



FCC RADIO TEST REPORT

FCC ID : A4RGR83Y

Equipment : Phone Model Name : GR83Y

Applicant : Google LLC

1600 Amphitheatre Parkway,

Mountain View, California, 94043 USA

Standard : 47 CFR FCC Part 15.519

The product was received on Dec. 20, 2023, and testing was performed from Dec. 28, 2023 to Apr. 08, 2024. We, Sporton International Inc. Wensan Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in 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. Wensan Laboratory, the test report shall not be reproduced except in full.

Approved by: Louis Wu

TEL: 886-3-327-0868

Louis Wu

Sporton International Inc. Wensan Laboratory

No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.)

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: Jul. 11, 2024

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Appendix A. Conducted Emissions Test Results

Appendix B. Setup Photographs

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Report No.: FR3N2325Q

History of this test report

Report No.: FR3N2325Q

Report No.	Version	Description	Issue Date
FR3N2325Q	01	Initial issue of report	Apr. 23, 2024
FR3N2325Q	02	Revise Section 1.1, Section 1.4, Section 3.2 and Section 3.5 This report is an updated version, replacing the report issued on Apr. 23, 2024.	
FR3N2325Q	03	Revise Section 3.5.7, Section 3.5.8 and Section 3.5.11 This report is an updated version, replacing the report issued on May 08, 2024.	May 10, 2024
FR3N2325Q	04	Revise Section 3.5.7, Section 3.5.8 and Section 3.5.11 This report is an updated version, replacing the report issued on May 10, 2024.	May 11, 2024
FR3N2325Q	Revise Section 3.5.9 ~ 3.5.10 FR3N2325Q O5 This report is an updated version, replacing the report issued on May 11, 2024.		May 13, 2024
FR3N2325Q 06		Revise Report No. This report is an updated version, replacing the report issued on May 13, 2024.	Jul. 11, 2024

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Summary of Test Result

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Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.2	15.203	Antenna Requirement	PASS	15.203
3.1	15.207	AC Power-line Conducted Emissions	PASS	15.207
3.2	15.503	UWB Bandwidth	PASS	≥ 500MHz
3.3	15.519(a)(1)	Technical requirements for Hand Held UWB systems	PASS	15.519(a)(1)
3.4	15.519(e)	Peak Power Measurement	PASS	≤ 0 dBm/50MHz
3.5	15.519(c) /15.519(d)	Radiated Emissions	PASS	UWB Emissions: 15.519(c) GPS Emissions: 15.519(d) Digital Emissions: 15.209

Conformity Assessment Condition:

- The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the
 regulation limits or in accordance with the requirements stipulated by the applicant/manufacturer who shall
 bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into
 account.
- 2. The measurement uncertainty please refer to each test result in the section "Measurement Uncertainty".

Disclaimer:

The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.

Reviewed by: William Chen Report Producer: Michelle Chen

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1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature

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General Specs

GSM/WCDMA/LTE/5G NR, Bluetooth, BLE, BLE channel sounding, Thread, Wi-Fi 802.11be, UWB, NFC, WPT, NTN and GNSS

Antenna Type

UWB:

<Ranging Antenna>: IFA Antenna

<Common AoA Antenna>: Patch Antenna

Antenna information				
6489.6 MHz	Peak Gain (dBi)	<ranging antenna="">: -4.8 <common antenna="" aoa="">: 1.2</common></ranging>		
7987.2 MHz	Peak Gain (dBi)	<ranging antenna="">: -2.6 <common antenna="" aoa="">: 2.2</common></ranging>		

Remark:

- The above EUT's information was declared by manufacturer. Please refer to Disclaimer in report summary.
- 2. The antenna gain is not used for all the test.
- 3. Mode 1 (CH5), mode 15 (CH5), mode 12 (CH9) and mode 14 (CH9) are selected as the worst mode to be reported for radiated spurious emission test.

EUT Information List		
S/N Performed Test Item		
3B131FDAP00078	Equivalent Isotropic Radiated Power	
	Radiated Spurious Emission	
3B131FDAP0007M	Conducted Emission	

1.2 Modification of EUT

No modifications are made to the EUT during all test items.

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1.3 Type of EUT

	Operational Condition				
EUT	EUT Power Type AC mains: AC voltage 120 V				
	Type of EUT				
	Stand-alone				
	Combined (EUT where the radio part is fully integrated within another device)				
	Combined Equipment - Brand Name / Model No.:				
	Plug-in radio (EUT intended for a variety of host systems)				
	Host System - Brand Name / Model No.:				
	Other:				

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1.4 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
- FCC KDB 414788 D01 Radiated Test Site v01r01
- FCC KDB 393764 D01 UWB FAQ v02r01.

Remark: The TAF code is not including all the FCC KDB listed without accreditation.

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1.5 Testing Location Information

Test Site	Sporton International Inc. Wensan Laboratory	
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855	
Test Site No.	Sporton Site No.	
rest site No.	03CH22-HY, CO07-HY	

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Note: The test site complies with ANSI C63.4 2014 requirement.

FCC designation No.: TW3786

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
Conduction	CO07-HY	Louis Chung	22.7 ~ 24.6 °C 54.2~ 59.7 %	Mar. 25, 2024
Radiated	Bank Lin, Lu d 03CH22-HY Wen-Kai and Karl Hou		22.5~23.5 °C 61.7~65.3 %	Dec. 28, 2023~ Apr. 08, 2024

1.6 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
AC Conduction (150kHz ~ 30MHz)	3.44 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1000MHz)	6.5 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 6GHz)	4.5 dB	Confidence levels of 95%
Radiated Emission (6GHz ~ 18GHz)	4.5 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	5.4 dB	Confidence levels of 95%

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2 Test Configuration of EUT

2.1 Test Mode

	Test Configuration					
Mode	Antenna	Channel	Modulation	Config ID	Payload Length (bytes)	
1	Ranging Antenna	5	BPRF	0	125	
2	Ranging Antenna	9	BPRF	0	125	
3	Common AoA	5	BPRF	0	125	
4	Common AoA	9	BPRF	0	125	
5	Ranging Antenna	5	BPRF	1	125	
6	Ranging Antenna	9	BPRF	1	125	
7	Common AoA	5	BPRF	1	125	
8	Common AoA	9	BPRF	1	125	
9	Ranging Antenna	5	BPRF	2	NA	
10	Ranging Antenna	9	BPRF	2	NA	
11	Common AoA	5	BPRF	2	NA	
12	Common AoA	9	BPRF	2	NA	
13	Ranging Antenna	5	HPRF	3	150	
14	Ranging Antenna	9	HPRF	3	150	
15	Common AoA	5	HPRF	3	150	
16	Common AoA	9	HPRF	3	150	
17	Ranging Antenna	5	HPRF	4	150	
18	Ranging Antenna	9	HPRF	4	150	
19	Common AoA	5	HPRF	4	150	
20	Common AoA	9	HPRF	4	150	
21	Ranging Antenna	5	HPRF	5	N/A	
22	Ranging Antenna	9	HPRF	5	N/A	
23	Common AoA	5	HPRF	5	N/A	
24	Common AoA	9	HPRF	5	N/A	
25	Ranging Antenna	5	HPRF	6	N/A	
26	Ranging Antenna	9	HPRF	6	N/A	
27	Common AoA	5	HPRF	6	N/A	
28	Common AoA	9	HPRF	6	N/A	

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2.2 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests		
Tests Item AC power-line conducted emissions		
Condition AC power-line conducted measurement for line and neutral Test Voltage: 120Vac / 60Hz		
Operating Mode	СТХ	
1	Adapter Mode	

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Remark:

- Please refer to 15.207 which states, "Measurements to demonstrate compliance with the conducted limits are not required for devices employ Battery for operation and which do not operate from the AC power lines or contain provisions for operation while connected to the AC power lines".
- 2. For Conducted Emission Test Cases, the tests were performed with Adapter 1 and USB Cable 2.

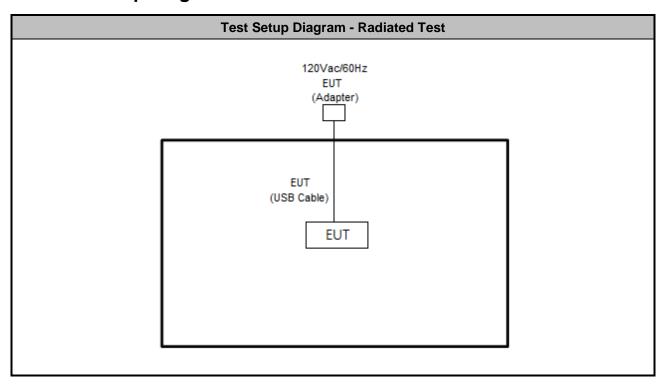
The Worst Case Mode for Following Conformance Tests								
Tests Item	UWB Bandwidth, Peak Power Measurement, Radiated Emissions							
Test Condition	Radiated measurement							
Operating Mode	CTX							
1	Adapter Mode	Adapter Mode						
Mode 1 configuration was tested	Mode 1 configuration was tested and found to be the worst case and measured during the test.							
Operating Mode > 1GHz	СТХ							
	X Plane	Y Plane	Z Plane					
Orthogonal Planes of EUT								
All Ranging Antenna CH05 Test Mode	V							
All Ranging Antenna CH09 Test Mode			V					
All Common AoA CH05 Test Mode		V						
All Common AoA CH09 Test Mode			V					

Remark

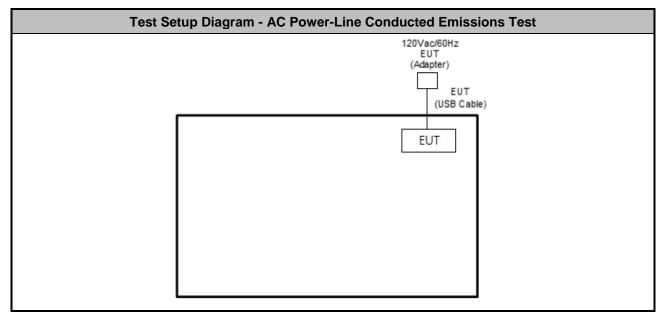
- The measured emission level of the EUT was maximized by rotating the EUT on a turntable, adjusting the orientation of the EUT and EUT antenna in three orthogonal axis (X: flat, Y: portrait, Z: landscape) and accessory (Adapter or Earphone), and adjusting the measurement antenna orientation, following C63.10 exploratory test procedures and find as worst plane, and recorded in this report.
- For Radiated Test Cases, the tests were performed with AC Adapter 1 and USB Cable 2.

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2.3 Test Setup Diagram



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2.4 Support Unit used in test configuration and system

ltem	Equipment	Brand Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Notebook	Lenovo	SL11B03776	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
2.	Spectrum Analyzer	FSW43	101456	N/A	N/A	N/A

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3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

AC Power-line Conducted Emissions Limit				
Frequency Emission (MHz)	Quasi-Peak	Average		
0.15-0.5	66 - 56 *	56 - 46 *		
0.5-5	56	46		
5-30	60	50		

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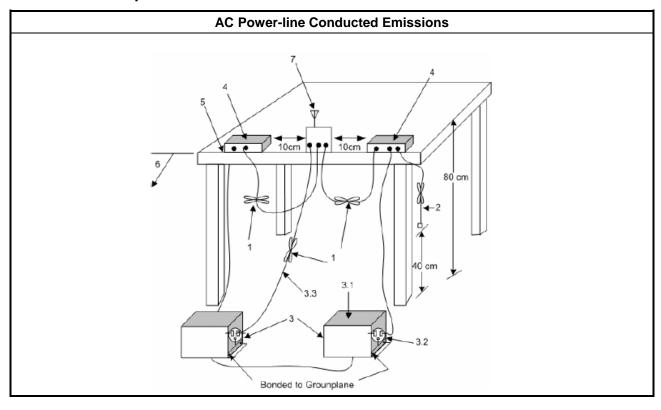
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

	Test Method
-	Refer as ANSI C63.10-2013, clause 6.2 for AC power-line conducted emissions.

3.1.4 Test Setup



3.1.5 Test Result

Please refer to Appendix A.

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3.2 UWB bandwidth

3.2.1 UWB bandwidth Limit

UWB bandwidth Limit

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UWB bandwidth ≥ 500 MHz or Fractional bandwidth ≥ 0.2; Fractional bandwidth = 2(f_H-f_L)/ (f_H + f_L)

3.2.2 Measuring Instruments

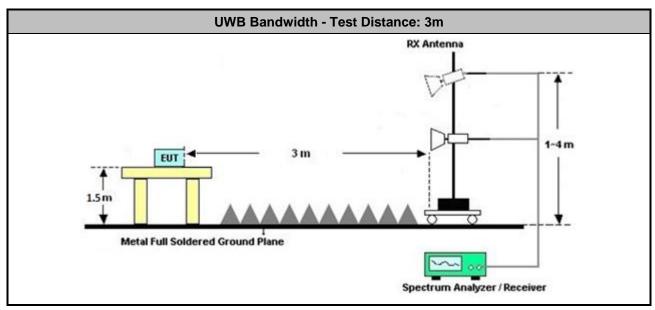
Refer a test equipment and calibration data table in this test report.

3.2.3 Test Procedures

Test Method

- For the UWB bandwidth shall be measured using one of the options below:
 - Refer as ANSI C63.10, clause 6.9.2 and clause 10.1 for UWB bandwidth testing.

3.2.4 Test Setup



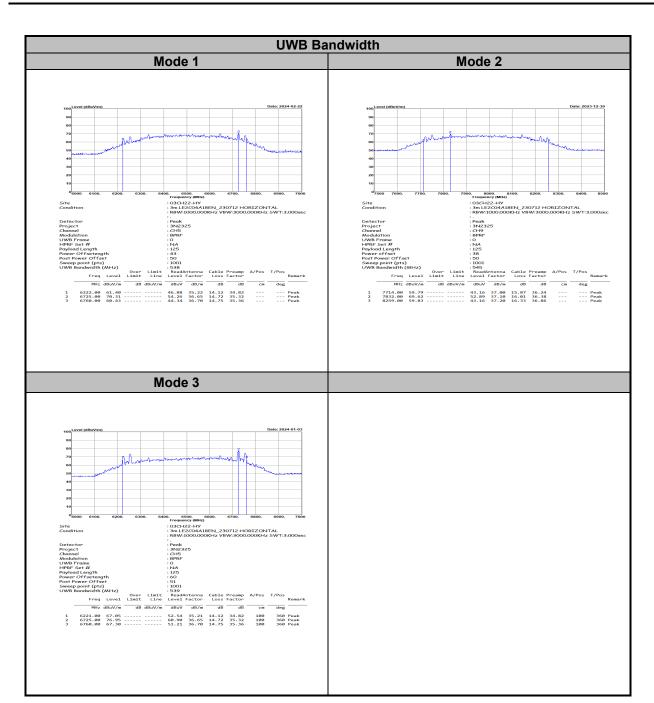
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3.2.5 Test Result of UWB Bandwidth

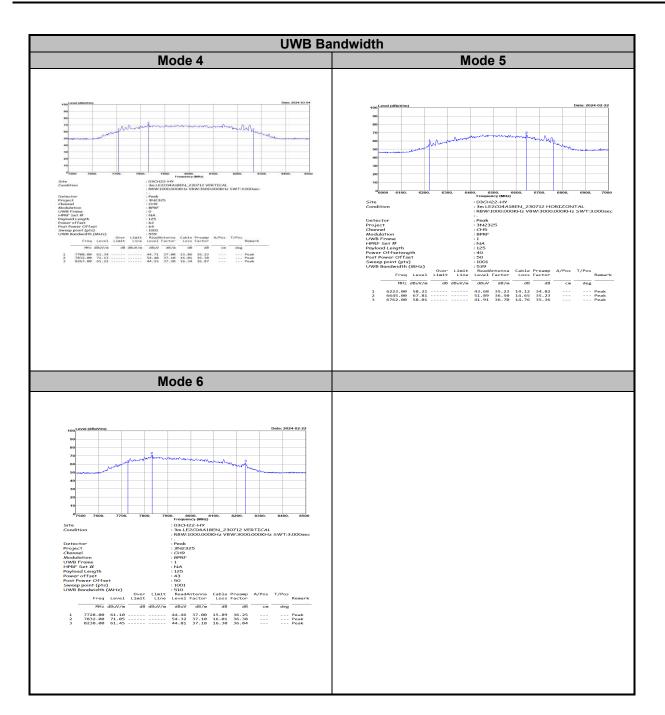
Test mode	F _L (MHz)	F _H (MHz)	UWB Bandwidth (MHz)	Bandwidth limit (MHz)	Result	Pol [H/V]
1	6222	6760	538	≥ 500	Pass	Н
2	7714	8259	545	≥ 500	Pass	Н
3	6221	6760	539	≥ 500	Pass	V
4	7717	8258	559	≥ 500	Pass	V
5	6223	6762	539	≥ 500	Pass	Н
6	7728	8238	510	≥ 500	Pass	V
7	6222	6759	537	≥ 500	Pass	V
8	7717	8257	540	≥ 500	Pass	V
9	6222	6760	538	≥ 500	Pass	Н
10	7713	8256	543	≥ 500	Pass	V
11	6223	6759	536	≥ 500	Pass	V
12	7717	8224	507	≥ 500	Pass	V
13	6250	6760	510	≥ 500	Pass	Н
14	7716	8254	538	≥ 500	Pass	V
15	6221	6760	539	≥ 500	Pass	V
16	7717	8257	540	≥ 500	Pass	V
17	6254	6757	503	≥ 500	Pass	Н
18	7702	8206	504	≥ 500	Pass	Н
19	6221	6761	540	≥ 500	Pass	V
20	7719	8255	536	≥ 500	Pass	V
21	6220	6758	538	≥ 500	Pass	Н
22	7717	8256	539	≥ 500	Pass	Н
23	6221	6759	538	≥ 500	Pass	V
24	7717	8257	540	≥ 500	Pass	V
25	6223	6758	535	≥ 500	Pass	Н
26	7712	8224	512	≥ 500	Pass	Н
27	6221	6763	542	≥ 500	Pass	V
28	7715	8255	540	≥ 500	Pass	V

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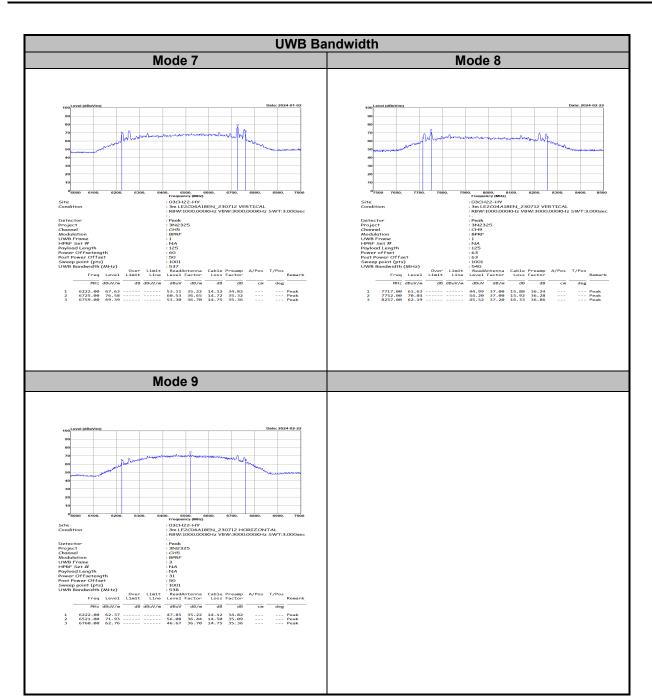
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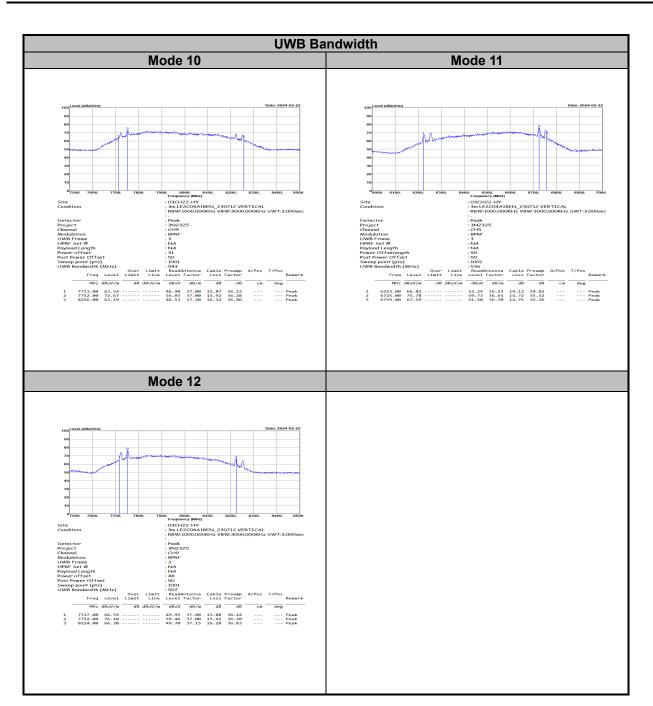
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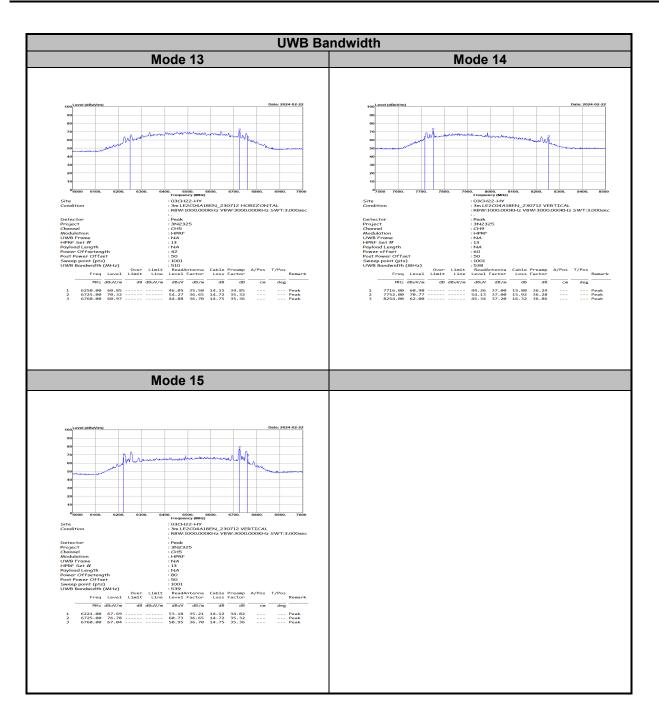
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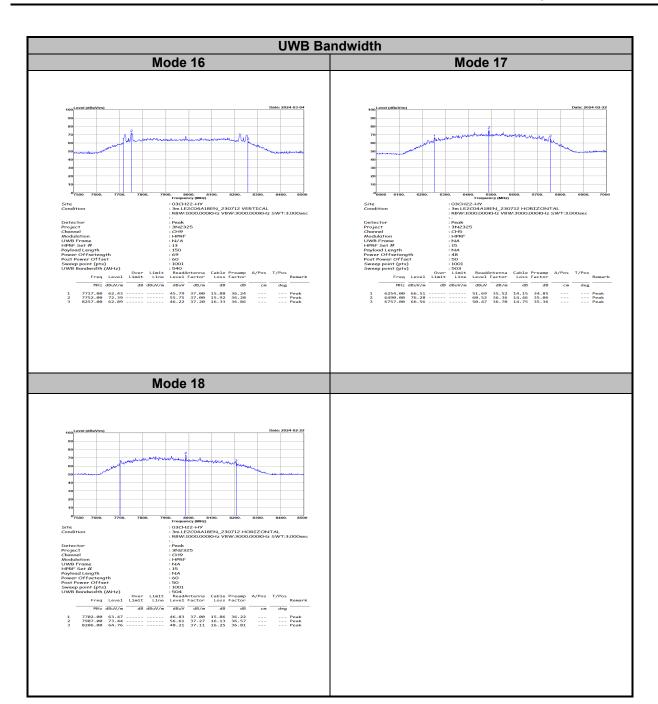
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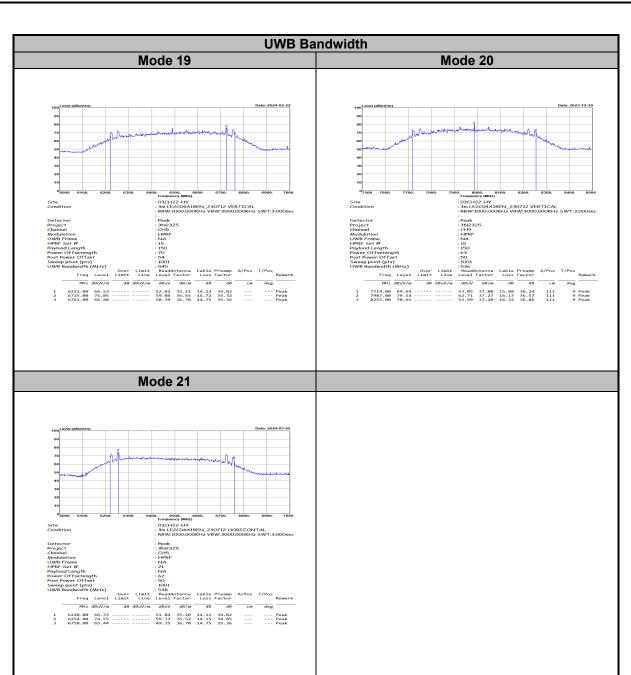
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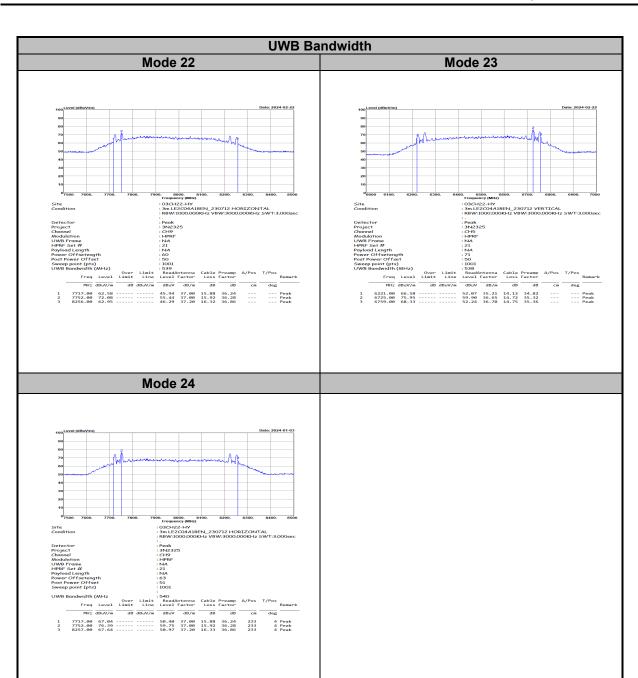
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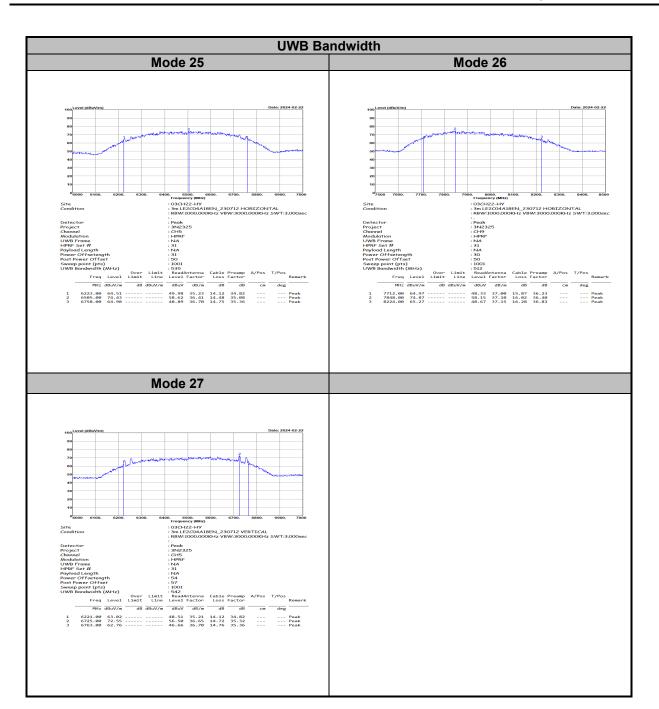
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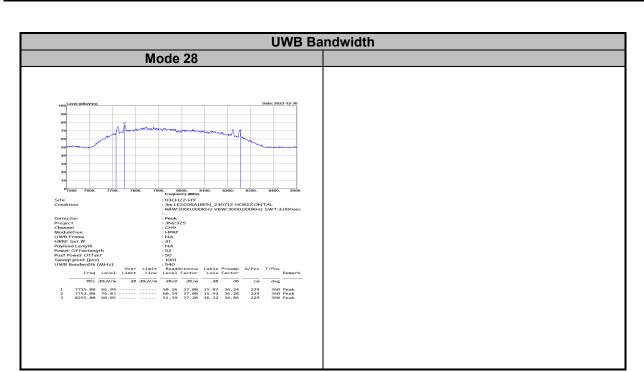
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3.3 Technical requirements for hand held UWB systems

3.3.1 Technical Requirements for transmission Limit

FCC 15.519(a) (1) A UWB device operating under the provisions of this section shall transmit only when it is sending information to an associated receiver. The UWB intentional radiator shall cease transmission within 10 seconds unless it receives an acknowledgement from the associated receiver that its transmission is being received. An acknowledgment of reception must continue to be received by the UWB intentional radiator at least every 10 seconds or the UWB device must cease transmitting.

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3.3.2 Measuring Instruments

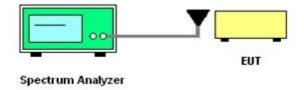
Refer a test equipment and calibration data table in this test report.

3.3.3 Test Procedure

Follow the test step as below:

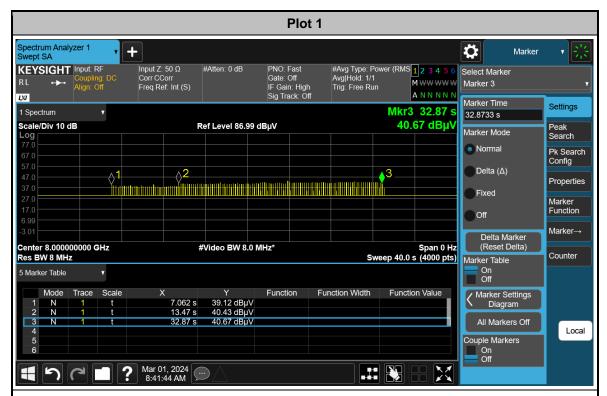
- 1. Turn on both EUT and companion receiver.
- 2. Set the EUT to TX mode, and EUT starts polling.
- 3. Set the companion receiver to associate EUT and EUT starts to transmit.
- 4. Disable the RX function of the companion receiver to disassociate the EUT.
- 5. Check if EUT stop transmitting once step 4 is made.

3.3.4 Test Setup



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3.3.5 Test Result



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M1 to M2: Set the EUT to TX mode, and EUT starts polling.

M2 to M3: Set the companion receiver to associate EUT and EUT starts to transmit.

M3: Disable the TX function of EUT. EUT stops transmitting and polling.

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Plot 2 Spectrum Analyzer 1 Swept SA + **Ö** Markei #Avg Type: Power (RMS 1 2 3 4 5 6 Avg|Hold: 1/1 Trig: Free Run _____ Input Z: 50 Ω KEYSIGHT Input: RF Select Marker Gate: Off IF Gain: High Sig Track: Off Corr CCorr Freq Ref: Int (S) Marker 1 ANNNNN ĻXI Marker ∆ Time Settings 200.0 ms 1 Spectrum 199.982 ms Scale/Div 10 dB Ref Level 86.99 dBµV -1.10 dB Marker Mode Normal Pk Search Config Delta (Δ) Properties Fixed Marker Function Off Marker→ Center 8.000000000 GHz Res BW 8 MHz Span 0 Hz Sweep 500 ms (4000 pts) #Video BW 8.0 MHz* Counter Marker Table On Off 5 Marker Table Function Function Width Function Value Marker Settings
Diagram 200.0 ms (Δ) -1.099 dB 254.6 ms 52.59 dBμV All Markers Off

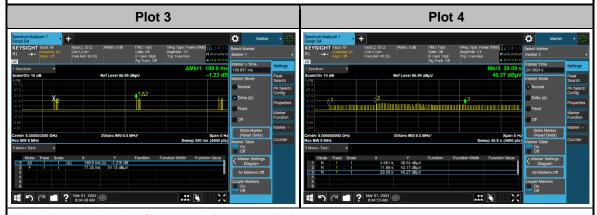
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Couple Markers
On
Off

M1 to M2: Set the EUT to TX mode, and EUT starts polling.

Mar 01, 2024 8:57:30 AM

- M2 to M3: Set the companion receiver to associate EUT and EUT starts to transmit.
- M3: RX function of the companion receiver is disabled. EUT disassociates the companion receiver and stops transmitting, but continues polling.



Plot 3 is zoom in plot of M2 to M3 (transmission) Plot 4 is zoom in plot after M3 (polling only)

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3.4 **Peak Power Measurement**

3.4.1 **Peak Power Measurement Limit**

Peak Power Measurement Limit $P_{eirp} = 0 dBm/50MHz$

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3.4.2 Measuring Instruments

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

3.4.3 **Test Procedures**

Test Method					
Peak Power Measurement					
	Refer as ANSI C63.10, clause 10.3.1 for radiated measurement procedure testing.				
	Refer as ANSI C63.10, clause 10.3.2 for measurement distance is 3m.				
	Refer as ANSI C63.10, clause 10.3.5 for peak detector procedure testing.				
	Refer as ANSI C63.10, clause 10.3.6 for bandwidth conversion of peak power.				
Frequency of max neak nower is pre-located:					

quency of max peak power is pre-located:

The span bandwidth is continuously reduced to find the worst frequency. Once the worst frequency is found, the setting of spectrum analyzer is set as below:

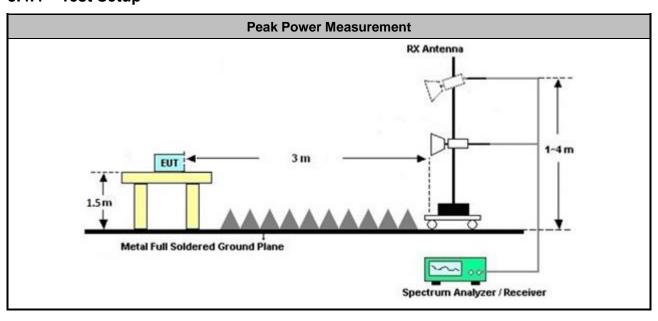
Central frequency: Worst frequency point

Span: Zero span RBW: 50MHz VBW: 80MHz

Detector: Peak detector

Trace: Max hold

3.4.4 Test Setup



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3.4.5 Test Result of Peak Power Measurement

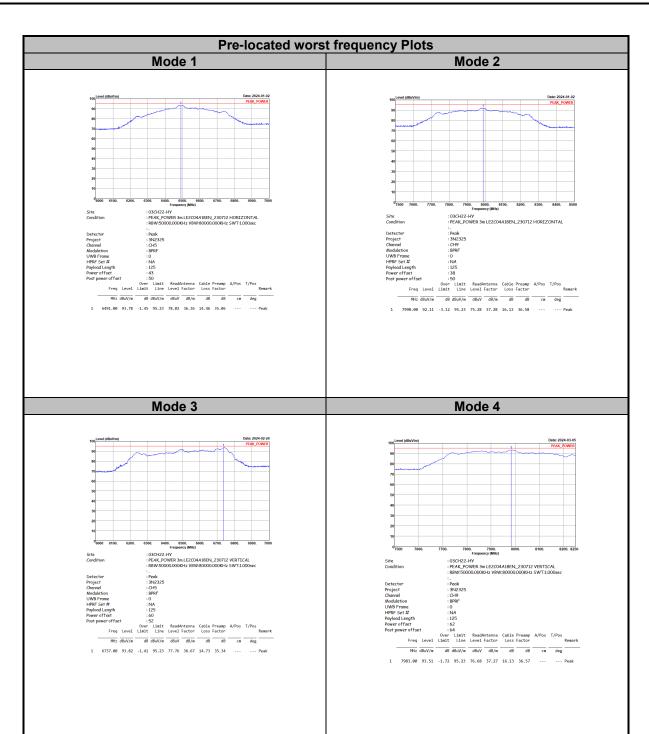
Peak Measurement Result							
Test Mode	Freq. (MHz)	E-Field (dBuV/m)	ERIP _{50MHz} (dBm)	ERIP _{50MHz} Limit (dBm)	Margin (dB)	Result	Pol [H/V]
1	6491	93.78	-1.45	0	-1.45	Pass	Н
2	7990	92.11	-3.12	0	-3.12	Pass	Н
3	6737	93.82	-1.41	0	-1.41	Pass	V
4	7983	93.51	-1.72	0	-1.72	Pass	V
5	6487	92.78	-2.45	0	-2.45	Pass	Н
6	7976	92.36	-2.87	0	-2.87	Pass	Н
7	6740	94.94	-0.29	0	-0.29	Pass	V
8	7982	90.38	-4.85	0	-4.85	Pass	V
9	6738	88.30	-6.93	0	-6.93	Pass	Н
10	7737	91.76	-3.47	0	-3.47	Pass	Н
11	6739	94.36	-0.87	0	-0.87	Pass	V
12	7738	94.43	-0.80	0	-0.80	Pass	V
13	6490	88.22	-7.01	0	-7.01	Pass	Н
14	7737	91.30	-3.93	0	-3.93	Pass	Н
15	6744	94.71	-0.52	0	-0.52	Pass	V
16	7739	92.77	-2.46	0	-2.46	Pass	V
17	6486	86.87	-8.36	0	-8.36	Pass	Н
18	7738	90.57	-4.66	0	-4.66	Pass	V
19	6738	94.85	-0.38	0	-0.38	Pass	V
20	8236	94.53	-0.70	0	-0.70	Pass	V
21	6740	89.29	-5.94	0	-5.94	Pass	Н
22	7738	89.60	-5.63	0	-5.63	Pass	V
23	6742	94.41	-0.82	0	-0.82	Pass	V
24	7736	95.12	-0.11	0	-0.11	Pass	V
25	6491	85.95	-9.28	0	-9.28	Pass	Н
26	7737	89.25	-5.98	0	-5.98	Pass	V
27	6741	92.18	-3.05	0	-3.05	Pass	V
28	7739	94.94	-0.29	0	-0.29	Pass	V

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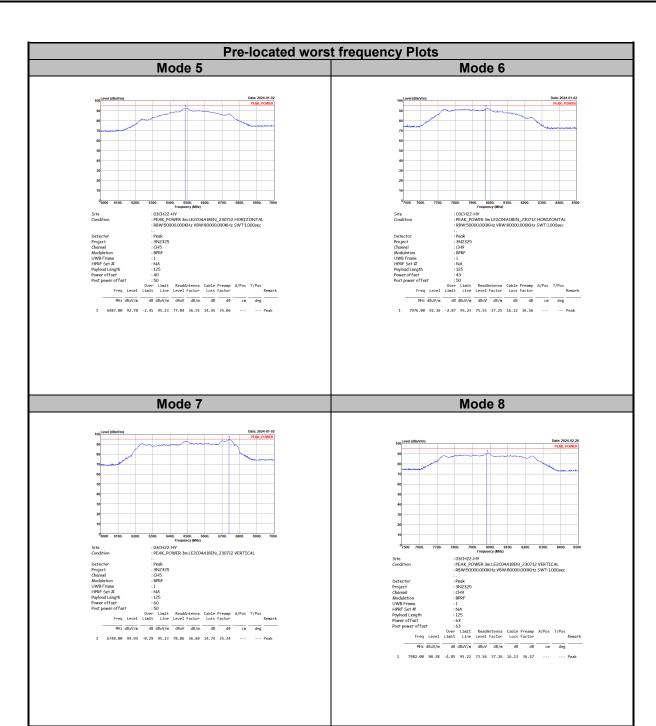
Note 1: EIRP [dBm] = E-Field [dBuV/m] - 95.23;

Note 2: Measurement worst emissions of receive antenna polarization.

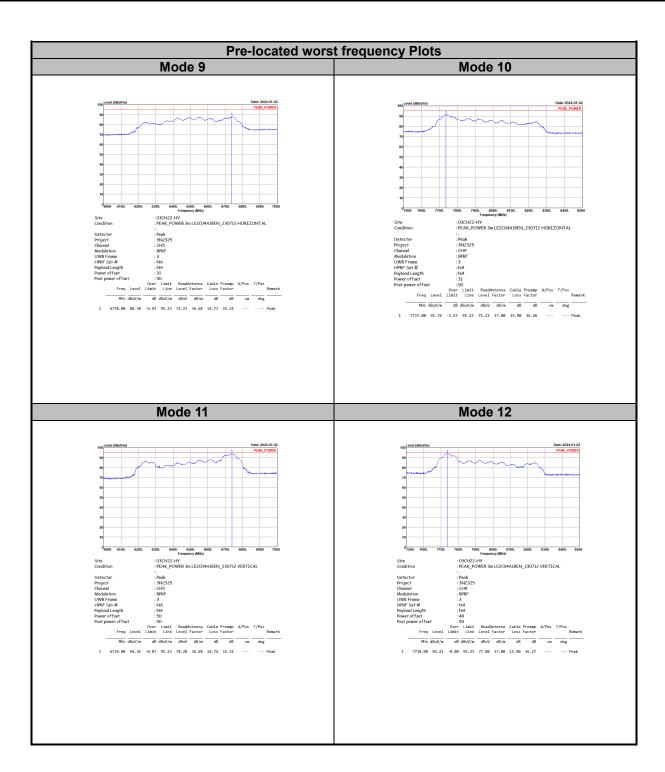
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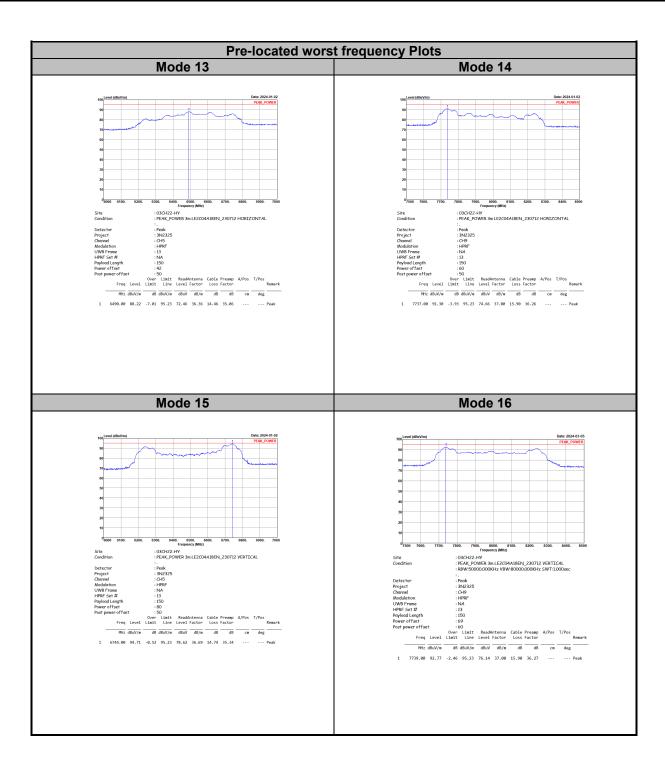
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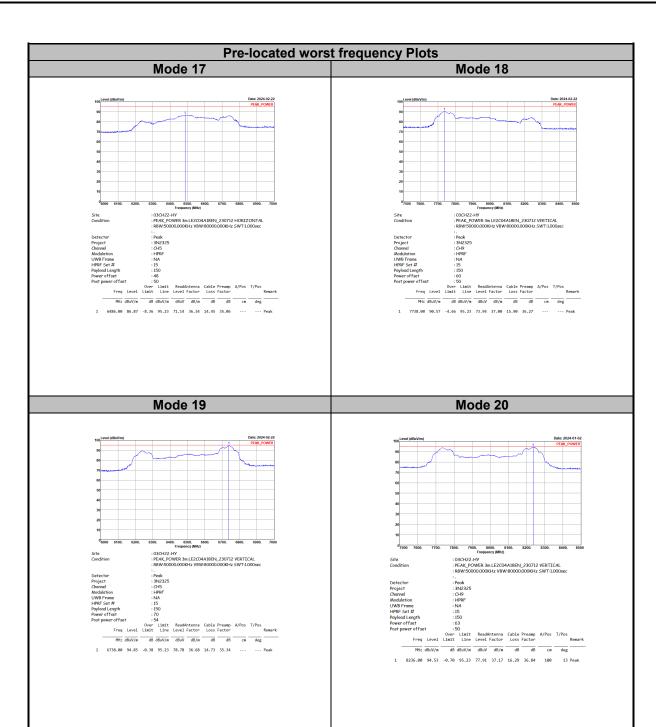
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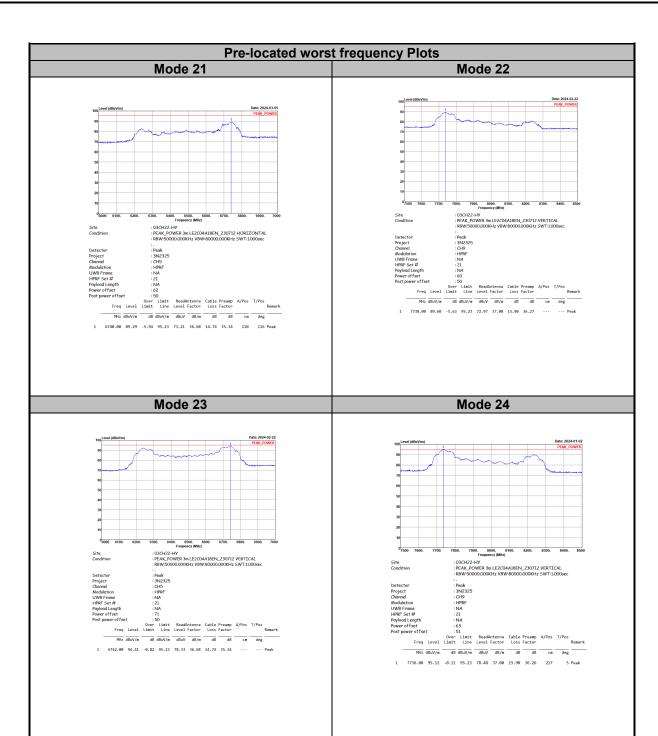
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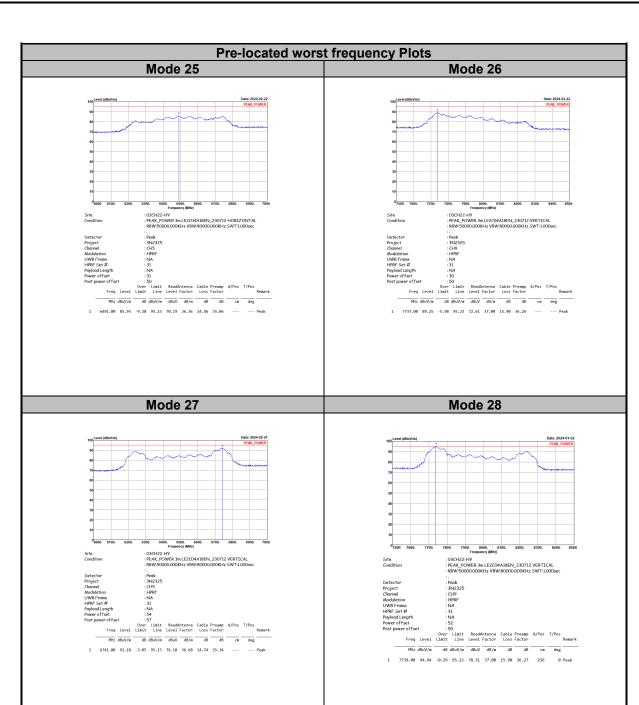
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3.5 Radiated Emissions

3.5.1 Radiated Emissions Limit

Radiated Emissions below 960MHz and Emissions from Digital Circuitry 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			

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- 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.

Radiated Emissions above 960MHz Limit					
Frequency Range (MHz)	EIRP (dBm), RBW = 1MHz				
960-1610	-75.3				
1610-1990	-63.3				
1990-3100	-61.3				
3100-10600	-41.3				
Above 10600	-61.3				

Note: Distance extrapolation factor = 20 log (test distance [X m]/specific distance [3 m]) (dB)

Radiated Emissions in GPS Bands Limit				
Frequency Range (MHz)	EIRP (dBm), RBW ≥ 1kHz			
1164-1240	-85.3			
1559-1610	-85.3			

Note E (dBuv/m) = EIRP (dBm) + 95.23, example, E(dBuV/m) = -85.3 + 95.23 = 9.93dBuV/m

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3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

Test Method for Radiated Emissions above 960MHz

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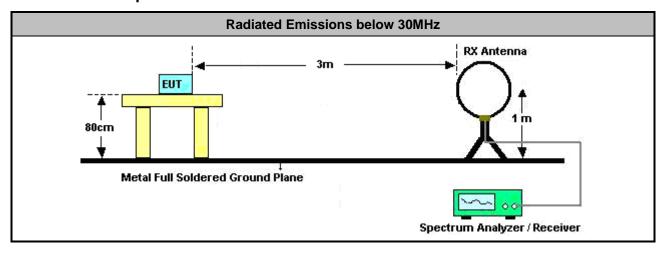
- Radiated Emissions above 960MHz
 - Refer as ANSI C63.10, clause 10.3.1 for radiated measurement procedure testing.
 - Refer as ANSI C63.10, clause 10.3.2 for measurement distance is 3m. In some cases, it may be necessary to measure the radiated UWB emissions at a closer distance to obtain enough signal and margin to overcome the measurement system noise floor. Distance extrapolation factor = 20 log (test distance [X m]/specific distance [3 m]) (dB)
 - Refer as ANSI C63.10, clause 10.3.4 for rms detector procedure testing.
 - Refer as ANSI C63.10, clause 10.3.7 for evaluating AVG-PSD (RBW=1MHz).
 - Refer as ANSI C63.10, clause 10.3.10 for evaluating AVG-PSD in GPS Band (RBW≥1kHz).
- For radiated measurement.
 - Refer as ANSI C63.10, clause 10.3.8 following eirp can be used radiated test configuration.
 - Refer as ANSI C63.10, clause 10.3.9 following eirp can be directly determined using the field strength.

Test Method for Radiated Emissions below 960MHz and Emissions from Digital Circuitry

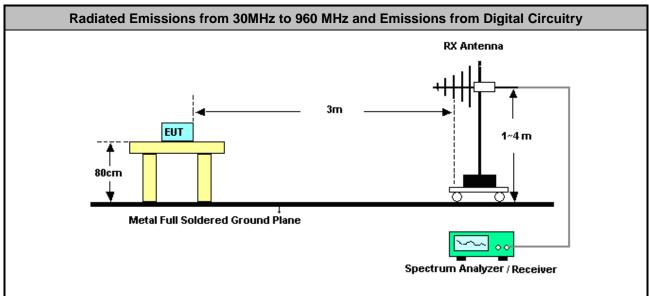
- Measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated 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) for above 30MHz-960MHz; 40dB/decade for frequency below 30MHz.
- For the transmitter unwanted emissions shall be measured using following options below:
 - Refer as ANSI C63.10, clause 4.1.4 Detector functions and selection of bandwidth
 - □ Refer as ANSI C63.10, clause 4.1.4.2.4 average value of pulsed emissions. Adjusted by a "duty cycle correction factor", derived from 20log (dwell time/100 ms). Average emission = peak emission + 20 log (duty cycle).
 - Refer as ANSI C63.10, clause 4.1.4.2.2 measurement procedure peak limit.
- For radiated measurement.
 - Refer as ANSI C63.10, clause 6.4 for radiated emissions below 30 MHz and test distance is 3m.
 - Refer as ANSI C63.10, clause 6.5 for radiated emissions 30 MHz to 1 GHz and test distance is 3m.
 - Refer as ANSI C63.10, clause 6.6 for radiated emissions above 1 GHz and test distance is 3m.
 - If the noise floor can't meet the limit, the test distance will be shorten and described in the report.
- Any unwanted emissions level shall not exceed the fundamental emission level.

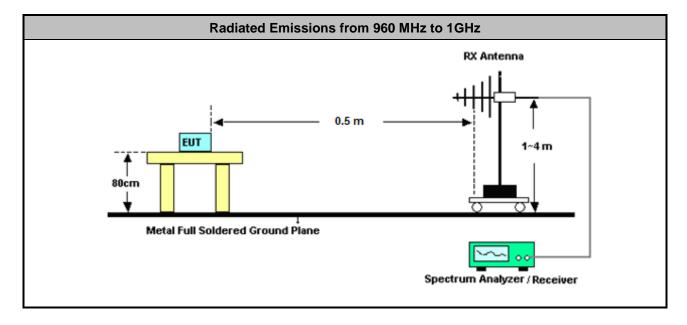
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3.5.4 Test Setup

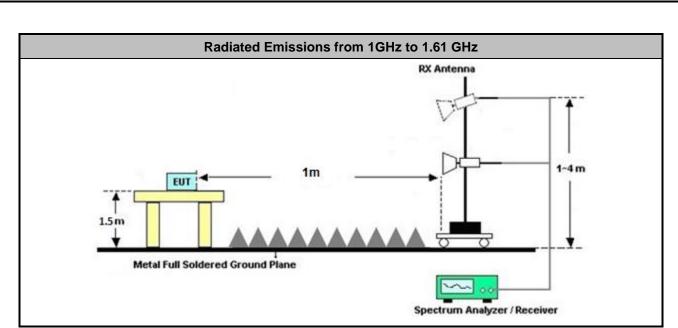


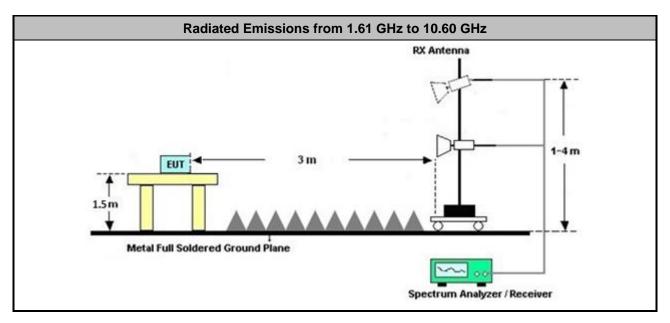
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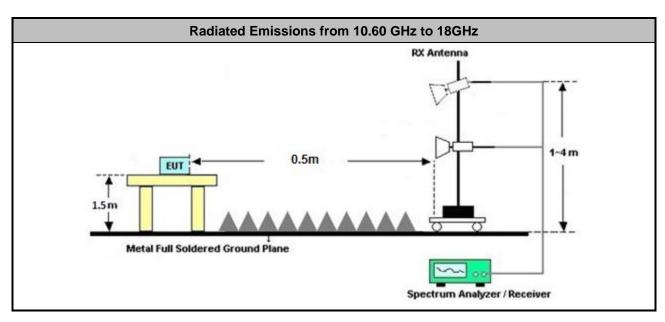


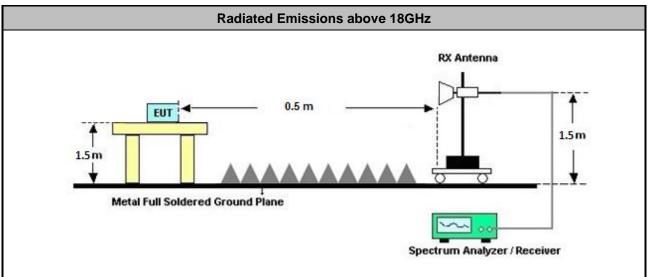
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Note 1: Magnetic field tests shall be performed in the frequency range of 9 kHz to 30 MHz using a calibrated loop antenna. Electric field tests shall be performed in the frequency range of 30 MHz to 1000 MHz using a calibrated bi-log antenna and the frequency range of 1 GHz to 40 GHz using a calibrated horn antenna. Note 2: If test distance other than 3m is used, the used test distance will be recorded in test result.

3.5.5 Radiated Emissions (Below 30MHz)

All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.

There is adequate comparison measurement of both open-field test site and alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result came out very similar.

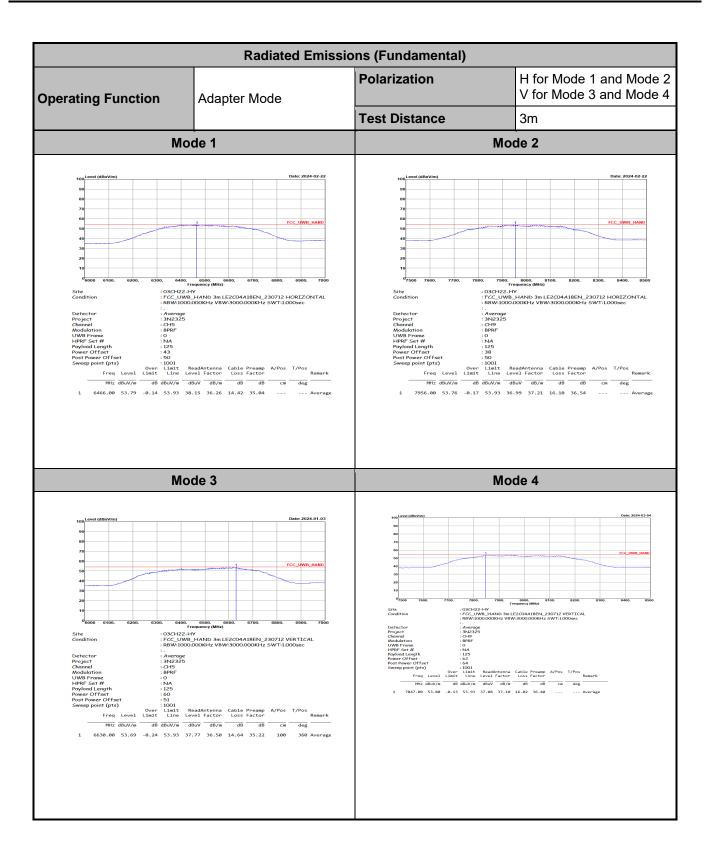
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3.5.6 Average Power Spectral Density

Test	Frequency	Emission Level	Emission Limit	Emission Limit	Margin		Pol
mode	(MHz)	(dBuV/m)	(dBm/MHz)	(dBuV/m)	(dB)	Result	[H/V]
1	6466	53.79	-41.3	53.93	-0.14	Pass	Н
2	7956	53.76	-41.3	53.93	-0.17	Pass	Н
3	6630	53.69	-41.3	53.93	-0.24	Pass	V
4	7847	53.80	-41.3	53.93	-0.13	Pass	V
5	6451	53.59	-41.3	53.93	-0.34	Pass	Н
6	7831	53.70	-41.3	53.93	-0.23	Pass	V
7	6591	53.76	-41.3	53.93	-0.17	Pass	V
8	7847	49.21	-41.3	53.93	-4.72	Pass	V
9	6461	53.80	-41.3	53.93	-0.13	Pass	Н
10	7855	53.50	-41.3	53.93	-0.43	Pass	V
11	6618	53.39	-41.3	53.93	-0.54	Pass	V
12	7844	53.72	-41.3	53.93	-0.21	Pass	Н
13	6521	53.59	-41.3	53.93	-0.34	Pass	Н
14	7847	53.81	-41.3	53.93	-0.12	Pass	V
15	6586	53.82	-41.3	53.93	-0.11	Pass	V
16	7848	52.92	-41.3	53.93	-1.01	Pass	V
17	6531	53.55	-41.3	53.93	-0.38	Pass	Н
18	7848	53.34	-41.3	53.93	-0.59	Pass	V
19	6630	53.82	-41.3	53.93	-0.11	Pass	V
20	8049	52.89	-41.3	53.93	-1.04	Pass	V
21	6414	53.58	-41.3	53.93	-0.35	Pass	Н
22	7849	53.53	-41.3	53.93	-0.40	Pass	V
23	6628	53.80	-41.3	53.93	-0.13	Pass	V
24	7849	53.77	-41.3	53.93	-0.16	Pass	V
25	6535	53.69	-41.3	53.93	-0.24	Pass	Н
26	7847	53.45	-41.3	53.93	-0.48	Pass	V
27	6599	51.43	-41.3	53.93	-2.50	Pass	V
28	7857	53.53	-41.3	53.93	-0.40	Pass	V

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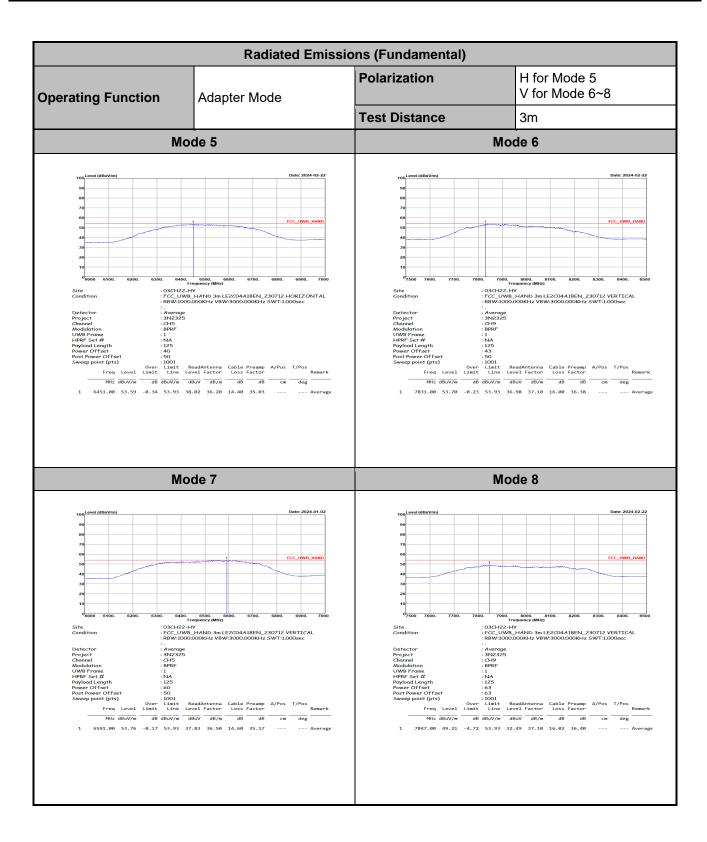
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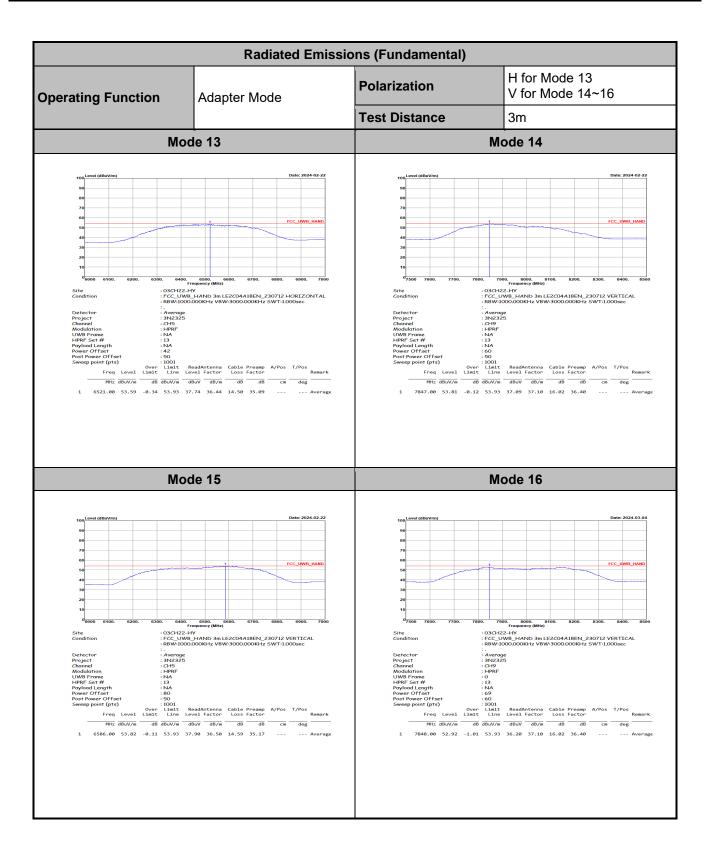
 Report Template No.: BU5-FR15F Version 1.0
 Report Version
 : 06



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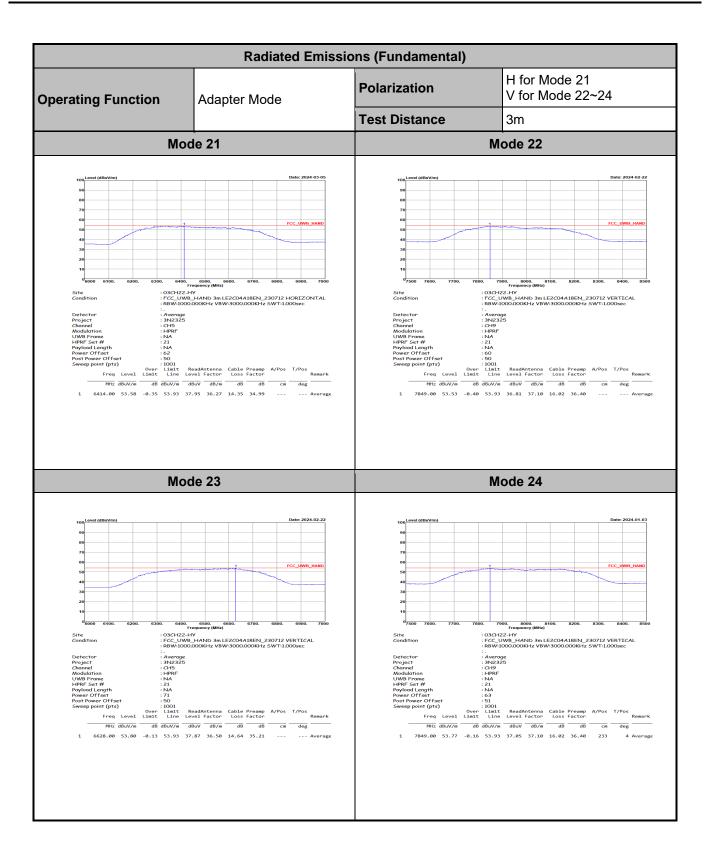
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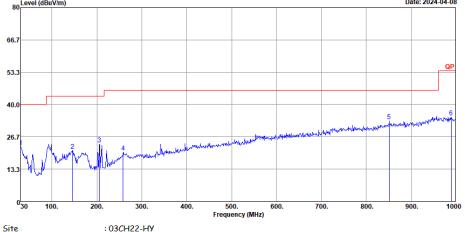


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Radiated Emissions (30MHz - 1GHz)

CH05 Radiated Emissions (30MHz – 1GHz)											
Test Mode Mode 1				Polarization			Н				
Operating Function	n	Adap	Adapter Mode					Test Distance			3m
80 Level (dBuV/m) Date: 2024-04-08							8				

Report No.: FR3N2325Q



Site Condition

: QP 3m BILOG63304_231015_1G HORIZONTAL

: RBW:120.000KHz VBW:300.000KHz

: Peak

Detector Project : 3N2325

: Channel CH5 Modulation BPRF UWB Frame 0

: HPRF Set # NA Payload Length 125

: Power Offset 43 Post Power Offset 50 : ponit:1001 SWT:1.000sec

30-300MHz 300-1000MHz : ponit:1001 SWT:1.000sec

Over Limit ReadAntenna Freq Level Limit Line Level Factor Cable Preamp A/Pos T/Pos Remark Factor Factor Loss Factor MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg dB dB 22.51 -17.49 40.00 29.78 0.87 0.01 0.00 145.83 20.94 -22.56 43.50 34.22 17.30 2.10 32.71 --- Peak 0.03 0.00 205.77 23.60 -19.90 43.50 38.66 15.06 2.48 32.68 0.00 258.42 20.22 -25.78 46.00 30.27 19.75 2.81 32.67 ___ --- Peak 0.06 0.00 29.22 850.90 33.18 -12.82 46.00 30.90 5.03 32.19 --- Peak 0.22 0.00 34.83 -19.17 54.00 29.55 30.55 --- Peak

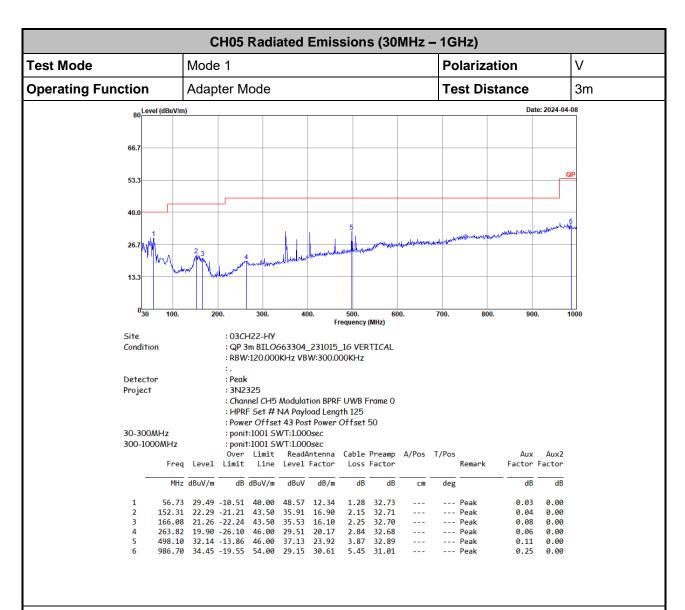
Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Peak emission setting: RBW=120kHz; VBW = 300kHz.

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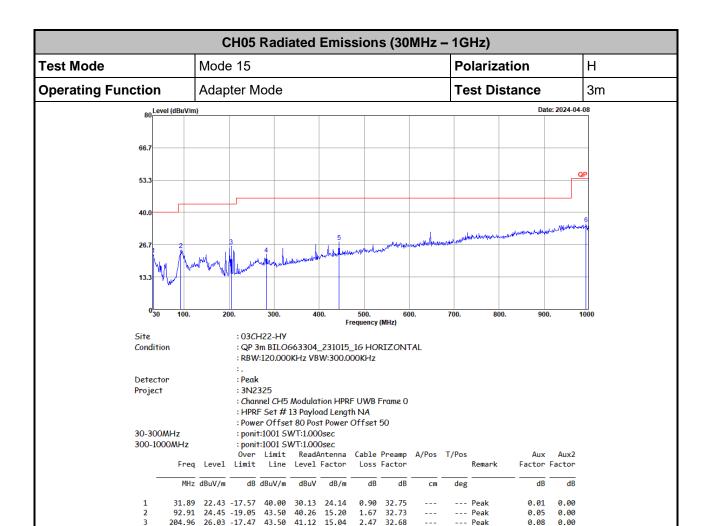
Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Peak emission setting: RBW=120kHz; VBW = 300kHz.

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Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

40.26

41.12

33.55

34.07

15.20

15.04

18.84

22.81

1.67

2.47

2.93

3.68

32.73

32.68

32.70

32.75

--- Peak

--- Peak

--- Peak

--- Peak

0.05

0.08

0.12

0.00

0.00

0.00

0.00

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

46.00

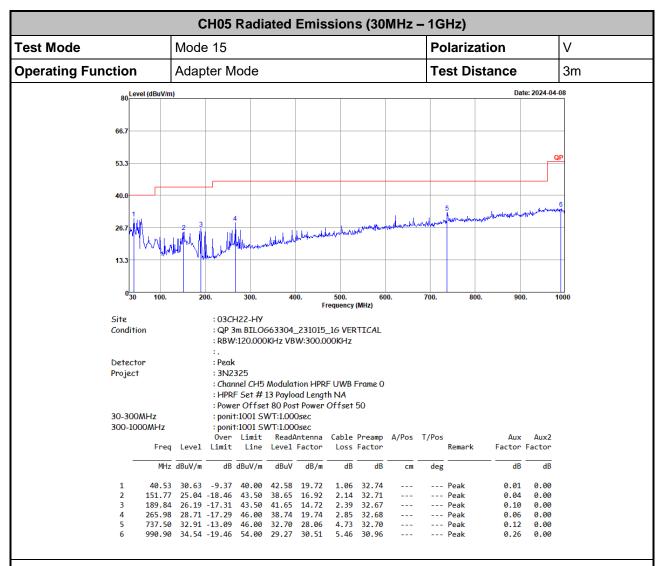
46.00

Note 4: Peak emission setting: RBW=120kHz; VBW = 300kHz.

283.26 22.68 -23.32 444.20 27.93 -18.07

35.15 -18.85

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Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Peak emission setting: RBW=120kHz; VBW = 300kHz.

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CH09: Radiated Emissions (30MHz - 1GHz) Mode 12 **Polarization** Н **Test Mode Operating Function** Adapter Mode **Test Distance** 3m 80 Level (dBuV/m) Date: 2024-04-08 53. 40.0 Frequency (MHz) Site : 03CH22-HY : QP 3m BILO663304 231015 16 HORIZONTAL Condition : RBW:120.000KHz VBW:300.000KHz Detector : Peak : 3N2325 Project : Channel CH9 Modulation BPRF UWB Frame 3 : HPRF Set # NA Payload Length NA : Power Offset 48 Post Power Offset 50 30-300MHz : ponit:1001 SWT:1.000sec 300-1000MHz : ponit:1001 SWT:1.000sec Over Limit ReadAntenna Cable Preamp A/Pos T/Pos Freq Level Limit Line Level Factor Loss Factor Aux Aux2 Factor Factor MHz dBuV/m dB dBuV/m dBuV dB/m dB deg dB cm 30.27 22.55 -17.45 40.00 0.87 0.00 29.82 24.61 32.76 --- Peak 0.01 23.56 -19.94 43.50 39.45 15.13 1.66 32.73 205.23 23.98 -19.52 43.50 39.06 15.05 2.47 32.68 --- Peak 0.08 0.00 258.42 20.56 -25.44 46.00 30.61 19.75 2.81 32.67 --- Peak 0.06 0.00

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Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

28.24

30.93

4.82

5.39

32.60

31.24

--- Peak

0.22

0.00

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

30.75

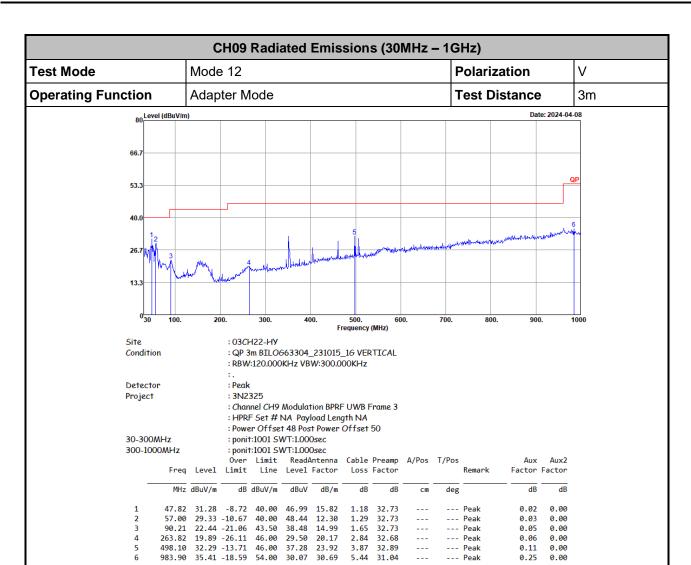
29.10

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Peak emission setting: RBW=120kHz; VBW = 300kHz.

31.36 -14.64 46.00 34.40 -19.60 54.00

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Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

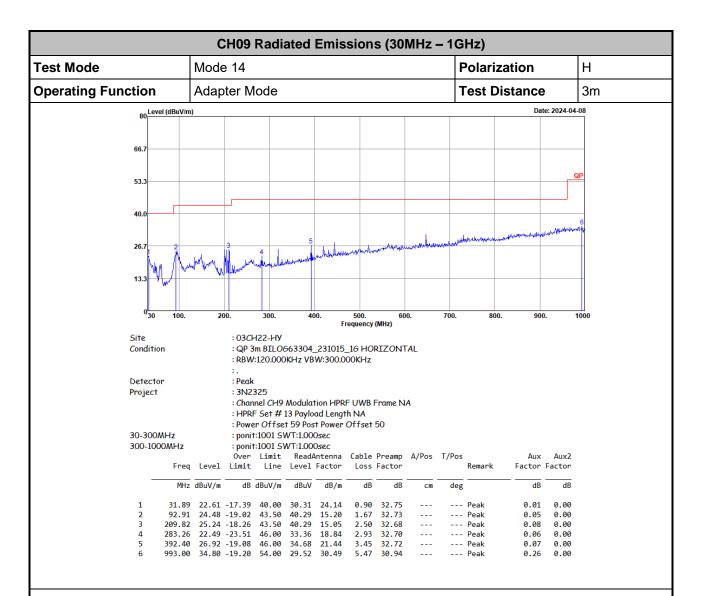
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Peak emission setting: RBW=120kHz; VBW = 300kHz.

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Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

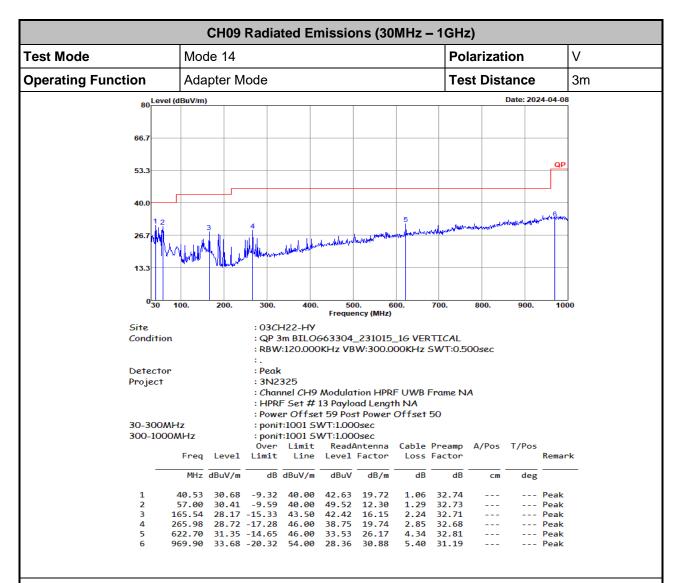
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Peak emission setting: RBW=120kHz; VBW = 300kHz.

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Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

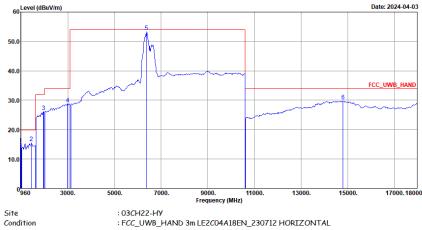
Note 4: Peak emission setting: RBW=120kHz; VBW = 300kHz.

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3.5.8 Radiated Emissions (960MHz – 18GHz)

CH05 Radiated Emissions (960MHz – 18GHz)						
Test Mode	Mode 1	Polarization	Н			
Operating Function	Adapter Mode					
Test Distance	The test distance between the receiving antenna and the EUT is as following: 3m for 1.61 GHz ~ 10.60 GHz frequency range, 1 m for 1GHz ~ 1.61 GHz, and 0.5 m for other frequency ranges.					

Report No.: FR3N2325Q



: RBW:1000.000KHz VBW:3000.000KHz Detector

: Average : 3N2325 Project

: Channel CH5 Modulation BPRF UWB Frame 0 : HPRF Set # NA Payload Length 125 : Power Offset 43 Post Power Offset 50

960-1000MHz : ponit:1001 SWT:1.000sec : ponit:1001 SWT:1.000sec 1000-1610MHz 1610-1990MHz : ponit:1001 SWT:1.000sec 1990-3100MHz : ponit:2001 SWT:2.000sec 3100-10600MHz : ponit:18001 SWT:18.000sed

LUUUU	D-100000WH	IZ.		· bountit	POOT 2A	A 1.19.00	USEC						
			0ver	Limit	ReadA	Intenna	Cable	Preamp	A/Pos	T/Pos		Aux	Aux2
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor			Remark	Factor	Factor
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg		dB	dB
1	970.84	15.11	-4.82	19.93	25.36	30.86	5.40	31.18			Average	0.23	-15.56
2	1434.93	15.51	-4.42	19.93	25.42	24.90	6.55	31.82			Average	-9.54	0.00
3	1953.52	26.14	-5.79	31.93	24.59	25.94	7.70	32.09			Average	0.00	0.00
4	2984.56	28.81	-5.12	33.93	23.42	28.30	9.57	32.48			Average	0.00	0.00
5	6377.50	53.28	-0.65	53.93	37.77	36.17	14.30	34.96			Average	0.00	0.00
6	14803.20	29.79	-4.14	33.93	23.80	42.69	22.28	43.42			Average	-15.56	0.00

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Average emission setting outside GPS Bands: RBW=1MHz; VBW=3MHz.

Note 5: Average emission setting in GPS bands: RBW=1kHz; VBW=3kHz.

Note 6: #5 is fundamental signal.

Note 7:

Distance extrapolation factor = 20 log (test distance [X m]/specific distance [3 m]) (dB)

Example: Distance extrapolation factor = 20log (0.5m/3m) = -15.56 (dB)

Corrected Reading: Antenna Factor (dB/m) + Cable Loss (dB) + Read Level (dBuV) - Preamp Factor (dB) + Aux Factor (dB) + Aux 2 Factor (dB) = Level (dBuV/m)

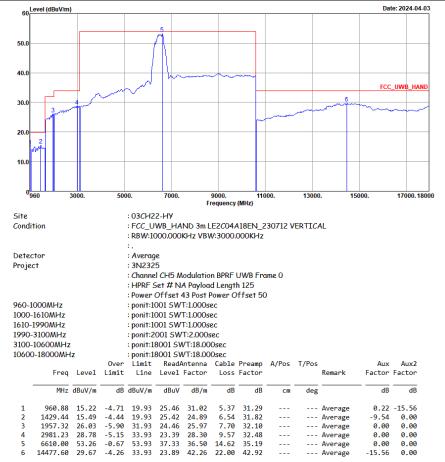
(Note: For test item below 1GHz, Aux = Filter loss; Aux 2 = Distance extrapolation factor)

(Note: For test item above 1GHz, Aux = Distance extrapolation factor; Aux 2 = 0, which means the measuring units are not connecting to the Filter)

Example: Corrected Reading: 30.86 (dB/m) + 5.40 (dB) + 25.36 (dBuV) - 31.18 (dB) + 0.23 dB + (-15.56) (dB) = 15.11 (dBuV/m)

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CH05 Radiated Emissions (960MHz – 18GHz)						
Test Mode	Mode 1	Polarization	V			
Operating Function	Adapter Mode					
Test Distance	The test distance between the receiving antenna and the EUT is as following: 3m for 1.61 GHz ~ 10.60 GHz frequency range, 1 m for 1GHz ~ 1.61 GHz, and 0.5 m for other frequency ranges.					



Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Average emission setting outside GPS Bands: RBW=1MHz; VBW=3MHz.

Note 5: Average emission setting in GPS bands: RBW=1kHz; VBW=3kHz.

Note 6: #5 is fundamental signal.

Note 7:

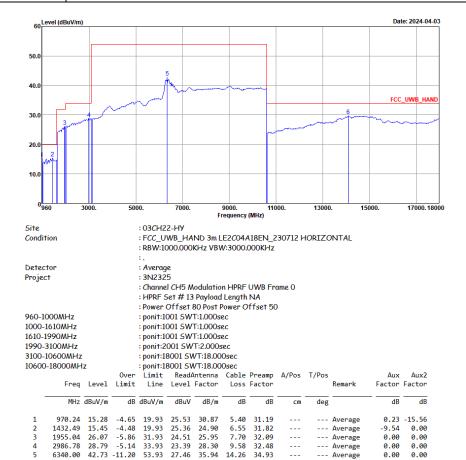
- Distance extrapolation factor = 20 log (test distance [X m]/specific distance [3 m]) (dB)
- Corrected Reading: Antenna Factor (dB/m) + Cable Loss (dB) + Read Level (dBuV) Preamp Factor (dB) + Aux Factor (dB) = Level (dBuV/m)
 (Note: For test item below 1GHz, Aux = Filter loss; Aux 2 = Distance extrapolation factor)

(Note: For test item above 1GHz, Aux = Distance extrapolation factor; Aux 2 = 0, which means

the measuring units are not connecting to the Filter)

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CH05 Radiated Emissions (960MHz – 18GHz)						
Test Mode	Mode 15	Polarization	Н			
Operating Function	Adapter Mode					
Test Distance	The test distance between the receiving antenna and the EUT is as following: 3m for 1.61 GHz ~ 10.60 GHz frequency range, 1 m for 1GHz ~ 1.61 GHz, and 0.5 m for other frequency ranges.					



Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

21.65 42.24

42.19

--- Average

-15.56

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Average emission setting outside GPS Bands: RBW=1MHz; VBW=3MHz.

33.93 23.65

Note 5: Average emission setting in GPS bands: RBW=1kHz; VBW=3kHz.

-4.24

29,69

Note 6: #5 is fundamental signal.

Note 7:

• Distance extrapolation factor = 20 log (test distance [X m]/specific distance [3 m]) (dB) **Example:** Distance extrapolation factor = 20log (0.5m/3m) = -15.56 (dB)

Corrected Reading: Antenna Factor (dB/m) + Cable Loss (dB) + Read Level (dBuV) - Preamp Factor (dB) + Aux Factor (dB) + Aux 2 Factor (dB) = Level (dBuV/m)

(Note: For test item below 1GHz, Aux = Filter loss; Aux 2 = Distance extrapolation factor)

(Note: For test item above 1GHz, Aux = Distance extrapolation factor; Aux 2 = 0, which means the measuring units are not connecting to the Filter)

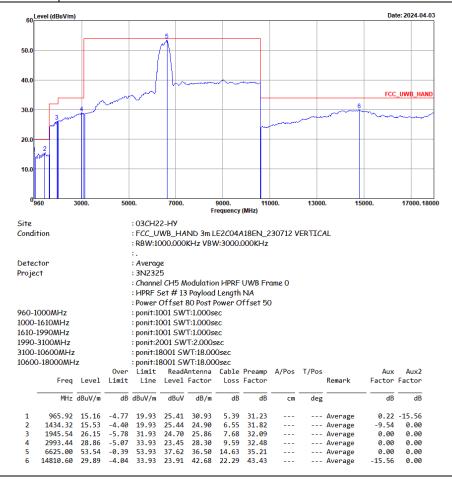
Example: Corrected Reading: 30.87 (dB/m) + 5.40 (dB) + 25.53 (dBuV) - 31.19 (dB) + 0.23 dB + (-15.56) (dB) = 15.28 (dBuV/m)

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 : Jul. 11, 2024

 Report Template No.: BU5-FR15F Version 1.0
 Report Version
 : 06

CH05 Radiated Emissions (960MHz – 18GHz)						
Test Mode	Mode 15	Polarization	V			
Operating Function	Adapter Mode					
Test Distance	The test distance between the receiving antenna and the EUT is as following: 3m for 1.61 GHz ~ 10.60 GHz frequency range, 1 m for 1GHz ~ 1.61 GHz, and 0.5 m for other frequency ranges.					



Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Average emission setting outside GPS Bands: RBW=1MHz; VBW=3MHz.

Note 5: Average emission setting in GPS bands: RBW=1kHz; VBW=3kHz.

Note 6: #5 is fundamental signal.

Note 7:

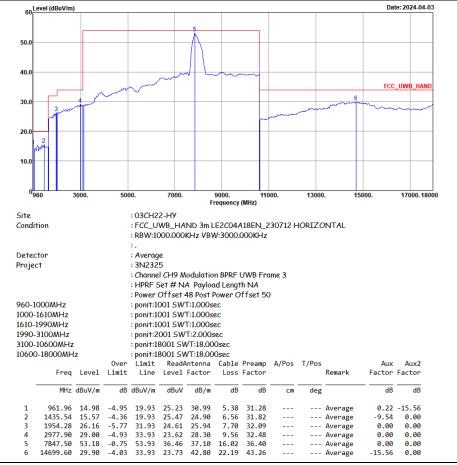
Distance extrapolation factor = 20 log (test distance [X m]/specific distance [3 m]) (dB)

Corrected Reading: Antenna Factor (dB/m) + Cable Loss (dB) + Read Level (dBuV) - Preamp Factor (dB) + Aux Factor (dB) = Level (dBuV/m)
 (Note: For test item below 1GHz, Aux = Filter loss; Aux 2 = Distance extrapolation factor)
 (Note: For test item above 1GHz, Aux = Distance extrapolation factor; Aux 2 = 0, which means

the measuring units are not connecting to the Filter)

TEL: 886-3-327-0868 Page Number : 61 of 90 FAX: 886-3-327-0855 Issue Date : Jul. 11, 2024

CH09 Radiated Emissions (960MHz – 18GHz)						
Test Mode	Mode 12	Polarization	Н			
Operating Function	Adapter Mode					
Test Distance	The test distance between the receiving antenna and the EUT is as following: 3m for 1.61 GHz ~ 10.60 GHz frequency range, 1 m for 1GHz ~ 1.61 GHz, and 0.5 m for other frequency ranges.					



Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Average emission setting outside GPS Bands: RBW=1MHz; VBW=3MHz.

Note 5: Average emission setting in GPS bands: RBW=1kHz; VBW=3kHz.

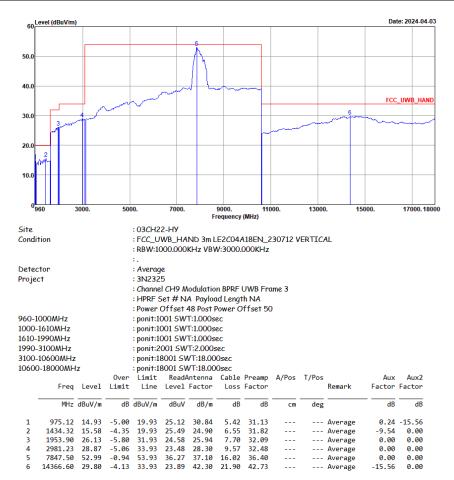
Note 6: #5 is fundamental signal.

Note 7:

- Distance extrapolation factor = 20 log (test distance [X m]/specific distance [3 m]) (dB)
- Corrected Reading: Antenna Factor (dB/m) + Cable Loss (dB) + Read Level (dBuV) Preamp Factor (dB) + Aux Factor (dB) = Level (dBuV/m)
 (Note: For test item below 1GHz, Aux = Filter loss; Aux 2 = Distance extrapolation factor)
 (Note: For test item above 1GHz, Aux = Distance extrapolation factor; Aux 2 = 0, which means the measuring units are not connecting to the Filter)

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CH09 Radiated Emissions (960MHz – 18GHz)						
Test Mode	Mode 12	Polarization	V			
Operating Function	Adapter Mode					
Test Distance	The test distance between the receiving antenna and the EUT is as following: 3m for 1.61 GHz ~ 10.60 GHz frequency range, 1 m for 1GHz ~ 1.61 GHz, and 0.5 m for other frequency ranges.					



Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Average emission setting outside GPS Bands: RBW=1MHz; VBW=3MHz.

Note 5: Average emission setting in GPS bands: RBW=1kHz; VBW=3kHz.

Note 6: #5 is fundamental signal.

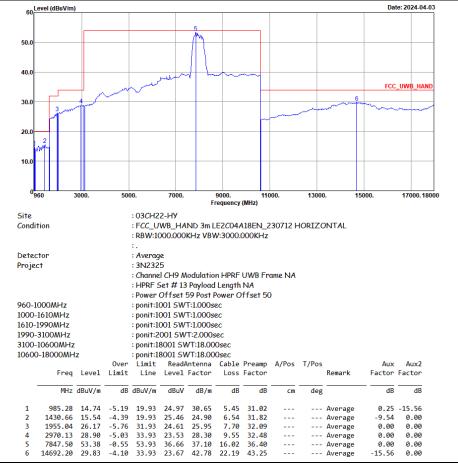
Note 7:

- Distance extrapolation factor = 20 log (test distance [X m]/specific distance [3 m]) (dB)
- Corrected Reading: Antenna Factor (dB/m) + Cable Loss (dB) + Read Level (dBuV) Preamp Factor (dB) + Aux Factor (dB) = Level (dBuV/m)
 (Note: For test item below 1GHz, Aux = Filter loss; Aux 2 = Distance extrapolation factor)
 (Note: For test item above 1GHz, Aux = Distance extrapolation factor; Aux 2 = 0, which means

the measuring units are not connecting to the Filter)

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CH09 Radiated Emissions (960MHz – 18GHz)			
Test Mode	Mode 14	Polarization	Н
Operating Function	Adapter Mode		
Test Distance	The test distance between the receiving antenna and the EUT is as following: 3m for 1.61 GHz ~ 10.60 GHz frequency range, 1 m for 1GHz ~ 1.61 GHz, and 0.5 m for other frequency ranges.		



Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Average emission setting outside GPS Bands: RBW=1MHz; VBW=3MHz.

Note 5: Average emission setting in GPS bands: RBW=1kHz; VBW=3kHz.

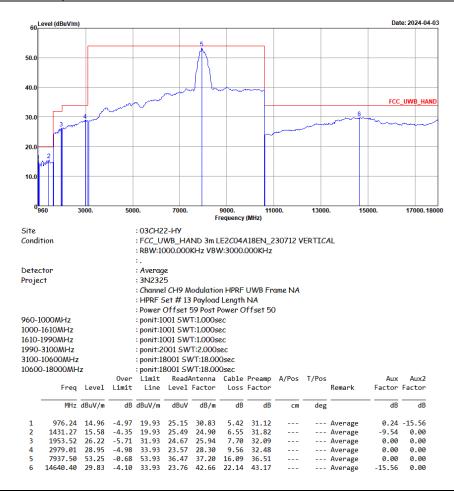
Note 6: #5 is fundamental signal.

Note 7:

- Distance extrapolation factor = 20 log (test distance [X m]/specific distance [3 m]) (dB)
- Corrected Reading: Antenna Factor (dB/m) + Cable Loss (dB) + Read Level (dBuV) Preamp Factor (dB) + Aux Factor (dB) = Level (dBuV/m)
 (Note: For test item below 1GHz, Aux = Filter loss; Aux 2 = Distance extrapolation factor)
 (Note: For test item above 1GHz, Aux = Distance extrapolation factor; Aux 2 = 0, which means the measuring units are not connecting to the Filter)

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CH09 Radiated Emissions (960MHz – 18GHz)			
Test Mode	Mode 14	Polarization	V
Operating Function	Adapter Mode		
Test Distance	The test distance between the receiving antenna and the EUT is as following: 3m for 1.61 GHz ~ 10.60 GHz frequency range, 1 m for 1GHz ~ 1.61 GHz, and 0.5 m for other frequency ranges.		



Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Average emission setting outside GPS Bands: RBW=1MHz; VBW=3MHz.

Note 5: Average emission setting in GPS bands: RBW=1kHz; VBW=3kHz.

Note 6: #5 is fundamental signal.

Note 7:

- Distance extrapolation factor = 20 log (test distance [X m]/specific distance [3 m]) (dB)
- Corrected Reading: Antenna Factor (dB/m) + Cable Loss (dB) + Read Level (dBuV) Preamp Factor (dB) + Aux Factor (dB) = Level (dBuV/m)
 (Note: For test item below 1GHz, Aux = Filter loss; Aux 2 = Distance extrapolation factor)
 (Note: For test item above 1GHz, Aux = Distance extrapolation factor; Aux 2 = 0, which means

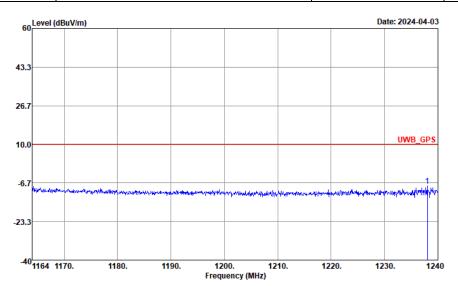
the measuring units are not connecting to the Filter)

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3.5.9 Radiated Emissions (1164MHz - 1240MHz)

CH05 Radiated Emissions (1164MHz – 1240MHz)			
Test Mode	Mode 1	Polarization	Н
Operating Function	Adapter Mode	Test Distance	3m

Report No.: FR3N2325Q



Site : 03CH22-HY

Condition : UWB_GPS 3m LE2C04A18EN_230712 HORIZONTAL

: RBW:1.000KHz VBW:3.000KHz SWT:40.000sec

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: Peak Detector Project : 3N2325 : CH5 Channel Modulation : BPRF UWB Frame :0 HPRF Set # :NA Payload Length : 125 Power Offset : 43 Post Power Offset : 50

Sweep point :80001pts
Over Limit ReadAntenna Cable Preamp A/Pos T/Pos
Freq Level Limit Line Level Factor Loss Factor

 Freq
 Level
 Limit
 Line
 Level
 Factor
 Loss Factor
 Remark

 MHz
 dBuV/m
 dB dBuV/m
 dBuV dB/m
 dB dB dB
 cm
 deg

1 1238.02 -7.88 -17.81 9.93 0.00 23.90 0.00 31.78 --- --- Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

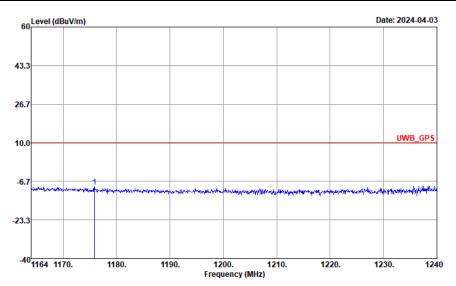
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Average emission setting: RBW=1kHz; VBW=3kHz.

Note 5: E (dBuv/m) = EIRP Limit (dBm) + 95.23. E(dBuV/m) = -85.3 + 95.23 = 9.93dBuV/m.

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CH05 Radiated Emissions (1164MHz – 1240MHz)			
Test Mode	Mode 1	Polarization	V
Operating Function	Adapter Mode	Test Distance	3m



Site : 03CH22-HY

Condition : UWB_GPS 3m LE2C04A18EN_230712 VERTICAL

 $: RBW: 1.000 \hbox{KHz VBW}: 3.000 \hbox{KHz SWT}: 40.000 \hbox{sec}$

:.
Detector : Peak
Project : 3N2325
Channel : CH5
Modulation : BPRF
UWB Frame : 0
HPRF Set # : NA

Payload Length : 125
Power Offset : 43
Post Power Offset : 50
Sweep point : 80001pts

Over Limit ReadAntenna Cable Preamp A/Pos T/Pos
Freq Level Limit Line Level Factor Loss Factor Remark

MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg

1 1175.86 -9.10 -19.03 9.93 -1.45 24.12 0.00 31.77 --- Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

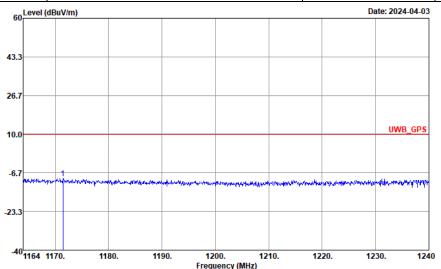
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical) Note 4: Average emission setting: RBW=1kHz; VBW=3kHz.

Note 5: E (dBuV/m) = EIRP Limit (dBm) + 95.23. E(dBuV/m) = -85.3 + 95.23 = 9.93dBuV/m.

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CH05 Radiated Emissions (1164MHz – 1240MHz)			
Test Mode	Mode 15	Polarization	Н
Operating Function	Adapter Mode	Test Distance	3m



Site : 03CH22-HY

Condition : UWB_6PS 3m LE2C04A18EN_230712 HORIZONTAL

: RBW:1.000KHz VBW:3.000KHz SWT:40.000sec

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Detector : Peak Project : 3N2325 Channel : CH5 Modulation : HPRF UWB Frame : 0 HPRF Set # : 13 Payload Length : NA Power Offset :80

Post Power Offset : 50 Sweep point : 80001pts

Over Limit ReadAntenna Cable Preamp A/Pos T/Pos
Freq Level Limit Line Level Factor Loss Factor Remark

MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg

1 1171.45 -8.96 -18.89 9.93 -1.45 24.26 0.00 31.77 --- Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

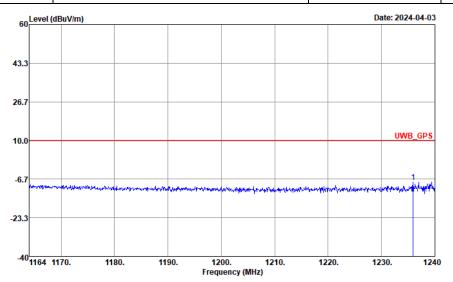
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Average emission setting: RBW=1kHz; VBW=3kHz.

Note 5: E (dBuv/m) = EIRP Limit (dBm) + 95.23. E(dBuV/m) = -85.3 + 95.23 = 9.93dBuV/m.

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CH05 Radiated Emissions (1164MHz – 1240MHz)			
Test Mode	Mode 15	Polarization	V
Operating Function	Adapter Mode	Test Distance	3m



Site : 03CH22-HY

Condition : UWB_GPS 3m LE2C04A18EN_230712 VERTICAL

: RBW:1.000KHz VBW:3.000KHz SWT:40.000sec

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Detector : Peak : 3N2325 Project Channel : CH5 : HPRF Modulation **UWB Frame** HPRF Set # : 13 Payload Length : NA Power Offset : 80 Post Power Offset : 50 Sweep point

:80001pts
Over Limit ReadAntenna Cable Preamp A/Pos T/Pos

 Freq
 Level
 Limit
 Line
 Level
 Factor
 Loss
 Factor
 Remark

 MHz
 dBuV/m
 dB dBuV/m
 dBuV dB/m
 dB dB dB
 cm
 deg

1 1235.90 -7.88 -17.81 9.93 0.00 23.90 0.00 31.78 --- Peak

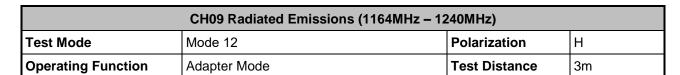
Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

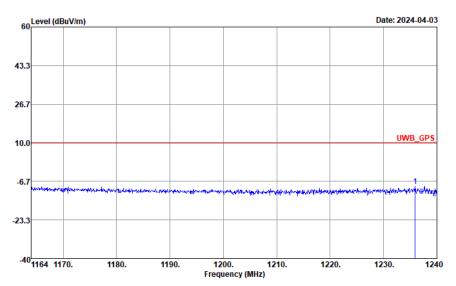
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical) Note 4: Average emission setting: RBW=1kHz; VBW=3kHz.

Note 5: E (dBuV/m) = EIRP Limit (dBm) + 95.23. E(dBuV/m) = -85.3 + 95.23 = 9.93dBuV/m.

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Site : 03CH22-HY

Condition : UWB_6PS 3m LE2C04A18EN_230712 HORIZONTAL

 $: \mathsf{RBW:} 1.000 \mathsf{KHz} \; \mathsf{VBW:} 3.000 \mathsf{KHz} \; \mathsf{SWT:} 40.000 \mathsf{sec}$

: Peak Detector Project : 3N2325 Channel : CH9 Modulation : BPRF **UWB Frame** : 3 HPRF Set # : NA Payload Length :NA Power Offset : 48

Post Power Offset : 50 Sweep point : 80001pts

Over Limit ReadAntenna Cable Preamp A/Pos T/Pos
Freq Level Limit Line Level Factor Loss Factor Remark

MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg

1 1235.90 -8.88 -18.81 9.93 -1.00 23.90 0.00 31.78 --- --- Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

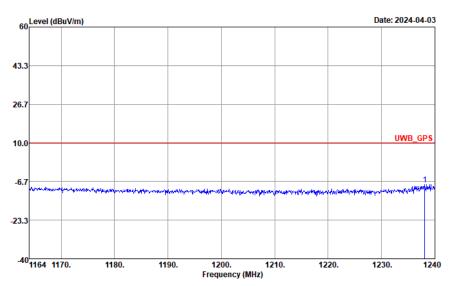
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.) Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Average emission setting: RBW=1kHz; VBW=3kHz.

Note 5: E (dBuv/m) = EIRP Limit (dBm) + 95.23. E(dBuV/m) = -85.3 + 95.23 = 9.93dBuV/m.

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CH09 Radiated Emissions (1164MHz – 1240MHz)			
Test Mode	Mode 12	Polarization	V
Operating Function	Adapter Mode	Test Distance	3m



Site

Condition : UWB_GPS 3m LE2C04A18EN_230712 VERTICAL

: RBW:1.000KHz VBW:3.000KHz SWT:40.000sec

: Peak

Detector : 3N2325 Project Channel : CH9 Modulation : BPRF UWB Frame : 3 HPRF Set # : NA Payload Length : NA Power Offset : 48 : 50 Post Power Offset Sweep point : 80001pts

Over Limit ReadAntenna Cable Preamp A/Pos Remark Freq Level Limit Line Level Factor Loss Factor MHz dBuV/m dB dBuV/m

dBuV dB/m dB deg

1238.10 -7.88 -17.81 9.93 0.00 23.90 0.00 31.78 --- Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

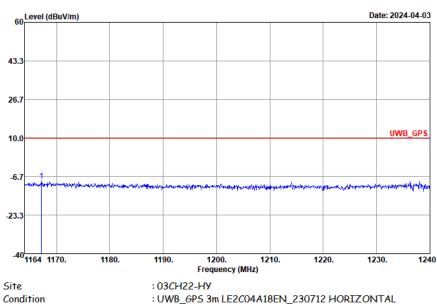
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Average emission setting: RBW=1kHz; VBW=3kHz.

Note 5: E (dBuv/m) = EIRP Limit (dBm) + 95.23. E(dBuV/m) = -85.3 + 95.23 = 9.93dBuV/m.

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CH09 Radiated Emissions (1164MHz – 1240MHz)			
Test Mode	Mode 14	Polarization	Н
Operating Function	Adapter Mode	Test Distance	3m



: RBW:1.000KHz VBW:3.000KHz SWT:40.000sec

٠. : Peak

Detector Project : 3N2325 Channel : CH9 Modulation : HPRF UWB Frame : NA HPRF Set # : 13 Payload Length : NA Power Offset : 59 Post Power Offset : 50 Sweep point : 80001pts

Over Limit ReadAntenna Cable Preamp Freq Level Limit Line Level Factor Loss Factor MHz dBuV/m dB dBuV/m dBuV dB/m dB deg

1167.19 -8.56 -18.49 9.93 -1.12 24.33 0.00 31.77 --- Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

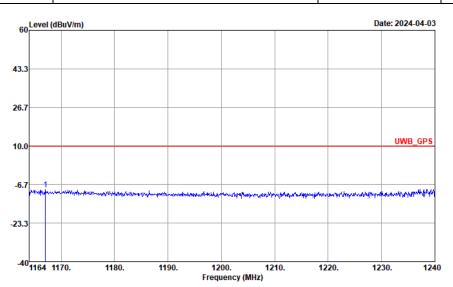
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical) Note 4: Average emission setting: RBW=1kHz; VBW=3kHz.

Note 5: E (dBuv/m) = EIRP Limit (dBm) + 95.23. E(dBuV/m) = -85.3 + 95.23 = 9.93dBuV/m.

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CH09 Radiated Emissions (1164MHz – 1240MHz)					
Test Mode	Mode 14	Polarization	V		
Operating Function	Adapter Mode	Test Distance	3m		



Site : 03CH22-HY

Condition : UWB_6PS 3m LE2C04A18EN_230712 VERTICAL

 $: RBW: 1.000 \hbox{KHz VBW}: 3.000 \hbox{KHz SWT}: 40.000 \hbox{sec}$

Detector : Peak
Project : 3N2325
Channel : CH9
Modulation : HPRF
UWB Frame : NA
HPRF Set # : 13

Payload Length : NA
Power Offset : 59
Post Power Offset : 50
Sweep point : 80001pts

Over Limit ReadAntenna Cable Preamp A/Pos T/Pos
Freq Level Limit Line Level Factor Loss Factor Remark

MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg

1 1167.04 -8.86 -18.79 9.93 -1.42 24.33 0.00 31.77 --- Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

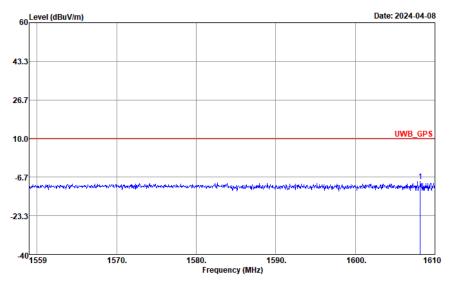
Note 4: Average emission setting: RBW=1kHz; VBW=3kHz. Note 5: E (dBuv/m) = EIRP Limit (dBm) + 95.23. E(dBuV/m) = -85.3 + 95.23 = 9.93dBuV/m.

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3.5.10 Radiated Emissions (1559MHz – 1610MHz)

CH05 Radiated Emissions (1559MHz – 1610MHz)					
Test Mode	Polarization	Н			
Operating Function	Adapter Mode	Test Distance	3m		

Report No.: FR3N2325Q



Site : 03CH22-HY

Condition : UWB_GPS 3m LE2C04A18EN_230712 HORIZONTAL

: RBW:1.000KHz VBW:3.000KHz SWT:40.000sec

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Detector : Peak Project : 3N2325 Channel : CH5 Modulation : BPRF **UWB Frame** :0 HPRF Set # : NA Payload Length : 125 Power Offset : 43 Post Power Offset : 50 Sweep point : 51001pts

Over Limit ReadAntenna Cable Preamp A/Pos T/Pos
Freq Level Limit Line Level Factor Loss Factor Remark

MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg

1 1608.16 -8.41 -18.34 9.93 -1.00 24.48 0.00 31.89 --- --- Peak

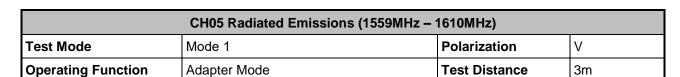
Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

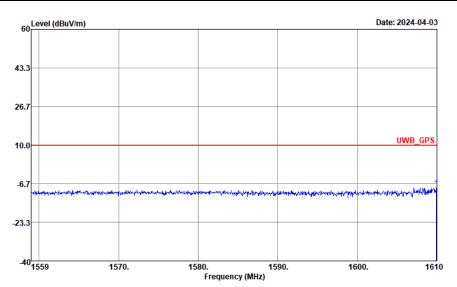
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical) Note 4: Average emission setting: RBW=1kHz; VBW=3kHz.

Note 5: E (dBuv/m) = EIRP Limit (dBm) + 95.23. E(dBuV/m) = -85.3 + 95.23 = 9.93dBuV/m.

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Site : 03CH22-HY

Condition : UWB_GPS 3m LE2C04A18EN_230712 VERTICAL

: RBW:1.000KHz VBW:3.000KHz SWT:40.000sec

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Detector : Peak
Project : 3N2325
Channel : CH5
Modulation : BPRF
UWB Frame : 0

HPRF Set # : NA
Payload Length : 125
Power Offset : 43
Post Power Offset : 50

Post Power Offset : 50
Sweep point : 51001pts
Over Limit

Over Limit ReadAntenna Cable Preamp A/Pos T/Pos
Freq Level Limit Line Level Factor Loss Factor

MHz dBuV/m dB dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg

1 1609.95 -8.39 -18.32 9.93 -1.00 24.50 0.00 31.89 --- --- Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

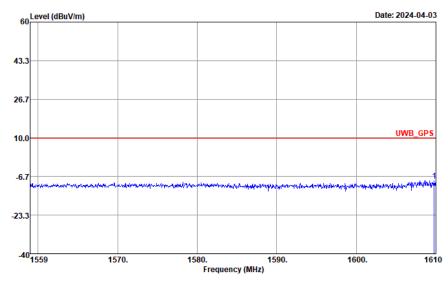
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.) Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Average emission setting: RBW=1kHz; VBW=3kHz.

Note 5: E (dBuv/m) = EIRP Limit (dBm) + 95.23. E(dBuV/m) = -85.3 + 95.23 = 9.93dBuV/m.

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CH05 Radiated Emissions (1559MHz – 1610MHz)					
Test Mode	Mode 15	Polarization	Н		
Operating Function	Adapter Mode	Test Distance	3m		



Site : 03CH22-HY

Condition : UWB_GPS 3m LE2C04A18EN_230712 HORIZONTAL

: RBW:1.000KHz VBW:3.000KHz SWT:40.000sec

Cable Preamp A/Pos

Detector : Peak
Project : 3N2325
Channel : CH5
Modulation : HPRF
UWB Frame : 0
HPRF Set # : 13
Payload Length : NA

Power Offset : 80

Post Power Offset : 50

Sweep point : 51001pts

Over | imit | ReadAntenna

 Freq
 Level
 Limit
 Line
 Level
 Factor
 Loss
 Factor
 Remark

 MHz
 dBuV/m
 dB
 dBuV/m
 dB
 dB
 dB
 cm
 deg

 1609.80
 -8.40
 -18.33
 9.93
 -1.01
 24.50
 0.00
 31.89
 -- -- Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

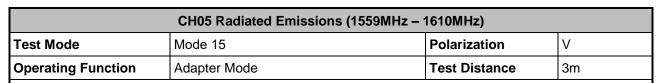
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

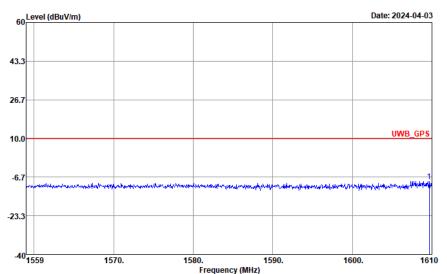
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Average emission setting: RBW=1kHz; VBW=3kHz.

Note 5: E (dBuv/m) = EIRP Limit (dBm) + 95.23. E(dBuV/m) = -85.3 + 95.23 = 9.93dBuV/m.

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Site : 03CH22-HY

Condition : UWB_GPS 3m LE2C04A18EN_230712 VERTICAL

: RBW:1.000KHz VBW:3.000KHz SWT:40.000sec

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Detector : Peak
Project : 3N2325
Channel : CH5
Modulation : HPRF
UWB Frame : 0
HPRF Set # : 13
Payload Length : NA

Payroad Length : NA
Power Offset : 80
Post Power Offset : 50
Sweep point : 51001pts

Over Limit ReadAntenna Cable Preamp A/Pos T/Pos
Freq Level Limit Line Level Factor Loss Factor Remark

MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg

1 1609.64 -8.40 -18.33 9.93 -1.01 24.50 0.00 31.89 --- --- Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

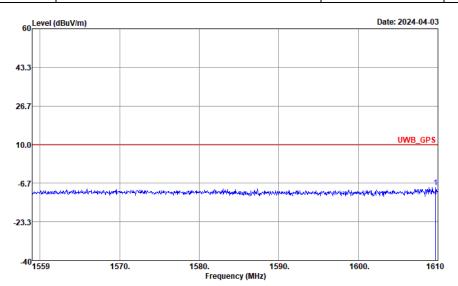
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.) Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Average emission setting: RBW=1kHz; VBW=3kHz.

Note 5: E (dBuv/m) = EIRP Limit (dBm) + 95.23. E(dBuV/m) = -85.3 + 95.23 = 9.93dBuV/m.

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CH09 Radiated Emissions (1559MHz – 1610MHz)					
Test Mode	Mode 12	Polarization	Н		
Operating Function	Adapter Mode	Tost Distance	3m		



Site : 03CH22-HY

Condition : UWB_GPS 3m LE2C04A18EN_230712 HORIZONTAL

: RBW:1.000KHz VBW:3.000KHz SWT:40.000sec

:

Detector : Peak
Project : 3N2325
Channel : CH9
Modulation : BPRF
UWB Frame : 3
HPRF Set # : NA
Payload Length : NA

 Power Offset
 : 48

 Post Power Offset
 : 50

 Sweep point
 : 51001pts

Over Limit ReadAntenna Cable Preamp A/Pos T/Pos
Freq Level Limit Line Level Factor Loss Factor Remark

MHz dBuV/m dB dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg

1 1609.69 -8.40 -18.33 9.93 -1.01 24.50 0.00 31.89 --- --- Peak

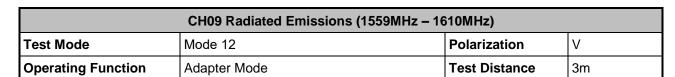
Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

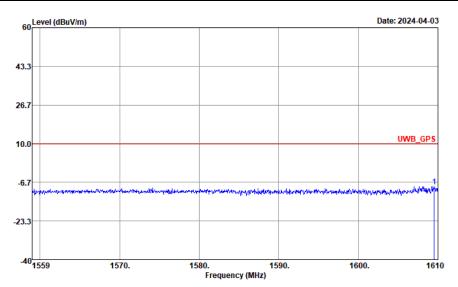
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical) Note 4: Average emission setting: RBW=1kHz; VBW=3kHz.

Note 5: E (dBuV/m) = EIRP Limit (dBm) + 95.23. E(dBuV/m) = -85.3 + 95.23 = 9.93dBuV/m.

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Site : 03CH22-HY

Condition : UWB_GPS 3m LE2C04A18EN_230712 VERTICAL

: RBW:1.000KHz VBW:3.000KHz SWT:40.000sec

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Detector : Peak
Project : 3N2325
Channel : CH9
Modulation : BPRF
UWB Frame : 3
HPRF Set # : NA

Payload Length : NA
Power Offset : 48
Post Power Offset : 50
Sweep point : 51001pts

ReadAntenna Over Limit Cable Preamp A/Pos T/Pos Freq Level Limit Remark Line Level Factor Loss Factor MHz dBuV/m dB dBuV/m dBuV dB/m dB dB deg

1 1609.54 -8.40 -18.33 9.93 -1.01 24.50 0.00 31.89 --- --- Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

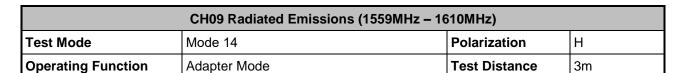
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

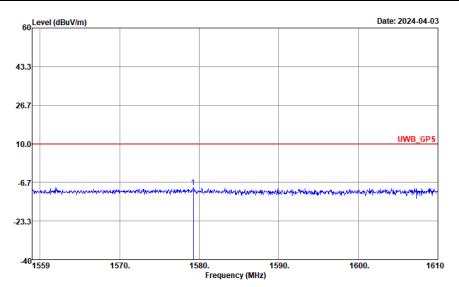
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Average emission setting: RBW=1kHz; VBW=3kHz.

Note 5: E (dBuv/m) = EIRP Limit (dBm) + 95.23. E(dBuV/m) = -85.3 + 95.23 = 9.93dBuV/m.

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Site : 03CH22-HY

Condition : UWB_6PS 3m LE2C04A18EN_230712 HORIZONTAL

: RBW:1.000KHz VBW:3.000KHz SWT:40.000sec

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Detector : Peak
Project : 3N2325
Channel : CH9
Modulation : HPRF
UWB Frame : NA
HPRF Set # : 13
Payload Length : NA

Power Offset : 59
Post Power Offset : 50
Sweep point : 51001pts

Over Limit ReadAntenna Cable Preamp A/Pos T/Pos Freq Level Limit Line Level Factor Remark Loss Factor MHz dBuV/m dB dBuV/m dBuV dB/m dB dB deg

1 1579.25 -8.77 -18.70 9.93 -1.29 24.40 0.00 31.88 --- --- Peak

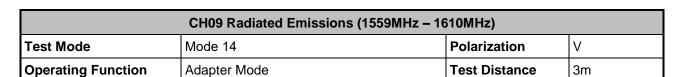
Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

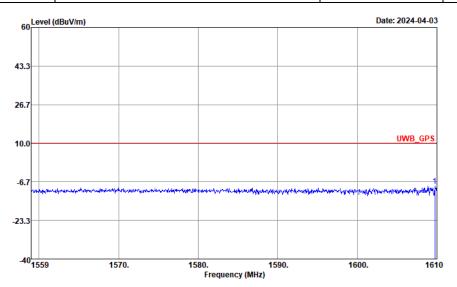
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.) Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Average emission setting: RBW=1kHz; VBW=3kHz.

Note 5: E (dBuv/m) = EIRP Limit (dBm) + 95.23. E(dBuV/m) = -85.3 + 95.23 = 9.93dBuV/m.

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Site : 03CH22-HY

Condition : UWB_6PS 3m LE2CO4A18EN_230712 VERTICAL

: RBW:1.000KHz VBW:3.000KHz SWT:40.000sec

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Detector : Peak : 3N2325 Project Channel : CH9 Modulation : HPRF UWB Frame :NA HPRF Set # : 13 Payload Length : NA Power Offset : 59 Post Power Offset : 50

Sweep point

Cable Preamp ReadAntenna Over Limit A/Pos T/Pos Freq Level Limit Line Level Factor Loss Factor Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB deg

1 1609.75 -8.40 -18.33 9.93 -1.01 24.50 0.00 31.89 --- --- Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

: 51001pts

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical) Note 4: Average emission setting: RBW=1kHz; VBW=3kHz.

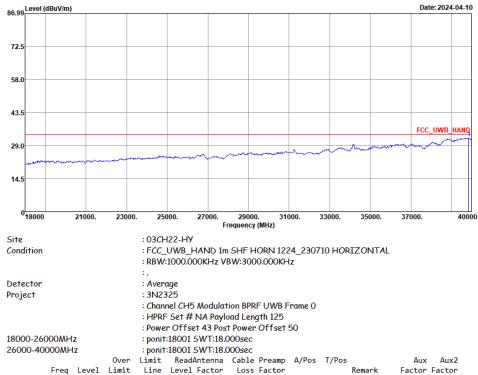
Note 5: E (dBuv/m) = EIRP Limit (dBm) + 95.23. E(dBuV/m) = -85.3 + 95.23 = 9.93dBuV/m.

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3.5.11 Radiated Emissions (18GHz – 40GHz)

CH05 Radiated Emissions (18GHz – 40GHz)						
Test Mode	e Mode 1 Polarization H					
Operating Function	Adapter Mode	Test Distance	0.5m			

Report No.: FR3N2325Q



Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

dB

dB

dB

-15.56

--- Average

dB

0.00

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

dB dBuV/m dBuV dB/m

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

1 39846.00 32.32 -1.61 33.93 49.65 45.00 9.31 56.08

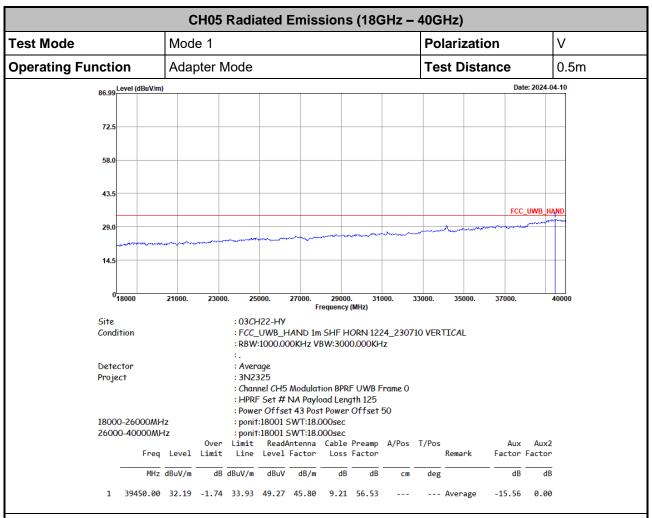
Note 4: Average emission setting: RBW=1MHz; VBW=3MHz.

MHz dBuV/m

Note 5:

- Distance extrapolation factor = 20 log (test distance [X m]/specific distance [3 m]) (dB)
- Corrected Reading: Antenna Factor (dB/m) + Cable Loss (dB) + Read Level (dBuV) Preamp Factor (dB) + Aux (dB) + Aux 2 (dB) = Level (dBuV/m)
 (Note: Aux = Distance extrapolation factor; Aux 2 = 0, which means the measuring units are not connecting to the Filter)

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Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

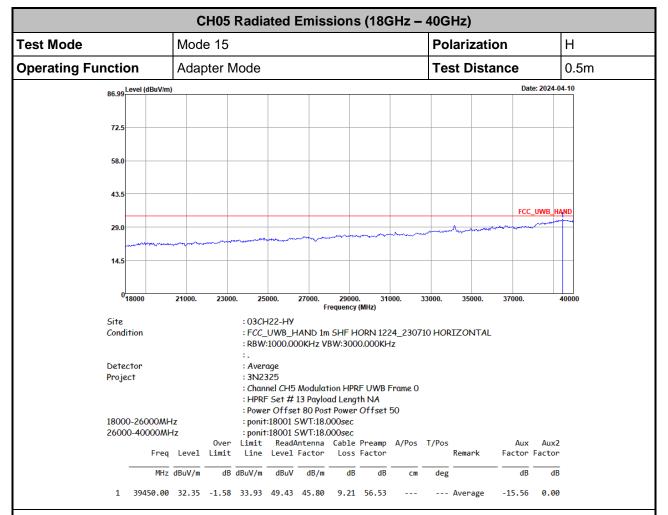
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Average emission setting: RBW=1MHz; VBW=3MHz.

Note 5:

- Distance extrapolation factor = 20 log (test distance [X m]/specific distance [3 m]) (dB)
- Corrected Reading: Antenna Factor (dB/m) + Cable Loss (dB) + Read Level (dBuV) Preamp Factor (dB) + Aux (dB) + Aux 2 (dB) = Level (dBuV/m)
 (Note: Aux = Distance extrapolation factor; Aux 2 = 0, which means the measuring units are not connecting to the Filter)

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Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

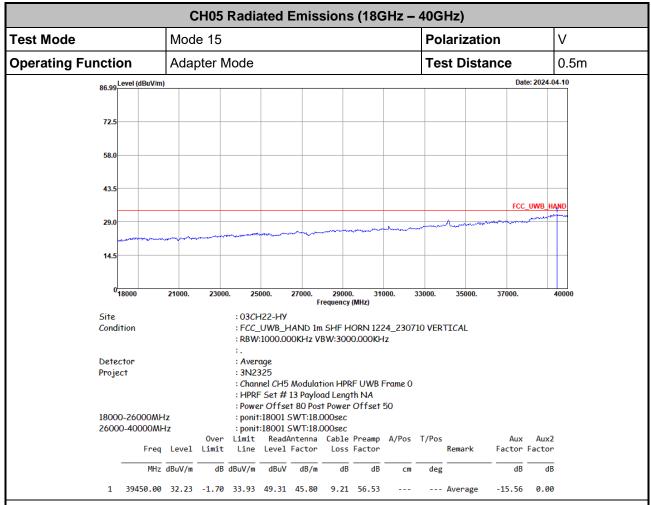
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Average emission setting: RBW=1MHz; VBW=3MHz.

Note 5:

- Distance extrapolation factor = 20 log (test distance [X m]/specific distance [3 m]) (dB)
- Corrected Reading: Antenna Factor (dB/m) + Cable Loss (dB) + Read Level (dBuV) Preamp Factor (dB) + Aux (dB) + Aux 2 (dB) = Level (dBuV/m)
 (Note: Aux = Distance extrapolation factor; Aux 2 = 0, which means the measuring units are not connecting to the Filter)

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Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

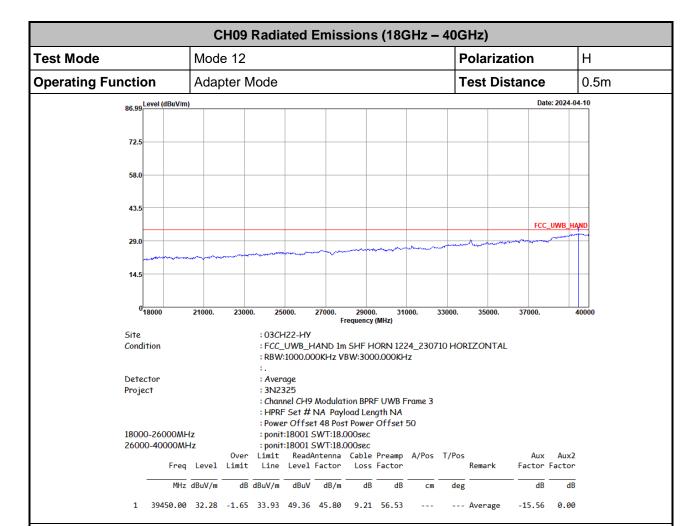
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Average emission setting: RBW=1MHz; VBW=3MHz.

Note 5:

- Distance extrapolation factor = 20 log (test distance [X m]/specific distance [3 m]) (dB)
- Corrected Reading: Antenna Factor (dB/m) + Cable Loss (dB) + Read Level (dBuV) Preamp Factor (dB) + Aux (dB) + Aux 2 (dB) = Level (dBuV/m)
 (Note: Aux = Distance extrapolation factor; Aux 2 = 0, which means the measuring units are not connecting to the Filter)

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Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

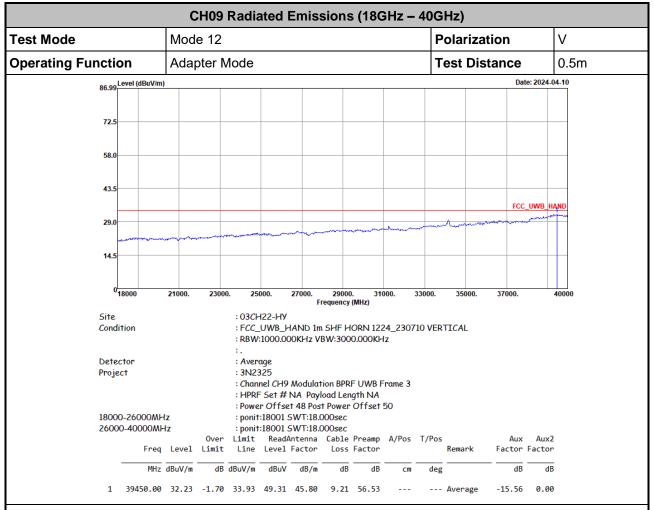
Note 4: Average emission setting: RBW=1MHz; VBW=3MHz.

Note 5:

- Distance extrapolation factor = 20 log (test distance [X m]/specific distance [3 m]) (dB)
- Corrected Reading: Antenna Factor (dB/m) + Cable Loss (dB) + Read Level (dBuV) Preamp Factor (dB) + Aux (dB) + Aux 2 (dB) = Level (dBuV/m)
 (Note: Aux = Distance extrapolation factor; Aux 2 = 0, which means the measuring units are not connecting to the Filter)

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 Issue Date
 : Jul. 11, 2024



Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

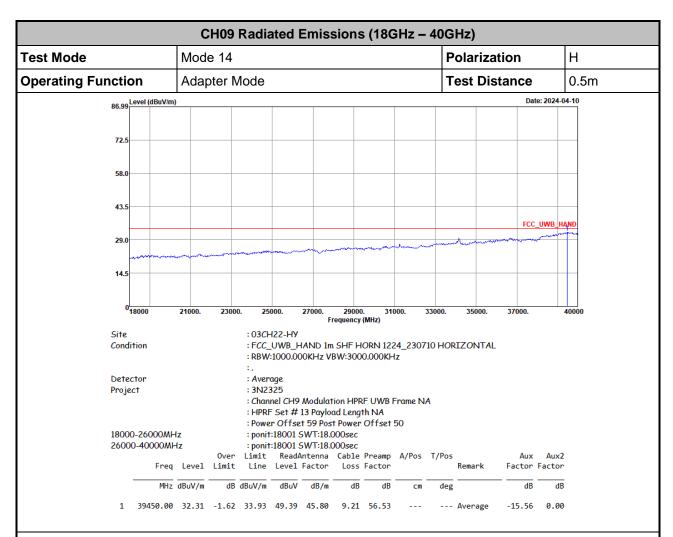
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Average emission setting: RBW=1MHz; VBW=3MHz.

Note 5:

- Distance extrapolation factor = 20 log (test distance [X m]/specific distance [3 m]) (dB)
- Corrected Reading: Antenna Factor (dB/m) + Cable Loss (dB) + Read Level (dBuV) Preamp Factor (dB) + Aux (dB) + Aux 2 (dB) = Level (dBuV/m)
 (Note: Aux = Distance extrapolation factor; Aux 2 = 0, which means the measuring units are not connecting to the Filter)

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Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

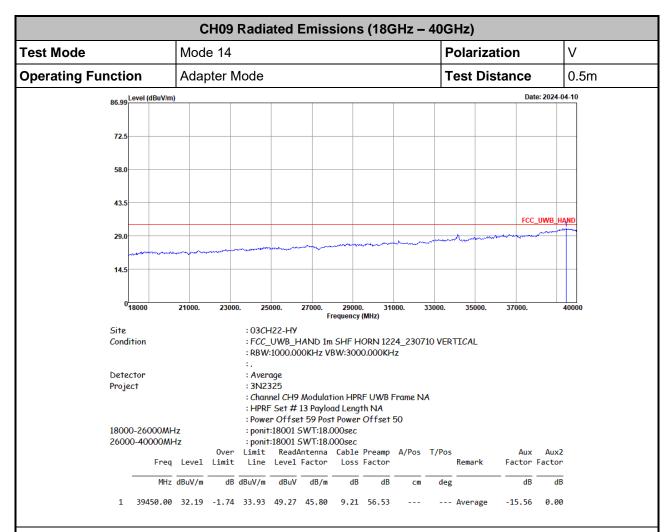
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Average emission setting: RBW=1MHz; VBW=3MHz.

Note 5:

- Distance extrapolation factor = 20 log (test distance [X m]/specific distance [3 m]) (dB)
- Corrected Reading: Antenna Factor (dB/m) + Cable Loss (dB) + Read Level (dBuV) Preamp Factor (dB) + Aux (dB) + Aux 2 (dB) = Level (dBuV/m)
 (Note: Aux = Distance extrapolation factor; Aux 2 = 0, which means the measuring units are not connecting to the Filter)

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Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: Average emission setting: RBW=1MHz; VBW=3MHz.

Note 5:

- Distance extrapolation factor = 20 log (test distance [X m]/specific distance [3 m]) (dB)
- Corrected Reading: Antenna Factor (dB/m) + Cable Loss (dB) + Read Level (dBuV) Preamp Factor (dB) + Aux (dB) + Aux 2 (dB) = Level (dBuV/m)
 (Note: Aux = Distance extrapolation factor; Aux 2 = 0, which means the measuring units are not connecting to the Filter)

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4 Test Equipment and Calibration Data

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
AC Power Source	ACPOWER	AFC-11003G	F317040033	N/A	N/A	Mar. 25, 2024	N/A	Conduction (CO07-HY)
Software	Rohde & Schwarz	EMC32 V10.30	N/A	N/A	N/A	Mar. 25, 2024	N/A	Conduction (CO07-HY)
Pulse Limiter	SCHWARZBE CK	VTSD 9561-F N	9561-F N00373	9kHz-200MHz	Oct. 20, 2023	Mar. 25, 2024	Oct. 19, 2024	Conduction (CO07-HY)
RF Cable	HUBER + SUHNER	RG 214/U	1358175	9kHz~30MHz	Mar. 14, 2024	Mar. 25, 2024	Mar. 13, 2025	Conduction (CO07-HY)
Two-Line V-Network	TESEQ	NNB 51	45051	N/A	Mar. 10, 2024	Mar. 25, 2024	Mar. 09, 2025	Conduction (CO07-HY)
Four-Line V-Network	TESEQ	NNB 52	36122	N/A	Mar. 07, 2024	Mar. 25, 2024	Mar. 06, 2025	Conduction (CO07-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102317	9kHz~3.6GHz	Sep. 20, 2023	Mar. 25, 2024	Sep. 19, 2024	Conduction (CO07-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Sep. 12, 2023	Dec. 28, 2023~ Apr. 08, 2024	Sep. 11, 2024	Radiation (03CH22-HY)
Bilog Antenna	TESEQ	CBL 6111D & 00802N1D-06	63304 & 002	30MHz~1GHz	Oct. 15, 2023	Dec. 28, 2023~ Apr. 08, 2024	Oct. 14, 2024	Radiation (03CH22-HY)
Amplifier	SONOMA	310N	421581	N/A	Jul. 15, 2023	Dec. 28, 2023~ Apr. 08, 2024	Jul. 14, 2024	Radiation (03CH22-HY)
Double Ridged Guide Horn Antenna	RFSPIN	DRH18-E	LE2C04A18EN	1GHz~18GHz	Jul. 12, 2023	Dec. 28, 2023~ Apr. 08, 2024	Jul. 11, 2024	Radiation (03CH22-HY)
Amplifier	EMEC	EM01G18GA	060877	N/A	Sep. 28, 2023	Dec. 28, 2023~ Apr. 08, 2024	Sep. 27, 2024	Radiation (03CH22-HY)
Signal Analyzer	Keysight	N9010B	MY62170278	10Hz~44GHz	Aug. 31, 2023	Dec. 28, 2023~ Apr. 08, 2024	Aug. 30, 2024	Radiation (03CH22-HY)
Hygrometer	TECPEL	DTM-303A	TP211559	N/A	Nov. 16, 2023	Dec. 28, 2023~ Apr. 08, 2024	Nov. 15, 2024	Radiation (03CH22-HY)
Controller	EMEC	EM1000	N/A	Control Turn table & Ant Mast	N/A	Dec. 28, 2023~ Apr. 08, 2024	N/A	Radiation (03CH22-HY)
Antenna Mast	ChainTek	MBS-520-1	N/A	1m~4m	N/A	Dec. 28, 2023~ Apr. 08, 2024	N/A	Radiation (03CH22-HY)
Turn Table	ChainTek	T-200-S-1	N/A	0~360 Degree	N/A	Dec. 28, 2023~ Apr. 08, 2024	N/A	Radiation (03CH22-HY)
Software	Audix	E3 6.09824_2019122	RK-002347	N/A	N/A	Dec. 28, 2023~ Apr. 08, 2024	N/A	Radiation (03CH22-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	803951/2	9kHz~30MHz	Mar. 07, 2023	Dec. 28, 2023~ Mar. 05, 2024	Mar. 06, 2024	Radiation (03CH22-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	803951/2	9kHz~30MHz	Mar. 06, 2023	Mar. 06, 2024~ Apr. 8, 2024	Mar. 05, 2025	Radiation (03CH22-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	804390/2,8046 11/2,804615/2	N/A	Oct. 24, 2023	Dec. 28, 2023~ Apr. 08, 2024	Oct. 23, 2024	Radiation (03CH22-HY)
Spectrum Analyzer	Rohde & Schwarz	FSW43	101456	RBW 50MHz	Feb. 23, 2023	Dec. 28, 2023~ Feb. 22, 2024	Feb. 22, 2024	Radiation (03CH22-HY)
Spectrum Analyzer	Rohde & Schwarz	FSW43	101456	RBW 50MHz	Feb. 19, 2024	Feb. 23, 2024~ Apr. 08, 2024	Fed. 18, 2025	Radiation (03CH22-HY)
Preamplifier	EMEC	EM18G40G	060801	18-40GHz	Jun. 27, 2023	Dec. 28, 2023~ Apr. 08, 2024	Jun. 26, 2024	Radiation (03CH22-HY)
SHF-EHF Horn Antenna	SCHWARZBE CK	BBHA 9170	1224	18GHz-40GHz	Jul. 10, 2023	Dec. 28, 2023~ Apr. 08, 2024	Jul. 09, 2024	Radiation (03CH22-HY)

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Appendix A. AC Conducted Emission Test Results

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EUT Information

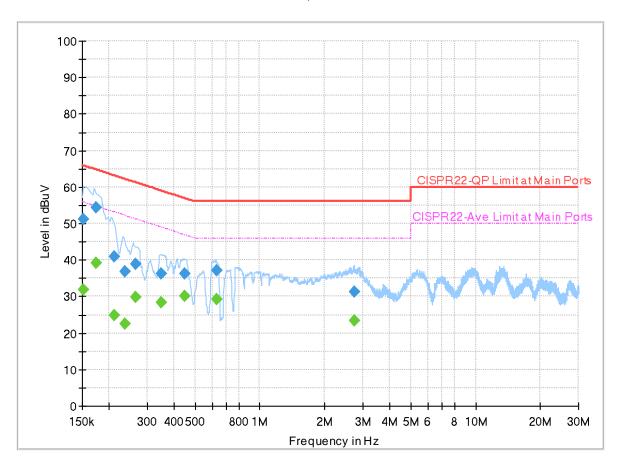
 Report NO :
 3N2325

 Test Mode :
 Mode 1

 Test Voltage :
 120Vac/60Hz

Phase: Line

Full Spectrum



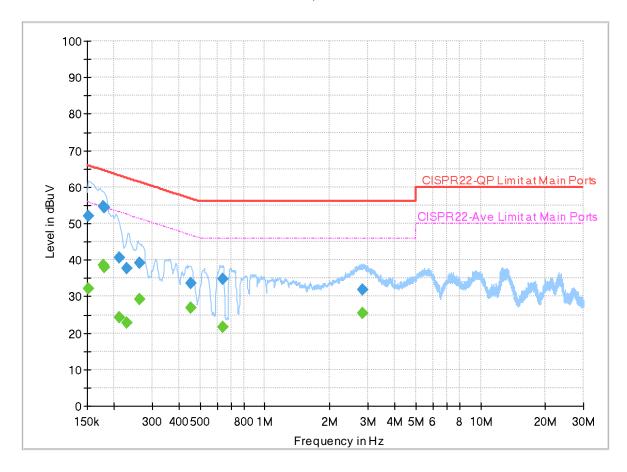
Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
,	(ubuv)	•		` '			` '
0.151283		31.94	55.93	23.99	L1	OFF	19.9
0.151283	51.25	-	65.93	14.68	L1	OFF	19.9
0.173940		39.10	54.77	15.67	L1	OFF	19.9
0.173940	54.26		64.77	10.51	L1	OFF	19.9
0.210750		24.92	53.18	28.26	L1	OFF	19.9
0.210750	40.98		63.18	22.20	L1	OFF	19.9
0.237750		22.39	52.17	29.78	L1	OFF	19.9
0.237750	36.71		62.17	25.46	L1	OFF	19.9
0.263940		29.75	51.31	21.56	L1	OFF	19.9
0.263940	38.94		61.31	22.37	L1	OFF	19.9
0.347730		28.30	49.02	20.72	L1	OFF	19.9
0.347730	36.29		59.02	22.73	L1	OFF	19.9
0.447000		30.13	46.93	16.80	L1	OFF	19.9
0.447000	36.21		56.93	20.72	L1	OFF	19.9
0.628350		29.10	46.00	16.90	L1	OFF	19.9
0.628350	37.10		56.00	18.90	L1	OFF	19.9
2.729760		23.49	46.00	22.51	L1	OFF	20.0
2.729760	31.20		56.00	24.80	L1	OFF	20.0

EUT Information

Report NO: 3N2325
Test Mode: Mode 1
Test Voltage: 120Vac/60Hz
Phase: Neutral

Full Spectrum



Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.152295	(32.19	55.87	23.68	N	OFF	19.9
0.152295	51.94		65.87	13.93	N	OFF	19.9
0.177000		38.58	54.63	16.05	N	OFF	19.9
0.177000	54.70		64.63	9.93	N	OFF	19.9
0.179250		37.91	54.52	16.61	N	OFF	19.9
0.179250	54.40		64.52	10.12	N	OFF	19.9
0.210750	-	24.20	53.18	28.98	N	OFF	19.9
0.210750	40.72		63.18	22.46	N	OFF	19.9
0.228750		22.76	52.50	29.74	N	OFF	19.9
0.228750	37.74		62.50	24.76	N	OFF	19.9
0.262500		29.25	51.35	22.10	N	OFF	19.9
0.262500	39.25		61.35	22.10	N	OFF	19.9
0.451500		26.82	46.85	20.03	N	OFF	19.9
0.451500	33.74		56.85	23.11	N	OFF	19.9
0.635370	-	21.70	46.00	24.30	N	OFF	19.9
0.635370	34.91	-	56.00	21.09	N	OFF	19.9
2.838750		25.41	46.00	20.59	N	OFF	20.0
2.838750	31.83		56.00	24.17	N	OFF	20.0