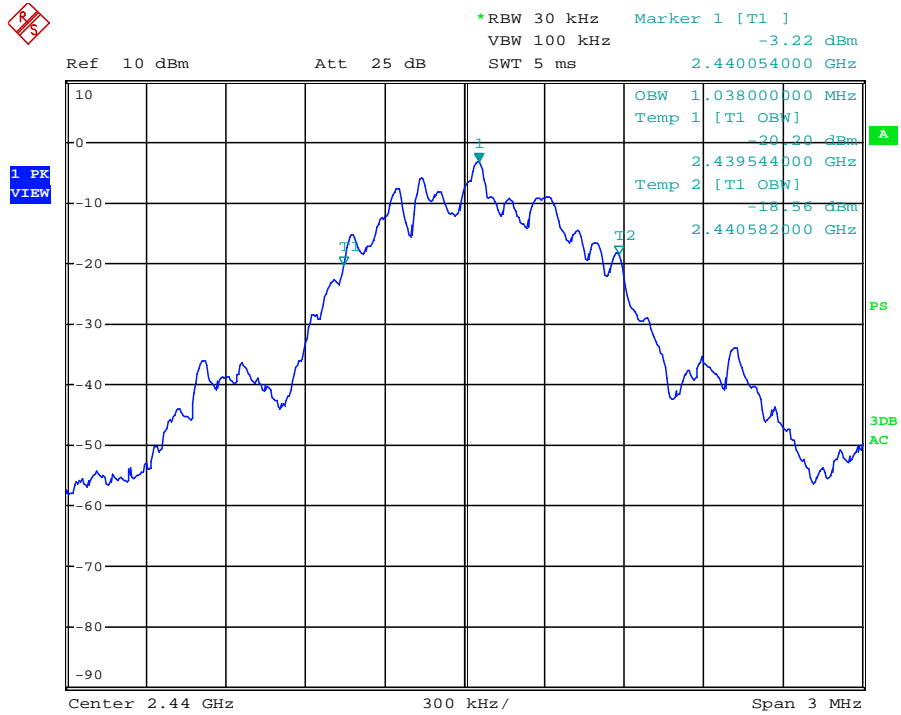


6dB bandwidth	Limit
692 kHz	> 500 kHz

**6dB & 99% Bandwidth**

EUT: HSTNW-D10W  
 Op Condition: Operated, TX Mode (2440MHz)  
 Test Specification: FCC15.247(a)(2), 99% bandwidth  
 Comment: 3.6VDC

Test Result	
<input checked="" type="checkbox"/>	Passed
<input type="checkbox"/>	Not Passed

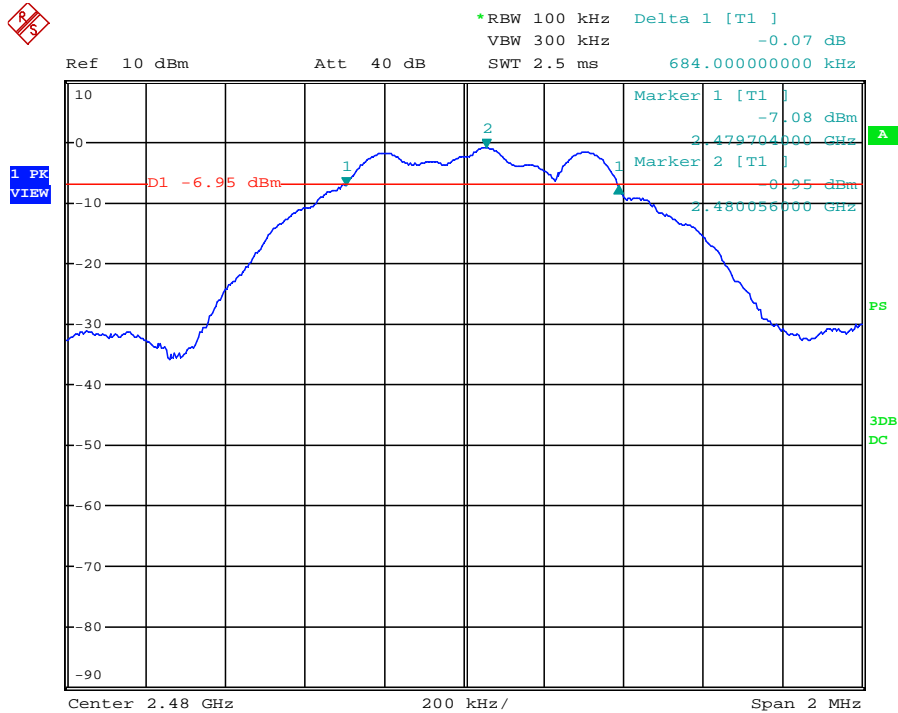


<b>99% bandwidth</b>
<b>1038 kHz</b>

**6dB & 99% Bandwidth**

EUT: HSTNW-D10W  
 Op Condition: Operated, TX Mode (2480MHz)  
 Test Specification: FCC15.247(a)(2), 6dB Bandwidth  
 Comment: 3.6VDC

Test Result	
<input checked="" type="checkbox"/>	Passed
<input type="checkbox"/>	Not Passed

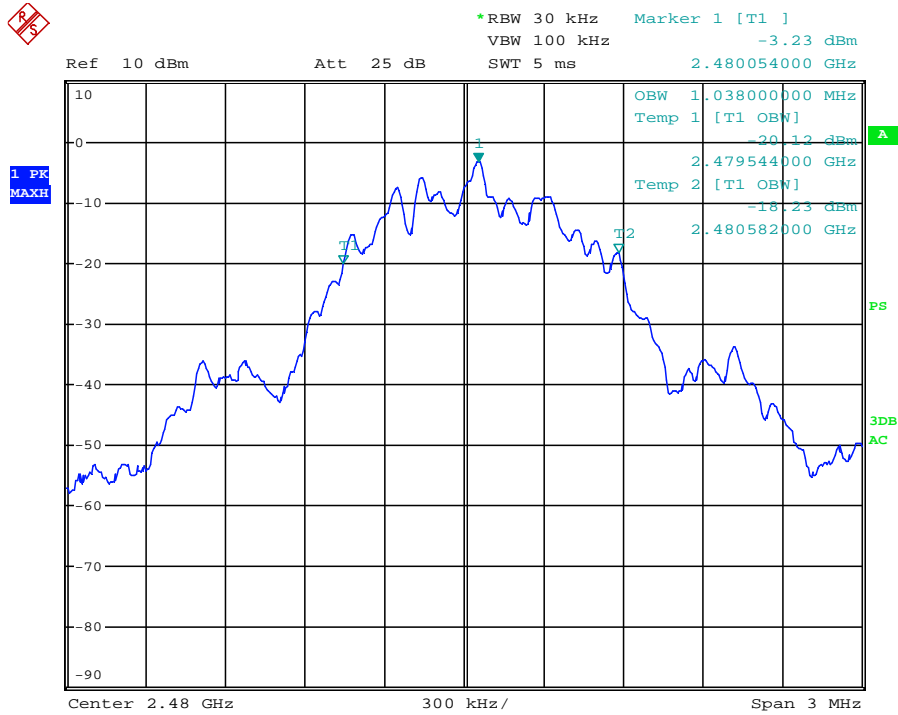


6dB bandwidth	Limit
684 kHz	> 500 kHz

**6dB & 99% Bandwidth**

EUT: HSTNW-D10W  
 Op Condition: Operated, TX Mode (2480MHz)  
 Test Specification: FCC15.247(a)(2), 99% bandwidth  
 Comment: 3.6VDC

Test Result	
<input checked="" type="checkbox"/>	Passed
<input type="checkbox"/>	Not Passed

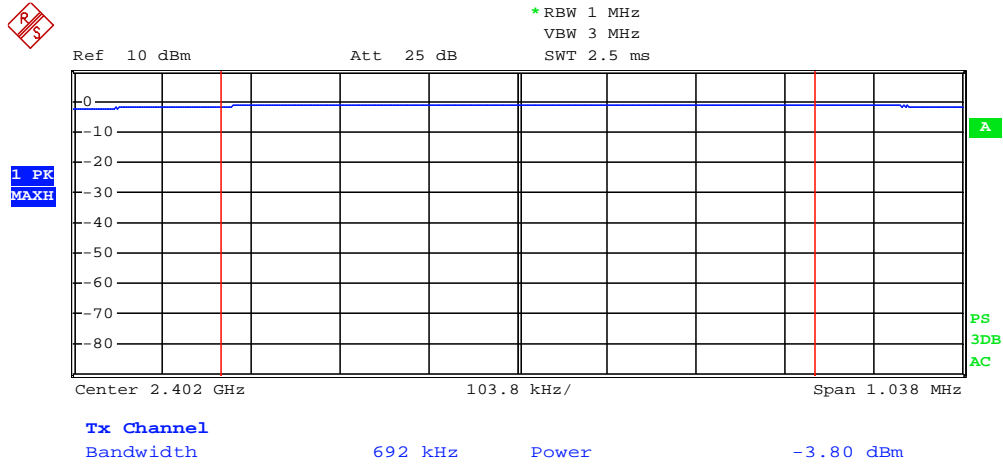


<b>99% bandwidth</b>
<b>1038 kHz</b>

## 7.4 Peak Output Power

EUT: HSTNW-D10W  
 Op Condition: Operated, TX Mode (2402MHz)  
 Test Specification: FCC15.247(b)  
 Comment: 3.6VDC

Test Result	
<input checked="" type="checkbox"/>	Passed
<input type="checkbox"/>	Not Passed



Conducted Output Power	Limit
-3.80 dBm	< 30dBm

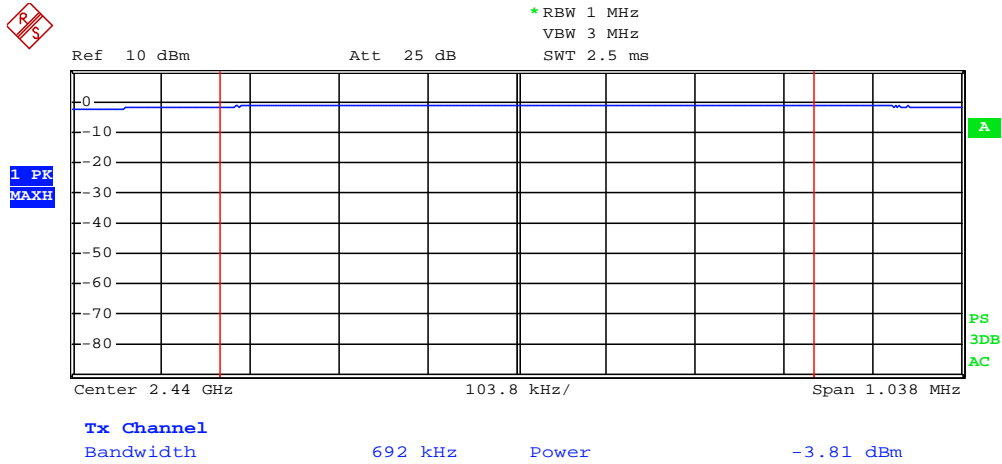




**6dB & 99% Bandwidth**

EUT: HSTNW-D10W  
 Op Condition: Operated, TX Mode (2440MHz)  
 Test Specification: FCC15.247(b)  
 Comment: 3.6VDC

Test Result	
<input checked="" type="checkbox"/>	Passed
<input type="checkbox"/>	Not Passed



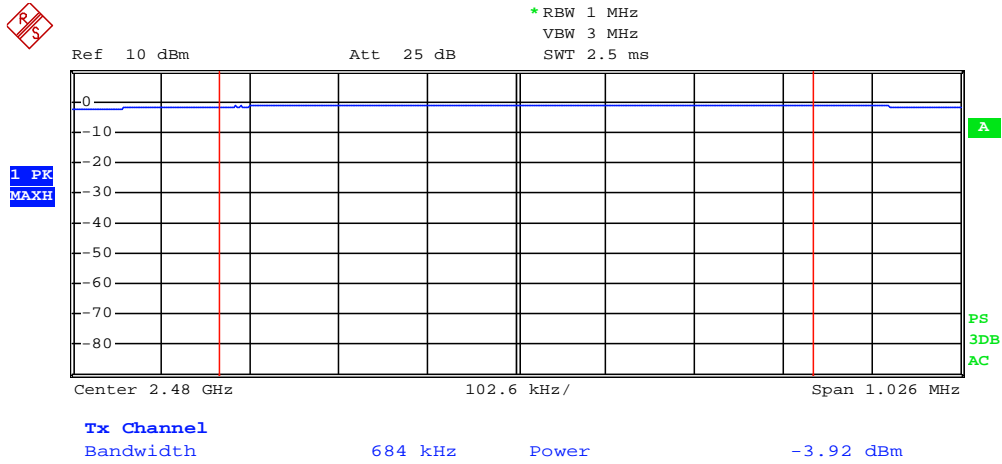
Conducted Output Power	Limit
-3.81 dBm	< 30dBm



**6dB & 99% Bandwidth**

EUT: HSTNW-D10W  
 Op Condition: Operated, TX Mode (2480MHz)  
 Test Specification: FCC15.247(b)  
 Comment: 3.6VDC

Test Result	
<input checked="" type="checkbox"/>	Passed
<input type="checkbox"/>	Not Passed

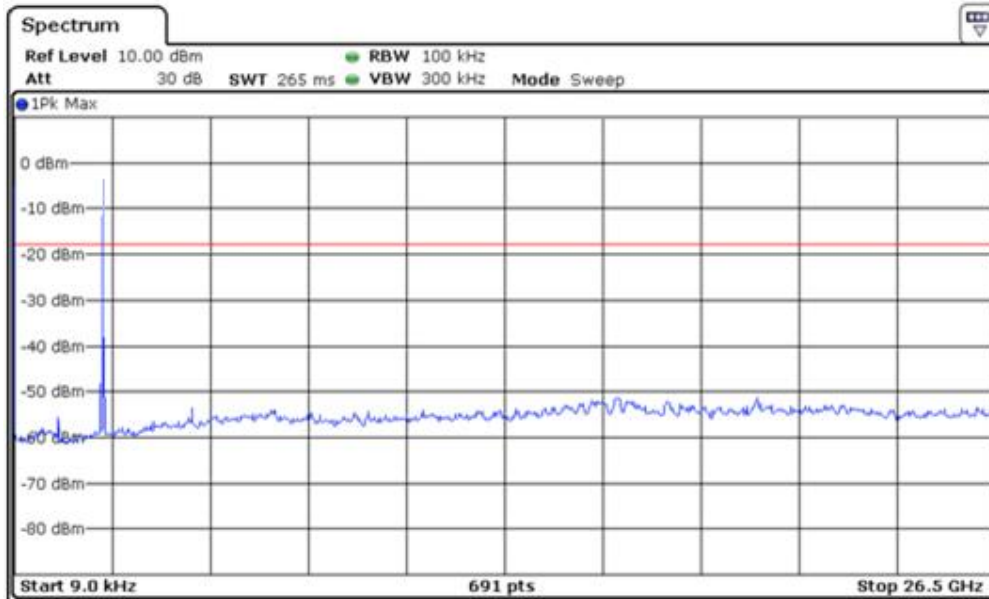


Conducted Output Power	Limit
-3.92 dBm	< 30dBm

## 7.5 Spurious Emissions at Antenna Terminals

EUT: HSTNW-D10W  
Op Condition: Operated, TX Mode (2402MHz)  
Test Specification: FCC2.1051 & 15.247(d)  
Comment: 3.6VDC  
Remark: 9kHz to 26.5GHz

Test Result	
<input checked="" type="checkbox"/>	Passed
<input type="checkbox"/>	Not Passed

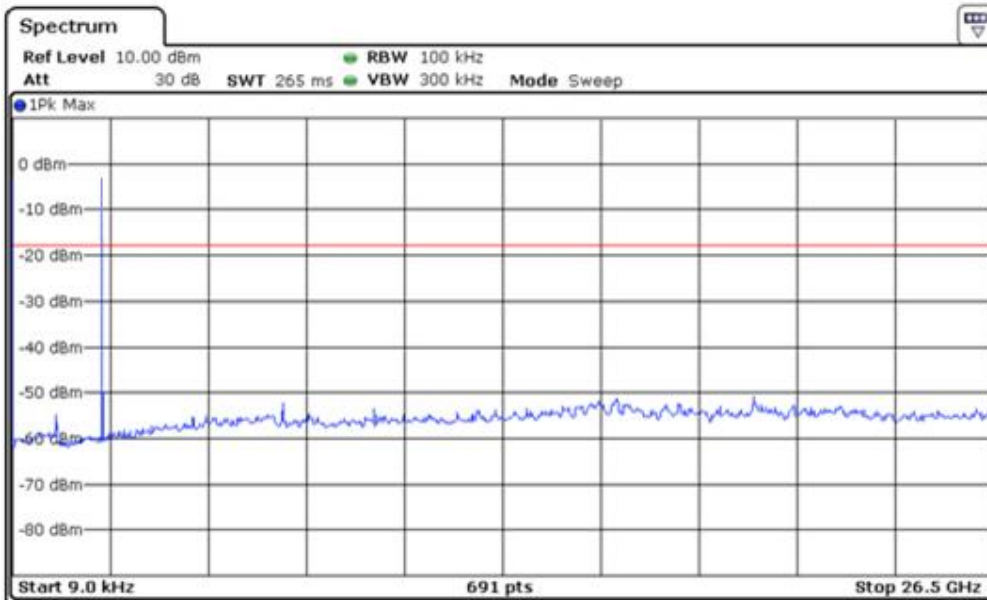


No significant emission above ambient noise level is detected

### Spurious Emissions at Antenna Terminals

EUT: HSTNW-D10W  
Op Condition: Operated, TX Mode (2440MHz)  
Test Specification: FCC2.1051 & 15.247(d)  
Comment: 3.6VDC  
Remark: 9kHz to 26.5GHz

Test Result
<input checked="" type="checkbox"/> Passed
<input type="checkbox"/> Not Passed

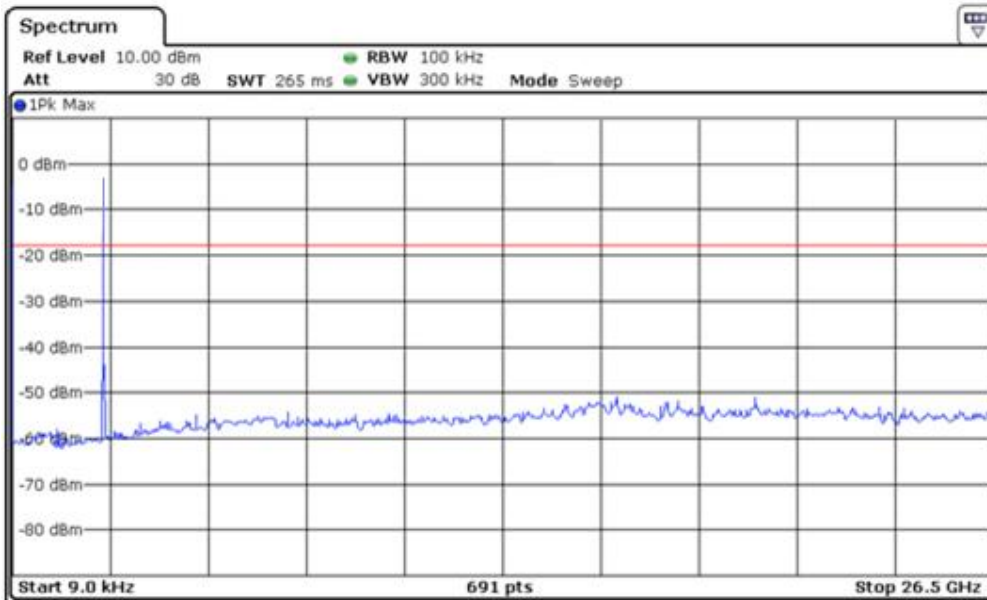


No significant emission above ambient noise level is detected

### Spurious Emissions at Antenna Terminals

EUT: HSTNW-D10W  
Op Condition: Operated, TX Mode (2480MHz)  
Test Specification: FCC2.1051 & 15.247(d)  
Comment: 3.6VDC  
Remark: 9kHz to 26.5GHz

Test Result
<input checked="" type="checkbox"/> Passed
<input type="checkbox"/> Not Passed

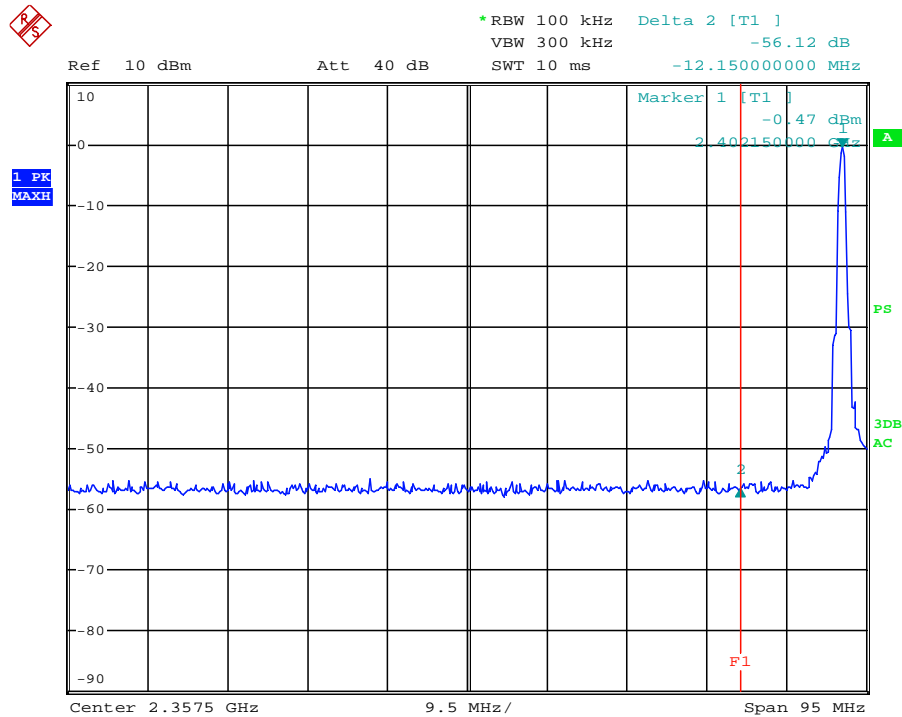


No significant emission above ambient noise level is detected

## 7.6 100kHz Bandwidth of band edges

EUT: HSTNW-D10W  
 Op Condition: Operated, TX Mode (2402MHz)  
 Test Specification: FCC15.247(d), Conducted  
 Comment: 3.6VDC

Test Result	
<input checked="" type="checkbox"/>	Passed
<input type="checkbox"/>	Not Passed



Band edges	Limit
56.12 dB	> 20dB

**100kHz Bandwidth of band edges**

EUT: HSTNW-D10W  
 Op Condition: Operated, TX Mode (2402MHz)  
 Test Specification: FCC15.247(d), Radiated  
 Comment: 3.6VDC

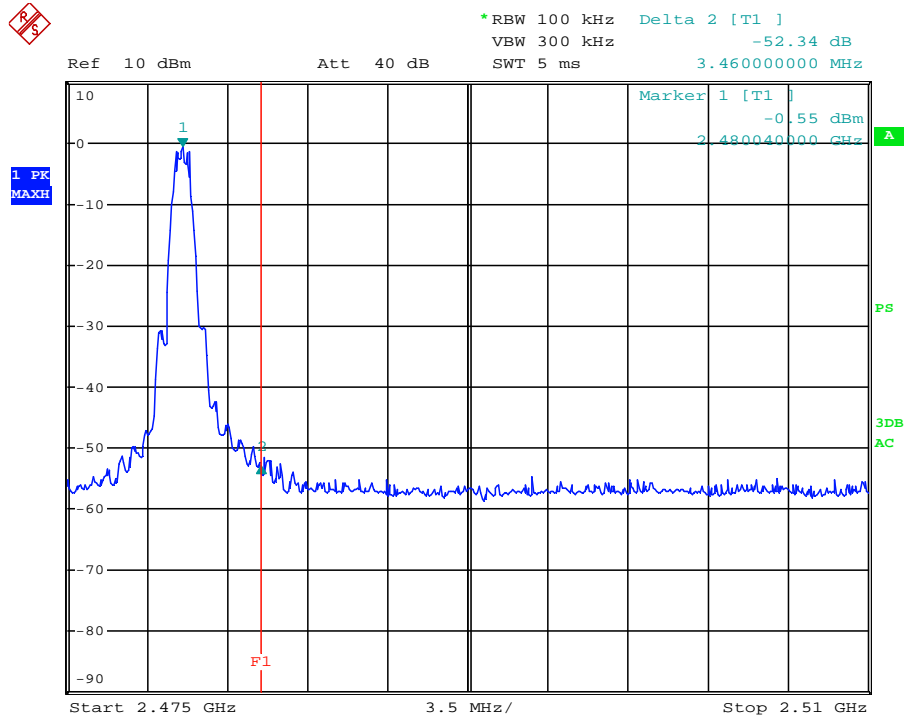
Test Result	
<input checked="" type="checkbox"/>	Passed
<input type="checkbox"/>	Not Passed

Frequency MHz	Result dB $\mu$ V/m	Limit dB $\mu$ V/m	Margin dB	Detector
2390.000	38.64	74	-45.36	Peak
2390.000	27.05	54	-26.95	Average

**100kHz Bandwidth of band edges**

EUT: HSTNW-D10W  
 Op Condition: Operated, TX Mode (2480MHz)  
 Test Specification: FCC15.247(d), Conducted  
 Comment: 3.6VDC

Test Result	
<input checked="" type="checkbox"/>	Passed
<input type="checkbox"/>	Not Passed



Band edges	Limit
52.34 dB	> 20dB



**100kHz Bandwidth of band edges**

EUT: HSTNW-D10W  
Op Condition: Operated, TX Mode (2480MHz)  
Test Specification: FCC15.247(d), Radiated  
Comment: 3.6VDC

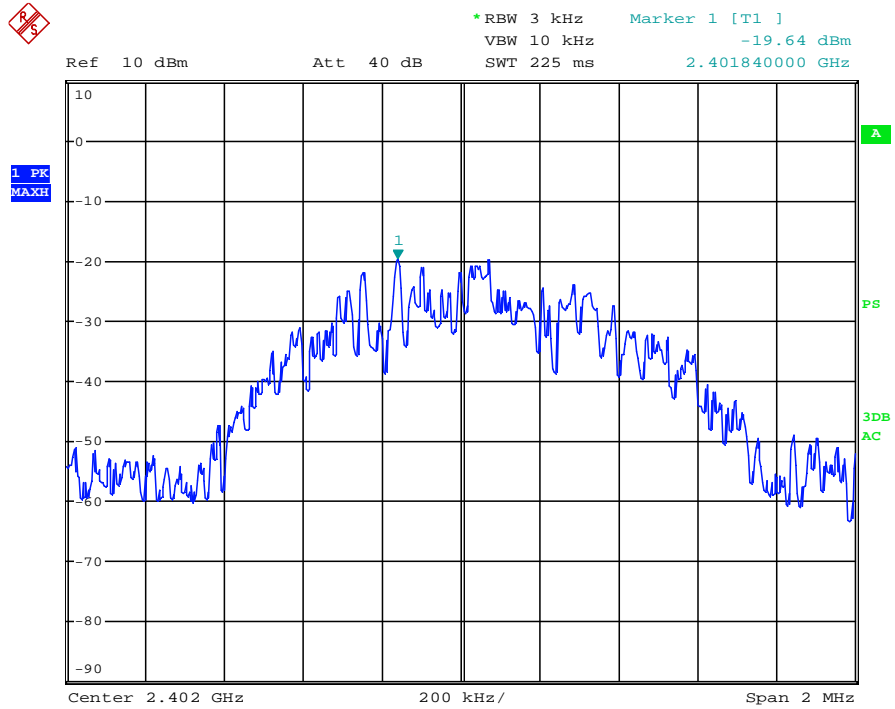
Test Result
<input checked="" type="checkbox"/> Passed
<input type="checkbox"/> Not Passed

Frequency MHz	Result dB $\mu$ V/m	Limit dB $\mu$ V/m	Margin dB	Detector
2483.500	42.34	74	-31.66	Peak
2483.500	30.64	54	-23.36	Average

## 7.7 Power Spectral Density

EUT: HSTNW-D10W  
 Op Condition: Operated, TX Mode (2402MHz)  
 Test Specification: FCC15.247(e)  
 Comment: 3.6VDC

Test Result	
<input checked="" type="checkbox"/>	Passed
<input type="checkbox"/>	Not Passed

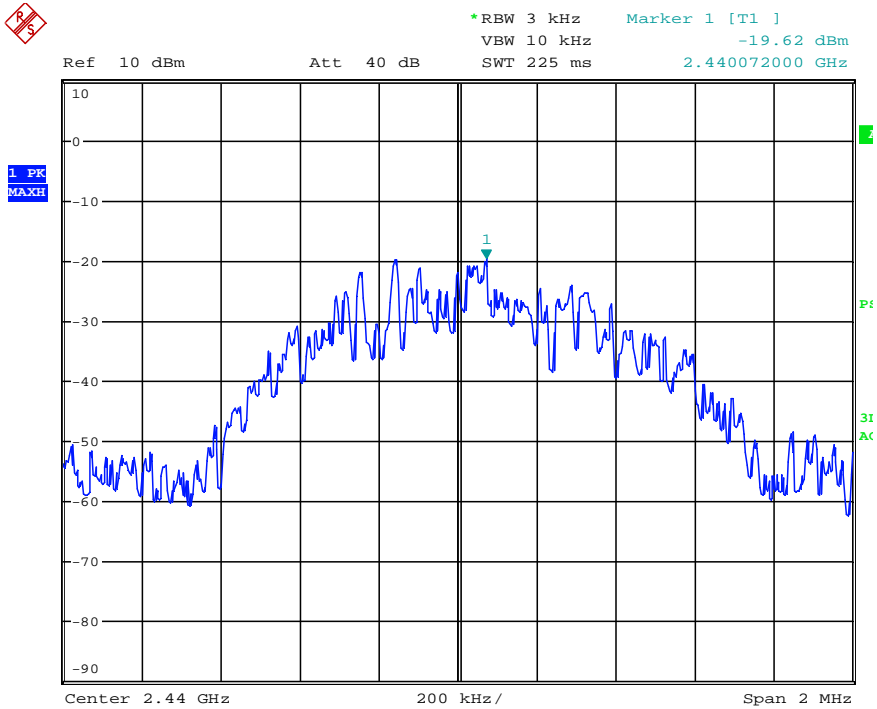


PSD	Result
-19.64 dBm / 3kHz	< 8 dBm / 3 kHz

**Power Spectral Density**

EUT: HSTNW-D10W  
 Op Condition: Operated, TX Mode (2440MHz)  
 Test Specification: FCC15.247(e)  
 Comment: 3.6VDC

Test Result	
<input checked="" type="checkbox"/>	Passed
<input type="checkbox"/>	Not Passed

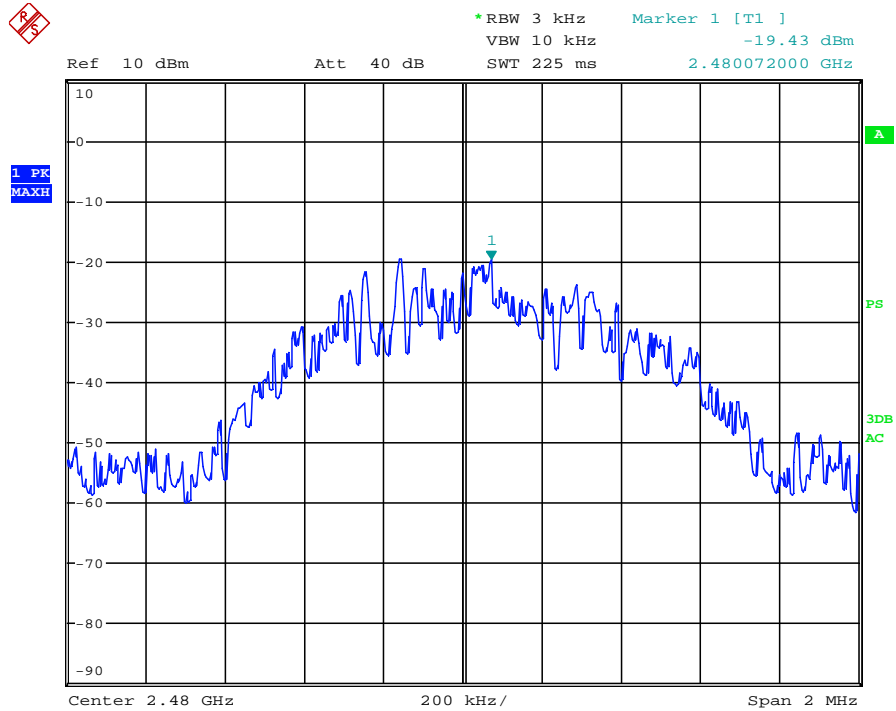


PSD	Result
-19.62 dBm / 3kHz	< 8 dBm / 3 kHz

### Power Spectral Density

EUT: HSTNW-D10W  
 Op Condition: Operated, TX Mode (2480MHz)  
 Test Specification: FCC15.247(e)  
 Comment: 3.6VDC

Test Result	
<input checked="" type="checkbox"/>	Passed
<input type="checkbox"/>	Not Passed



PSD	Result
-19.43 dBm / 3kHz	< 8 dBm / 3 kHz

## 7.8 Antenna Requirement

EUT: HSTNW-D10W  
Op Condition: Operated, TX Mode  
Test Specification: FCC15.203 & 15.247(b)  
Comment: 3.6VDC

Test Result	
<input checked="" type="checkbox"/>	Passed
<input type="checkbox"/>	Not Passed

### Limit

For intentional device, according to FCC Title 47 Part 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC Title 47 Part 15.247(b), if transmitting antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

### Antenna Connector Construction

The antenna used in this product is PCB antenna, and the maximum gain of this antenna is 0.0 dBi.

## 8 Appendix A - Photographs of EUT

**HSTNW-D10W**



Appendix A





## Appendix A

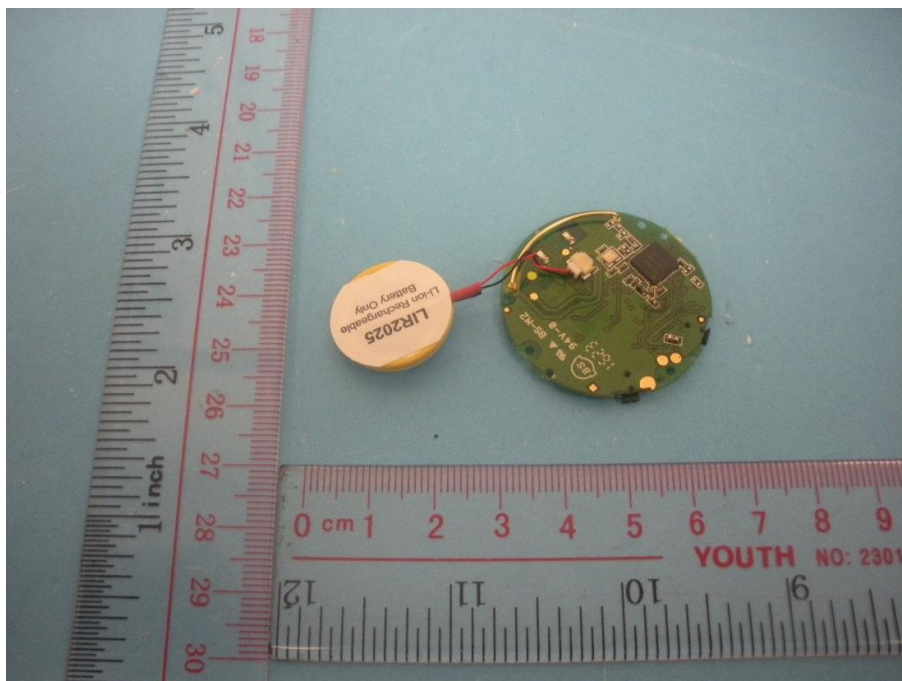




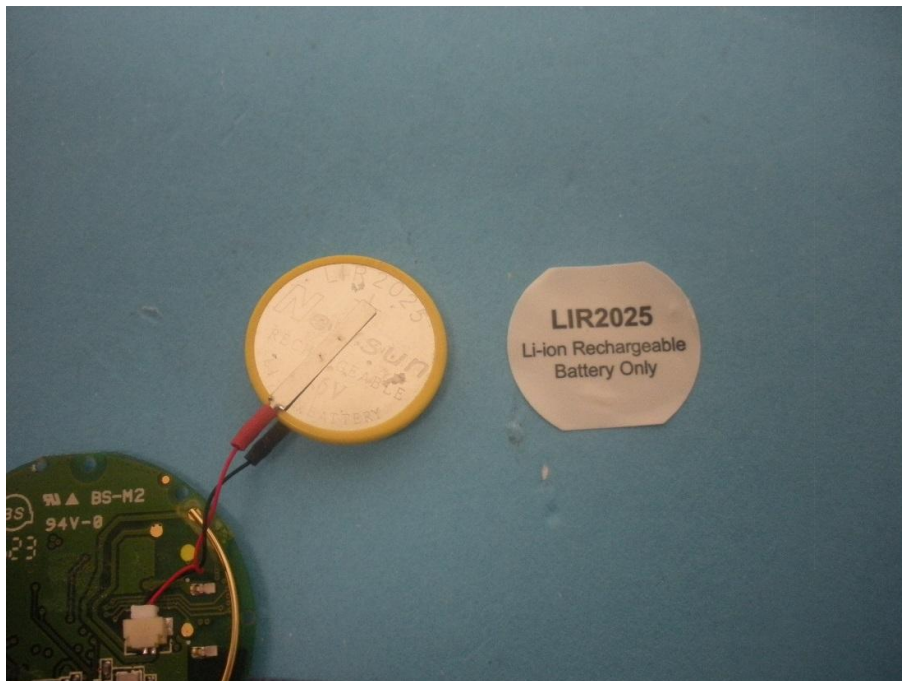
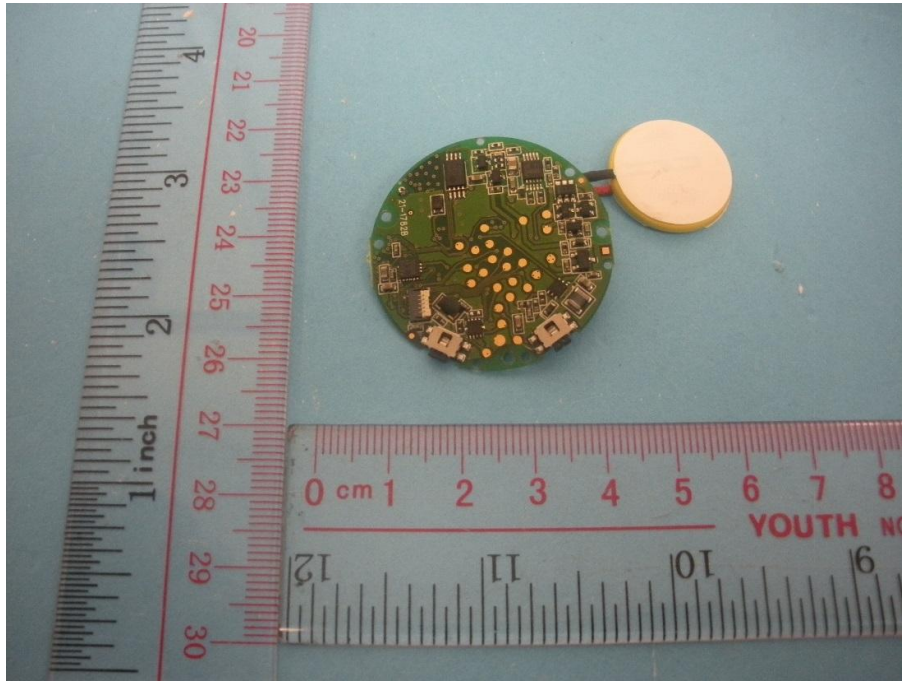
Appendix A



Appendix A

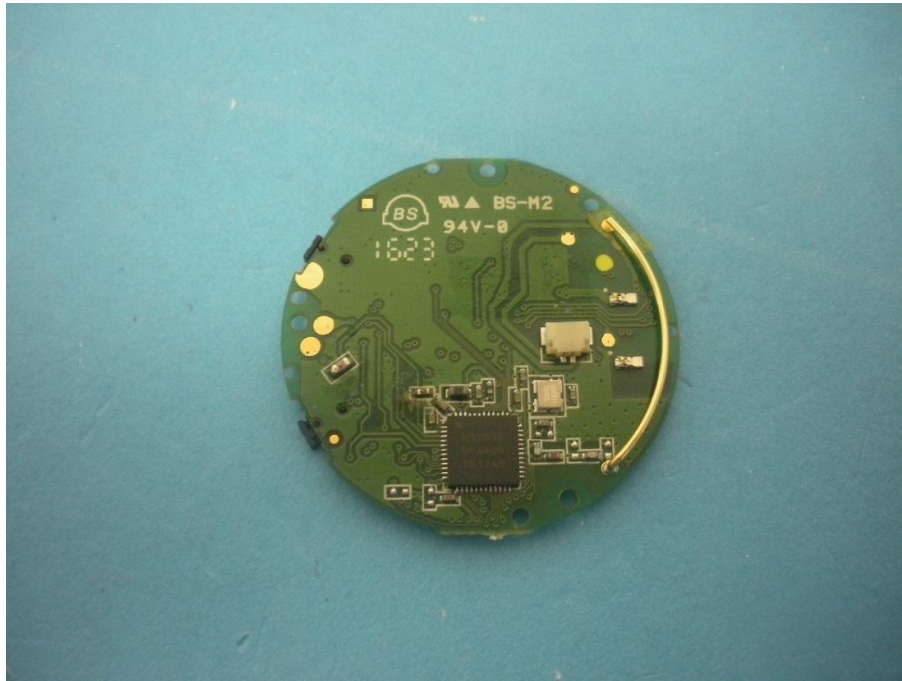


Appendix A





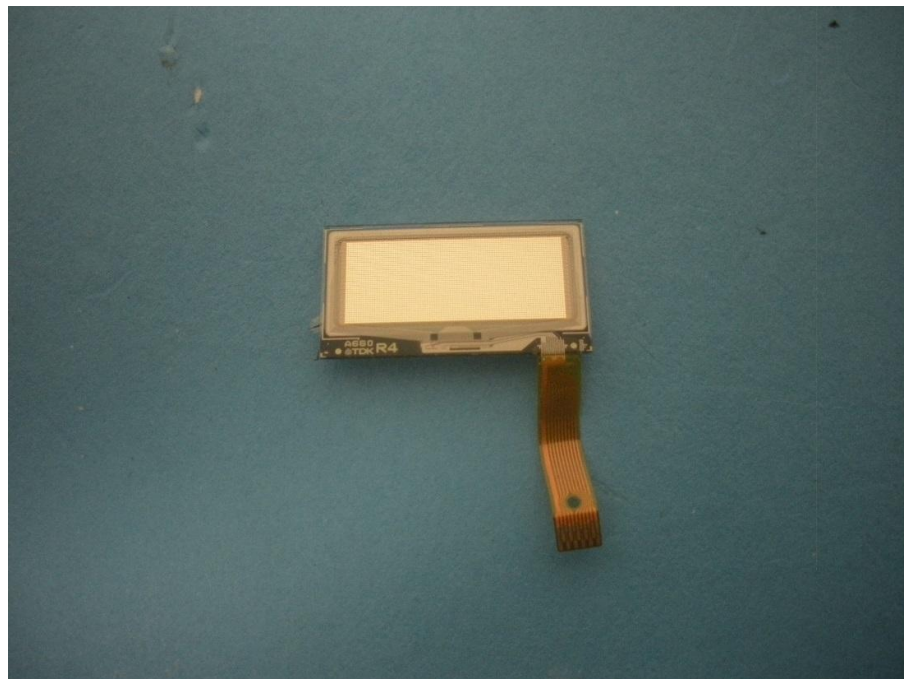
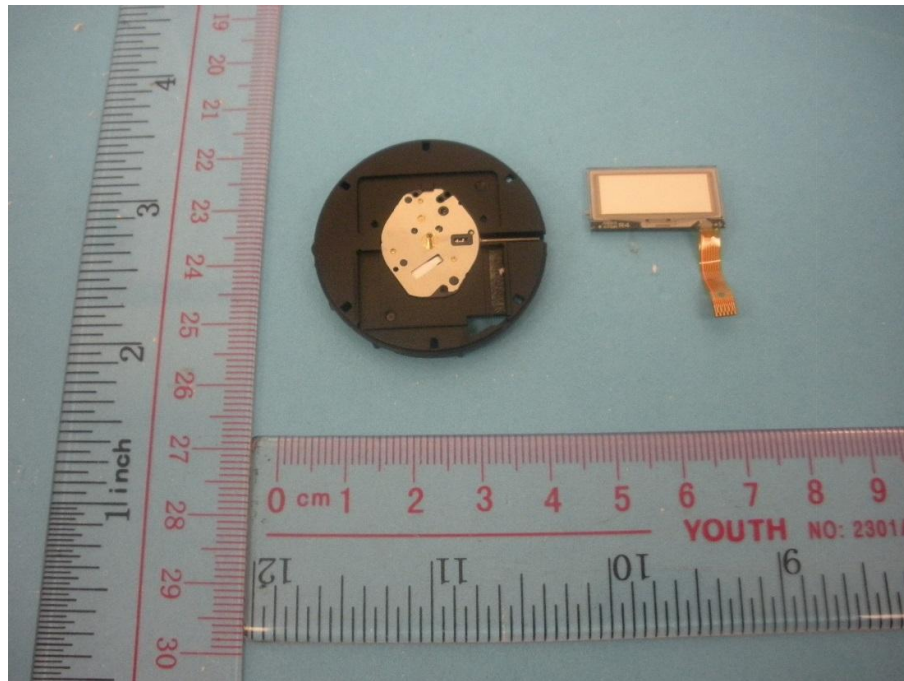
Appendix A



Appendix A

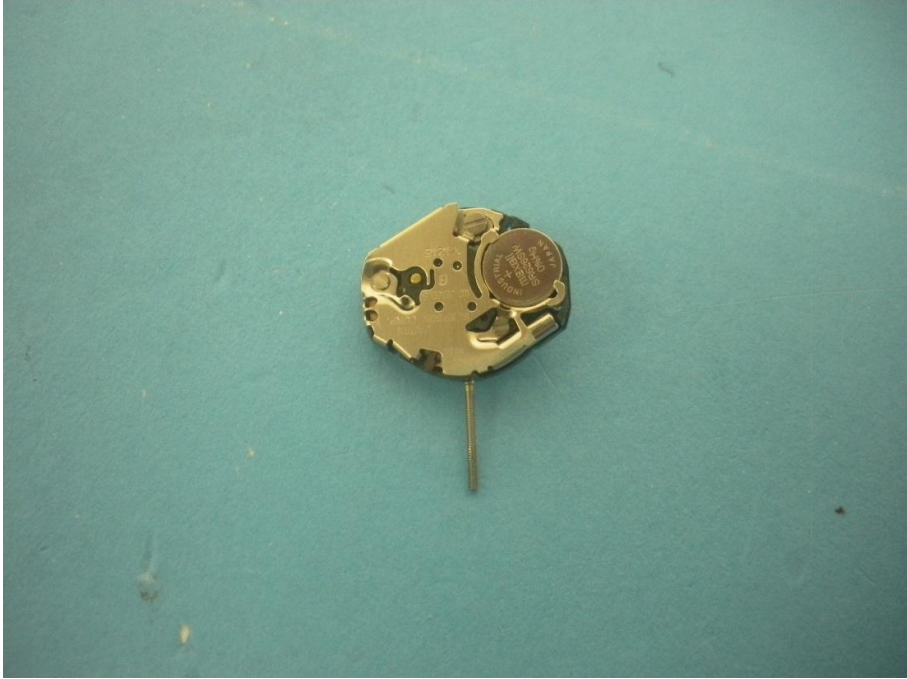


Appendix A

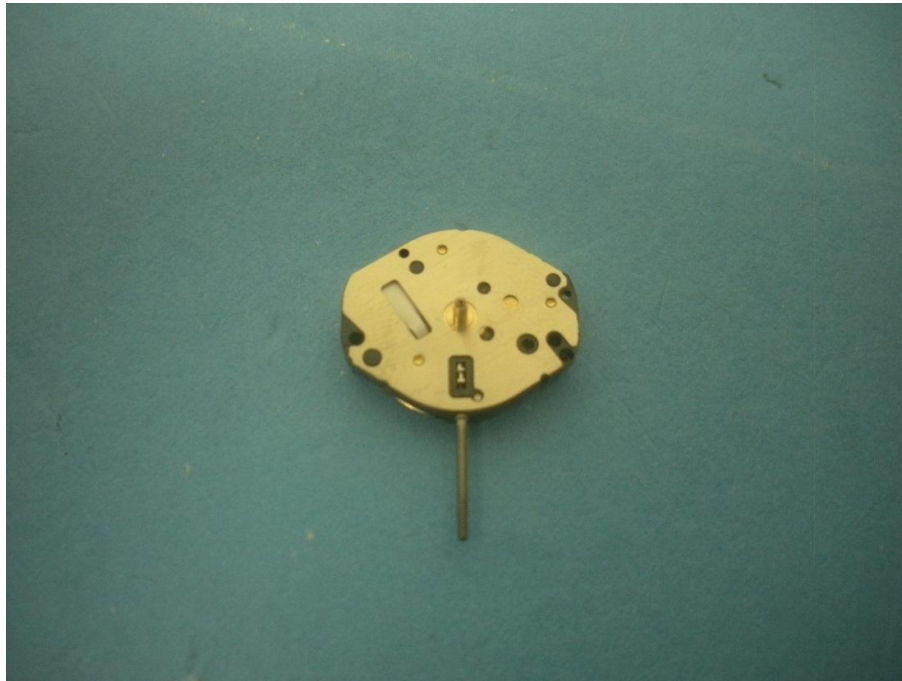




Appendix A



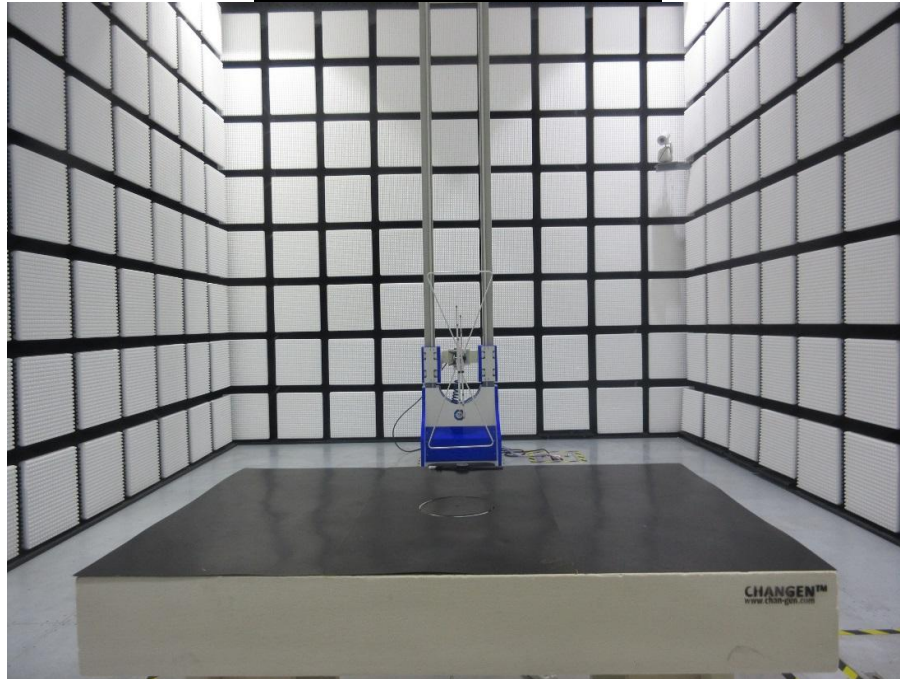
Appendix A





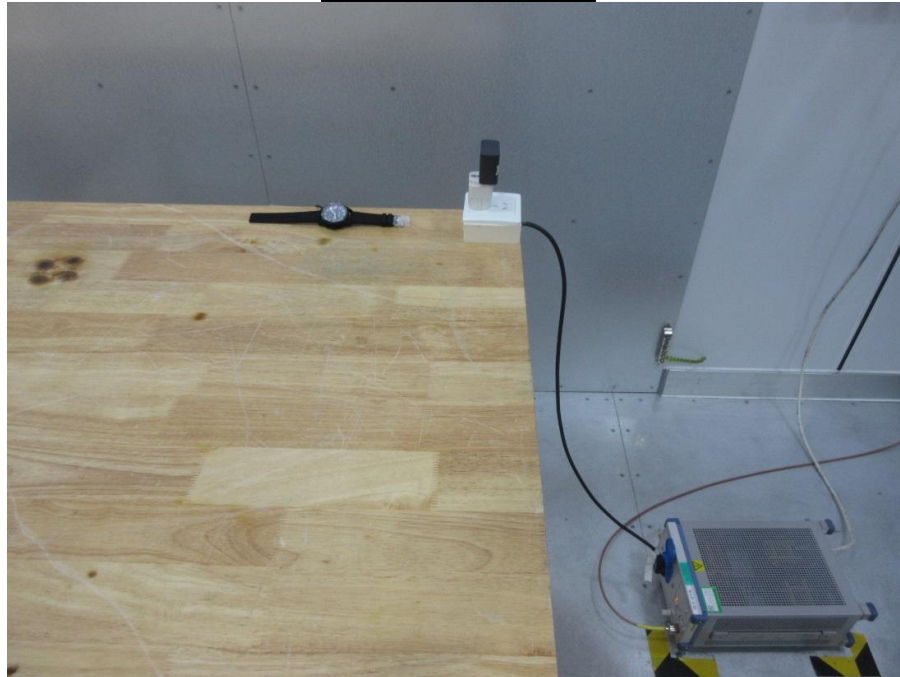
## 9 Appendix B - Setup Photographs of EUT

### Spurious Radiated Emission

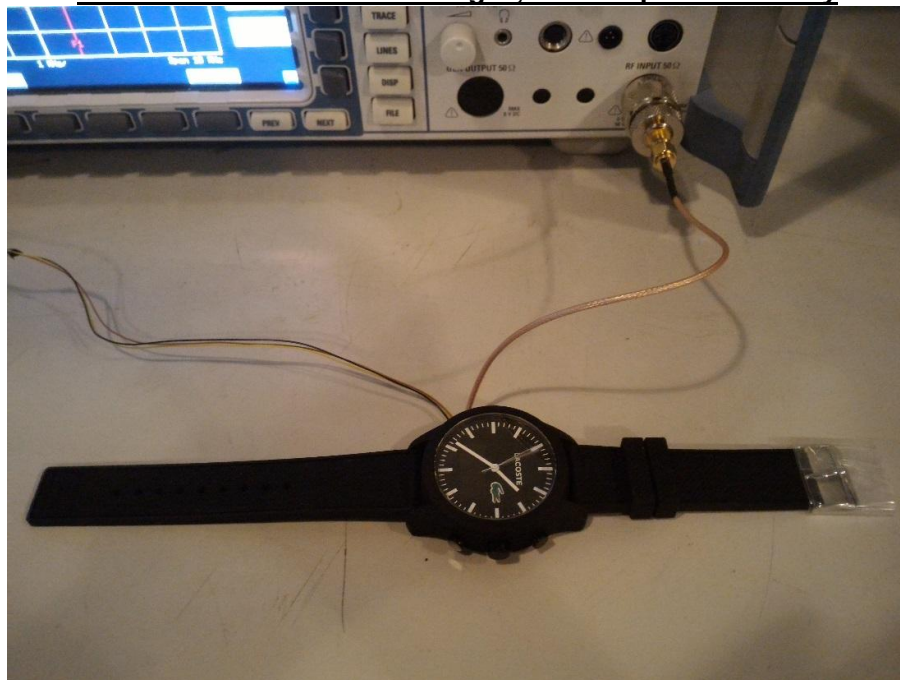


**Appendix B**

**Conducted Emission**



**6dB & 99% Bandwidth, Peak Output Power,  
Spurious Emissions at Antenna Terminals,  
100kHz Bandwidth of band edges, Power Spectral Density**



## 10 Appendix C - General Product Information

### Radiofrequency radiation exposure evaluation

According to KDB 447498 D01v05r02 section 4.3.1,

>> The 1-g SAR test exclusion thresholds, for 100MHz to 6GHz, at test separation distances  $\leq 50$  mm are determined by:

Power at 2402MHz = 0.4169 mW EIRP

Power at 2440MHz = 0.4159 mW EIRP

Power at 2480MHz = 0.4055 mW EIRP

$[(0.4169 \text{ mW}) / (5 \text{ mm})] \cdot [\text{sqrt}(2.402 \text{ GHz})] = 0.1293$  which is  $\leq 3.0$  for 1-g SAR.

$[(0.4159 \text{ mW}) / (5 \text{ mm})] \cdot [\text{sqrt}(2.440 \text{ GHz})] = 0.1299$  which is  $\leq 3.0$  for 1-g SAR.

$[(0.4055 \text{ mW}) / (5 \text{ mm})] \cdot [\text{sqrt}(2.480 \text{ GHz})] = 0.1277$  which is  $\leq 3.0$  for 1-g SAR.

Therefore the device is exempt from stand-alone SAR test requirements.

>> The fundamental frequency of the EUT is 2402MHz-2480MHz, the test separation distance is  $< 50$ mm. (Manufacturer specification distance is  $< 5$ mm)

>> The power of EUT measured is:

- For 2402MHz:  $0.4169\text{mW} = 10 \log(0.4169) \text{ dBm} \sim -3.80\text{dBm}$
- For 2440MHz:  $0.4159\text{mW} = 10 \log(0.4159) \text{ dBm} \sim -3.81\text{dBm}$
- For 2480MHz:  $0.4055\text{mW} = 10 \log(0.4055) \text{ dBm} \sim -3.92\text{dBm}$

## Appendix C

To: TÜV SÜD HKG Ltd.

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Attention: **Mr. Edmond Fung**

From: **Mr. LAP FAI WONG**

Fax No:

Date: August 1, 2016

Total Page (Cover Included): 1

### Declaration Letter

Subject:

We: DAYTON INDUSTRIAL CO., LTD

Officially notify TÜV SÜD HKG Ltd. that the <<Additional Model>> have the same technical construction including circuit diagram, PCB Layout, components and component layout, all electrical construction and mechanical construction, with <<PRODUCT>>, <<Main Test Model>>. The difference lies only in outlook/ color of the different models.

<<Additional Model >>: HSTNW-D09W, DA14900

<<Main Test Model >>: HSTNW-D10W

<<Product>>: BLE SMART WATCH

Applicant:



01<sup>st</sup> August 2016  
(Date)

(Applicant's authorized signature and company Chop)