

Radiofrequency radiation exposure evaluation: mobile devices

RESULT :

Pass

Test Specification

Test item	: Smart Feeder (Granary 2 Vision) Smart Feeder (Granary 2 Vision Duo) Smart Feeder (Granary 2 X)
Identification / Type No.	: PLAF205, 6216205, PLAF305, 6216305
FCC ID	: 2A3DE-PLAFX05
Test standard	: CFR47 FCC Part 2: Section 2.1091 CFR47 FCC Part 1: Section 1.1310 FCC KDB Publication 447498 D04

➤ FCC requirements

FCC requirement: Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 20cm normally can be maintained between the user and the device.

MPE Calculation Method according to KDB 447498 D04

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	<30
1.34-30	824/f	2.19/f	*(180/f ²)	<30
30-300	27.5	0.073	0.2	<30
300-1,500			f/1500	<30
1,500-100,000			1	<30

f = frequency in MHz. * = Plane-wave equivalent power density.

Prediction of MPE limit at a given distance

$$S = \frac{EIRP}{4\pi R^2}$$

Where:

S = Power density;

$EIRP$ = Equivalent Isotropic Radiated Power in mW;

R Distance to the center of radiation of the antenna;

37) EUT RF Exposure Evaluation operations, Worst Case mode

For 24GHz SRD

E.I.R.P = 99.38 – 95.2 = 4.18dBm

Test Mode	EIRP (dBm)	EIRP (mW)	Power Density (mW/cm ²)	Minimum Separation Distances (cm)	Limit (mW/cm ²)	Ratio
BLE	6.84	4.83	0.000961	20	1	0.000961
2.4GHz band Wi-Fi	14.50	28.18	0.005609			0.005609
5GHz band Wi-Fi	20.01	100.23	0.01995			0.01995
24G SRD	4.18	2.62	0.000521			0.000521

Multiple transmission:

24GHz SRD + BLE + 5GHz WLAN = 0.027 < 1