

FCC - TEST REPORT

Report Number : **60.790.18.050.01R02** Date of Issue : February 20, 2019

Model : **75003PP01**

Product Type : **BLE Smart Watch**

Applicant : **TITAN COMPANY LTD**

Address : **Integrity, #193, Veerasandra, Electronics City P.O., Off Hosur Main Road, Bangalore, India**

Production Facility : **Kendy Electronics (Dongguan) Co. Ltd**

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

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

Total pages including Appendices : 36

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1 Table of Contents

1 Table of Contents.....	2
2 Description of Equipment Under Test	3
3 Summary of Test Standards	4
4 Details about the Test Laboratory	5
4.1 Test Equipment Site List	6
4.2 Measurement System Uncertainty	7
5 Summary of Test Results.....	8
6 General Remarks.....	9
7 Emission Test Results	10
7.1 Spurious Radiated Emission	10
7.2 Conducted Emission at AC Power line.....	14
7.3 Bandedge Emission	16
7.4 6dB & 99% Bandwidth	17
7.5 Peak Output Power.....	20
7.6 Spurious Emissions at Antenna Terminals.....	23
7.7 100kHz Bandwidth of band edges.....	29
7.8 Power Spectral Density.....	31
7.9 Antenna Requirement.....	34
8 Appendix A - General Product Information	35
9 Appendix B - General Product Information	36

2 Description of Equipment Under Test

Description of the Equipment Under Test

Product:	BLE Smart watch
Model no.:	75003PP01
FCC ID:	2AK9F-7500
Rating:	3.8V DC form internal rechargeable battery 5V DC form USB charging cable
Frequency:	2402MHz-2480MHz (Tx and Rx)
Antenna gain:	0 dBi
Number of operated channel:	40
Modulation:	GFSK

Auxiliary Equipment and Software Used during Test:

DESCRIPTION	MANUFACTURER	MODEL NO.	S/N
Adapter	Apple	A1357	/

- Note: 1. Adapter is used as a supporting device for Conducted Emission test.
2. Manufacture pre-installed the test mode firmware, to keep continuous transmitting at wanted channel for RF testing.

3 Summary of Test Standards

Test Standards

FCC Part 15 Subpart C 10-1-17 Edition Federal Communications Commission, PART 15 — Radio Frequency Devices, Subpart C — Unintentional Radiators

All the tests were performed using the procedures from ANSI C63.4(2014) and ANSI C63.10 (2013).

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
FCC Part 15 Subpart C	
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 Bandedge Emission	Site 2
FCC Title 47 Part 15.247(a)(1) 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	2019-7-6
Signal Analyzer	Rohde & Schwarz	FSV40	101031	2019-7-6
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100398	2019-7-6
Trilog Super Broadband Test Antenna	Schwarzbeck	VULB 9163	707	2019-6-28
Horn Antenna	Rohde & Schwarz	HF907	102294	2019-6-28
Wideband Horn Antenna	Q-PAR	QWH-SL-18-40-K-SG	12827	2019-7-12
Pre-amplifier	Rohde & Schwarz	SCU 18	102230	2019-7-6
Pre-amplifier	Rohde & Schwarz	SCU 40A	100432	2019-7-6
Signal Generator	Rohde & Schwarz	SMY01	839369/005	2019-7-6
Attenuator	Agilent	8491A	MY39264334	2019-7-6
3m Semi-anechoic chamber	TDK	9X6X6	----	2020-7-7
Test software	Rohde & Schwarz	EMC32	Version 9.15.00	N/A

Conducted Emission Test – Site 2

DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	CAL. DUE DATE
EMI Test Receiver	Rohde & Schwarz	ESR 3	101782	2019-7-6
LISN	Rohde & Schwarz	ENV4200	100249	2019-7-6
LISN	Rohde & Schwarz	ENV432	101318	2019-7-6
LISN	Rohde & Schwarz	ENV216	100326	2019-7-6
ISN	Rohde & Schwarz	ENY81	100177	2019-7-6
ISN	Rohde & Schwarz	ENY81-CA6	101664	2019-7-6
High Voltage Probe	Rohde & Schwarz	TK9420(VT9420)	9420-584	2019-6-30
RF Current Probe	Rohde & Schwarz	EZ-17	100816	2019-6-30
Attenuator	Shanghai Huaxiang	TS2-26-3	080928189	2019-7-6
Test software	Rohde & Schwarz	EMC32	Version9.15.00	N/A

20dB & 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	2019-7-6
Signal Analyzer	Rohde & Schwarz	FSV40	101030	2019-7-6
Vector Signal Generator	Rohde & Schwarz	SMU 200A	105324	2019-7-6
RF Switch Module	Rohde & Schwarz	OSP120/OSP-B157	101226/100851	2019-7-6

4.2 Measurement System Uncertainty

Measurement System Uncertainty Emissions

System Measurement Uncertainty	
Items	Extended Uncertainty
Uncertainty for Radiated Emission in 3m chamber 9kHz-30MHz	4.46dB
Uncertainty for Radiated Emission in 3m chamber 30MHz-1000MHz	Horizontal: 4.91dB; Vertical: 4.89dB;
Uncertainty for Radiated Emission in 3m chamber 1000MHz-25000MHz	Horizontal: 4.80dB; Vertical: 4.79dB;
Uncertainty for Conducted Emission at AC Power Line 150kHz-30MHz	3.21dB
Uncertainty for frequency test	0.6×10^{-7}

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	10-13	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FCC Title 47 Part 15.207 Conduct Emission (1)	14-15	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FCC Title 47 Part 15.247Bandedge Emission	16	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FCC Title 47 Part 15.247(a)(2) 6dB & 99% Bandwidth	17-19	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FCC Title 47 Part 15.247(b) Peak Output Power	20-22	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FCC Title 47 Part 2.1051 & 15.247(d) Spurious Emissions at Antenna Terminals	23-28	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FCC Title 47 Part 15.247(d) 100kHz Bandwidth of band edges	29-30	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FCC Title 47 Part 15.247(e) Power Spectral Density	31-33	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FCC Title 47 Part 15.203 & 15.247(b) Antenna Requirement	34	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Remark:

1. This test is performed on the AC power port of the assist adaptor which supply the 5V DC power to charge EUT.

6 General Remarks

Remarks

Client informs that the **75501PP01, 75001PP02, 75001PP03, 75002PP01, 75002PP02, 75002PP03, 75002PP04, 75003PP02, 75004PP01, 75004PP02, 75004PP03** has the same technical construction including circuit diagram, PCB Layout, components and component layout, all electrical construction and mechanical construction, with **75003PP01**. The difference lies only with removal of barometer and compass sensor in **75001PPxxx & T75004PPxx** (xx represent variant of color). (Client's conformation letter shown at appendix B)

EMC Tests were performed on model: **75003PP01**.

This submittal(s) (test report) is intended for **2AK9F-7500**, complies with Section 15.203, 15.205, 15.207, 15.209, 15.247 of the FCC Part 15, Subpart C rules for the DTS grant

The TX and RX range is 2402MHz-2480MHz.

SUMMARY:

- All tests according to the regulations cited on page 8 were

■ - Performed

□ - **Not** Performed

- The Equipment Under Test

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

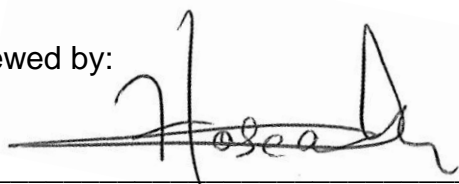
□ - **Does not** fulfill the general approval requirements.

Sample Received Date: October 10, 2018

Testing Start Date: October 12, 2018

Testing End Date: November 12, 2018

Reviewed by:



Hosea CHAN
EMC Project Engineer

Prepared by:



Eric LI
EMC Senior Project Engineer

7 Emission Test Results

7.1 Spurious Radiated Emission

EUT: 75003PP01
 Op Condition: Operated, TX Mode
 (Low channel is the worst case)
 Test Specification: FCC15.205, 15.209 & 15.247(d)
 Comment: 3.8 VDC
 Remark: 9kHz to 1GHz

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

Frequency MHz	Result dB μ V/m	Limit dB μ V/m	Margin dB	Detector PK/QP/AV	Ant. Polarity H/V	Corr. (dB)
55.058333	13.46	40.00	-26.54	Peak	H	-26.0
175.015000	17.89	43.50	-25.61	Peak	H	-29.7
438.855000	19.41	46.00	-26.59	Peak	H	-23.0
871.906111	27.44	46.00	-18.56	Peak	H	-15.8
63.680556	16.14	40.00	-23.86	Peak	V	-29.1
175.015000	13.31	43.50	-30.19	Peak	V	-29.7
436.322222	17.31	46.00	-28.69	Peak	V	-23.1
870.343333	28.89	46.00	-17.11	Peak	V	-15.8

Remark:

- As the measured peak value not exceeded the Quasi peak limit, Quasi peak value no need to be measured.

Spurious Radiated Emission

EUT: 75003PP01
 Op Condition: Operated, TX Mode (2402MHz)
 Test Specification: FCC15.205, 15.209 & 15.247(d)
 Comment: 3.8 VDC
 Remark: 1GHz 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 PK/QP/AV	Ant. Polarity H/V	Corr. (dB)
3508.031250	33.15	54.00	-20.85	Peak	H	-0.3
7599.187500	40.86	54.00	-13.14	Peak	H	9.9
10715.500000	41.36	54.00	-12.64	Peak	H	10.4
4733.093750	35.33	54.00	-18.67	Peak	V	3.5
7545.531250	40.03	54.00	-13.97	Peak	V	10.0
12537.687500	44.69	54.00	-9.31	Peak	V	14.5

Remark:
 1.As the measured peak value not exceeded the average limit, average value no need to be measured.

Spurious Radiated Emission

EUT: 75003PP01
 Op Condition: Operated, TX Mode (2440MHz)
 Test Specification: FCC15.205, 15.209 & 15.247(d)
 Comment: 3.8 VDC
 Remark: 1GHz 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 PK/QP/AV	Ant. Polarity H/V	Corr. (dB)
5060.343750	38.26	54.00	-15.74	Peak	H	4.5
7559.343750	40.80	54.00	-13.20	Peak	H	10.1
13064.687500	44.11	54.00	-9.89	Peak	H	15.0
4877.062500	35.84	54.00	-18.16	Peak	V	3.8
7605.562500	40.64	54.00	-13.36	Peak	V	9.9
12433.562500	44.66	54.00	-9.34	Peak	V	14.3

Remark:

1.As the measured peak value not exceeded the average limit, average value no need to be measured.

Spurious Radiated Emission

EUT: 75003PP01
 Op Condition: Operated, TX Mode (2480MHz)
 Test Specification: FCC15.205, 15.209 & 15.247(d)
 Comment: 3.8 VDC
 Remark: 1GHz to 25GHz

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

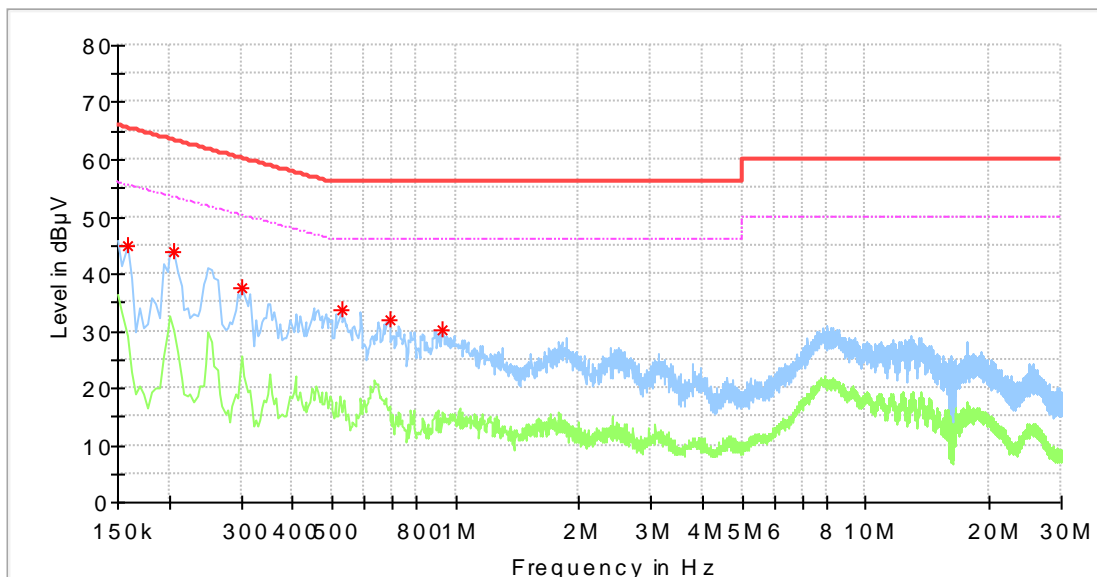
Frequency MHz	Result dBµV/m	Limit dBµV/m	Margin dB	Detector PK/QP/AV	Ant. Polarity H/V	Corr. (dB)
5989.500000	37.68	54.00	-16.32	Peak	H	4.4
7525.343750	41.13	54.00	-12.87	Peak	H	9.7
10527.437500	40.27	54.00	-13.73	Peak	H	9.6
4067.437500	31.45	54.00	-22.55	Peak	V	-1.2
7525.343750	40.40	54.00	-13.60	Peak	V	9.7
12750.718750	43.32	54.00	-10.68	Peak	V	14.6

Remark:
 1.As the measured peak value not exceeded the average limit, average value no need to be measured.

7.2 Conducted Emission at AC Power line

EUT: 75003PP01
 Op Condition: Operated, TX Mode
 Test Specification: FCC15.207
 Comment: 120V AC
 Remark: L Line

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

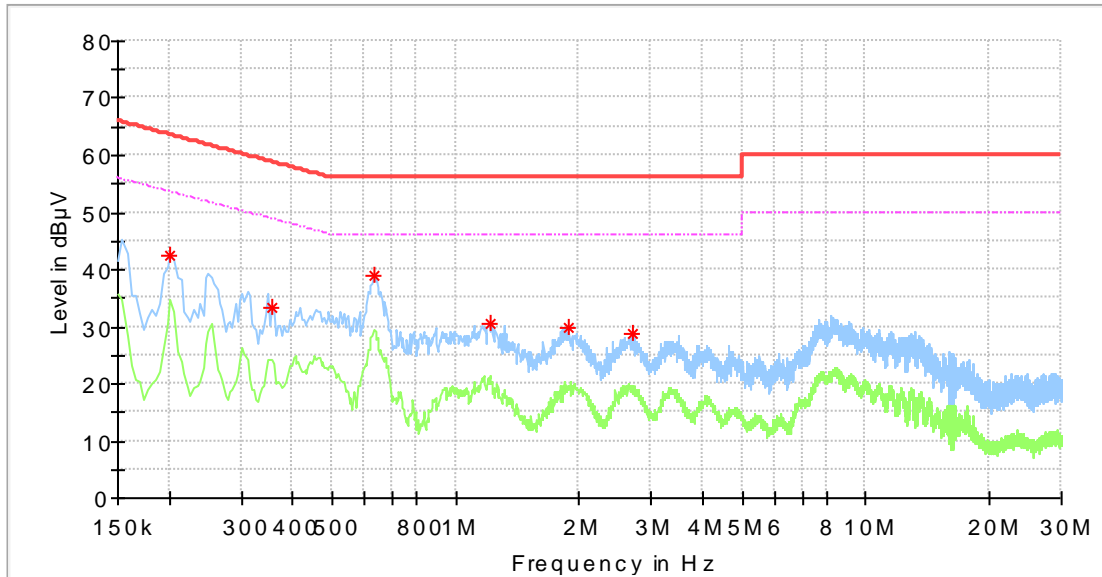


Frequency (MHz)	MaxPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)
0.158000	44.81	---	65.57	-20.76
0.206000	43.84	---	63.37	-19.52
0.302000	37.63	---	60.19	-22.55
0.526000	33.59	---	56.00	-22.41
0.690000	31.89	---	56.00	-24.11
0.930000	30.13	---	56.00	-25.87

Conducted Emission at AC Power line

EUT: 75003PP01
 Op Condition: Operated, TX Mode
 Test Specification: FCC15.207
 Comment: 120V AC
 Remark: N Line

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



Frequency (MHz)	MaxPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)
0.202000	42.62	---	63.53	-20.91
0.358000	33.49	---	58.77	-25.28
0.634000	38.84	---	56.00	-17.16
1.214000	30.62	---	56.00	-25.38
1.882000	29.70	---	56.00	-26.30
2.710000	28.90	---	56.00	-27.10

7.3 Bandedge Emission

EUT: 75003PP01
 Op Condition: Operated, TX Mode (2402 and 2480)
 Test Specification: FCC15.247
 Comment: 3.8 VDC

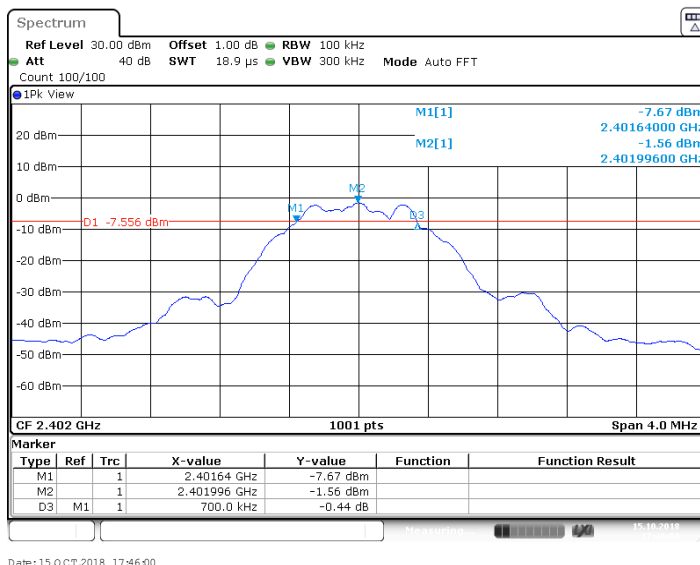
Test Result
<input checked="" type="checkbox"/> Passed
<input type="checkbox"/> Not Passed

Channel	Frequency MHz	Result dB μ V/m	Limit dB μ V/m	Margin dB	Detector PK /AV	Ant. Polarity H/V
2402	2400.00	47.15	74.00	-26.85	Peak	H
2402	2400.00	35.43	54.00	-18.57	Average	H
2402	2400.00	45.89	74.00	-28.11	Peak	V
2402	2400.00	36.11	54.00	-17.89	Average	V
2480	2483.50	43.22	74.00	-30.78	Peak	H
2480	2483.50	31.68	54.00	-22.32	Average	H
2480	2483.50	44.77	74.00	-29.23	Peak	V
2480	2483.50	31.28	54.00	-22.72	Average	V

7.4 6dB & 99% Bandwidth

EUT: 75003PP01
 Op Condition: Operated, TX Mode (2402MHz)
 Test Specification: FCC15.247(a)(2), 6dB Bandwidth & 99% Bandwidth
 Comment: 3.8 VDC

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

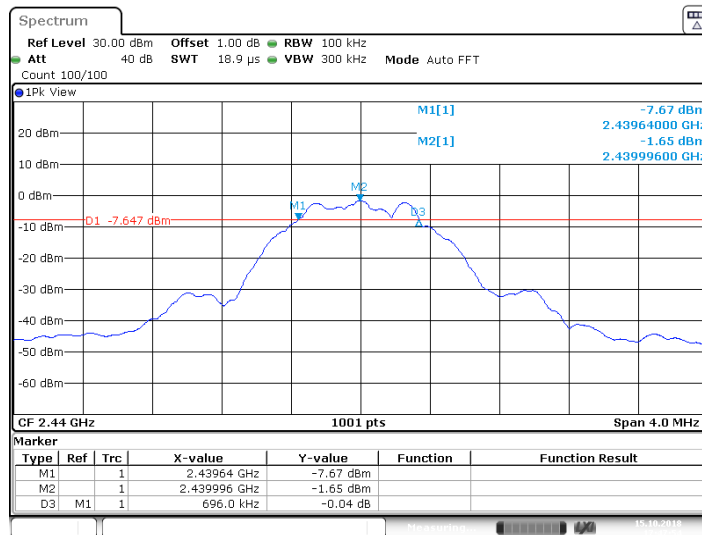


Bandwidth	Measured Value	Limit
6dB bandwidth	0.700 MHz	> 0.5MHz
99% OCB	1.055 MHz	NA

6dB & 99% Bandwidth

EUT: 75003PP01
 Op Condition: Operated, TX Mode (2440MHz)
 Test Specification: FCC15.247(a)(2), 6dB Bandwidth & 99% Bandwidth
 Comment: 3.8 VDC

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



Date: 15 OCT 2018 17:47:54



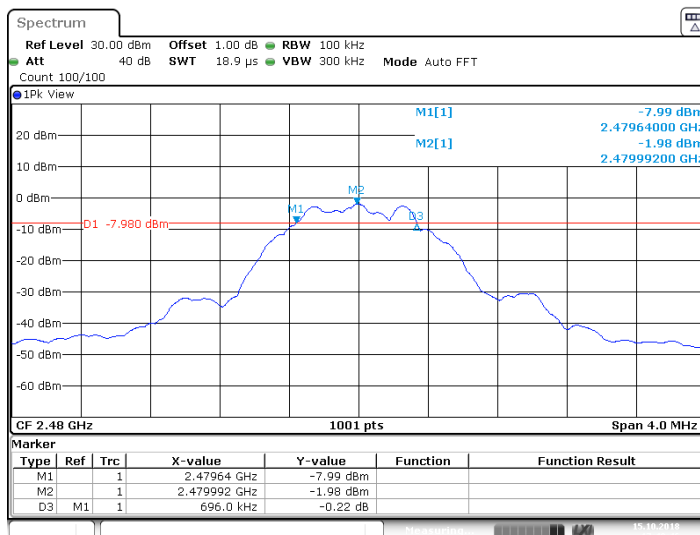
Date: 15 OCT 2018 17:48:05

Bandwidth	Measured Value	Limit
6dB bandwidth	0.696 MHz	> 0.5 MHz
99% OCB	1.055 MHz	NA

6dB & 99% Bandwidth

EUT: 75003PP01
 Op Condition: Operated, TX Mode (2480MHz)
 Test Specification: FCC15.247(a)(2), 6dB Bandwidth & 99% Bandwidth
 Comment: 3.8 VDC

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



Date: 15.0 CT.2018 17:49:46



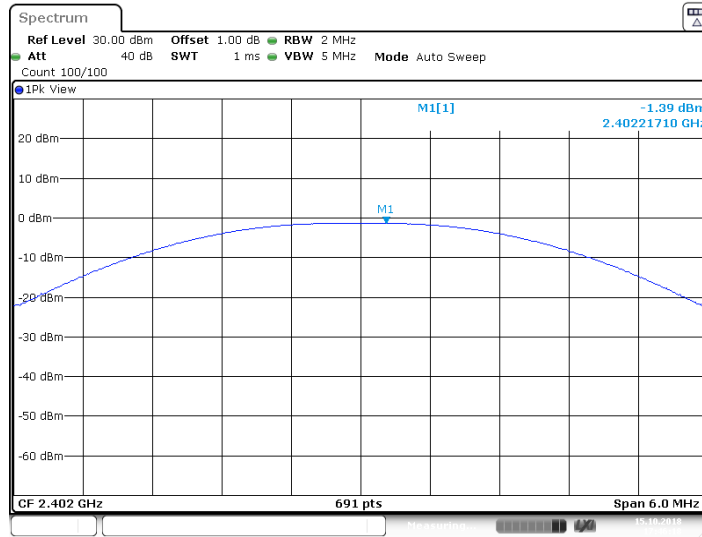
Date: 15.0 CT.2018 17:49:57

Bandwidth	Measured Value	Limit
6dB bandwidth	0.696 MHz	> 0.5 MHz
99% OCB	1.059 MHz	NA

7.5 Peak Output Power

EUT: 75003PP01
 Op Condition: Operated, TX Mode (2402MHz)
 Test Specification: FCC15.247(b)
 Comment: 3.8 VDC

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



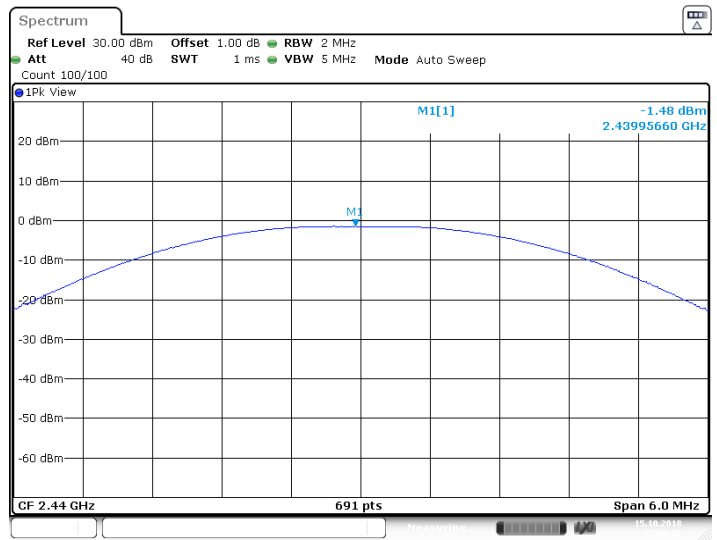
Date: 15 OCT 2018 17:46:18

Conducted Output Power	Limit
-1.39 dBm	< 30 dBm

Peak Output Power

EUT: 75003PP01
 Op Condition: Operated, TX Mode (2440MHz)
 Test Specification: FCC15.247(b)
 Comment: 3.8 VDC

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



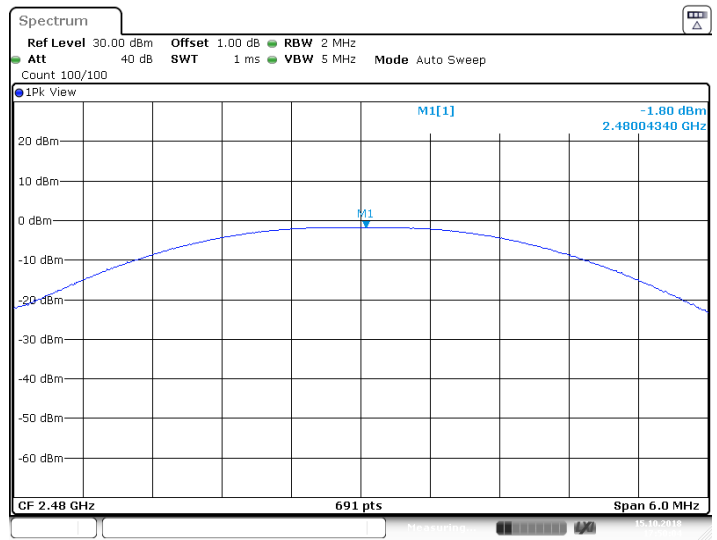
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Conducted Output Power	Limit
-1.48 dBm	< 30dBm

Peak Output Power

EUT: 75003PP01
 Op Condition: Operated, TX Mode (2480MHz)
 Test Specification: FCC15.247(b)
 Comment: 3.8 VDC

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



Date: 15 OCT 2018 17:50:04

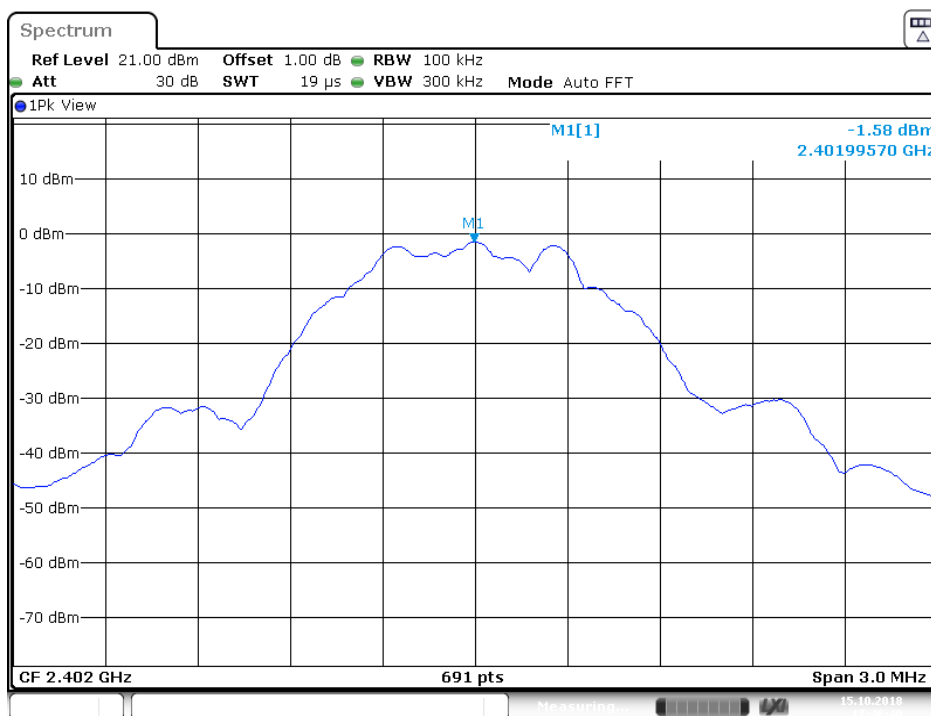
Conducted Output Power	Limit
-1.80 dBm	< 30dBm

7.6 Spurious Emissions at Antenna Terminals

EUT: 75003PP01
 Op Condition: Operated, TX Mode (2402MHz)
 Test Specification: FCC2.1051 & 15.247(d)
 Comment: 3.8 VDC

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

Channel	FreqRange	RefLevel	Result	Limit	Verdict
2402	Reference	-1.58	---	---	PASS
2402	30~1000	-1.58	-68.68	-21.58	PASS
2402	1000~26500	-1.58	-53.31	-21.58	PASS

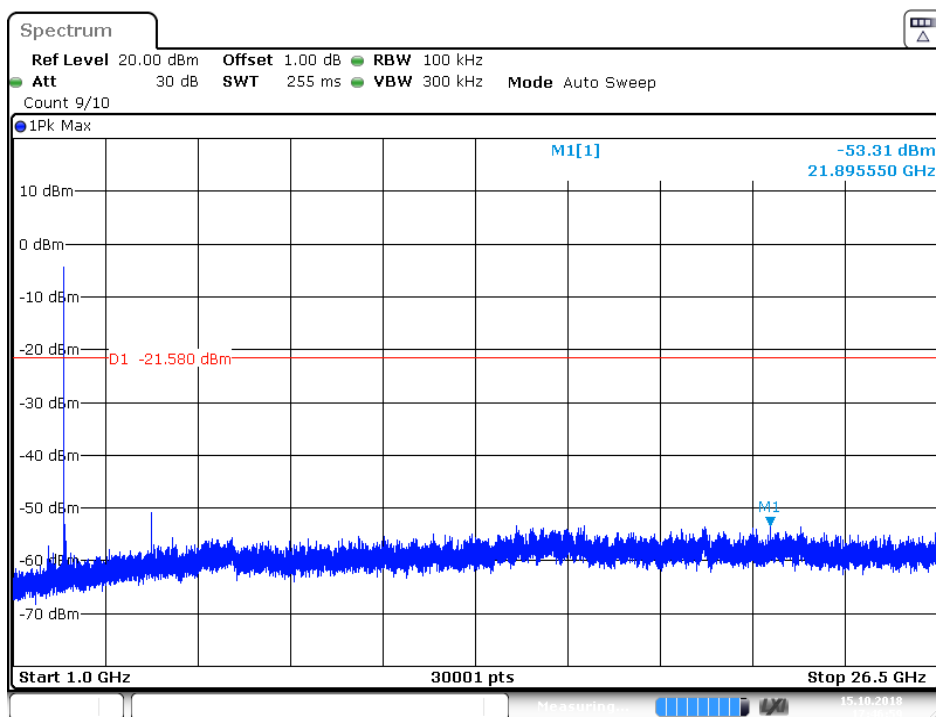
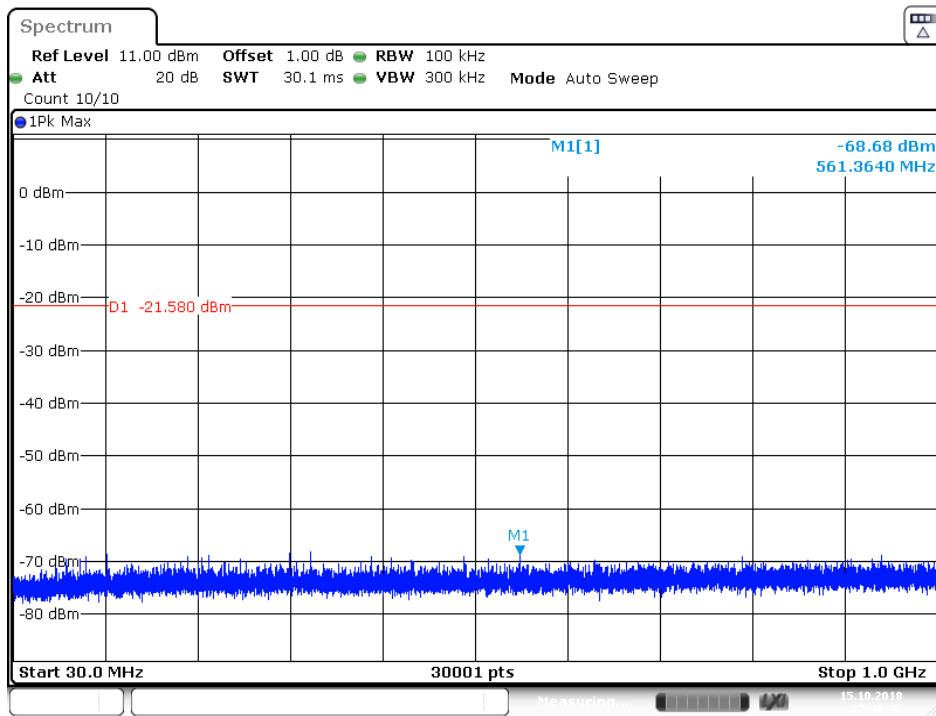


Date: 15.OCT.2018 17:46:40

Spurious Emissions at Antenna Terminals

EUT: 75003PP01
 Op Condition: Operated, TX Mode (2402MHz)
 Test Specification: FCC2.1051 & 15.247(d)
 Comment: 3.8 VDC

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

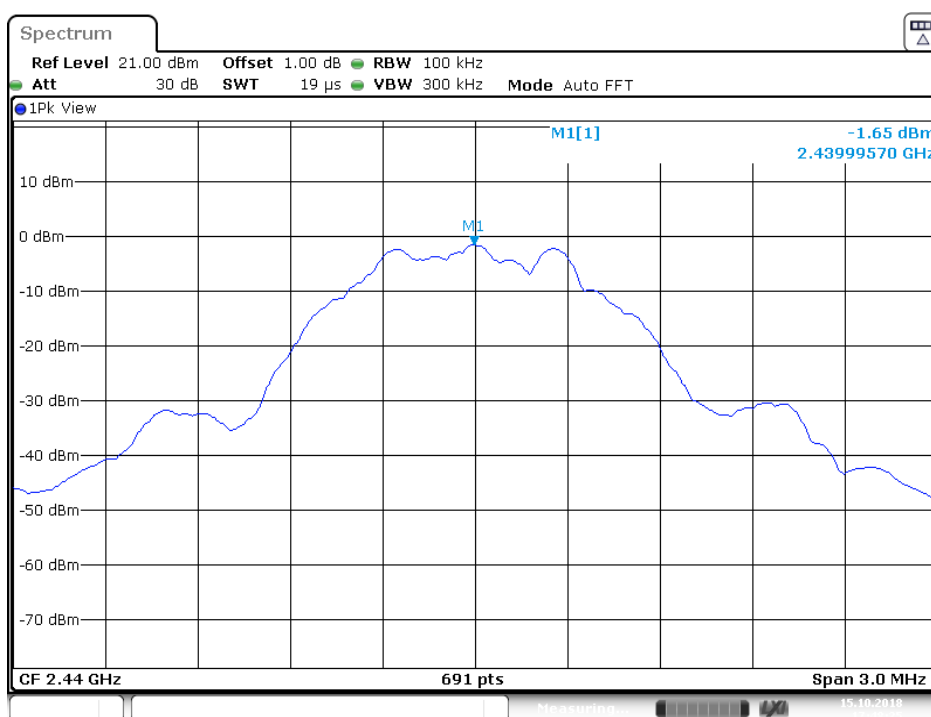


Spurious Emissions at Antenna Terminals

EUT: 75003PP01
 Op Condition: Operated, TX Mode (2440MHz)
 Test Specification: FCC2.1051 & 15.247(d)
 Comment: 3.8 VDC

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

Channel	FreqRange	RefLevel	Result	Limit	Verdict
2440	Reference	-1.65	---	---	PASS
2440	30~1000	-1.65	-68.48	-21.65	PASS
2440	1000~26500	-1.65	-49.95	-21.65	PASS

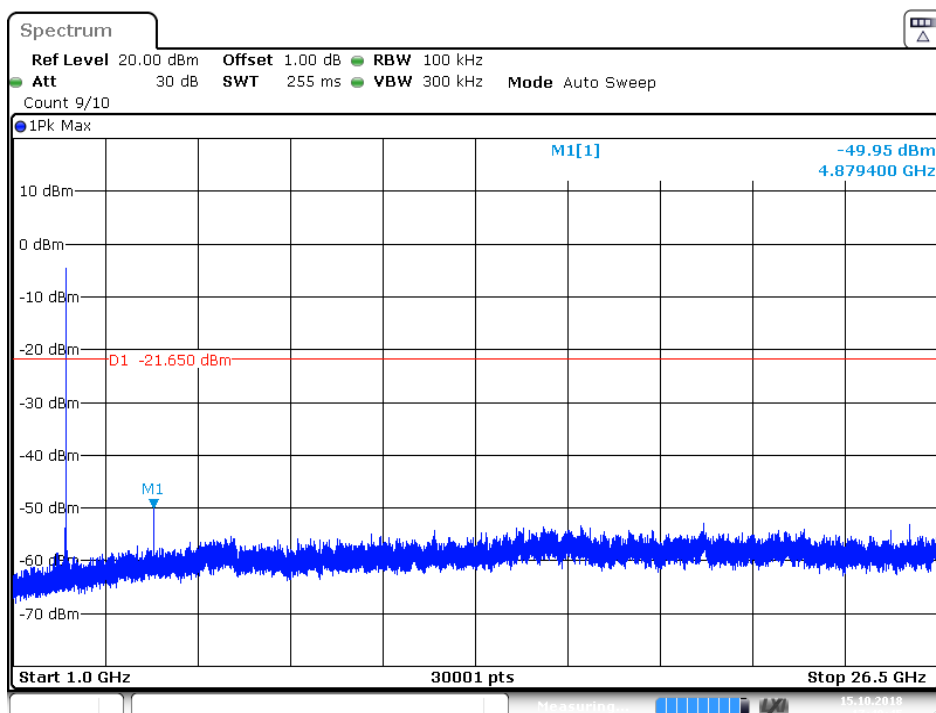
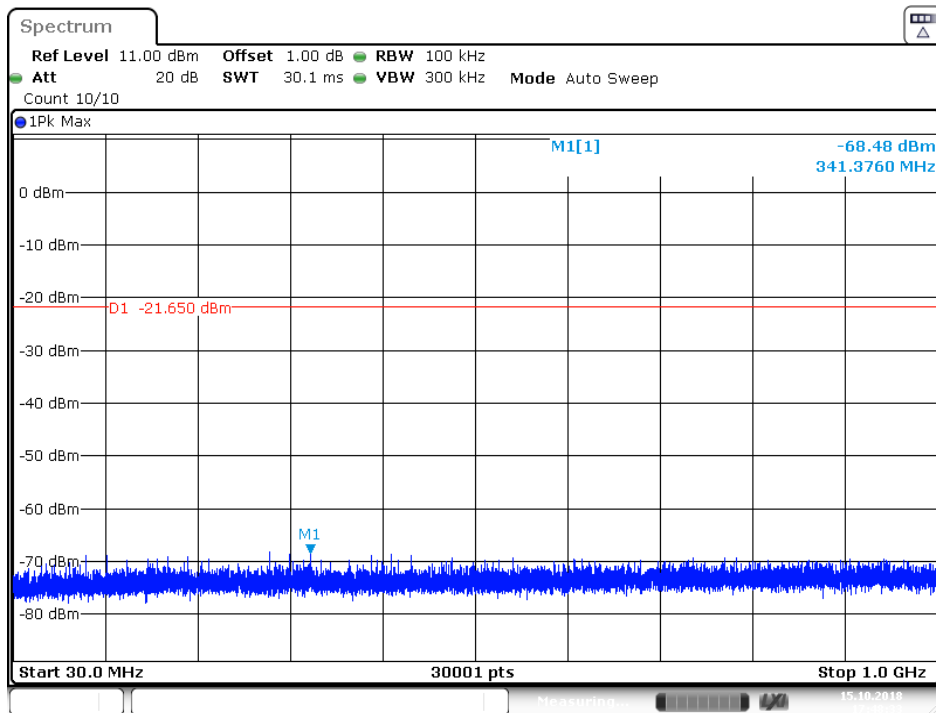


Date: 15 OCT 2018 17:48:25

Spurious Emissions at Antenna Terminals

EUT: 75003PP01
 Op Condition: Operated, TX Mode (2440MHz)
 Test Specification: FCC2.1051 & 15.247(d)
 Comment: 3.8 VDC

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

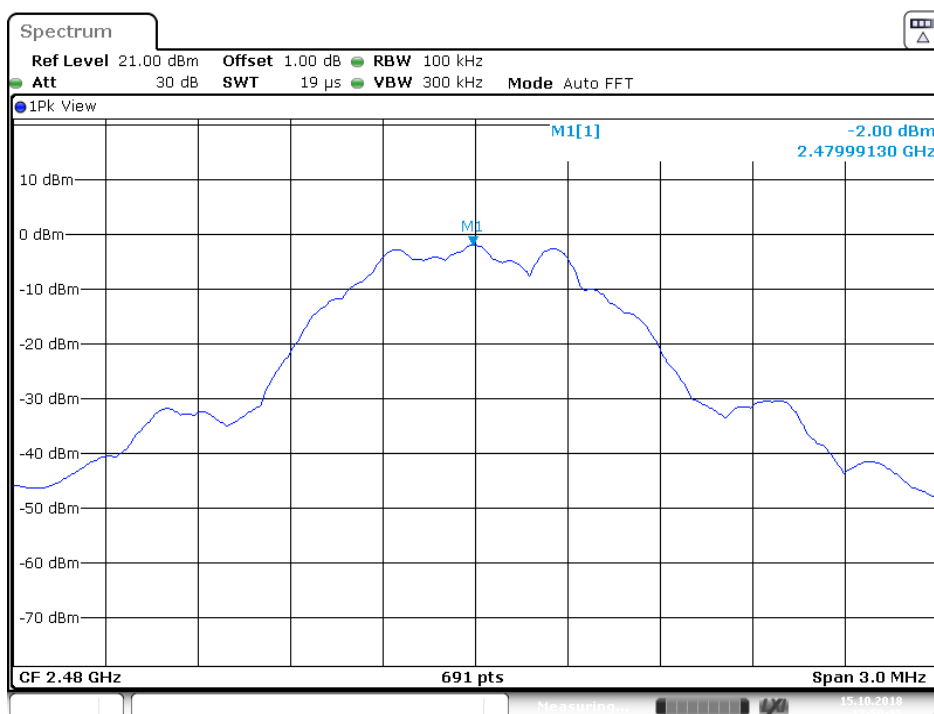


Spurious Emissions at Antenna Terminals

EUT: 75003PP01
 Op Condition: Operated, TX Mode (2480MHz)
 Test Specification: FCC2.1051 & 15.247(d)
 Comment: 3.8 VDC

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

Channel	FreqRange	RefLevel	Result	Limit	Verdict
2480	Reference	-2.00	---	---	PASS
2480	30~1000	-2.00	-68.00	-22.00	PASS
2480	1000~26500	-2.00	-53.18	-22.00	PASS

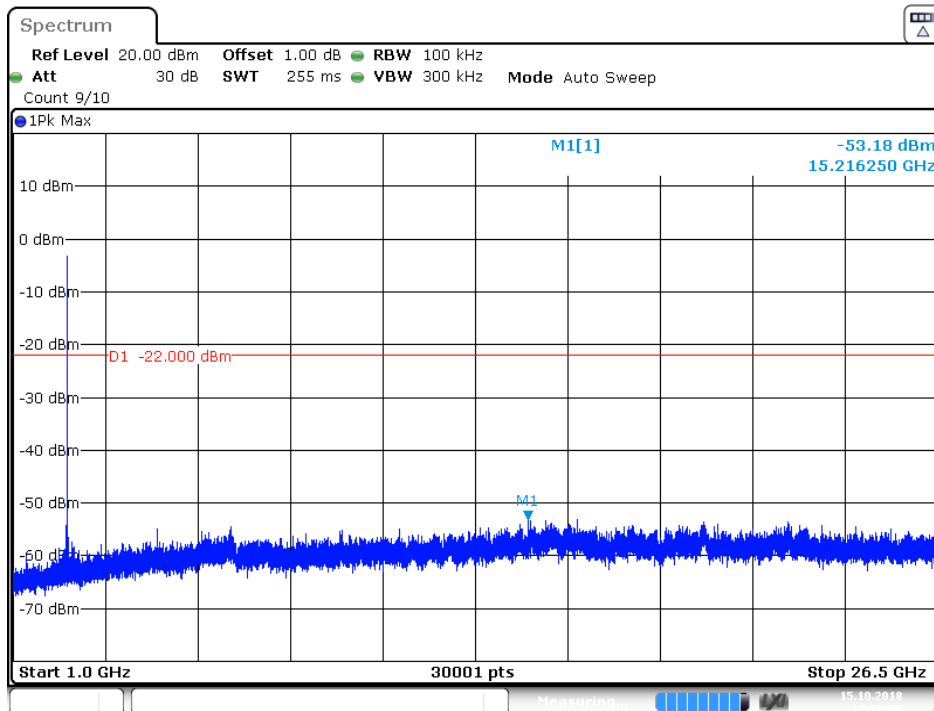
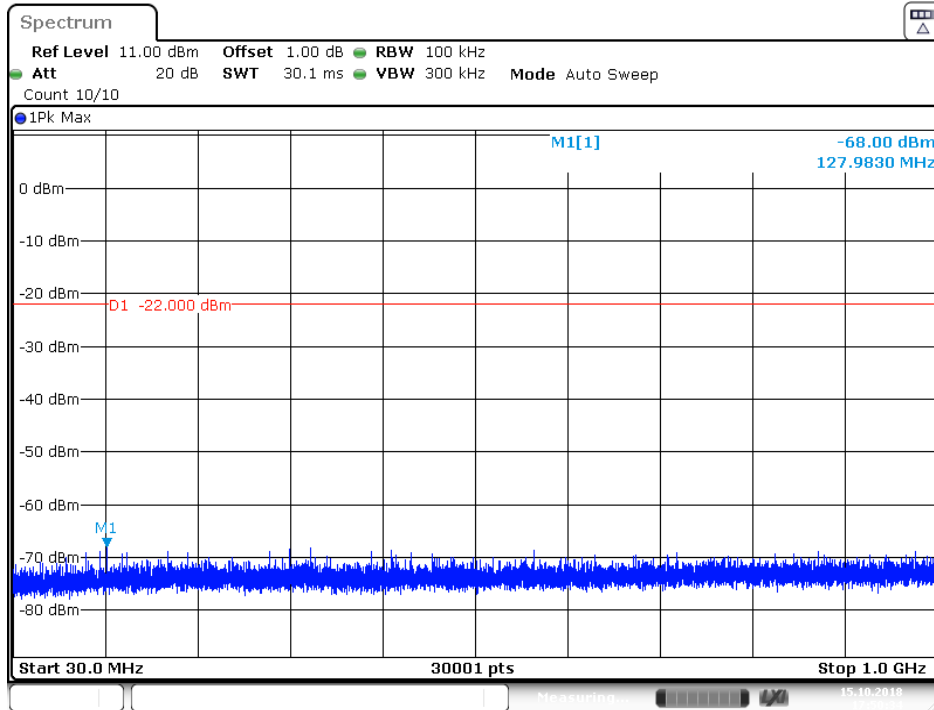


Date: 15.OCT.2018 17:50:26

Spurious Emissions at Antenna Terminals

EUT: 75003PP01
 Op Condition: Operated, TX Mode (2480MHz)
 Test Specification: FCC2.1051 & 15.247(d)
 Comment: 3.8 VDC

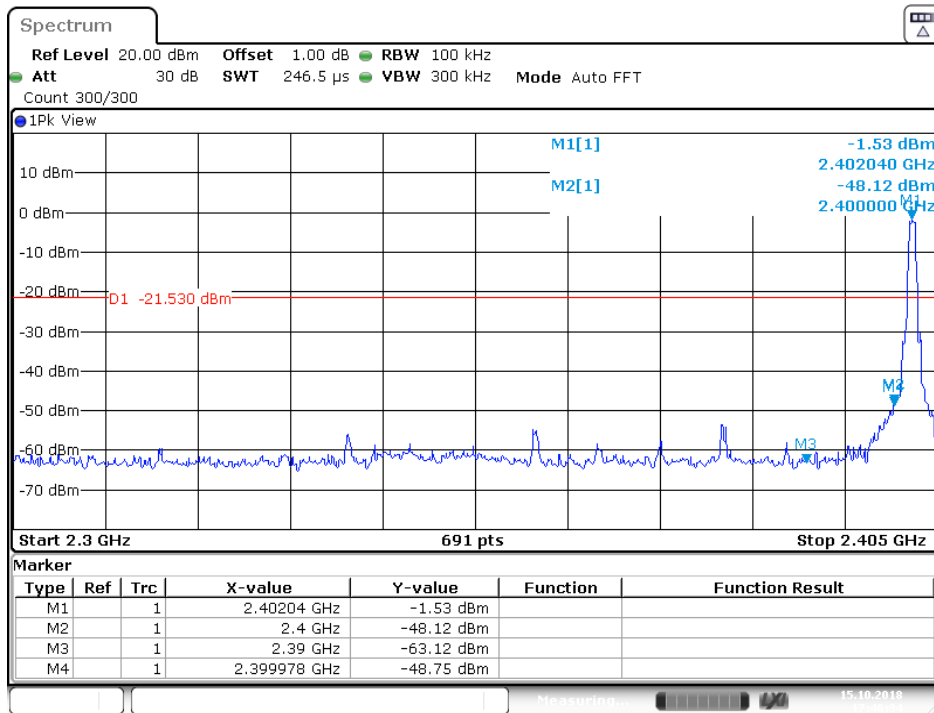
Test Result	
<input checked="" type="checkbox"/>	Passed
<input type="checkbox"/>	Not Passed



7.7 100kHz Bandwidth of band edges

EUT: 75003PP01
 Op Condition: Operated, TX Mode (2402MHz)
 Test Specification: FCC15.247(d), Conducted
 Comment: 3.8 VDC

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



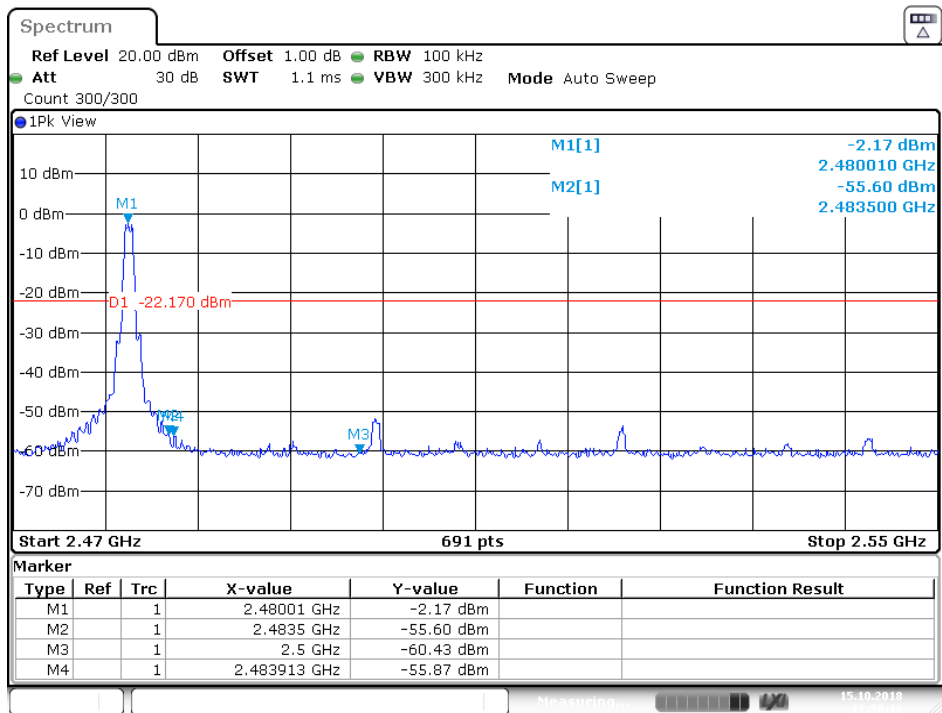
Date: 15.OCT.2018 17:46:34

Band edges	Limit
46.59 dB	> 20dB

100kHz Bandwidth of band edges

EUT: 75003PP01
 Op Condition: Operated, TX Mode (2480MHz)
 Test Specification: FCC15.247(d), Conducted
 Comment: 3.8 VDC

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



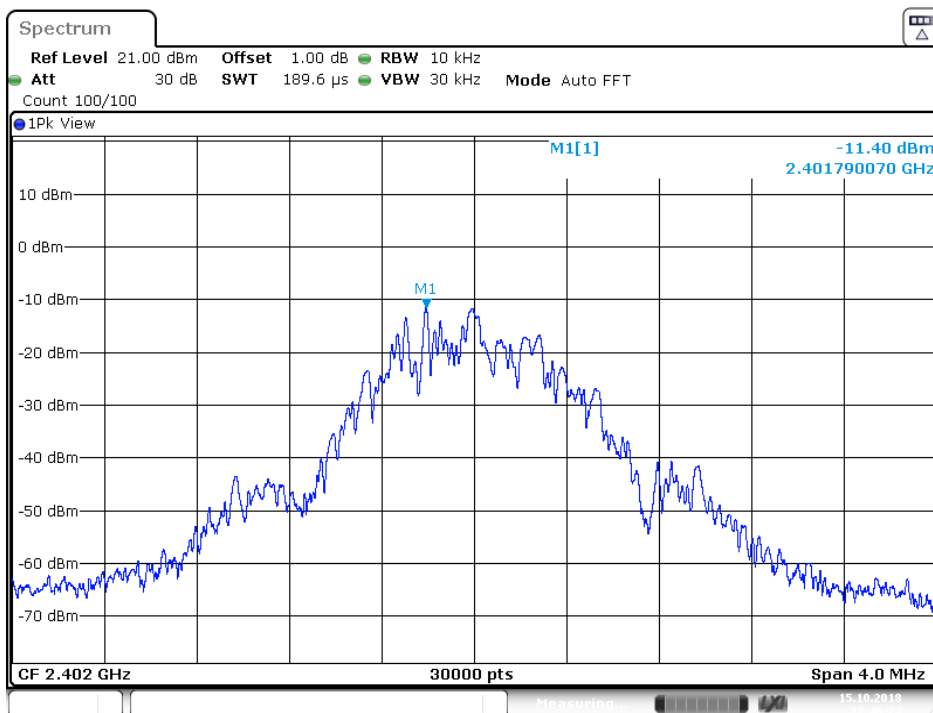
Date: 15.OCT.2018 17:50:20

Band edges	Limit
53.43 dB	> 20dB

7.8 Power Spectral Density

EUT: 75003PP01
 Op Condition: Operated, TX Mode (2402MHz)
 Test Specification: FCC15.247(e)
 Comment: 3.8 VDC

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



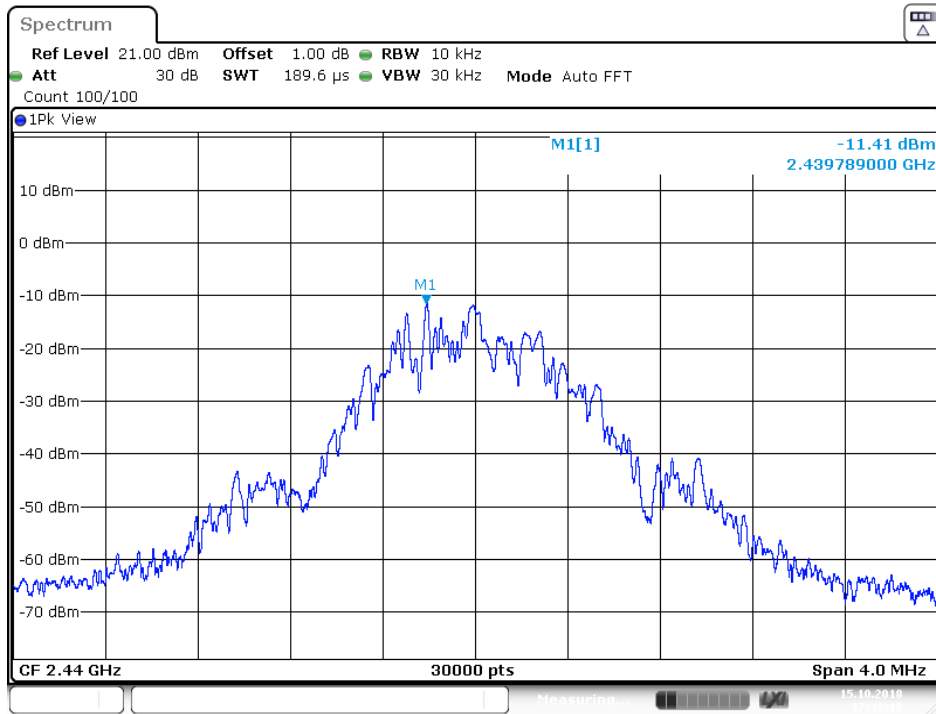
Date: 15.OCT.2018 17:46:24

PSD	Limit
-11.40 dBm	< 8 dBm

Power Spectral Density

EUT: 75003PP01
 Op Condition: Operated, TX Mode (2440MHz)
 Test Specification: FCC15.247(e)
 Comment: 3.8 VDC

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



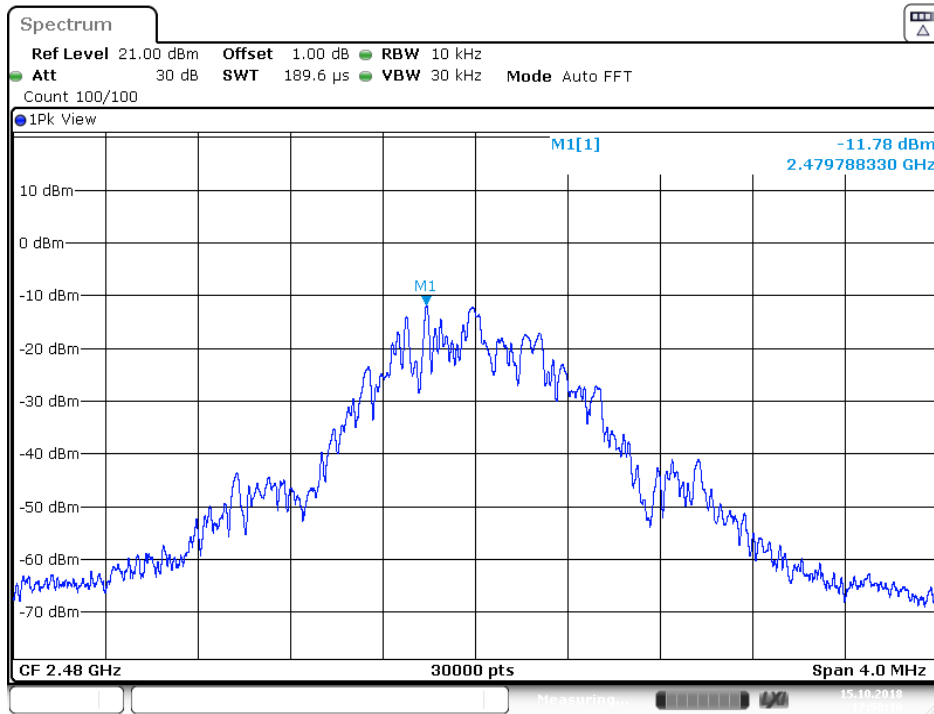
Date: 15.OCT.2018 17:48:18

PSD	Limit
-11.41 dBm	< 8 dBm

Power Spectral Density

EUT: 75003PP01
 Op Condition: Operated, TX Mode (2480MHz)
 Test Specification: FCC15.247(e)
 Comment: 3.8 VDC

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



Date: 15.OCT.2018 17:50:10

PSD	Limit
-11.78 dBm	< 8 dBm

7.9 Antenna Requirement

EUT: 75003PP01
Op Condition: Operated, TX Mode
Test Specification: FCC15.203 & 15.247(b)
Comment: 3.8 VDC

Test Result

Passed

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 integrated antenna on PCB, and the maximum gain of this antenna is 0.0 dBi.

8 Appendix A - General Product Information

Radiofrequency radiation exposure evaluation

According to KDB 447498 D01v06 section 4.3.1, For frequencies between 100 MHz to 6GHz and test separation distances ≤ 50 mm, the Numeric threshold is determined as:

Step a)

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$ for 1-g SAR

>> The fundamental frequency of the EUT is 2402-2480MHz,
the test separation distance is ≤ 50 mm.
(Manufacturer specified the separation distance is: 5mm)

Step a)

>> Numeric threshold (2402MHz), $\text{mW} / 5\text{mm} * \sqrt{2.402\text{GHz}} \leq 3.0$
Numeric threshold (2402MHz) $\leq 9.678\text{mW}$

>> Numeric threshold (2440MHz), $\text{mW} / 5\text{mm} * \sqrt{2.441\text{GHz}} \leq 3.0$
Numeric threshold (2440MHz) $\leq 9.601\text{mW}$

>> Numeric threshold (2480MHz), $\text{mW} / 5\text{mm} * \sqrt{2.480\text{GHz}} \leq 3.0$
Numeric threshold (2480MHz) $\leq 9.525\text{mW}$

>> The power of EUT measured (2402MHz) is: $-1.39\text{dBm} = 0.726\text{mW}$
The power of EUT measured (2440MHz) is: $-1.48\text{dBm} = 0.711\text{mW}$
The power of EUT measured (2480MHz) is: $-1.80\text{dBm} = 0.661\text{mW}$

Which is smaller than the Numeric threshold.

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

9 Appendix B - General Product Information



To: TÜV SÜD HKG Ltd.

Attention: Mr. Edmond Fung

From: L.F. Wong

Date: February 14, 2019

Total Page (Cover Included): 1

Fax No:

Declaration Letter

Subject: Declaration Letter for Model Number

We:

Officially notify TÜV SÜD HKG Ltd. that the
<<75001PP01>>, <<75001PP02>>, <<75001PP03>>,
<<75002PP01>>, <<75002PP02>>, <<75002PP03>>,<<75002PP04>>,
<<75003PP02>>,
<<75004PP01>>, <<75004PP02>>, <<75004PP03>>,
have the same technical construction including circuit diagram, PCB Layout, and component layout,
all electrical construction and mechanical construction, with <<75003PP01>>,
The difference lies only with removal of barometer and compass sensor in 75001PPxx &
75004PPxx (xx represent variant of color).

<<Additional Model >>: 75001PP01, 75001PP02, 75001PP03;
75002PP01, 75002PP02, 75002PP03; 75002PP04
75003PP02;
75004PP01, 75004PP02, 75004PP03

<<Main Test Model >>: 75003PP01

<<Product>>: BLE Smart Watch

Applicant: Titan Company Ltd.

14/2/19
(Date)

(Applicant's authorized signature and company Chop)



Titan Company Limited

'INTEGRITY' No.193, Veerasandra, Electronics City P.O Off Hosur Main Road, Bengaluru - 560 100 India, Tel : 91 80 - 67047000, Fax : 91 80 - 67046262
Registered Office No. 3, SIPCOT Industrial Complex Hosur 635 126 TN India, Tel 91 4344 664 199, Fax 91 4344 276037, CIN: L74999TZ1984PLC001456

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Page 1 of 1

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