



Co-location Report

FCC ID: HD5-HONST60Q
IC: 1693B-HONST60Q
APPLICANT: Honeywell International Inc
Honeywell Safety and Productivity Solutions

Application Type: Class II Permissive Change
Product: Wi-Fi module
Model No.: HON-ST60Q
Brand Name: Honeywell
Test Date: August 22, 2019

Reviewed By:

Jame Yuan

(Jame Yuan)

Approved By:

Robin Wu

(Robin Wu)



The test results relate only to the samples tested.

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.4-2013. Test results reported herein relate only to the item(s) tested.

The test report shall not be reproduced except in full without the written approval of MRT Technology (Suzhou) Co., Ltd.

Revision History

Report No.	Version	Description	Issue Date	Note
1905RSU028-U7	Rev. 01	Initial Report	08-26-2019	Valid

1. PRODUCT INFORMATION

Product Name	Wi-Fi module
Model No.	HON-ST60Q
Brand Name	Honeywell
Wi-Fi Specification	802.11a/b/g/n/ac
Antenna Type	Dipole Antenna
Antenna Gain	2.44dBi for 2.4GHz and 5GHz
Host Information	
Product Name	Printer
Model No.	PX940
FCC ID	HD5-PX900A
IC	1693B-PX900A

2. Radiated Emissions for Co-located

2.1. Test Limit

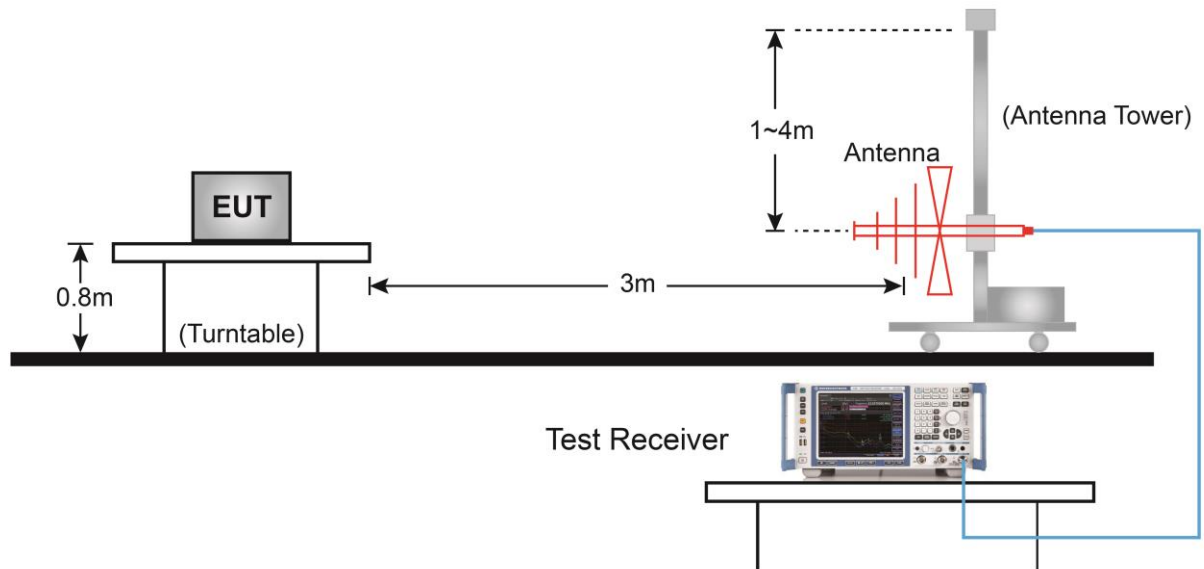
FCC Part15.209:

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Table per Section 15.209.

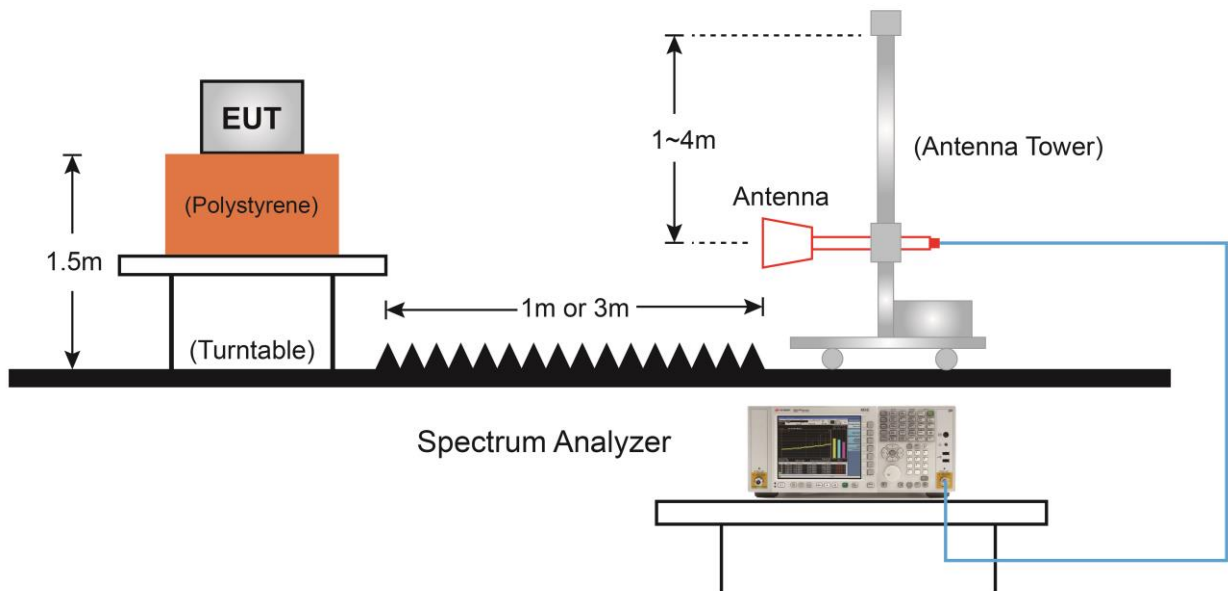
FCC Part 15 Subpart C Paragraph 15.209 / RSS-Gen Issue 5 Section 8.9		
Frequency (MHz)	Field Strength (μ V/m)	Measured Distance (m)
0.009 - 0.490	2400/F (kHz)	300
0.490 - 1.705	24000/F (kHz)	30
1.705 - 30	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

2.2. Test Setup

Below 1GHz Test Setup:

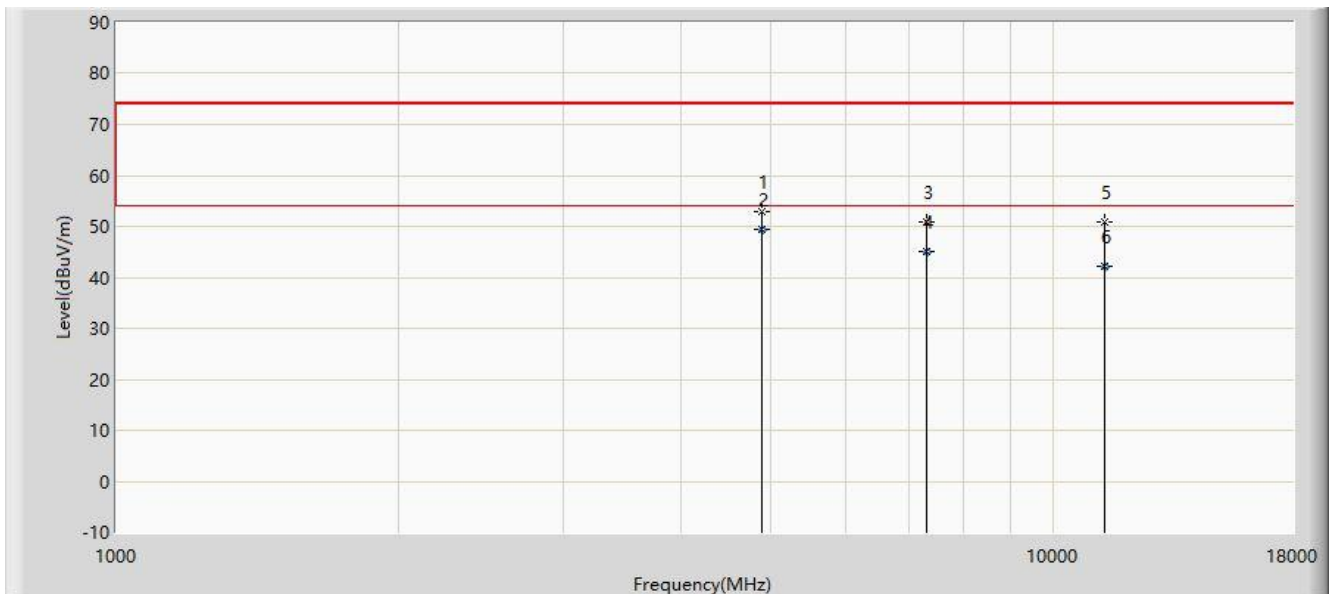


Above 1GHz Test Setup:



2.3. Test Result of Radiated Emissions for Co-located

Test Mode	Transmit by 2.4G Wi-Fi & BLE	Test Site	AC1
Test Engineer	Messiah Li	Polarity	Horizontal
Remark	There is the ambient noise within frequency range 9kHz~1GHz and 18GHz~40GHz, the permissible value is not show in the report.		



No	Mark	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Type
1		4880.000	47.115	5.685	52.800	74.000	-21.200	PK
2	*	4880.000	43.600	5.685	49.285	54.000	-4.715	AV
3		7320.000	39.200	11.669	50.870	74.000	-23.130	PK
4		7320.000	33.400	11.669	45.070	54.000	-8.930	AV
5		11353.000	33.262	17.604	50.866	74.000	-23.134	PK
6		11353.000	24.500	17.604	42.104	54.000	-11.896	AV

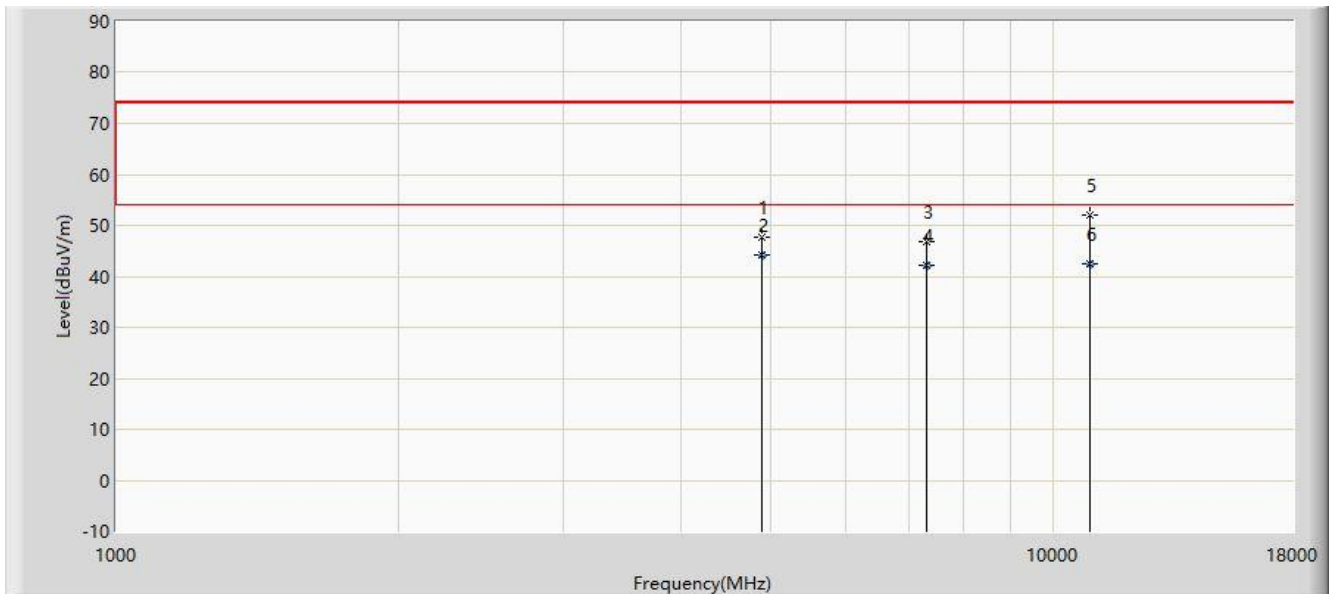
Note 1: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Note 2: We selected the worst-case mode of radiated spurious emissions in the DTS report and BLE report.

Test Mode: Transmit by 802.11b at channel 2437MHz & Transmit by BLE at channel 2440MHz

Test Mode	Transmit by 2.4G Wi-Fi & BLE	Test Site	AC1
Test Engineer	Messiah Li	Polarity	Vertical
Remark	There is the ambient noise within frequency range 9kHz~1GHz and 18GHz~40GHz, the permissible value is not show in the report.		



No	Mark	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Type
1		4880.000	42.100	5.685	47.785	74.000	-26.215	PK
2	*	4880.000	38.600	5.685	44.285	54.000	-9.715	AV
3		7320.000	35.000	11.669	46.670	74.000	-27.330	PK
4		7320.000	30.400	11.669	42.070	54.000	-11.930	AV
5		10928.000	33.985	17.956	51.941	74.000	-22.059	PK
6		10928.000	24.600	17.956	42.556	54.000	-11.444	AV

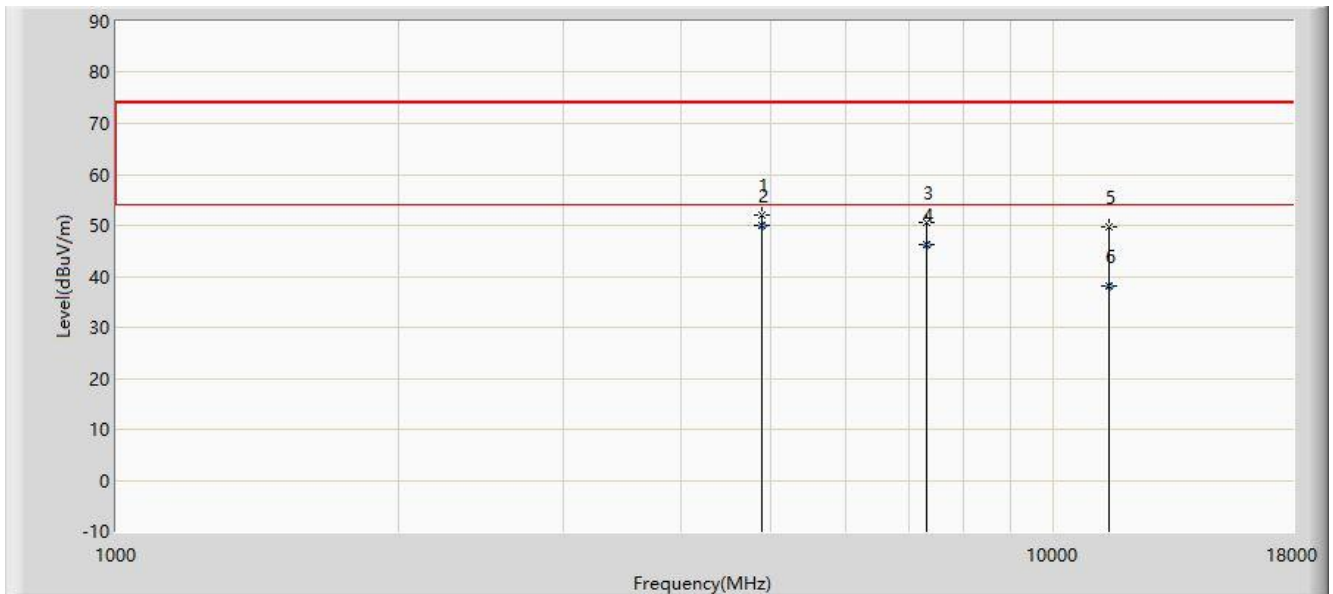
Note 1: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Note 2: We selected the worst-case mode of radiated spurious emissions in the DTS report and BLE report.

Test Mode: Transmit by 802.11b at channel 2437MHz & Transmit by BLE at channel 2440MHz

Test Mode	Transmit by 5G Wi-Fi & BLE	Test Site	AC1
Test Engineer	Messiah Li	Polarity	Horizontal
Remark	There is the ambient noise within frequency range 9kHz~1GHz and 18GHz~40GHz, the permissible value is not show in the report.		



No	Mark	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Type
1		4880.000	46.400	5.685	52.085	74.000	-21.915	PK
2	*	4880.000	44.200	5.685	49.885	54.000	-4.115	AV
3		7320.000	38.800	11.669	50.470	74.000	-23.530	PK
4		7320.000	34.700	11.669	46.370	54.000	-7.630	AV
5		11472.000	31.787	17.784	49.571	74.000	-24.429	PK
6		11472.000	20.300	17.784	38.084	54.000	-15.916	AV

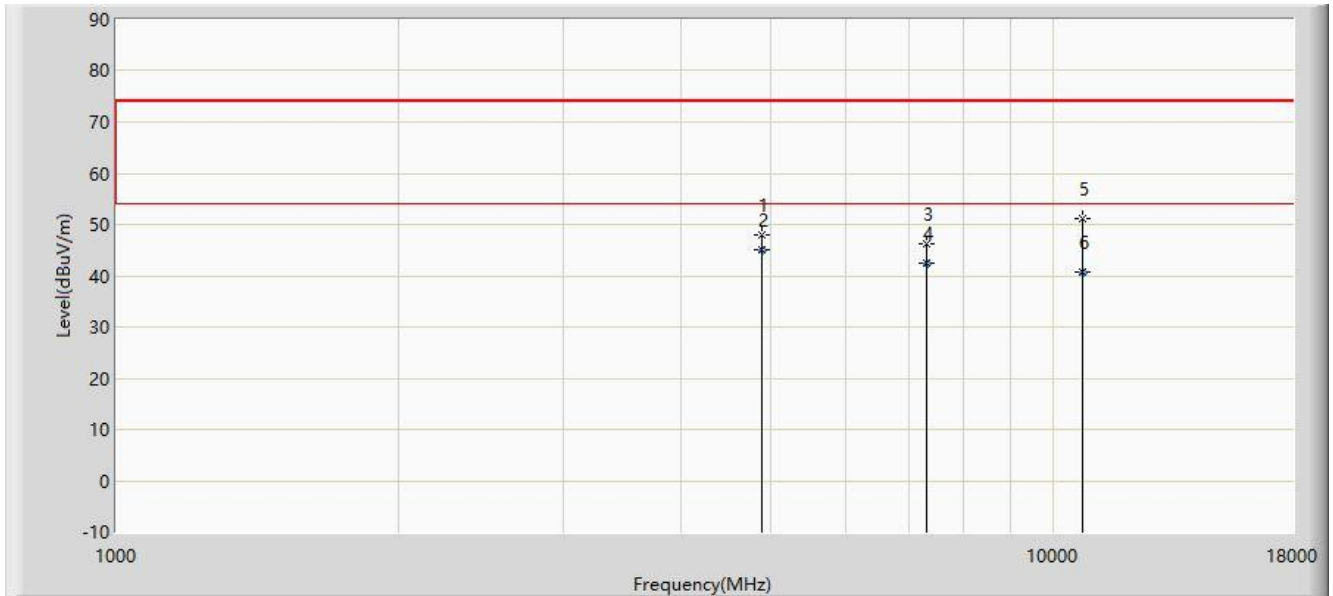
Note 1: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Note 2: We selected the worst-case mode of radiated spurious emissions in the UNII report and BLE report.

Test Mode: Transmit by 802.11a at channel 5180MHz & Transmit by BLE at channel 2440MHz

Test Mode	Transmit by 5G Wi-Fi & BLE	Test Site	AC1
Test Engineer	Messiah Li	Polarity	Vertical
Remark	There is the ambient noise within frequency range 9kHz~1GHz and 18GHz~40GHz, the permissible value is not show in the report.		



No	Mark	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Type
1		4880.000	42.400	5.685	48.085	74.000	-25.915	PK
2	*	4880.000	39.400	5.685	45.085	54.000	-8.915	AV
3		7320.000	34.600	11.669	46.270	74.000	-27.730	PK
4		7320.000	30.700	11.669	42.370	54.000	-11.630	AV
5		10724.000	33.955	17.253	51.208	74.000	-22.792	PK
6		10724.000	23.500	17.253	40.753	54.000	-13.247	AV

Note 1: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

Note 2: We selected the worst-case mode of radiated spurious emissions in the UNII report and BLE report.

Test Mode: Transmit by 802.11a at channel 5180MHz & Transmit by BLE at channel 2440MHz

The End

Appendix A - Test Setup Photograph

Refer to “1905RSU028-UT” file.