



*FCC PART 15, SUBPART B and C; and FCC SECTION 15.247; RSS-247 and RSS-GEN
TEST REPORT*

for

**Diamond Display
Model Number: 3.5**

Prepared for

COMODULE OÜ
DUNKRI 9
TALLINN, ESTONIA 10123

Prepared by: _____

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DATE: JULY 29, 2022

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GENERAL REPORT SUMMARY

This electromagnetic emission test report is generated by Compatible Electronics Inc., which is an independent testing and consulting firm. The test report is based on testing performed by Compatible Electronics personnel according to the measurement procedures described in the test specifications given below and in the "Test Procedures" section of this report.

The measurement data and conclusions appearing herein relate only to the sample tested and this report may not be reproduced without the written permission of Compatible Electronics, unless done so in full.

This report must not be used by the client to claim product certification, approval or endorsement by NVLAP, NIST or any agency of the U.S. government.

Device Tested: Diamond Display
Model: 3.5
S/N: N/A

Product Description: The EUT is used to communicate with an e-bike via a cable and send the usage metrics to the mobile device over BLE 2.4 GHz ISM band. Clock Frequencies: 32 MHz and 32.768 kHz
(Dimensions: 60 mm x 40 mm x 50 mm)

Modifications: The EUT was not modified in order to meet the specifications.

Customer: Comodule OÜ
Dunkri 9
Tallinn, Estonia 10123

Test Dates: June 29 and 30, 2022

Test Specification covered by accreditation:



Test Specifications: Emissions requirements
CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.207, 15.209, and 15.247; RSS-247 and RSS-GEN

Test Procedures: ANSI C63.4 and ANSI C63.10

Test Deviations: The test procedure was not deviated from during the testing.



SUMMARY OF TEST RESULTS

TEST	DESCRIPTION	RESULTS
1	Conducted RF Emissions, 150 kHz - 30 MHz	The EUT complies with the Class B limits of CFR Title 47, Part 15 Subpart B; the limits of CFR Title 47, Part 15, Subpart C, section 15.207; RSS-247 and RSS-GEN Highest reading in relation to spec limit 32.47 (Avg) dBμV @ 0.222 MHz (*U = 2.72 dB)
2	Radiated RF Emissions, 9 kHz – 25000 MHz	Complies with the Class B limits of CFR Title 47, Part 15, Subpart B; and the limits of CFR Title 47, Part 15 Subpart C, 15.205, 15.209 and 15.247 (d); RSS-247 and RSS-GEN Highest reading in relation to spec limit 40.14 dBμV/m (QP) @ 868.50 MHz (*U = 3.30 dB)
3	DTS Bandwidth	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247 (a)(2); RSS-247
4	Peak Output Power	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247 (b)(3); RSS-247
5	RF Band Edges	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247 (d); RSS-247
6	Spectral Density	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247 (e); RSS-247



1. PURPOSE

This document is a qualification test report based on the emissions tests performed on the Diamond Display, Model: 3.5 (EUT). The emissions measurements were performed according to the measurement procedure described in ANSI C 63.4 and ANSI C 63.10. The tests were performed in order to determine whether the electromagnetic emissions from the equipment under test, referred to as EUT hereafter, are within the **Class B specification limits defined by CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.207, 15.209, and 15.247; RSS-247 and RSS-Gen.**

1.1 DECISION RULE & RISK

If a measured value exceeds a specification limit it implies non-compliance. If the value is below a specification limit it implies compliance. Measurement uncertainty of the laboratory is reported with all measurement results but generally not taken into consideration unless a standard, rule or law requires it to be considered.

Qualification test reports are only produced for products that are in compliance with the test requirements, therefore results are always in conformity. Otherwise, an engineering report or just the data is provided to the customer.

When performing a measurement and making a statement of conformity, in or out-of-specification to manufacturer's specifications or Pass/Fail against a requirement, there are two possible outcomes:

- The result is reported as conforming with the specification
- The result is reported as not conforming with the specification

The decision rule is defined below.

When the test result is found to be below the limit but within our measurement uncertainty of the limit, it is our policy that the final acceptance decision is left to the customer, after discussing the implications and potential risks of the decision.

When the test result is found to be exactly on the specification, it is our policy, in the case of unwanted emissions measurements to consider the result non-compliant; however, the final decision is left to the customer, after discussing the implications and potential risks of the decision.

When the test result is found to be over the specification limit under any condition, it is our policy to consider the result non-compliant.

In terms of uncertainty of measurement, the laboratory is a calibrated and tightly controlled environment and generally exceptionally stable, the measurement uncertainties are evaluated without the consideration of the test sample. When it comes to the test sample however, as most testing is performed on a single sample rather than a sample population, and that sample is often a pre-production representation of the final product that test sample represents a significantly higher source of measurement uncertainty. We advise our customers of this and that when in doubt (small test to limit margins), they may wish to perform statistical sampling on a population to gain a higher confidence in the results. All lab reported results are that of a single sample in any event.



2. ADMINISTRATIVE DATA

2.1 Location of Testing

The emissions tests described herein were performed at the test facility of Compatible Electronics, 114 Olinda Drive, Brea, California 92823.

2.2 Traceability Statement

The calibration certificates of all test equipment used during the test are on file at the location of the test. The calibration is traceable to the National Institute of Standards and Technology (NIST).

2.3 Cognizant Personnel

Comodule OÜ

Kristjan Maruste	Co-Founder
Teet Praks	Member of Board

Compatible Electronics Inc.

James Ross	Sr. Test Engineer
Kyle Fujimoto	Sr. Test Engineer

2.4 Date Test Sample was Received

The test sample was received as described in the product description just prior to the initial testing.

2.5 Disposition of the Test Sample

The test sample has not been returned to Comodule OÜ as of the date of this test report.

2.6 Abbreviations and Acronyms

The following abbreviations and acronyms may be used in this document.

EMI	Electromagnetic Interference	LIN	Line
EUT	Equipment Under Test	GND	Ground
S/N	Serial Number	Tx	Transmit
ITE	Information Technology Equipment	Rx	Receive
DoC	Declaration of Conformity	Inc.	Incorporated
N/A	Not Applicable	RF	Radio Frequency
P/N	Part Number	BLE	Bluetooth Low Energy
IR	Infrared	M/N	Model Number
OU	Osauhinglt (limited liability company)		
UART	Universal Asynchronous Receiver/Transmitter		
GmbH	Gesellschaft mit beschränkter Haftung (company with limited liability)		



3. APPLICABLE DOCUMENTS

The following documents are referenced or used in the preparation of this emissions Test Report.

SPEC	TITLE
FCC Title 47, Part 15 Subpart C	FCC Rules – Radio frequency devices (including digital devices) – Intentional Radiators
FCC Title 47, Part 15 Subpart B	FCC Rules – Radio frequency devices (including digital devices) – Unintentional Radiators
558074 D01 DTS Meas Guidance v05r02	Guidance for Performing Compliance Measurements on Digital Transmissions Systems (DTS) Operating Under Section 15.247
EN 50147-2: 1997	Anechoic chambers. Alternative test site suitability with respect to site attenuation
ANSI C63.4 2014	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz
ANSI C63.10 2013	American National Standard for Testing Unlicensed Wireless Devices
RSS-Gen Issue 5 April 2019 Amendment 1	General Requirements for Compliance of Radio Apparatus
RSS-247 Issue 2 February 2017	Digital Transmissions Systems (DTSs), Frequency Hopping Systems (FHSs) and License-Exempt Local Area Network (LE-LAN) Devices



4. DESCRIPTION OF TEST CONFIGURATION

The EUT was connected to a 1-meter HIGO 6-pin extension cable. The 6-pin extension cable was connected to a red banana plug, a black banana plug, D-9 connector, and a switch with a 10k ohm resistor.

The red and black banana plugs are also connected to an AC/DC adapter. The D-9 connector is connected to a Kvaser Leaf Light v2. The Kvaser Leaf Light v2 is also connected to a laptop. The laptop is also connected to an AC/DC Adapter and ethernet router via its power and ethernet ports, respectively.

The EUT was tested for emissions while in the X, Y and Z axis. The X orientation is when the EUT is parallel to the ground mounted horizontally. The Y orientation is when the EUT is perpendicular to the ground mounted vertically. The Z orientation is when the EUT is perpendicular to the ground mounted horizontally.

The firmware on the laptop allows the EUT to continuously transmit at the low, middle, or high channels.

The firmware is stored on the company's servers.

The radiated and conducted data was taken in the continuously exercising mode of operation. All initial investigations were performed with the EMI Receiver in manual mode scanning the frequency range continuously. The cables were bundled and routed as shown in the photographs in Appendix D.



4.1.1 Cable Construction and Termination

- Cable 1** This is a 25-centimeter unshielded cable connecting the EUT to cable #2. The cable has a HIGO 6-pin connector at the Cable #2 end and is hard wired at the EUT end.
- Cable 2** This is a 1-meter unshielded cable connecting cable #1 to a black banana plug, red banana plug, switch with 10000 ohm resistor, and a D-9 connector. The cable has a HIGO 6-Pin connector at the Cable #1 end and is hard wired at the other end.
- Cable 3** This is a 5-centimeter unshielded cable connecting the switch with 10000 ohm resistor to the red banana plug. The cable is hard wired at each end.
- Cable 4** This is a 5-centimeter unshielded cable connecting the black banana plugs to the D-9 connector. The cable is hard wired at each end.
- Cable 5** This is a 25-centimeter unshielded cable connecting the Kvaser Leaf Light v2 to the D-9 connector. The cable is hard wired at the Kvaser Leaf Light end and hard wired into the D-9 connector.
- Cable 6** This is a 2-meter braid shielded cable connecting the Kvaser Leaf Light v2 to the laptop. The cable has a USB type 'A' connector at the laptop end and is hard wired into the Kvaser Leaf Light v2. The cable is bundled to a length of 1-meter. The shield of the cable is grounded to the chassis via the connector.
- Cable 7** This is a 2-meter unshielded cable connecting the red and black banana plus to the AC/DC Adapter. The cable is hared wired at each end.
- Cable 8** This is a 2-meter unshielded cable connecting the AC/DC Adapter to the laptop. The cable has a rectangular power connector at the laptop end and is hared wired into the AC/DC Adapter.
- Cable 9** This was a 15.24-meter unshielded Ethernet cable connecting the laptop to the Ethernet router. The cable contained an RJ-45 connector at each end.



5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

5.1 EUT and Accessory List

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID / ISED ID
DIAMOND DISPLAY (EUT)	COMODULE OÜ	3.5	N/A	FCC ID: 2AQHS-DMD3X ISED ID: 25027-DMD3X
KVASER LEAF LIGHT v2	KVASER	73-30130-00685-0	079758	N/A
SWITCH WITH 10 kΩ RESISTOR	N/A	N/A	N/A	N/A
LAPTOP COMPUTER	LENOVO	T450s	N/A	N/A
AC/DC ADAPTER (FOR LAPTOP)	LENOVO	ADLX4NCC2A	N/A	N/A
AC/DC ADAPTER (FOR EUT)	NETGEAR	DV-1280-3	N/A	N/A
RED BANANA PLUG	N/A	N/A	N/A	N/A
BLACK BANANA PLUG	N/A	N/A	N/A	N/A
ETHERNET ROUTER	NETGEAR	EN 108	ENT8114202	N/A



5.2 Emissions Test Equipment

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CAL. DATE	CAL. DUE DATE
RF RADIATED AND AC CONDUCTED EMISSIONS TEST EQUIPMENT					
TDK TestLab	TDK RF Solutions, Inc.	9.22	700145	N/A	N/A
EMI Receiver, 20 Hz – 26.5 GHz	Keysight Technologies, Inc.	N9038A	MY51210510	September 17, 2021	September 17, 2022
System Controller	Sunol Sciences Corporation	SC110V	112213-1	N/A	N/A
Turntable	Sunol Sciences Corporation	2011VS	N/A	N/A	N/A
Antenna-Mast	Sunol Sciences Corporation	TWR95-4	112213-3	N/A	N/A
Loop Antenna	Com-Power	AL-130R	121090	February 10, 2022	February 10, 2024
CombiLog Antenna	Com-Power	AC-220	61093	December 14, 2021	December 14, 2023
Horn Antenna	Com-Power	AH-118	10050113	December 16, 2021	December 16, 2023
Preamplifier	Com-Power	PA-118	181653	March 7, 2022	March 7, 2023
Horn Antenna	Com-Power	AH-826	71957	N/A	N/A
Preamplifier	Com-Power	PA-840	711013	April 8, 2022	April 8, 2024
Variable Autotransformer	Staco Energy Products	3PN2210	003	N/A	N/A
LISN (EUT)	Com-Power	LI-215A	191951	August 4, 2021	August 4, 2022
LISN (ACCY)	Com-Power	LI-215A	191952	August 4, 2021	August 4, 2022
Attenuator 10 dB	SureCall	SC-ATT-10	17100174	December 7, 2021	December 7, 2022
Computer	Hewlett Packard	p6716f	MXX1030PX0	N/A	N/A
LCD Monitor	Hewlett Packard	52031a	3CQ046N3MG	N/A	N/A



6. TEST SITE DESCRIPTION

6.1 Test Facility Description

Please refer to section 2.1 and 7.1 of this report for emissions test location.

6.2 EUT Mounting, Bonding and Grounding

For frequencies 1 GHz and below: The EUT was mounted on a 1.0 by 1.5 meter non-conductive table 0.8 meters above the ground plane.

For frequencies above 1 GHz: The EUT was mounted on a 1.0 by 1.5 meter non-conductive table 1.5 meters above the ground plane.

The EUT was not grounded.

6.3 Measurement Uncertainty

“Compatible Electronics” U_{lab} value is less than U_{cisp} , thus based on this – compliance is deemed to occur if no measured disturbance exceeds the disturbance limit.

The uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level, using a coverage factor of $k=2$

$$u_c(y) = \sqrt{\sum_i c_i^2 u^2(x_i)}$$

Measurement		U_{cisp}	$U_{lab} = 2u_c(y)$
Conducted disturbance (mains port)	(150 kHz – 30 MHz)	3.4 dB	2.72 dB
Radiated disturbance (electric field strength on an open area test site or alternative test site)	(30 MHz – 1,000 MHz)	6.3 dB	3.32 dB (Vertical) 3.30 dB (Horizontal)
Radiated disturbance (electric field strength on an open area test site or alternative test site)	(1 GHz – 6 GHz)	5.2 dB	4.06 dB
Radiated disturbance (electric field strength on an open area test site or alternative test site)	(6 GHz – 18 GHz)	5.5 dB	4.06 dB
Radiated disturbance (electric field strength on an open area test site or alternative test site)	(18 GHz – 26 GHz)	N/A	4.43 dB
Radiated disturbance (electric field strength on an open area test site or alternative test site)	(26.5 GHz – 40 GHz)	N/A	4.57 dB



7. CHARACTERISTICS OF THE TRANSMITTER

The following sections describe the test methods and the specifications for the tests. Test results are also included in this section.

7.1 Channel Number and Frequencies

The EUT uses a total of 40 channels which are spaced 2 MHz apart.

The lowest channel is 2402 MHz
The highest channel is 2480 MHz

7.2 Antenna

The EUT has a 0 dBi gain PCB trace antenna.



8. TEST PROCEDURES

The following sections describe the test methods and the specifications for the tests. Test results are also included in this section.

8.1 RF Emissions

8.1.1 Conducted Emissions Test

The EMI Receiver was used as a measuring meter. A quasi-peak and/or average reading was taken only where indicated in the data sheets. A 10 dB attenuator used for the protection of the EMI Receiver input stage, and the offset was adjusted accordingly to read the actual data measured. The LISN output was measured using the EMI Receiver. The output of the second LISN was terminated by a 50-ohm termination. The effective measurement bandwidth used for this test was 9 kHz.

Please see section 6.2 of this report for mounting, bonding, and grounding of the EUT. The EUT was powered through the LISN, which was bonded to the ground plane. The LISN power was filtered and the filter was bonded to the ground plane. The EUT was set up with the minimum distances from any conductive surfaces as specified in ANSI 63:4. The excess power cord was wrapped in a figure eight pattern to form a bundle not exceeding 0.4 meters in length.

The conducted emissions from the EUT were maximized for operating mode as well as cable placement. The final data was collected under program control by computer software. The final qualification data is located in Appendix E.

The six highest emissions are listed in Table 1.

Test Results:

The EUT complies with the **Class B** limits of CFR Title 47, Part 15 Subpart B; the limits of CFR Title 47, Part 15, Subpart C, Section 15.207; and RSS-Gen for conducted emissions.



8.1.2 Radiated Emissions Test

The EMI Receiver was used as the measuring meter. Preamplifiers were used to increase the sensitivity of the instrument. The EMI Receiver was initially used with the Analyzer mode feature activated. In this mode, the EMI receiver can then record the actual frequency to be measured. This final reading is then taken accurately in the EMI Receiver mode, which takes into account the cable loss, amplifier gain and antenna factors, so that a true reading is compared to the true limit. The effective measurement bandwidth used for the radiated emissions test was according to the frequency measured.

The frequencies below 1 GHz were quasi-peaked using the quasi-peak detector of the EMI Receiver.

The frequencies above 1 GHz were averaged using the RMS detector average function on the EMI Receiver.

The EMI test chamber of Compatible Electronics, Inc. was used for radiated emissions testing. This test site is in full compliance with ANSI C63.4. Please see section 6.2 of this report for mounting, bonding and grounding of the EUT. The turntable supporting the EUT is remote controlled using a motor. The turntable permits EUT rotation of 360 degrees in order to maximize emissions. Also, the antenna mast allows height variation of the antenna from 1 meter to 4 meters. Data was collected in the worst case (highest emission) configuration of the EUT. At each reading, the EUT was rotated 360 degrees and the antenna height was varied from 1 to 4 meters (for E field radiated field strength). The gunsight method was used when measuring with the horn antenna in order to ensure accurate results.

The EUT was tested at a 3-meter test distance. The six highest emissions are listed in Table 2.

The measurement bandwidths and transducers used for the radiated emissions test were:

FREQUENCY RANGE	EFFECTIVE MEASUREMENT BANDWIDTH	TRANSDUCER
9 kHz to 150 kHz	200 Hz	Loop Antenna
150 kHz to 30 MHz	9 kHz	Loop Antenna
30 MHz to 1 GHz	120 kHz	CombiLog Antenna
1 GHz to 25 GHz	1 MHz	Horn Antenna

Test Results:

The EUT complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; the limits of CFR Title 47, Part 15, Subpart C sections 15.205, 15.209 and 15.247; and the limits of RSS-247 and RSS-Gen for radiated emissions.



8.1.3 RF Emissions Test Results

Table 1 CONDUCTED EMISSION RESULTS
 DIAMOND DISPLAY
 Model: 3.5

Frequency (MHz)	Average Emission Level* (dB μ V/m)	Average Specification Limit (dB μ V/m)	Delta (Emission – Spec limit) (dB)
0.222 (BL)	32.47	52.41	-19.94
0.158 (BL)	34.88	54.95	-20.07
0.178 (BL)	34.54	54.70	-20.17
0.262 (BL)	25.16	50.84	-25.68
0.282 (BL)	24.82	50.54	-25.72
0.274 (BL)	24.90	50.64	-25.74

Table 2 RADIATED EMISSION RESULTS
 DIAMOND DISPLAY
 Model: 3.5

Frequency (MHz)	EMI Reading (dB μ V/m)	Specification Limit (dB μ V/m)	Delta (Cor. Reading – Spec. Limit) (dB)
868.50 (H) (Spurious) (Y-Axis)	40.14 (QP)	46.00	-5.86
864.00 (H) (Spurious) (Y-Axis)	38.48 (QP)	46.00	-7.52
12010.00 (V) (Low Channel) (Y-Axis)	45.07 (AV)	53.97	-8.90
4880.00 (H) (Mid Channel) (Y-Axis)	43.19 (AV)	53.97	-10.78
12010.00 (H) (Low Channel) (X-Axis)	43.00 (AV)	53.97	-10.97
12200.00 (V) (Mid Channel) (Y-Axis)	42.72 (AV)	53.97	-11.25

Notes: * The complete emissions data is given in Appendix E of this report.
 (BL) Black Lead
 (WL) White Lead
 (V) Vertical
 (H) Horizontal
 (QP) Quasi-Peak
 (AV) Average



8.1.4 Sample Calculations

A correction factor for the antenna, cable and a distance factor (if any) must be applied to the meter reading before a true field strength reading can be obtained. This Corrected Meter Reading is then compared to the specification limit in order to determine compliance with the limits.

Conversion to logarithmic terms: Specification limit ($\mu\text{V/m}$) $\log \times 20$ = Specification Limit in dBuV/m

To correct for distance when measuring at a distance other than the specification

For measurements below 30 MHz: (Specification distance / test distance) $\log \times 40$ = distance factor

For measurements above 30 MHz: (Specification distance / test distance) $\log \times 20$ = distance factor

Note: When using an Active Antenna, the Antenna factor shall be subtracted due to the combination of the internal amplification and antenna loss.

Corrected Meter Reading = meter reading + F – A + C

where: F = antenna factor

A = amplifier gain

C = cable loss

The correction factors for the antenna and the amplifier gain are attached in Appendix D of this report. The data sheets are attached in Appendix E.

The distance factor D is 0 when the test is performed at the required specification distance.



8.2 DTS Bandwidth

The DTS Bandwidth was measured using the EMI Receiver. The following steps were performed for measuring the DTS Bandwidth.

1. Set RBW = 100 kHz
2. Set the video bandwidth (VBW) to equal or greater than 3 times the RBW
3. Detector = Peak
4. Trace Mode = Max Hold
5. Sweep = Auto Couple
6. Allow the trace to stabilize
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (a) (2); and RSS-247.

8.3 Maximum Peak Conducted Output Power

The Maximum Peak Conducted Output Power was measured using the EMI Receiver. The Maximum Peak Conducted Output Power was measured using the procedure described in section 11.9.1.1 of ANSI C63.10. The Maximum Peak Conducted Output Power was then taken. The following steps were performed for measuring the Maximum Peak Conducted Output Power.

1. Set the RBW $\geq$ DTS bandwidth
2. Set VBW $\geq$ [3 x RBW]
3. Set span $\geq$ [3 x RBW]
4. Sweep time = auto couple
5. Detector = peak
6. Trace mode = max hold
7. Allow trace to fully stabilize
8. Use peak marker function to determine the peak amplitude level

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (b) (3); and RSS-247. The maximum peak output power is less than 1 Watt. Please see the data sheets located in Appendix E.



8.4 Emissions in Non-restricted Frequency Bands

The emissions in the non-restricted frequency bands measurements were performed using the EMI receiver directly connected to the EUT. The reference level was established by setting the instrument center frequency to the DTS channel center frequency. The span was set to ≥ 1.5 times the DTS bandwidth. The RBW was set to 100 kHz and the VBW was set to 300 kHz. A peak detector was used with sweep set to auto. A max hold trace was used and allowed to fully stabilize. The peak marker function was used to determine the reference level. For emission level measurement, the center frequency and span were set to encompass the frequency range to be measured. The RBW was set to 100 kHz and the VBW was set to 300 kHz. A peak detector was used with a sweep time set to auto. The number of measurement points were greater than the span/RBW. A max hold trace was used and allowed to fully stabilize. The peak marker function was used to determine the maximum amplitude level. The final qualification data sheets are located in Appendix E.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (d); and RSS-247.

8.5 RF Band Edges

The RF band edges were taken at 2390 MHz when the EUT was on the low channel and 2483.5 MHz when the EUT was on the high channel using the EMI Receiver. A preamplifier was used to boost the signal level, with the plots being taken at a 3 meter test distance. The radiated emissions test procedure as describe in section 8.1.2 of this test report was used to maximize the emission.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (d); and RSS-247. The RF power at the restricted bands closest to the band edges at 2390 MHz and 2483.5 MHz also meet the limits of section 15.209. Please see the data sheets located in Appendix E.



8.6 Spectral Density Test

The spectrum density output was measured using the EMI Receiver. The spectral density output was measured using a direct connection from the RF out on the EUT into the input of the EMI Receiver. The following steps were performed for measuring the spectral density.

1. Set analyzer center frequency to DTS channel center frequency
2. Set the span to 1.5 times the OBW.
3. Set the RBW to $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$
4. Set the VBW $\geq [3 \times \text{RBW}]$
5. Detector = peak
6. Sweep time = auto couple
7. Trace mode = max hold
8. Allow the trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level within the RBW
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (e); and RSS-247.

8.7 99 % Bandwidth

The 99 % bandwidth was measured using an EMI Receiver.

The following steps were performed for measuring the 99 % bandwidth per RSS-GEN, Issue 5, clause 6.7:

1. Set RBW to 1 % to 5 % of the actual occupied bandwidth.
2. Set VBW to greater than 3 times the RBW.
3. Set the EMI Receiver to the occupied bandwidth Function set at 99 %
4. Set the peak detector to max hold.
5. Set the sweep time to auto
6. Allow the trace to stabilize.

Please note that this was only used to determine the emission bandwidth and that there are no limits or pass/fail criteria for this test. Please see the data sheets located in Appendix E.

8.8 Variation of the Input Power

The variation of the input power test was performed using the EMI Receiver. The EUT input power was varied between 85% and 115% of the nominal rated supply voltage. The carrier frequency was monitored for any change in amplitude.

Test Results:

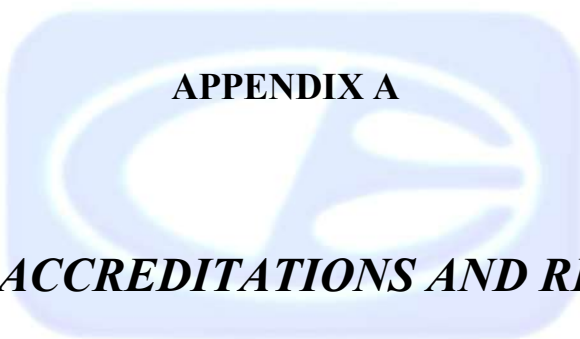
The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart A section 15.31 (e); and RSS-247. The variation of the input voltage was varied from 85% to 115% and did not change the amplitude nor the frequency of the fundamental emissions.



9. CONCLUSIONS

The Diamond Display, Model: 3.5 (EUT), as tested, meets all of the specification limits defined in FCC Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.207, 15.209, and 15.247; RSS-GEN and RSS-247.





APPENDIX A

LABORATORY ACCREDITATIONS AND RECOGNITIONS

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

Newbury Park Division
1050 Lawrence Drive
Newbury Park, CA 91320
(805) 480-4044



LABORATORY ACCREDITATIONS AND RECOGNITIONS



For US, Canada, Australia/New Zealand, Japan, Taiwan, Korea, and the European Union, Compatible Electronics is currently accredited by NVLAP to ISO/IEC 17025.

For the most up-to-date version of our scopes and certificates please visit

<http://celectronics.com/quality/scope/>

Quote from ISO-ILAC-IAF Communiqué on the Management Systems Requirements of ISO/IEC 17025, General Requirements for the competence of testing and calibration laboratories:

"A laboratory's fulfilment of the requirements of ISO/IEC 17025 means the laboratory meets both the technical competence requirements and management system requirements that are necessary for it to consistently deliver technically valid test results and calibrations. The management system requirements in ISO/IEC 17025 are written in language relevant to laboratory operations and operate generally in accordance with the principles of ISO 9001"

ISED Test Site Registration Number: 2154A



**COMPATIBLE
ELECTRONICS**

FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report
Diamond Display
Model: 3.5

APPENDIX B

MODIFICATIONS TO THE EUT

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

Newbury Park Division
1050 Lawrence Drive
Newbury Park, CA 91320
(805) 480-4044



MODIFICATIONS TO THE EUT

The modifications listed below were made to the EUT to pass FCC Subpart B and FCC 15.247; RSS-GEN and RSS-247 specifications.

All the rework described below was implemented during the test in a method that could be reproduced in all the units by the manufacturer.

No modifications were made to the EUT during the testing.





APPENDIX C

***MODELS COVERED
UNDER THIS REPORT***

**COMPATIBLE
ELECTRONICS**

FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report

*Diamond Display**Model: 3.5*

MODELS COVERED UNDER THIS REPORT

USED FOR THE PRIMARY TEST

Diamond Display

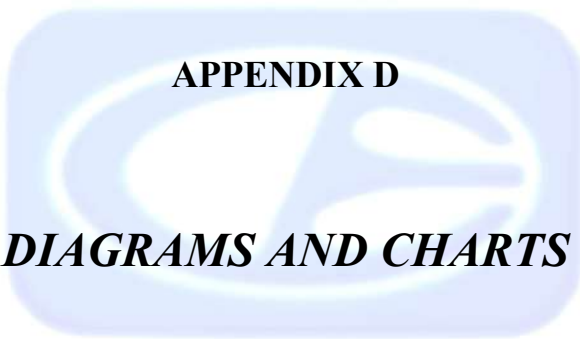
Model: 3.5

S/N: N/A

There are no additional models covered under this report.



Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500**Lake Forest Division**
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400**Newbury Park Division**
1050 Lawrence Drive
Newbury Park, CA 91320
(805) 480-4044

A large, faint, light blue version of the Compatible Electronics logo is centered in the background of the page.

APPENDIX D

DIAGRAMS AND CHARTS

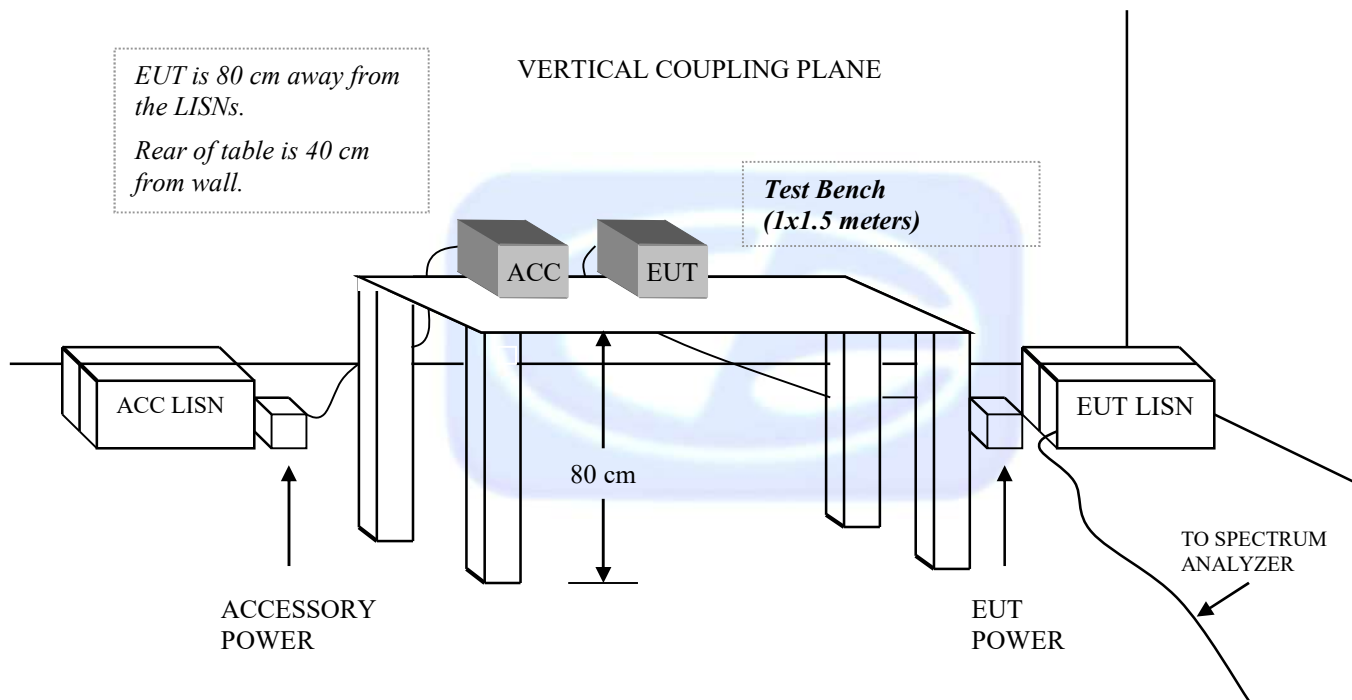
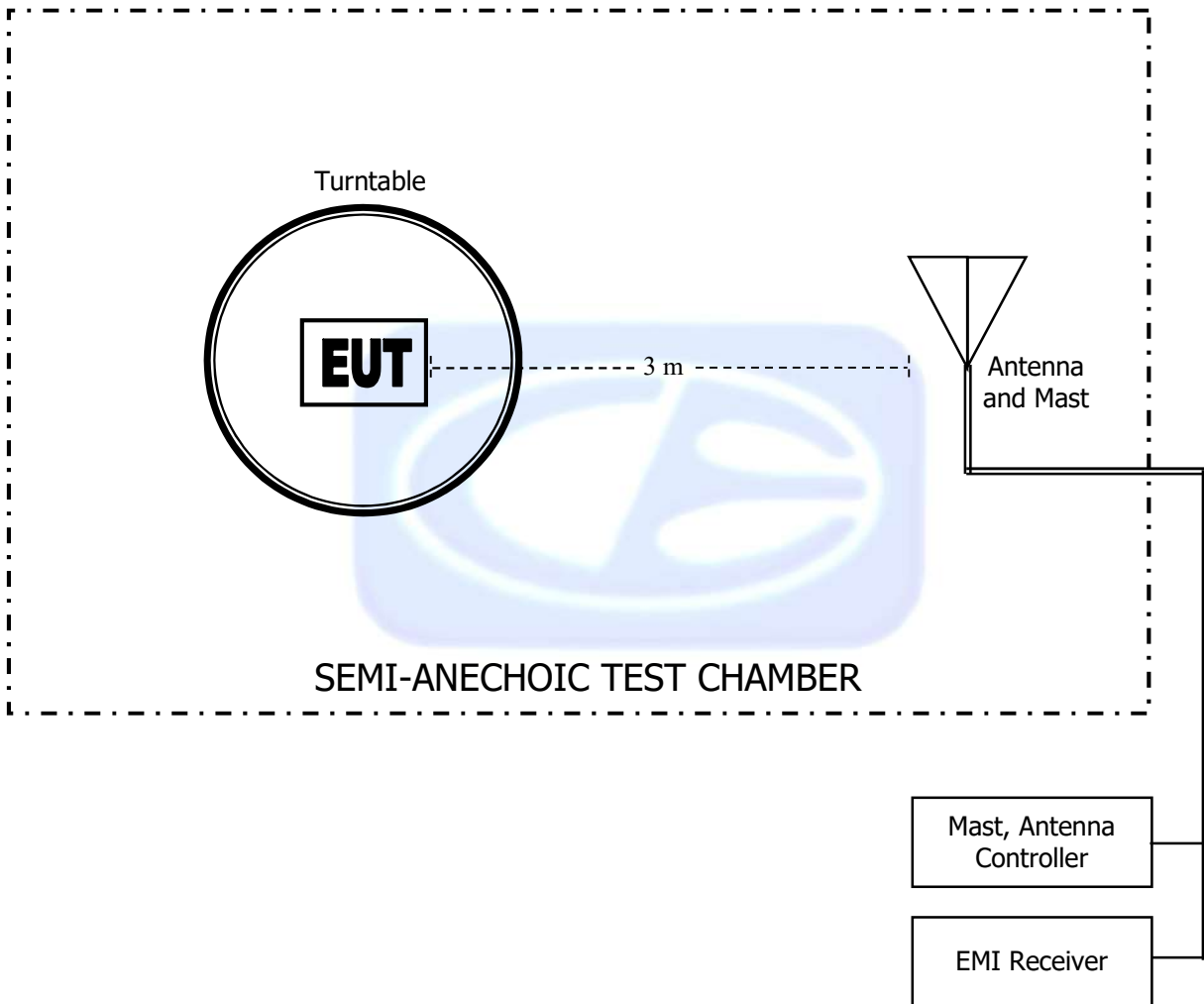
FIGURE 1: CONDUCTED EMISSIONS TEST SETUP

FIGURE 2: LAYOUT OF THE SEMI-ANECHOIC TEST CHAMBER



COM-POWER AL-130R

LOOP ANTENNA

S/N: 121090

CALIBRATION DATE: FEBRUARY 10, 2022

FREQUENCY (MHz)	MAGNETIC (dB/m)	ELECTRIC (dB/m)
0.009	15.6	-35.8
0.01	15.8	-35.6
0.02	14.8	-36.6
0.03	15.6	-35.9
0.04	15.0	-36.5
0.05	14.4	-37.1
0.06	14.6	-36.9
0.07	14.3	-37.2
0.08	14.3	-37.2
0.09	14.4	-37.0
0.10	14.1	-37.4
0.20	14.1	-37.4
0.30	14.0	-37.5
0.40	13.9	-37.6
0.50	14.1	-37.3
0.60	14.1	-37.3
0.70	14.2	-37.3
0.80	14.2	-37.3
0.90	14.2	-37.2
1.00	14.4	-37.0
2.00	14.6	-36.9
3.00	14.6	-36.8
4.00	14.9	-36.6
5.00	14.9	-36.7
6.00	14.8	-36.7
7.00	14.6	-36.8
8.00	14.5	-37.0
9.00	14.3	-37.2
10.00	14.5	-37.0
11.00	14.6	-36.9
12.00	14.7	-36.7
13.00	14.9	-36.6
14.00	15.0	-36.5
15.00	14.9	-36.6
16.00	14.9	-36.6
17.00	14.6	-36.8
18.00	14.4	-37.1
19.00	14.5	-37.0
20.00	14.5	-37.0
21.00	14.2	-37.3
22.00	13.9	-37.5
23.00	13.9	-37.5
24.00	13.8	-37.7
25.00	13.4	-38.0
26.00	13.2	-38.2
27.00	13.2	-38.3
28.00	12.7	-38.7
29.00	12.7	-38.8
30.00	12.4	-39.0

Brea Division
 114 Olinda Drive
 Brea, CA 92823
 (714) 579-0500

Lake Forest Division
 20621 Pascal Way
 Lake Forest, CA 92630
 (949) 587-0400

Newbury Park Division
 1050 Lawrence Drive
 Newbury Park, CA 91320
 (805) 480-4044



COM-POWER AC-220

COMBILOG ANTENNA

S/N: 61093

CALIBRATION DATE: DECEMBER 14, 2021

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	22.50	200	16.00
35	21.40	250	17.40
40	21.00	300	19.70
45	20.60	350	20.00
50	19.70	400	22.20
60	16.10	450	22.40
70	12.80	500	23.10
80	12.50	550	23.40
90	14.20	600	24.90
100	15.40	650	25.30
120	16.50	700	25.40
125	16.80	750	26.40
140	15.90	800	26.70
150	16.60	850	27.10
160	18.50	900	27.90
175	15.90	950	28.00
180	15.50	1000	28.00



COM POWER AH-118

HORN ANTENNA

S/N: 10050113

CALIBRATION DATE: DECEMBER 16, 2021

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	23.86	10.0	38.91
1.5	25.67	10.5	39.94
2.0	28.25	11.0	39.10
2.5	29.17	11.5	39.70
3.0	29.78	12.0	40.29
3.5	30.88	12.5	41.93
4.0	31.21	13.0	41.34
4.5	32.96	13.5	40.57
5.0	33.30	14.0	40.23
5.5	34.24	14.5	42.25
6.0	34.57	15.0	43.63
6.5	35.61	15.5	39.96
7.0	36.60	16.0	40.38
7.5	37.49	16.5	40.56
8.0	37.44	17.0	40.93
8.5	37.98	17.5	42.27
9.0	38.01	18.0	43.77
9.5	38.53		

**COM-POWER AH-826****HORN ANTENNA****S/N: 71957**

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
18.0	33.5	22.5	35.5
18.5	33.5	23.0	35.9
19.0	34.0	23.5	35.7
19.5	34.0	24.0	35.6
20.0	34.3	24.5	36.0
20.5	34.9	25.0	36.2
21.0	34.7	25.5	36.1
21.5	35.0	26.0	36.2
22.0	35.0	26.5	35.7

COM-POWER PAM-118**PREAMPLIFIER****S/N: 181653****CALIBRATION DATE: MARCH 7, 2022**

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	40.02	6.0	38.84
1.1	39.72	6.5	39.20
1.2	39.93	7.0	39.46
1.3	39.98	7.5	39.67
1.4	39.99	8.0	39.28
1.5	40.20	8.5	38.63
1.6	40.05	9.0	38.96
1.7	40.15	9.5	39.33
1.8	40.20	10.0	39.58
1.9	40.33	11.0	38.25
2.0	40.33	12.0	40.03
2.5	40.60	13.0	40.55
3.0	40.76	14.0	40.36
3.5	40.87	15.0	39.34
4.0	40.39	16.0	37.34
4.5	39.55	17.0	42.14
5.0	40.34	18.0	42.54
5.5	39.45		



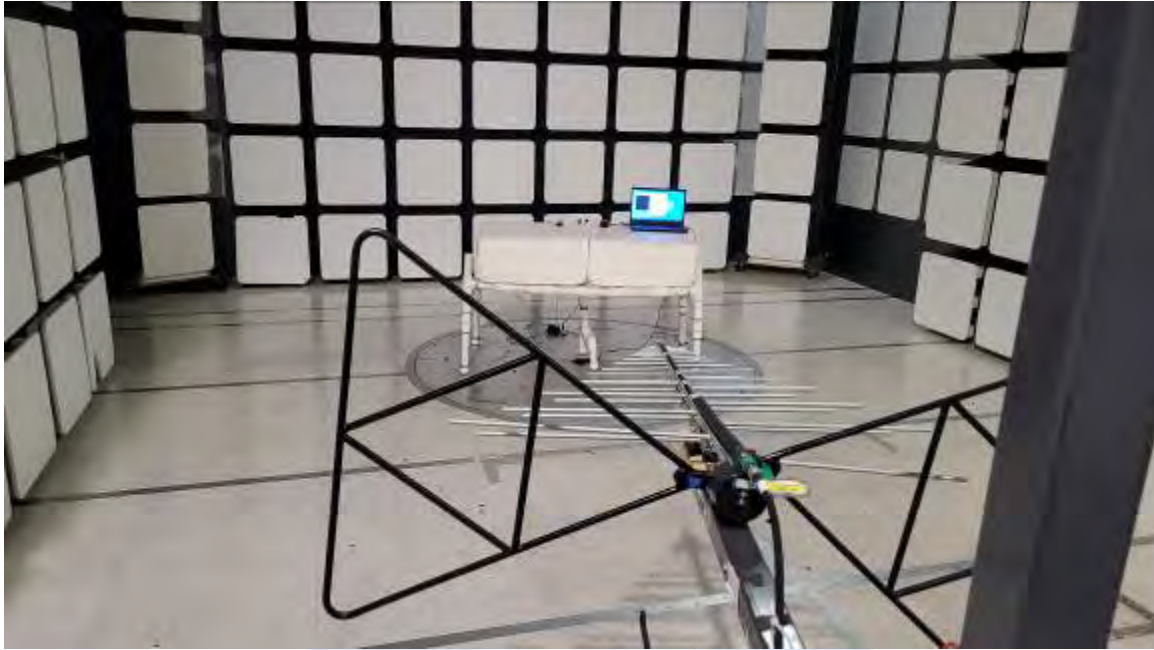
COM-POWER PA-840

MICROWAVE PREAMPLIFIER

S/N: 711013

CALIBRATION DATE: APRIL 8, 2022

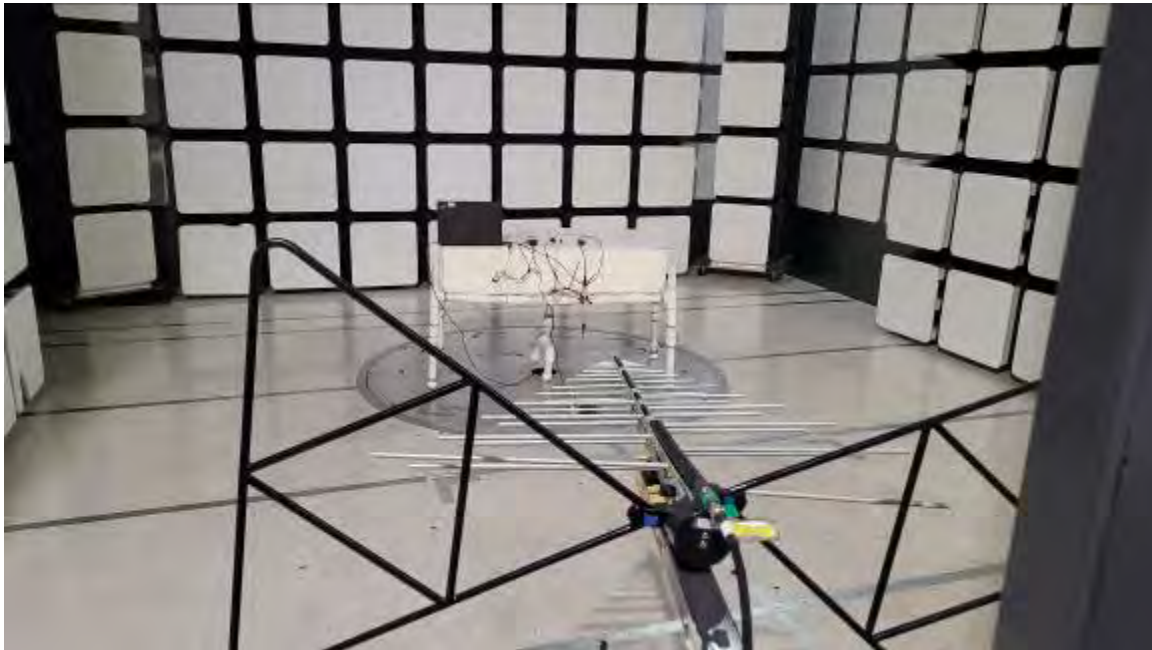
FREQUENCY (GHz)	FACTOR (dB)
18.0	24.85
19.0	24.25
20.0	22.69
21.0	22.17
22.0	22.78
23.0	23.23
24.0	23.72
25.0	24.13
26.0	24.28
26.5	25.06

**FRONT VIEW**

COMODULE OÜ
DIAMOND DISPLAY
MODEL: 3.5

FCC SUBPART B AND C; RSS-GEN and RSS-247 – RADIATED EMISSIONS – BELOW 1 GHz

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION
FOR MAXIMUM EMISSIONS**

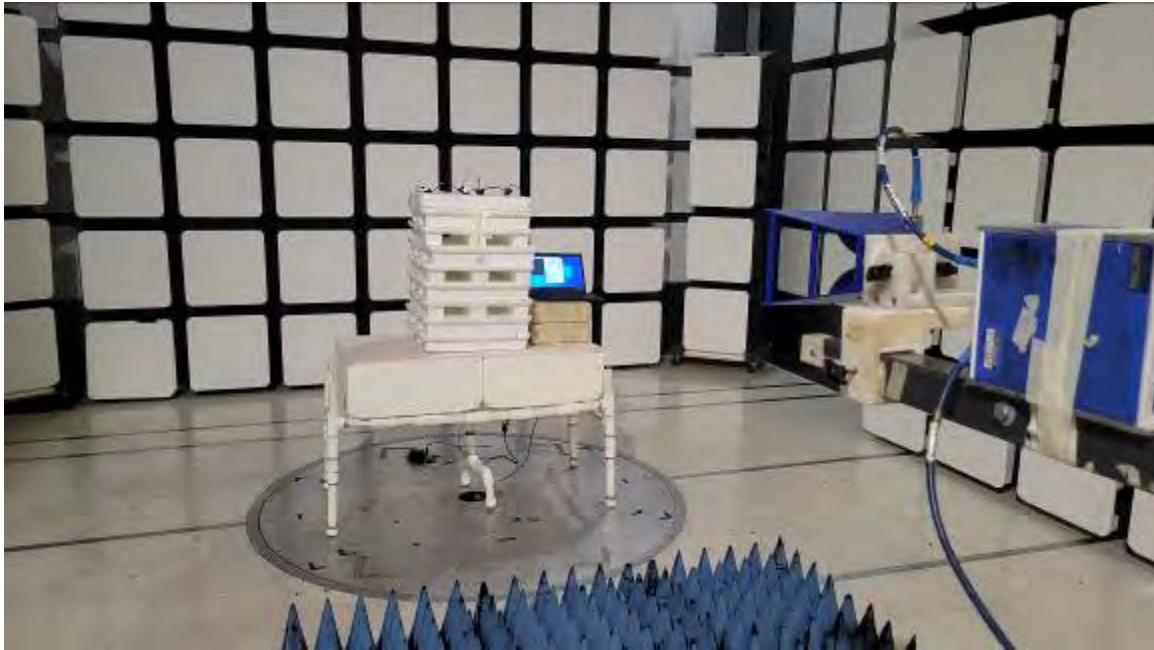


REAR VIEW

COMODULE OÜ
DIAMOND DISPLAY
MODEL: 3.5

FCC SUBPART B AND C; RSS-GEN and RSS-247 – RADIATED EMISSIONS – BELOW 1 GHz

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION
FOR MAXIMUM EMISSIONS**

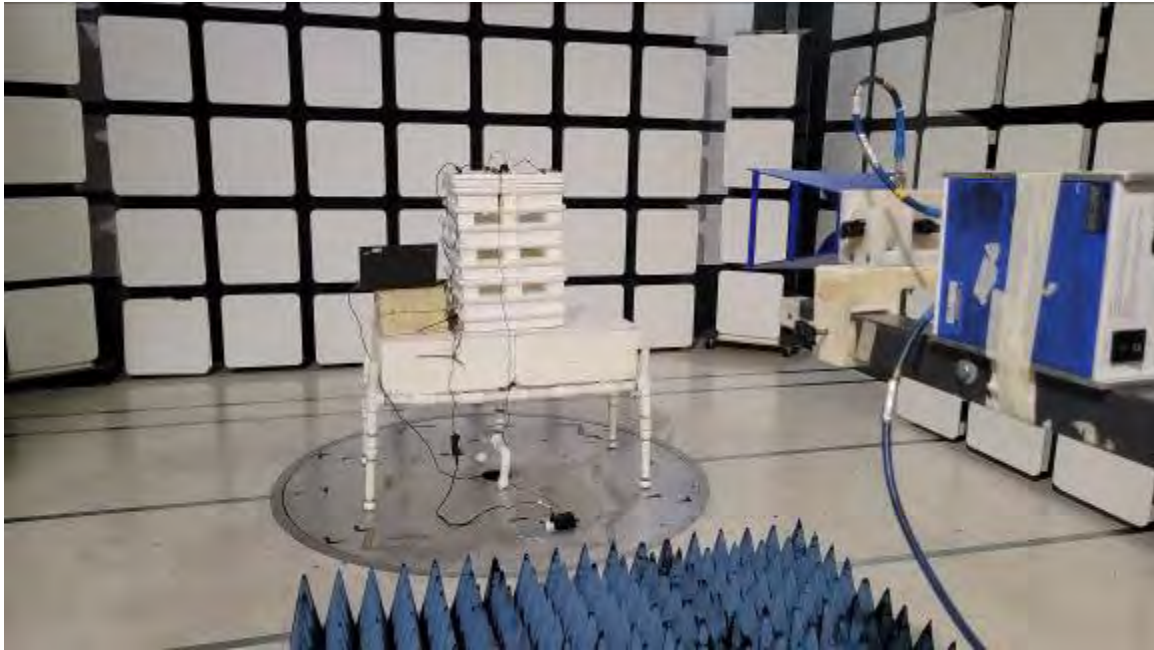


FRONT VIEW

COMODULE OÜ
DIAMOND DISPLAY
MODEL: 3.5

FCC SUBPART B AND C; RSS-GEN and RSS-247 – RADIATED EMISSIONS – ABOVE 1 GHz

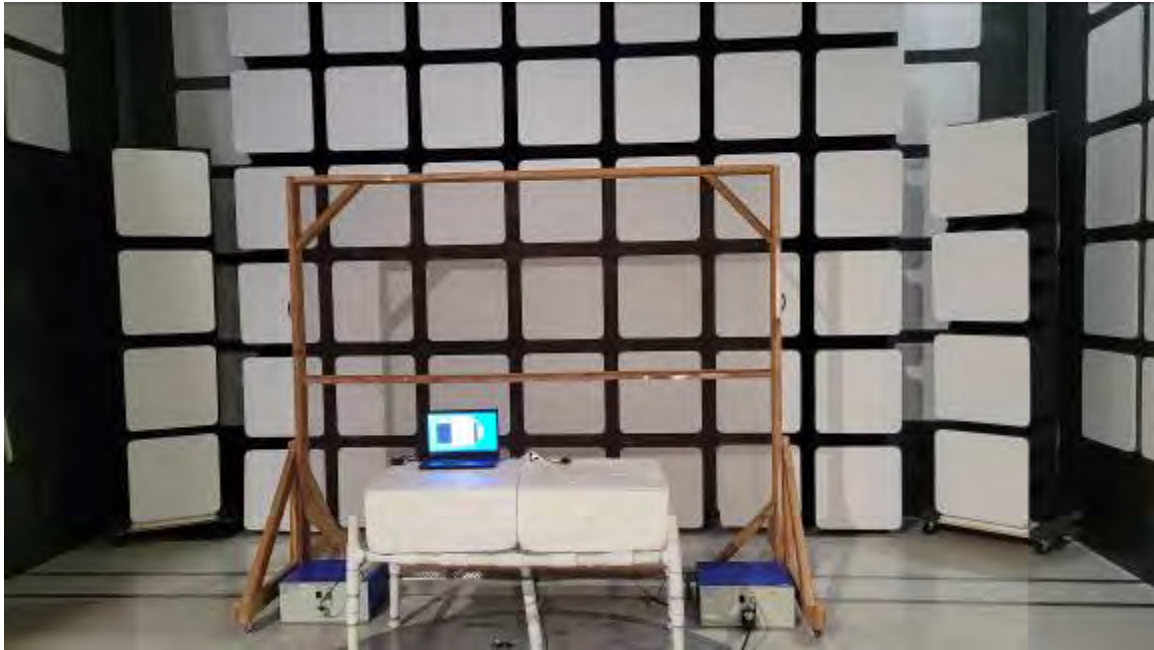
**PHOTOGRAPH SHOWING THE EUT CONFIGURATION
FOR MAXIMUM EMISSIONS**

**REAR VIEW**

COMODULE OÜ
DIAMOND DISPLAY
MODEL: 3.5

FCC SUBPART B AND C; RSS-GEN and RSS-247 – RADIATED EMISSIONS – ABOVE 1 GHz

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION
FOR MAXIMUM EMISSIONS**



FRONT VIEW

COMODULE OÜ
DIAMOND DISPLAY
MODEL: 3.5

FCC SUBPART B AND C; and RSS-GEN – CONDUCTED EMISSIONS

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION
FOR MAXIMUM EMISSIONS**

**REAR VIEW**

COMODULE OÜ
DIAMOND DISPLAY
MODEL: 3.5

FCC SUBPART B AND C; and RSS-GEN – CONDUCTED EMISSIONS

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION
FOR MAXIMUM EMISSIONS**

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APPENDIX E

DATA SHEETS



***RADIATED EMISSIONS
DATA SHEETS***



FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report
Diamond Display
Model: 3.5

FCC 15.247
 Comodule 01
 Diamond Display
 Model: 3.5

Date: 06/29/2022
 Lab: D
 Tested By: Kyle Fujimoto

Harmonics - Low Channel
 Transmit Mode - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4804.00	45.15	V	73.97	-28.82	Peak	286.75	111.40	
4804.00	37.33	V	53.97	-16.64	Avg	286.75	111.40	
7206.00								Not in Restricted Band
7206.00								Done Via Conducted
9608.00								Not in Restricted Band
9608.00								Done Via Conducted
12010.00	48.77	V	73.97	-25.20	Peak	130.25	159.10	
12010.00	37.49	V	53.97	-16.48	Avg	130.25	159.10	
14412.00								Not in Restricted Band
14412.00								Done Via Conducted
16814.00								Not in Restricted Band
16814.00								Done Via Conducted
19216.00								No Emission
19216.00								Detected
21618.00								No Emission
21618.00								Detected
24020.00								No Emission
24020.00								Detected



FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report

Diamond Display

Model: 3.5

FCC 15.247

Comodule 00

Diamond Display

Model: 3.5

Date: 06/29/2022

Lab: D

Tested By: Kyle Fujimoto

Harmonics - Low Channel

Transmit Mode - Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4804.00	47.73	V	73.97	-26.24	Peak	123.25	112.59	
4804.00	35.31	V	53.97	-18.66	Avg	123.25	112.59	
7206.00								Not in Restricted Band
7206.00								Done Via Conducted
9608.00								Not in Restricted Band
9608.00								Done Via Conducted
12010.00	53.75	V	73.97	-20.22	Peak	256.25	127.34	
12010.00	45.07	V	53.97	-8.90	Avg	256.25	127.34	
14412.00								Not in Restricted Band
14412.00								Done Via Conducted
16814.00								Not in Restricted Band
16814.00								Done Via Conducted
19216.00								No Emission
19216.00								Detected
21618.00								No Emission
21618.00								Detected
24020.00								No Emission
24020.00								Detected



FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report

Diamond Display

Model: 3.5

FCC 15.247

Comodule 00

Diamond Display

Model: 3.5

Date: 06/29/2022

Lab: D

Tested By: Kyle Fujimoto

Harmonics - Low Channel

Transmit Mode - Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4804.00	48.18	V	73.97	-25.79	Peak	321.25	111.40	
4804.00	39.20	V	53.97	-14.77	Avg	321.25	111.40	
7206.00								Not in Restricted Band
7206.00								Done Via Conducted
9608.00								Not in Restricted Band
9608.00								Done Via Conducted
12010.00	50.69	V	73.97	-23.28	Peak	156.00	222.92	
12010.00	40.53	V	53.97	-13.44	Avg	156.00	222.92	
14412.00								Not in Restricted Band
14412.00								Done Via Conducted
16814.00								Not in Restricted Band
16814.00								Done Via Conducted
19216.00								No Emission
19216.00								Detected
21618.00								No Emission
21618.00								Detected
24020.00								No Emission
24020.00								Detected



FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report
Diamond Display
Model: 3.5

FCC 15.247

Comodule 017
 Diamond Display
 Model: 3.5

Date: 06/29/2022

Lab: D

Tested By: Kyle Fujimoto

Harmonics - Low Channel
 Transmit Mode - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4804.00	46.18	H	73.97	-27.79	Peak	137.50	110.92	
4804.00	38.46	H	53.97	-15.51	Avg	137.50	110.92	
7206.00								Not in Restricted Band
7206.00								Done Via Conducted
9608.00								Not in Restricted Band
9608.00								Done Via Conducted
12010.00	53.21	H	73.97	-20.76	Peak	261.50	191.04	
12010.00	43.00	H	53.97	-10.97	Avg	261.50	191.04	
14412.00								Not in Restricted Band
14412.00								Done Via Conducted
16814.00								Not in Restricted Band
16814.00								Done Via Conducted
19216.00								No Emission
19216.00								Detected
21618.00								No Emission
21618.00								Detected
24020.00								No Emission
24020.00								Detected



FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report
Diamond Display
Model: 3.5

FCC 15.247

Comodule 00

Diamond Display

Model: 3.5

Date: 06/29/2022

Lab: D

Tested By: Kyle Fujimoto

Harmonics - Low Channel

Transmit Mode - Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4804.00	49.68	H	73.97	-24.29	Peak	170.75	159.22	
4804.00	39.70	H	53.97	-14.27	Avg	170.75	159.22	
7206.00								Not in Restricted Band
7206.00								Done Via Conducted
9608.00								Not in Restricted Band
9608.00								Done Via Conducted
12010.00	52.17	H	73.97	-21.80	Peak	26.25	111.58	
12010.00	42.38	H	53.97	-11.59	Avg	26.25	111.58	
14412.00								Not in Restricted Band
14412.00								Done Via Conducted
16814.00								Not in Restricted Band
16814.00								Done Via Conducted
19216.00								No Emission
19216.00								Detected
21618.00								No Emission
21618.00								Detected
24020.00								No Emission
24020.00								Detected



FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report
Diamond Display
Model: 3.5

FCC 15.247

Comodule 00

Diamond Display

Model: 3.5

Date: 06/29/2022

Lab: D

Tested By: Kyle Fujimoto

Harmonics - Low Channel
 Transmit Mode - Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4804.00	47.16	H	73.97	-26.81	Peak	118.25	143.34	
4804.00	36.91	H	53.97	-17.06	Avg	118.25	143.34	
7206.00								Not in Restricted Band
7206.00								Done Via Conducted
9608.00								Not in Restricted Band
9608.00								Done Via Conducted
12010.00	52.46	H	73.97	-21.51	Peak	71.75	127.28	
12010.00	42.60	H	53.97	-11.37	Avg	71.75	127.28	
14412.00								Not in Restricted Band
14412.00								Done Via Conducted
16814.00								Not in Restricted Band
16814.00								Done Via Conducted
19216.00								No Emission
19216.00								Detected
21618.00								No Emission
21618.00								Detected
24020.00								No Emission
24020.00								Detected



FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report
Diamond Display
Model: 3.5

FCC 15.247

Comodule 00

Diamond Display

Model: 3.5

Date: 06/29/2022

Lab: D

Tested By: Kyle Fujimoto

Harmonics - Middle Channel
 Transmit Mode - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880.00	45.81	V	73.97	-28.16	Peak	230.50	143.34	
4880.00	38.03	V	53.97	-15.94	Avg	230.50	143.34	
7320.00	46.78	V	73.97	-27.19	Peak	218.00	111.40	
7320.00	35.40	V	53.97	-18.57	Avg	218.00	111.40	
9760.00								Not in Restricted Band
9760.00								Done Via Conducted
12200.00	51.63	V	73.97	-22.34	Peak	94.50	190.98	
12200.00	41.56	V	53.97	-12.41	Avg	94.50	190.98	
14640.00								Not in Restricted Band
14640.00								Done Via Conducted
17080.00								Not in Restricted Band
17080.00								Done Via Conducted
19520.00								No Emission
19520.00								Detected
21960.00								No Emission
21960.00								Detected
24400.00								No Emission
24400.00								Detected



FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report
Diamond Display
Model: 3.5

FCC 15.247

Comodule 00

Diamond Display

Model: 3.5

Date: 08/29/2022

Lab: D

Tested By: Kyle Fujimoto

Harmonics - Middle Channel

Transmit Mode - Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880.00	44.34	V	73.97	-29.63	Peak	249.75	171.16	
4880.00	35.60	V	53.97	-18.37	Avg	249.75	171.16	
7320.00	45.63	V	73.97	-28.34	Peak	228.25	110.44	
7320.00	33.47	V	53.97	-20.50	Avg	228.25	110.44	
9760.00								Not in Restricted Band
9760.00								Done Via Conducted
12200.00	53.14	V	73.97	-20.83	Peak	101.25	191.04	
12200.00	42.72	V	53.97	-11.25	Avg	101.25	191.04	
14640.00								Not in Restricted Band
14640.00								Done Via Conducted
17080.00								Not in Restricted Band
17080.00								Done Via Conducted
19520.00								No Emission
19520.00								Detected
21960.00								No Emission
21960.00								Detected
24400.00								No Emission
24400.00								Detected



FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report
Diamond Display
Model: 3.5

FCC 15.247

Comodule 00

Diamond Display

Model: 3.5

Date: 06/29/2022

Lab: D

Tested By: Kyle Fujimoto

Harmonics - Middle Channel

Transmit Mode - Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880.00	51.79	V	73.97	-22.18	Peak	100.75	142.98	
4880.00	41.40	V	53.97	-12.57	Avg	100.75	142.98	
7320.00	48.01	V	73.97	-25.96	Peak	116.75	110.98	
7320.00	38.47	V	53.97	-15.50	Avg	116.75	110.98	
9760.00								Not in Restricted Band
9760.00								Done Via Conducted
12200.00	51.30	V	73.97	-22.67	Peak	146.25	143.10	
12200.00	39.60	V	53.97	-14.37	Avg	146.25	143.10	
14640.00								Not in Restricted Band
14640.00								Done Via Conducted
17080.00								Not in Restricted Band
17080.00								Done Via Conducted
19520.00								No Emission
19520.00								Detected
21960.00								No Emission
21960.00								Detected
24400.00								No Emission
24400.00								Detected



FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report
Diamond Display
Model: 3.5

FCC 15.247

Comodule 00

Diamond Display

Model: 3.5

Date: 06/29/2022

Lab: D

Tested By: Kyle Fujimoto

Harmonics - Middle Channel
 Transmit Mode - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880.00	46.47	H	73.97	-27.50	Peak	37.75	191.10	
4880.00	38.22	H	53.97	-15.75	Avg	37.75	191.10	
7320.00	44.98	H	73.97	-28.99	Peak	104.25	111.46	
7320.00	33.46	H	53.97	-20.51	Avg	104.25	111.46	
9760.00								Not in Restricted Band
9760.00								Done Via Conducted
12200.00	51.93	H	73.97	-22.04	Peak	67.00	143.40	
12200.00	41.58	H	53.97	-12.39	Avg	67.00	143.40	
14640.00								Not in Restricted Band
14640.00								Done Via Conducted
17080.00								Not in Restricted Band
17080.00								Done Via Conducted
19520.00								No Emission
19520.00								Detected
21960.00								No Emission
21960.00								Detected
24400.00								No Emission
24400.00								Detected



FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report

Diamond Display

Model: 3.5

FCC 15.247

Comodule 007

Diamond Display

Model: 3.5

Date: 06/29/2022

Lab: D

Tested By: Kyle Fujimoto

Harmonics - Middle Channel

Transmit Mode - Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880.00	52.31	H	73.97	-21.66	Peak	162.00	190.92	
4880.00	43.19	H	53.97	-10.78	Avg	162.00	190.92	
7320.00	47.72	H	73.97	-26.25	Peak	104.50	111.58	
7320.00	38.13	H	53.97	-15.84	Avg	104.50	111.58	
9760.00								Not in Restricted Band
9760.00								Done Via Conducted
12200.00	51.41	H	73.97	-22.56	Peak	167.00	207.22	
12200.00	41.14	H	53.97	-12.83	Avg	167.00	207.22	
14640.00								Not in Restricted Band
14640.00								Done Via Conducted
17080.00								Not in Restricted Band
17080.00								Done Via Conducted
19520.00								No Emission
19520.00								Detected
21960.00								No Emission
21960.00								Detected
24400.00								No Emission
24400.00								Detected



FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report
Diamond Display
Model: 3.5

FCC 15.247

Comodule 00

Diamond Display

Model: 3.5

Date: 08/29/2022

Lab: D

Tested By: Kyle Fujimoto

Harmonics - Middle Channel

Transmit Mode - Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4880.00	46.37	H	73.97	-27.60	Peak	114.50	111.28	
4880.00	35.60	H	53.97	-18.37	Avg	114.50	111.28	
7320.00	45.33	H	73.97	-28.64	Peak	90.75	143.28	
7320.00	33.96	H	53.97	-20.01	Avg	90.75	143.28	
9760.00								Not in Restricted Band
9760.00								Done Via Conducted
12200.00	52.29	H	73.97	-21.68	Peak	65.50	159.28	
12200.00	42.10	H	53.97	-11.87	Avg	65.50	159.28	
14640.00								Not in Restricted Band
14640.00								Done Via Conducted
17080.00								Not in Restricted Band
17080.00								Done Via Conducted
19520.00								No Emission
19520.00								Detected
21960.00								No Emission
21960.00								Detected
24400.00								No Emission
24400.00								Detected



FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report

Diamond Display

Model: 3.5

FCC 15.247

Comodule 00

Diamond Display

Model: 3.5

Date: 06/29/2022

Lab: D

Tested By: Kyle Fujimoto

Harmonics - High Channel

Transmit Mode - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960.00	44.81	V	73.97	-29.16	Peak	149.25	111.40	
4960.00	37.27	V	53.97	-16.70	Avg	149.25	111.40	
7440.00	43.54	V	73.97	-30.43	Peak	202.50	159.22	
7440.00	32.52	V	53.97	-21.45	Avg	202.50	159.22	
9920.00								Not in Restricted Band
9920.00								Done Via Conducted
12400.00	51.50	V	73.97	-22.47	Peak	246.75	190.86	
12400.00	41.32	V	53.97	-12.65	Avg	246.75	190.86	
14880.00								Not in Restricted Band
14880.00								Done Via Conducted
17360.00								Not in Restricted Band
17360.00								Done Via Conducted
19840.00								No Emission
19840.00								Detected
22320.00								No Emission
22320.00								Detected
24800.00								No Emission
24800.00								Detected



FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report
Diamond Display
Model: 3.5

FCC 15.247
 Comodule 017
 Diamond Display
 Model: 3.5

Date: 06/29/2022
 Lab: D
 Tested By: Kyle Fujimoto

Harmonics - High Channel
 Transmit Mode - Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960.00	42.13	V	73.97	-31.84	Peak	135.50	143.28	
4960.00	32.98	V	53.97	-20.99	Avg	135.50	143.28	
7440.00	45.60	V	73.97	-28.37	Peak	50.25	143.40	
7440.00	34.46	V	53.97	-19.51	Avg	50.25	143.40	
9920.00								Not in Restricted Band
9920.00								Done Via Conducted
12400.00	50.52	V	73.97	-23.45	Peak	287.00	207.10	
12400.00	37.85	V	53.97	-16.12	Avg	287.00	207.10	
14880.00								Not in Restricted Band
14880.00								Done Via Conducted
17360.00								Not in Restricted Band
17360.00								Done Via Conducted
19840.00								No Emission
19840.00								Detected
22320.00								No Emission
22320.00								Detected
24800.00								No Emission
24800.00								Detected



FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report

Diamond Display

Model: 3.5

FCC 15.247

Comodule 00

Diamond Display

Model: 3.5

Date: 06/29/2022

Lab: D

Tested By: Kyle Fujimoto

Harmonics - High Channel

Transmit Mode - Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960.00	47.10	V	73.97	-26.87	Peak	216.00	127.22	
4960.00	37.48	V	53.97	-16.49	Avg	216.00	127.22	
7440.00	45.55	V	73.97	-28.42	Peak	147.50	175.22	
7440.00	34.01	V	53.97	-19.96	Avg	147.50	175.22	
9920.00								Not in Restricted Band
9920.00								Done Via Conducted
12400.00	49.77	V	73.97	-24.20	Peak	111.40	70.25	
12400.00	37.67	V	53.97	-16.30	Avg	111.40	70.25	
14880.00								Not in Restricted Band
14880.00								Done Via Conducted
17360.00								Not in Restricted Band
17360.00								Done Via Conducted
19840.00								No Emission
19840.00								Detected
22320.00								No Emission
22320.00								Detected
24800.00								No Emission
24800.00								Detected



FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report
Diamond Display
Model: 3.5

FCC 15.247

Comodule 00

Diamond Display

Model: 3.5

Date: 06/29/2022

Lab: D

Tested By: Kyle Fujimoto

Harmonics - High Channel

Transmit Mode - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960.00	45.80	H	73.97	-28.17	Peak	158.00	175.16	
4960.00	37.48	H	53.97	-16.49	Avg	158.00	175.16	
7440.00	46.38	H	73.97	-27.59	Peak	328.50	222.68	
7440.00	36.31	H	53.97	-17.66	Avg	328.50	222.68	
9920.00								Not in Restricted Band
9920.00								Done Via Conducted
12400.00	54.73	H	73.97	-19.24	Peak	89.50	111.40	
12400.00	41.26	H	53.97	-12.71	Avg	89.50	111.40	
14880.00								Not in Restricted Band
14880.00								Done Via Conducted
17360.00								Not in Restricted Band
17360.00								Done Via Conducted
19840.00								No Emission
19840.00								Detected
22320.00								No Emission
22320.00								Detected
24800.00								No Emission
24800.00								Detected



FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report
Diamond Display
Model: 3.5

FCC 15.247

Comodule 00

Diamond Display

Model: 3.5

Date: 08/29/2022

Lab: D

Tested By: Kyle Fujimoto

Harmonics - High Channel
 Transmit Mode - Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960.00	47.19	H	73.97	-26.78	Peak	153.00	127.46	
4960.00	39.73	H	53.97	-14.24	Avg	153.00	127.46	
7440.00	47.05	H	73.97	-26.92	Peak	236.00	207.04	
7440.00	36.66	H	53.97	-17.31	Avg	236.00	207.04	
9920.00								Not in Restricted Band
9920.00								Done Via Conducted
12400.00	51.56	H	73.97	-22.41	Peak	157.75	127.16	
12400.00	40.42	H	53.97	-13.55	Avg	157.75	127.16	
14880.00								Not in Restricted Band
14880.00								Done Via Conducted
17360.00								Not in Restricted Band
17360.00								Done Via Conducted
19840.00								No Emission
19840.00								Detected
22320.00								No Emission
22320.00								Detected
24800.00								No Emission
24800.00								Detected



FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report
Diamond Display
Model: 3.5

FCC 15.247

Comodule 00

Diamond Display

Model: 3.5

Date: 06/29/2022

Lab: D

Tested By: Kyle Fujimoto

Harmonics - High Channel
 Transmit Mode - Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
4960.00	45.02	H	73.97	-28.95	Peak	234.25	175.10	
4960.00	34.72	H	53.97	-19.25	Avg	234.25	175.10	
7440.00	43.57	H	73.97	-30.40	Peak	85.75	206.92	
7440.00	31.35	H	53.97	-22.62	Avg	85.75	206.92	
9920.00								Not in Restricted Band
9920.00								Done Via Conducted
12400.00	51.31	H	73.97	-22.66	Peak	232.25	127.28	
12400.00	40.32	H	53.97	-13.65	Avg	232.25	127.28	
14880.00								Not in Restricted Band
14880.00								Done Via Conducted
17360.00								Not in Restricted Band
17360.00								Done Via Conducted
19840.00								No Emission
19840.00								Detected
22320.00								No Emission
22320.00								Detected
24800.00								No Emission
24800.00								Detected



FCC 15.247 and FCC Class B

Comodule of

Diamond Display

Model: 3.5

Date: 06/29/2022

Lab: D

Tested By: Kyle Fujimoto

Non Harmonic Emissions from the Tx and Digital Portion - 9 kHz to 30 MHz

Non Harmonic Emissions from the Tx and Digital Portion - 1 GHz to 25 GHz

[illegible]



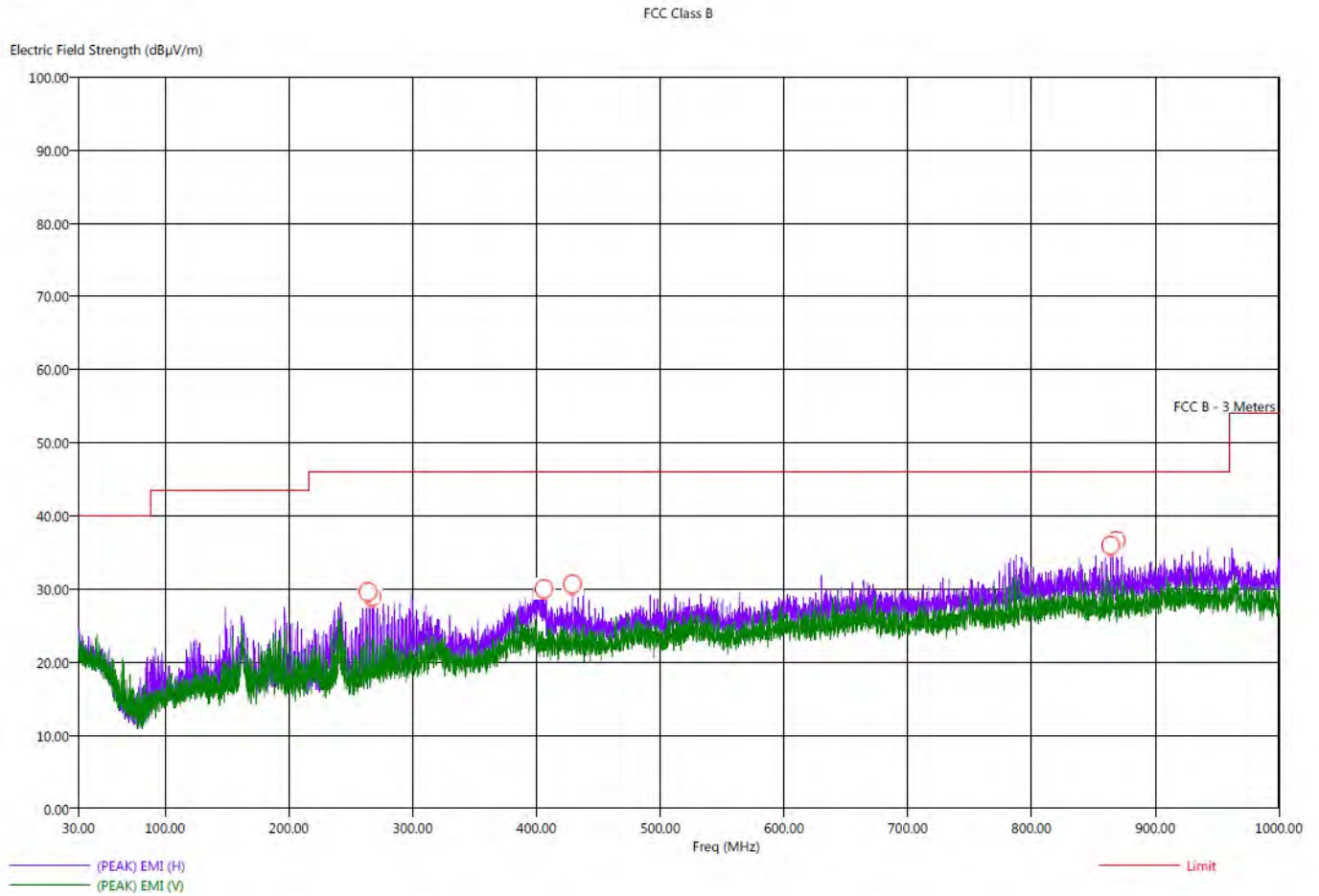
FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report

Diamond Display

Model: 3.5

Title: Pre-Scan - FCC Class B
File: Keysight - Pre-Scan - Y-Axis - FCC Class B - 30 MHz to 1000 MHz - 06-28-2022.set
Operator: Kyle Fujimoto
EUT Type: Diamond Display
EUT Condition: EUT is continuously sending speed data to app on phone via BLE on a continuous basis
Company: Comodule OD
Model: 3.5
S/N: N/A
Y-Axis

6/29/2022 7:06:46 AM
Sequence: Preliminary Scan



Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

Newbury Park Division
1050 Lawrence Drive
Newbury Park, CA 91320
(805) 480-4044



FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report

Diamond Display

Model: 3.5

Title: Radiated Final - FCC Class B

File: Keysight - Final Scan - Y-Axis - FCC Class B - 30 MHz to 1000 MHz - 06-28-2022.set

Operator: Kyle Fujimoto

EUT Type: Diamond Display

EUT Condition: EUT is continuously sending speed data to app on phone via BLE on a continuous basis

Company: Comodule OD

Model: 3.5

S/N: N/A

Y-Axis Worst Case

6/29/2022 7:32:58 AM

Sequence: Final Measurements

FCC Class B

Freq (MHz)	Pol	(PEAK) EMI (dBµV/m)	(QP) EMI (dBµV/m)	(PEAK) Margin (dB)	(QP) Margin (dB)	Limit (dBµV/m)	Transducer (dB)	Cable (dB)	Ttbl Agl (deg)	Twr Ht (cm)
264.00	H	33.91	32.23	-12.09	-13.77	46.00	18.30	1.42	214.25	127.16
267.00	H	32.82	30.02	-13.18	-15.98	46.00	18.60	1.43	189.25	111.46
406.10	H	27.22	22.27	-18.78	-23.73	46.00	21.80	1.73	81.00	222.86
429.00	H	32.09	29.63	-13.91	-16.37	46.00	22.60	1.76	285.25	111.52
864.00	H	41.00	38.48	-5.00	-7.52	46.00	26.90	2.58	343.25	111.46
868.50	H	42.19	40.14	-3.81	-5.86	46.00	27.10	2.59	342.50	111.40



Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

Newbury Park Division
1050 Lawrence Drive
Newbury Park, CA 91320
(805) 480-4044



**COMPATIBLE
ELECTRONICS**

FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report

Diamond Display

Model: 3.5

Report Number: **B20630D1**

Page E24

***CONDUCTED EMISSIONS
DATA SHEETS***

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

Newbury Park Division
1050 Lawrence Drive
Newbury Park, CA 91320
(805) 480-4044



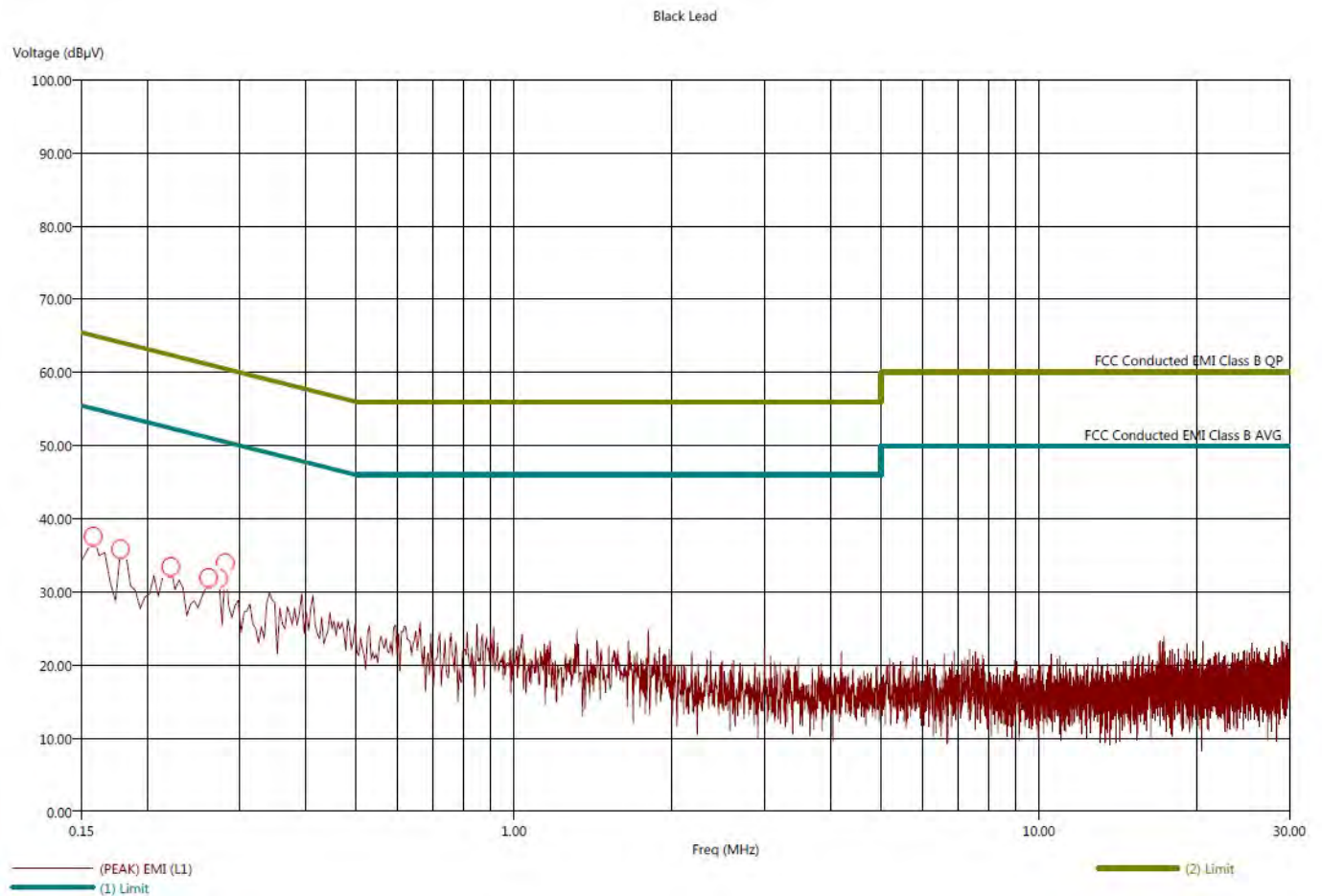
FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report

Diamond Display

Model: 3.5

Title: FCC Class B - Black Lead
File: Keysight - Pre-Scan - Black Lead - FCC Class B - 06-29-2022.set
Operator: Kyle Fujimoto
EUT Type: Diamond Display
EUT Condition: EUT is continuously sending speed data to app on phone via BLE on a continuous basis
Company: Comodule OD
Model: 3.5
S/N: N/A

6/29/2022 2:32:47 PM
Sequence: Preliminary Scan



Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

Newbury Park Division
1050 Lawrence Drive
Newbury Park, CA 91320
(805) 480-4044



FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report

Diamond Display

Model: 3.5

Title: FCC Class B - Black Lead

File: Keysight - Final Scan - Black Lead - FCC Class B - 06-29-2022.set

Operator: Kyle Fujimoto

EUT Type: Diamond Display

EUT Condition: EUT is continuously sending speed data to app on phone via BLE on a continuous basis

Company: Comodule OD

Model: 3.5

S/N: N/A

6/29/2022 2:33:45 PM

Sequence: Final Measurements

Black Lead

Freq (MHz)	(PEAK) EMI (dBμV)	(AVG) EMI (dBμV)	(PEAK) Margin (dB)	(AVG) Margin (dB)	(AVG) Limit (dBμV)	Cable (dB)	Transducer (dB)	Filter (dB)
0.158	48.34	34.88	-6.61	-20.07	54.95	0.13	0.14	10.00
0.178	47.56	34.54	-7.15	-20.17	54.70	0.13	0.14	10.00
0.222	45.55	32.47	-6.86	-19.94	52.41	0.12	0.11	10.00
0.262	34.65	25.16	-16.19	-25.68	50.84	0.13	0.10	10.00
0.274	34.43	24.90	-16.21	-25.74	50.64	0.13	0.10	10.00
0.282	35.08	24.82	-15.46	-25.72	50.54	0.13	0.10	10.00



Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

Newbury Park Division
1050 Lawrence Drive
Newbury Park, CA 91320
(805) 480-4044



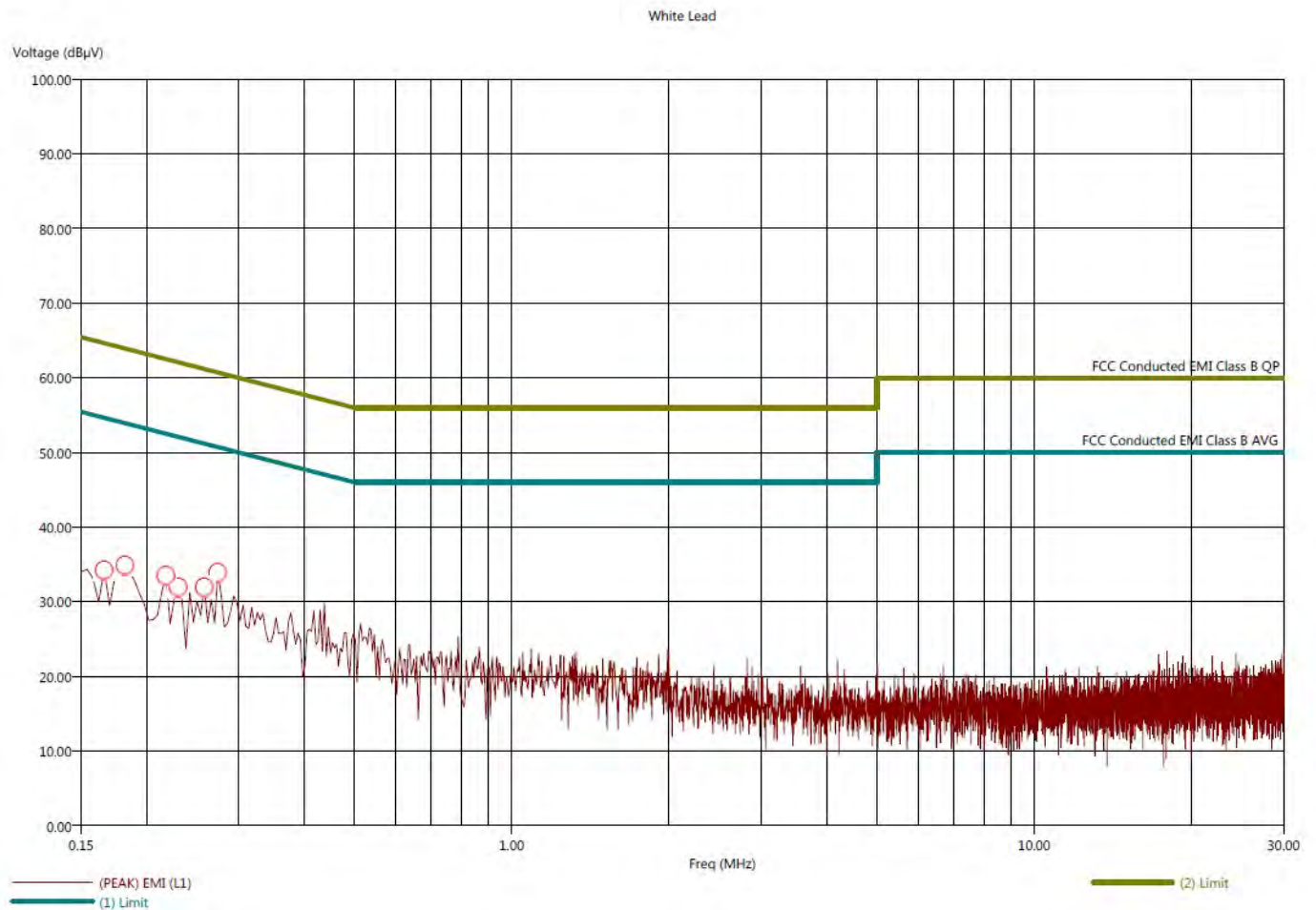
FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report

Diamond Display

Model: 3.5

Title: FCC Class B - White Lead
File: Keysight - Pre-Scan - White Lead - FCC Class B - 06-29-2022.set
Operator: Kyle Fujimoto
EUT Type: Diamond Display
EUT Condition: EUT is continuously sending speed data to app on phone via BLE on a continuous basis
Company: Comodule OD
Model: 3.5
S/N: N/A

6/29/2022 2:36:10 PM
Sequence: Preliminary Scan



Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

Newbury Park Division
1050 Lawrence Drive
Newbury Park, CA 91320
(805) 480-4044



FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report

Diamond Display

Model: 3.5

Title: FCC Class B - White Lead

File: Keysight - Final Scan - White Lead - FCC Class B - 06-29-2022.set

Operator: Kyle Fujimoto

EUT Type: Diamond Display

EUT Condition: EUT is continuously sending speed data to app on phone via BLE on a continuous basis

Company: Comodule OD

Model: 3.5

S/N: N/A

6/29/2022 2:37:54 PM

Sequence: Final Measurements

White Lead									
Freq (MHz)	(PEAK) EMI (dBµV)	(AVG) EMI (dBµV)	(PEAK) Margin (AVG) (dB)	(AVG) Margin (AVG) (dB)	(AVG) Limit (dBµV)	Cable (dB)	Transducer (dB)	Filter (dB)	
0.166	36.03	25.10	-18.83	-29.76	54.86	0.13	0.14	10.00	
0.182	36.41	24.98	-18.10	-29.53	54.51	0.13	0.13	10.00	
0.218	35.54	23.39	-17.26	-29.41	52.80	0.12	0.11	10.00	
0.230	33.73	22.99	-18.19	-28.93	51.91	0.12	0.10	10.00	
0.258	34.88	25.31	-16.21	-25.78	51.09	0.13	0.10	10.00	
0.274	36.09	24.73	-14.49	-25.85	50.58	0.13	0.09	10.00	



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***BAND EDGES
DATA SHEETS***



FCC 15.247

Comodule 00

Diamond Display

Model: 3.5

Date: 06/30/2022

Lab: D

Tested By: Kyle Fujimoto

Band Edge - Low Channel

[illegible]



FCC 15.247

Comodule 00

Diamond Display

Model: 3.5

Date: 06/30/2022

Lab: D

Tested By: Kyle Fujimoto

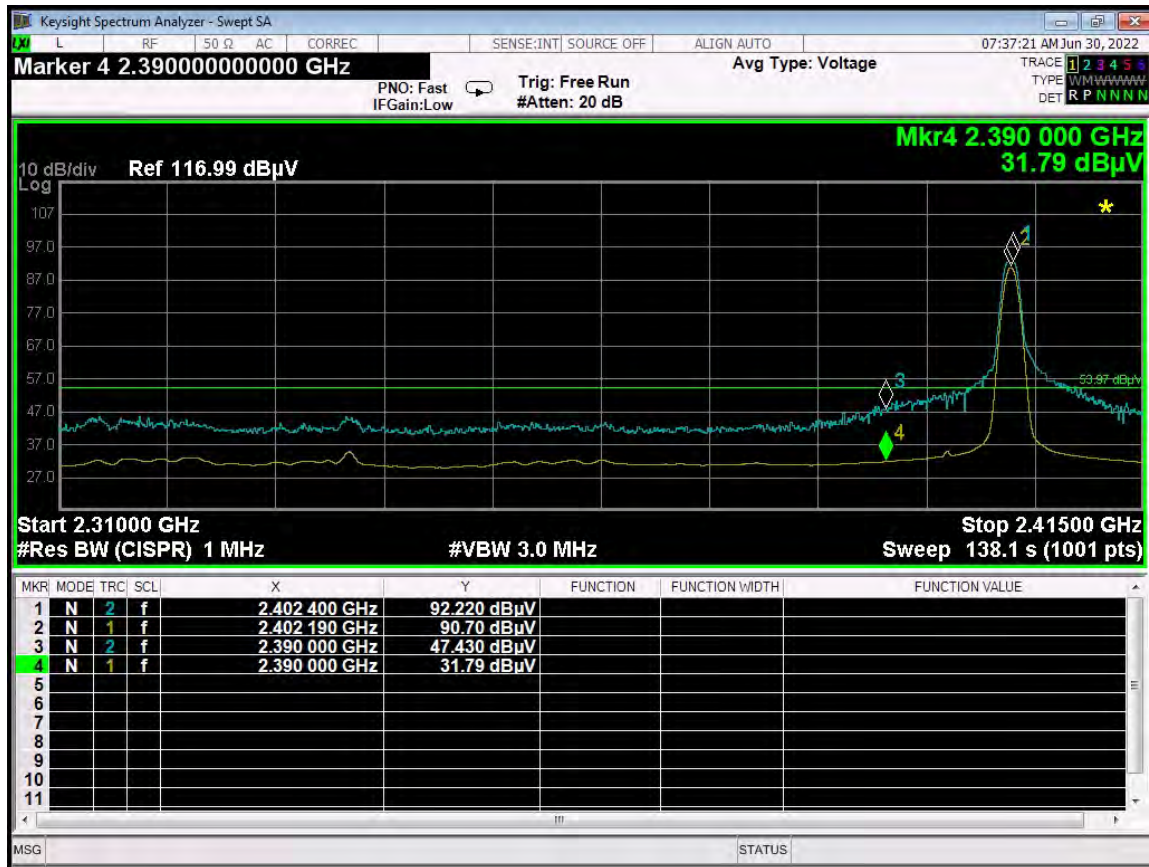
Band Edge - High Channel

[illegible]



**COMPATIBLE
ELECTRONICS**

FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report
Diamond Display
Model: 3.5



BE - 2402 MHz - Horizontal - X-Axis Worst Case – BLE Mode

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

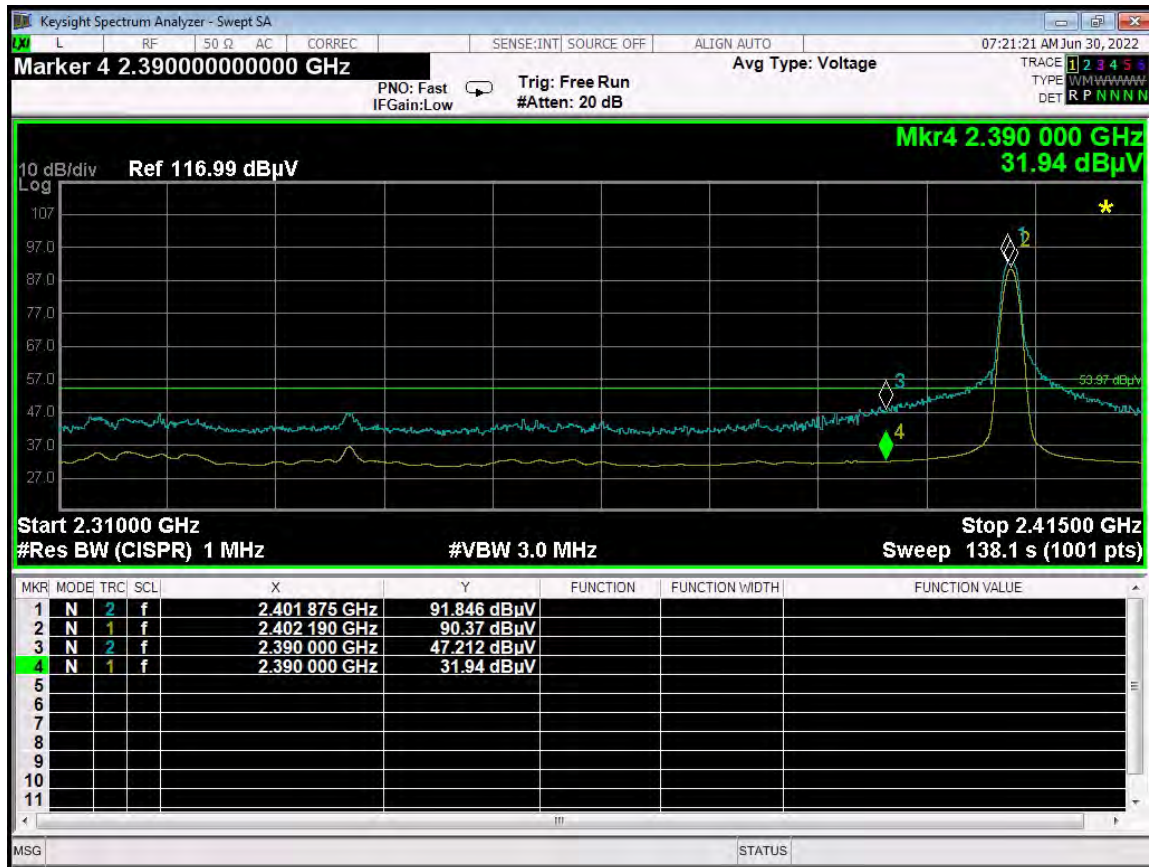
Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

Newbury Park Division
1050 Lawrence Drive
Newbury Park, CA 91320
(805) 480-4044



**COMPATIBLE
ELECTRONICS**

FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report
Diamond Display
Model: 3.5



BE - 2402 MHz - Vertical - Y-Axis Worst Case – BLE Mode

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

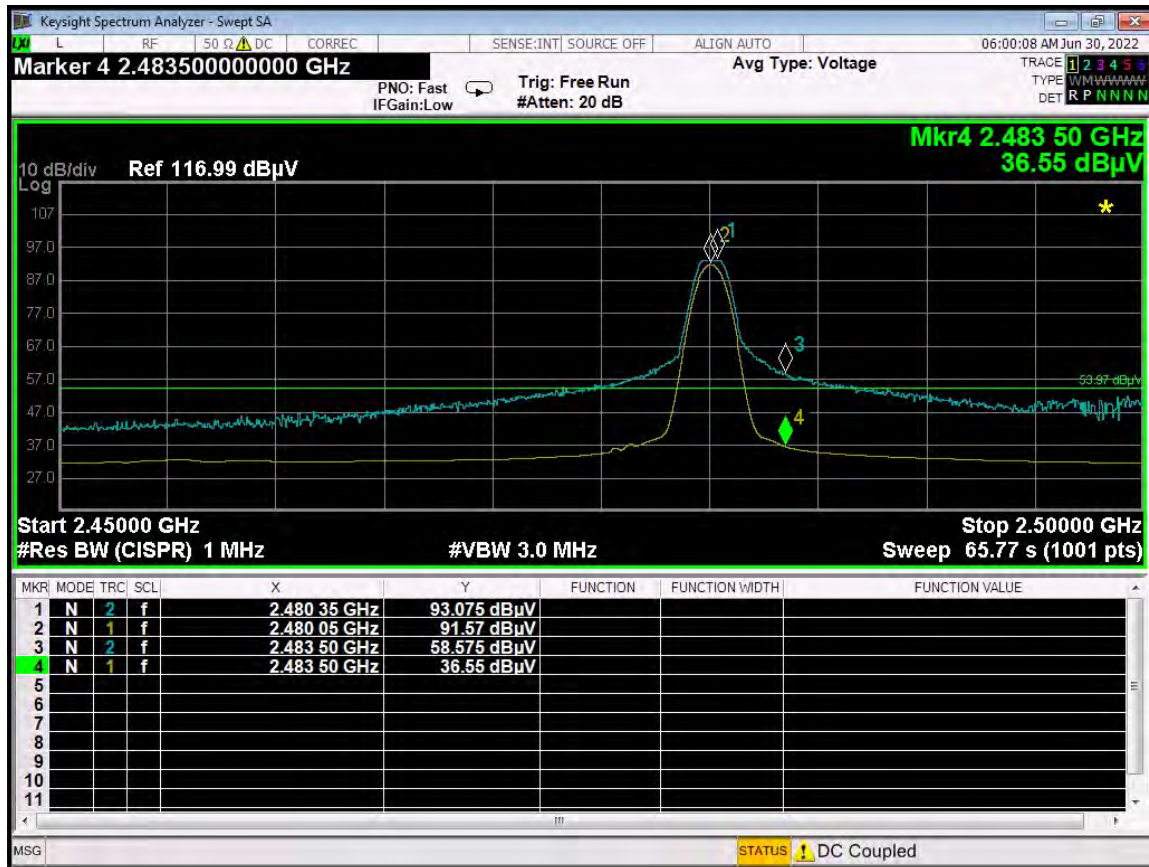
Newbury Park Division
1050 Lawrence Drive
Newbury Park, CA 91320
(805) 480-4044



FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report

Diamond Display

Model: 3.5



BE - 2480 MHz - Horizontal - X-Axis Worst Case – BLE Mode

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

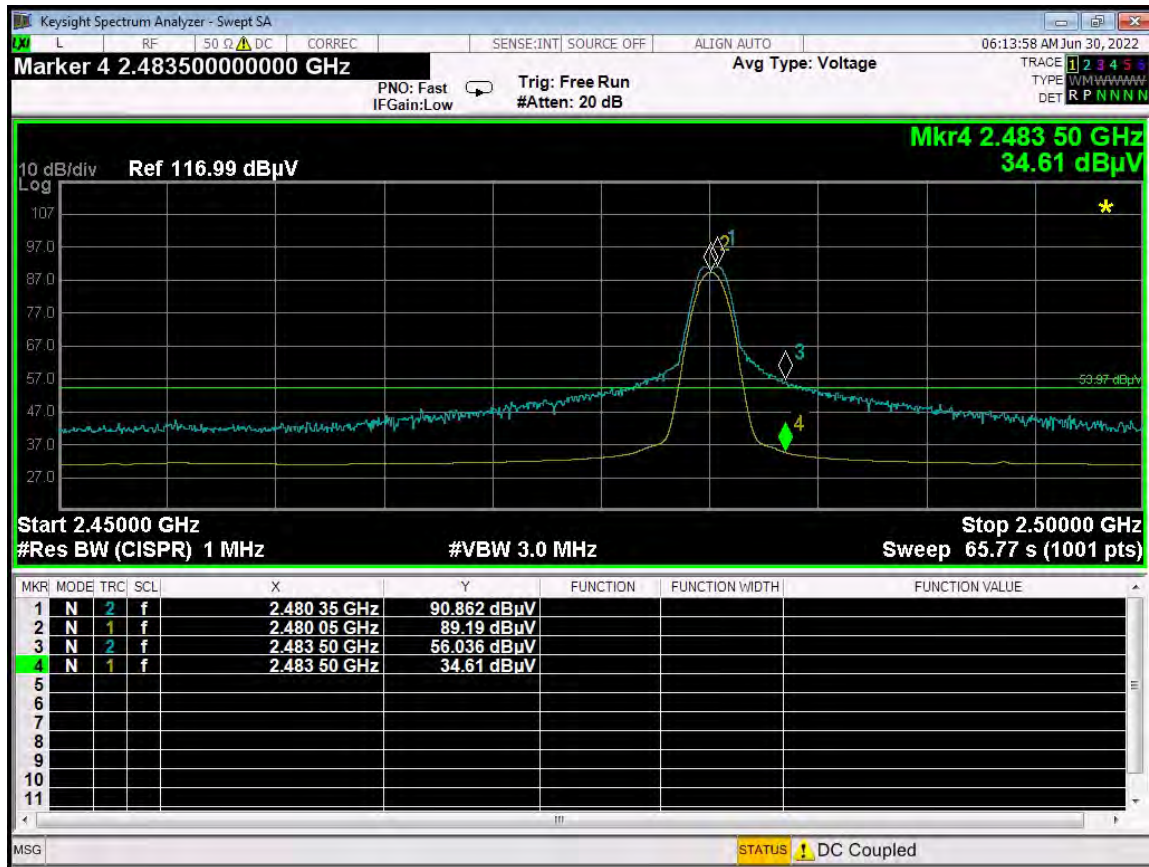
Newbury Park Division
1050 Lawrence Drive
Newbury Park, CA 91320
(805) 480-4044



FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report

Diamond Display

Model: 3.5



BE - 2480 MHz - Vertical - Y-Axis Worst Case – BLE Mode

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

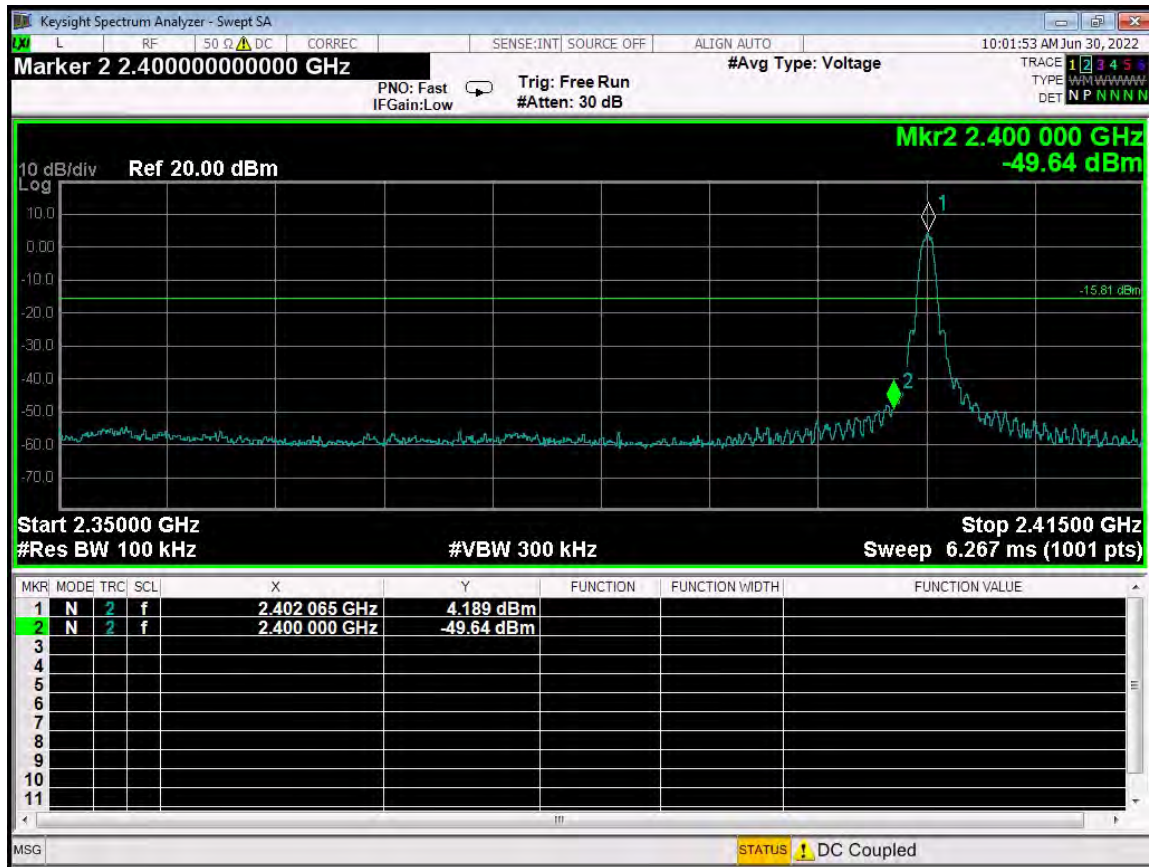
Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

Newbury Park Division
1050 Lawrence Drive
Newbury Park, CA 91320
(805) 480-4044



**COMPATIBLE
ELECTRONICS**

FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report
Diamond Display
Model: 3.5



BE - 2400 MHz - Conducted

Brea Division
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Brea, CA 92823
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20621 Pascal Way
Lake Forest, CA 92630
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***DTS BANDWIDTH
DATA SHEETS***



FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report

Diamond Display

Model: 3.5



Bandwidth 6 dB - 2402 MHz

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

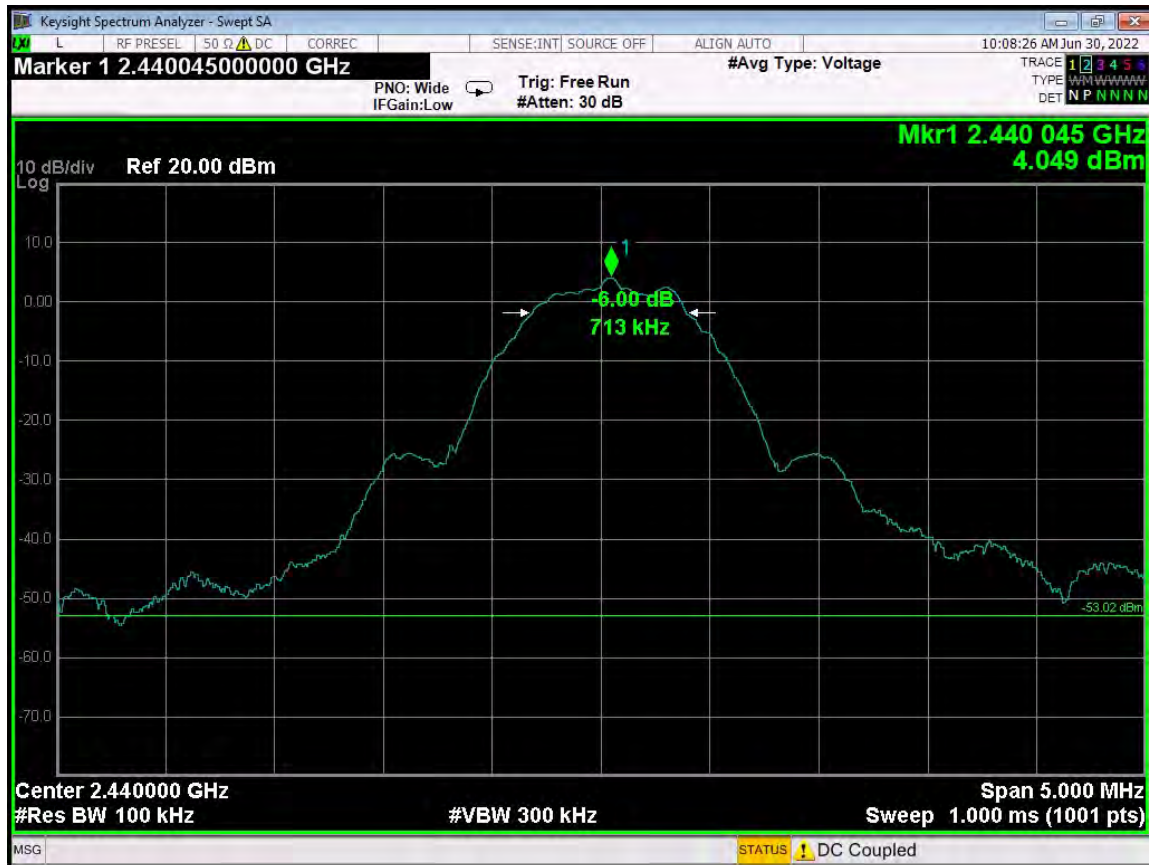
Newbury Park Division
1050 Lawrence Drive
Newbury Park, CA 91320
(805) 480-4044



FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report

Diamond Display

Model: 3.5



Bandwidth 6 dB - 2440 MHz

Brea Division
114 Olinda Drive
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(714) 579-0500

Lake Forest Division
20621 Pascal Way
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(949) 587-0400

Newbury Park Division
1050 Lawrence Drive
Newbury Park, CA 91320
(805) 480-4044



Bandwidth 6 dB - 2480 MHz

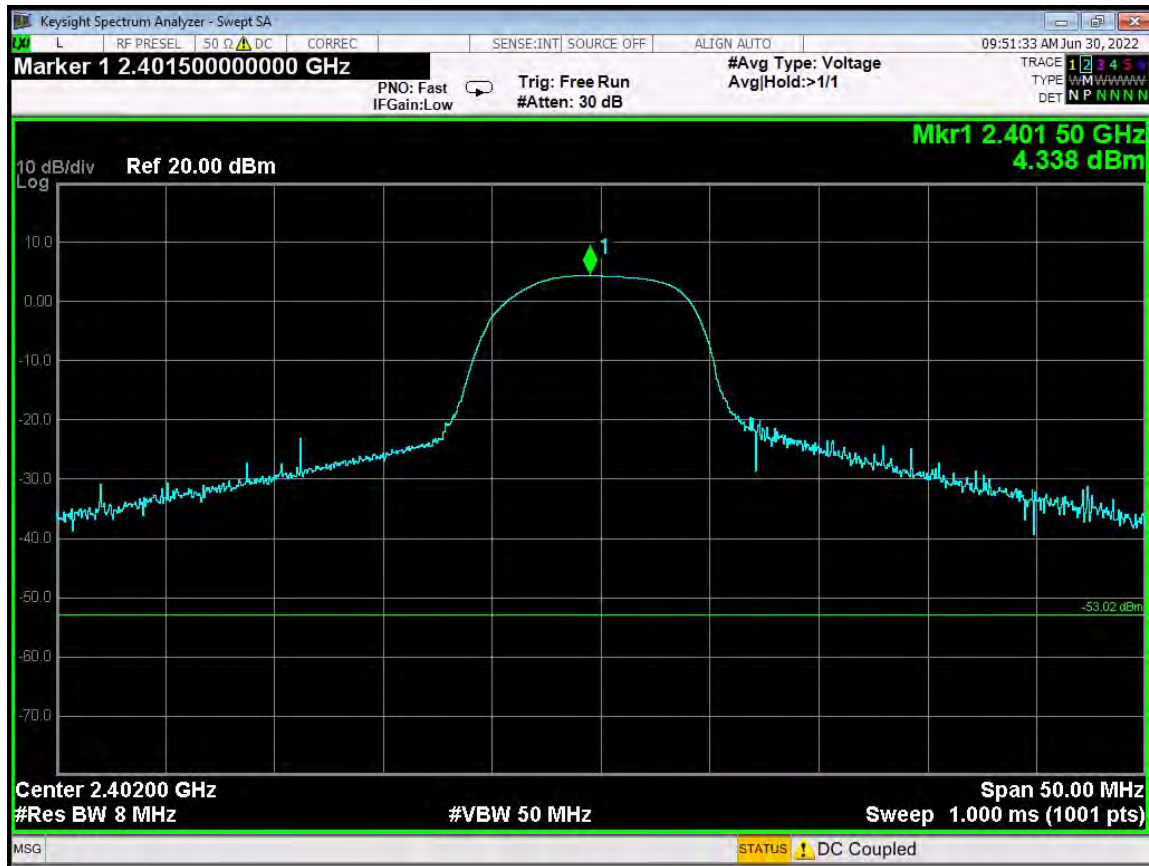
Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

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***PEAK OUTPUT POWER
DATA SHEETS***



Peak Power Output - 2402 MHz

Brea Division
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20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

Newbury Park Division
1050 Lawrence Drive
Newbury Park, CA 91320
(805) 480-4044

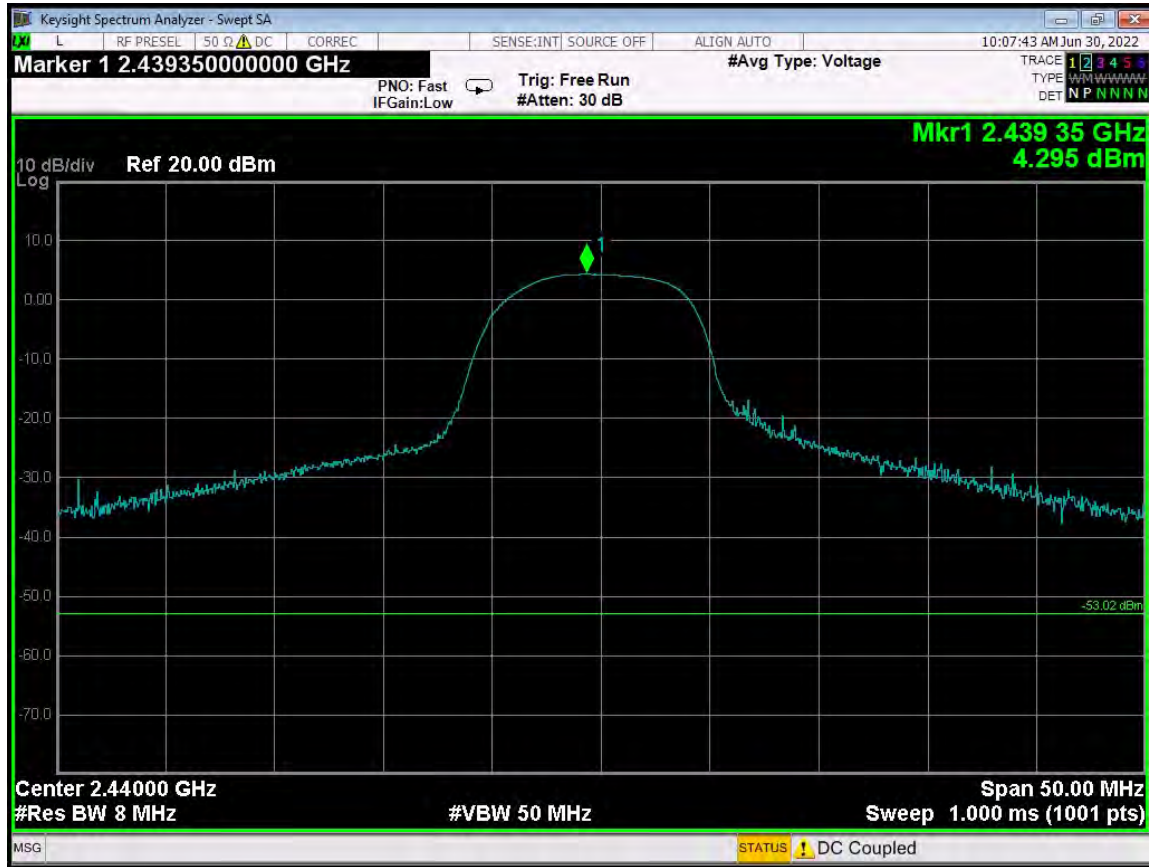


**COMPATIBLE
ELECTRONICS**

FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report

Diamond Display

Model: 3.5



Peak Power Output - 2440 MHz

Brea Division
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(714) 579-0500

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20621 Pascal Way
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(949) 587-0400

Newbury Park Division
1050 Lawrence Drive
Newbury Park, CA 91320
(805) 480-4044

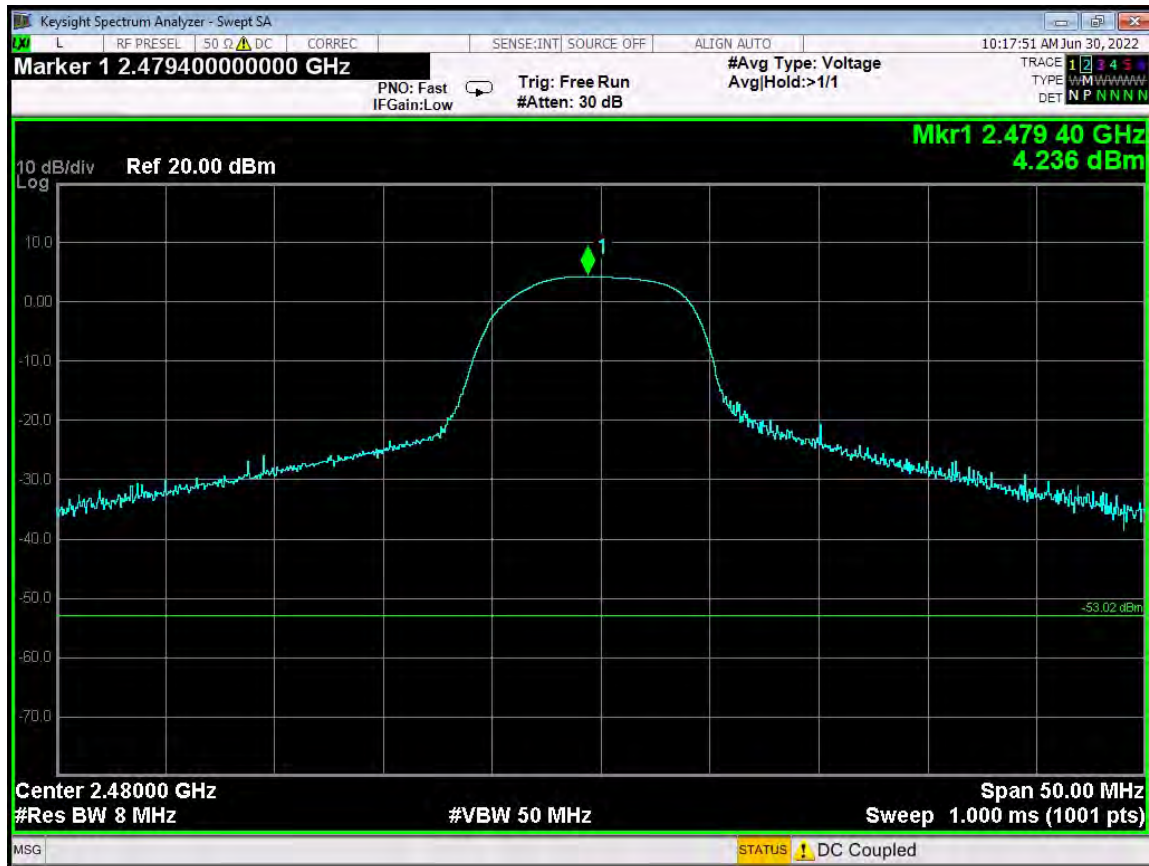


**COMPATIBLE
ELECTRONICS**

FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report

Diamond Display

Model: 3.5



Peak Power Output - 2480 MHz

Brea Division
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Brea, CA 92823
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Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

Newbury Park Division
1050 Lawrence Drive
Newbury Park, CA 91320
(805) 480-4044



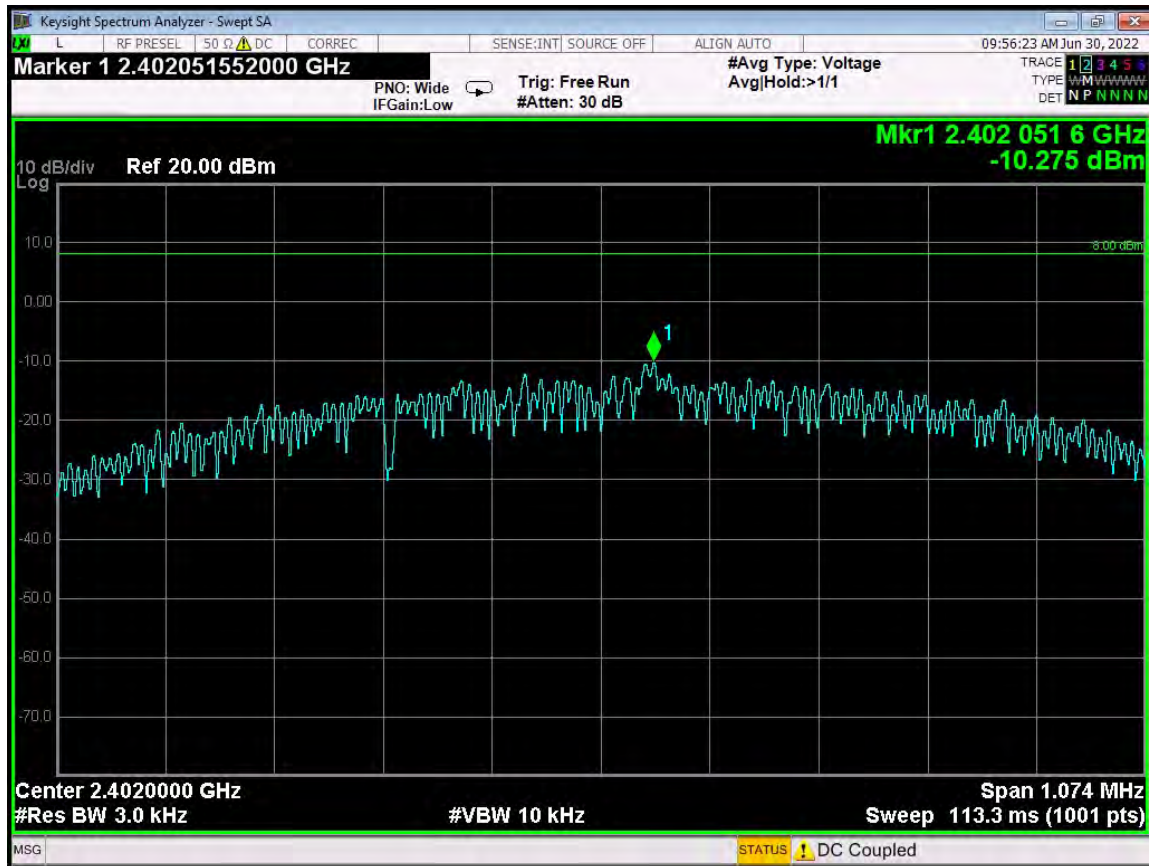
***SPECTRAL DENSITY OUTPUT
DATA SHEETS***



FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report

Diamond Display

Model: 3.5



PPSD - 2402 MHz

Brea Division
114 Olinda Drive
Brea, CA 92823
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Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

Newbury Park Division
1050 Lawrence Drive
Newbury Park, CA 91320
(805) 480-4044

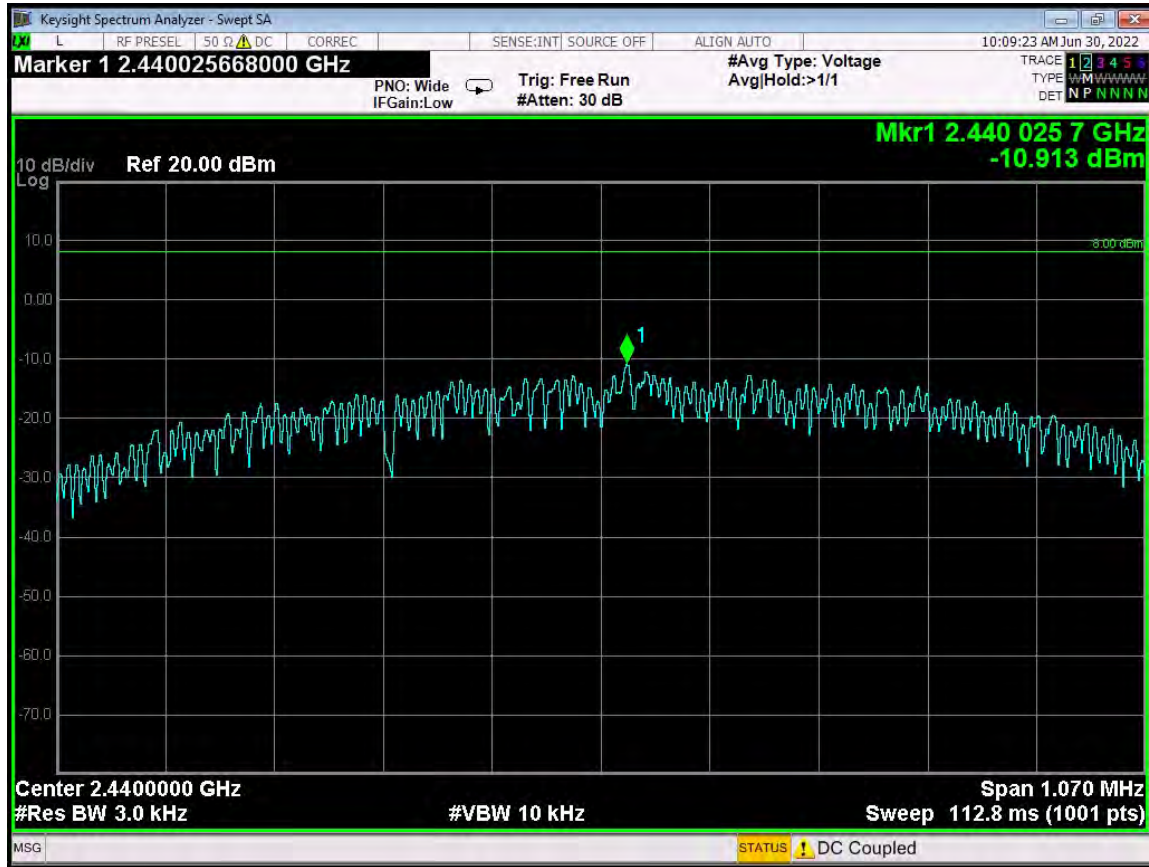


**COMPATIBLE
ELECTRONICS**

FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report

Diamond Display

Model: 3.5



PPSD - 2440 MHz

Brea Division
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20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

Newbury Park Division
1050 Lawrence Drive
Newbury Park, CA 91320
(805) 480-4044

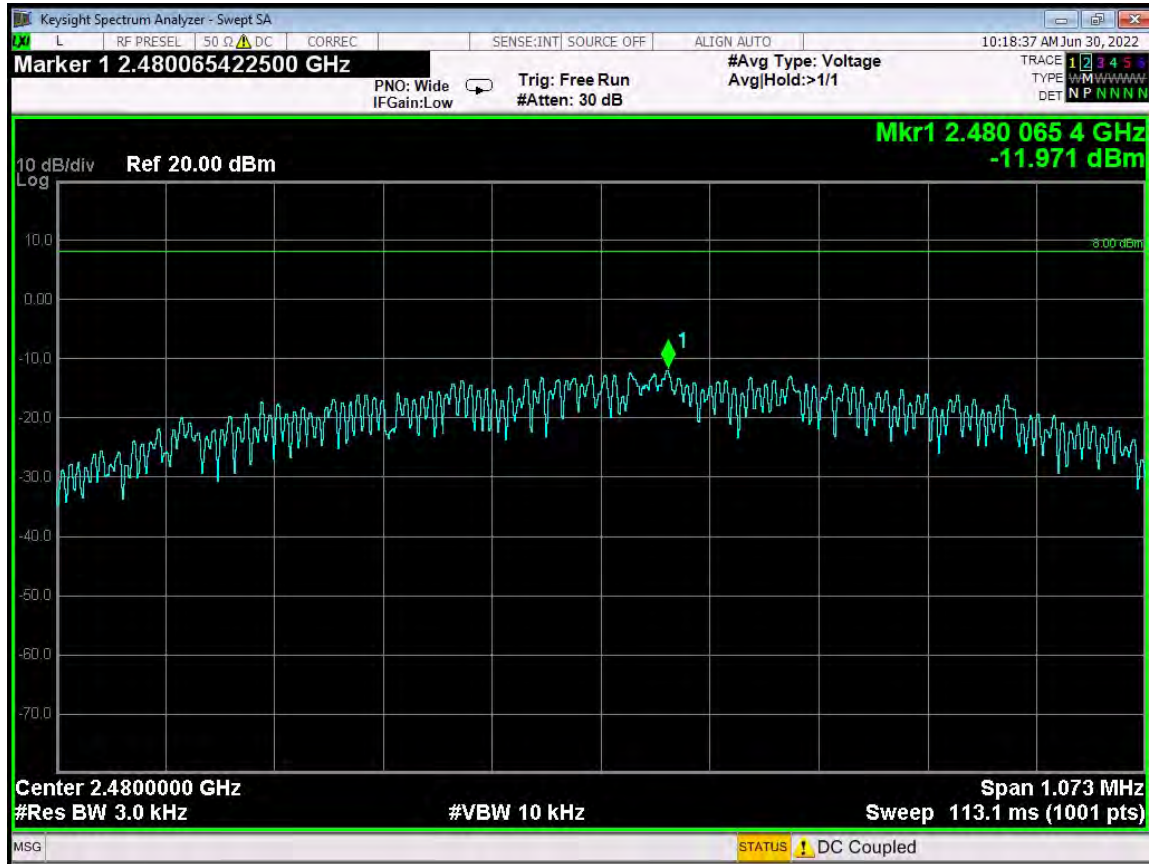


**COMPATIBLE
ELECTRONICS**

FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report

Diamond Display

Model: 3.5



PPSD - 2480 MHz

Brea Division
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Brea, CA 92823
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20621 Pascal Way
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Newbury Park, CA 91320
(805) 480-4044



**COMPATIBLE
ELECTRONICS**

FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report

Diamond Display

Model: 3.5

Report Number: **B20630D1**

Page E49

***99% BANDWIDTH
DATA SHEET***

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

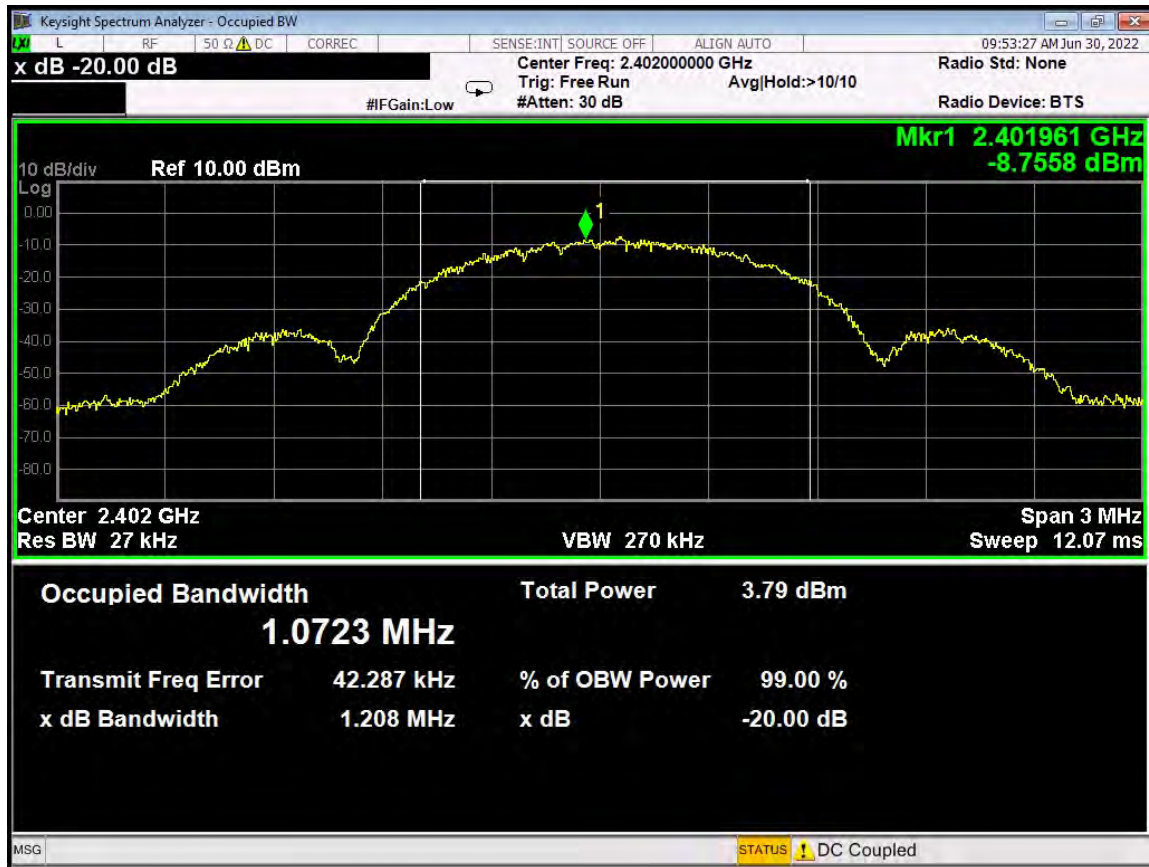
Newbury Park Division
1050 Lawrence Drive
Newbury Park, CA 91320
(805) 480-4044



FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report

Diamond Display

Model: 3.5



Low Channel

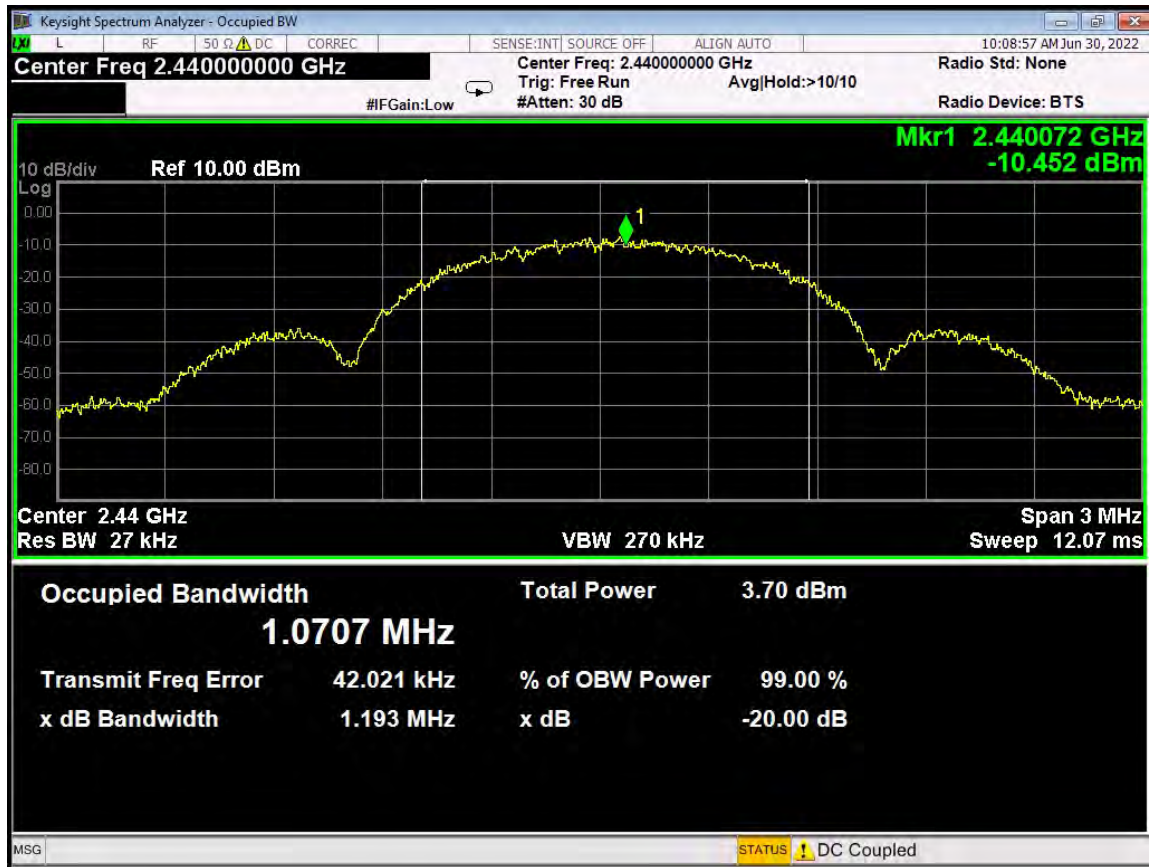
Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

Newbury Park Division
1050 Lawrence Drive
Newbury Park, CA 91320
(805) 480-4044

**COMPATIBLE
ELECTRONICS**

FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report

*Diamond Display**Model: 3.5*

Mid Channel

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

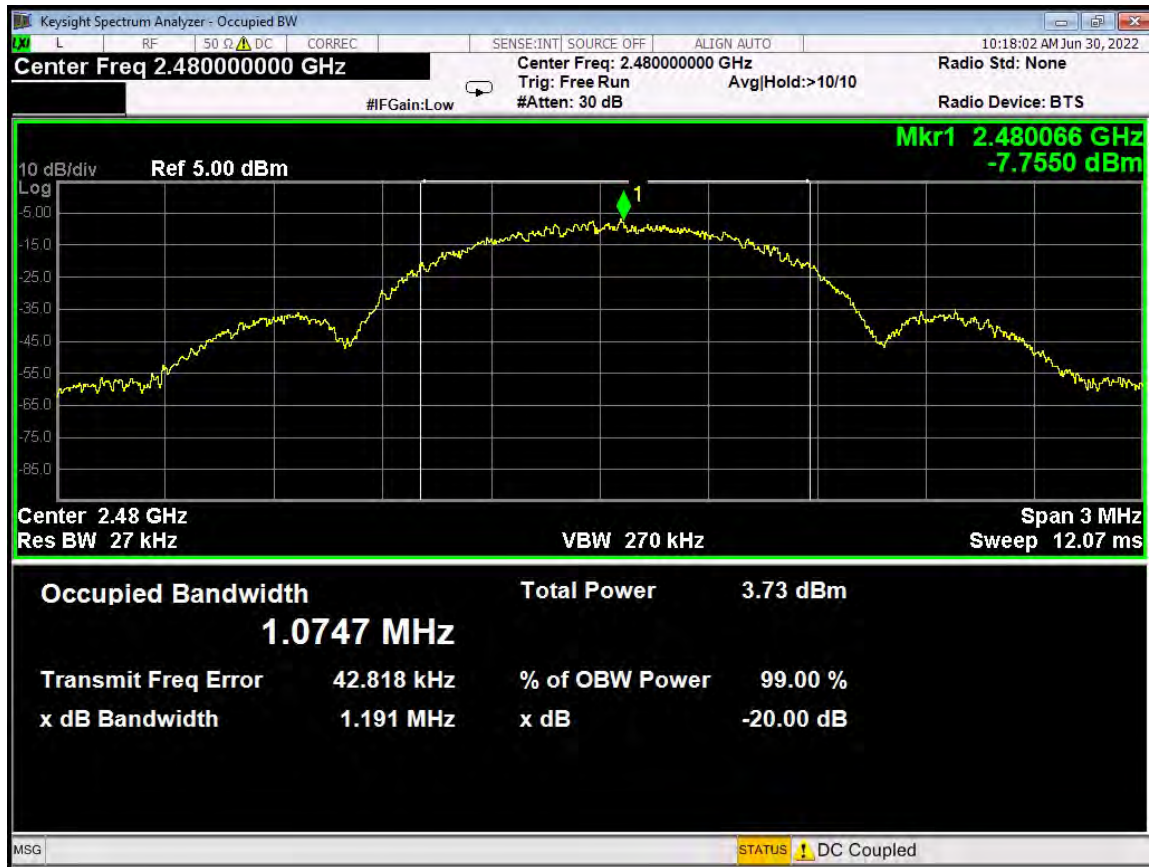
Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

Newbury Park Division
1050 Lawrence Drive
Newbury Park, CA 91320
(805) 480-4044



**COMPATIBLE
ELECTRONICS**

FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report
Diamond Display
Model: 3.5



High Channel

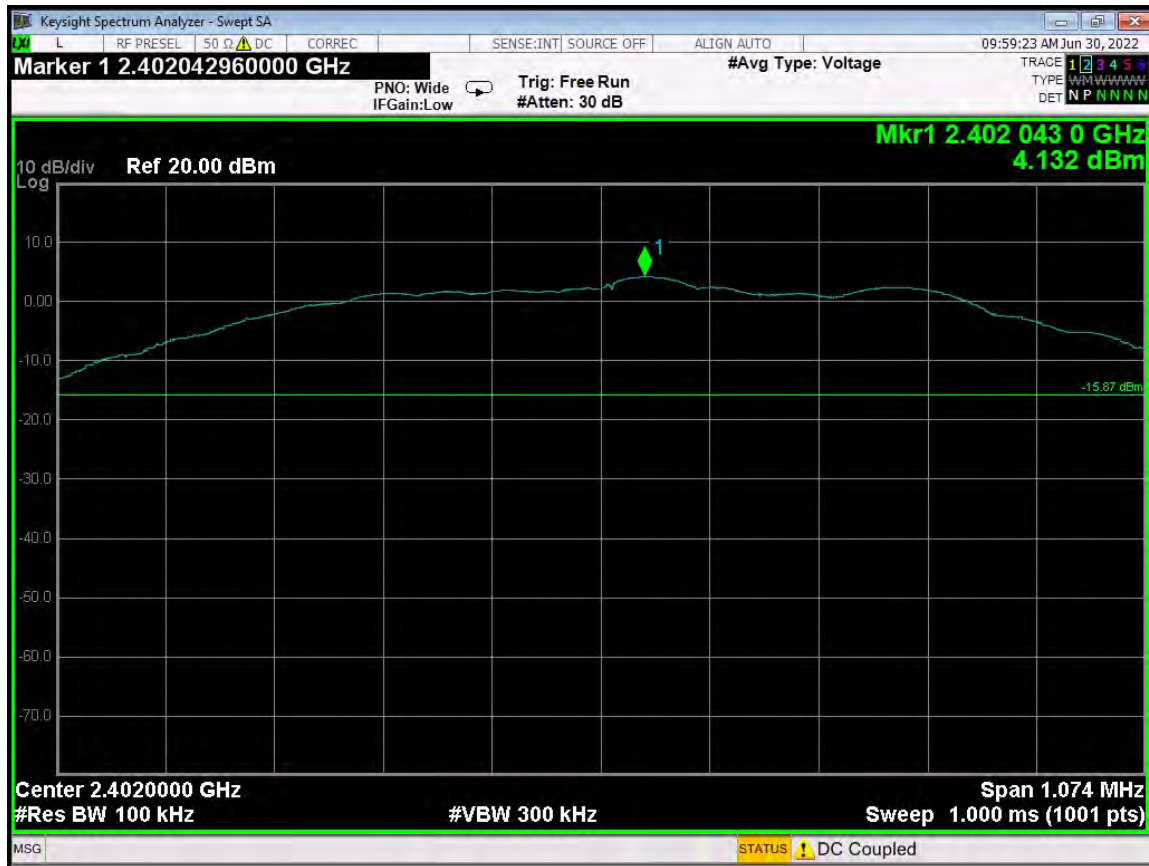
Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

Newbury Park Division
1050 Lawrence Drive
Newbury Park, CA 91320
(805) 480-4044



***RF ANTENNA CONDUCTED
DATA SHEETS***



RF Antenna Conducted Test – Low Channel – Reference Level

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

Newbury Park Division
1050 Lawrence Drive
Newbury Park, CA 91320
(805) 480-4044

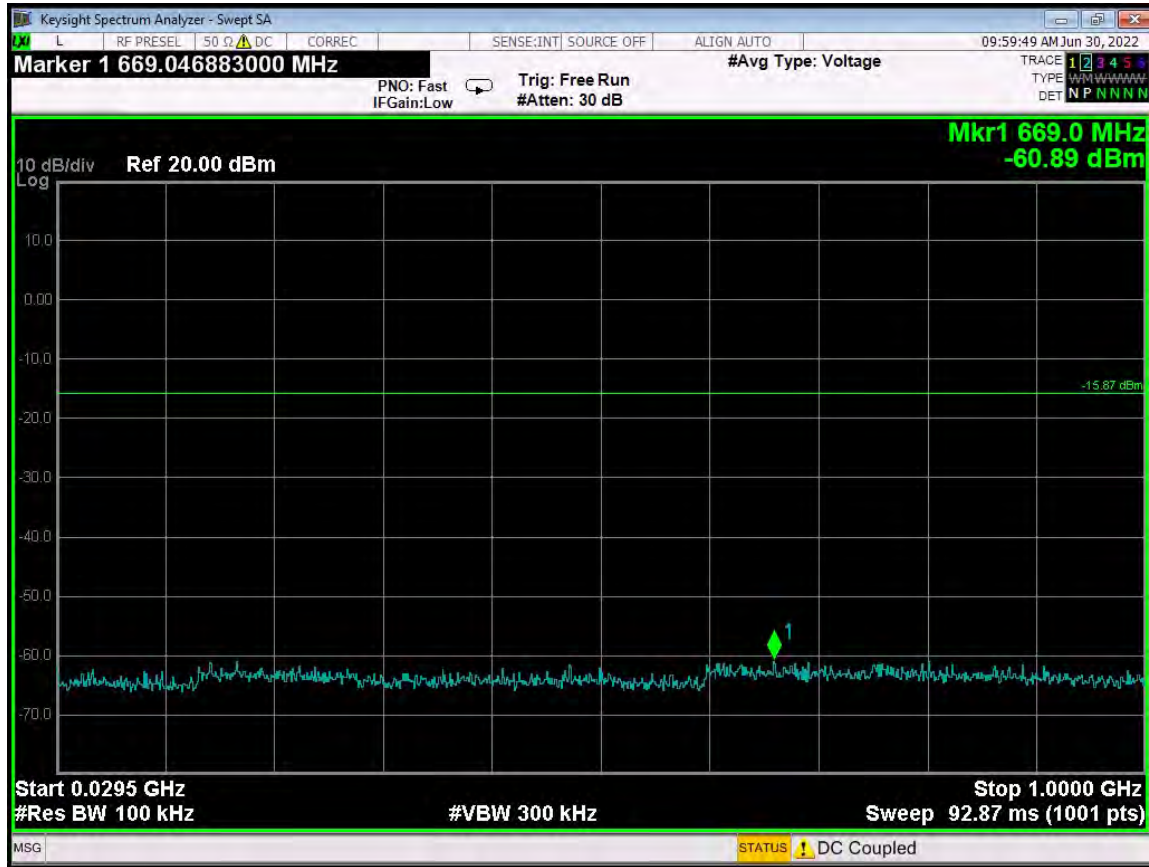


**COMPATIBLE
ELECTRONICS**

FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report

Diamond Display

Model: 3.5

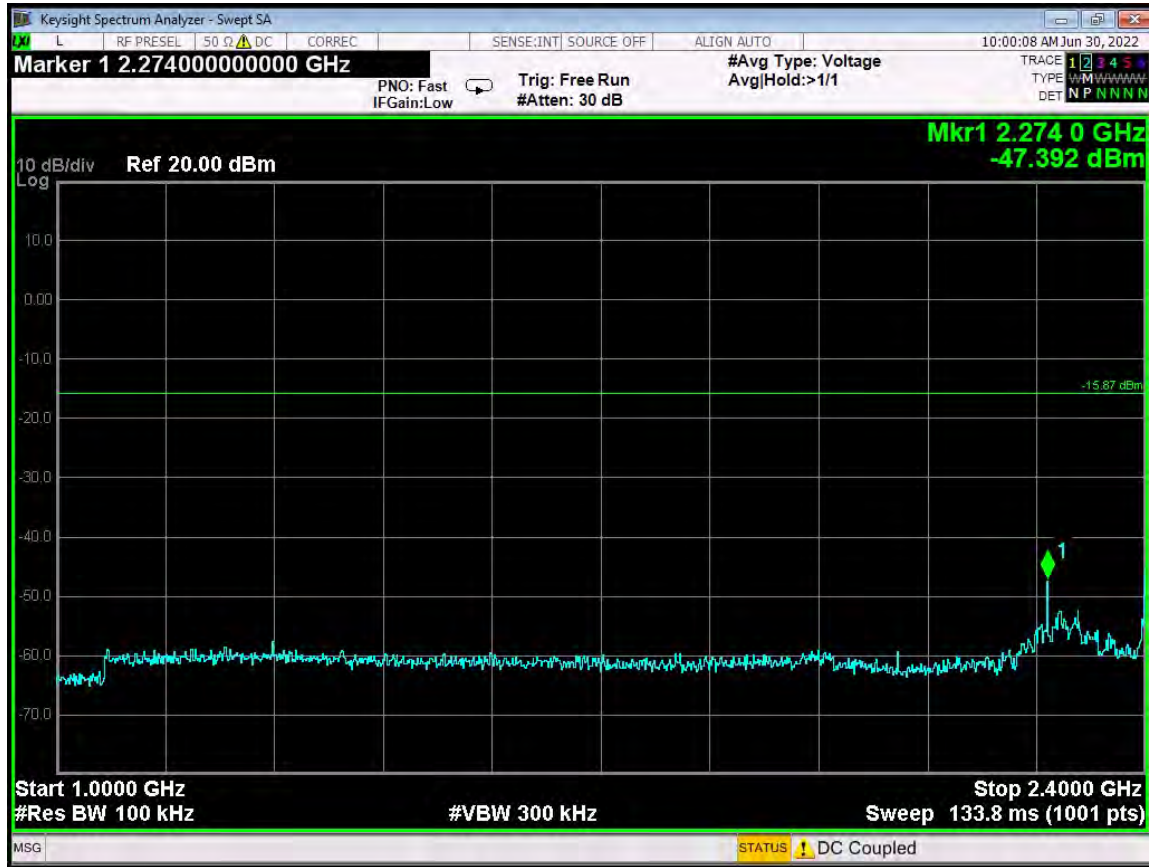


RF Antenna Conducted Test – Low Channel – 30 MHz to 1 GHz

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

Newbury Park Division
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Newbury Park, CA 91320
(805) 480-4044



RF Antenna Conducted Test – Low Channel – 1 GHz to 2.4 GHz

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

Newbury Park Division
1050 Lawrence Drive
Newbury Park, CA 91320
(805) 480-4044

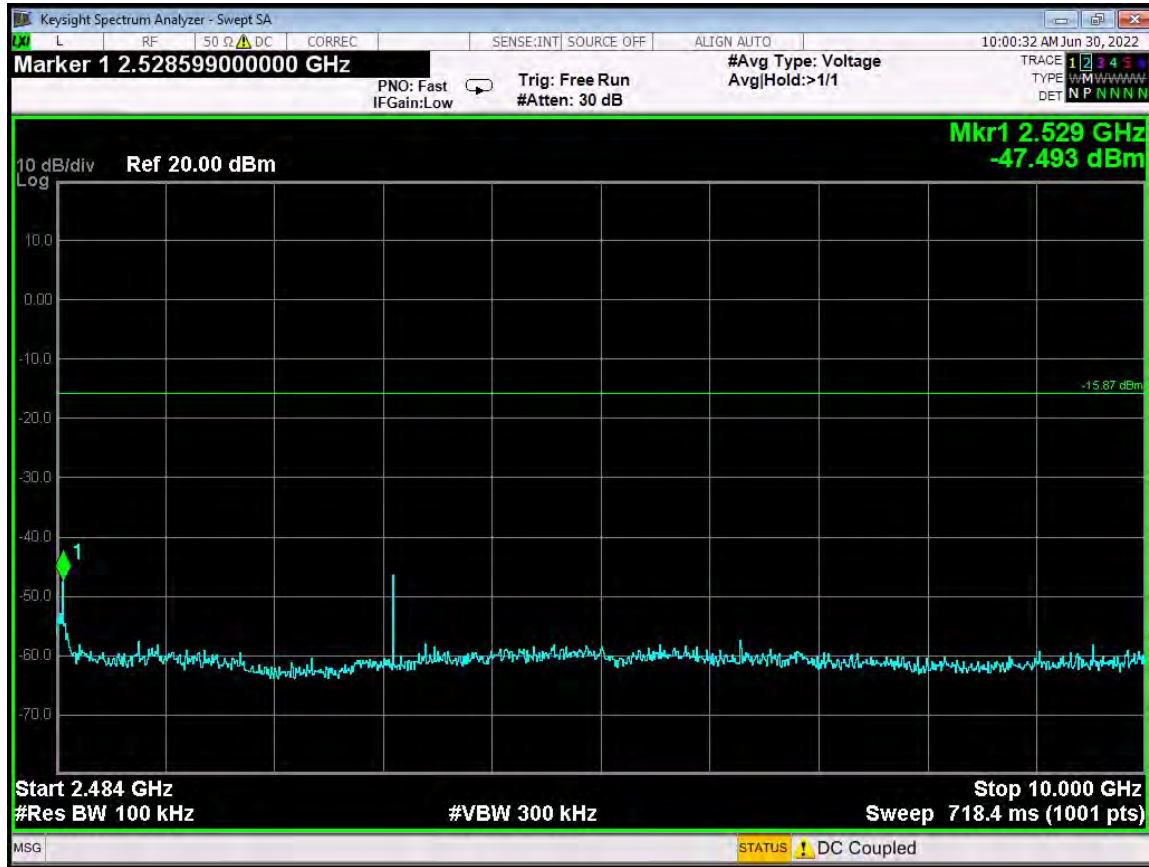


**COMPATIBLE
ELECTRONICS**

FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report

Diamond Display

Model: 3.5



RF Antenna Conducted Test – Low Channel – 2484 MHz to 10 GHz

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

Newbury Park Division
1050 Lawrence Drive
Newbury Park, CA 91320
(805) 480-4044



FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report

Diamond Display

Model: 3.5



RF Antenna Conducted Test – Low Channel – 10 GHz to 25 GHz

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

Newbury Park Division
1050 Lawrence Drive
Newbury Park, CA 91320
(805) 480-4044

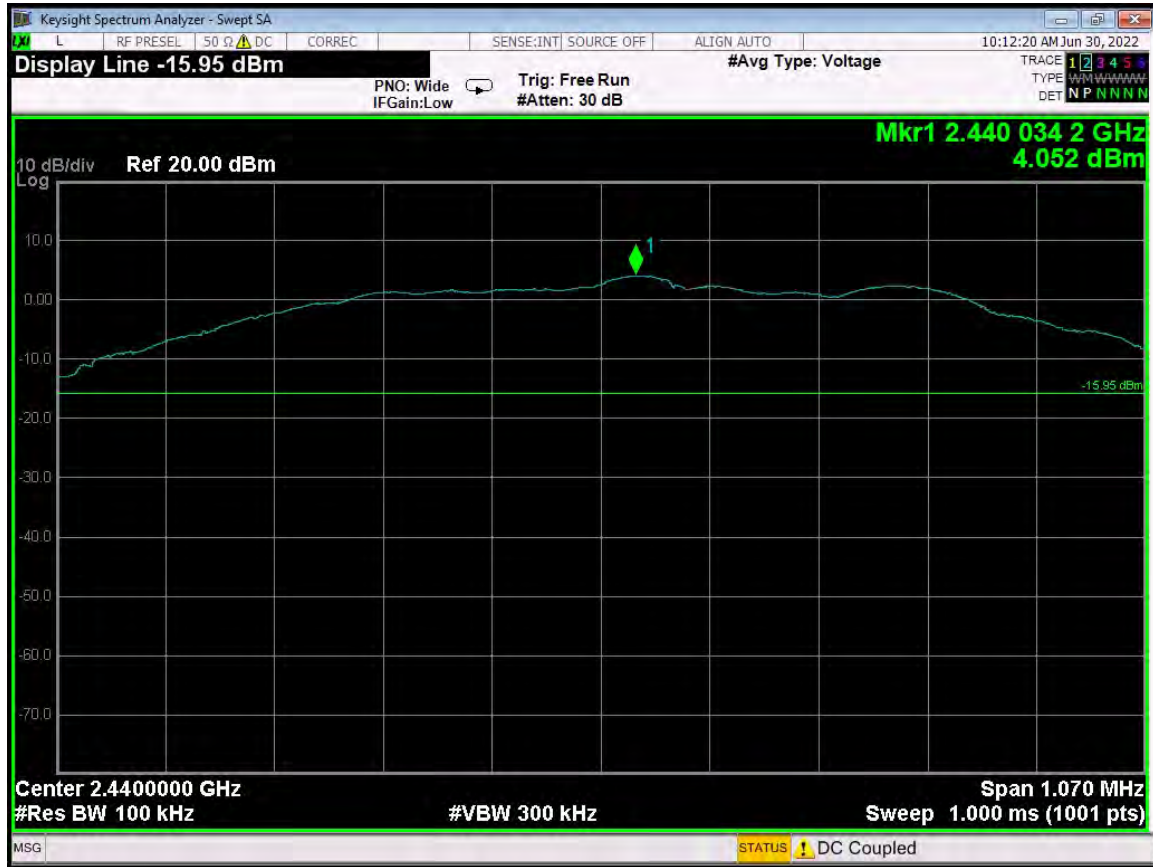


**COMPATIBLE
ELECTRONICS**

FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report

Diamond Display

Model: 3.5



RF Antenna Conducted Test – Middle Channel – Reference Level

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

Newbury Park Division
1050 Lawrence Drive
Newbury Park, CA 91320
(805) 480-4044

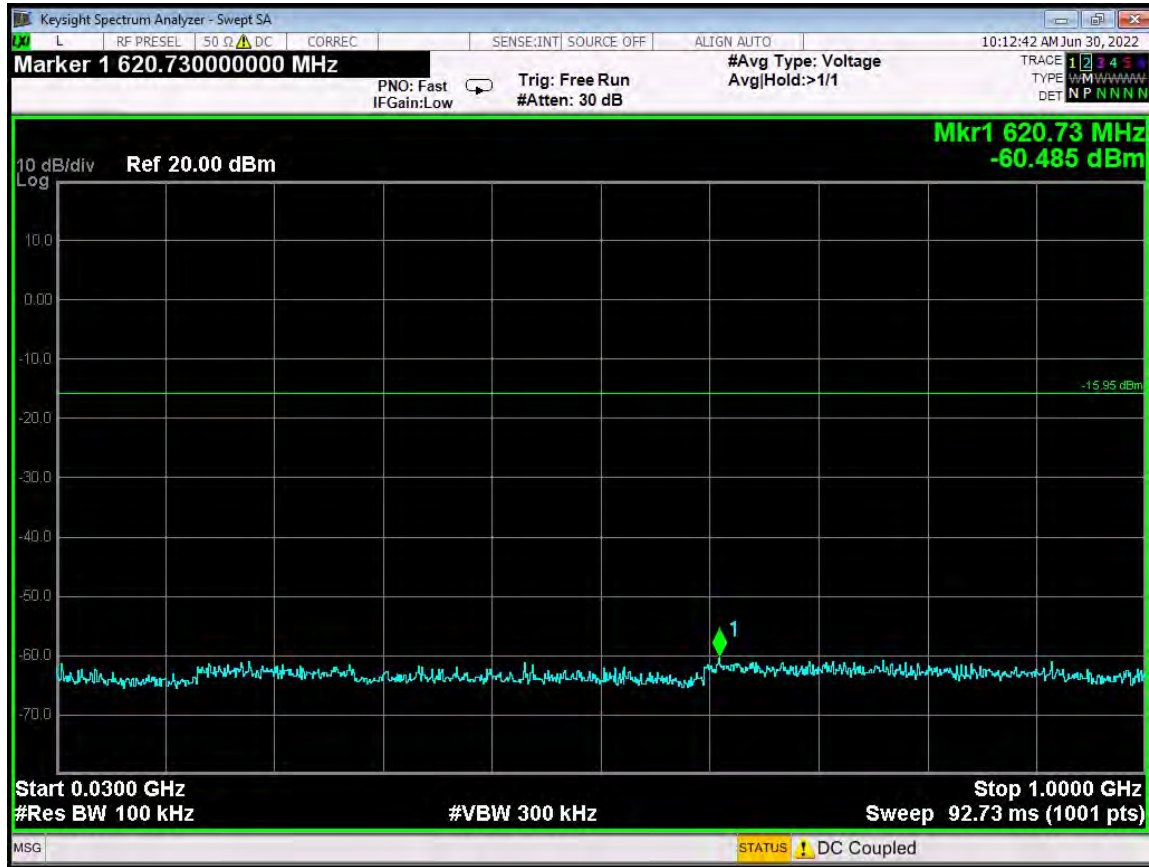


**COMPATIBLE
ELECTRONICS**

FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report

Diamond Display

Model: 3.5



RF Antenna Conducted Test – Middle Channel – 30 MHz to 1 GHz

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

Newbury Park Division
1050 Lawrence Drive
Newbury Park, CA 91320
(805) 480-4044

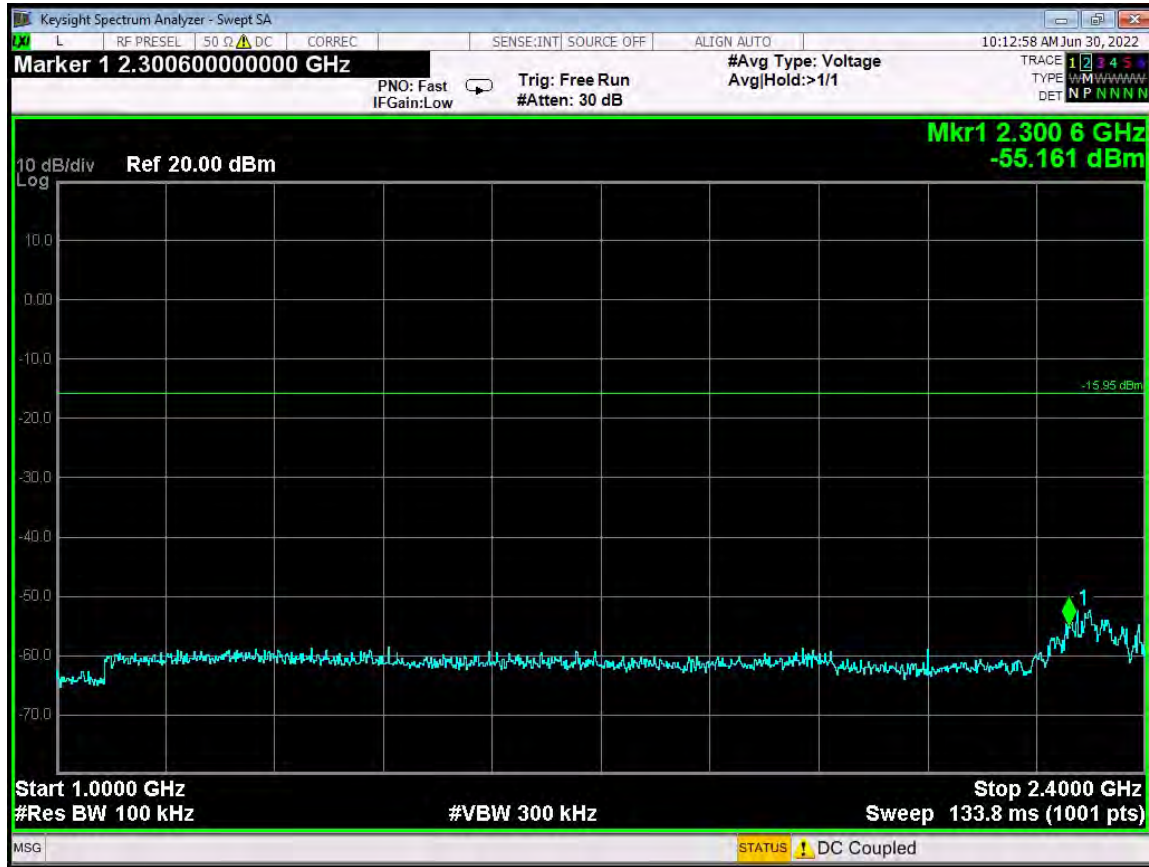


**COMPATIBLE
ELECTRONICS**

FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report

Diamond Display

Model: 3.5

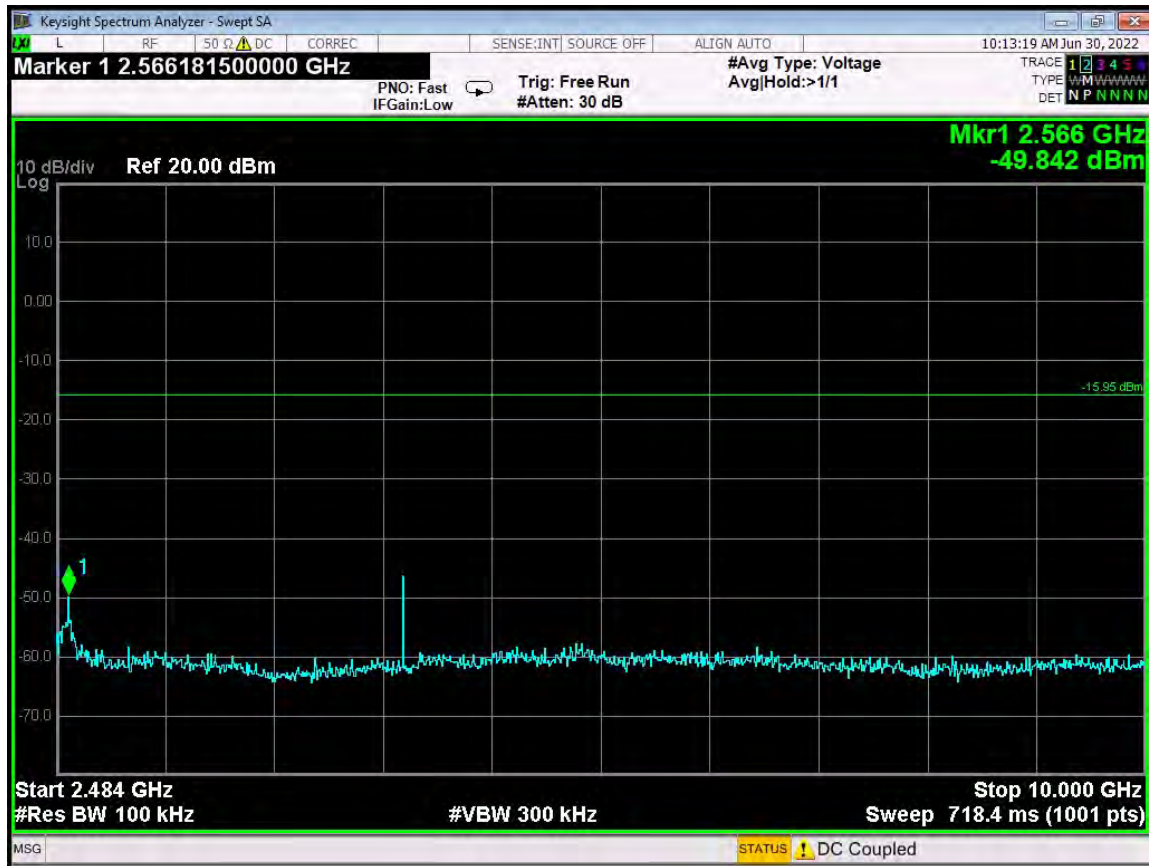


RF Antenna Conducted Test – Middle Channel – 1 GHz to 2.4 GHz

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

Newbury Park Division
1050 Lawrence Drive
Newbury Park, CA 91320
(805) 480-4044



RF Antenna Conducted Test – Middle Channel – 2484 MHz to 10 GHz

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

Newbury Park Division
1050 Lawrence Drive
Newbury Park, CA 91320
(805) 480-4044

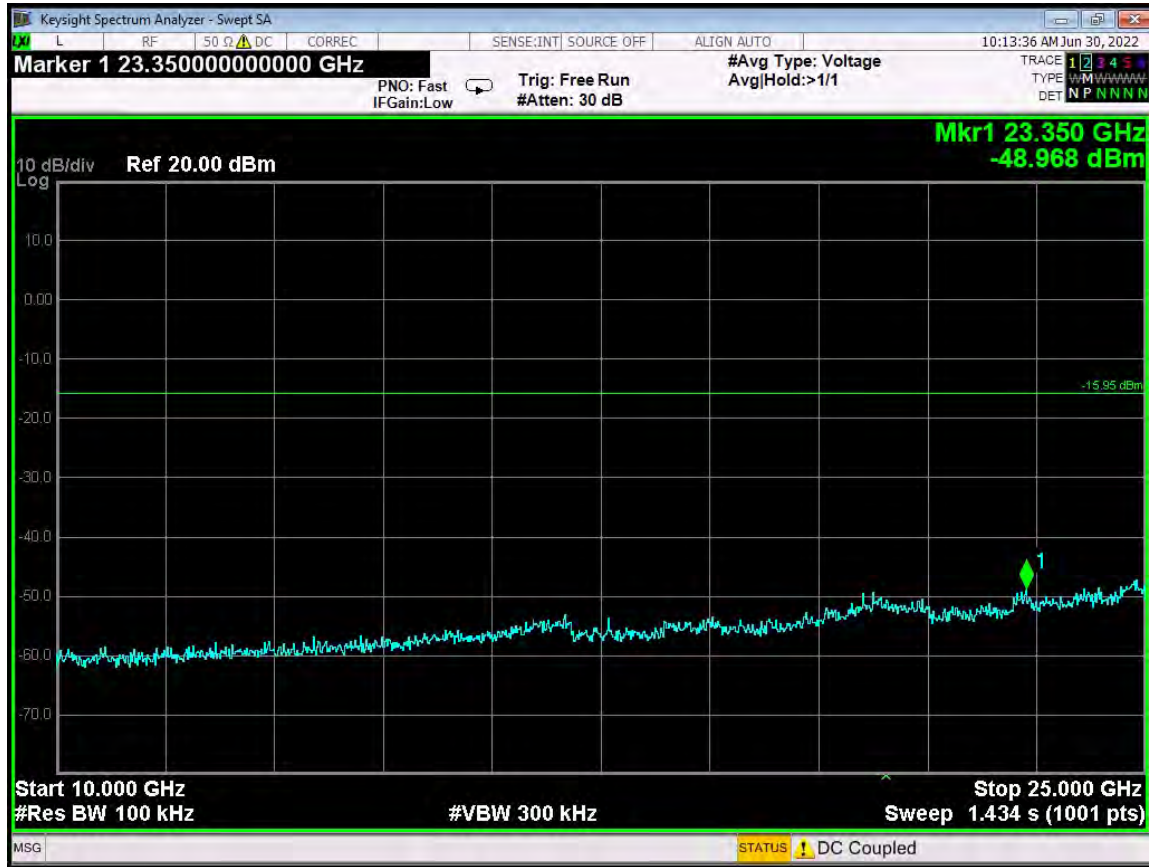


**COMPATIBLE
ELECTRONICS**

FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report

Diamond Display

Model: 3.5



RF Antenna Conducted Test – Middle Channel – 10 GHz to 25 GHz

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

Newbury Park Division
1050 Lawrence Drive
Newbury Park, CA 91320
(805) 480-4044

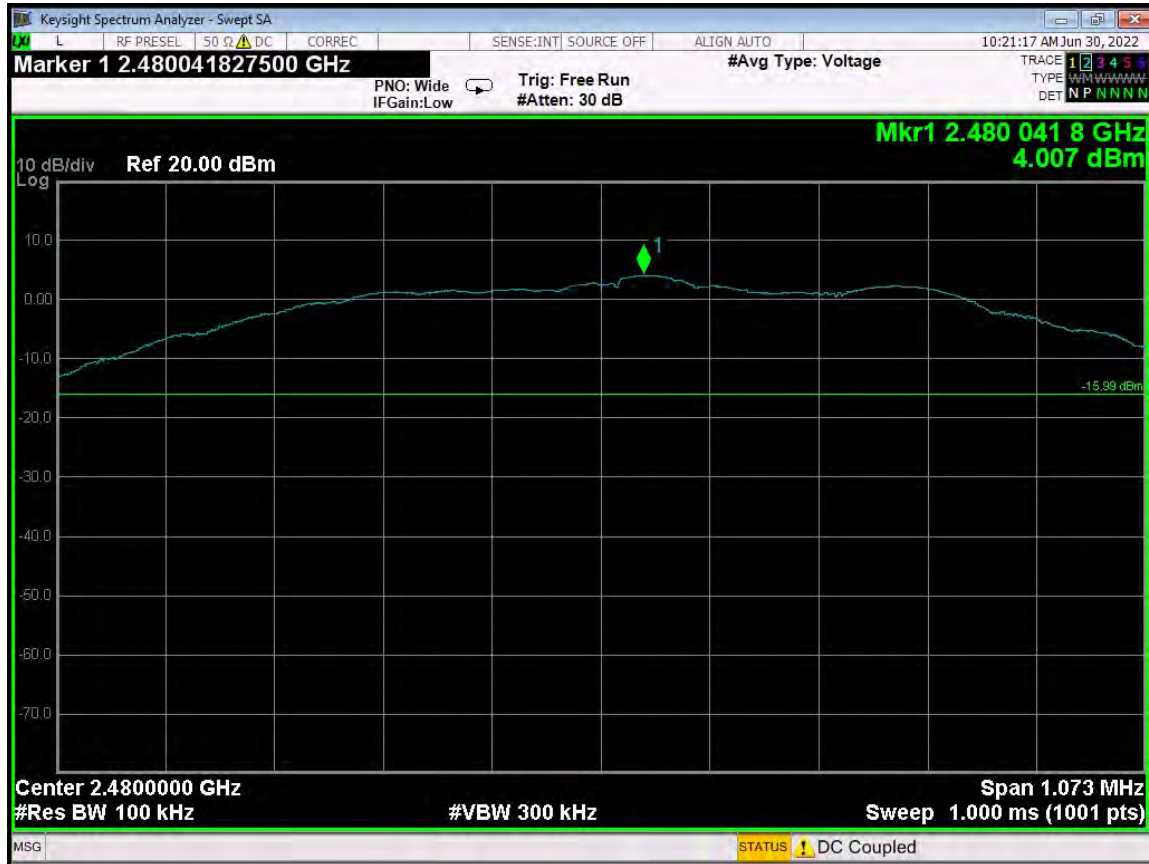


**COMPATIBLE
ELECTRONICS**

FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report

Diamond Display

Model: 3.5



RF Antenna Conducted Test – High Channel – Reference Level

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

Newbury Park Division
1050 Lawrence Drive
Newbury Park, CA 91320
(805) 480-4044

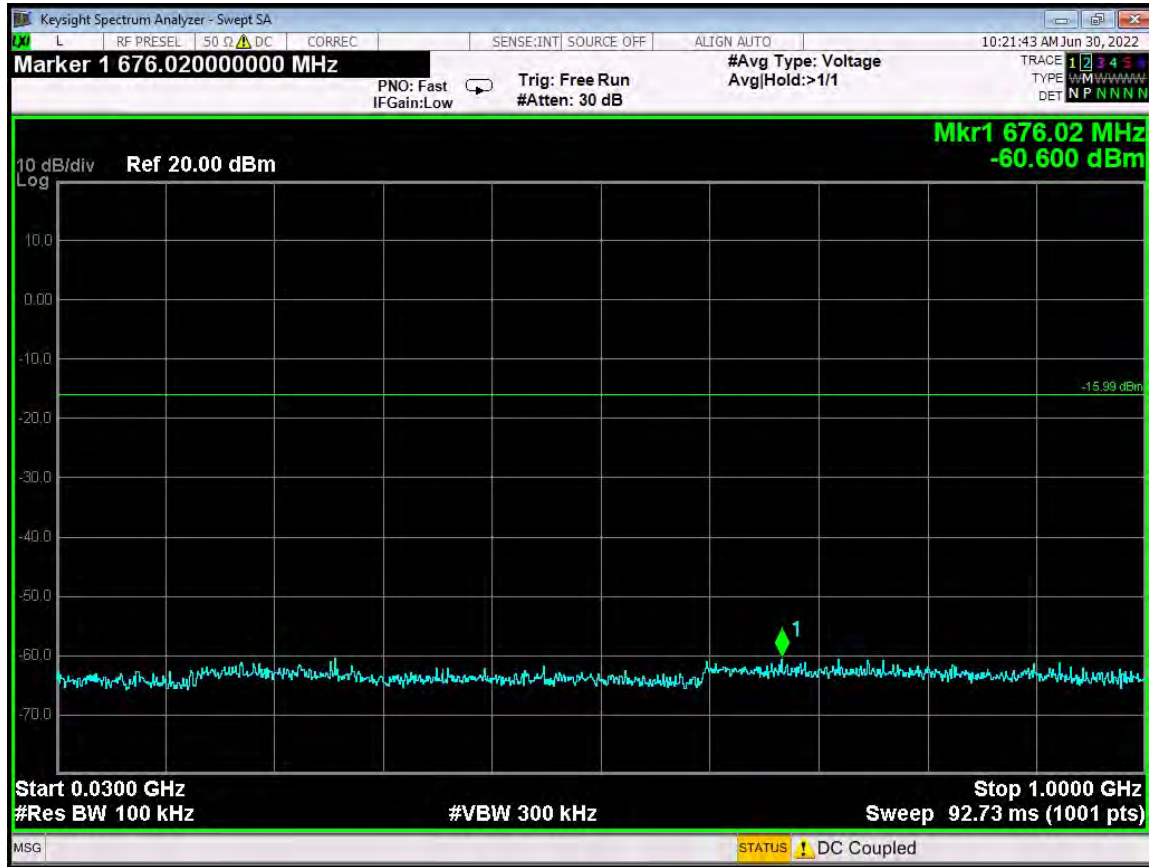


**COMPATIBLE
ELECTRONICS**

FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report

Diamond Display

Model: 3.5



RF Antenna Conducted Test – High Channel – 30 MHz to 1 GHz

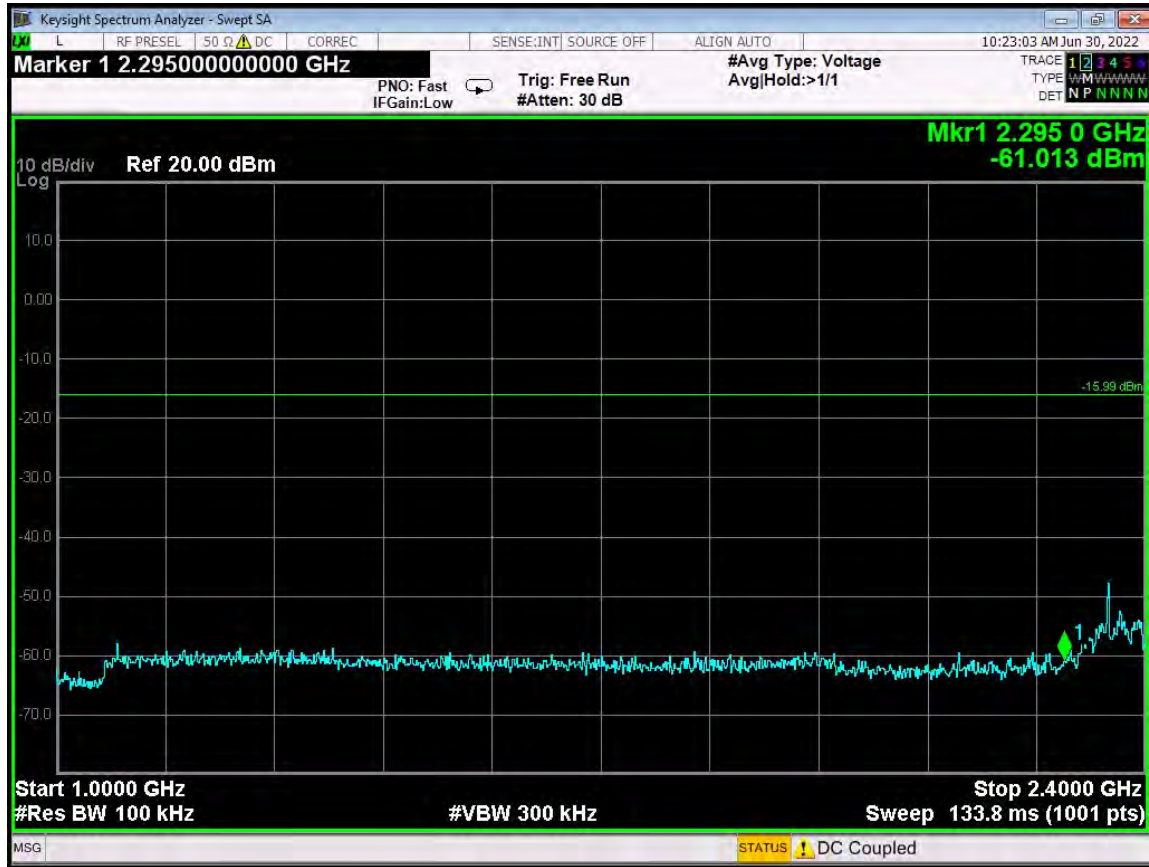
Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

Newbury Park Division
1050 Lawrence Drive
Newbury Park, CA 91320
(805) 480-4044

**COMPATIBLE
ELECTRONICS**

FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report

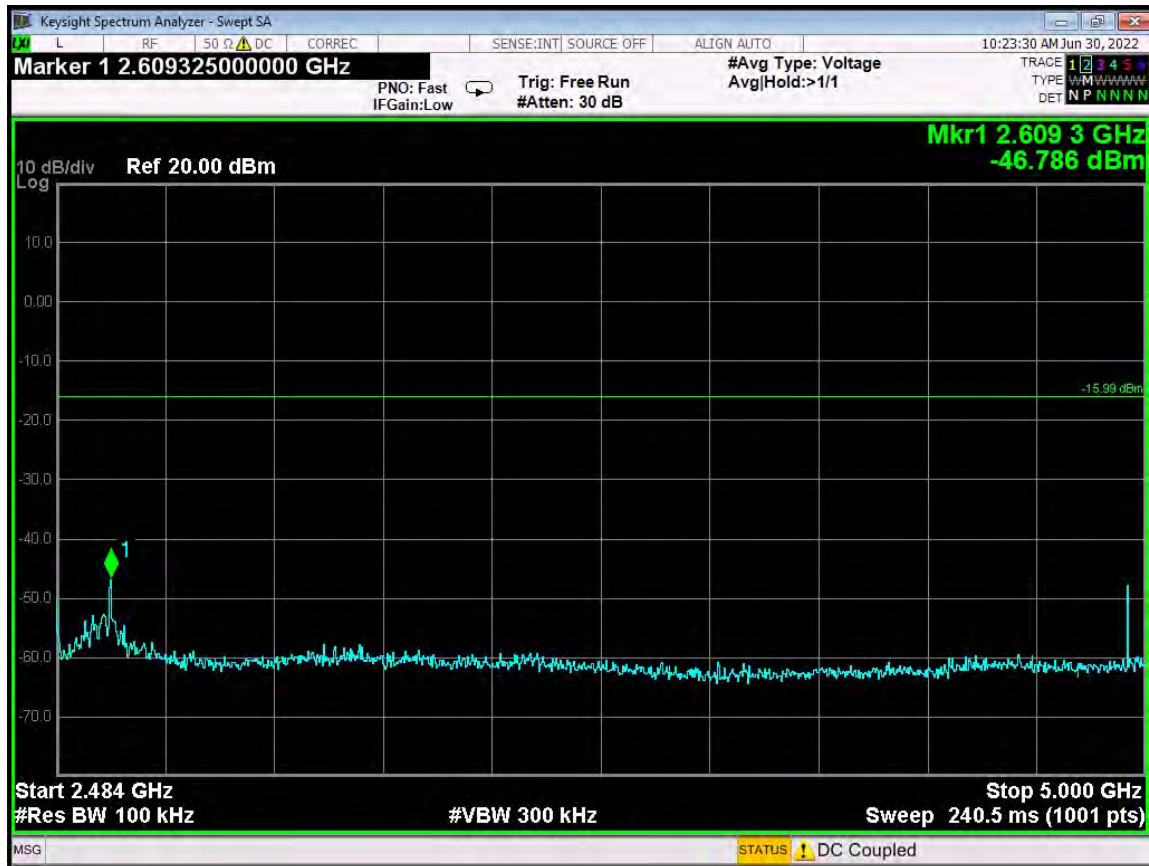
*Diamond Display**Model: 3.5*

RF Antenna Conducted Test – High Channel – 1 GHz to 2.4 GHz

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Lake Forest Division
20621 Pascal Way
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Newbury Park, CA 91320
(805) 480-4044



RF Antenna Conducted Test – High Channel – 2484 MHz to 5 GHz

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

Newbury Park Division
1050 Lawrence Drive
Newbury Park, CA 91320
(805) 480-4044

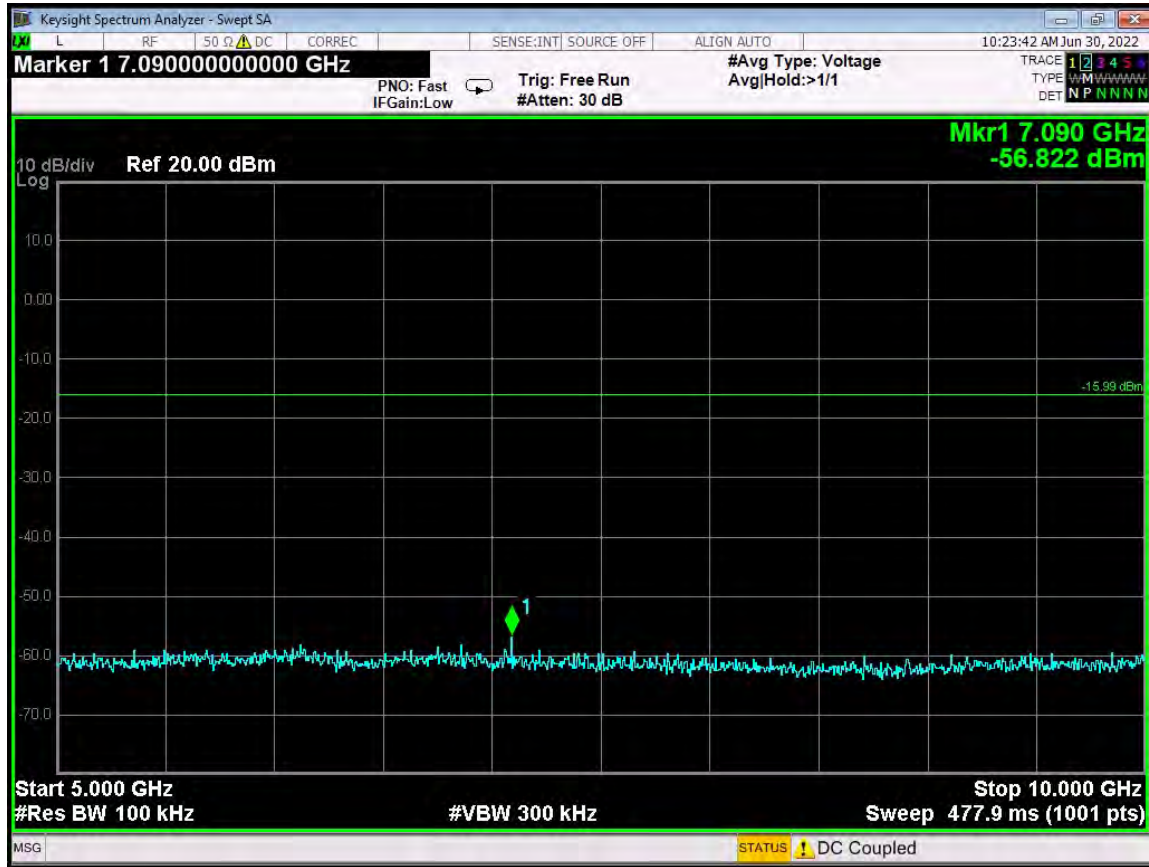


**COMPATIBLE
ELECTRONICS**

FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report

Diamond Display

Model: 3.5



RF Antenna Conducted Test – High Channel – 5 GHz to 10 GHz

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

Newbury Park Division
1050 Lawrence Drive
Newbury Park, CA 91320
(805) 480-4044



FCC Part 15 Subpart B and C; FCC Section 15.247; RSS-247; and RSS-GEN Test Report

Diamond Display

Model: 3.5



RF Antenna Conducted Test – High Channel – 10 GHz to 25 GHz

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

Newbury Park Division
1050 Lawrence Drive
Newbury Park, CA 91320
(805) 480-4044



COMODULE OÜ

DIAMOND DISPLAY

MODEL: 3.5

EMISSIONS IN NON-RESTRICTED BANDS

FREQUENCY (MHz)	LEVEL (dBm)	Limit (dBm)	Margin (dB)
24775.00	-46.121	-15.87	-30.251
2609.00	-47.786	-15.99	-31.796
2529.00	-47.493	-15.87	-31.623

Note: The three highest non-restricted emissions are reported.