Targus International LLC

TEST REPORT

SCOPE OF WORK
FCC TESTING– MODEL: AKP14R

REPORT NUMBER
260212067SZN-001

ISSUE DATE
03 APRIL 2026

PAGES
28

DOCUMENT CONTROL NUMBER
FCC ID 249_C

Targus International LLC

Application for Certification

FCC ID: OXM000163

Wireless Receiver

Model: AKP14R

Brand Name: Targus

2.4GHz Transmitter

Report No.: 260212067SZN-001

We hereby certify that the sample of the above item is considered to comply with the requirements of FCC Part 15, Subpart C for Intentional Radiator, mention 47 CFR [10-1-24]

Prepared and Checked by:

Mandy Chen
Engineer

Approved by:

Johnny Wang
Project Engineer
Date: 03 April 2026

MEASUREMENT/TECHNICAL REPORT

This report concerns (check one:) Original Grant _X_ Class II Change _____

Equipment Type: DXX - Part 15 Low Power Communication Device Transmitter

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Deferred grant requested per 47 CFR 0.457(d)(1)(ii)? Yes _____ No __X__

If yes, defer until: _____
date

Company Name agrees to notify the Commission by: _____
date
of the intended date of announcement of the product so that the grant can be issued on that date.

Transition Rules Request per 15.37? Yes _____ No __X__

If no, assumed Part 15, Subpart C for intentional radiator – the new 47 CFR [10-1-24 Edition] provision.

Report prepared by:

Mandy Chen
Intertek Testing Services Shenzhen Ltd. Longhua Branch
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GuanHu Subdistrict, LongHua District, Shenzhen, People's Republic of China
Tel / Fax: 86-755-8601 6752

Table of Contents

1.0 Summary of Test Result

Applicant: Targus International LLC
Applicant Address: 1211 North Miller Street, Anaheim, CA 92806 USA
Manufacturer: Targus International LLC
Manufacturer Address: 1211 North Miller Street, Anaheim, CA 92806 USA

MODEL: AKP14R

FCC ID: OXM000163

Test Specification	Reference	Results
Transmitter Radiated Emission Band edge	15.249 &15.209 &15.205	Pass
Conducted Emission	15.207	Pass
20dB Bandwidth	15.215(c)	Pass

Notes: The EUT uses an Integral Antenna which in accordance to Section 15.203 is considered sufficient to comply with the provisions of this section.

2.0 General Description

2.1 Product Description

The equipment under test (EUT) is a Wireless Receiver with 2.4GHz function operating in 2405-2470MHz. The EUT can be powered by DC 5V. For more detail information pls. refer to the user manual.

Antenna Type: Integral antenna
Modulation Type: GFSK
Antenna Gain: -1.66 dBi (This information is provided by applicant, and the applicant is responsible for the authenticity of the provided information.)

For electronic filing, the brief circuit description is saved with filename: descri.pdf.

2.2 Related Submittal(s) Grants

This is an application for certification of controller unit for the Wireless Receiver which has 2.4G function. Other digital functions were reported in the SDOC report: 260212063SZN-005.

2.3 Test Methodology

Both AC mains line-conducted and radiated emission measurements were performed according to the procedures in ANSI C63.10 (2020). Radiated emission measurement was performed in Semi-anechoic chamber and conducted emission measurement was performed in shield room. For radiated emission measurement, preliminary scans were performed in the semi-anechoic chamber only to determine the worst-case modes. All radiated tests were performed at an antenna to EUT distance of 3 meters, unless stated otherwise in the "Justification Section" of this Application. All other measurements were made in accordance with the procedures in part 2 of CFR 47.

2.4 Test Facility

The Semi-Anechoic chamber and shield room used to collect the radiated data and conducted data are Intertek Testing Services Shenzhen Ltd. Longhua Branch and located at 101, 201, Building B, No. 308 Wuhe Avenue, Zhangkengjing Community, GuanHu Subdistrict, LongHua District, ShenZhen, P.R. China. This test facility and site measurement data have been fully placed on file with the FCC (Registration Number: CN1188).

3.0 System Test Configuration

3.1 Justification

The system was configured for testing in a typical fashion (as a customer would normally use it), and in the confines as outlined in ANSI C63.10 (2020).

The EUT was powered by DC 5V during the test, only the worst data was reported in this report.

For maximizing emissions below 30 MHz, the EUT was rotated through 360°, the bottom of the loop antenna was placed 1 meter above the ground, and the antenna polarization was changed. For maximizing emissions, the EUT was rotated through 360°, the antenna height was varied from 1 meter to 4 meters above the ground plane, and the antenna polarization was changed. This step by step procedure for maximizing emissions led to the data reported in Section 4.

The EUT and transmitting antenna was centered on the turntable.

The equipment under test (EUT) was configured for testing in a typical fashion (as a customer would normally use it). The EUT was placed on a turn table, which enabled the engineer to maximize emissions through its placement in the three orthogonal axes.

3.2 EUT Exercising Software

The EUT exercise program (provided by client) used during radiated and conducted testing was designed to exercise the various system components in a manner similar to a typical use. The worst case configuration is used in all specified testing.

The parameters of test software setting:
During the test, Channel and power controlling software provided by the applicant was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the application and is going to be fixed on the firmware of the end product.

Test Software: dongle_hid_emi_tool_1.0.3

3.3 Special Accessories

No special accessories used.

3.4 Equipment Modification

Any modifications installed previous to testing by Targus International LLC will be incorporated in each production model sold / leased in the United States.

No modifications were installed by Intertek Testing Services Shenzhen Ltd Longhua Branch.

3.5 Measurement Uncertainty

When determining the test conclusion, the Measurement Uncertainty of test has been considered.

Measurement Uncertainty	Uncertainty
Occupied Channel Bandwidth	±3.46%
Conducted Unwanted Emission	±0.55dB
Spurious emission (above 18GHz)	±5.3dB
Spurious emission (6GHz to 18GHz)	±5.1dB
Radiated emission (1GHz to 6GHz)	±4.8dB
Radiated emission (Up to 1GHz)	±4.8dB
AC Conducted emission	±3.2 dB
Temperature	±1°C
Humidity	±5%

3.6 Support Equipment List and Description

Description	Manufacturer	Remark
Portable computer	DELL (Provided By Intertek)	Model: Latitude 5420
AC Adapter	DELL (Provided By Intertek)	Model: LA65NM190 LPS Input: 100-240V~, 50/60Hz, 1.7A Output: 5.0V⎓3.0A, 9.0V⎓3.0A, 15.0V⎓3.0A, 20V⎓3.25A

4.0 Emission Results

Data is included worst-case configuration (the configuration which resulted in the highest emission levels).

4.1 Radiated Test Results

A sample calculation, configuration photographs and data tables of the emissions are included.

4.1.1 Field Strength Calculation

The field strength is calculated by adding the reading on the Spectrum Analyzer to the factors associated with preamplifiers (if any), antennas, cables, pulse desensitization and average factors (when specified limit is in average and measurements are made with peak detectors). A sample calculation is included below.

FS = RA + AF + CF - AG + PD + AV

Where FS = Field Strength in dBµV/m
RA = Receiver Amplitude (including preamplifier) in dBµV
CF = Cable Attenuation Factor in dB
AF = Antenna Factor in dB/m
AG = Amplifier Gain in dB
PD = Pulse Desensitization in dB
AV = Average Factor in -dB

In the radiated emission table which follows, the reading shown on the data table may reflect the preamplifier gain. An example of the calculations, where the reading does not reflect the preamplifier gain, follows:

FS = RA + AF + CF - AG + PD + AV

Assume a receiver reading of 62.0 dBµV is obtained. The antenna factor of 7.4 dB/m and cable factor of 1.6 dB is added. The amplifier gain of 29 dB is subtracted. The pulse desensitization factor of the spectrum analyzer was 0 dB, and the resultant average factor was -10 dB. The net field strength for comparison to the appropriate emission limit is 32 dBµV/m. This value in dBµV/m was converted to its corresponding level in µV/m.
RA = 62.0 dBµV
AF = 7.4 dB/m
CF = 1.6 dB
AG = 29.0 dB
PD = 0 dB
AV = -10 dB
FS = 62 + 7.4 + 1.6 - 29 + 0 = 42 dBµV/m

Level in µV/m = Common Antilogarithm [(42 dBµV/m)/20] = 125.9 µV/m

4.1.2 Radiated Emission Configuration Photograph

For electronic filing, the worst case radiated emission configuration photograph is saved with filename: radiated photos. pdf.

4.1.3 Radiated Emissions

The data on the following page lists the significant emission frequencies, the limit and the margin of compliance. Numbers with a minus sign are below the limit.

Worst Case Radiated Emission
at
942.026333 MHz

Judgement: Passed by 13.8 dB

TEST PERSONNEL:

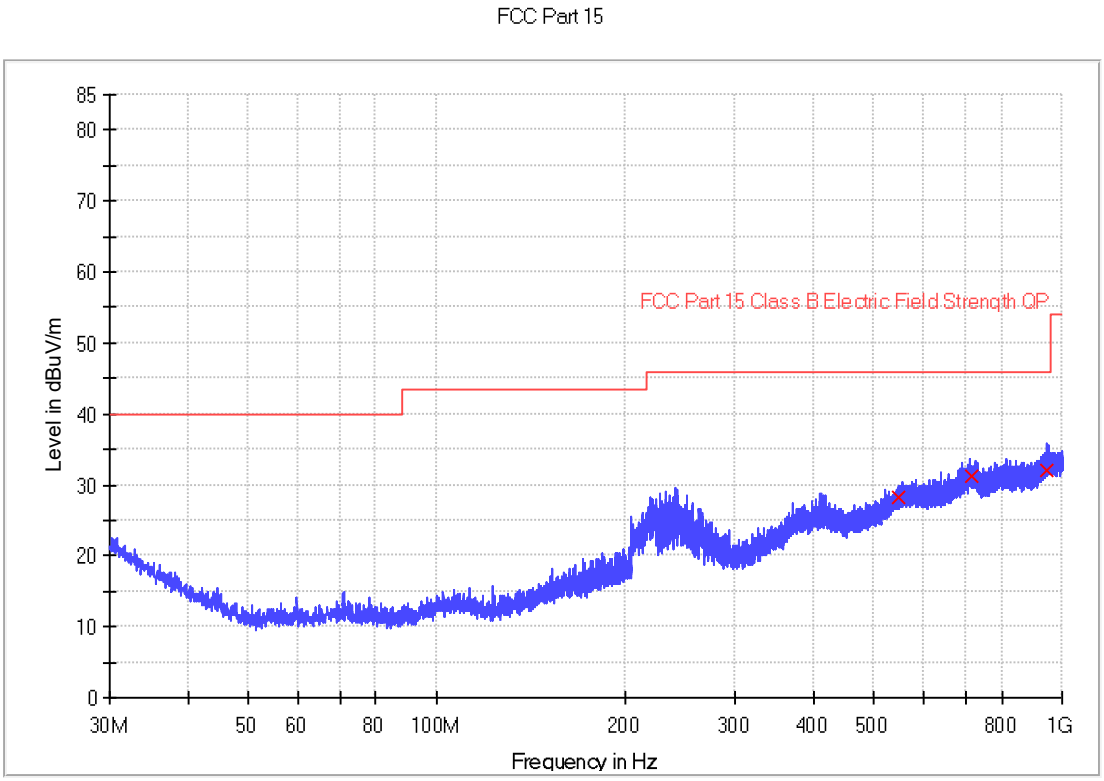
Sign on file

Mandy Chen, Engineer
Typed/Printed Name

19 March 2026
Date

Applicant: Targus International LLC
Date of Test: 19 March 2026 Model: AKP14R
Worst Case Operating Mode: Transmitting(2405MHz)
Modulation type: GFSK

ANT Polarity: Horizontal

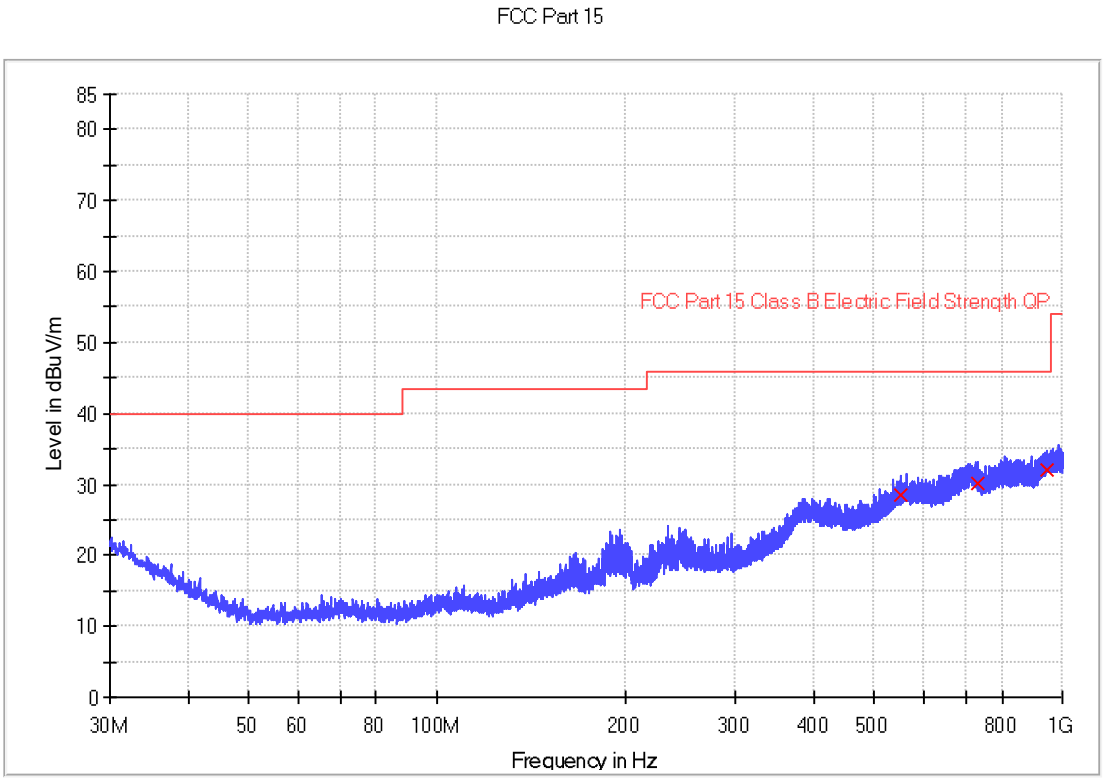


Frequency (MHz)	Quasi Peak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Corr. (dB/m)	Margin - QPK (dB)	Limit – QPK (dBµV/m)
546.945333	28.3	1000.0	120.000	100.0	H	29.1	17.7	46.0
716.663000	31.2	1000.0	120.000	100.0	H	31.1	14.8	46.0
944.613000	32.1	1000.0	120.000	100.0	H	33.7	13.9	46.0

Remark:
1. Corr. (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB)
2. Quasi Peak (dBµV/m) = Corr. (dB/m) + Read Level (dBµV)
3. Margin (dB) = Limit Line (dBµV/m) – Level (dBµV/m)

Applicant: Targus International LLC
Date of Test: 19 March 2026 Model: AKP14R
Worst Case Operating Mode: Transmitting(2405MHz)
Modulation type: GFSK

ANT Polarity: Vertical



Frequency (MHz)	Quasi Peak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Corr. (dB/m)	Margin - QPK (dB)	Limit – QPK (dBµV/m)
550.405000	28.5	1000.0	120.000	100.0	V	29.2	17.5	46.0
729.758000	30.0	1000.0	120.000	100.0	V	31.1	16.0	46.0
942.026333	32.2	1000.0	120.000	100.0	V	33.6	13.8	46.0

Remark:
1. Corr. (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB)
2. Quasi Peak (dBµV/m) = Corr. (dB/m) + Read Level (dBµV)
3. Margin (dB) = Limit Line (dBµV/m) – Level (dBµV/m)

4.1.4 Transmitter Spurious Emissions (Radiated)

Worst Case Radiated Emission
at
2483.500 MHz

For electronic filing, the worst case radiated emission configuration photograph is saved with filename: radiated photos. pdf.

The data on the following page lists the significant emission frequencies, the limit and the margin of compliance. Numbers with a minus sign are below the limit.

Judgement: Passed by 5.4 dB

TEST PERSONNEL:

Sign on file

Mandy Chen, Engineer
Typed/Printed Name

19 March 2026
Date

Applicant: Targus International LLC
Date of Test: 19 March 2026 Model: AKP14R
Worst Case Operating Mode: Transmitting(2405MHz)

Table 1

Radiated Emissions
(2405 MHz)

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB/m)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	2405.000	86.8	36.7	28.1	78.2	114.0	-35.8
Horizontal	4810.000	41.0	36.7	35.5	39.8	74.0	-34.2
Horizontal	9620.000	41.7	36.8	35.6	40.5	74.0	-33.5

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB/m)	Average Factor (-dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	2405.000	86.8	36.7	28.1	15.0	63.2	94.0	-30.8
Horizontal	4810.000	41.0	36.7	35.5	15.0	24.8	54.0	-29.2
Horizontal	9620.000	41.7	36.8	35.6	15.0	25.5	54.0	-28.5

Notes:
1. Peak Detector Data unless otherwise stated.

2. All measurements were made at 3 meter. Harmonic emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative value in the margin column shows emission below limit.

4. Horn antenna is used for the emission over 1000MHz.

Applicant: Targus International LLC
Date of Test: 19 March 2026 Model: AKP14R
Worst Case Operating Mode: Transmitting(2430MHz)

Table 2

Radiated Emissions
(2430 MHz)

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB/m)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	2430.000	87.7	36.7	28.1	79.1	114.0	-34.9
Horizontal	4860.000	41.9	36.7	35.5	40.7	74.0	-33.3
Horizontal	9720.000	44.0	36.8	35.6	42.8	74.0	-31.2

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB/m)	Average Factor (-dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	2430.000	87.7	36.7	28.1	15.0	64.1	94.0	-29.9
Horizontal	4860.000	41.9	36.7	35.5	15.0	25.7	54.0	-28.3
Horizontal	9720.000	44.0	36.8	35.6	15.0	27.8	54.0	-26.2

Notes: 1. Peak Detector Data unless otherwise stated.

2. All measurements were made at 3 meter. Harmonic emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative value in the margin column shows emission below limit.

4. Horn antenna is used for the emission over 1000MHz.

Applicant: Targus International LLC
Date of Test: 19 March 2026 Model: AKP14R
Worst Case Operating Mode: Transmitting(2470MHz)

Table 3

Radiated Emissions
(2470 MHz)

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB/m)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	2470.000	85.4	36.7	28.1	76.8	114.0	-37.2
Horizontal	4940.000	41.7	36.7	35.5	40.5	74.0	-33.5
Horizontal	9880.000	41.2	36.8	35.6	40.0	74.0	-34.0

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB/m)	Average Factor (-dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	2470.000	85.4	36.7	28.1	15.0	61.8	94.0	-32.2
Horizontal	4940.000	41.7	36.7	35.5	15.0	25.5	54.0	-28.5
Horizontal	9880.000	41.2	36.8	35.6	15.0	25.0	54.0	-29.0

Notes:
1. Peak Detector Data unless otherwise stated.

2. All measurements were made at 3 meter. Harmonic emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative value in the margin column shows emission below limit.

4. Horn antenna is used for the emission over 1000MHz.

4.2 Conducted Emission Configuration Photograph

For electronic filing, the worst case radiated emission configuration photographs are saved with filename: conducted photos.pdf.

4.2.1 Conducted Emission

Worst Case Conducted Configuration
at
0.150000MHz

Judgement: Passed by 8.6dB margin

TEST PERSONNEL:

Sign on file

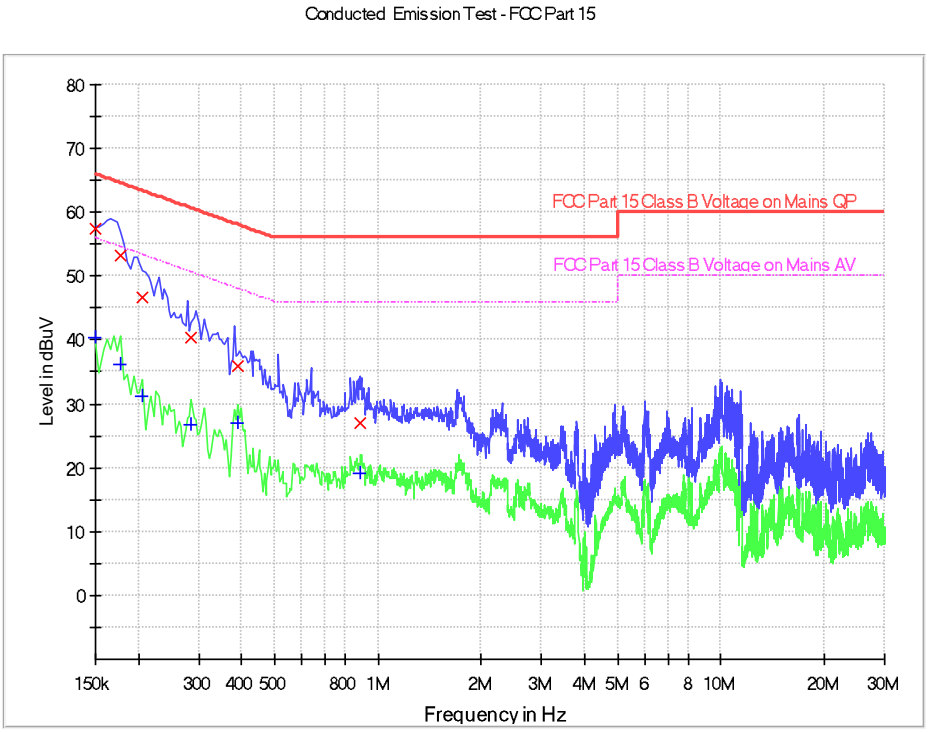
Mandy Chen, Engineer
Typed/Printed Name

19 March 2026
Date

Applicant: Targus International LLC
Date of Test: 19 March 2026 Model: AKP14R
Worst Case Operating Mode: Transmitting(2405MHz)
Modulation type: GFSK
Test Voltage: AC 120V/60Hz
Phase: Live

Graphic / Data Table

Conducted Emissions
Pursuant to FCC 15.207: Emissions Requirement



Limit and Margin QP

Frequency (MHz)	Quasi Peak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	57.4	9.000	L1	9.8	8.6	66.0
0.178000	53.1	9.000	L1	9.8	11.5	64.6
0.206000	46.8	9.000	L1	9.8	16.6	63.4
0.286000	40.4	9.000	L1	9.8	20.2	60.6
0.390000	35.9	9.000	L1	9.8	22.2	58.1
0.890000	27.1	9.000	L1	9.8	28.9	56.0

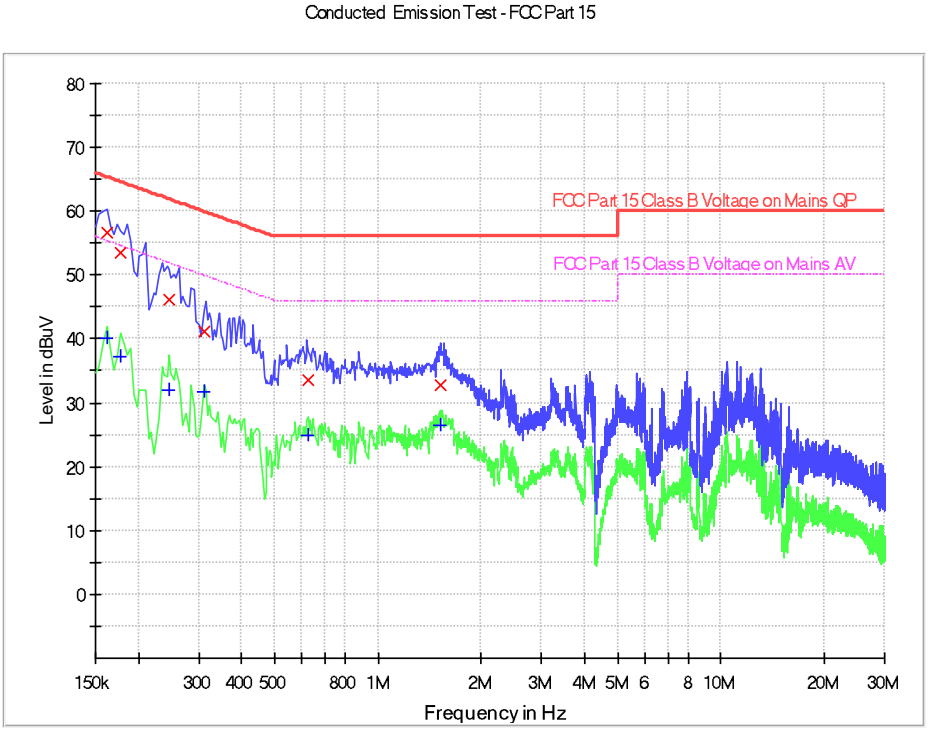
Limit and Margin AV

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	40.4	9.000	L1	9.8	15.6	56.0
0.178000	36.2	9.000	L1	9.8	18.4	54.6
0.206000	31.3	9.000	L1	9.8	22.1	53.4
0.286000	26.8	9.000	L1	9.8	23.8	50.6
0.390000	27.1	9.000	L1	9.8	21.0	48.1
0.890000	19.0	9.000	L1	9.8	27.0	46.0

Applicant: Targus International LLC
Date of Test: 19 March 2026 Model: AKP14R
Worst Case Operating Mode: Transmitting(2405MHz)
Modulation type: GFSK
Test Voltage: AC 120V/60Hz
Phase: Neutral

Graphic / Data Table

Conducted Emissions
Pursuant to FCC 15.207: Emissions Requirement



Limit and Margin QP

Frequency (MHz)	Quasi Peak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.162000	56.6	9.000	N	9.7	8.8	65.4
0.178000	53.4	9.000	N	9.7	11.2	64.6
0.246000	46.1	9.000	N	9.7	15.8	61.9
0.310000	41.3	9.000	N	9.7	18.7	60.0
0.626000	33.6	9.000	N	9.7	22.4	56.0
1.514000	32.7	9.000	N	9.8	23.3	56.0

Limit and Margin AV

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.162000	40.1	9.000	N	9.7	15.3	55.4
0.178000	37.2	9.000	N	9.7	17.4	54.6
0.246000	32.1	9.000	N	9.7	19.8	51.9
0.310000	31.7	9.000	N	9.7	18.3	50.0
0.626000	25.0	9.000	N	9.7	21.0	46.0
1.514000	26.4	9.000	N	9.8	19.6	46.0

5.0 Equipment Photographs

For electronic filing, the photographs of the tested EUT are saved with filename: external photos.pdf & internal photos.pdf.

6.0 Product Labelling

For electronic filing, the FCC ID label artwork and the label location are saved with filename: label.pdf.

7.0 Technical Specifications

For electronic filing, the block diagram and schematics of the tested EUT are saved with filename: block.pdf and circuit.pdf respectively.

8.0 Instruction Manual

For electronic filing, a preliminary copy of the Instruction Manual is saved with filename: manual.pdf.

This manual will be provided to the end-user with each unit sold/leased in the United States.

9.0 Miscellaneous Information

This miscellaneous information includes details of the measured bandedge, 20dB Bandwidth, the test procedure and calculation of factor such as pulse desensitization.

9.1 Band edge Plot

The test plots are attached as below. From the plot, the field strength of any emissions outside of the specified frequency band are attenuated to the general radiated emission limits in section 15.209. It fulfils the requirement of 15.249(d).

Peak Measurement

Restricted-band band-edge tests shall be performed as radiated measurements, i.e (Band-edge Plot).

(i) Lower channel 2405.000 MHz:

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB/m)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	2400.000	66.6	36.7	28.1	58.0	74.0	-16.0

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB/m)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	2400.000	57.0	36.7	28.1	48.4	54.0	-5.6

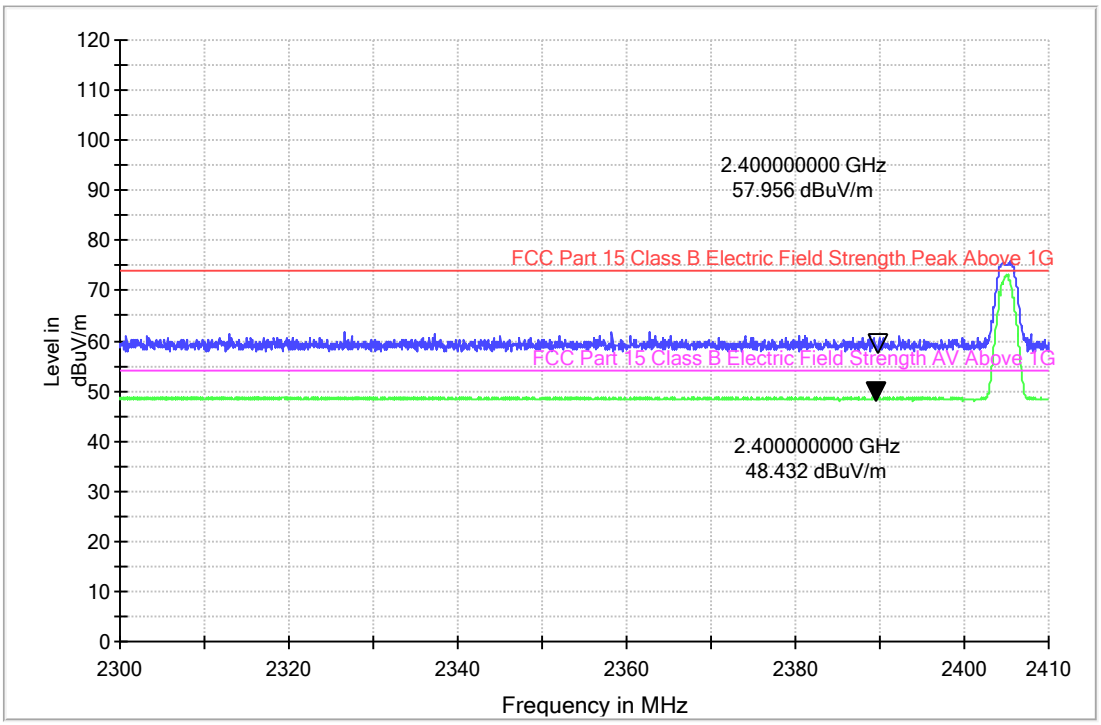
(ii) Upper channel 2470.000 MHz:

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB/m)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	2483.500	68.3	36.8	29.1	60.6	74.0	-13.4

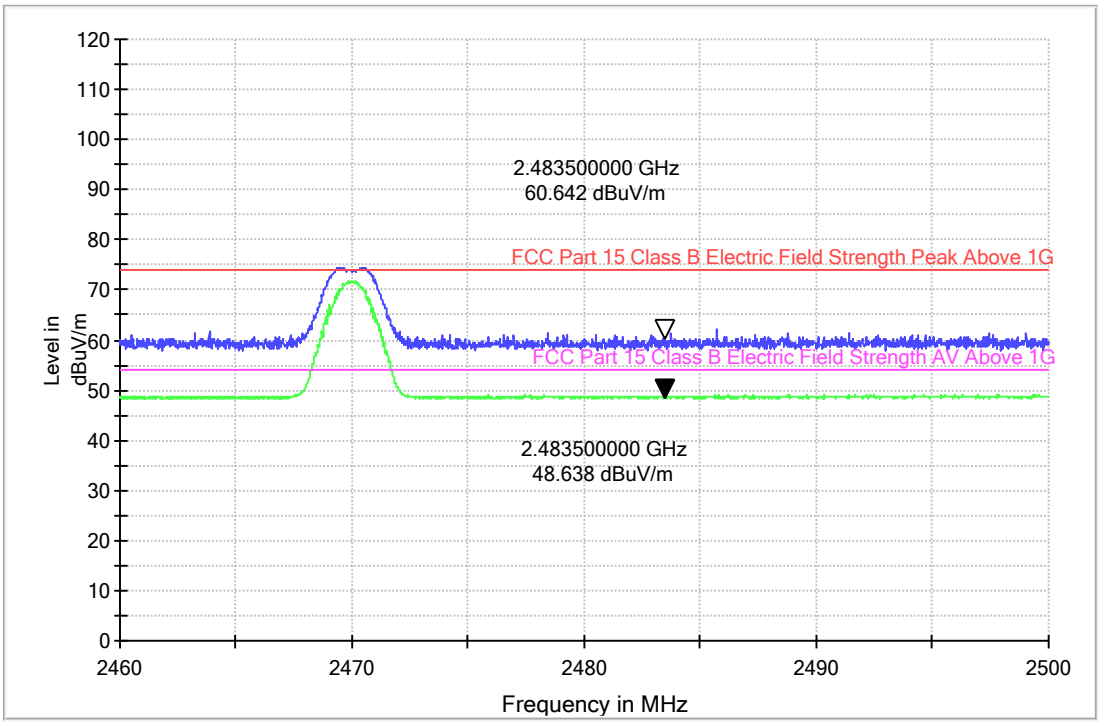
Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB/m)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m	Margin (dB)
Horizontal	2483.500	56.3	36.8	29.1	48.6	54.0	-5.4

The resultant field strength meets the general radiated emission limit in section 15.209, which does not exceed 74dBµv/m (Peak Limit) and 54dBµv/m (Average Limit).

Lowest frequency Channel

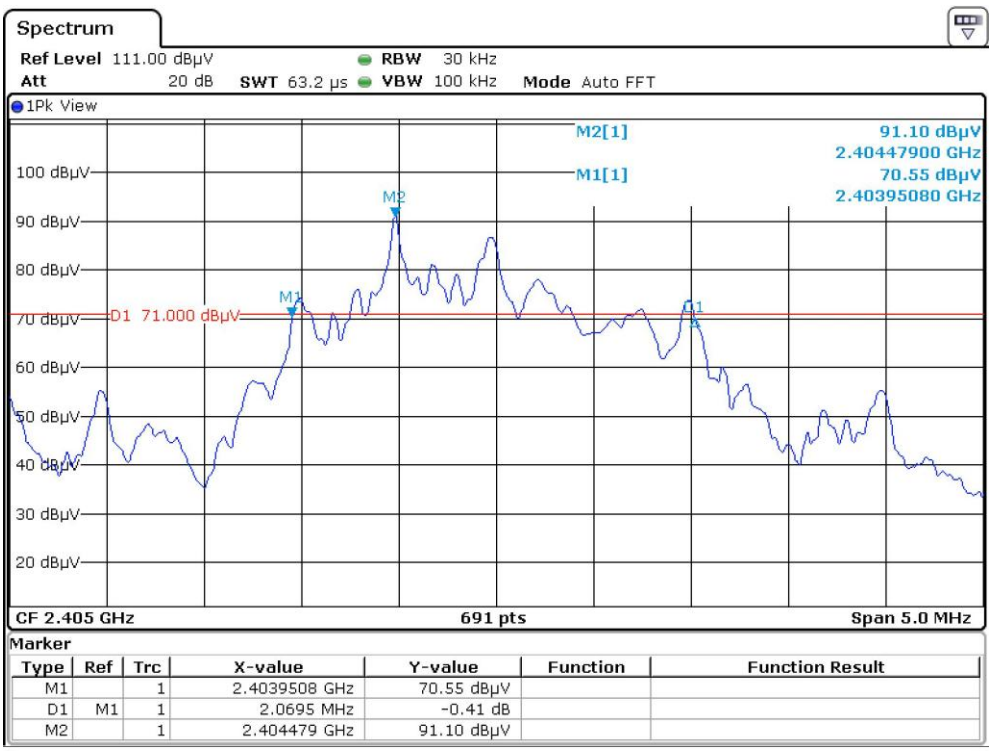


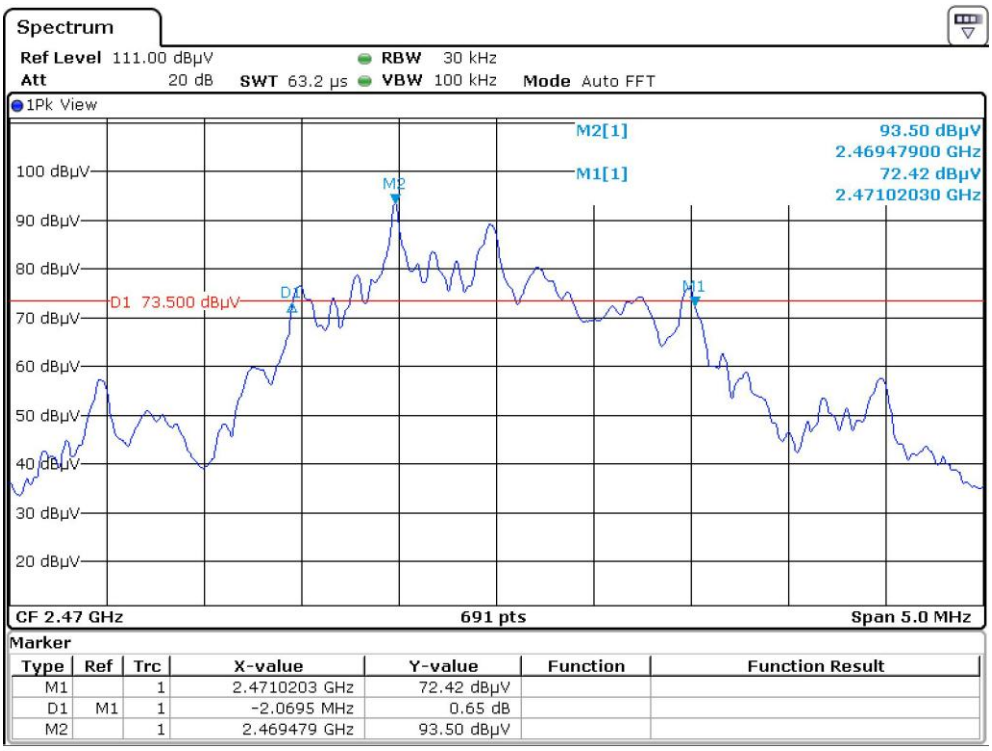
Highest frequency Channel



9.2 20dB Bandwidth

Pursuant to FCC part 15 Section 15.215(c), the 20dB bandwidth of the emission was contained within the frequency band designated (mentioned as above) which the EUT operated. The effects, if any, from frequency sweeping, frequency hopping, other modulation techniques and frequency stability over excepted variations in temperature and supply voltage were considered. The test plots are reported as below.





9.3 Discussion of Pulse Desensitization

Pulse desensitivity is not applicable for this device since the transmitter transmits the RF signal continuously.

9.4 Calculation of Average Factor

Averaging factor in dB = 20 log (duty cycle)

The specification for output field strengths in accordance with the FCC rules specify measurements with an average detector. During testing, a spectrum analyzer incorporating a peak detector was used. Therefore, a reduction factor can be applied to the resultant peak signal level and compared to the limit for measurement instrumentation incorporating an average detector.

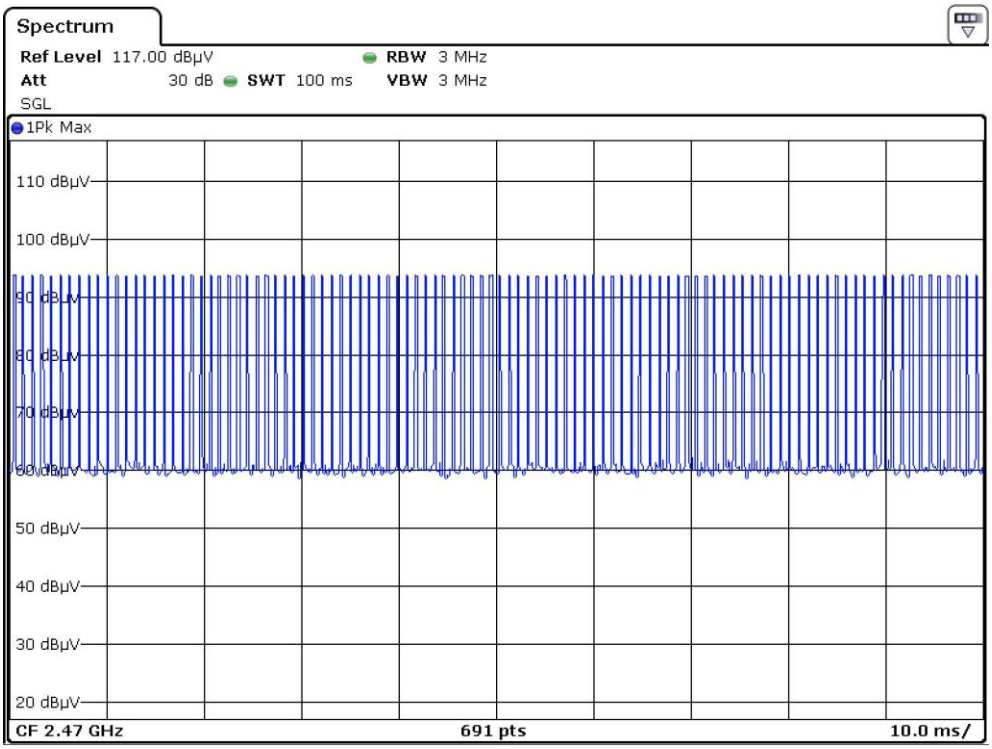
The time period over which the duty cycle is measured is 100 milliseconds, or the repetition cycle, whichever is a shorter time frame. The worst case (highest percentage on) duty cycle is used for the calculation. The duty cycle is measured by placing the spectrum analyzer in zero scan (receiver mode) and linear mode at maximum bandwidth (3 MHz at 3 dB down) and viewing the resulting time domain signal output from the analyzer on a Tektronix oscilloscope. The oscilloscope is used because of its superior time base and triggering facilities.

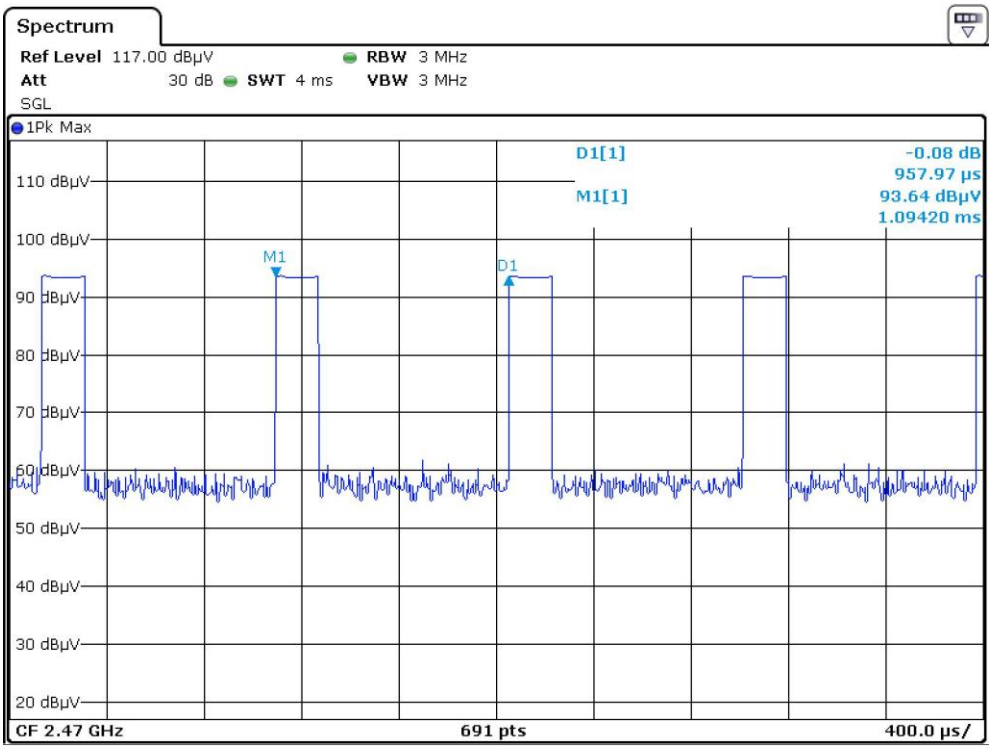
The duty cycle is simply the on-time divided by the period:

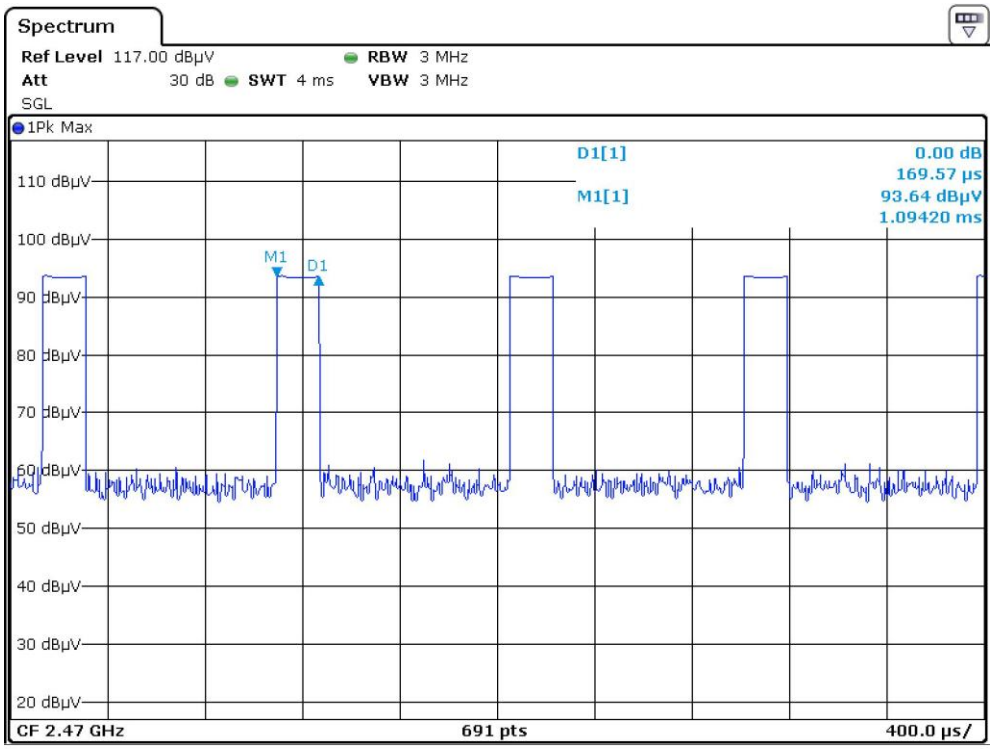
The duration of one cycle = 0.95797ms
Effective period of the cycle = 0.16957ms
DC =0.16957ms / 0.95797ms =0.1770 or 17.70%

Therefore, the averaging factor is found by $20 \log_{10}$ (0.1770) = -15.0dB

The test plots are attached as below.


Spectrum
Ref Level 117.00 dBµV
RBW 3 MHz
Att 30 dB SWT 100 ms VBW 3 MHz
SGL
1Pk Max
110 dBµV
100 dBµV
90 dBµV
80 dBµV
70 dBµV
60 dBµV
50 dBµV
40 dBµV
30 dBµV
20 dBµV
CF 2.47 GHz
691 pts
10.0 ms/


Spectrum
Ref Level 117.00 dBµV
RBW 3 MHz
Att 30 dB SWT 4 ms VBW 3 MHz
SGL
1Pk Max
D1[1]
-0.08 dB
957.97 µs
M1[1]
93.64 dBµV
1.09420 ms
110 dBµV
100 dBµV
90 dBµV
80 dBµV
70 dBµV
60 dBµV
50 dBµV
40 dBµV
30 dBµV
20 dBµV
M1
D1
CF 2.47 GHz
691 pts
400.0 µs/


Spectrum
Ref Level 117.00 dBµV
RBW 3 MHz
Att 30 dB SWT 4 ms VBW 3 MHz
SGL
1Pk Max
D1[1]
0.00 dB
169.57 µs
M1[1]
93.64 dBµV
1.09420 ms
110 dBµV
100 dBµV
90 dBµV
80 dBµV
70 dBµV
60 dBµV
50 dBµV
40 dBµV
30 dBµV
20 dBµV
M1
D1
CF 2.47 GHz
691 pts
400.0 µs/

9.5 Emissions Test Procedures

The following is a description of the test procedure used by Intertek Testing Services in the measurements of transmitters operating under Part 15, Subpart C rules.

The test set-up and procedures described below are designed to meet the requirements of ANSI C63.10 - 2020.

The transmitting equipment under test (EUT) is placed on a styrene turntable which is four feet in diameter and approximately 0.8 meter up to 1GHz and 1.5 meter above 1GHz in height above the ground plane. During the radiated emissions test, the turntable is rotated and any cables leaving the EUT are manipulated to find the configuration resulting in maximum emissions. The EUT is adjusted through all three orthogonal axes to obtain maximum emission levels. The antenna height and polarization are varied during the testing to search for maximum signal levels.

Detector function for radiated emissions is in peak mode. Average readings, when required, are taken by measuring the duty cycle of the equipment under test and subtracting the corresponding amount in dB from the measured peak readings. A detailed description for the calculation of the average factor can be found in Section 9.4.

The frequency range scanned is from the lowest radio frequency signal generated in the device which is greater than 9 kHz to the tenth harmonic of the highest fundamental frequency or 40 GHz, whichever is lower.

Detector function for conducted emissions is in QP & AV mode and IFBW setting is 9 kHz from the frequency band 150 kHz to 30MHz.

9.5 Emissions Test Procedures (cont'd)

The EUT is warmed up for 15 minutes prior to the test.

AC power to the unit is varied from 85% to 115% nominal and variation in the fundamental emission field strength is recorded. If battery powered, a new, fully charged battery is used.

Conducted measurements are made as described in ANSI C63.10 - 2020.

The IF bandwidth used for measurement of radiated signal strength was 10 kHz for emission below 30 MHz and 120 kHz for emission from 30 MHz to 1000 MHz. Where pulsed transmissions of short enough pulse duration warrant, a greater bandwidth is selected according to the recommendations of Hewlett Packard Application Note 150-2. A discussion of whether pulse desensitivity is applicable to this unit is included in this report (See Section 9.3). Above 1000 MHz, a resolution bandwidth of 1 MHz is used, RBW 3MHz used for fundamental emission.

Transmitter measurements are normally conducted at a measurement distance of three meters. However, to assure low enough noise floor in the restricted bands and above 1 GHz, signals are acquired at a distance of one meter or less. All measurements are extrapolated to three meters using inverse scaling, but those measurements taken at a closer distance are so marked.

10.0 Test Equipment List

Equipment No.	Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Due Date
SZ061-13	BiConiLog Antenna	ETS	3142E	00166158	2025-05-29	2028-05-29
SZ185-03	EMI Receiver	R&S	ESR7	101975	2025-04-13	2026-04-13
SZ061-09	Horn Antenna	ETS	3115	00092347	2025-10-20	2028-10-20
SZ061-15	Double-Ridged Waveguide Horn Antenna	ETS	3116C-PA	00224718	2025-05-20	2028-05-20
SZ061-06	Active Loop Antenna	Electro-Metrics	EM-6876	217	2024-05-05	2027-05-05
SZ056-03	Spectrum Analyzer	R&S	FSP 30	101148	2025-04-21	2026-04-21
SZ056-06	Signal Analyzer	R&S	FSV 40	101101	2025-12-01	2026-12-01
SZ181-04	Preamplifier	Agilent	8449B	3008A02474	2025-04-21	2026-04-21
SZ188-05	Anechoic Chamber	ETS	RFD-F/A-100	4102	2021-05-25	2026-05-25
SZ062-02	RF Cable	RADIALL	RG 213U	--	2025-10-30	2026-04-30
SZ062-05	RF Cable	RADIALL	0.04-26.5GHz	--Packet	2025-10-30	2026-04-30
SZ062-12	RF Cable	RADIALL	0.04-26.5GHz	--	2025-10-30	2026-04-30
SZ067-04	Notch Filter	Micro-Tronics	BRM50702-02	--	2025-04-21	2026-04-21
SZ185-02	EMI Test Receiver	R&S	ESCI	100692	2025-06-30	2026-06-30
SZ187-01	Two-Line V-Network	R&S	ENV216	100072	2025-10-27	2026-10-27
SZ188-03	Shielding Room	ETS	RFD-100	4100	2022-12-20	2027-12-20

********** End of Report**********