TEST REPORT

Product Name	:	Rongji S15G high-end RF remote control
Brand Mark	:	N/A
Model No.	:	DR-A215
FCC ID	:	2AZ8KRJLY02
Report Number	:	BLA-EMC-202201-A2402
Date of Sample Receipt	:	2022/1/12
Date of Test	:	2022/1/12 to 2022/1/19
Date of Issue	:	2022/1/19
Test Standard	:	47 CFR Part 15, Subpart C 15.249
Test Result	:	Pass

Prepared for:

Xiamen Rongji Precision Technology Co., Ltd.
285 Wengjiao Road, Haicang District, Xiamen City Xiamen Fujian China

Prepared by:

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Compiled by: Review by:
Approved by: Date: 2022/1/19

REPORT REVISE RECORD

Version No.	Date	Description
00	2022/1/19	Original

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1 TEST SUMMARY

Test item	Test Requirement	Test Method	Class/Severity	Result
Radiated Emissions	47 CFR Part 15, Subpart C 15.249	ANSI C63.10 (2013) Section 6.4&6.5&6.6	47 CFR Part 15, Subpart C 15.209 & 15.249 (a),(d)	Pass
Restricted Band Around Fundamental Frequency	47 CFR Part 15, Subpart C 15.249	ANSI C63.10 (2013) Section 6.4&6.5&6.6	47 CFR Part 15, Subpart C 15.205 & 15.249(d) & 15.209	Pass
Field Strength of the Fundamental Signal (15.249(a))	47 CFR Part 15, Subpart C 15.249	ANSI C63.10 (2013) Section 6.5&6.6	47 CFR Part 15, Subpart C 15.249(a)	Pass
20dB Bandwidth	47 CFR Part 15, Subpart C 15.249	ANSI C63.10 (2013) Section 6.9	47 CFR Part 15, Subpart C 15.215	Pass
Antenna Requirement	47 CFR Part 15, Subpart C 15.249	N/A	47 CFR Part 15, Subpart C 15.203	Pass

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2 GENERAL INFORMATION

Applicant	Xiamen Rongji Precision Technology Co., Ltd.
Address	285 Wengjiao Road, Haicang District, Xiamen City Xiamen Fujian China
Manufacturer	Xiamen Rongji Precision Technology Co., Ltd.
Address	285 Wengjiao Road, Haicang District, Xiamen City Xiamen Fujian China
Factory	Xiamen Rongji Precision Technology Co., Ltd.
Address	285 Wengjiao Road, Haicang District, Xiamen City Xiamen Fujian China
Product Name	Rongji S15G high-end RF remote control
Test Model No.	DR-A215

3 GENERAL DESCRIPTION OF E.U.T.

Hardware Version	DR-A208 V1.0
Software Version	A208 V1.1

Channel Spacing:	⩾3MHz
Frequency Range:	2407MHz~2477MHz
Modulation Type:	GFSK
Number of Channels:	12 (declared by the client)

Frequency	Unit
2410	[MHz]
2421	
2435	
2442	
2467	
2477	
2407	
2412	
2428	
2414	
2460	
2469	

Antenna Type:	PCB ANT
Antenna Gain:	5dBi(Provided by the applicant)
Power Supply:	DC3V

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4 TEST ENVIRONMENT

Environment	Temperature	Voltage
Normal	25℃	DC3V

5 TEST MODE

TEST MODE	TEST MODE DESCRIPTION
Transmitting mode	Keep the EUT in continuously transmitting mode with modulation.

6 MEASUREMENT UNCERTAINTY

Parameter	Expanded Uncertainty (Confidence of 95%)
Radiated Emission(9kHz-30MHz)	±4.34dB
Radiated Emission(30Mz-1000MHz)	±4.24dB
Radiated Emission(1GHz-18GHz)	±4.68dB
AC Power Line Conducted Emission(150kHz-30MHz)	±3.45dB

Parameter	Expanded Uncertainty (Confidence of 95%)
Occupied Channel Bandwidth	±5 %
RF output power, conducted	±1.5 dB
Power Spectral Density, conducted	±3.0 dB
Unwanted Emissions, conducted	±3.0 dB
Temperature	±3 °C
Supply voltages	±3 %
Time	±5 %
Radiated Emission (30MHz ~ 1000MHz)	±4.35 dB
Radiated Emission (1GHz ~ 18GHz)	±4.44 dB

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7 DESCRIPTION OF SUPPORT UNIT

Device Type	Manufacturer	Model Name	Serial No.	Remark
--	--	--	--	--

Note:
"--" means no any support device during testing.

8 LABORATORY LOCATION

All tests were performed at:
BlueAsia of Technical Services(Shenzhen) Co., Ltd.
Building C, No. 107, Shihuan Road, Shiyan Sub-District, Baoan District, Shenzhen, Guangdong Province, China
Telephone: TEL: +86-755-28682673 FAX: +86-755-28682673
No tests were sub-contracted.

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9 TEST INSTRUMENTS LIST

Test Equipment Of Radiated Emissions					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal.Date**	**Cal.Due**
Chamber	SKET	966	N/A	10/11/2020	9/11/2023
Spectrum	R&S	FSP40	100817	24/9/2021	23/9/2022
Receiver	R&S	ESR7	101199	24/9/2021	23/9/2022
broadband Antenna	Schwarzbeck	VULB9168	00836 P:00227	26/9/2020	25/9/2022
Horn Antenna	Schwarzbeck	9120D	01892 P:00331	26/9/2020	25/9/2022
Amplifier	SKET	LNPA-0118-45	N/A	24/9/2021	23/9/2022
EMI software	EZ	EZ-EMC	N/A	N/A	N/A
Loop antenna	SCHNARZBECK	FMZB1519B	00102	26/9/2020	25/9/2022

Test Equipment Of Restricted Band Around Fundamental Frequency					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal.Date**	**Cal.Due**
Chamber	SKET	966	N/A	10/11/2020	9/11/2023
Spectrum	R&S	FSP40	100817	24/9/2021	23/9/2022
Receiver	R&S	ESR7	101199	24/9/2021	23/9/2022
broadband Antenna	Schwarzbeck	VULB9168	00836 P:00227	26/9/2020	25/9/2022
Horn Antenna	Schwarzbeck	9120D	01892 P:00331	26/9/2020	25/9/2022
Amplifier	SKET	LNPA-0118-45	N/A	24/9/2021	23/9/2022
EMI software	EZ	EZ-EMC	N/A	N/A	N/A
Loop antenna	SCHNARZBECK	FMZB1519B	00102	26/9/2020	25/9/2022

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Test Equipment Of Field Strength of the Fundamental Signal (15.249(a))					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal.Date**	**Cal.Due**
Chamber	SKET	966	N/A	10/11/2020	9/11/2023
Spectrum	R&S	FSP40	100817	24/9/2021	23/9/2022
Receiver	R&S	ESR7	101199	24/9/2021	23/9/2022
broadband Antenna	Schwarzbeck	VULB9168	00836 P:00227	26/9/2020	25/9/2022
Horn Antenna	Schwarzbeck	9120D	01892 P:00331	26/9/2020	25/9/2022
Amplifier	SKET	LNPA-0118-45	N/A	24/9/2021	23/9/2022
EMI software	EZ	EZ-EMC	N/A	N/A	N/A
Loop antenna	SCHNARZBECK	FMZB1519B	00102	26/9/2020	25/9/2022

Test Equipment Of 20dB Bandwidth					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal.Date**	**Cal.Due**
Shield room	SKET	833	N/A	25/11/2020	24/11/2023
Receiver	R&S	ESPI3	101082	24/9/2021	23/9/2022
LISN	R&S	ENV216	3560.6550.15	24/9/2021	23/9/2022
LISN	AT	AT166-2	AKK1806000003	26/9/2021	25/9/2022
EMI software	EZ	EZ-EMC	N/A	N/A	N/A

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10 RADIATED EMISSIONS

Test Standard	47 CFR Part 15, Subpart C 15.249
Test Method	ANSI C63.10 (2013) Section 6.4&6.5&6.6
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25℃
Humidity	60%

10.1 LIMITS

Frequency	Field strength (microvolt/meter)	Limit (dBμV/m)	Remark	Measurement distance (m)
0.009MHz-0.490MHz	2400/F (kHz)	-	-	300
0.490MHz-1.705MHz	24000/F (kHz)	-	-	30
1.705MHz-30MHz	30	-	-	30
30MHz-88MHz	100	40.0	Quasi-peak	3
88MHz-216MHz	150	43.5	Quasi-peak	3
216MHz-960MHz	200	46.0	Quasi-peak	3
960MHz-1GHz	500	54.0	Quasi-peak	3
Above 1GHz	500	54.0	Average	3

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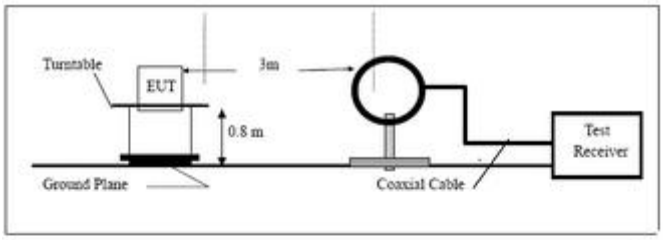
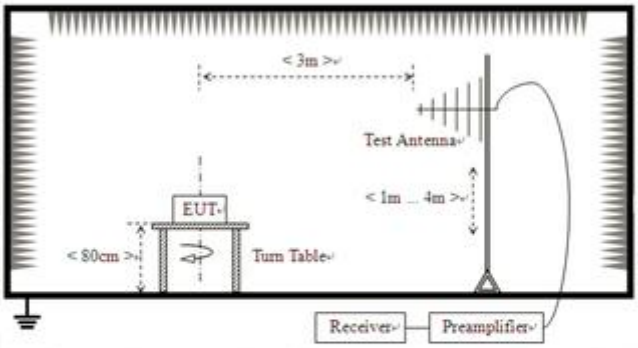
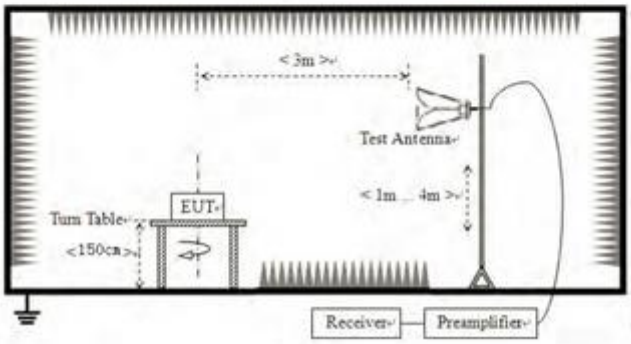
10.2 BLOCK DIAGRAM OF TEST SETUP







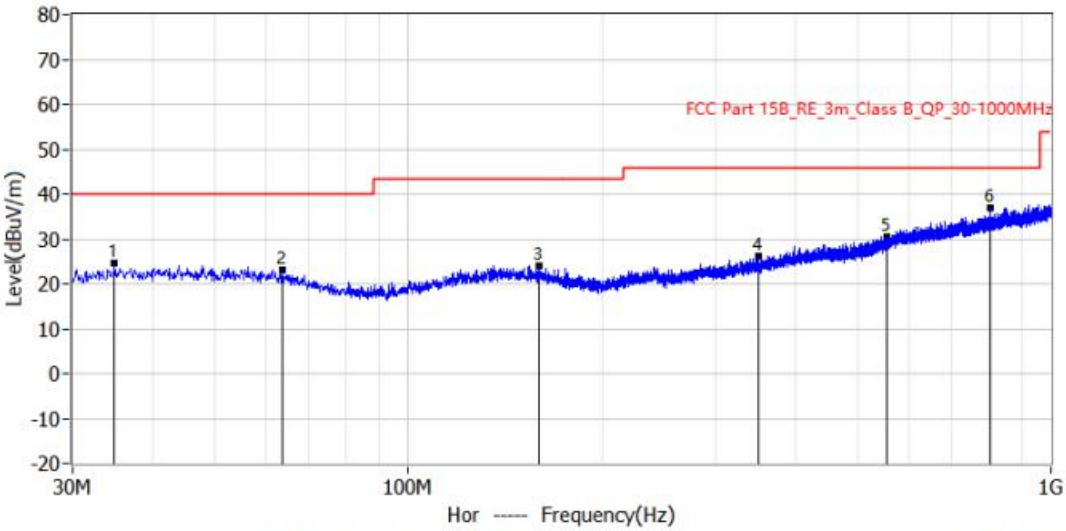
10.3 PROCEDURE

For testing performed with the loop antenna, the center of the loop was positioned 1 m above the ground and positioned with its plane vertical at the specified distance from the EUT. During testing the loop was rotated about its vertical axis for maximum response at each azimuth and also investigated with the loop positioned in the horizontal plane. Only the worst position of vertical was shown in the report.

10.4 TEST DATA

[TestMode: TX below 1G]; [Polarity: Horizontal]

Test Lab: BlueAsia EMC Lab（RE #1）	Project: BLA-EMC-202201-A24
EUT: Telecontroller	Test Engineer: York
M/N: DR-A215	Temperature:
S/N:	Humidity:
Test Mode: TX mode	Test Voltage:
Note:	Test Data: 2022-01-19 17:03:12

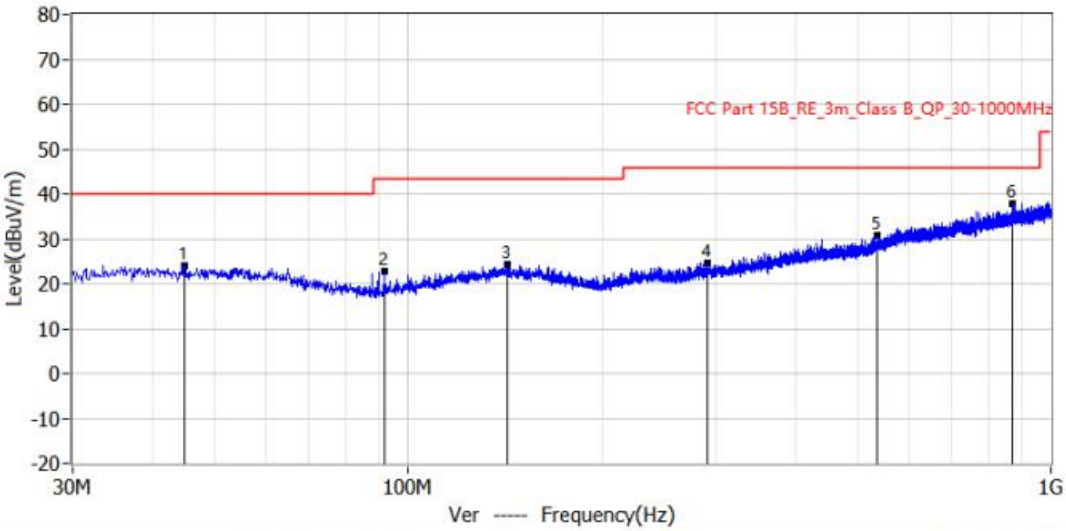


No.	Frequency	Limit dBuV/m	Level dBuV/m	Delta dB	Reading dBuV	Factor dB/m	Detector	Polar	Height cm	Angle deg
1*	34.850MHz	40.0	24.6	-15.4	1.0	23.6	QP	Hor	100.0	196.0
2*	63.465MHz	40.0	23.2	-16.8	0.4	22.8	QP	Hor	100.0	250.0
3*	159.495MHz	43.5	24.1	-19.4	0.8	23.3	QP	Hor	100.0	294.0
4*	349.979MHz	46.0	26.1	-19.9	0.4	25.7	QP	Hor	100.0	244.0
5*	555.740MHz	46.0	30.4	-15.6	0.4	30.0	QP	Hor	100.0	41.0
6*	803.818MHz	46.0	36.9	-9.1	2.7	34.2	QP	Hor	100.0	29.0

Test Result: Pass

[TestMode: TX below 1G]; [Polarity: Vertical]

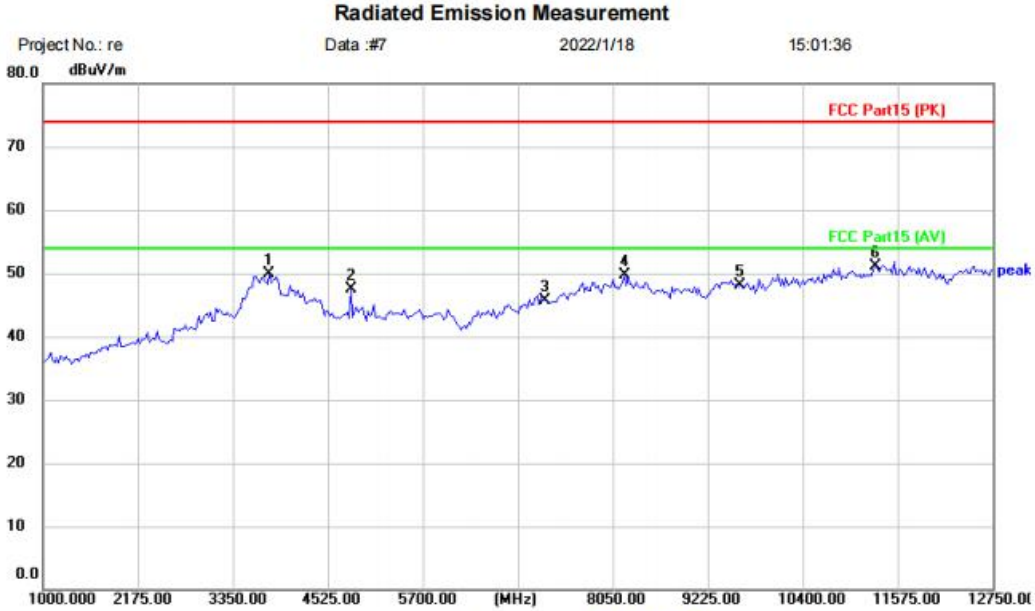
Test Lab: BlueAsia EMC Lab（RE #1）	Project: BLA-EMC-202201-A24
EUT: Telecontroller	Test Engineer: York
M/N: DR-A215	Temperature:
S/N:	Humidity:
Test Mode: TX mode	Test Voltage:
Note:	Test Data: 2022-01-19 17:05:28



No.	Frequency	Limit dBuV/m	Level dBuV/m	Delta dB	Reading dBuV	Factor dB/m	Detector	Polar	Height cm	Angle deg
1*	44.793MHz	40.0	24.1	-15.9	0.1	24.0	QP	Ver	100.0	0.0
2*	91.716MHz	43.5	22.9	-20.6	3.4	19.5	QP	Ver	100.0	253.0
3*	142.278MHz	43.5	24.4	-19.1	0.7	23.7	QP	Ver	100.0	73.0
4*	291.536MHz	46.0	24.5	-21.5	0.6	23.9	QP	Ver	100.0	55.0
5*	535.370MHz	46.0	30.7	-15.3	1.3	29.4	QP	Ver	100.0	139.0
6*	870.626MHz	46.0	37.9	-8.1	3.2	34.7	QP	Ver	100.0	255.0

Test Result: Pass

[TestMode: TX low channel]; [Polarity: Horizontal]



Site
Limit: FCC Part15 (PK)
EUT: S15G
M/N: DR-A215
Mode: TX-L
Note:

Polarization: ***Horizontal***
Power:

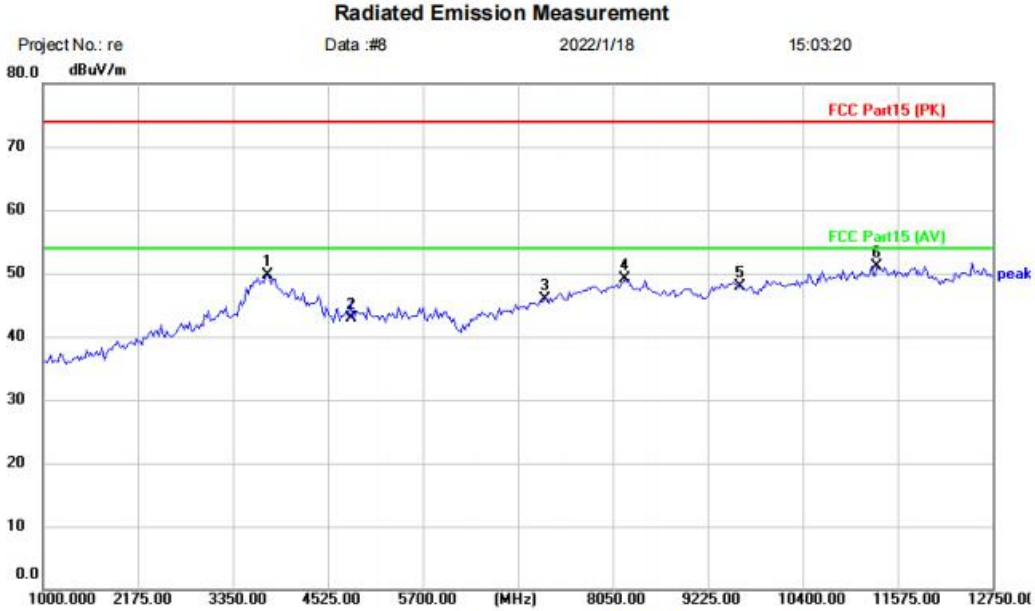
Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		3796.500	42.35	7.65	50.00	74.00	-24.00	peak	
2		4807.000	43.70	3.71	47.41	74.00	-26.59	peak	
3		7221.000	39.77	6.02	45.79	74.00	-28.21	peak	
4		8191.000	41.53	8.20	49.73	74.00	-24.27	peak	
5		9628.000	38.73	9.34	48.07	74.00	-25.93	peak	
6	*	11293.000	39.23	11.91	51.14	74.00	-22.86	peak	

*:Maximum data x:Over limit !:over margin (Reference Only

Test Result: Pass

[TestMode: TX low channel]; [Polarity: Vertical]



Site
Limit: FCC Part15 (PK)
EUT: S15G
M/N: DR-A215
Mode: TX-L
Note:

Polarization: *Vertical*
Power:

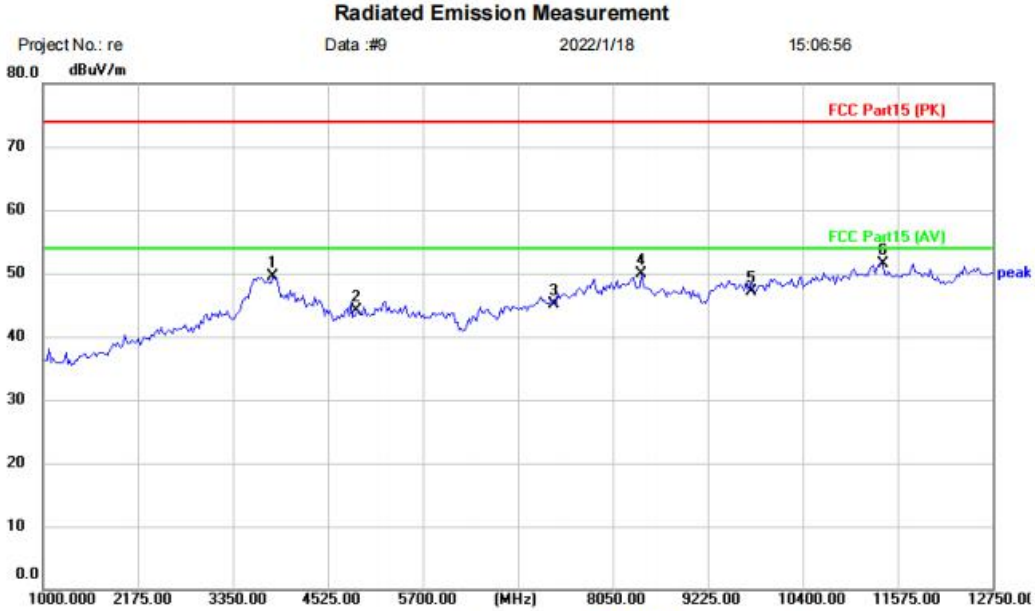
Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		3773.000	41.96	7.67	49.63	74.00	-24.37	peak	
2		4814.000	39.30	3.67	42.97	74.00	-31.03	peak	
3		7221.000	39.85	6.02	45.87	74.00	-28.13	peak	
4		8191.000	40.89	8.20	49.09	74.00	-24.91	peak	
5		9628.000	38.54	9.34	47.88	74.00	-26.12	peak	
6	*	11316.500	39.29	11.88	51.17	74.00	-22.83	peak	

*:Maximum data x:Over limit !:over margin (Reference Only

Test Result: Pass

[TestMode: TX mid channel]; [Polarity: Vertical]



Site
Limit: FCC Part15 (PK)
EUT: S15G
M/N: DR-A215
Mode: TX-M
Note:

Polarization: *Vertical*
Power:

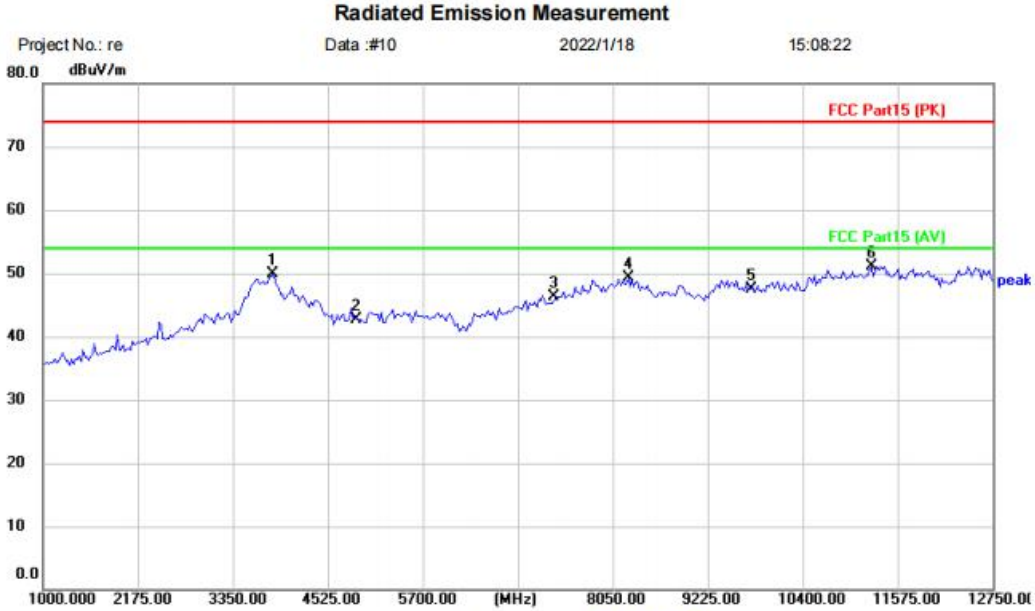
Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		3843.500	42.45	7.12	49.57	74.00	-24.43	peak	
2		4884.000	40.85	3.34	44.19	74.00	-29.81	peak	
3		7323.000	38.75	6.43	45.18	74.00	-28.82	peak	
4		8402.500	41.58	8.28	49.86	74.00	-24.14	peak	
5		9768.000	37.44	9.63	47.07	74.00	-26.93	peak	
6	*	11387.000	39.77	11.78	51.55	74.00	-22.45	peak	

*:Maximum data x:Over limit !:over margin (Reference Only

Test Result: Pass

[TestMode: TX mid channel]; [Polarity: Horizontal]



Site
Limit: FCC Part15 (PK)
EUT: S15G
M/N: DR-A215
Mode: TX-M
Note:

Polarization: ***Horizontal***
Power:

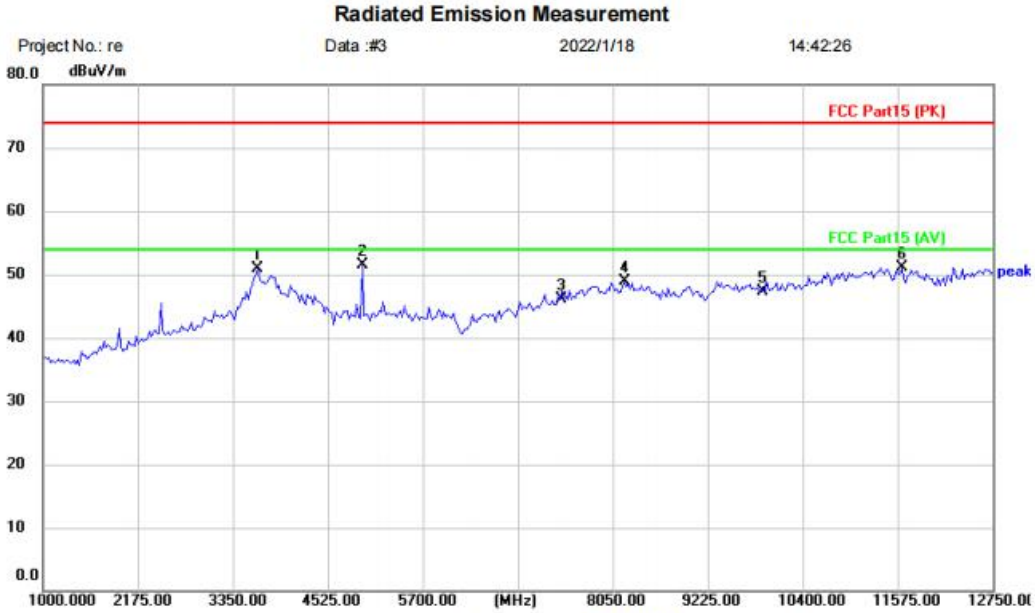
Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		3843.500	42.73	7.12	49.85	74.00	-24.15	peak	
2		4884.000	39.32	3.34	42.66	74.00	-31.34	peak	
3		7326.000	39.80	6.44	46.24	74.00	-27.76	peak	
4		8238.000	41.15	8.22	49.37	74.00	-24.63	peak	
5		9768.000	37.83	9.63	47.46	74.00	-26.54	peak	
6	*	11246.000	39.14	11.98	51.12	74.00	-22.88	peak	

*:Maximum data x:Over limit !:over margin (Reference Only

Test Result: Pass

[TestMode: TX high channel]; [Polarity: Vertical]



Site
Limit: FCC Part15 (PK)
EUT: S15G
M/N: DR-A215
Mode: TX-H
Note:

Polarization: *Vertical*
Power:

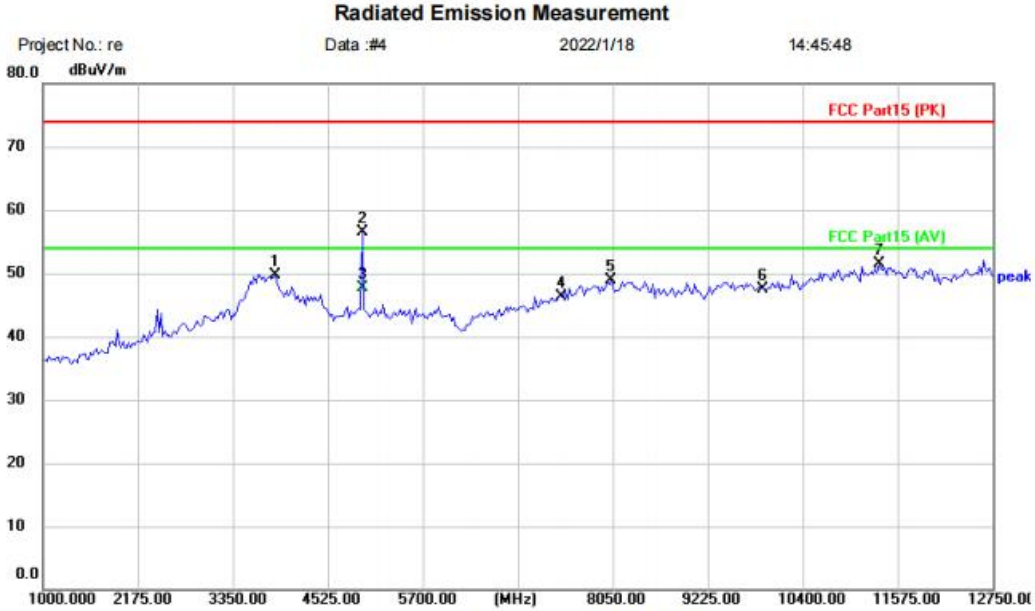
Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		3655.500	43.16	7.76	50.92	74.00	-23.08	peak	
2	*	4948.000	47.76	3.65	51.41	74.00	-22.59	peak	
3		7431.000	39.29	6.84	46.13	74.00	-27.87	peak	
4		8191.000	40.70	8.20	48.90	74.00	-25.10	peak	
5		9908.000	37.22	10.11	47.33	74.00	-26.67	peak	
6		11622.000	39.18	12.00	51.18	74.00	-22.82	peak	

*:Maximum data x:Over limit !:over margin ⟨Reference Only

Test Result: Pass

[TestMode: TX high channel]; [Polarity: Horizontal]



Site
Limit: FCC Part15 (PK)
EUT: S15G
M/N: DR-A215
Mode: TX-H
Note:

Polarization: ***Horizontal***
Power:

Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		3867.000	42.92	6.82	49.74	74.00	-24.26	peak	
2		4948.000	52.87	3.65	56.52	74.00	-17.48	peak	
3	*	4948.000	44.10	3.65	47.75	54.00	-6.25	AVG	
4		7431.000	39.38	6.84	46.22	74.00	-27.78	peak	
5		8026.500	40.85	7.98	48.83	74.00	-25.17	peak	
6		9908.000	37.42	10.11	47.53	74.00	-26.47	peak	
7		11340.000	39.62	11.85	51.47	74.00	-22.53	peak	

*:Maximum data x:Over limit !:over margin (Reference Only

Test Result: Pass

11 RESTRICTED BAND AROUND FUNDAMENTAL FREQUENCY

Test Standard	47 CFR Part 15, Subpart C 15.249
Test Method	ANSI C63.10 (2013) Section 6.4&6.5&6.6
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25℃
Humidity	60%

11.1 LIMITS

Frequency	Limit (dBμV/m @3m)	Remark
30MHz-88MHz	40.0	Quasi-peak Value
88MHz-216MHz	43.5	Quasi-peak Value
216MHz-960MHz	46.0	Quasi-peak Value
960MHz-1GHz	54.0	Quasi-peak Value
Above 1GHz	54.0	Average Value
	74.0	Peak Value

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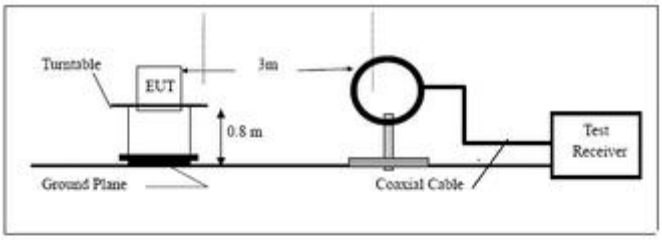
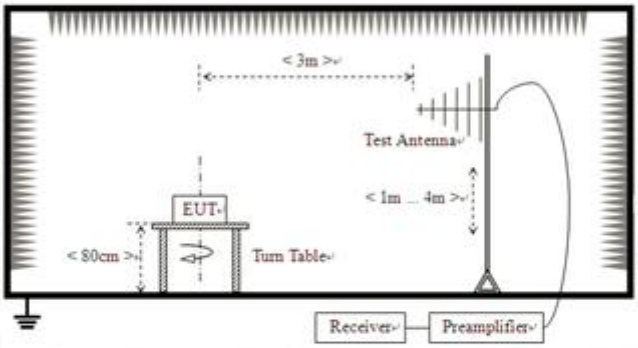
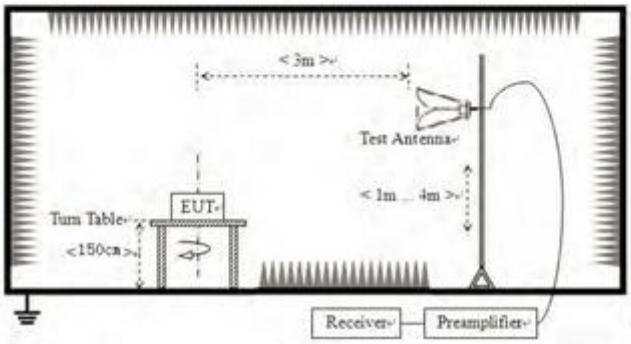
11.2 BLOCK DIAGRAM OF TEST SETUP







11.3 PROCEDURE

a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

h. Test the EUT in the lowest channel, the middle channel, the Highest channel.
i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
j. Repeat above procedures until all frequencies measured was complete.
Remark: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

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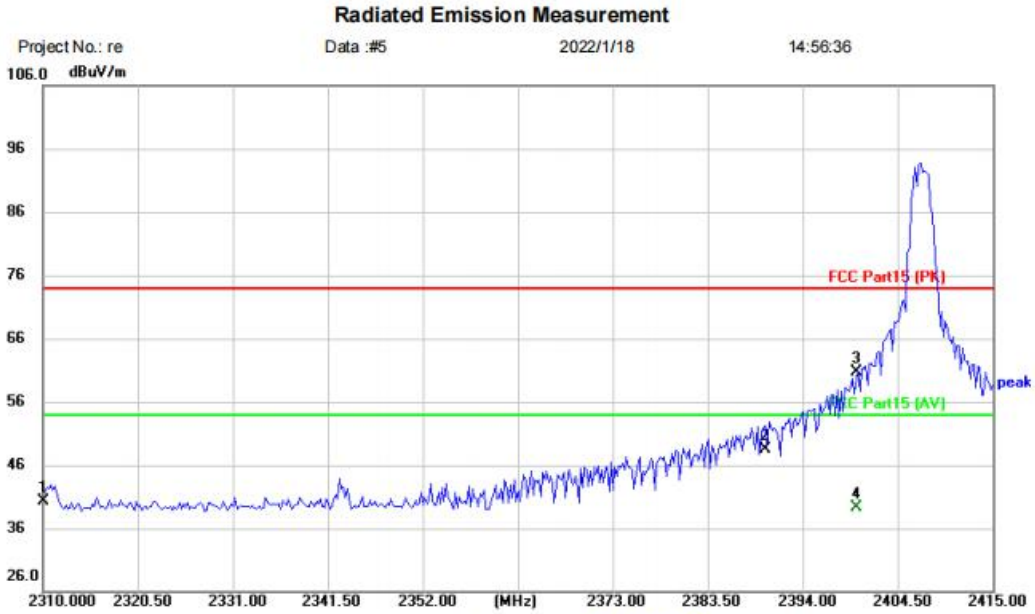
11.4 TEST DATA

[TestMode: TX low channel]; [Polarity: Horizontal]



Site
Limit: FCC Part15 (PK)
EUT: S15G
M/N: DR-A215
Mode: TX-L
Note:

Polarization: ***Horizontal***
Power:

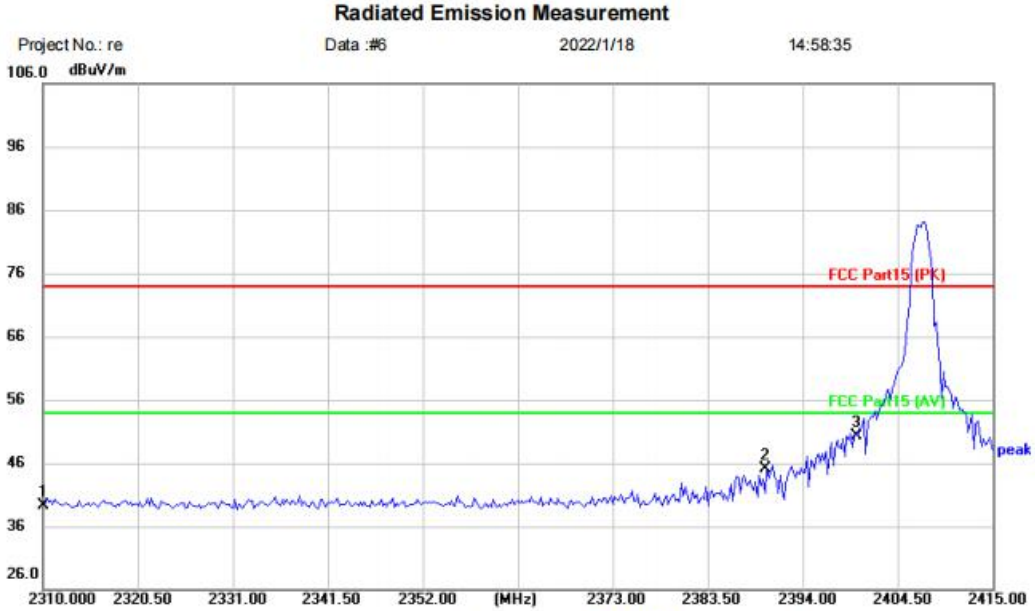
Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		2310.000	44.18	-3.93	40.25	74.00	-33.75	peak	
2		2390.000	52.18	-3.58	48.60	74.00	-25.40	peak	
3	*	2400.000	64.18	-3.54	60.64	74.00	-13.36	peak	
4		2400.000	42.80	-3.54	39.26	54.00	-14.74	AVG	

*:Maximum data x:Over limit !:over margin (Reference Only

Test Result: Pass

[TestMode: TX low channel]; [Polarity: Vertical]



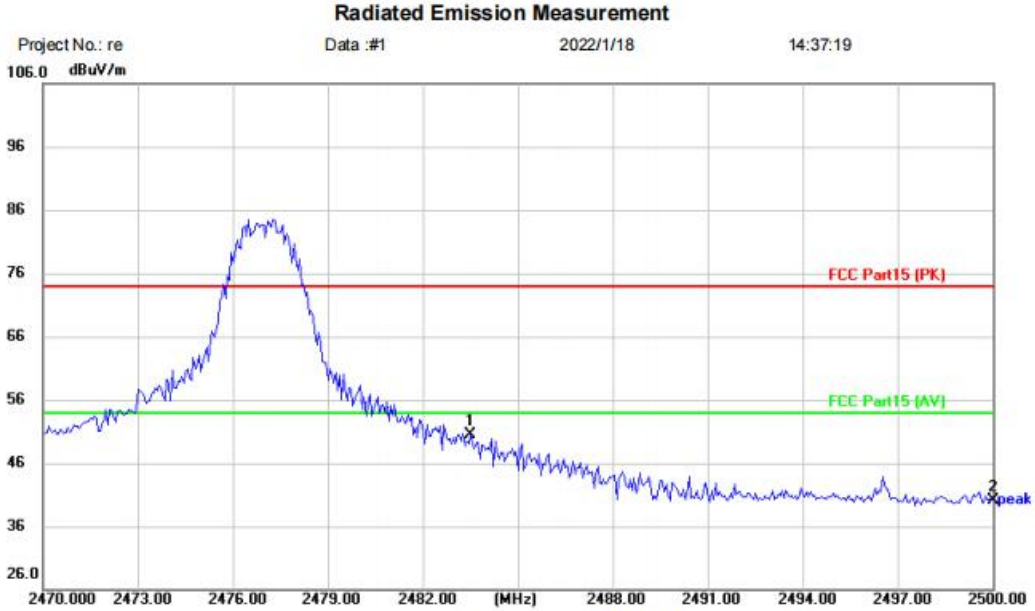
Site
Polarization: *Vertical*
Temperature: (C)
Limit: FCC Part15 (PK)
Power:
Humidity: %RH
EUT: S15G
M/N: DR-A215
Mode: TX-L
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		2310.000	43.25	-3.93	39.32	74.00	-34.68	peak	
2		2390.000	48.69	-3.58	45.11	74.00	-28.89	peak	
3	*	2400.000	53.83	-3.54	50.29	74.00	-23.71	peak	

*:Maximum data x:Over limit !:over margin (Reference Only

Test Result: Pass

[TestMode: TX high channel]; [Polarity: Vertical]



Site
Limit: FCC Part15 (PK)
EUT: S15G
M/N: DR-A215
Mode: TX-H
Note:

Polarization: ***Vertical***
Power:

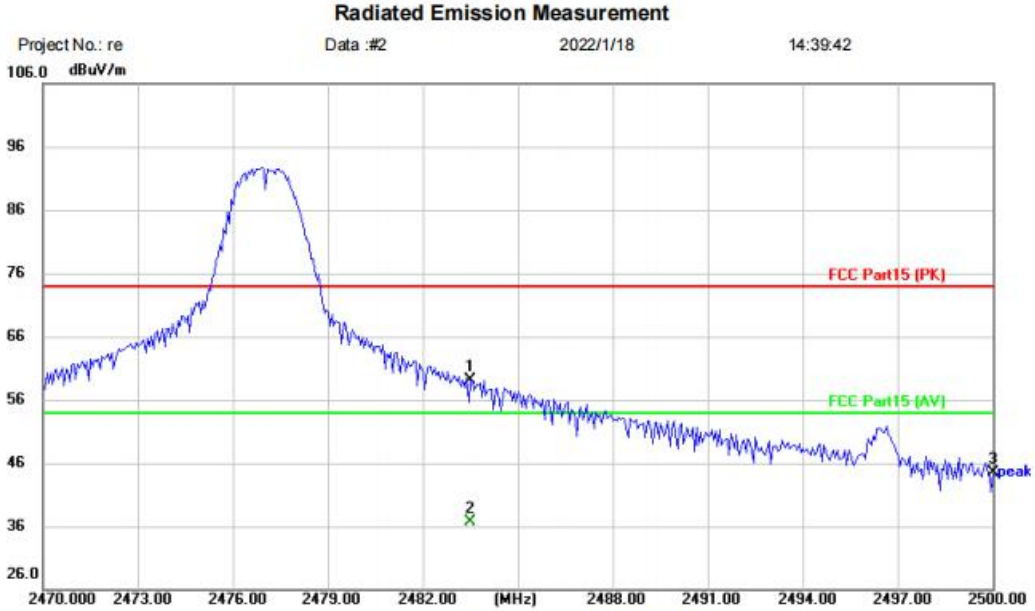
Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2483.500	53.56	-3.14	50.42	74.00	-23.58	peak	
2		2500.000	43.25	-3.08	40.17	74.00	-33.83	peak	

*:Maximum data x:Over limit !:over margin (Reference Only

Test Result: Pass

[TestMode: TX high channel]; [Polarity: Horizontal]



Site
Limit: FCC Part15 (PK)
EUT: S15G
M/N: DR-A215
Mode: TX-H
Note:

Polarization: ***Horizontal***
Power:

Temperature: (C)
Humidity: %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2483.500	62.24	-3.14	59.10	74.00	-14.90	peak	
2		2483.500	39.91	-3.14	36.77	54.00	-17.23	AVG	
3		2500.000	47.61	-3.08	44.53	74.00	-29.47	peak	

*:Maximum data x:Over limit !:over margin (Reference Only

Test Result: Pass

12 FIELD STRENGTH OF THE FUNDAMENTAL SIGNAL (15.249(A))

Test Standard	47 CFR Part 15, Subpart C 15.249
Test Method	ANSI C63.10 (2013) Section 6.5&6.6
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25℃
Humidity	60%

12.1 LIMITS

Frequency	Limit (dBμV/m @3m)	Remark
2400MHz-2483.5MHz	94.0	Average Value
	114.0	Peak Value

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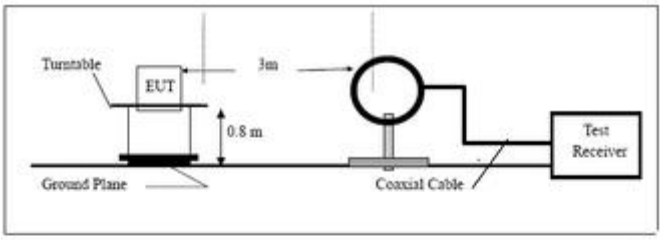
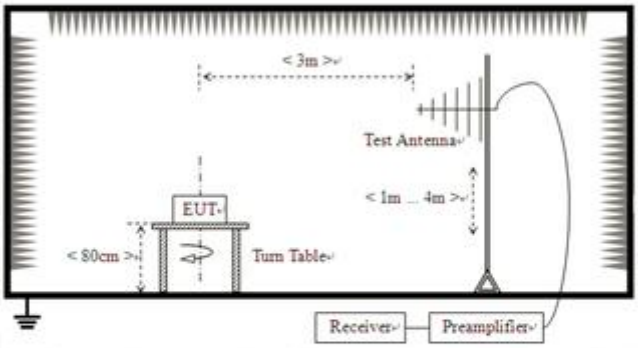
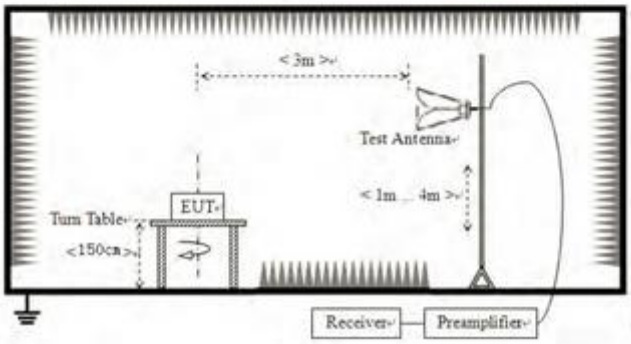
12.2 BLOCK DIAGRAM OF TEST SETUP







12.3 PROCEDURE

a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

h. Test the EUT in the lowest channel, the middle channel, the Highest channel.
i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
j. Repeat above procedures until all frequencies measured was complete.
Remark: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

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12.4 TEST DATA

Peak value:

Frequency (MHz)	Reading Level (dBuV)	Correct Factor (dB)	Level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Antenna Polaxis
2407	96.52	-3.51	93.01	114.00	-20.99	H
2407	85.39	-3.51	81.88	114.00	-32.12	V
2442	95.37	-3.34	92.03	114.00	-21.97	H
2442	84.79	-3.34	81.45	114.00	-32.55	V
2477	95.00	-3.17	91.83	114.00	-22.17	H
2477	83.96	-3.17	80.79	114.00	-33.21	V

Average value:

Frequency (MHz)	Reading Level (dBuV)	Correct Factor (dB)	Level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Antenna Polaxis
2407	84.05	-3.51	80.54	94.00	-13.46	H
2407	71.08	-3.51	67.57	94.00	-26.43	V
2442	81.50	-3.34	78.16	94.00	-15.84	H
2442	70.97	-3.34	67.63	94.00	-26.37	V
2477	82.21	-3.17	79.04	94.00	-14.96	H
2477	69.86	-3.17	66.69	94.00	-27.31	V

NOTE: RBW 3MHz VBW 10MHz ，PK detector is for PK value ,RMS detector is for AV value.

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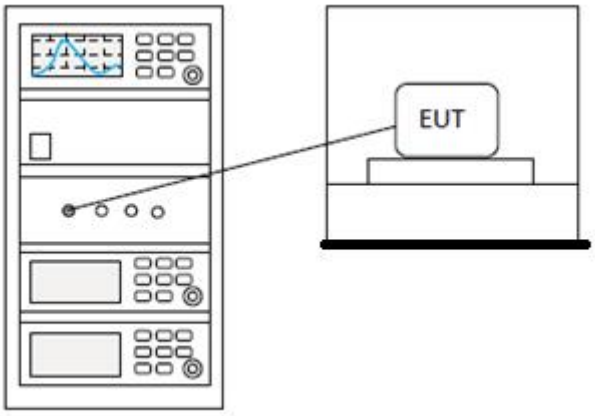
13 20DB BANDWIDTH

Test Standard	47 CFR Part 15, Subpart C 15.249
Test Method	ANSI C63.10 (2013) Section 6.9
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25℃
Humidity	60%

13.1 LIMITS

Limit:	N/A

13.2 BLOCK DIAGRAM OF TEST SETUP



13.3 TEST DATA

Pass: Please Refer To Appendix: Appendix1 For Details

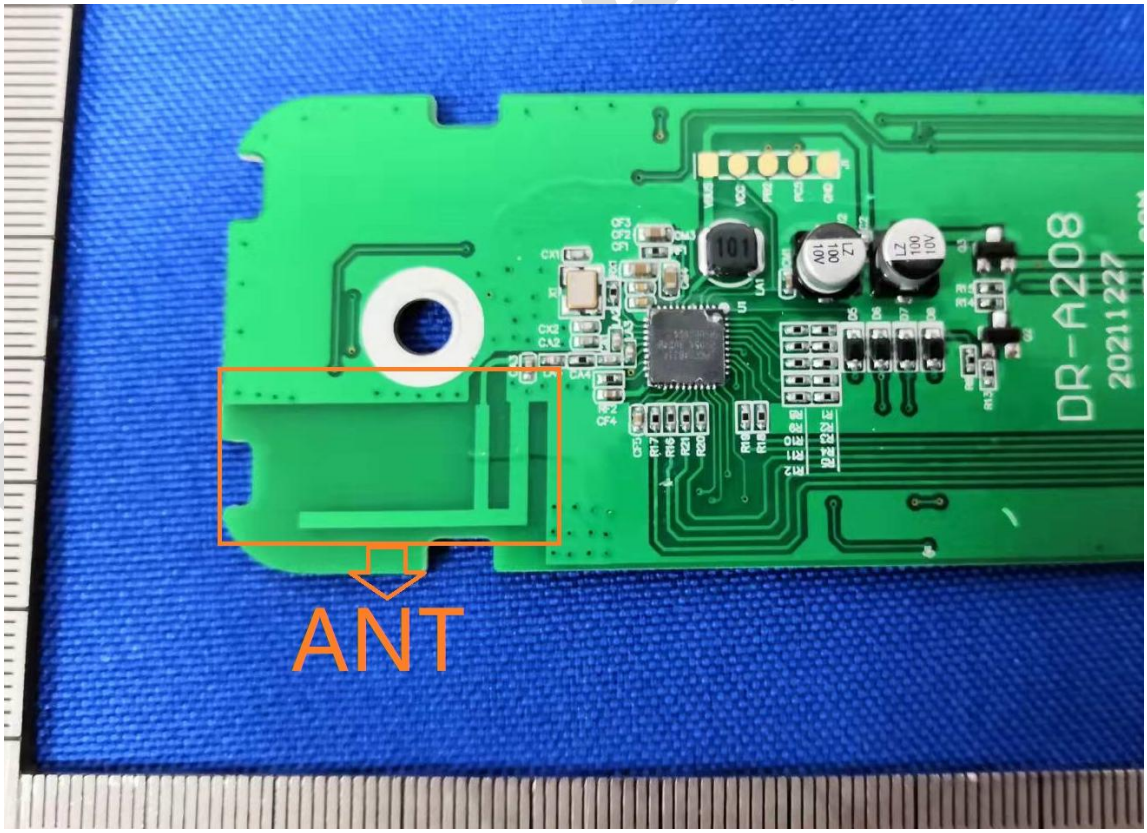
14 ANTENNA REQUIREMENT

Test Standard	47 CFR Part 15, Subpart C 15.249
Test Method	N/A

14.1 CONCLUSION

Standard Requirement:
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit permanently attached antenna or of an so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

EUT Antenna:
The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is 5dBi.

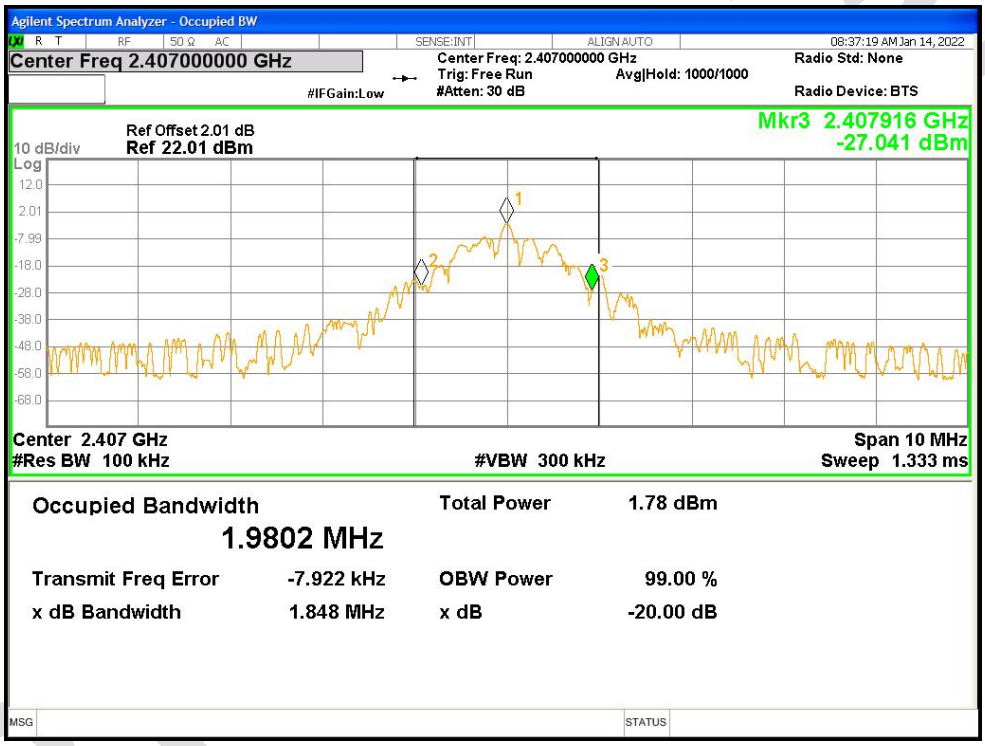


15 APPENDIX

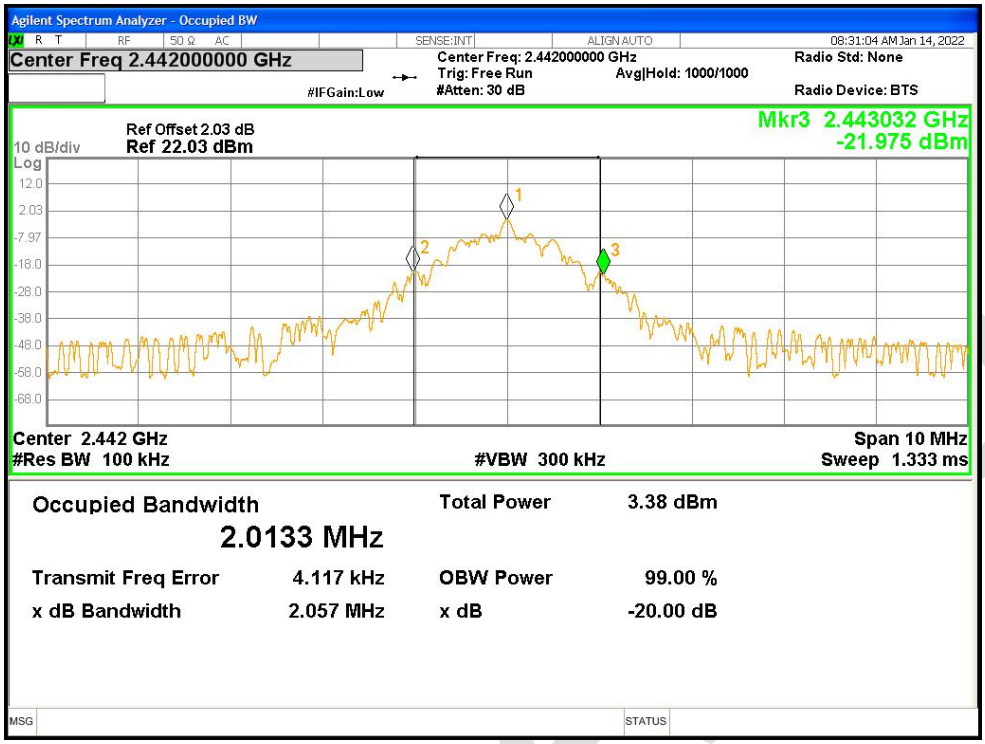
-20dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	GFSK	2407	Ant1	1.848	0.5	Pass
NVNT	GFSK	2442	Ant1	2.057	0.5	Pass
NVNT	GFSK	2477	Ant1	2.1	0.5	Pass

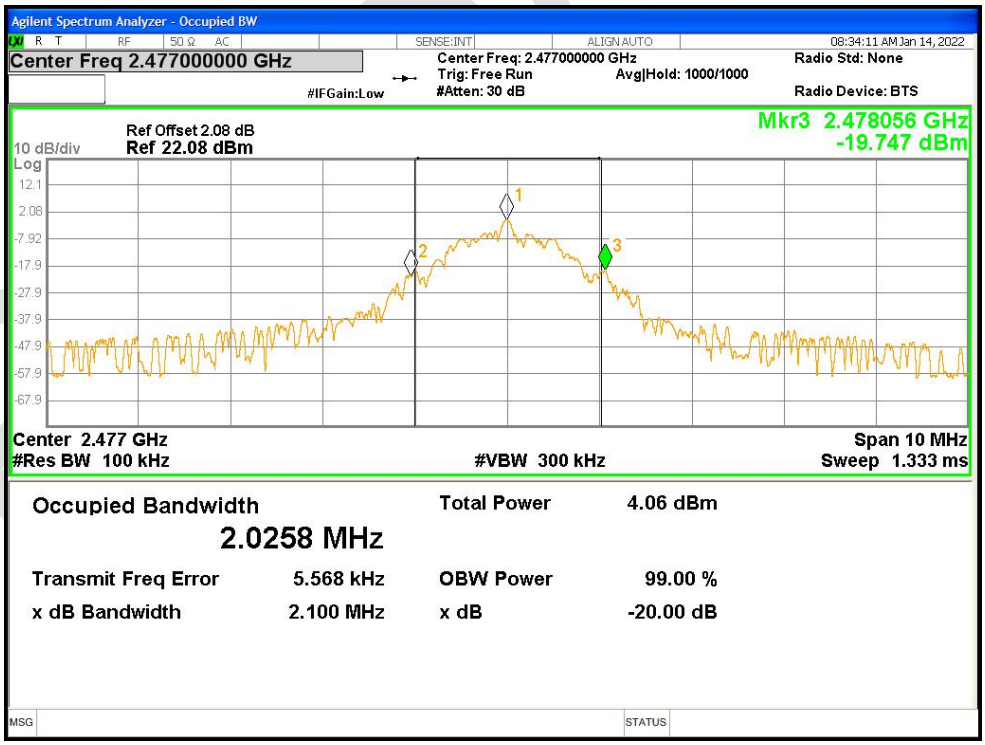
-20dB Bandwidth NVNT GFSK 2407MHz Ant1



-20dB Bandwidth NVNT GFSK 2442MHz Ant1



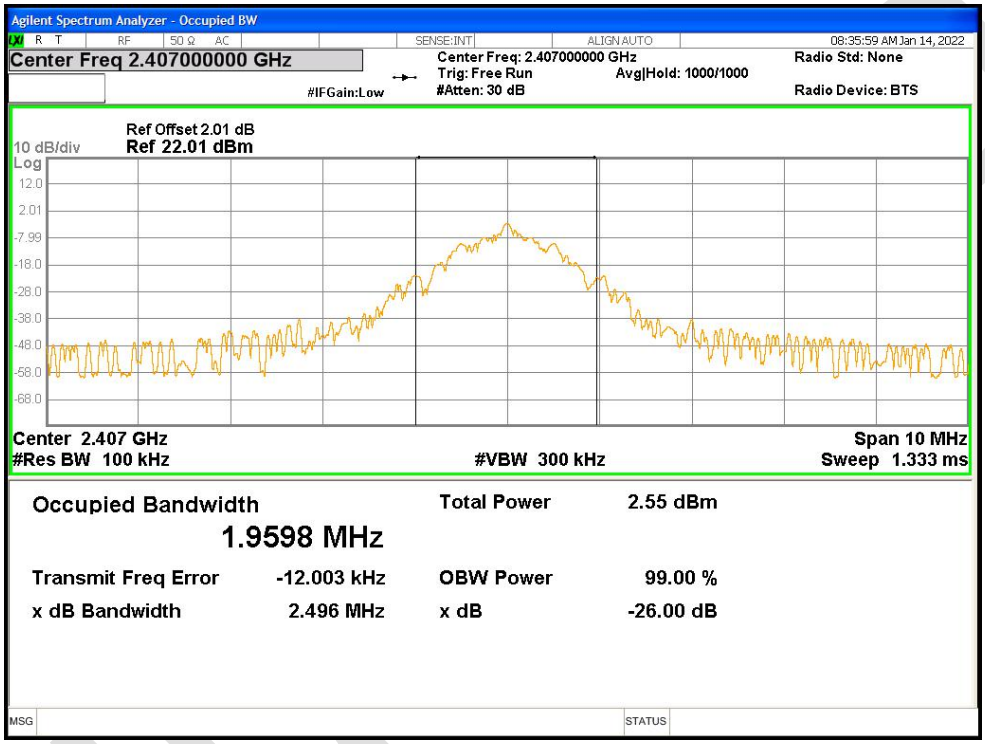
-20dB Bandwidth NVNT GFSK 2477MHz Ant1



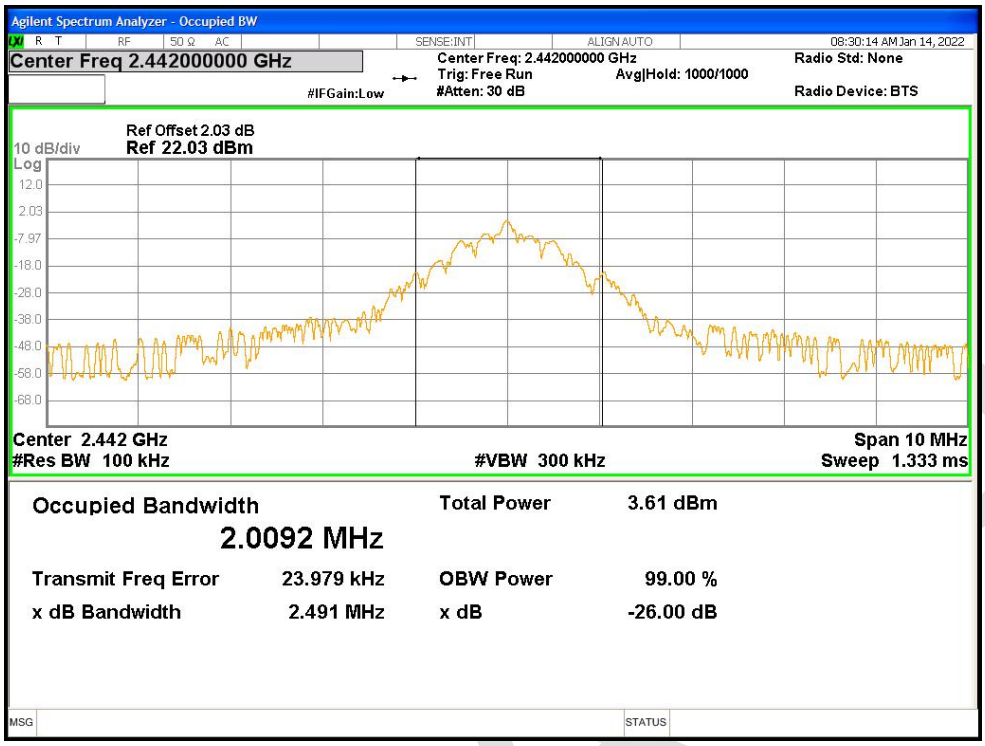
Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	GFSK	2407	Ant1	1.959753662
NVNT	GFSK	2442	Ant1	2.009197134
NVNT	GFSK	2477	Ant1	2.018422788

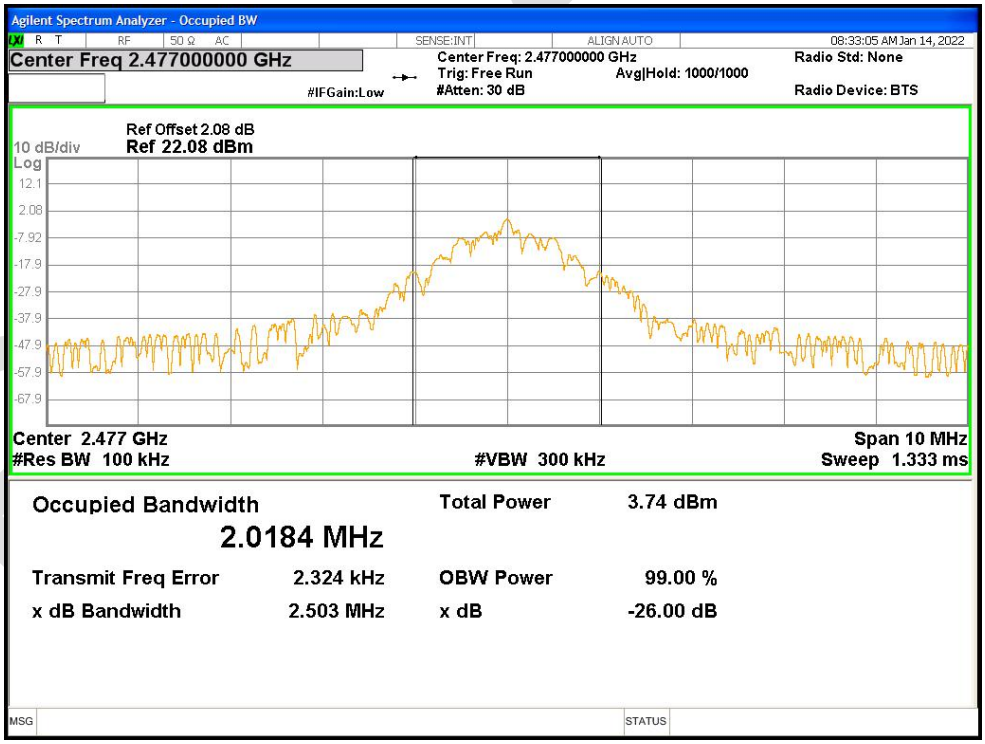
OBW NVNT GFSK 2407MHz Ant1



OBW NVNT GFSK 2442MHz Ant1

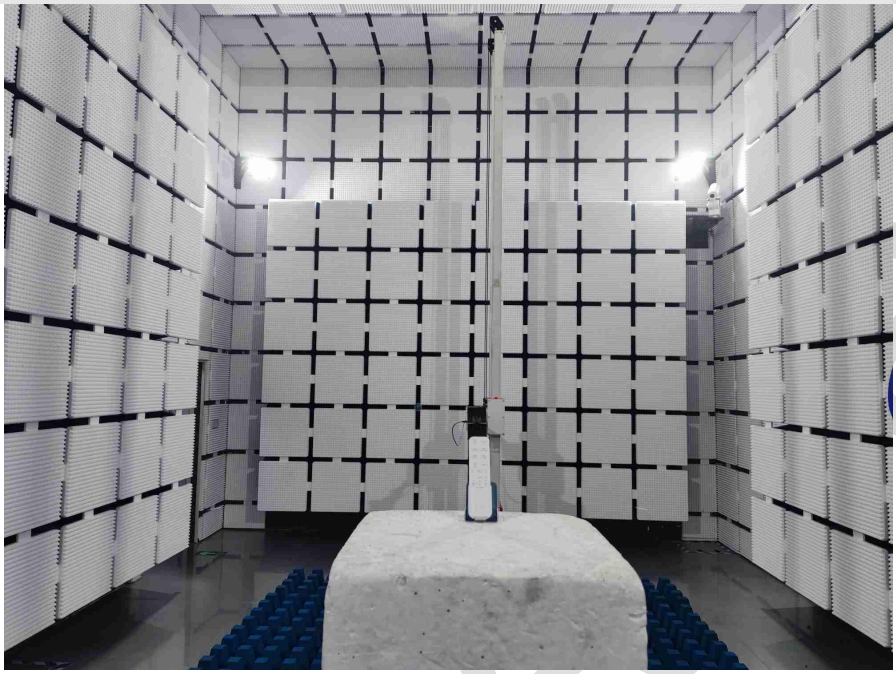


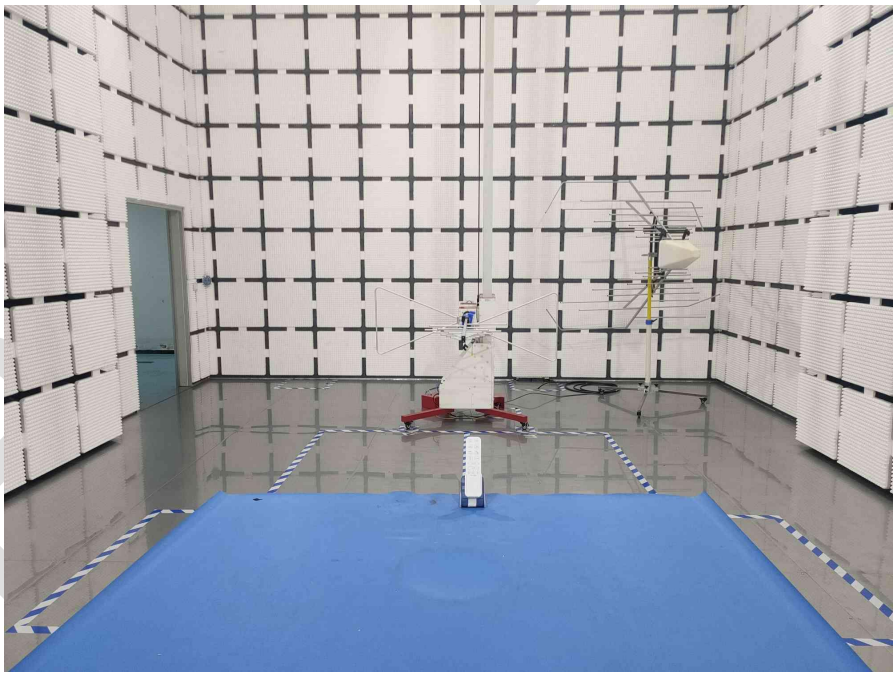
OBW NVNT GFSK 2477MHz Ant1



APPENDIX A: PHOTOGRAPHS OF TEST SETUP

Radiated Emissions





APPENDIX B: PHOTOGRAPHS OF EUT

Reference to the test report No. BLA-EMC-202201-A2401

----END OF REPORT----

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