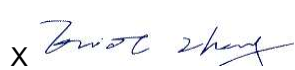


Prüfbericht-Nr.: Test report no.:	CN213MUT 001	Auftrags-Nr.: Order no.:	244290778	Seite 1 von 49 Page 1 of 49
Kunden-Referenz-Nr.: Client reference no.:	P00053126	Auftragsdatum: Order date:	2021-01-07	
Auftraggeber: Client:	Dyaco International Inc. (for FCC) 12 th floor, No 111, Songjiang Rd, Taipei City 104, Taiwan, ROC Dyaco Canada Inc (for IC) 5955 Don Murie Street, Niagara Falls, ON L2G 0A9, Canada			
Prüfgegenstand: Test item:	Treadmill			
Bezeichnung / Typ-Nr.: Identification / Type no.:	TRX5500(XTERRA), GT90D(DYACO) FCC ID: 2AHVL-GT90DNT041 IC: 22282-GT90DNT041			
Auftrags-Inhalt: Order content:	Complete test			
Prüfgrundlage: Test specification:	FCC CFR47 Part 15, Subpart C Section 15.247 RSS-Gen Issue 5, Amendment 2, February 2021 RSS-247 Issue 2, February 2017 ANSI C63.10: 2013			
Wareneingangsdatum: Date of sample receipt:	2021-05-16			
Prüfmuster-Nr.: Test sample no.:	A003053162-001 A003053162-002			
Prüfzeitraum: Testing period:	Refer to test report			
Ort der Prüfung: Place of testing:	TÜV Rheinland (Shanghai) Co., Ltd.			
Prüflaboratorium: Testing laboratory:	TÜV Rheinland (Shanghai) Co., Ltd.			
Prüfergebnis*: Test result*:	Pass			
geprüft von: tested by: 		genehmigt von: authorized by: 		
Datum: Date: 2021-11-09 Signed by: Elliot Zhang		Ausstellungsdatum: Issue date: 2021-11-09 Signed by: Hongfei Wu		
Stellung / Position: PE/Elliot Zhang		Stellung / Position: Reviewer/Hongfei Wu		
Sonstiges / HVIN: TRX5500, GT90D Other:				
Zustand des Prüfgegenstandes bei Anlieferung: Condition of the test item at delivery:		Prüfmuster vollständig und unbeschädigt Test item complete and undamaged		
* Legende: P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet * Legend: P(ass) = passed a.m. test specification(s) F(ail) = failed a.m. test specification(s) N/A = not applicable N/T = not tested				
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.				



TEST SUMMARY

5.1.1 ANTENNA REQUIREMENT

RESULT: Pass

5.1.2 20dB & 99% BANDWIDTH

RESULT: Pass

5.1.3 PEAK OUTPUT POWER

RESULT: Pass

5.1.4 FREQUENCY SEPARATION

RESULT: Pass

5.1.5 NUMBER OF HOPPING FREQUENCY

RESULT: Pass

5.1.6 TIME OF OCCUPANCY

RESULT: Pass

5.1.7 CONDUCTED BAND EDGE AND OUT-OF BAND EMISSIONS

RESULT: Pass

5.2.1 CONDUCTED EMISSION

RESULT: Pass

5.3.1 RADIATED BAND-EDGE

RESULT: Pass

5.3.2 RADIATED SPURIOUS EMISSION

RESULT: Pass

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1. General Remarks

1.1 Complementary Materials

Null.

2. Test Sites

2.1 Test Facilities

TÜV Rheinland (Shanghai) Co., Ltd.

Shanghai TUV Rheinland Building No. 177, 178 Lane 777, West Guangzhong Rd, Jing'an District, Shanghai, China

The used test equipment is in accordance with CISPR 16 for measurement of radio interference.

The Federal Communications Commission has reviewed the technical characteristics of the radiated and conducted emission facility, and has found these test facilities to be in compliance with the requirements of section 2.948 of the FCC rules. The description of the test facility is listed under FCC registration number 958801.

The Innovation, Science and Economic Development Canada has reviewed the technical characteristics of the radiated and conducted emission facility, and has found these test facilities to be in compliance. The description of the test facility is listed under chambers filing number 2932F.

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

Instrument	Manufacturer	Type No.	Asset No.	Cali. Due Date
3m modified semi-anechoic chamber	Frankonia	SAC3	G1811378	2022-06-27
Bilog antenna	Teseq	CBL 6112D	G1811425	2023-03-10
EMI test receiver	Rohde & Schwarz	ESCI	G1811402	2022-09-17
Spectrum analyser	Rohde & Schwarz	FSV40	G1822702	2021-11-01
Preamplifier	Taiwan EMCI	EMC184045SE	G1825372	2023-03-06
Log periodic antenna	Rohde & Schwarz	HL050	G1811417	2023-03-10
Broadband Horn Antenna	Schwarzbeck	BBHA 9170	9170-305	2022-07-08
Preamplifier	Taiwan EMCI	EMC051845SE	G1825371	2023-03-06
Spectrum Analyzer	Keysight	N9020A	MY54500180	2022-09-08
Thermohygrometer	Testo	608-H1	1241320614	2021-10-13
EMI test receiver	R&S	ESIB26	G1811380	2023-03-06
Artificial main network	R&S	ENV432	G1830003	2022-11-01
EMC measurement software	R&S	EMC32 (Ver 10.20.01)	G1824845	N/A

2.3 Traceability

All measurement equipment calibrations are traceable to NIST or where calibration is performed outside the United States, to equivalent nationally recognized standards organizations.

2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basis using in house standards or comparisons.

2.5 Measurement Uncertainty

Table 2: Measurement Uncertainty

Measurement Type	Frequency	Uncertainty
Antenna Port Conducted Emission	< 1GHz	±0.39dB
	> 1GHz	±0.68dB
Conducted Emission	150kHz - 30MHz	±3.39dB
Radiated Emission	9kHz – 30MHz	±2.93dB
	30MHz - 1GHz	±5.34dB
	> 1GHz	±5.40dB

3. General Product Information

3.1 Product Function and Intended Use

The EUT (Equipment Under Test) is a Treadmill which supports Wi-Fi and Bluetooth. The aim of this report is to evaluate the RF characteristic of the Bluetooth Classic (EW-BLED-26) Part of this EUT.

For details refer to the User Manual and Circuit Diagram.

3.2 Ratings and System Details

Table 3: Technical Specification of EUT

General Description of EUT	
Product Name:	Treadmill
Model No.:	TRX5500,GT90D
Test Voltage:	DC 5V for RF Conducted and Radiated Test AC 120V/60Hz for Conducted Emission Test
Technical Specification of Bluetooth Classic(EW-BLED-26)	
Frequency Range:	2402 to 2480MHz
Modulation Type:	GFSK, $\pi/4$ DQPSK
Data Rate:	1Mbps(GFSK), 2Mbps($\pi/4$ DQPSK)
Antenna Type:	PCB Antenna
Antenna Gain:	2dBi (Provided by the Client)
Technical Specification of Bluetooth Classic(AP6236)	
Frequency Range:	2402 to 2480MHz
Modulation Type:	GFSK, $\pi/4$ DQPSK, 8DPSK
Data Rate:	1Mbps(GFSK), 2Mbps($\pi/4$ DQPSK), 3Mbps(8DPSK)
Antenna Type:	PCB Antenna
Antenna Gain:	2dBi (Provided by the Client)
Technical Specification of Wi-Fi(AP6236)	
Frequency Range:	2412 to 2462MHz
Modulation Type:	802.11b: DSSS (CCK, DQPSK, DBPSK) 802.11g/n: OFDM (QPSK/BPSK/16QAM/64QAM)
Date Rate:	802.11b: 1/2/5.5/11Mbps 802.11g: 6/9/12/18/24/36/48/54Mbps 802.11n: up to 72.2Mbps
Antenna Type:	PCB Antenna
Antenna Gain:	2dBi (Provided by the Client)

Note: The above two models are all the same except the model number, so only the GT90D was chosen to perform the test.

3.3 Independent Operation Modes

Table 4: Independent Operation Modes

Test Mode	Data Rate	Channel
TM1	1-DH5	00
TM2	1-DH5	39
TM3	1-DH5	78
TM4	2-DH5	00
TM5	2-DH5	39
TM6	2-DH5	78
TM7	1-DH1	Hopping
TM8	1-DH3	Hopping
TM9	1-DH5	Hopping
TM10	2-DH1	Hopping
TM11	2-DH3	Hopping
TM12	2-DH5	Hopping
TM13	Normal Operating Mode	
TM14	Co-location Transmitting Mode	

Note: The worst configuration of this co-location transmitting mode is Module EW-BLED-26 operating in 2DH5 CH39 and Module AP6236 operating in 802.11b CH1

3.4 Noise Generating and Noise Suppressing Parts

Refer to the Circuit Diagram.

3.5 Submitted Documents

- Bill of Material
- PCB Layout
- Photo Document
- Circuit Diagram
- Instruction Manual
- Rating Label

4. Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

The equipment under test (EUT) was configured to measure its maximum power level. The test modes were adapted accordingly in reference to the instructions for use.

4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 5. All testing were performed according to the procedures in ANSI C63.10: 2013.

Test Software used: FCC Assist 1.0.0.2

Table 5: Power parameter value

Channel Frequency [MHz]	Power Parameter Value
2402	10
2441	10
2480	10

4.3 Special Accessories and Auxiliary Equipment

Null.

4.4 Countermeasures to achieve EMC Compliance

Null.

5. Test Results

5.1 Conducted Testing at Antenna Port

5.1.1 Antenna Requirement

RESULT:**Pass**

According to the manufacturer declared, the EUT has one PCB antenna, the directional gain of antenna is 2 dBi and the antenna is designed with permanent attachment and no consideration of replacement. Therefore the EUT is considered sufficient to comply with the provision.

Table 6: Antenna Requirement**FCC 15.203 – Antenna Requirement 1**

Requirement: No antenna other than that furnished by the responsible party shall be used with the device

Results: Antenna type: PCB antenna

Verdict: Pass

FCC 15.204 – Antenna Requirement 2

Requirement: An intentional radiator may be operated only with the antenna with which it is authorized. If an antenna is marketed with the intentional radiator, it shall be of a type which is authorized with the intentional radiator.

Results: Only one PCB antenna can be used

Verdict: Pass

RSS-Gen 6.4 – External Control

Requirement: The device shall not have any external controls accessible to the user that enable it to be adjusted, selected or programmed to operate in violation of the regulatory requirements, including RSS-Gen and the applicable RSSs

Results: The device does not have any transmitter external controls accessible to the user that can be adjusted and operated in violation of the limits of this standard.

Verdict: PASS

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RSS-Gen 6.8 – Antenna Requirement

Requirement: When measurements at the antenna port are used to determine the RF output power, the effective gain of the device's antenna shall be stated, based on a measurement or on data from the antenna's manufacturer.

Results:

a) Antenna Type:	PCB Antenna
b) Manufacture:	N/A
c) Model No.:	N/A
d) Gain with reference to an isotropic radiator:	2dBi

Verdict: PASS

5.1.2 20dB & 99% Bandwidth

RESULT:**Pass**

Date of testing : 2021-07-15
Ambient temperature : 20.6°C
Relative humidity : 58.6%
Atmospheric pressure : 101kPa
Test requirement : FCC Part 15.247(a)(1)
RSS-247 Issue 2, February 2017, Clause 5.1(a)
Test procedure : ANSI C63.10: 2013
Test voltage : DC 5V
Test modes applied : TM1 to TM6

Table 7: 20dB & 99% Bandwidth, TM1 to TM9

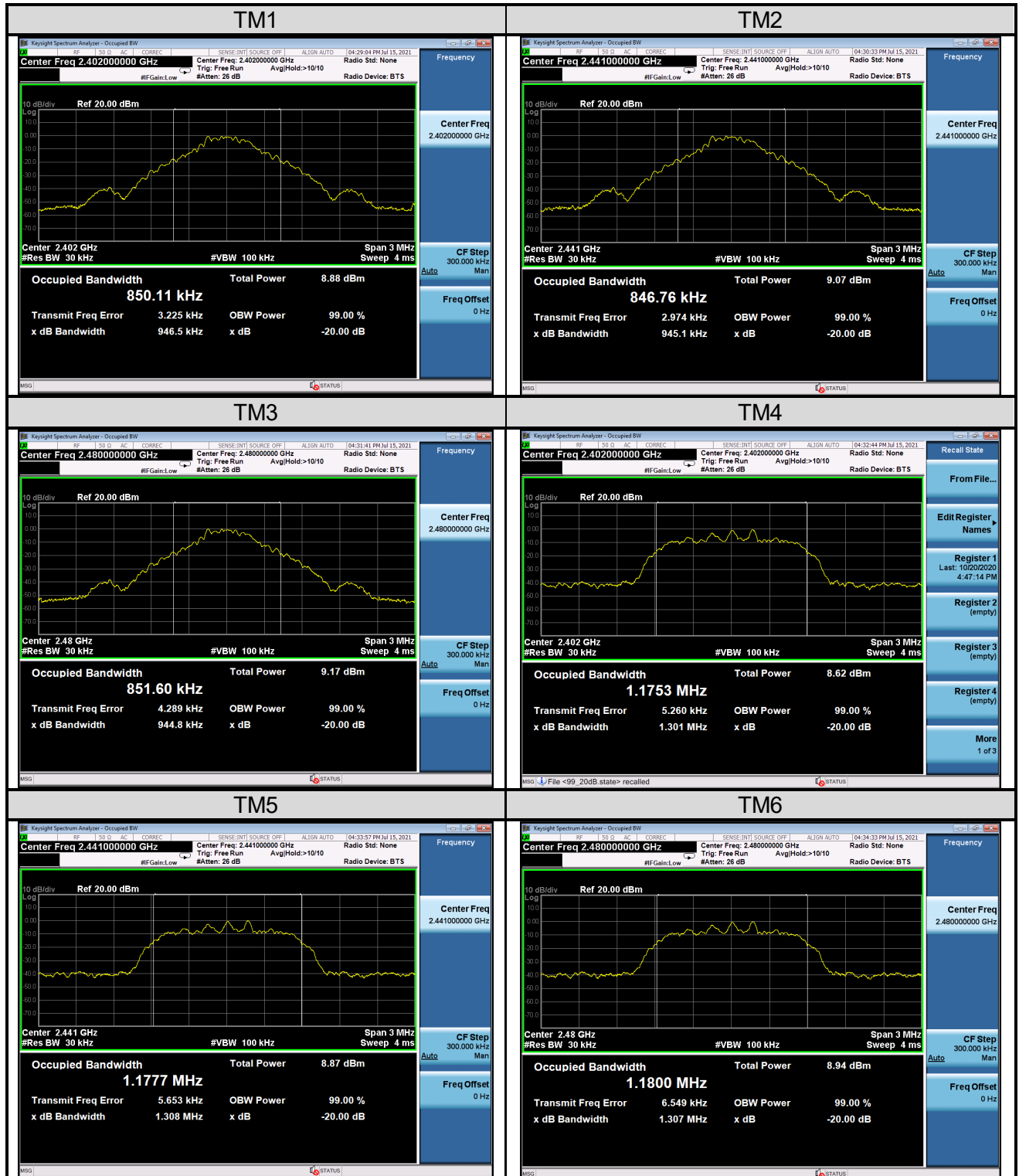
Test Mode	Mode	CH.	Freq. [MHz]	20dB Bandwidth [kHz]	99% Bandwidth [kHz]
TM1	1-DH5	00	2402	946.5	850.11
TM2	1-DH5	39	2441	945.1	846.76
TM3	1-DH5	78	2480	944.8	851.60
TM4	2-DH5	00	2402	1301	1175.3
TM5	2-DH5	39	2441	1308	1177.7
TM6	2-DH5	78	2480	1307	1180.0

Note:

For frequency hopping systems operating in the 2400 – 2483.5MHz band, no bandwidth limit is specified. The test data is provide for reference.

And according to FCC, when the occupied bandwidth limit is not stated in the applicable FCC or reference measurement method, the transmitted signal band width shall be reported as the 99% emission bandwidth.

Figure 1: 20dB & 99% Bandwidth, TM1 to TM6



5.1.3 Peak Output Power

RESULT:

Pass

Date of testing	: 2021-07-15
Ambient temperature	: 23.1°C
Relative humidity	: 48.5%
Atmospheric pressure	: 101kPa
Test requirement	: FCC Part 15.247(b)(1) RSS-247 Issue 2, February 2017, Clause 5.4(b)
Test procedure	: ANSI C63.10: 2013
Test voltage	: DC 5V
Test modes applied	: TM1 to TM6

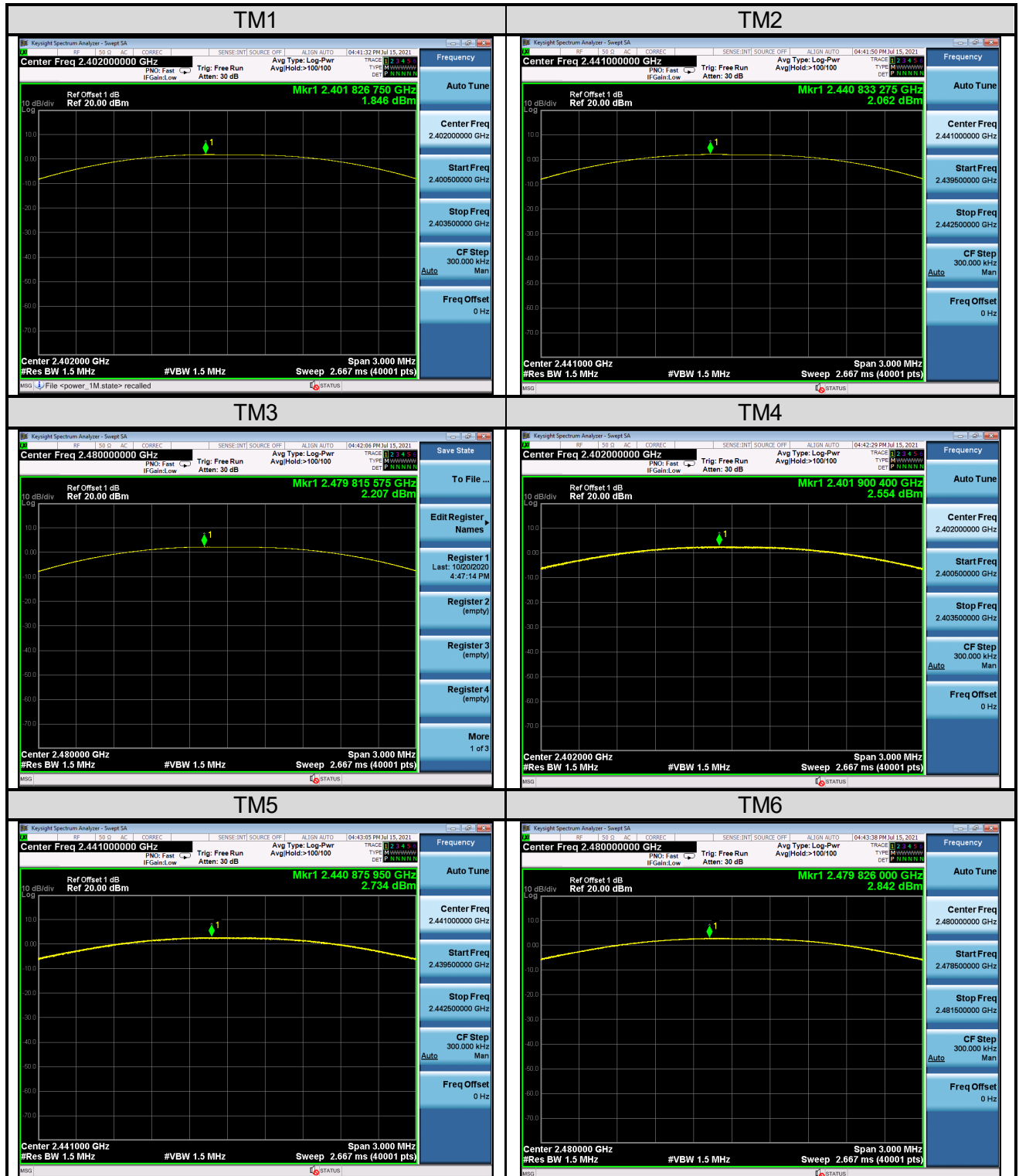
Table 8: Peak Output Power

Test Mode	Antenna Gain [dBi]	CH.	Freq. [MHz]	Maximum Peak Conducted Output Power [dBm]	Peak Conducted Output Power Limit [dBm]	Maximum EIRP [dBm]	EIRP Limit [dBm]
TM1	2	00	2402	1.846	30	3.846	36
TM2		39	2441	2.062	30	4.062	36
TM3		78	2480	2.207	30	4.207	36
TM4		00	2402	2.554	30	4.554	36
TM5		39	2441	2.734	30	4.734	36
TM6		78	2480	2.842	30	4.842	36

Note:

EIRP=Peak Conducted Output Power + Antenna Gain

The cable loss=1dB was provided by the client, and was factored in the result Peak Conducted Output Power

Figure 2: Peak Output Power, TM1 to TM6


5.1.4 Frequency Separation

RESULT:**Pass**

Date of testing : 2021-07-15
Ambient temperature : 21.4°C
Relative humidity : 56.1%
Atmospheric pressure : 101kPa
Test requirement : FCC Part 15.247(a)(1)
RSS-247 Issue 2, February 2017, Clause 5.1(b)
Test procedure : ANSI C63.10: 2013
Test voltage : DC 5V
Test modes applied : TM9 , TM12

Table 9: Frequency Separation

Test Mode	CH.	Frequency [MHz]	Frequency Separation [kHz]	Limit [kHz]
TM9	00	2402	999.875	≥631.000
	39	2441	998.125	≥630.067
	78	2480	997.000	≥629.867
TM12	00	2402	999.875	≥867.333
	39	2441	998.750	≥872.000
	78	2480	997.500	≥871.333

Note:

Frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater.

Figure 3: Frequency Separation

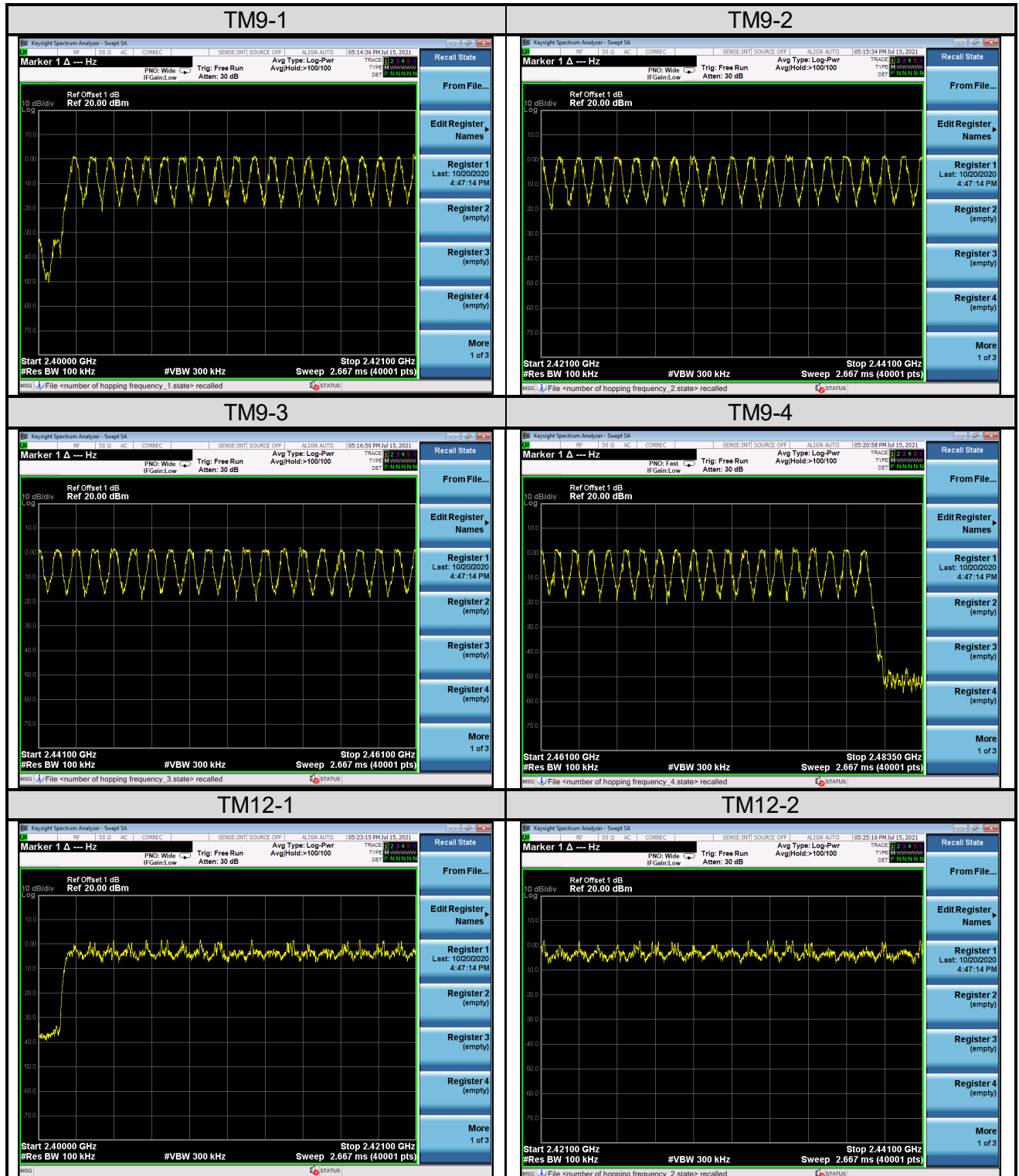

5.1.5 Number of Hopping Frequency

RESULT:**Pass**

Date of testing : 2021-07-15
Ambient temperature : 24.4°C
Relative humidity : 36.1%
Atmospheric pressure : 101kPa
Test requirement : FCC 15.247(a)(1)(iii)
RSS-247 Issue 2, February 2017, Clause 5.1(d)
Test procedure : ANSI C63.10: 2013
Test voltage : DC 5V
Test modes applied : TM9, TM12

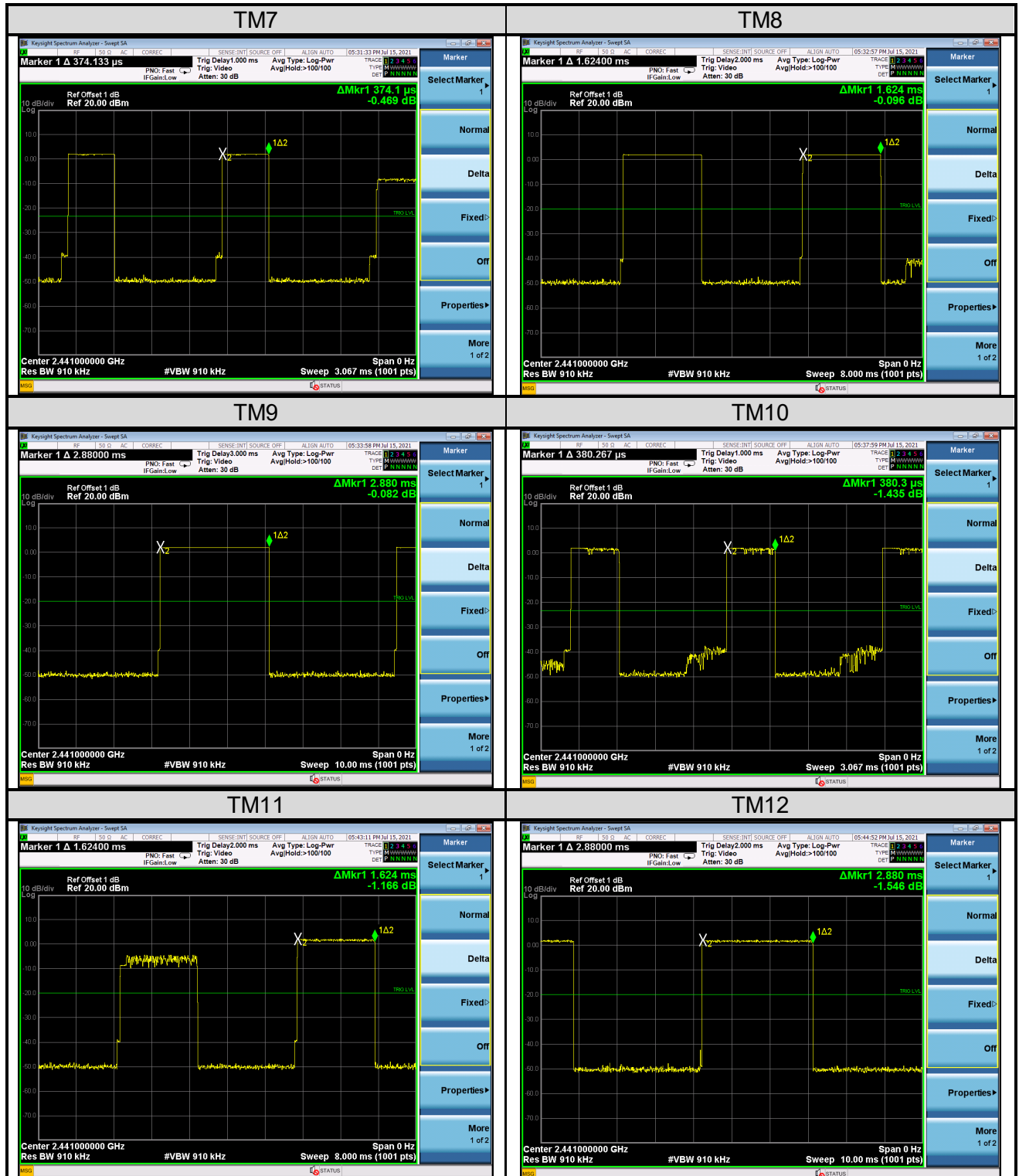
Table 10: Number of Hopping Frequency

Frequency Range	Measured Quantity of Hopping Channel	Limit
2402 to 2480	79	≥15

Figure 4: Number of Hopping Frequency




Hops Over Occupancy Time in 31.6s for DH5 = $1600 / 6 / 79 * 31.6 = 107$.

Figure 5: Time of Occupancy, TM7 to TM12


5.1.7 Conducted Band Edge and out-of Band Emissions

RESULT:**Pass**

Date of testing	:	2021-07-15
Ambient temperature	:	21.4°C
Relative humidity	:	56.1%
Atmospheric pressure	:	101kPa
Test requirement	:	FCC Part 15.247(d) RSS-247 Issue 2, February 2017, Clause 5.5
Test procedure	:	ANSI C63.10: 2013
Test voltage	:	DC 5V
Test modes applied	:	TM1 to TM6, TM9, TM12

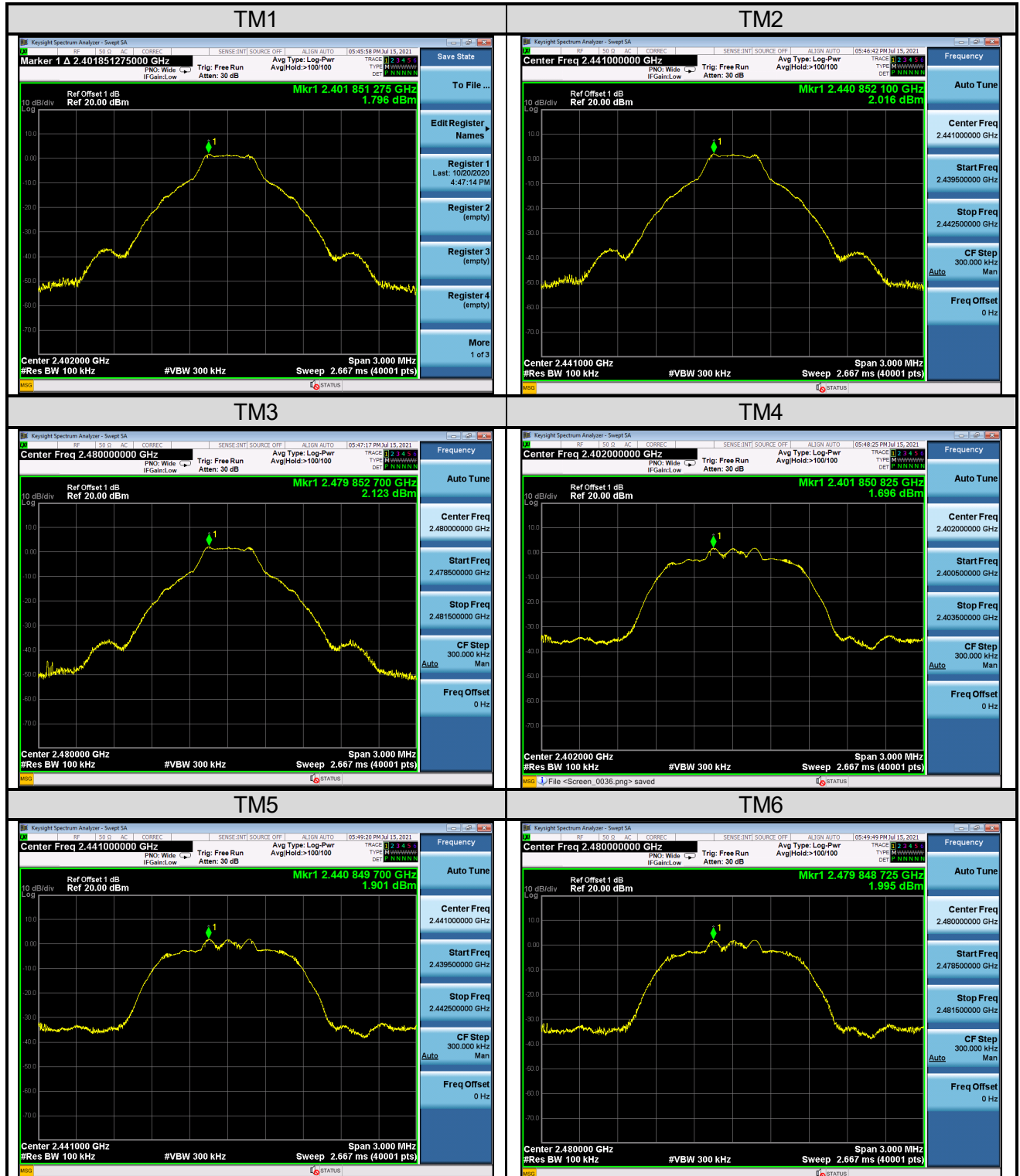
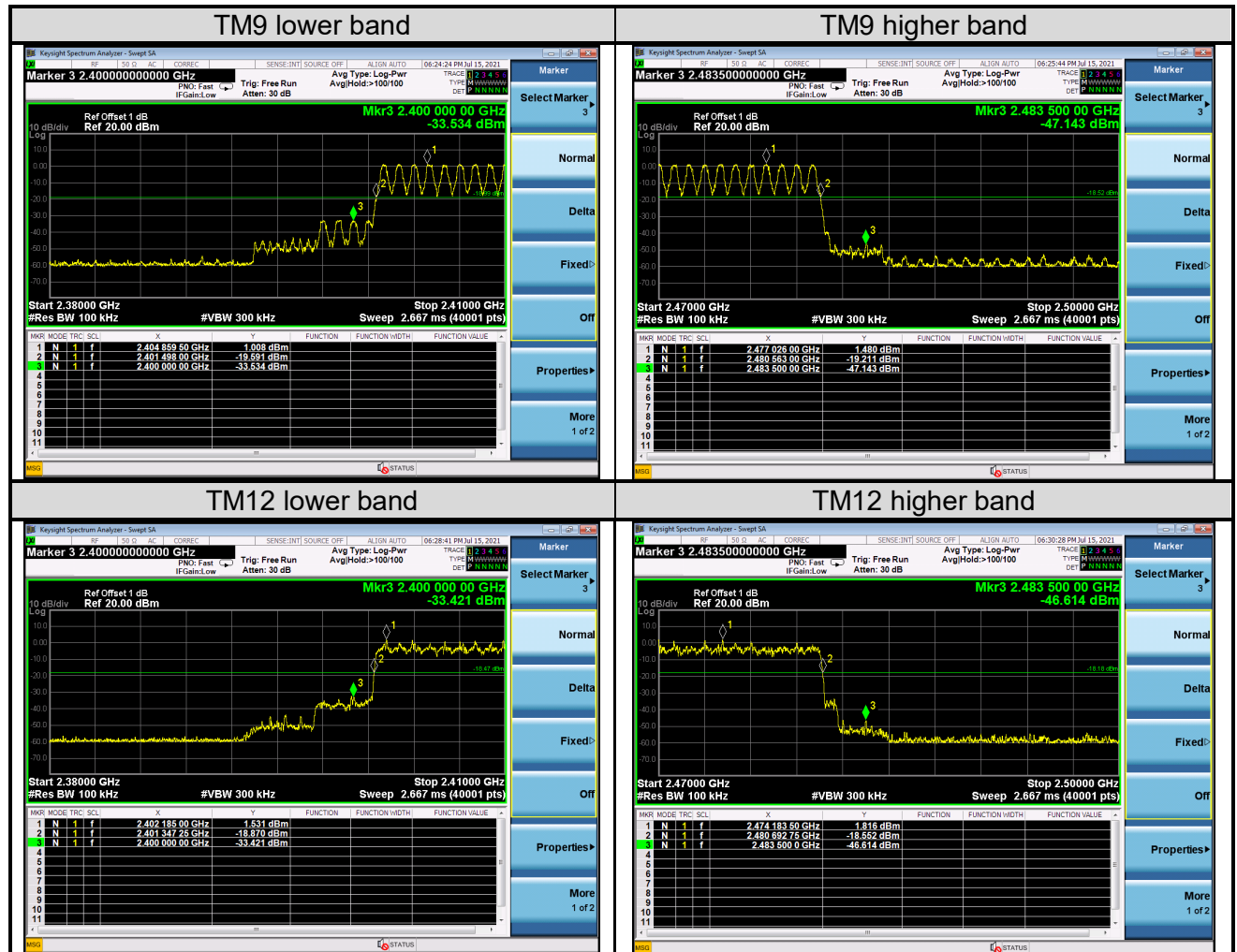
Figure 6: Reference level


Figure 7: Conducted Spurious Emission


Figure 8: Conducted Band Edge

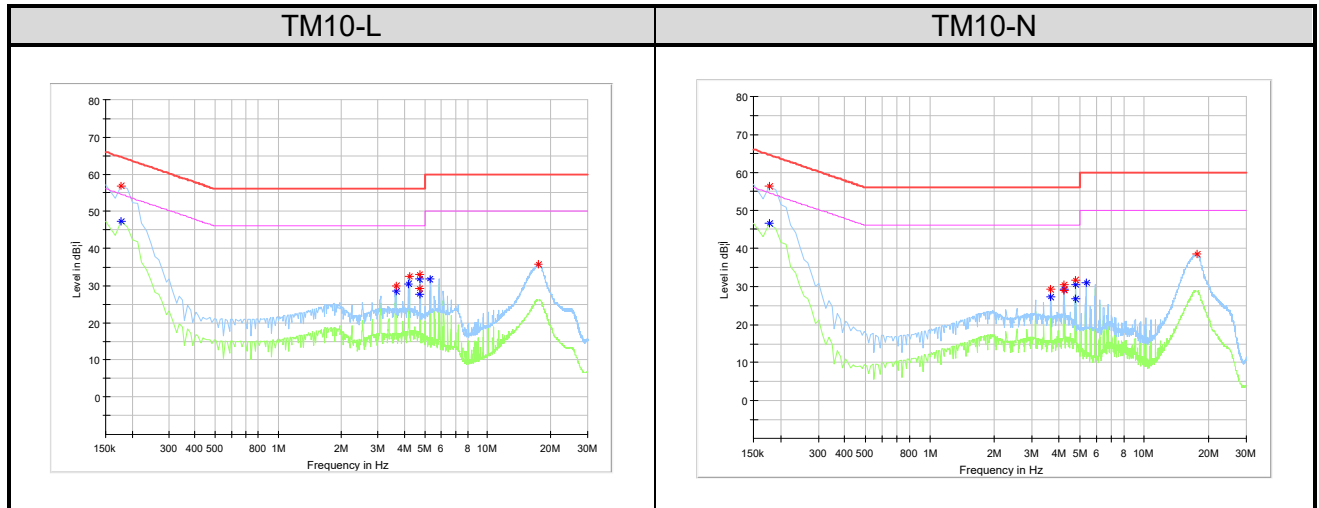



5.2 Emission in the Frequency Range up to 30MHz

5.2.1 Conducted Emission

RESULT:**Pass**

Date of testing	: 2021-09-29
Ambient temperature	: 26.1°C
Relative humidity	: 32.7%
Atmospheric pressure	: 101kPa
Test requirement	: FCC Part 15.207 (a) RSS-Gen Issue 5, Amendment 2, February 2021, Clause 8.8
Test procedure	: ANSI C63.10: 2013
Test voltage	: AC 120V/60Hz
Test modes applied	: TM13

Figure 9: Conducted Emission


Final Result

Frequency (MHz)	QuasiPeak (dBμV)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Line	Comment
4.745625	29.24	---	56.00	26.76	L1	
3.654375	29.85	---	56.00	26.15	L1	
4.216875	32.51	---	56.00	23.49	L1	
4.768125	33.02	---	56.00	22.98	L1	
17.525625	35.73	---	60.00	24.27	L1	
0.178125	57.00	---	64.57	7.58	L1	
4.205625	---	30.49	46.00	15.51	L1	
5.330625	---	31.75	50.00	18.25	L1	
3.654375	---	28.43	46.00	17.57	L1	
4.745625	---	27.60	46.00	18.40	L1	
0.178125	---	47.36	54.57	7.21	L1	
4.768125	---	31.67	46.00	14.33	L1	
4.216875	28.87	---	56.00	27.13	N	
3.676875	29.12	---	56.00	26.88	N	
4.239375	30.44	---	56.00	25.56	N	
4.801875	31.78	---	56.00	24.22	N	
17.683125	38.57	---	60.00	21.43	N	
0.178125	56.42	---	64.57	8.15	N	
4.801875	---	30.59	46.00	15.41	N	
5.375625	---	31.09	50.00	18.91	N	
0.178125	---	46.67	54.57	7.90	N	
3.676875	---	27.08	46.00	18.92	N	
4.779375	---	26.73	46.00	19.27	N	
4.239375	---	29.29	46.00	16.71	N	

5.3 Emission in the Frequency Range above 30MHz

5.3.1 Radiated Band-Edge

RESULT:**Pass**

Date of testing	:	2021-08-30
Ambient temperature	:	26.1°C
Relative humidity	:	32.7%
Atmospheric pressure	:	101kPa
Test requirement	:	FCC Part 15.247(d) FCC Part 15.205(a) FCC Part 15.209(a) RSS-Gen Issue 5, Amendment 2, February 2021, Clause 8.9 RSS-Gen Issue 5, Amendment 2, February 2021, Clause 8.10 RSS-247 Issue 2, February 2017, Clause 5.5
Test procedure	:	ANSI C63.10: 2013
Test voltage	:	DC 5V
Test modes applied	:	TM1, TM3, TM4, TM6

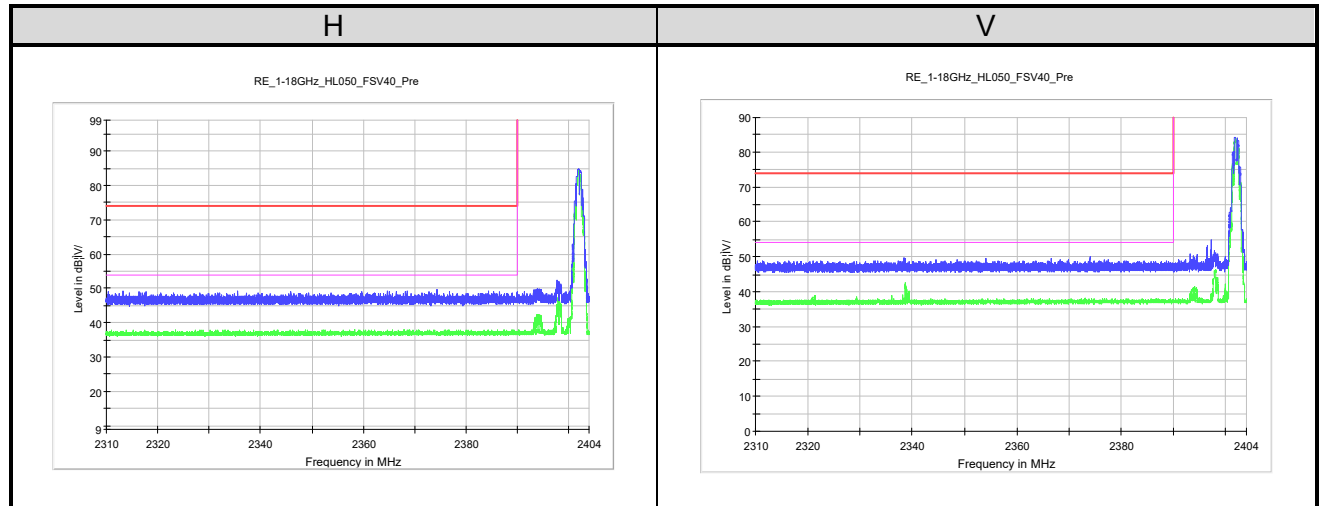
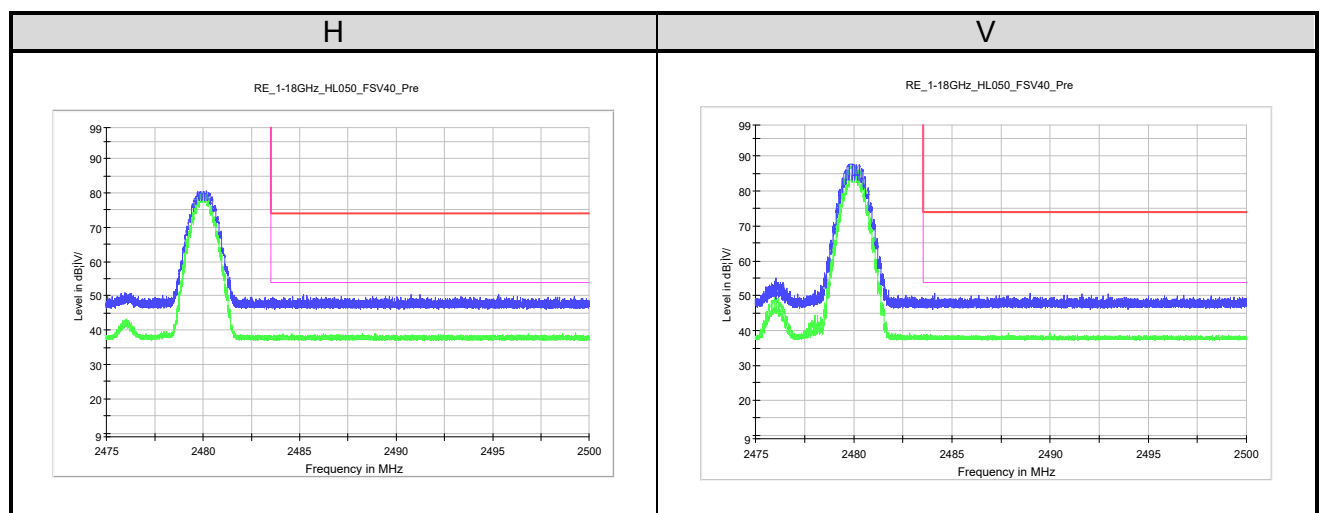
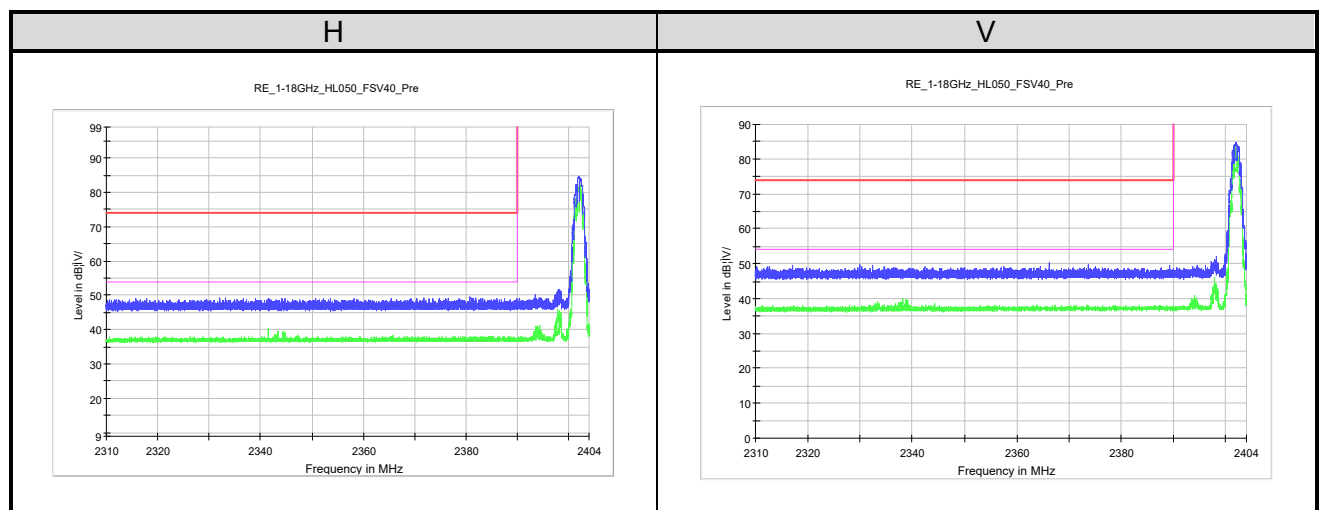
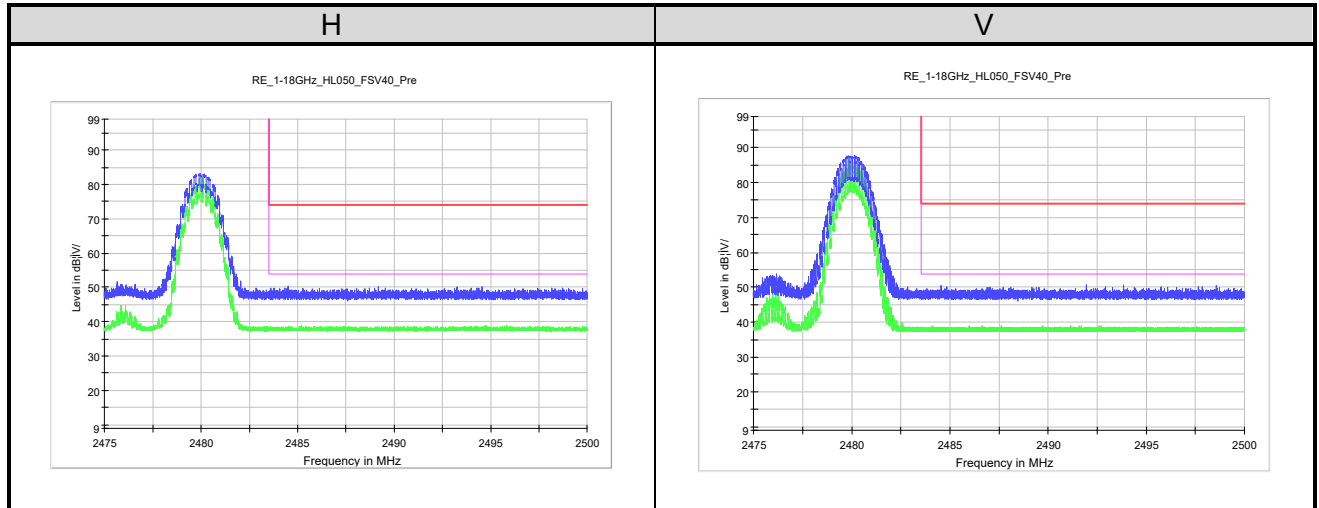
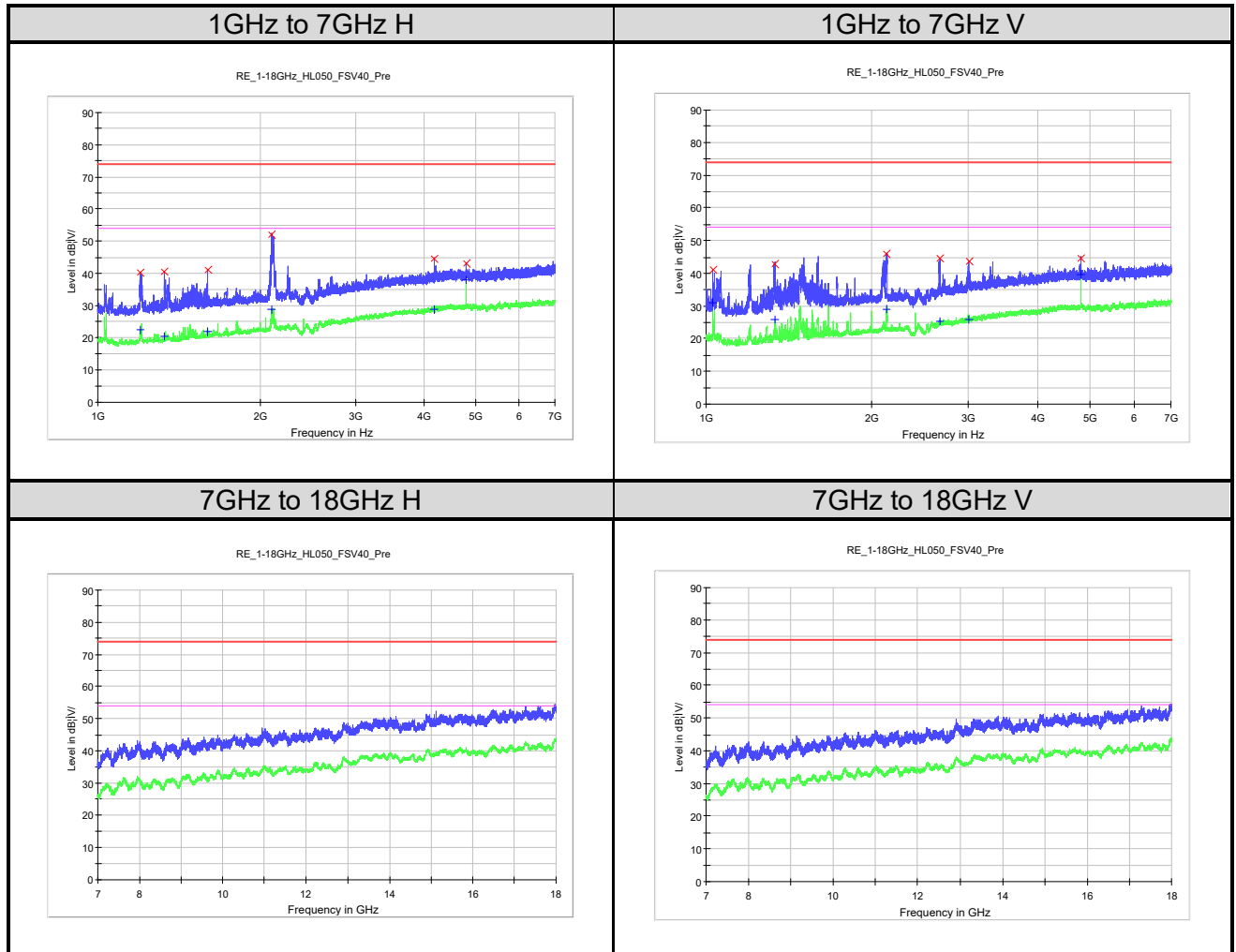
Figure 10: Radiated Band-Edge, TM1

Figure 11: Radiated Band-Edge, TM3

Figure 12: Radiated Band-Edge, TM4


Figure 13: Radiated Band-Edge, TM6


5.3.2 Radiated Spurious Emission

RESULT:**Pass**

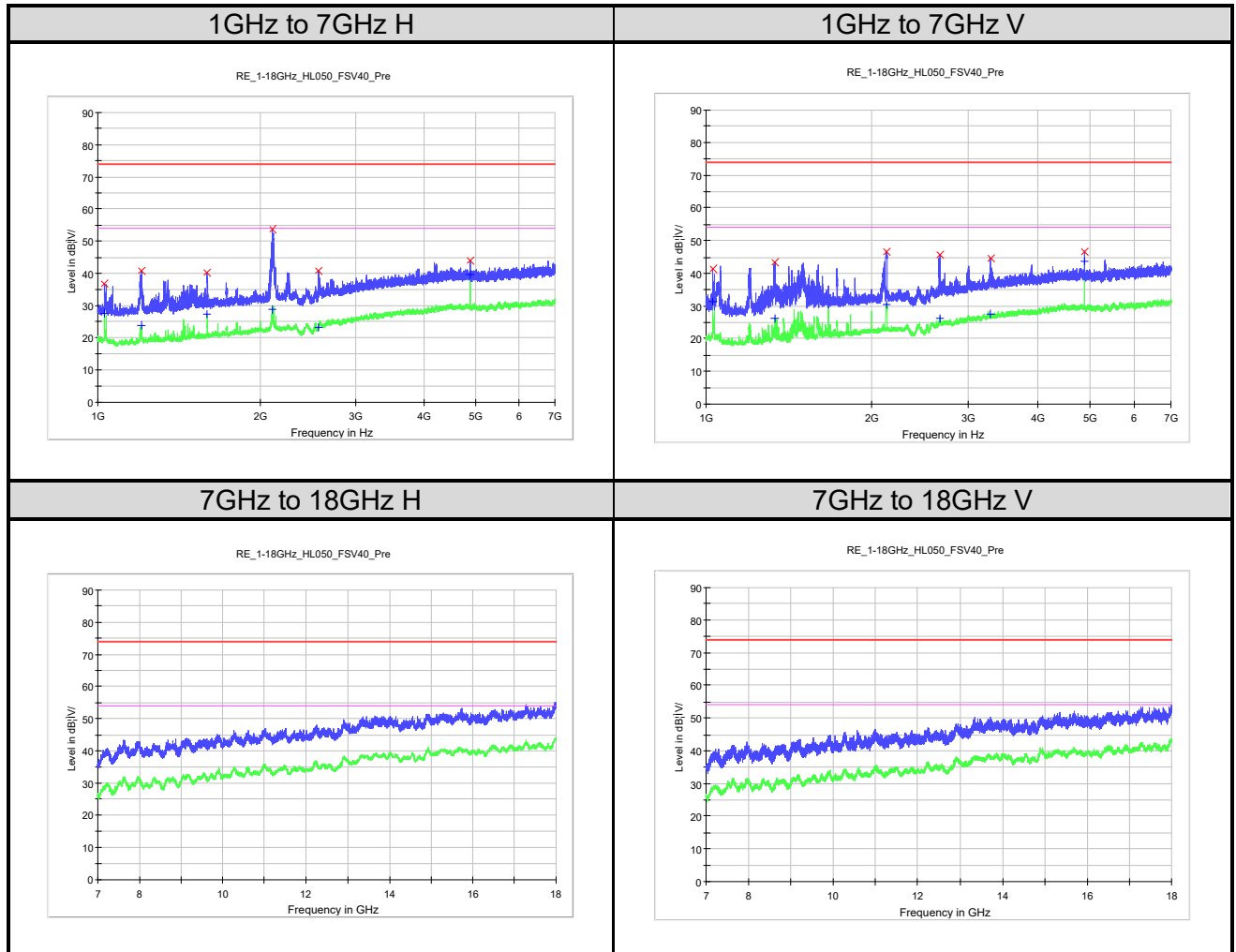
Date of testing	:	2021-09-13 ~2021-09-22
Ambient temperature	:	23.2°C
Relative humidity	:	38.5%
Atmospheric pressure	:	101kPa
Test requirement	:	FCC Part 15.247(d) FCC Part 15.209(a) RSS-Gen Issue 5, Amendment 2, February 2021, Clause 8.9 RSS-247 Issue 2, February 2017, Clause 5.5
Test procedure	:	ANSI C63.10: 2013
Test voltage	:	DC 5V
Test modes applied	:	TM1 to TM6
Kind of test site	:	3m Anechoic Chamber

Figure 14: Radiated Spurious Emission, TM1, 1GHz to 18GHz

Limit and Margin
PK

Frequency (MHz)	MaxPeak (dBμV/m)	Pol	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBμV/m)
1196.875000	40.2	H	-21.3	33.8	74.0
1326.625000	40.5	H	-20.2	33.5	74.0
1597.000000	41.0	H	-18.3	33.0	74.0
2096.875000	52.0	H	-15.9	22.0	74.0
4189.375000	44.7	H	-7.5	29.3	74.0
4804.000000	43.0	H	-6.5	31.0	74.0
1028.500000	41.0	V	-22.3	33.0	74.0
1332.250000	42.9	V	-20.2	31.1	74.0
2123.125000	45.9	V	-15.8	28.1	74.0
2658.250000	44.5	V	-13.3	29.5	74.0
3010.000000	43.7	V	-11.7	30.3	74.0
4803.625000	44.7	V	-6.5	29.3	74.0

AV

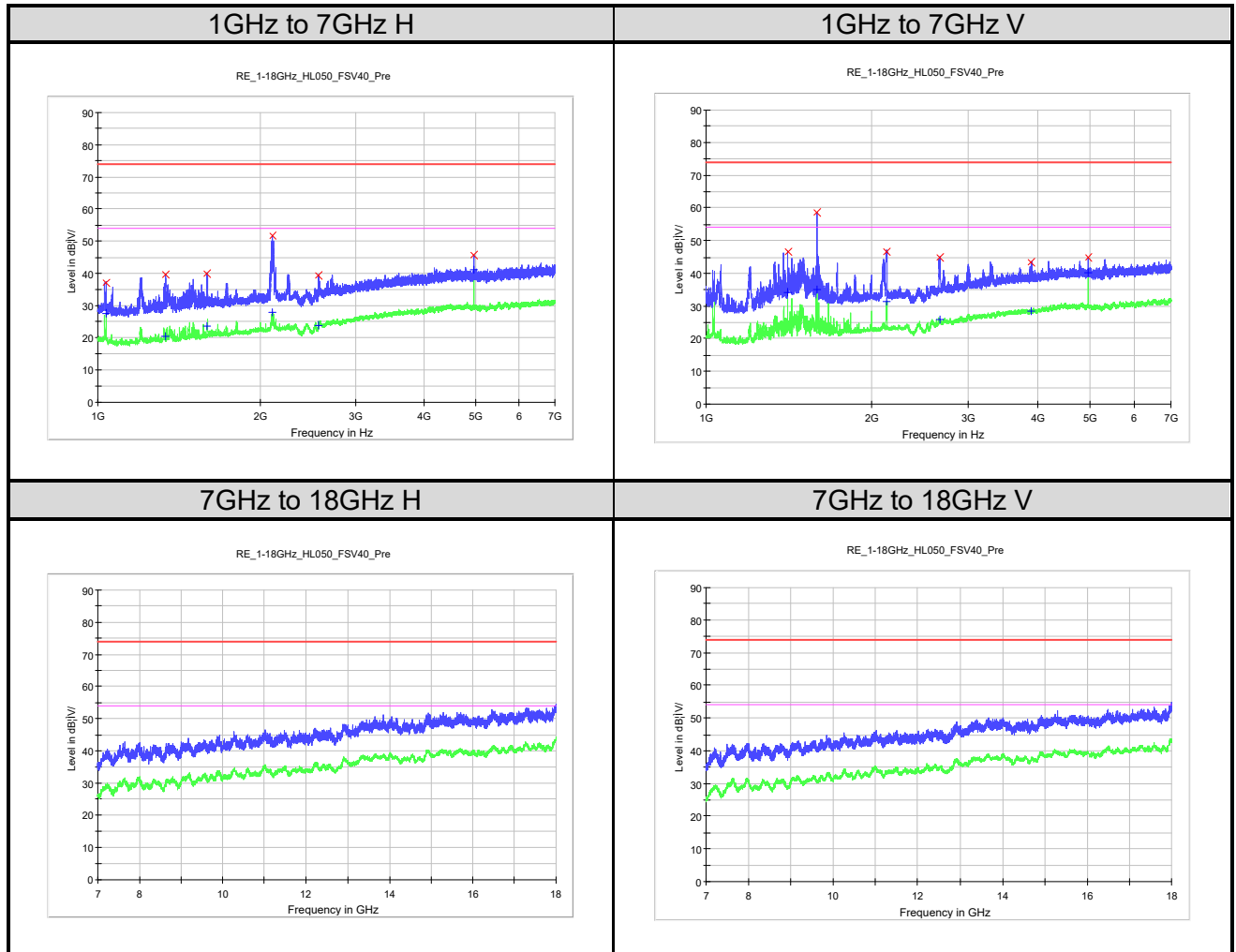
Frequency (MHz)	Average (dBµV/m)	Pol	Corr. (dB/m)	Margin - AVG (dB)	Limit - AVG (dBµV/m)
1196.875000	22.3	H	-21.3	31.7	54.0
1326.625000	20.3	H	-20.2	33.7	54.0
1597.000000	21.9	H	-18.3	32.1	54.0
2096.875000	28.7	H	-15.9	25.3	54.0
4189.375000	28.8	H	-7.5	25.2	54.0
4804.000000	38.0	H	-6.5	16.0	54.0
1028.500000	31.1	V	-22.3	22.9	54.0
1332.250000	25.9	V	-20.2	28.1	54.0
2123.125000	29.1	V	-15.8	24.9	54.0
2658.250000	25.3	V	-13.3	28.7	54.0
3010.000000	25.9	V	-11.7	28.1	54.0
4803.625000	39.7	V	-6.5	14.3	54.0

Figure 15: Radiated Spurious Emission, TM2, 1GHz to 18GHz

Limit and Margin
PK

Frequency (MHz)	MaxPeak (dBμV/m)	Pol	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBμV/m)
1028.875000	36.8	H	-22.3	37.2	74.0
1203.250000	40.7	H	-21.2	33.3	74.0
1592.500000	40.2	H	-18.4	33.8	74.0
2105.875000	53.7	H	-15.9	20.3	74.0
2555.875000	40.9	H	-13.9	33.1	74.0
4881.625000	43.9	H	-6.5	30.1	74.0
1028.875000	41.3	V	-22.3	32.7	74.0
1332.625000	43.5	V	-20.2	30.5	74.0
2123.125000	46.7	V	-15.8	27.3	74.0
2660.500000	45.6	V	-13.3	28.4	74.0
3292.750000	44.6	V	-10.4	29.4	74.0
4882.000000	46.7	V	-6.5	27.3	74.0

AV

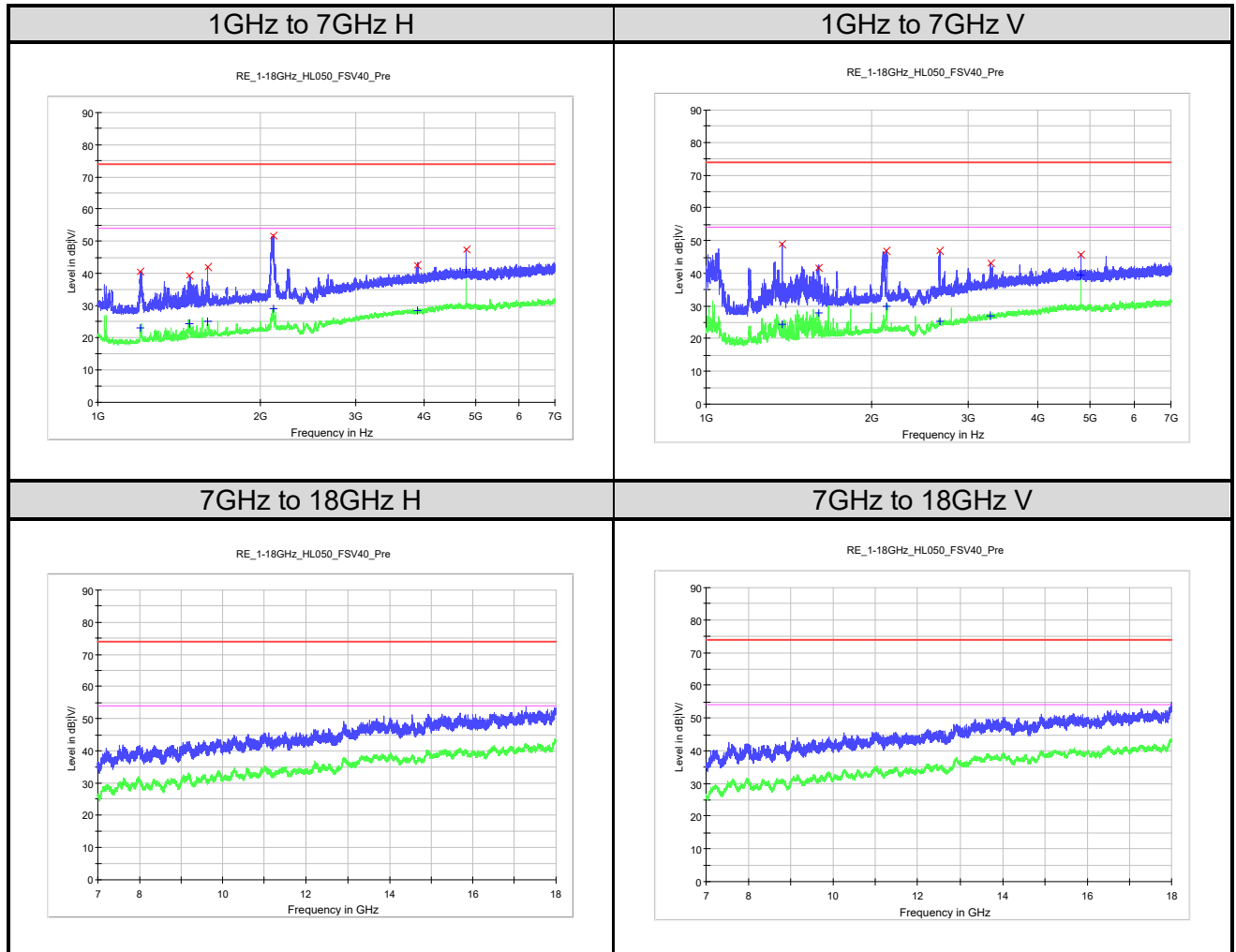
Frequency (MHz)	Average (dBµV/m)	Pol	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBµV/m)
1028.875000	27.6	H	-22.3	26.4	54.0
1203.250000	23.8	H	-21.2	30.2	54.0
1592.500000	27.2	H	-18.4	26.8	54.0
2105.875000	28.8	H	-15.9	25.2	54.0
2555.875000	23.3	H	-13.9	30.7	54.0
4881.625000	39.8	H	-6.5	14.2	54.0
1028.875000	31.3	V	-22.3	22.7	54.0
1332.625000	26.2	V	-20.2	27.8	54.0
2123.125000	30.4	V	-15.8	23.6	54.0
2660.500000	26.3	V	-13.3	27.7	54.0
3292.750000	27.6	V	-10.4	26.4	54.0
4882.000000	43.7	V	-6.5	10.3	54.0

Figure 16: Radiated Spurious Emission, TM3, 1GHz to 18GHz

Limit and Margin
PK

Frequency (MHz)	MaxPeak (dBμV/m)	Pol	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBμV/m)
1035.250000	37.2	H	-22.3	36.8	74.0
1330.750000	39.6	H	-20.2	34.4	74.0
1592.875000	40.1	H	-18.4	33.9	74.0
2105.875000	51.7	H	-15.9	22.3	74.0
2557.375000	39.4	H	-13.9	34.6	74.0
4959.625000	45.6	H	-6.6	28.4	74.0
1408.375000	46.7	V	-19.6	27.3	74.0
1592.500000	58.6	V	-18.4	15.4	74.0
2125.000000	46.7	V	-15.8	27.3	74.0
2658.250000	45.0	V	-13.3	29.0	74.0
3892.000000	43.3	V	-8.7	30.7	74.0
4960.000000	44.8	V	-6.6	29.2	74.0

AV

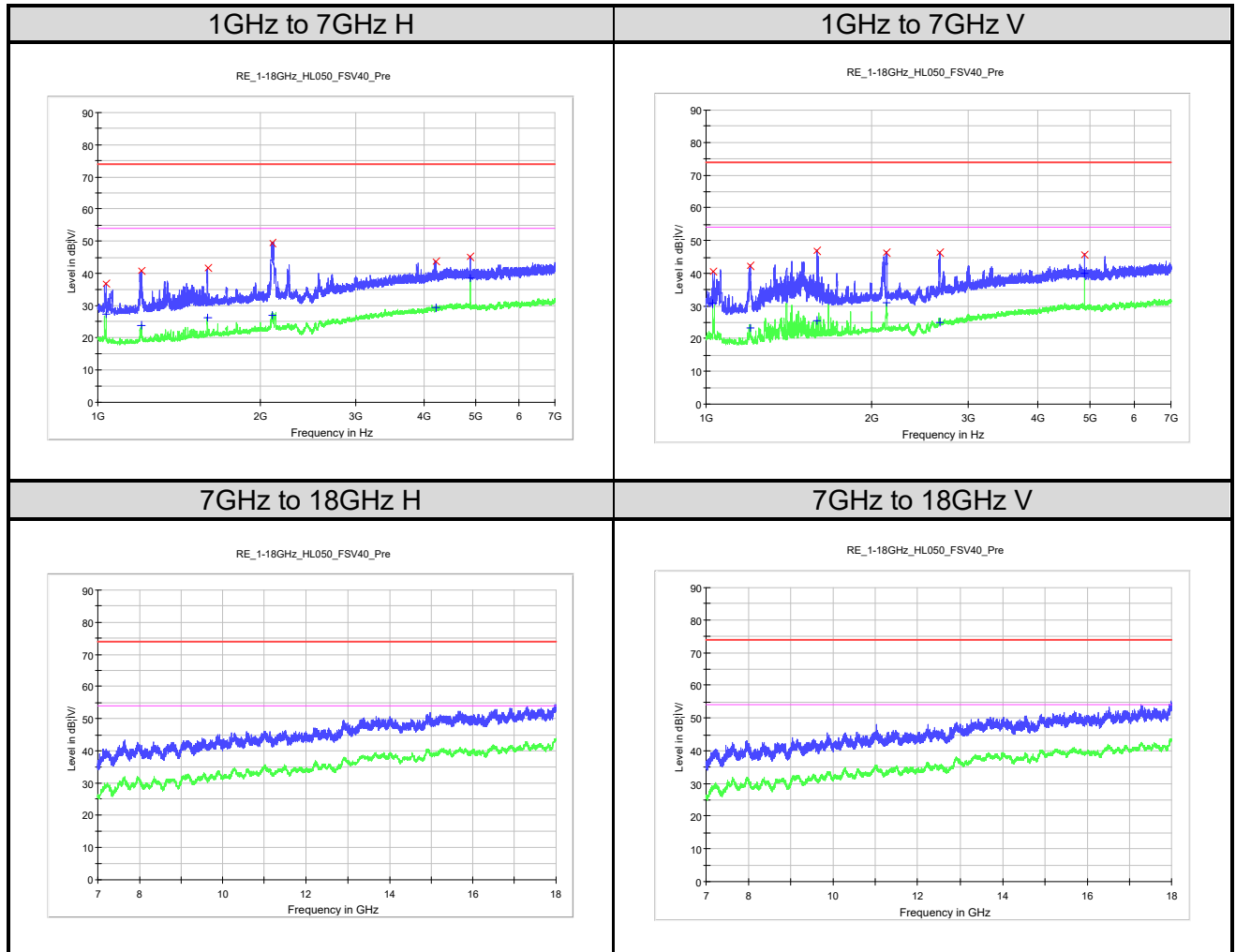
Frequency (MHz)	Average (dBµV/m)	Pol	Corr. (dB/m)	Margin - AVG (dB)	Limit - AVG (dBµV/m)
1035.250000	27.5	H	-22.3	26.5	54.0
1330.750000	20.5	H	-20.2	33.5	54.0
1592.875000	23.5	H	-18.4	30.5	54.0
2105.875000	27.8	H	-15.9	26.2	54.0
2557.375000	23.8	H	-13.9	30.2	54.0
4959.625000	41.1	H	-6.6	12.9	54.0
1408.375000	34.3	V	-19.6	19.7	54.0
1592.500000	35.0	V	-18.4	19.0	54.0
2125.000000	31.4	V	-15.8	22.6	54.0
2658.250000	25.8	V	-13.3	28.2	54.0
3892.000000	28.5	V	-8.7	25.5	54.0
4960.000000	40.3	V	-6.6	13.7	54.0

Figure 17: Radiated Spurious Emission, TM4, 1GHz to 18GHz

Limit and Margin
PK

Frequency (MHz)	MaxPeak (dBµV/m)	Pol	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBµV/m)
1196.875000	40.5	H	-21.3	33.5	74.0
1474.750000	39.3	H	-19.1	34.7	74.0
1599.250000	41.9	H	-18.3	32.1	74.0
2107.375000	51.8	H	-15.9	22.2	74.0
3892.375000	42.6	H	-8.7	31.4	74.0
4803.625000	47.5	H	-6.5	26.5	74.0
1374.250000	48.8	V	-19.9	25.2	74.0
1601.125000	41.6	V	-18.3	32.4	74.0
2126.875000	46.8	V	-15.8	27.2	74.0
2663.125000	46.8	V	-13.3	27.2	74.0
3286.375000	43.1	V	-10.4	30.9	74.0
4804.000000	45.6	V	-6.5	28.4	74.0

AV

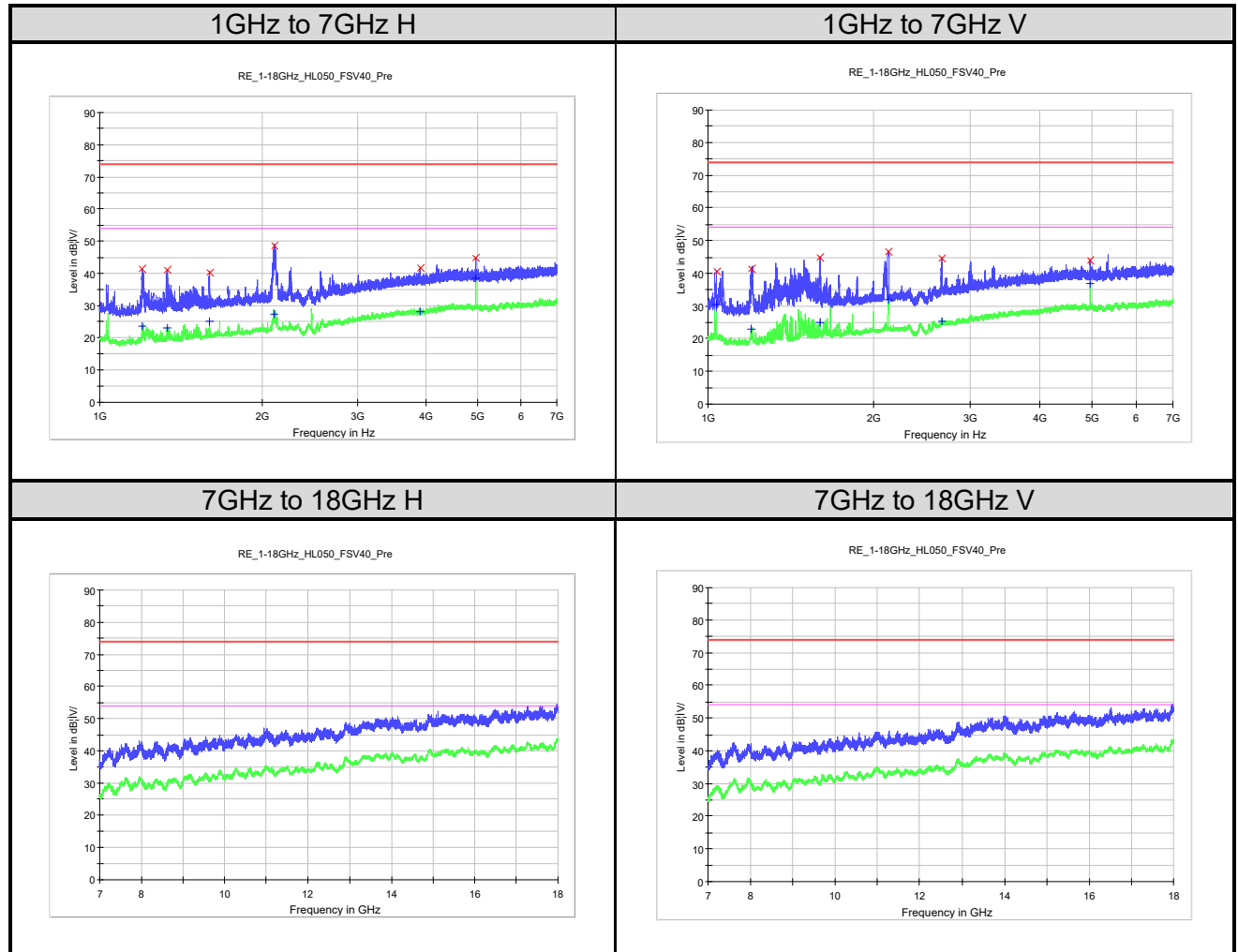
Frequency (MHz)	Average (dBµV/m)	Pol	Corr. (dB/m)	Margin - AVG (dB)	Limit - AVG (dBµV/m)
1196.875000	23.1	H	-21.3	30.9	54.0
1474.750000	24.3	H	-19.1	29.7	54.0
1599.250000	25.1	H	-18.3	28.9	54.0
2107.375000	29.1	H	-15.9	24.9	54.0
3892.375000	28.4	H	-8.7	25.6	54.0
4803.625000	41.0	H	-6.5	13.0	54.0
1374.250000	24.3	V	-19.9	29.7	54.0
1601.125000	27.8	V	-18.3	26.2	54.0
2126.875000	29.8	V	-15.8	24.2	54.0
2663.125000	25.3	V	-13.3	28.7	54.0
3286.375000	26.9	V	-10.4	27.1	54.0
4804.000000	39.5	V	-6.5	14.5	54.0

Figure 18: Radiated Spurious Emission, TM5, 1GHz to 18GHz

Limit and Margin
PK

Frequency (MHz)	MaxPeak (dBμV/m)	Pol	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBμV/m)
1034.875000	36.8	H	-22.3	37.2	74.0
1203.250000	40.7	H	-21.2	33.3	74.0
1597.375000	41.7	H	-18.3	32.3	74.0
2106.250000	49.6	H	-15.9	24.4	74.0
4207.750000	43.8	H	-7.5	30.2	74.0
4881.625000	45.1	H	-6.5	28.9	74.0
1028.500000	40.5	V	-22.3	33.5	74.0
1204.000000	42.2	V	-21.2	31.8	74.0
1592.875000	47.0	V	-18.4	27.0	74.0
2123.500000	46.4	V	-15.8	27.6	74.0
2665.375000	46.2	V	-13.3	27.8	74.0
4881.625000	45.6	V	-6.5	28.4	74.0

AV

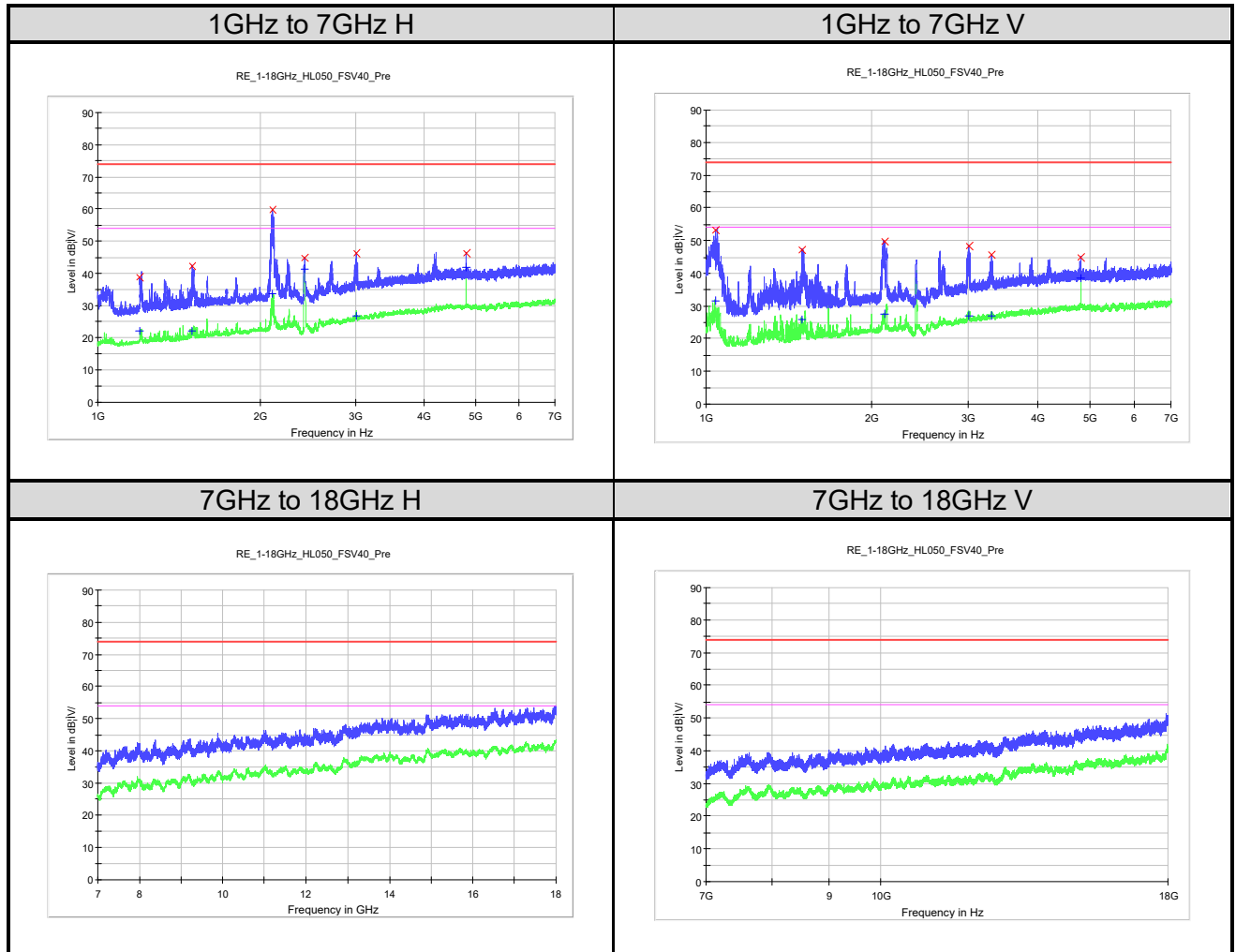
Frequency (MHz)	Average (dBµV/m)	Pol	Corr. (dB/m)	Margin - AVG (dB)	Limit - AVG (dBµV/m)
1034.875000	27.4	H	-22.3	26.6	54.0
1203.250000	24.0	H	-21.2	30.0	54.0
1597.375000	26.3	H	-18.3	27.7	54.0
2106.250000	27.0	H	-15.9	27.0	54.0
4207.750000	29.3	H	-7.5	24.7	54.0
4881.625000	38.6	H	-6.5	15.4	54.0
1028.500000	30.9	V	-22.3	23.1	54.0
1204.000000	23.2	V	-21.2	30.8	54.0
1592.875000	25.6	V	-18.4	28.4	54.0
2123.500000	31.0	V	-15.8	23.0	54.0
2665.375000	25.1	V	-13.3	28.9	54.0
4881.625000	39.9	V	-6.5	14.1	54.0

Figure 19: Radiated Spurious Emission, TM6, 1GHz to 18GHz

Limit and Margin
PK

Frequency (MHz)	MaxPeak (dBμV/m)	Pol	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBμV/m)
1197.625000	41.4	H	-21.3	32.6	74.0
1330.750000	41.0	H	-20.2	33.0	74.0
1598.875000	40.3	H	-18.3	33.7	74.0
2106.250000	48.7	H	-15.9	25.3	74.0
3908.875000	41.6	H	-8.7	32.4	74.0
4960.000000	45.0	H	-6.6	29.0	74.0
1034.875000	40.5	V	-22.3	33.5	74.0
1196.500000	41.5	V	-21.3	32.5	74.0
1593.625000	44.9	V	-18.4	29.1	74.0
2124.625000	46.5	V	-15.8	27.5	74.0
2658.250000	44.5	V	-13.3	29.5	74.0
4960.375000	44.0	V	-6.6	30.0	74.0

AV

Frequency (MHz)	Average (dBµV/m)	Pol	Corr. (dB/m)	Margin - AVG (dB)	Limit - AVG (dBµV/m)
1197.625000	23.7	H	-21.3	30.3	54.0
1330.750000	23.0	H	-20.2	31.0	54.0
1598.875000	25.1	H	-18.3	28.9	54.0
2106.250000	27.4	H	-15.9	26.6	54.0
3908.875000	28.3	H	-8.7	25.7	54.0
4960.000000	38.6	H	-6.6	15.4	54.0
1034.875000	30.6	V	-22.3	23.4	54.0
1196.500000	23.1	V	-21.3	30.9	54.0
1593.625000	25.0	V	-18.4	29.0	54.0
2124.625000	32.0	V	-15.8	22.0	54.0
2658.250000	25.4	V	-13.3	28.6	54.0
4960.375000	36.9	V	-6.6	17.1	54.0

Figure 20: Radiated Spurious Emission, TM14, 1GHz to 18GHz


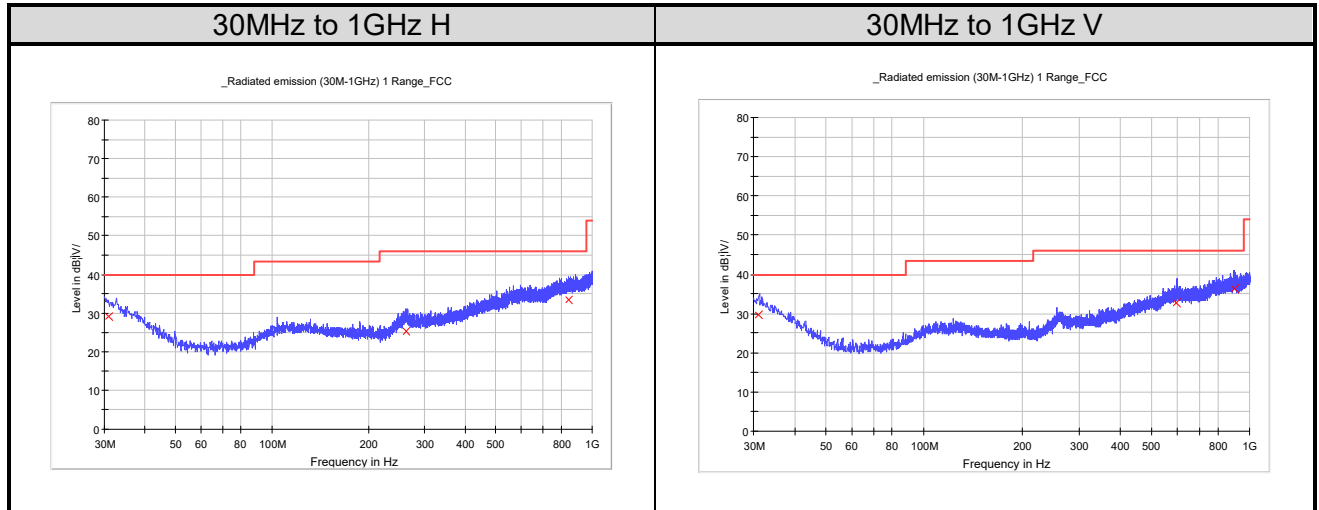
Note: The configuration of this co-location transmitting mode is Module EW-BLED-26 operating in 2DH5 CH39 and Module AP6236 operating in 802.11b CH1.

Limit and Margin
PK

Frequency (MHz)	MaxPeak (dBμV/m)	Pol	Corr. (dB/m)	Margin - PK+ (dB)	Limit - PK+ (dBμV/m)
1195.750000	38.9	H	-21.3	35.1	74.0
1496.125000	42.2	H	-18.9	31.8	74.0
2106.250000	59.8	H	-15.9	14.2	74.0
2409.625000	45.0	H	-14.4	29.0	74.0
3008.500000	46.3	H	-11.7	27.7	74.0
4804.375000	46.4	H	-6.5	27.6	74.0
1039.750000	53.2	V	-22.2	20.8	74.0
1495.000000	47.2	V	-18.9	26.8	74.0
2108.125000	49.7	V	-15.9	24.3	74.0
3008.500000	48.4	V	-11.7	25.6	74.0
3308.500000	45.8	V	-10.3	28.2	74.0
4804.000000	45.0	V	-6.5	29.0	74.0

AV

Frequency (MHz)	Average (dBµV/m)	Pol	Corr. (dB/m)	Margin - AVG (dB)	Limit - AVG (dBµV/m)
1195.750000	22.2	H	-21.3	31.8	54.0
1496.125000	22.1	H	-18.9	31.9	54.0
2106.250000	33.6	H	-15.9	20.4	54.0
2409.625000	41.5	H	-14.4	12.5	54.0
3008.500000	26.8	H	-11.7	27.2	54.0
4804.375000	42.1	H	-6.5	11.9	54.0
1039.750000	31.7	V	-22.2	22.3	54.0
1495.000000	26.0	V	-18.9	28.0	54.0
2108.125000	27.7	V	-15.9	26.3	54.0
3008.500000	27.1	V	-11.7	26.9	54.0
3308.500000	27.1	V	-10.3	26.9	54.0
4804.000000	38.5	V	-6.5	15.5	54.0

Figure 21: Radiated Spurious Emission, Worst case below 1GHz and above 18GHz, TM4

Limit and Margin
QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Pol	Corr. (dB/m)	Margin - QPK (dB)	Limit - QPK (dBµV/m)
30.970000	29.2	H	24.9	10.8	40.0
262.315000	25.3	H	20.7	20.7	46.0
844.557500	33.5	H	27.7	12.5	46.0
31.091250	29.7	V	24.9	10.3	40.0
598.298750	32.8	V	26.2	13.2	46.0
897.058750	36.2	V	28.4	9.8	46.0

Note: For the frequencies 18GHz to 25GHz, no emission was found.

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