



TESTING LABORATORY
CERTIFICATE #4820.01



FCC PART 15B
ICES-003, Issue 6, January 2016

TEST REPORT

For

SZ DJI TECHNOLOGY CO., LTD

14th floor, West Wing, Skyworth Semiconductor Design Building NO.18 Gaoxin South 4th Ave,
Nanshan, Shenzhen, Guangdong, China

FCC ID: SS3-P1RC1901
Model: P1RC

Report Type: Original Report	Product Type: DJI FPV Remote Controller
Report Number:	RDG190321008-00A
Report Date:	2019-04-20
Reviewed By:	Allen Qiao RF Supervisor <i>Allen Qiao</i>
Test Laboratory:	Bay Area Compliance Laboratories Corp. (Dongguan) No.69 Pulongcun, Puxinhu Industry Area, Tangxia, Dongguan, Guangdong, China Tel: +86-769-86858888 Fax: +86-769-86858891 www.baclcorp.com.cn

Note: This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. (Dongguan). This report must not be used by the customer to claim product certification, approval, or endorsement by A2LA* or any agency of the Federal Government. * This report may contain data that are not covered by the A2LA accreditation and are marked with an asterisk “*”.

TABLE OF CONTENTS

General Information	3
PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT)	3
OBJECTIVE	3
RELATED SUBMITTAL(S)/GRANT(S)	3
TEST METHODOLOGY	3
MEASUREMENT UNCERTAINTY	4
TEST FACILITY	4
System Test Configuration	5
DESCRIPTION OF TEST CONFIGURATION	5
EQUIPMENT MODIFICATIONS	5
EUT EXERCISE SOFTWARE	5
LOCAL SUPPORT EQUIPMENT LIST AND DETAILS	5
SUPPORT CABLE LIST AND DETAILS	5
BLOCK DIAGRAM OF TEST SETUP	6
TEST EQUIPMENT LIST	7
ENVIRONMENTAL CONDITIONS	7
Summary of Test Results	8
Conducted emissions	9
EUT SETUP	9
EMI TEST RECEIVER SETUP	9
TEST PROCEDURE	9
CORRECTED AMPLITUDE & MARGIN CALCULATION	10
TEST DATA	11
Radiated emissions	13
EUT SETUP	13
EMI TEST RECEIVER SETUP	14
TEST PROCEDURE	14
CORRECTED AMPLITUDE & MARGIN CALCULATION	14
TEST DATA	15

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Product Type:	DJI FPV Remote Controller
EUT Name:	DJI FPV Remote Controller
EUT Model:	P1RC
Highest Operation Frequency:	5846.12MHz
Rated Input Voltage:	7.6Vdc from battery
External Dimension:	180(L)*170mm(W)*190mm(H) (including antenna)
Serial Number:	190321008
EUT Received Date:	2019.3.22

Objective

This report is prepared on behalf of *SZ DJI TECHNOLOGY CO., LTD* in accordance with Part 2, Subpart J, and Part 15-Subparts A and B of the Federal Communications Commission's rules. And ICES-003, Issue 6, January 2016 Information Technology Equipment (Including Digital Apparatus) — Limits and Methods of Measurement.

The objective is to determine the compliance of EUT with: FCC Part 15B Class B and ICES-003, Issue 6, January 2016, Class B.

Related Submittal(s)/Grant(s)

FCC Part 15E NII submissions with FCC ID: SS3-P1RC1901.
Part of system submissions with FCC ID: SS3-P1AS1901, IC: 11805A-P1AS1901.

Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2014, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

All radiated and conducted emissions measurement was performed at Bay Area Compliance Laboratories Corp. (Dongguan).

Measurement Uncertainty

Parameter	Measurement Uncertainty
Unwanted Emissions, radiated	30M~200MHz: 4.55 dB, 200M~1GHz: 5.92 dB, 1G~6GHz: 4.98 dB, 6G~18GHz: 5.89 dB, 18G~26.5G: 5.47 dB, 26.5G~40G: 5.63 dB
Temperature	±1 °C
Humidity	±5%
AC Power Lines Conducted Emission	3.12 dB (150 kHz to 30 MHz)

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Dongguan) to collect test data is located on the No.69 Pulongcun, Puxinhu Industry Area, Tangxia, Dongguan, Guangdong, China.

The lab has been recognized as the FCC accredited lab under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. : 897218, the FCC Designation No. : CN1220.

The lab has been recognized by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements, the CAB identifier: CN0022.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

The system was configured for testing in typical fashion (as normally used by a typical user) as below:

Test mode: Charging & PC Operating

Equipment Modifications

No modification was made to the EUT.

EUT Exercise Software

The software 'Winthrax.exe' and 'Phocus.exe' was used during test.

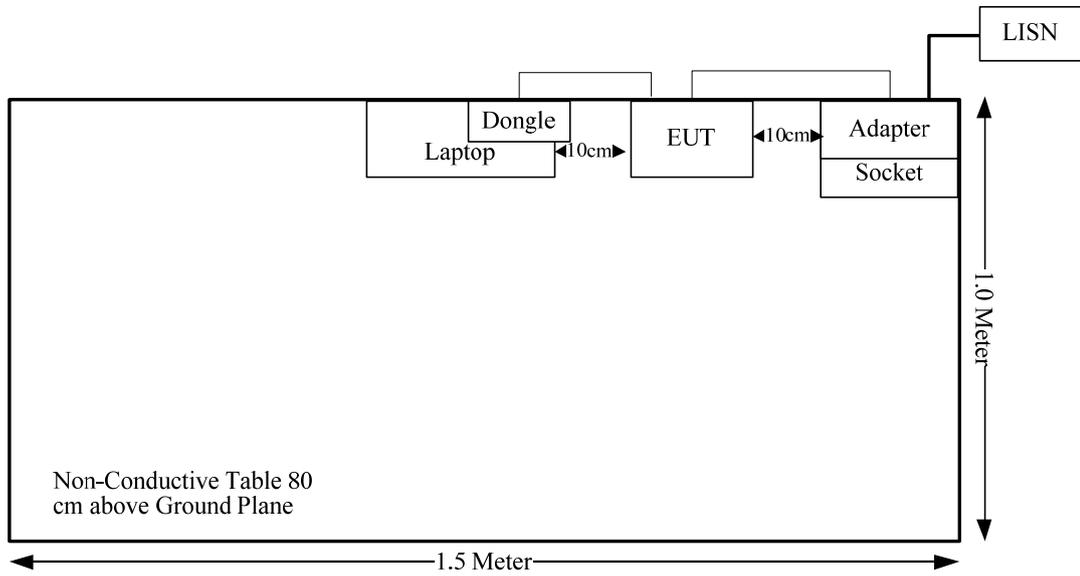
Local Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
Huajin	Adapter	HJ-05020000W2-EU	/
Lenovo	Laptop	ThinkPad E450	PF-0MRADG
DJI	Simulator Dongle	/	/

Support Cable List and Details

Cable Description	Shielding Type	Ferrite Core	Length (m)	From Port	To
USB-C Cable	Yes	No	1.2	USB-C Port of EUT	Adapter
PPM Connection Cable	Yes	No	1.0	PPM Simulator Port of EUT	Dongle

Block Diagram of Test Setup



Test Equipment List

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Unknown	Coaxial Cable	C-NJNJ-50	C-0200-01	2018-09-05	2019-09-05
R&S	Test Software	EMC32	Version8.53.0	N/A	N/A
R&S	Two-line V-network	ENV 216	101614	2018-12-10	2019-12-10
R&S	EMI Test Receiver	ESCI	101121	2018-03-23	2019-03-23
R&S	EMI Test Receiver	ESCI	100224	2018-12-10	2019-12-10
Farad	Test Software	EZ-EMC	V1.1.4.2	N/A	N/A
Sunol Sciences	Antenna	JB3	A060611-1	2017-11-10	2020-11-10
Unknown	Coaxial Cable	C-NJNJ-50	C-0400-01	2018-09-05	2019-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-0075-01	2018-09-05	2019-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-1400-01	2018-05-06	2019-05-06
HP	Amplifier	8447D	2727A05902	2018-09-05	2019-09-05
Agilent	Spectrum Analyzer	E4440A	SG43360054	2019-01-04	2020-01-04
R&S	Spectrum Analyzer	FSP 38	100478	2018-12-10	2019-12-10
ETS-Lindgren	Horn Antenna	3115	000 527 35	2018-10-12	2021-10-12
Ducommun Technologies	Horn Antenna	ARH-4223-02	1007726-01 1304	2016-11-18	2019-11-18
Ducommun Technologies	Horn Antenna	ARH-2823-02	1007726-01 1302	2016-11-18	2019-11-18
Unknown	Coaxial Cable	C-SJSJ-50	C-0800-01	2018-09-05	2019-09-05
Unknown	Coaxial Cable	C-2.4J2.4J-50	C-0700-02	2018-06-27	2019-06-27
MITEQ	Amplifier	AFS42-00101800-25-S-42	2001271	2018-09-05	2019-09-05
Quinstar	Amplifier	QLW-18405536-JO	15964001001	2018-06-27	2019-06-27

* Statement of Traceability: Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Environmental Conditions

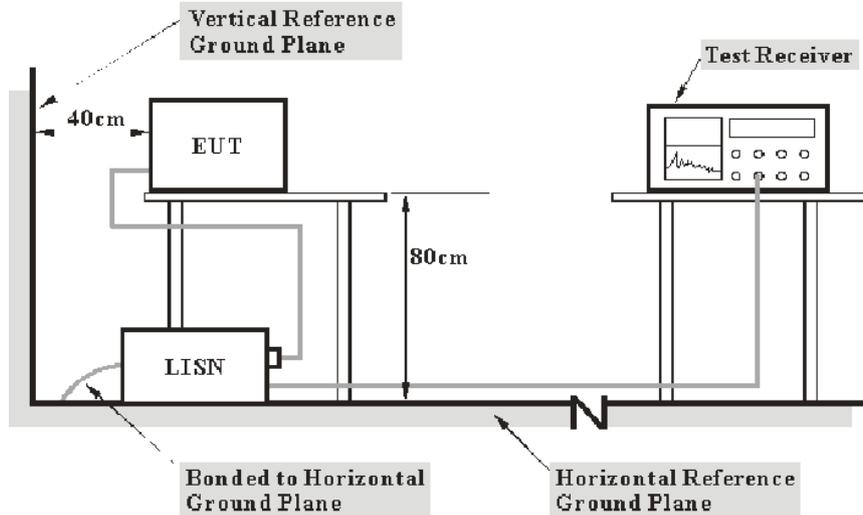
Temperature:	24.6-27.2 °C
Relative Humidity:	49~57%
ATM Pressure:	100.6~ 101kPa
Tester:	Neil Liao, Lily Xie, Tyler Pan
Test Date:	2019.3.12-2019.3.28

SUMMARY OF TEST RESULTS

Rule and Clause	Description of Test	Test Result
FCC §15.107 ICES-003 §6.1	Conducted emissions	Compliance
FCC §15.109 ICES-003 §6.2	Radiated emissions	Compliance

CONDUCTED EMISSIONS

EUT Setup



- Note: 1. Support units were connected to second LISN.
 2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The setup of EUT is according with per ANSI C63.4-2014 measurement procedure. The specification used was with the FCC Part 15 B and ICES-003 Class B limits.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	IF B/W
150 kHz – 30 MHz	9 kHz

Test Procedure

During the conducted emission test, the adapter was connected to the outlet of the first LISN and the other support equipments were connected to the outlet of the second LISN.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All data was recorded in the Quasi-peak and average detection mode.

Corrected Amplitude & Margin Calculation

The basic equation is as follows:

$$\text{Result (QuasiPeak or Average)} = \text{Meter Reading} + \text{Corr.}$$

Note:

$$\text{Corr.} = \text{Cable loss} + \text{Factor of coupling device}$$

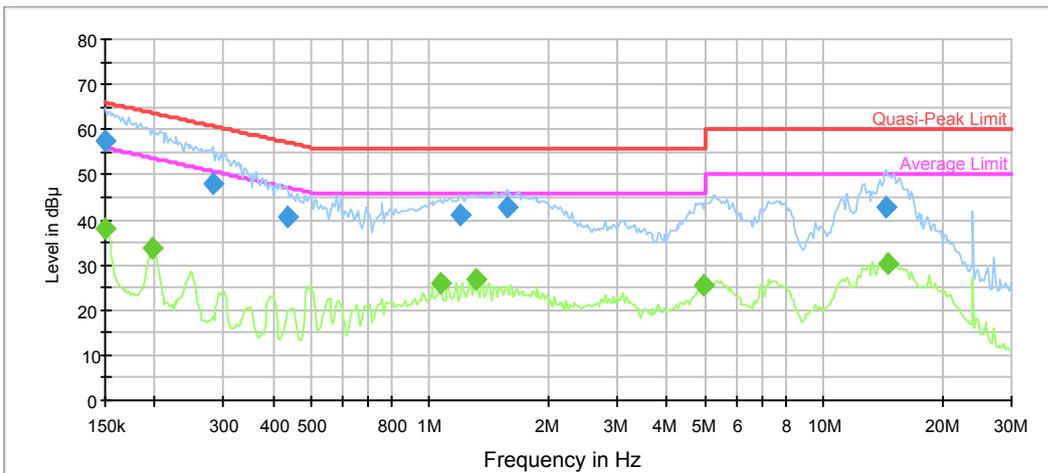
The “**Margin**” column of the following data tables indicates the degree of compliance within the applicable limit. For example, a margin of 7dB means the emission is 7dB below the maximum limit. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Limit} - \text{Result}$$

Test Data

Please refer to following table and plots:

Model Number: P1RC
 Port: L
 Test Mode: Charging & PC Operating
 Power Source: AC 120V/60Hz
 Note:



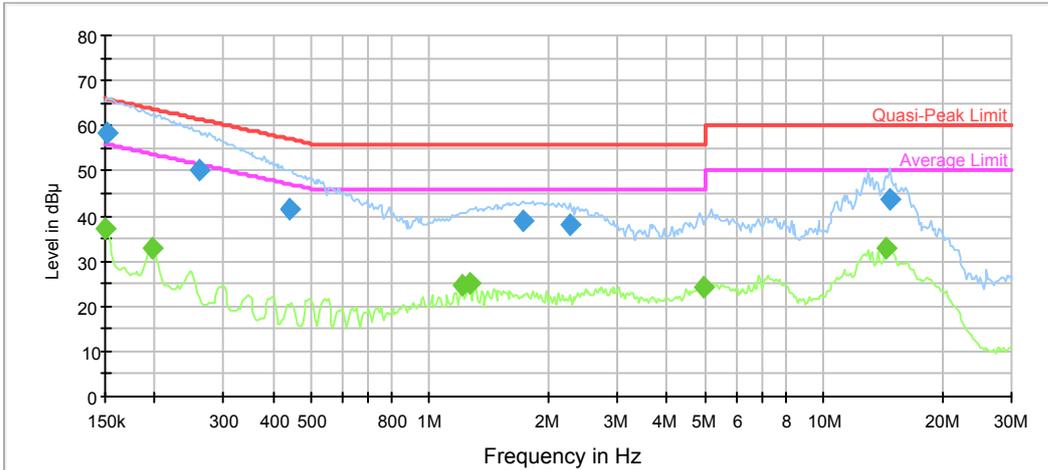
Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.150000	57.5	9.000	L1	11.2	8.5	66.0
0.280762	48.0	9.000	L1	10.2	12.8	60.8
0.434989	40.7	9.000	L1	9.9	16.5	57.2
1.200214	41.2	9.000	L1	9.8	14.8	56.0
1.570131	42.7	9.000	L1	9.7	13.3	56.0
14.441161	43.0	9.000	L1	9.9	17.0	60.0

Final Result 2

Frequency (MHz)	Average (dBμV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.150000	38.0	9.000	L1	11.2	18.0	56.0
0.198194	33.8	9.000	L1	10.6	19.9	53.7
1.065129	25.9	9.000	L1	9.8	20.1	46.0
1.312656	27.0	9.000	L1	9.8	19.0	46.0
4.979837	25.5	9.000	L1	9.8	20.5	46.0
14.585573	30.2	9.000	L1	9.9	19.8	50.0

Model Number: P1RC
 Port: N
 Test Mode: Charging & PC Operating
 Power Source: AC 120V/60Hz
 Note:



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.151500	58.4	9.000	N	11.1	7.5	65.9
0.259279	50.2	9.000	N	10.3	11.3	61.5
0.439339	41.7	9.000	N	9.9	15.4	57.1
1.734401	39.1	9.000	N	9.8	16.9	56.0
2.268959	38.2	9.000	N	9.8	17.8	56.0
14.731429	43.6	9.000	N	9.9	16.4	60.0

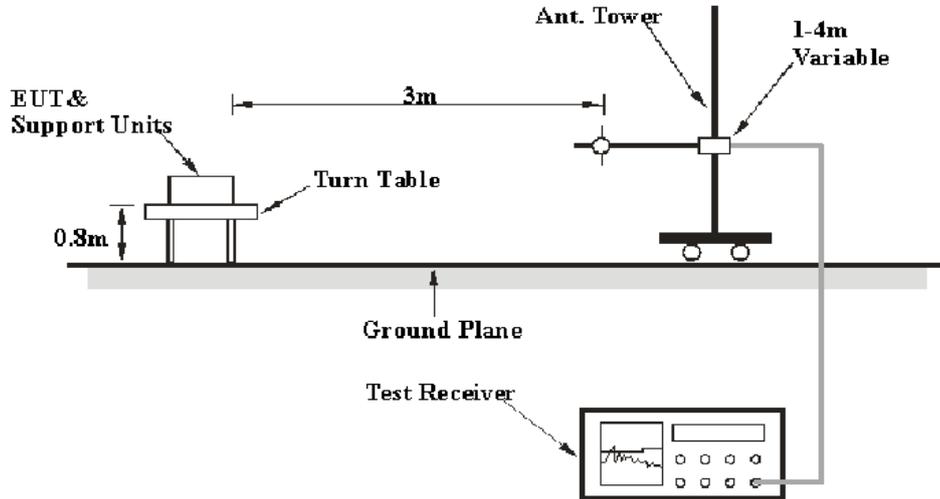
Final Result 2

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	37.0	9.000	N	11.2	19.0	56.0
0.198194	32.8	9.000	N	10.6	20.9	53.7
1.212216	24.6	9.000	N	9.8	21.4	46.0
1.261437	25.1	9.000	N	9.8	20.9	46.0
4.979837	24.3	9.000	N	9.8	21.7	46.0
14.441161	32.7	9.000	N	9.9	17.3	50.0

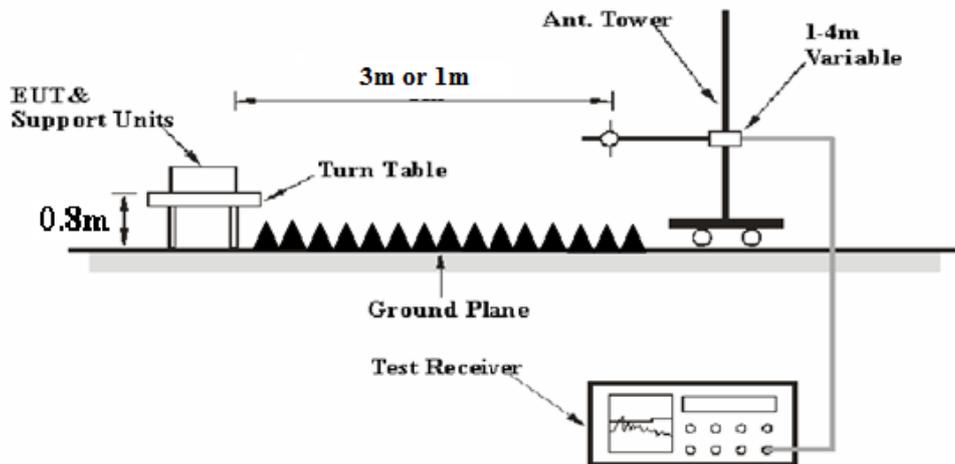
RADIATED EMISSIONS

EUT Setup

Below 1GHz:



Above 1GHz:



The radiated emission below 1GHz tests were performed in the 3 meters chamber test site A, above 1GHz tests were performed in the 3 meters chamber test site B, using the setup accordance with the ANSI C63.4-2014. The specification used was the FCC Part 15.109, ICES-003 Class B limits.

EMI Test Receiver Setup

The system was investigated from 30 MHz to 30 GHz.

During the radiated emission test, the EMI test receiver was set with the following configurations:

Frequency Range	RBW	Video B/W	IF B/W	Measurement
30 MHz – 1000 MHz	120 kHz	300 kHz	120 kHz	QP
Above 1 GHz	1 MHz	3 MHz	/	Peak
	1 MHz	10Hz	/	AVG

If the maximized peak measured value complies with under the QP/Average limit more than 6dB, then it is unnecessary to perform an QP/Average measurement.

Test Procedure

During the radiated emissions, the adapter was connected to the first AC floor outlet and the other support equipments were connected to the second AC floor outlet.

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

The data was recorded in the Quasi-peak detection mode for below 1 GHz, peak and average detection mode above 1 GHz.

All emissions under the average limit and under the noise floor have not recorded in the report.

Corrected Amplitude & Margin Calculation

The basic equation is as follows:

Result = Meter Reading+ Corrected

Note:

Corrected = Antenna Factor + Cable Loss - Amplifier Gain

or

Corrected = Antenna Factor + Cable Loss + Insertion loss of attenuator - Amplifier Gain

The “**Margin**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7 dB means the emission is 7 dB below the limit. The equation for margin calculation

is as follows:

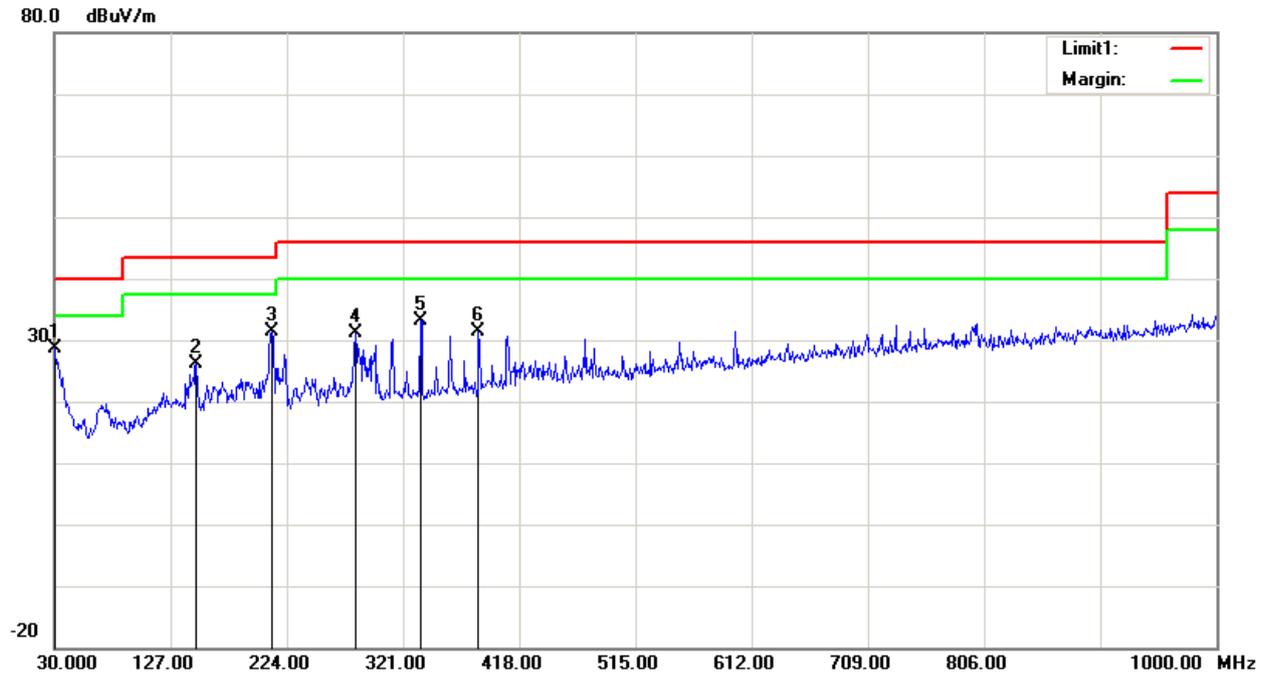
$$\text{Margin} = \text{Limit} - \text{Result}$$

Test Data

Please refer to following table and plots:

1) Below 1GHz:

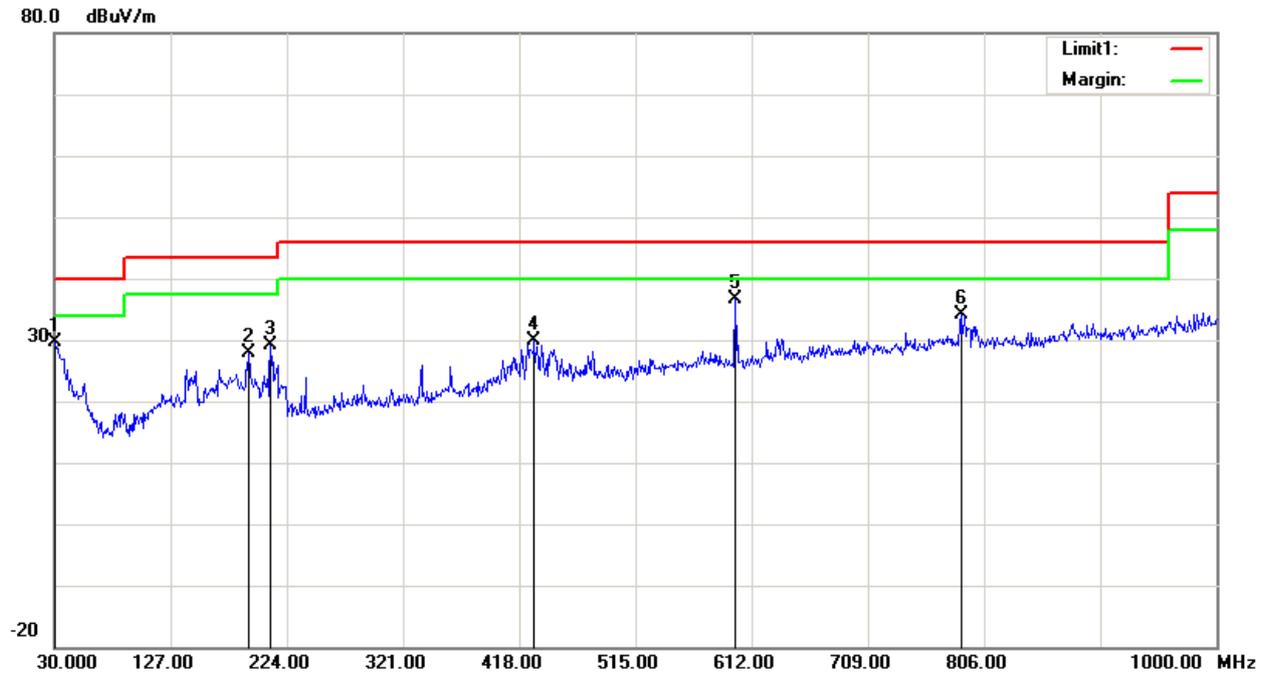
Condition:	FCC Class B 3M Radiation	Polarization:	Horizontal
EUT:	DJI FPV Remote Controller	Power:	AC 120V/60Hz
Model:	P1RC	Distance:	3m
Test Mode:	Charging & PC Operating		
Note:			



No.	Frequency (MHz)	Reading (dBμV)	Detector	Corrected (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1	30.0000	26.85	peak	1.72	28.57	40.00	11.43
2	148.3400	32.09	peak	-6.05	26.04	43.50	17.46
3	211.3900	38.77	peak	-7.38	31.39	43.50	12.11
4	281.2300	35.19	peak	-4.12	31.07	46.00	14.93
5	335.5500	36.53	peak	-3.36	33.17	46.00	12.83
6	384.0500	33.78	peak	-2.43	31.35	46.00	14.65

Condition: FCC Class B 3M Radiation
EUT: DJI FPV Remote Controller
Model: P1RC
Test Mode: Charging & PC Operating
Note:

Polarization: Vertical
Power: AC 120V/60Hz
Distance: 3m



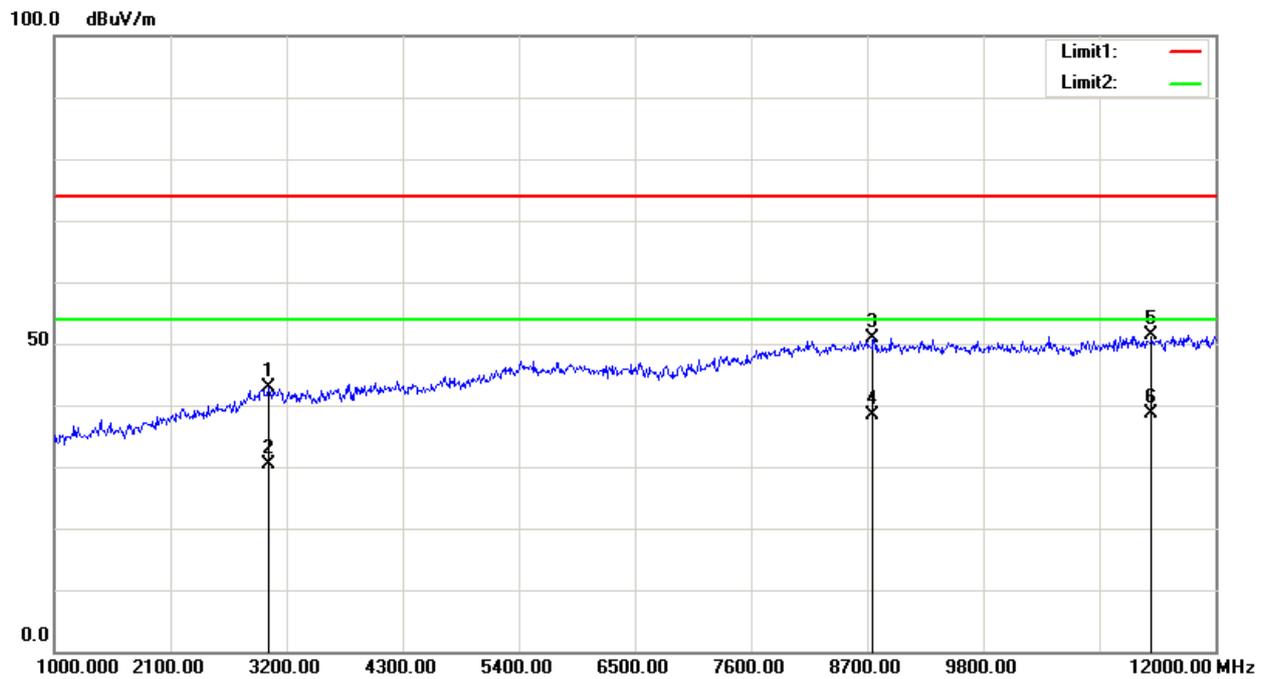
No.	Frequency (MHz)	Reading (dBμV)	Detector	Corrected (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1	30.0000	27.96	peak	1.72	29.68	40.00	10.32
2	191.9900	34.78	peak	-7.01	27.77	43.50	15.73
3	210.4200	36.48	peak	-7.37	29.11	43.50	14.39
4	430.6100	31.07	peak	-1.27	29.80	46.00	16.20
5	598.4200	35.70	peak	0.97	36.67	46.00	9.33
6	786.6000	29.85	peak	4.39	34.24	46.00	11.76

2) Above 1GHz

1GHz-12GHz:

Condition: FCC Class B 3M Radiation
 EUT: DJI FPV Remote Controller
 Model: P1RC
 Test Mode: Charging & PC Operating
 Note:

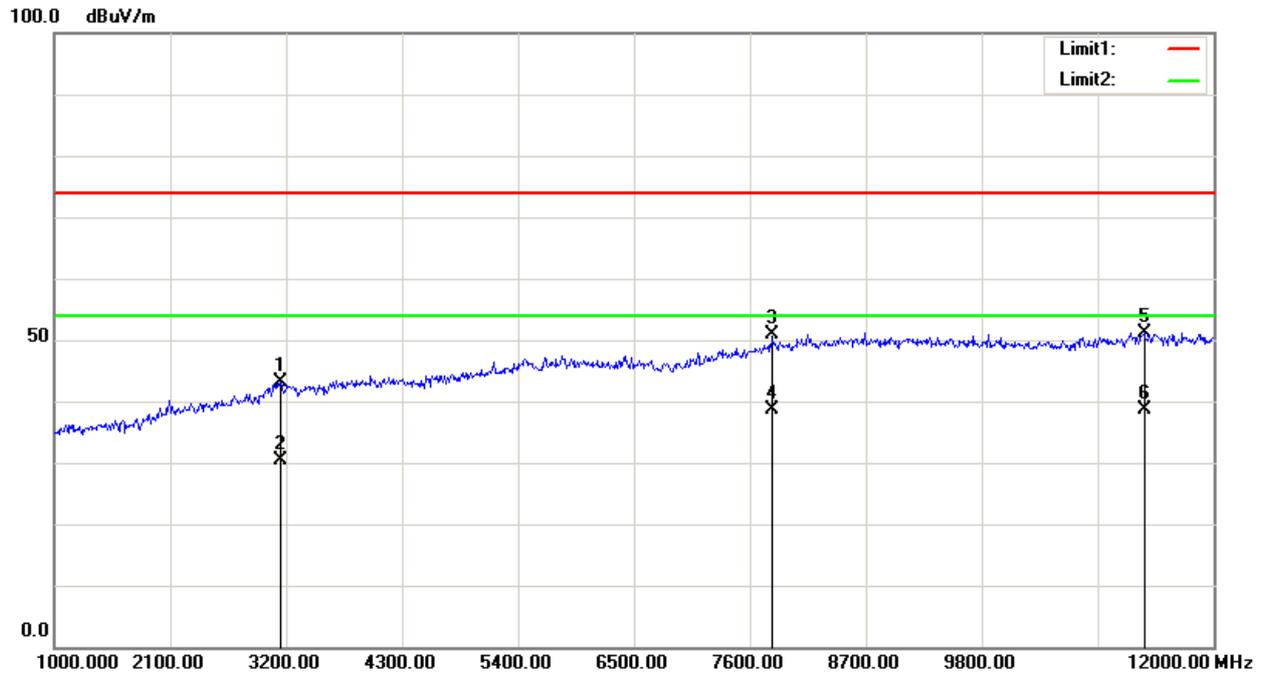
Polarization: Horizontal
 Power: AC 120V/60Hz
 Distance: 3m



No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
1	3024.000	47.53	peak	-4.72	42.81	74.00	31.19
2	3024.000	35.18	AVG	-4.72	30.46	54.00	23.54
3	8760.000	45.02	peak	5.88	50.90	74.00	23.10
4	8760.000	32.61	AVG	5.88	38.49	54.00	15.51
5	11400.000	43.12	peak	8.19	51.31	74.00	22.69
6	11400.000	30.51	AVG	8.19	38.70	54.00	15.30

Condition: FCC Class B 3M Radiation
EUT: DJI FPV Remote Controller
Model: PIRC
Test Mode: Charging & PC Operating
Note:

Polarization: Vertical
Power: AC 120V/60Hz
Distance: 3m

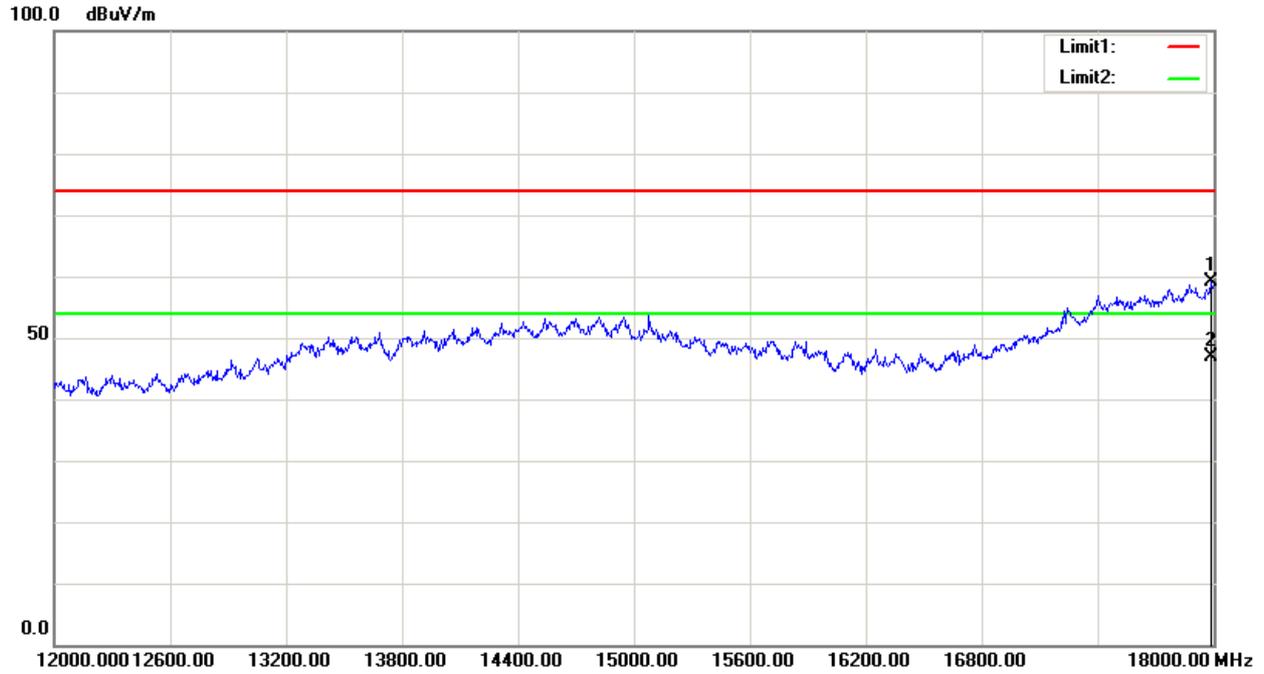


No.	Frequency (MHz)	Reading (dBμV)	Detector	Corrected (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1	3145.000	47.33	peak	-4.32	43.01	74.00	30.99
2	3145.000	34.67	AVG	-4.32	30.35	54.00	23.65
3	7814.000	46.54	peak	4.23	50.77	74.00	23.23
4	7814.000	34.33	AVG	4.23	38.56	54.00	15.44
5	11350.000	42.98	peak	8.16	51.14	74.00	22.86
6	11350.000	30.35	AVG	8.16	38.51	54.00	15.49

12GHz-18GHz:

Condition: FCC Class B 3M Radiation
EUT: DJI FPV Remote Controller
Model: PIRC
Test Mode: Charging & PC Operating
Note:

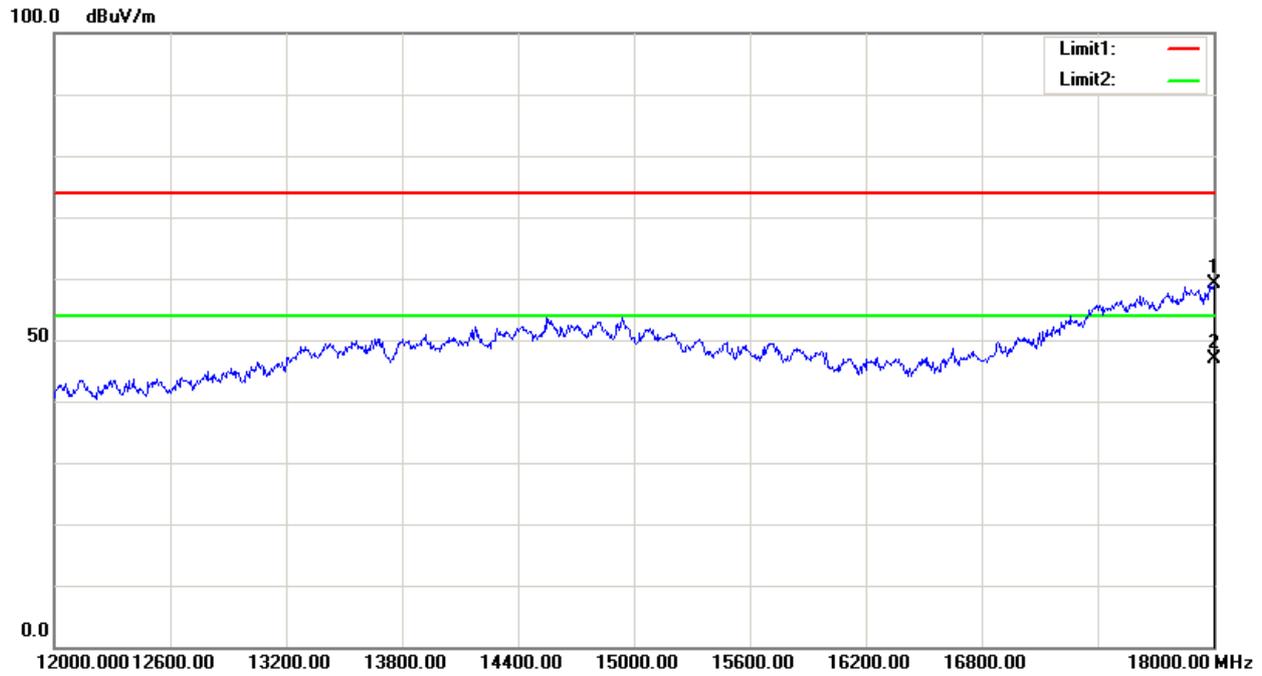
Polarization: Horizontal
Power: AC 120V/60Hz
Distance: 3m



No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
1	17991.000	42.05	peak	17.08	59.13	74.00	14.87
2	17991.000	29.80	AVG	17.08	46.88	54.00	7.12

Condition: FCC Class B 3M Radiation
EUT: DJI FPV Remote Controller
Model: P1RC
Test Mode: Charging & PC Operating
Note:

Polarization: Vertical
Power: AC 120V/60Hz
Distance: 3m

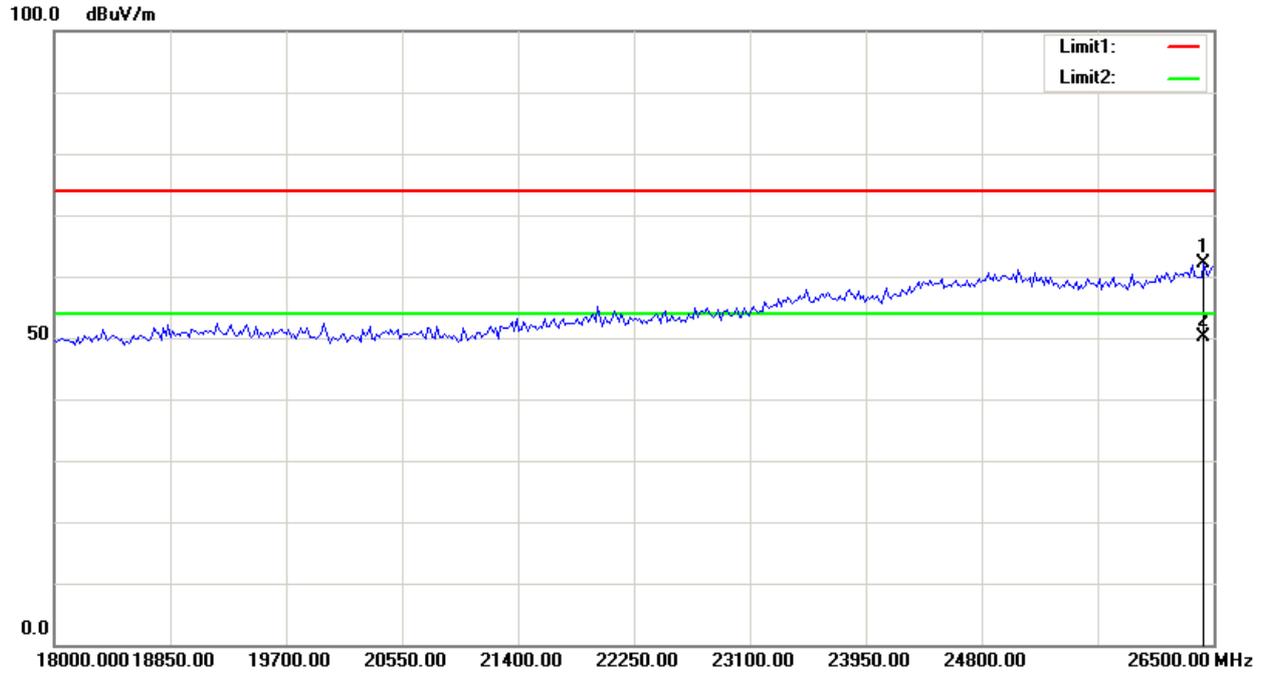


No.	Frequency (MHz)	Reading (dBμV)	Detector	Corrected (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1	18000.000	42.06	peak	17.15	59.21	74.00	14.79
2	18000.000	29.67	AVG	17.15	46.82	54.00	7.18

18GHz-26.5GHz:

Condition: FCC Class B 3M Radiation
EUT: DJI FPV Remote Controller
Model: PIRC
Test Mode: Charging & PC Operating
Note:

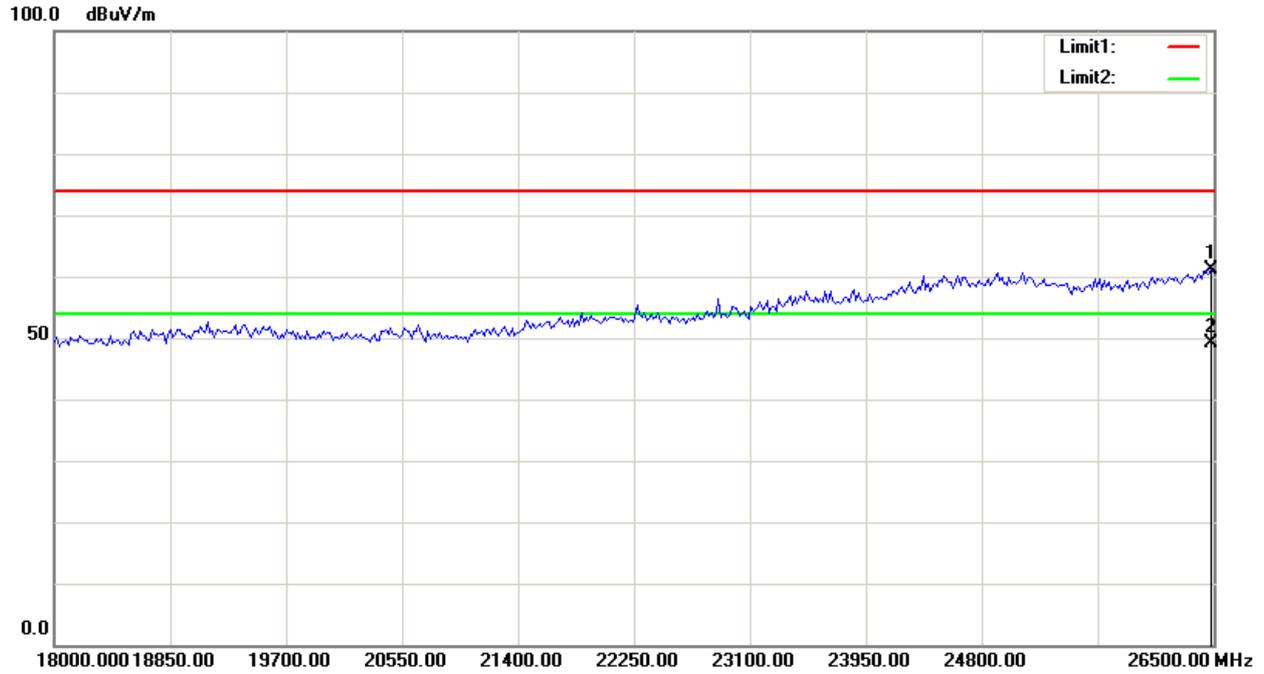
Polarization: Horizontal
Power: AC 120V/60Hz
Distance: 3m



No.	Frequency (MHz)	Reading (dBμV)	Detector	Corrected (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1	26431.864	40.51	peak	21.54	62.05	74.00	11.95
2	26431.864	28.66	AVG	21.54	50.20	54.00	3.80

Condition: FCC Class B 3M Radiation
EUT: DJI FPV Remote Controller
Model: P1RC
Test Mode: Charging & PC Operating
Note:

Polarization: Vertical
Power: AC 120V/60Hz
Distance: 3m

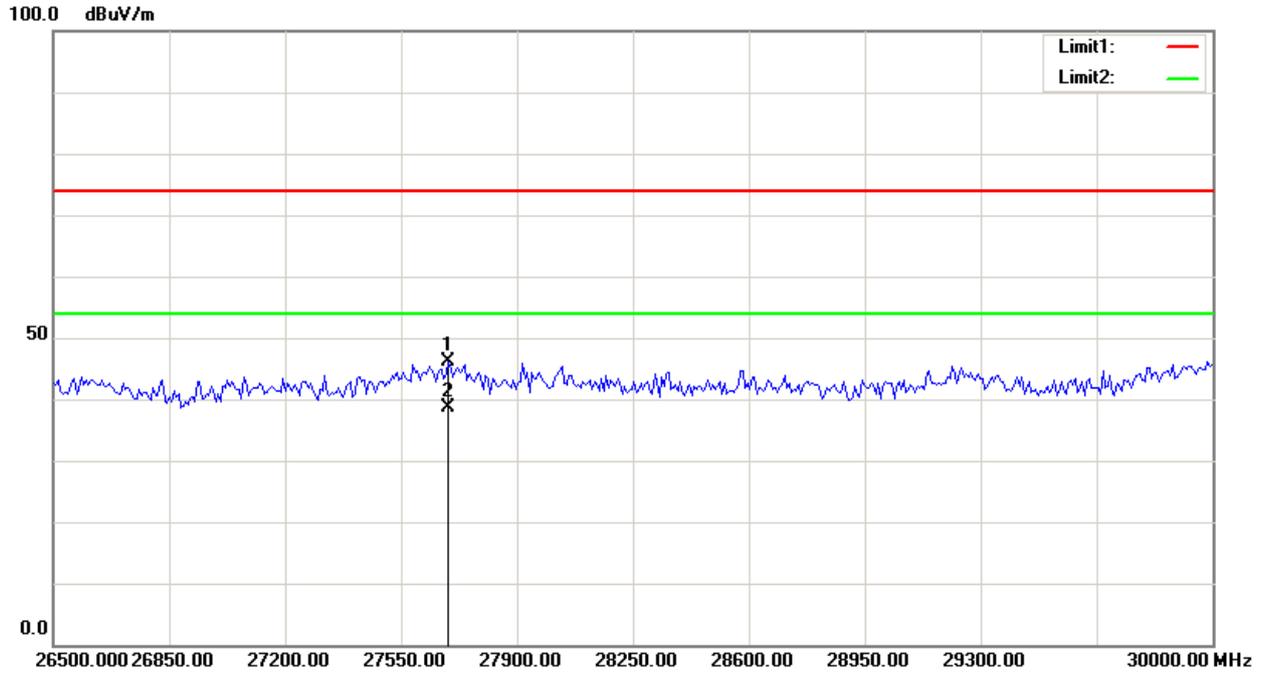


No.	Frequency (MHz)	Reading (dBμV)	Detector	Corrected (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1	26482.966	39.45	peak	21.76	61.21	74.00	12.79
2	26482.966	27.34	AVG	21.76	49.10	54.00	4.90

26.5GHz-30GHz:

Condition: FCC Class B 3M Radiation
EUT: DJI FPV Remote Controller
Model: PIRC
Test Mode: Charging & PC Operating
Note:

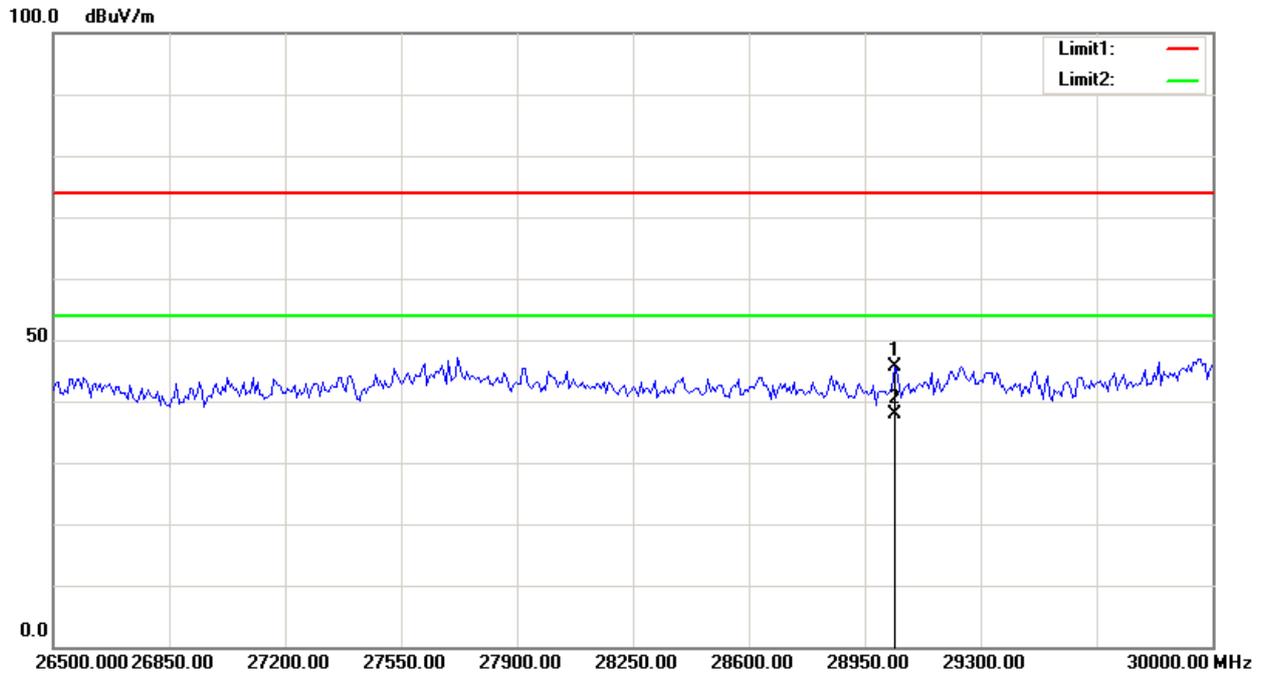
Polarization: Horizontal
Power: AC 120V/60Hz
Distance: 3m



No.	Frequency (MHz)	Reading (dBμV)	Detector	Corrected (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1	27692.385	24.50	peak	21.52	46.02	74.00	27.98
2	27692.385	16.99	AVG	21.52	38.51	54.00	15.49

Condition: FCC Class B 3M Radiation
EUT: DJI FPV Remote Controller
Model: PIRC
Test Mode: Charging & PC Operating
Note:

Polarization: Vertical
Power: AC 120V/60Hz
Distance: 3m



No.	Frequency (MHz)	Reading (dBμV)	Detector	Corrected (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1	29039.078	23.38	peak	22.34	45.72	74.00	28.28
2	29039.078	15.43	AVG	22.34	37.77	54.00	16.23

*****END OF REPORT*****