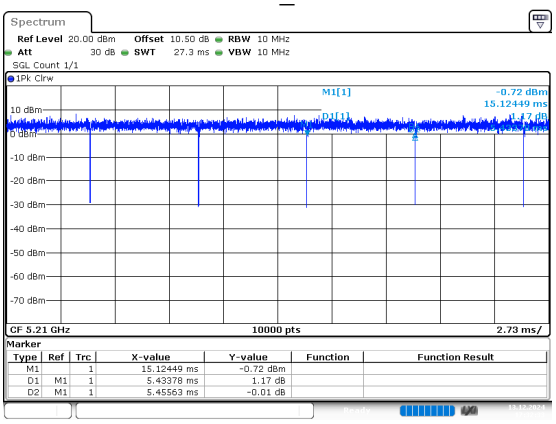
802.11be80_5210MHz



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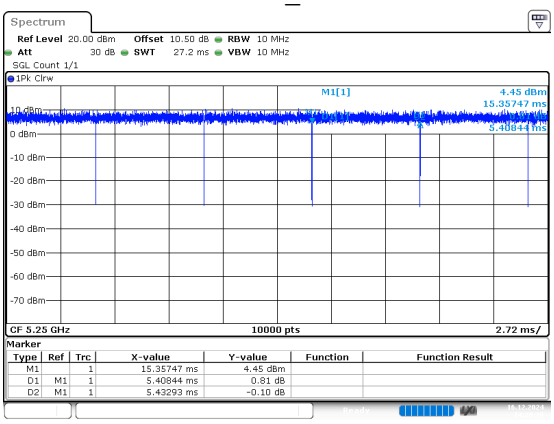
802.11ac160_5250MHz



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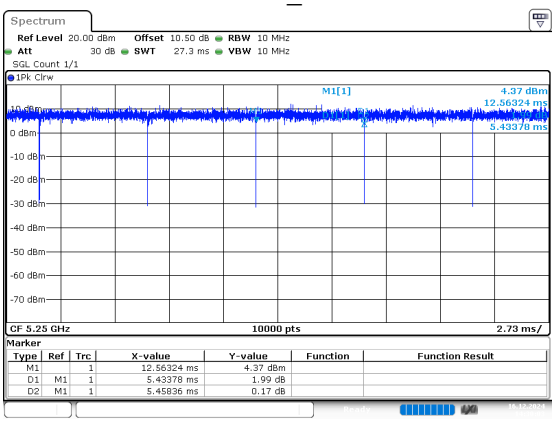
Date: 16.DEC.2024 14:28:10

802.11be160_5250MHz



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Date: 16.DEC.2024 14:30:03

EXHIBIT A - EUT PHOTOGRAPHS

Please refer to the attachment 2402Z106133E-RF-EXP EUT EXTERNAL PHOTOGRAPHS and 2402Z106133E-RF-INP EUT INTERNAL PHOTOGRAPHS.

EXHIBIT B - TEST SETUP PHOTOGRAPHS

Please refer to the attachment 2402Z106133E-RF-00A-TSP TEST SETUP PHOTOGRAPHS.

EXHIBIT C - RF EXPOSURE EVALUATION

Maximum Permissible Exposure (MPE)

Applicable Standard

According to subpart §1.1310, and 15.407(f)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 of the Commission's guidelines.

Limits for Maximum Permissible Exposure (MPE) (§1.1310, §2.1091)

(B) Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	**Electric Field Strength (V/m)**	**Magnetic Field Strength (A/m)**	**Power Density (mW/cm^2)**	**Averaging Time (minutes)**
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*(180/f²)	30
30–300	27.5	0.073	0.2	30
300–1500	/	/	f/1500	30
1500–100,000	/	/	1.0	30

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

According to §1.1310 and §2.1091 RF exposure is calculated.

Calculation formula:

Prediction of power density at the distance of the applicable MPE limit
$S = PG/4\pi R^2$ = power density (in appropriate units, e.g. mW/cm^2);
P = power input to the antenna (in appropriate units, e.g., mW);
G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain;
R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

For simultaneously transmit system, the calculated power density should comply with:

$$\sum_i \frac{S_i}{S_{Limit,i}} \leq 1$$

Calculated Data:

Frequency (MHz)	**EIRP including Tune-up Tolerance**		**Evaluation Distance (cm)**	**Power Density (mW/cm^2)**	**MPE Limit (mW/cm^2)**
	(dBm)	**(mW)**			
5150-5250	22.5	177.83	20.00	0.035	1.0
5250-5350	23	199.53	20.00	0.040	1.0
5470-5725	23.5	223.87	20.00	0.045	1.0
5725-5850	25.0	316.23	20.00	0.063	1.0
5925-6425	13.5	22.39	20.00	0.004	1.0
6425-6525	15.0	31.62	20.00	0.006	1.0
6525-6875	16.0	39.81	20.00	0.008	1.0
6875-7125	15.5	35.48	20.00	0.007	1.0

Note: The EIRP including Tune-up Tolerance was provided by manufacturer.

For Simultaneous transmission:

5G Wifi and 6G Wifi can transmit simultaneously:

$EIRP_{5G\ Wifi}/Limit_{5G\ Wifi} + EIRP_{6G\ Wifi}/Limit_{6G\ Wifi}$

=0.063/1.0+0.008/1.0

=0.071

＜1.0

Result: The device meet FCC MPE at 20 cm distance

Exemption Limits For Routine Evaluation-RF Exposure Evaluation

Applicable Standard

RSS-102, Issue 6, Clause 6.6:

Field reference level (FRL) exposure evaluation is required if the separation distance between the user and/or bystander and the device's radiating element is greater than 20 cm (i.e. mobile devices), except when the device operates as follows:

- below 20 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 1 W (adjusted for tune-up tolerance);

- at or above 20 MHz and below 48 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than $4.49/f^{0.5}$ W (adjusted for tune-up tolerance), where f is in MHz;

- at or above 48 MHz and below 300 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 0.6 W (adjusted for tune-up tolerance);

- at or above 300 MHz and below 6 GHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than $1.31 \times 10^{-2}\ f^{0.6834}$ W (adjusted for tune-up tolerance), where f is in MHz;

- at or above 6 GHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 5 W (adjusted for tune-up tolerance).

In these cases, the information contained in the RF exposure technical brief may be limited to information that demonstrates how the e.i.r.p. was derived.

For simultaneously transmit system, the calculated power density should comply with:

$$\sum_i \frac{S_i}{S_{Limit,i}} \le 1$$

Calculated Data:

Frequency (MHz)	EIRP including Tune-up Tolerance		Exemption limits (mW)
	(dBm)	(mW)	
5150-5250	22.5	177.83	4507
5250-5350	23	199.53	4567
5470-5725	23.5	223.87	4697
5725-5850	25.0	316.23	4845
5925-6425	13.5	22.39	4961
6425-6525	15.0	31.62	5000
6525-6875	16.0	39.81	5000
6875-7125	15.5	35.48	5000

Note: The EIRP including Tune-up Tolerance was provided by manufacturer.

For Simultaneous transmission:

5G Wifi and 6G Wifi can transmit simultaneously:

$EIRP_{5G\ Wifi}/Limit_{5G\ Wifi} + EIRP_{6G\ Wifi}/Limit_{6G\ Wifi}$

=316.23/4845+39.81/5000

=0.073

＜1.0

Result: So the device is compliance with the exemption from Routine Evaluation Limits –RF exposure Evaluation.

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