

FCC Co-location Test Report

Contain FCC ID : XHM-AP6255D42
Equipment : Module 802.11 a/b/g/n/ac+Bluetooth 4.2
Brand Name : Flytech
Model Name : AP6255
Applicant : FLYTECH TECHNOLOGY CO., Ltd.
No. 168, Sing-Ai Rd., Neihu District
11494, Taipei City, Taiwan
Manufacturer : FLYTECH TECHNOLOGY CO., Ltd.
No. 168, Sing-Ai Rd., Neihu District
11494, Taipei City, Taiwan
Standard : 47 CFR FCC Part 15

The product was received on Mar. 29, 2021, and testing was started from Mar. 30, 2021 and completed on Mar. 31, 2021. We, SPORTON INTERNATIONAL INC. Hsinhua Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. Hsinhua Laboratory, the test report shall not be reproduced except in full.



Approved by: Allen Lin

SPORTON INTERNATIONAL INC. Hsinhua Laboratory

No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan (R.O.C.)



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APPENDIX A. TEST RESULTS OF RADIATED EMISSION CO-LOCATION



History of this test report

Report No.	Version	Description	Issued Date
FR132212CO	01	Initial issue of report	Apr. 23, 2021



Summary of Test Result

Report Clause	Ref. Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.1	15.247(d)	Emissions in Restricted Frequency Bands	PASS	-

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and explanations:

None

Reviewed by: Sam Tsai

Report Producer: Jenny Yang



1.1 EUT Information

Type of EUT	
<input type="checkbox"/>	Stand-alone
<input checked="" type="checkbox"/>	Combined (EUT where the radio part is fully integrated within another device)
	Combined Equipment - Brand Name / Model No.: Mobile PC –Touch Dynamic / Quest VIII
<input type="checkbox"/>	Plug-in radio (EUT intended for a variety of host systems)
	Host System - Brand Name / Model No.: ...
<input type="checkbox"/>	Other:

1.2 Testing Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ 47 CFR FCC Part 15
- ♦ ANSI C63.10-2013

1.3 Testing Location Information

Test Lab. : Sporton International Inc. Hsinhua Laboratory				
<input type="checkbox"/>	Hsinhua (TAF: 3785)	ADD: No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan (R.O.C.)		
		TEL: 886-3-327-3456	FAX: 886-3-327-0973	
Test site Designation No. TW3785 with FCC.				
<input checked="" type="checkbox"/>	Wen 33rd.St. (TAF: 3785)	ADD: No.14-1, Ln. 19, Wen 33rd St., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.)		
		TEL: 886-3-318-0787	FAX: 886-3-318-0287	
Test site Designation No. TW0008 with FCC.				
Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
Radiated	03CH09-HY	Daniel Hsu	22.6~24.3°C / 55~62%	30/Mar/2021~31/Mar/2021

1.4 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2))




Test Items	Uncertainty	Remark
Radiated Emission (1GHz ~ 18GHz)	3.6 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	3.5 dB	Confidence levels of 95%
Temperature	0.41 °C	Confidence levels of 95%
Humidity	3.4 %	Confidence levels of 95%

2 Test Configuration of EUT

2.1 Test Condition

RF Conducted	Abbreviation	Remark
TnomVnom	Tnom	20°C
-	Vnom	120V

2.2 The Worst Case Measurement Configuration

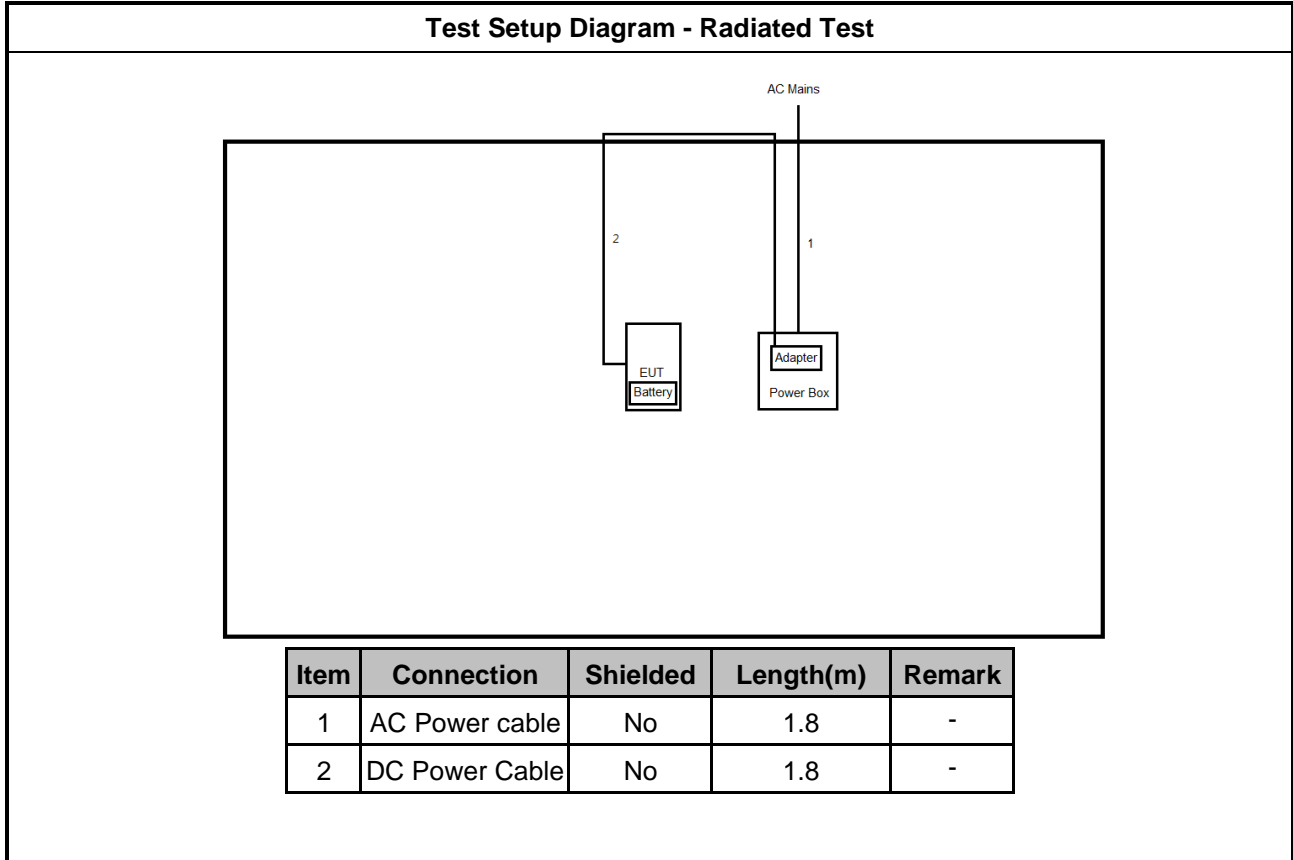
The Worst Case Mode for Following Conformance Tests			
Tests Item	Emissions in Restricted Frequency Bands		
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.		
Operating Mode	Normal link		
1	Adapter Mode ; WLAN 2.4G+Bluetooth		
2	Adapter Mode ; WLAN 5G+Bluetooth		
Orthogonal Planes of EUT	X Plane	Y Plane	Z Plane
			
Worst Planes of EUT		V	

2.3 Accessories

Accessories				
AC Adapter	Brand Name	Asian Power Devices	Model Name	WA-36A12R
	Power Rating	I/P: 100- 240Vac, 0.9A, O/P: 12Vdc, 3 A		
	Power Cord	1.8 meter, Non-Shielded cable, w/o ferrite core		
Battery(1)	Brand Name	SMP	Model Name	BA750000
	Power Rating	3.85 Vdc, 7454 mAh, 28.69 Wh	Type	Li-ion
Battery(2)	Brand Name	Formosa	Model Name	HL502430
	Power Rating	3.7 Vdc, 300 mAh, 1.11 Wh	Type	Li-ion
LCD Panel	Brand Name	Interchangeable	Model Name	Interchangeable
MSR	Brand Name	Flytech	Model Name	P-2M301
Mini Smart Card2	Brand Name	Flytech	Model Name	P-2M302
VP3300	Brand Name	Flytech	Model Name	P-2M303
Augusta	Brand Name	Flytech	Model Name	P-2M305

Reminder: Regarding to more detail and other information, please refer to user manual.

2.4 Test Setup Diagram





3 Co-location Test Result

3.1 Emissions in Restricted Frequency Bands

3.1.1 Emissions in Restricted Frequency Bands Limit

Restricted Band Emissions Limit			
Frequency Range (MHz)	Field Strength (uV/m)	Field Strength (dBuV/m)	Measure Distance (m)
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300
0.490~1.705	24000/F(kHz)	33.8 - 23	30
1.705~30.0	30	29	30
30~88	100	40	3
88~216	150	43.5	3
216~960	200	46	3
Above 960	500	54	3

Note 1: Test distance for frequencies at or above 30 MHz, measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).

Note 2: Test distance for frequencies at below 30 MHz, measurements may be performed at a distance closer than the EUT limit distance; however, an attempt should be made to avoid making measurements in the near field. When performing measurements below 30 MHz at a closer distance than the limit distance, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two or more distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade). The test report shall specify the extrapolation method used to determine compliance of the EUT.

Note 3: Using the distance of 1m during the test for above 18 GHz, and the test value to correct for the distance factor at 3m.

3.1.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.



4 Test Equipment and Calibration Data

Instrument for Radiated Test

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH09-HY	1GHz~18GHz 3m	18/Mar/2021	17/Mar/2022
EXA Signal Analyzer	KEYSIGHT	N9010A	MY54200885	10Hz~44GHz	11/Aug/2020	10/Aug/2021
Microwave Preamplifier	Agilent	8449B	3008A02096	1GHz~26.5GHz	24/Jul/2020	23/Jul/2021
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA9120 D 1534	1GHz~18GHz	28/May/2020	27/May/2021
RF CABLE 5m+3m+1m	HUBER+SUHNER	SUCOFLEX104	SN MY25918/4+ SN MY39478/4 + SN 324530/4	1GHz~40GHz	15/Aug/2020	14/Aug/2021
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA 9170221	15GHz~40GHz	11/Mar/2021	10/Mar/2022
Preamplifier	MITEQ	TTA1840-35-H G	1864481	18GHz~40GHz	18/Mar/2021	17/Mar/2022



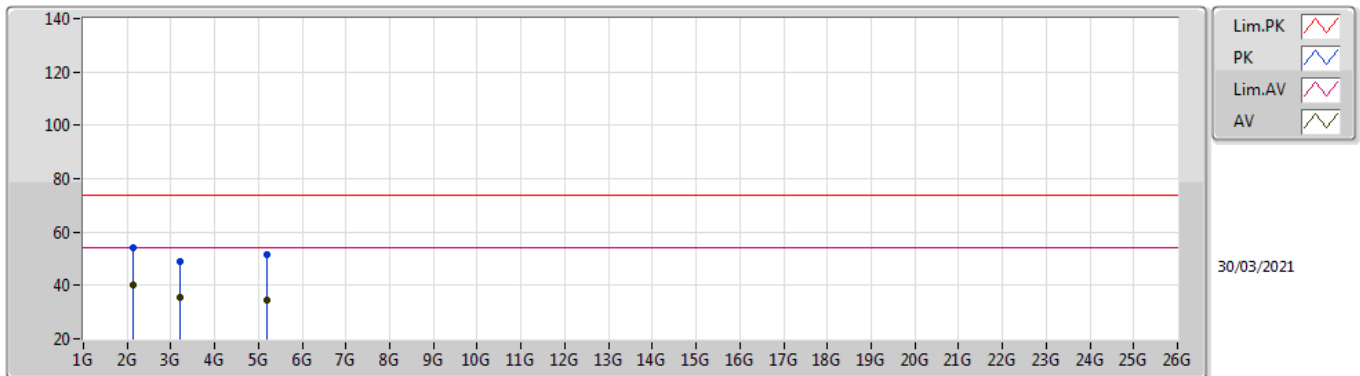
Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 1	Pass	AV	2.13007G	39.98	54.00	-14.02	Vertical
Mode 2	Pass	AV	2.19G	41.90	54.00	-12.10	Vertical

Mode Configure

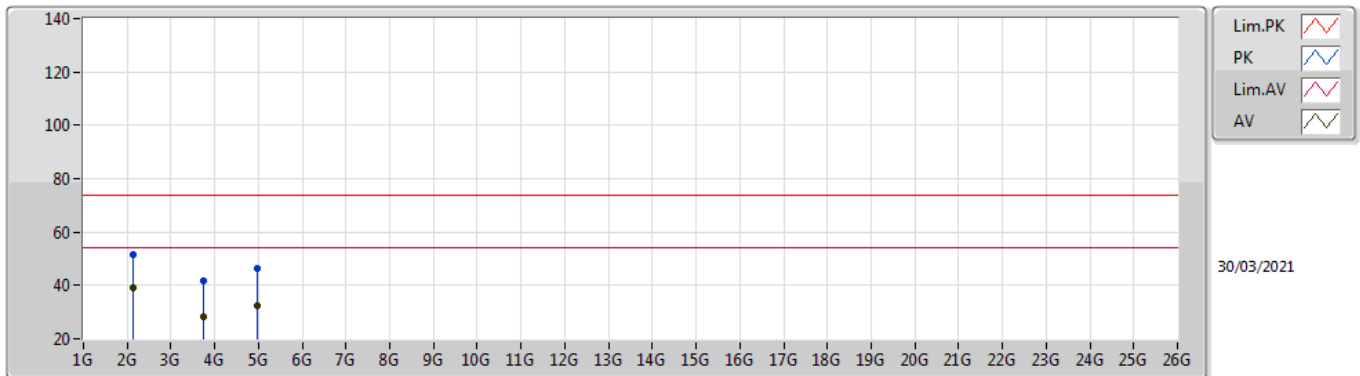
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
Mode 1	Pass	AV	2.13007G	39.98	54.00	-14.02	3	Vertical	237	2.04	-
Mode 1	Pass	AV	3.2G	35.67	54.00	-18.33	3	Vertical	127	1.02	-
Mode 1	Pass	AV	5.2G	34.52	54.00	-19.48	3	Vertical	185	2.07	-
Mode 1	Pass	PK	2.13007G	54.31	74.00	-19.69	3	Vertical	237	2.04	-
Mode 1	Pass	PK	3.2G	48.71	74.00	-25.29	3	Vertical	127	1.02	-
Mode 1	Pass	PK	5.2G	51.74	74.00	-22.26	3	Vertical	185	2.07	-
Mode 1	Pass	AV	2.12796G	39.07	54.00	-14.93	3	Horizontal	317	1.87	-
Mode 1	Pass	AV	3.73G	28.46	54.00	-25.54	3	Horizontal	231	2.37	-
Mode 1	Pass	AV	4.96G	32.63	54.00	-21.37	3	Horizontal	106	1.01	-
Mode 1	Pass	PK	2.12796G	51.51	74.00	-22.49	3	Horizontal	317	1.87	-
Mode 1	Pass	PK	3.73G	41.93	74.00	-32.07	3	Horizontal	231	2.37	-
Mode 1	Pass	PK	4.96G	46.50	74.00	-27.50	3	Horizontal	106	1.01	-
Mode 2	Pass	AV	2.19G	41.90	54.00	-12.10	3	Vertical	247	1.12	-
Mode 2	Pass	AV	3.59G	28.51	54.00	-25.49	3	Vertical	248	1.15	-
Mode 2	Pass	AV	5.35G	31.29	54.00	-22.71	3	Vertical	19	1.99	-
Mode 2	Pass	PK	2.19G	53.40	74.00	-20.60	3	Vertical	247	1.12	-
Mode 2	Pass	PK	3.59G	42.59	74.00	-31.41	3	Vertical	248	1.15	-
Mode 2	Pass	PK	5.35G	48.97	74.00	-25.03	3	Vertical	19	1.99	-
Mode 2	Pass	AV	2.1281G	38.95	54.00	-15.05	3	Horizontal	315	1.55	-
Mode 2	Pass	AV	3.58G	28.06	54.00	-25.94	3	Horizontal	3	2.14	-
Mode 2	Pass	AV	5.04G	30.89	54.00	-23.11	3	Horizontal	99	2.26	-
Mode 2	Pass	PK	2.1281G	52.67	74.00	-21.33	3	Horizontal	315	1.55	-
Mode 2	Pass	PK	3.58G	42.21	74.00	-31.79	3	Horizontal	3	2.14	-
Mode 2	Pass	PK	5.04G	44.56	74.00	-29.44	3	Horizontal	99	2.26	-

Radiated Emissions above 1GHz_Mode 1



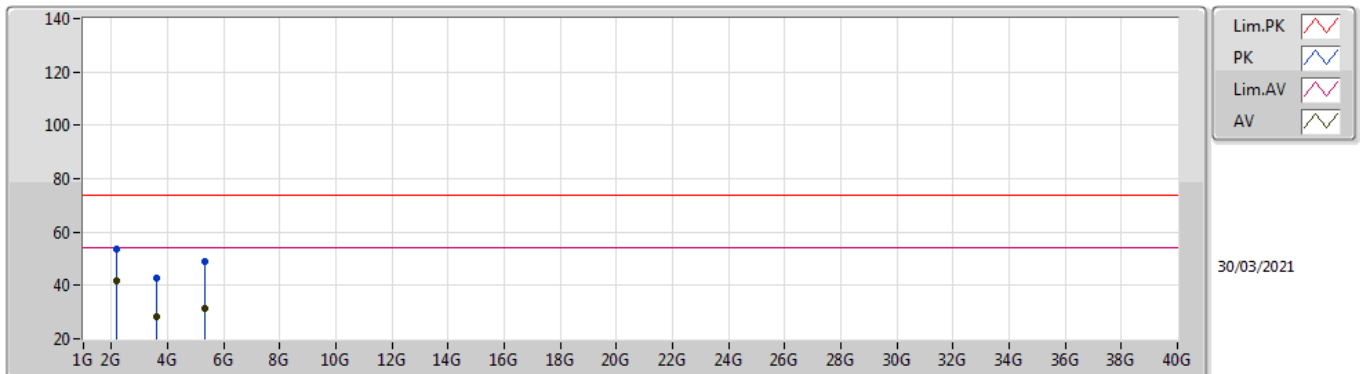
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.13007G	39.98	54.00	-14.02	-3.93	3	Vertical	237	2.04	-	43.91	27.28	3.53	34.74
AV	3.2G	35.67	54.00	-18.33	-1.28	3	Vertical	127	1.02	-	36.95	29.00	4.80	35.08
AV	5.2G	34.52	54.00	-19.48	2.29	3	Vertical	185	2.07	-	32.23	31.70	5.50	34.91
PK	2.13007G	54.31	74.00	-19.69	-3.93	3	Vertical	237	2.04	-	58.24	27.28	3.53	34.74
PK	3.2G	48.71	74.00	-25.29	-1.28	3	Vertical	127	1.02	-	49.99	29.00	4.80	35.08
PK	5.2G	51.74	74.00	-22.26	2.29	3	Vertical	185	2.07	-	49.45	31.70	5.50	34.91

Radiated Emissions above 1GHz_Mode 1



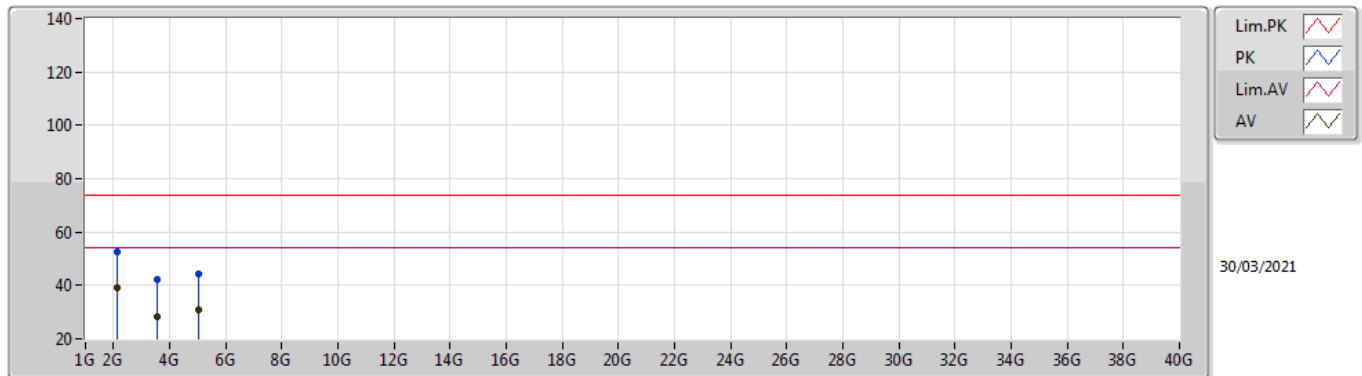
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.12796G	39.07	54.00	-14.93	-3.95	3	Horizontal	317	1.87	-	43.02	27.25	3.53	34.73
AV	3.73G	28.46	54.00	-25.54	-0.98	3	Horizontal	231	2.37	-	29.44	29.20	4.80	34.98
AV	4.96G	32.63	54.00	-21.37	1.86	3	Horizontal	106	1.01	-	30.77	31.42	5.38	34.94
PK	2.12796G	51.51	74.00	-22.49	-3.95	3	Horizontal	317	1.87	-	55.46	27.25	3.53	34.73
PK	3.73G	41.93	74.00	-32.07	-0.98	3	Horizontal	231	2.37	-	42.91	29.20	4.80	34.98
PK	4.96G	46.50	74.00	-27.50	1.86	3	Horizontal	106	1.01	-	44.64	31.42	5.38	34.94

Radiated Emissions above 1GHz_Mode 2



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.19G	41.90	54.00	-12.10	-3.10	3	Vertical	247	1.12	-	45.00	28.08	3.59	34.77
AV	3.59G	28.51	54.00	-25.49	-1.21	3	Vertical	248	1.15	-	29.72	29.08	4.80	35.09
AV	5.35G	31.29	54.00	-22.71	2.07	3	Vertical	19	1.99	-	29.22	31.30	5.65	34.88
PK	2.19G	53.40	74.00	-20.60	-3.10	3	Vertical	247	1.12	-	56.50	28.08	3.59	34.77
PK	3.59G	42.59	74.00	-31.41	-1.21	3	Vertical	248	1.15	-	43.80	29.08	4.80	35.09
PK	5.35G	48.97	74.00	-25.03	2.07	3	Vertical	19	1.99	-	46.90	31.30	5.65	34.88

Radiated Emissions above 1GHz_Mode 2



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.1281G	38.95	54.00	-15.05	-3.95	3	Horizontal	315	1.55	-	42.90	27.25	3.53	34.73
AV	3.58G	28.06	54.00	-25.94	-1.23	3	Horizontal	3	2.14	-	29.29	29.06	4.80	35.09
AV	5.04G	30.89	54.00	-23.11	2.23	3	Horizontal	99	2.26	-	28.66	31.74	5.42	34.93
PK	2.1281G	52.67	74.00	-21.33	-3.95	3	Horizontal	315	1.55	-	56.62	27.25	3.53	34.73
PK	3.58G	42.21	74.00	-31.79	-1.23	3	Horizontal	3	2.14	-	43.44	29.06	4.80	35.09
PK	5.04G	44.56	74.00	-29.44	2.23	3	Horizontal	99	2.26	-	42.33	31.74	5.42	34.93