RADIO TEST REPORT

FCC ID	:	**2ABLK-GM2037**
Equipment	:	**GigaSpire BLAST**
Brand Name	:	**Calix**
Model Name	:	**u6me GM2037, u6e GS2037E**
Applicant	:	**Calix Inc.** **1035 N. McDowell Blvd. Petaluma, CA94954 U.S.A.**
Manufacturer	:	**Calix Inc.** **1035 N. McDowell Blvd. Petaluma, CA94954 U.S.A.**
Standard	:	**47 CFR FCC Part 15.407**

The product was received on May 13, 2022, and testing was started from May 18, 2022 and completed on May 19, 2022. We, Sporton International Inc. Hsinchu Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. Hsinchu Laboratory, the test report shall not be reproduced except in full.

Approved by: Sam Chen

Sporton International Inc. Hsinchu Laboratory
No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.)

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History of this test report

Report No.	Version	Description	Issued Date
FR1O1539-03AC	01	Initial issue of report	Jun. 27, 2022

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.2	15.203	Antenna Requirement	PASS	-
3.1	15.207	AC Power-line Conducted Emissions	PASS	-
3.2	15.407(b)	Unwanted Emissions	PASS	-

Declaration of Conformity:
1. The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers. It's means measurement values may risk exceeding the limit of regulation standards, if measurement uncertainty is include in test results.
2. The measurement uncertainty please refer to report "Measurement Uncertainty".
Comments and Explanations:
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: Sam Chen

Report Producer: Sharon Jiang

1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz)	IEEE Std. 802.11	Ch. Frequency (MHz)	Channel Number
5925-7125	ax (HEW20)	6115-7095	33-229 [50]
5925-7125	ax (HEW40)	6125-7085	35-227 [25]
5925-7125	ax (HEW80)	6145-7025	39-215 [12]
5925-7125	ax (HEW160)	6185-6985	47-207 [6]

Band	Mode	BWch (MHz)	Nant
UNII 5-8	802.11ax HEW20	20	2TX
UNII 5-8	802.11ax HEW20-BF	20	2TX
UNII 5-8	802.11ax HEW40	40	2TX
UNII 5-8	802.11ax HEW40-BF	40	2TX
UNII 5-8	802.11ax HEW80	80	2TX
UNII 5-8	802.11ax HEW80-BF	80	2TX
UNII 5-8	802.11ax HEW160	160	2TX
UNII 5-8	802.11ax HEW160-BF	160	2TX

Note:
HEW20, HEW40, HEW80 and HEW160 use a combination of OFDMA-BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM modulation.
BWch is the nominal channel bandwidth.
The channel defined in the IEEE Standard P802.11ax™/D6.1.

1.1.2 Antenna Information

Ant.	Port			Brand	Model Name	Antenna Type	Connector	Gain (dBi)
	WLAN 2.4GHz	WLAN 5GHz	WLAN 6GHz					
1	1	1	-	GALTRONICS	02102140-07461-2	Dipole	U.FL	Note1
2	2	2	-	GALTRONICS	02102140-07461-1	Dipole	U.FL	
3	-	-	1	GALTRONICS	02102475-07461-2	Dipole	U.FL	
4	-	-	2	GALTRONICS	02102475-07461-1	Dipole	U.FL	

Note 1:

Ant.	Port			Antenna Gain (dBi)								
	WLAN 2.4GHz	WLAN 5GHz	WLAN 6GHz	WLAN 2.4GHz	WLAN 5GHz				WLAN 6GHz			
					UNII 1	UNII2A	UNII2C	UNII 3	UNII 5	UNII 6	UNII 7	UNII 8
1	1	1	-	2.617	3.761	4.190	2.280	3.221	-	-	-	-
2	2	2	-	2.626	3.600	3.240	2.670	3.333	-	-	-	-
3	-	-	1	-	-	-	-	-	2.558	2.781	3.076	2.982
4	-	-	2	-	-	-	-	-	3.076	3.246	3.429	3.347

Note 2:

<For 2.4GHz, UNII 1 and UNII 3>

The directional gain is measured which follows the procedure of KDB 662911 D01.

Directional gain information

Type	Maximum Output Power	Power Spectral Density
Non-BF	Directional gain = Max.gain + array gain. For power measurements on IEEE 802.11 devices Array Gain = 0 dB (i.e., no array gain) for N ANT ≤ 4	$DirectionalGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$
BF	$DirectionalGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$	$DirectionalGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$

Ex.

Directional Gain (NSS1) formula : $Directiona\ lGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$

NSS1(g1,1) = $10^{G1/20}$; NSS1(g1,2)= $10^{G2/20}$

gj,k =$(Nss1(g1,1) + Nss1(g1,2))^2$

DG = 10 log[$(Nss1(g1,1) + Nss1(g1,2) / N_{ANT}$] => 10 log[$(10^{G1/20} + 10^{G2/20})^2 / N_{ANT}$]

Where ;

G1 = Ant 1 Gain ; G2 = Ant 2 Gain

2.4GHz DG = 5.632 dBi

5 GHz U-NII-1 DG = 6.691 dBi

5 GHz U-NII-3 DG = 6.287 dBi

Note 3:

<For UNII 2A and UNII2C>

The directional gain is measured which follows the procedure of KDB 662911 D03. The antenna report is provided in the operational description for this application.

Directional Gain (dBi)		
	UNII2A	**UNII2C**
2T1S	4.28	4.53
2T2S	1.68	2.07

Note 3: The above information was declared by manufacturer.

The EUT has four antennas.

For 2.4GHz function:

For IEEE 802.11 b/g/n/VHT/ax mode (2TX/2RX)

Port 1 and Port 2 can be used as transmitting/receiving antenna.

Port 1 and Port 2 could transmit/receive simultaneously.

For 5GHz function:

For IEEE 802.11a/n/ac/ax mode (2TX/2RX)

Port 1 and Port 2 can be used as transmitting/receiving antenna.

Port 1 and Port 2 could transmit/receive simultaneously.

For 6GHz function:

For IEEE 802.11ax mode (2TX/2RX)

Port 1 and Port 2 can be used as transmitting/receiving antenna.

Port 1 and Port 2 could transmit/receive simultaneously.

1.1.3 EUT Operational Condition

EUT Power Type	From Power Adapter			
Beamforming Function	☒	With beamforming	☐	Without beamforming
	The product has beamforming function for 11n/VHT/ax in 2.4GHz, 11n/ac/ax in 5GHz and ax in 6GHz.			
Device Type	☒	Indoor Access Point	☒	Subordinate
	☐	Indoor Client	☐	Standard Power Access Point
	☐	Dual Client	☐	Standard Client
	☐	Fixed Client		

Note: The above information was declared by manufacturer.

1.1.4 Table for EUT supports functions

Function
AP Router
Extender

Note 1: After evaluating, AP Router was selected to test and record in the report.
Note 2: The above information was declared by manufacturer.

1.1.5 Table for Multiple Listing

EUT	Model Name	Quantity of the RJ-45 port
1	u6me GM2037	2
2	u6e GS2037E	3

Note1: From the above models, model: u6e GS2037E (EUT 2) was selected to test and recorded in this report.
Note2: The above information was declared by manufacturer.

1.1.6 Table for Permissive Change

This product is an extension of original one reported under Sporton project number: FR1O1539AC
Below is the table for the change of the product with respect to the original one.

Modifications	Performance Checking
1. Changing equipment name to “GigaSpire BLAST” from “GigaSpire Mesh BLAST u6me”. 2. Changing model name to “u6me GM2037” from “u6me”. 3. Adding model name u6e GS2037E for the new EUT 2. Please refer to section 1.1.5 for EUT 1 and EUT 2 differences.	1. AC Power-line Conducted Emissions 2. Unwanted Emissions below 1GHz

1.2 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:
47 CFR FCC Part 15.407
ANSI C63.10-2013
FCC KDB 789033 D02 v02r01
The following reference test guidance is not within the scope of accreditation of TAF.
FCC KDB 987594 D02 v01r01
FCC KDB 662911 D01 v02r01
FCC KDB 412172 D01 v01r01

1.3 Testing Location Information

Testing Location Information	
Test Lab.：Sporton International Inc. Hsinchu Laboratory	
Hsinchu (TAF: 3787)	ADD: No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.) TEL: 886-3-656-9065 FAX: 886-3-656-9085 Test site Designation No. TW3787 with FCC. Conformity Assessment Body Identifier (CABID) TW3787 with ISED.

Test Condition	Test Site No.	Test Engineer	Test Environment (°C / %)	Test Date
Radiated	10CH01-CB	Peter Wu	23~24 / 60~61	May 19, 2022
AC Conduction	CO02-CB	Peter Wu	22~23 / 61~62	May 18, 2022

1.4 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	3.4 dB	Confidence levels of 95%
Radiated Emission (9kHz ~ 30MHz)	5.0 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	4.9 dB	Confidence levels of 95%

2 Test Configuration of EUT

2.1 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral Test Voltage: 120V / 60Hz
Operating Mode	Normal Link
1	EUT 2 + Adapter

The Worst Case Mode for Following Conformance Tests	
Tests Item	Unwanted Emissions
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.
Operating Mode < 1GHz	Normal Link
1	EUT 2 in Z axis + Adapter
2	EUT 2 in Y axis + Adapter
3	EUT 2 in X axis + Adapter
For operating mode 1 is the worst case and it was record in this test report.	

2.2 EUT Operation during Test

During the test, the EUT operation to normal function.

2.3 Accessories

Accessories				
No.	**Equipment Name**	**Brand Name**	**Model Name**	**Rating**
1	Adapter	Ktec	KSA-24W-120200HU	INPUT: 100-240V~50/60Hz, 0.6A OUTPUT: 12V, 2.0A

2.4 Support Equipment

For AC Conduction:

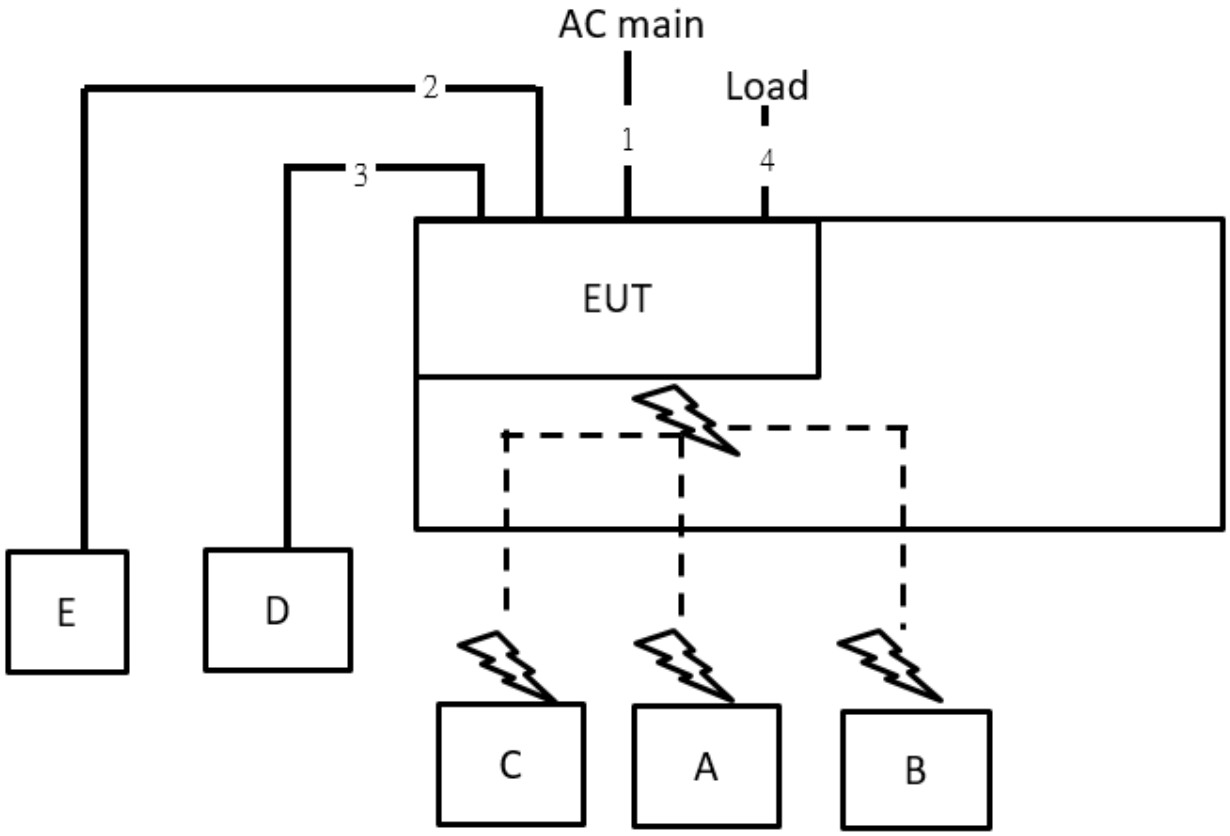
Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
A	2.4G NB	DELL	E6430	N/A
B	5G NB	DELL	E6430	N/A
C	6G NB	DELL	E6430	N/A
D	LAN NB	DELL	E6430	N/A
E	WAN NB	DELL	E6430	N/A

For Radiated:

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
A	2.4G NB	DELL	E6430	N/A
B	5G NB	DELL	E6430	N/A
C	6G NB	DELL	E6430	N/A
D	LAN NB	DELL	E6430	N/A
E	WAN NB	DELL	E6430	N/A

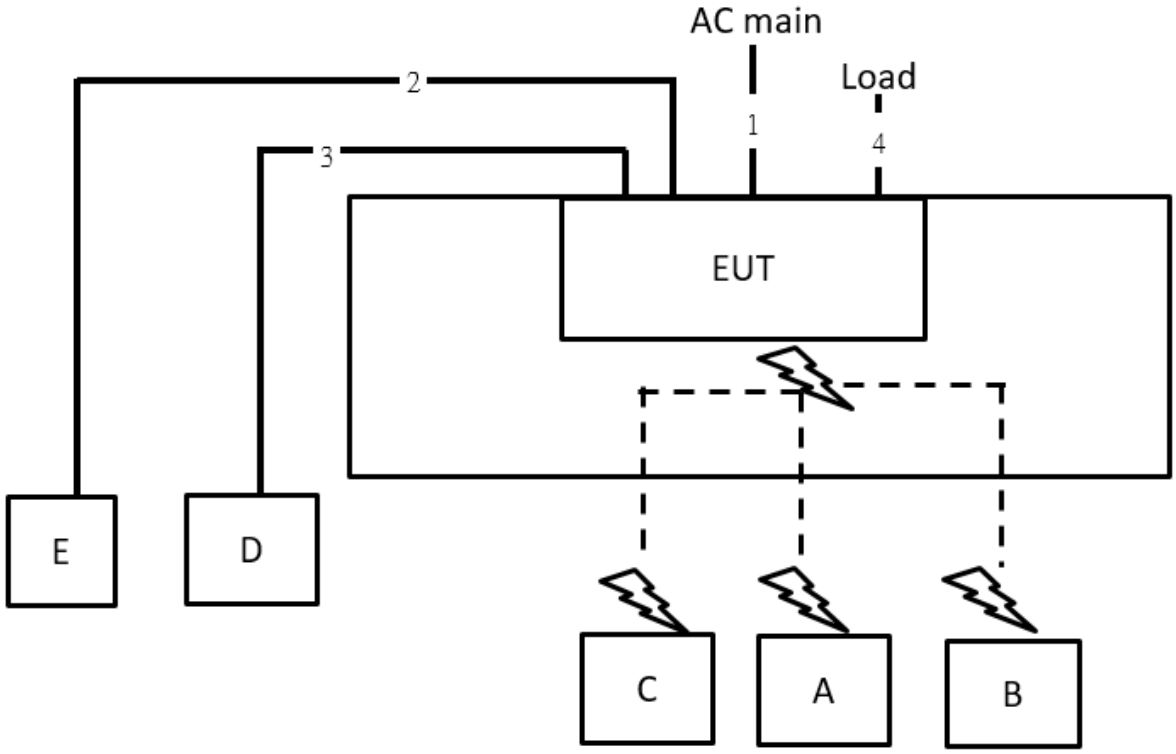
2.5 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test



Item	Connection	Shielded	Length
1	Power cable	No	1.8m
2	RJ-45 cable	No	10m
3	RJ-45 cable	No	10m
4	RJ-45 cable	No	1.5m

Test Setup Diagram - Radiated Test



Item	Connection	Shielded	Length
1	Power cable	No	1.8m
2	RJ-45 cable	No	10m
3	RJ-45 cable	No	10m
4	RJ-45 cable	No	1.5m

3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

AC Power-line Conducted Emissions Limit		
Frequency Emission (MHz)	**Quasi-Peak**	**Average**
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50
Note 1: * Decreases with the logarithm of the frequency.		

3.1.2 Measuring Instruments

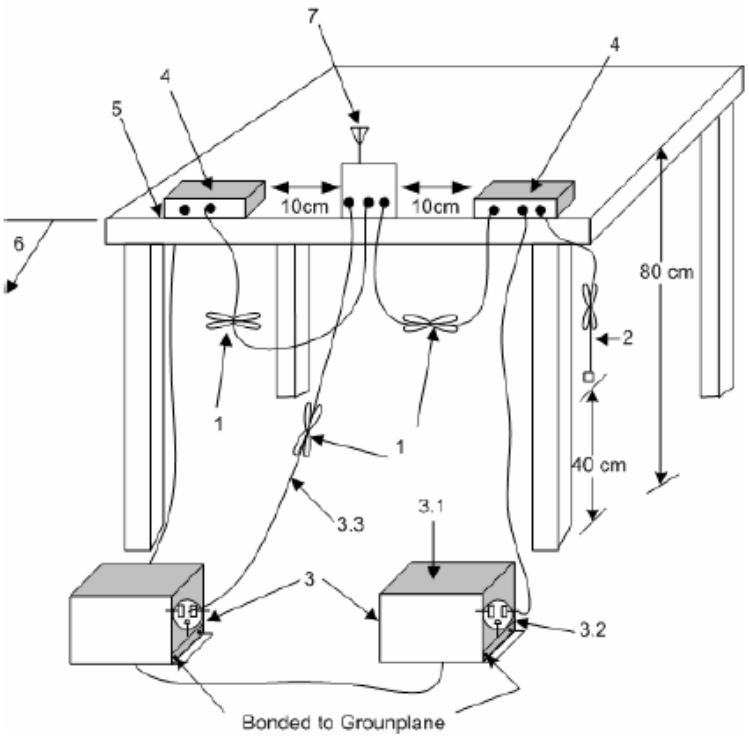
Refer a test equipment and calibration data table in this test report.

3.1.3 Test Procedures

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

3.1.4 Test Setup

AC Power-line Conducted Emissions



1—Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 cm to 40 cm long.
2—The I/O cables that are not connected to an accessory shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
3—EUT connected to one LISN. Unused LISN measuring port connectors shall be terminated in 50 Ω loads. LISN may be placed on top of, or immediately beneath, reference ground plane.
3.1—All other equipment powered from additional LISN(s).
3.2—A multiple-outlet strip may be used for multiple power cords of non-EUT equipment.
3.3—LISN at least 80 cm from nearest part of EUT chassis.
4—Non-EUT components of EUT system being tested.
5—Rear of EUT, including peripherals, shall all be aligned and flush with edge of tabletop.
6—Edge of tabletop shall be 40 cm removed from a vertical conducting plane that is bonded to the ground plane.
7—Antenna can be integral or detachable. If detachable, then the antenna shall be attached for this test.

3.1.5 Measurement Results Calculation

The measured Level is calculated using:

a. Corrected Reading (dBuV) = LISN Factor + Cable Loss + Read Level = Level

b. Margin = - Limit + (Read Level + LISN Factor + Cable Loss)

3.1.6 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A

3.2 Unwanted Emissions

3.2.1 Transmitter Unwanted Emissions Limit

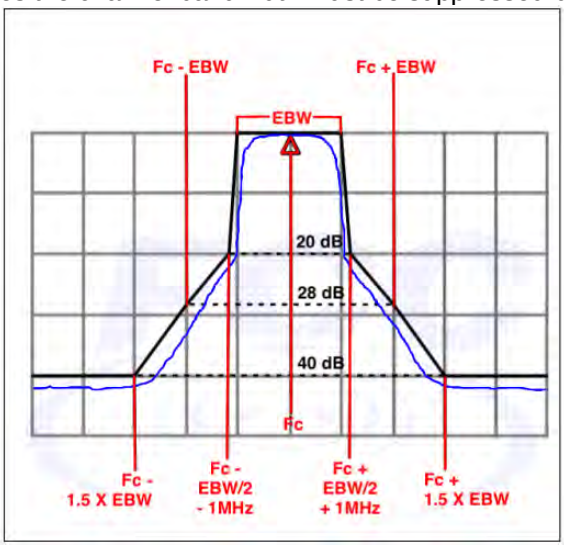
Unwanted emissions below 1 GHz and restricted band emissions above 1GHz limit			
Frequency Range (MHz)	**Field Strength (uV/m)**	**Field Strength (dBuV/m)**	**Measure Distance (m)**
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300
0.490~1.705	24000/F(kHz)	33.8 - 23	30
1.705~30.0	30	29	30
30~88	100	40	3
88~216	150	43.5	3
216~960	200	46	3
Above 960	500	54	3

Note 1: Test distance for frequencies at or above 30 MHz, measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).

Note 2: Test distance for frequencies at below 30 MHz, measurements may be performed at a distance closer than the EUT limit distance; however, an attempt should be made to avoid making measurements in the near field. When performing measurements below 30 MHz at a closer distance than the limit distance, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two or more distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade). The test report shall specify the extrapolation method used to determine compliance of the EUT.

Note 3: Using the distance of 1m during the test for above 18 GHz, and the test value to correct for the distance factor at 3m(20 x log (standard distance/ test distance) = 20log(3/1) = 9.54dB.
EX. Above 18GHz emission limit calculation (3m to 1m) = 54dBuV/m at 3m + 9.54dB = 63.54 dBuV/m at 1m.

Un-restricted band emissions above 1GHz Limit	
Frequency	**Limit**
Any outside the 5.945 – 7.125 GHz emission	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
	Note 1: Using the distance of 1m during the test for above 18 GHz, and the test value to correct for the distance factor at 3m(20 x log (standard distance/ test distance) = 20log(3/1) = 9.54dB. EX. Above 18GHz emission limit calculation (3m to 1m) = 68.2dBuV/m at 3m + 9.54dB = 77.74 dBuV/m at 1m. Note 2:-27 dBm EIRP OOBE is measured RMS which is a deviation from the current 15E rules for 5 GHz bands. In addition, 15.35(b) applies where the peak emissions must be limited to no more than 20 dB above the average limit.
Frequency	**Emission MASK Limit**

5.945 – 7.125 GHz	Power spectral density must be suppressed by 20 dB at 1 MHz outside of channel edge, by 28 dB at one channel bandwidth from the channel center, and by 40 dB at one- and one-half times the channel bandwidth away from channel center. At frequencies between one megahertz outside an unlicensed device's channel edge and one channel bandwidth from the center of the channel, the limits must be linearly interpolated between 20 dB and 28 dB suppression, and at frequencies between one and one- and one-half times an unlicensed device's channel bandwidth, the limits must be linearly interpolated between 28 dB and 40 dB suppression. Emissions removed from the channel center by more than one- and one-half times the channel bandwidth must be suppressed by at least 40 dB. 

3.2.2 Measuring Instruments

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

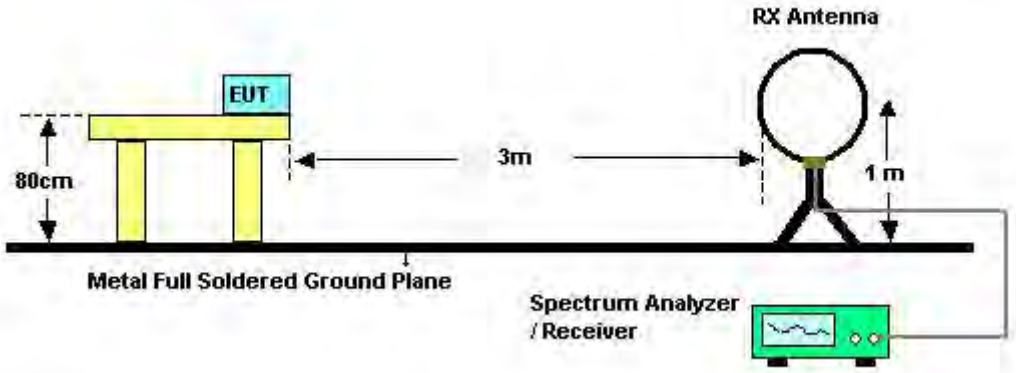
3.2.3 Test Procedures

Test Method
▪ According to KDB 987594 D02 II.G. the unwanted emission measurement procedure shall refer to KDB 789300(except emission MASK). Measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. Measurements shall not be performed at a distance greater than 30 m for frequencies above 30 MHz, unless it can be further demonstrated that measurements at a distance of 30 m or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).
▪ The average emission levels shall be measured in [duty cycle ≥ 98 or duty factor].
▪ For the transmitter unwanted emissions shall be measured using following options below:
▪ Refer as FCC KDB 789033 D02, clause G)2) for unwanted emissions into non-restricted bands.
▪ Refer as FCC KDB 789033 D02, clause G)1) for unwanted emissions into restricted bands.
☒ Refer as FCC KDB 789033 D02, G)6) Method AD (Trace Averaging). (For unrestricted band measurement)
☐ Refer as FCC KDB 789033 D02, G)6) Method VB (Reduced VBW).
☒ Refer as ANSI C63.10, clause 11.12.2.5.3 (Reduced VBW). VBW ≥ 1/T, where T is pulse time.(For restricted band average measurement)
☐ Refer as ANSI C63.10, clause 7.5 average value of pulsed emissions.
☒ Refer as FCC KDB 789033 D02, clause G)5) measurement procedure peak limit.
☐ Refer as ANSI C63.10, clause 4.1.4.2.2 measurement procedure peak limit.
▪ For emission MASK shall be measured using following options below:
☒ Refer as FCC draft KDB 987594 D02, J) In-Band Emissions
▪ For radiated measurement.
▪ Refer as ANSI C63.10, clause 6.4 for radiated emissions below 30 MHz and test distance is 3m.
▪ Refer as ANSI C63.10, clause 6.5 for radiated emissions 30 MHz to 1 GHz and test distance is 3m.
▪ Refer as ANSI C63.10, clause 6.6 for radiated emissions above 1GHz.
▪ The any unwanted emissions level shall not exceed the fundamental emission level.
▪ All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.

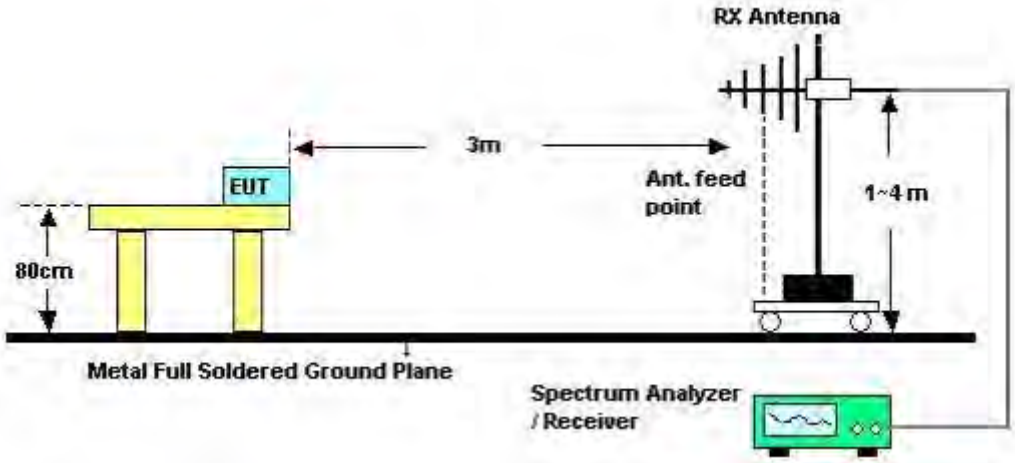
3.2.4 Test Setup

Transmitter Radiated Unwanted Emissions

9kHz ~30MHz



30MHz~1GHz



3.2.5 Measurement Results Calculation

The measured Level is calculated using:

Corrected Reading: Antenna factor (AF) + Cable loss (CL) + Read level (Raw) - Preamp factor (PA)(if applicable) = Level

3.2.6 Transmitter Unwanted Emissions (Below 30MHz)

There is a comparison data of both open-field test site and alternative test site - semi-Anechoic chamber according to KDB414788 Radiated Test Site, and the result came out very similar.
All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.
The radiated emissions were investigated from 9 kHz or the lowest frequency generated within the device, up to the 10th harmonic or 40 GHz, whichever is appropriate.

3.2.7 Test Result of Transmitter Unwanted Emissions

Refer as Appendix B

3.3 Contention Based Protocol

3.3.1 Contention Based Protocol Limit

EUT can detect an AWGN signal with 90% (or better) level of certainty.

3.3.2 Measuring Instruments

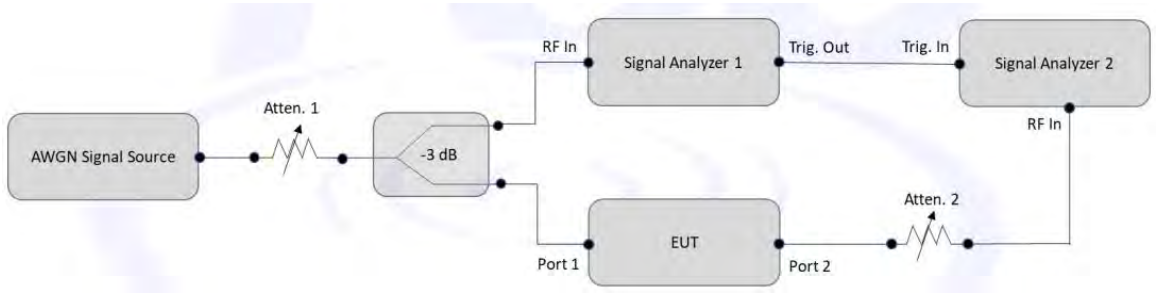
Refer a test equipment and calibration data table in this test report.

3.3.3 Test Procedures

Test Method	
▪	For Contention Based Protocol shall be measured using following options below:
☒	Refer as FCC draft KDB 987594 D02, I) In-Band Emissions

3.3.4 Test Setup

Contention Based Protocol



3.3.5 Test Result of Contention Based Protocol

Refer as Appendix F

4 Test Equipment and Calibration Data

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
LISN	Schwarzbeck	NSLK 8127	8127650	9kHz ~ 30MHz	Jan. 07, 2022	Jan. 06, 2023	Conduction (CO02-CB)
LISN	Schwarzbeck	NSLK 8127	8127478	9kHz ~ 30MHz	Dec. 22, 2021	Dec. 21, 2022	Conduction (CO02-CB)
EMI Receiver	Agilent	N9038A	My52260123	9kHz ~ 8.4GHz	Feb. 22, 2022	Feb. 21, 2023	Conduction (CO02-CB)
COND Cable	Woken	Cable	2	0.15MHz ~ 30MHz	Oct. 19, 2021	Oct. 18, 2022	Conduction (CO02-CB)
Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Conduction (CO02-CB)
Pulse Limiter	Schwarzbeck	VTSD 9561F-N	00378	9kHz ~ 30MHz	Mar. 18, 2022	Mar. 17, 2023	Conduction (CO02-CB)
Loop Antenna	Teseq	HLA 6120	31244	9kHz - 30 MHz	Mar. 18, 2022	Mar. 17, 2023	Radiation (10CH01-CB)
10m Semi Anechoic Chamber NSA	TDK	SAC-10M	10CH01-CB	30MHz~1GHz 10m,3m	Jan. 27, 2022	Jan. 26, 2023	Radiation (10CH01-CB)
Pre-Amplifier	Agilent	8447D	2944A10783	9kHz ~ 1.3GHz	Mar. 11, 2022	Mar. 10, 2023	Radiation (10CH01-CB)
Pre-Amplifier	Agilent	8447D	2944A10784	9kHz ~ 1.3GHz	Mar. 11, 2022	Mar. 10, 2023	Radiation (10CH01-CB)
Low Cable	Woken	SUCOFLEX 104	low cable-01	25MHz ~ 1GHz	Oct. 19, 2021	Oct. 18, 2022	Radiation (10CH01-CB)
High Cable	Woken	SUCOFLEX 104	low cable-02	25MHz ~ 1GHz	Oct. 19, 2021	Oct. 18, 2022	Radiation (10CH01-CB)
Bilog Antenna with 6dB Attenuator	Chase & EMCI	CBL6111A &N-6-06	1543 &AT-N0609	30MHz ~ 1GHz	Jul. 01, 2021	Jun. 30, 2022	Radiation (10CH01-CB)
EMI Test Receiver	Rohde&Schwarz	ESCI	100186	9kHz ~ 3GHz	Jul. 12, 2021	Jul. 11, 2022	Radiation (10CH01-CB)
Spectrum Analyzer	Rohde&Schwarz	FSV30	101026	9kHz ~ 30GHz	Apr. 22, 2022	Apr. 21, 2023	Radiation (10CH01-CB)
Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (10CH01-CB)

Note: Calibration Interval of instruments listed above is one year.

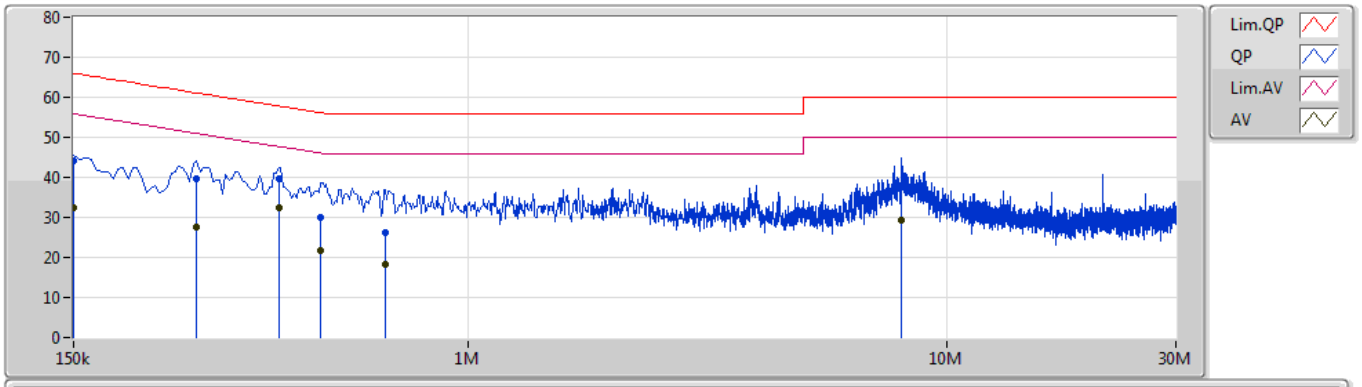
NCR means Non-Calibration required.

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	AV	402k	32.38	47.82	-15.44	Line

Mode 1

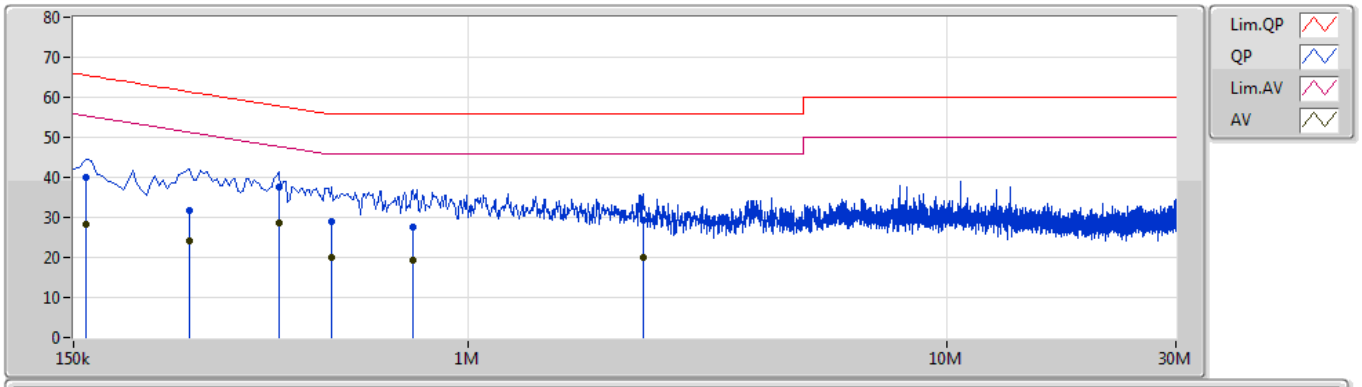
18/05/2022



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	150k	44.12	66.00	-21.88	10.25	Line	-	33.87	0.12	0.02	10.11
AV	150k	32.50	56.00	-23.50	10.25	Line	-	22.25	0.12	0.02	10.11
QP	271.5k	39.77	61.07	-21.30	10.22	Line	-	29.55	0.12	0.02	10.08
AV	271.5k	27.45	51.07	-23.62	10.22	Line	-	17.23	0.12	0.02	10.08
QP	402k	39.81	57.82	-18.01	10.25	Line	-	29.56	0.12	0.02	10.11
AV	402k	32.38	47.82	-15.44	10.25	Line	"Worst"	22.13	0.12	0.02	10.11
QP	492k	29.91	56.13	-26.22	10.26	Line	-	19.65	0.12	0.02	10.12
AV	492k	21.64	46.13	-24.49	10.26	Line	-	11.38	0.12	0.02	10.12
QP	672k	26.13	56.00	-29.87	10.28	Line	-	15.85	0.13	0.02	10.13
AV	672k	18.35	46.00	-27.65	10.28	Line	-	8.07	0.13	0.02	10.13
QP	8.039M	37.52	60.00	-22.48	10.57	Line	-	26.95	0.31	0.07	10.19
AV	8.039M	29.40	50.00	-20.60	10.57	Line	-	18.83	0.31	0.07	10.19

Mode 1

18/05/2022



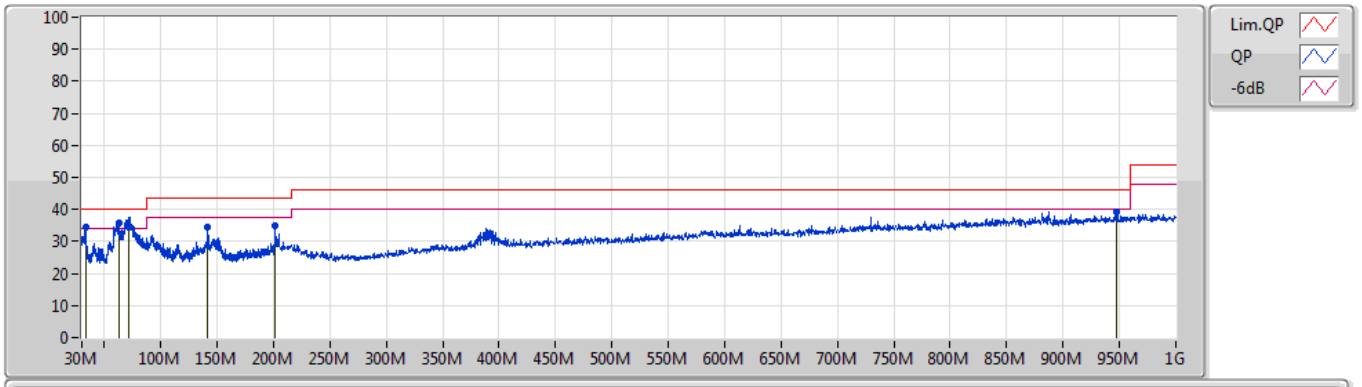
Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	159k	40.02	65.52	-25.50	10.28	Neutral	-	29.74	0.16	0.02	10.10
AV	159k	28.27	55.52	-27.25	10.28	Neutral	-	17.99	0.16	0.02	10.10
QP	262.5k	31.60	61.35	-29.75	10.26	Neutral	-	21.34	0.16	0.02	10.08
AV	262.5k	24.30	51.35	-27.05	10.26	Neutral	-	14.04	0.16	0.02	10.08
QP	402k	37.48	57.82	-20.34	10.29	Neutral	-	27.19	0.16	0.02	10.11
AV	402k	28.77	47.82	-19.05	10.29	Neutral	"Worst"	18.48	0.16	0.02	10.11
QP	519k	28.92	56.00	-27.08	10.30	Neutral	-	18.62	0.16	0.02	10.12
AV	519k	20.11	46.00	-25.89	10.30	Neutral	-	9.81	0.16	0.02	10.12
QP	766.5k	27.48	56.00	-28.52	10.32	Neutral	-	17.16	0.17	0.02	10.13
AV	766.5k	19.35	46.00	-26.65	10.32	Neutral	-	9.03	0.17	0.02	10.13
QP	2.315M	29.23	56.00	-26.77	10.41	Neutral	-	18.82	0.20	0.05	10.16
AV	2.315M	20.09	46.00	-25.91	10.41	Neutral	-	9.68	0.20	0.05	10.16

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 1	Pass	PK	62.47M	35.86	40.00	-4.14	Vertical

Mode 1

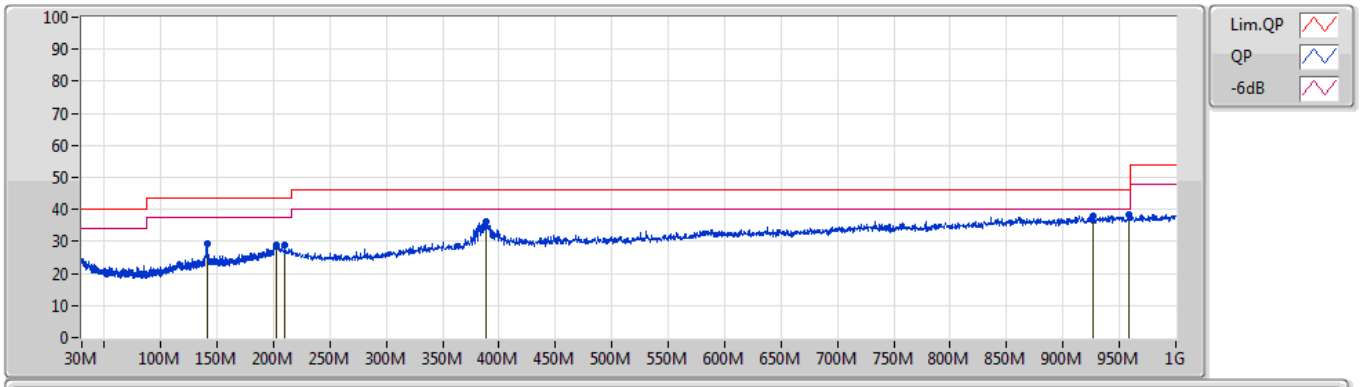
19/05/2022



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
PK	33.06M	34.32	40.00	-5.68	-13.79	3	Vertical	342	1.00	-	48.11	13.29	0.82	27.90
PK	62.47M	35.86	40.00	-4.14	-16.93	3	Vertical	38	1.00	"Worst"	52.79	9.55	1.35	27.83
PK	71.74M	34.56	40.00	-5.44	-16.91	3	Vertical	271	2.00	-	51.47	9.27	1.60	27.78
PK	141.86M	34.33	43.50	-9.17	-13.12	3	Vertical	37	1.00	-	47.45	11.80	2.62	27.54
PK	201.6M	34.71	43.50	-8.79	-7.37	3	Vertical	5	4.00	-	42.08	16.29	2.91	26.57
PK	948M	39.35	46.00	-6.65	2.32	3	Vertical	5	1.00	-	37.03	22.18	6.49	26.35

Mode 1

19/05/2022



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
PK	140.76M	29.25	43.50	-14.25	-13.15	3	Horizontal	0	1.00	-	42.40	11.78	2.61	27.54
PK	202M	28.90	43.50	-14.60	-7.43	3	Horizontal	360	1.00	-	36.33	16.22	2.92	26.57
PK	210.4M	28.69	43.50	-14.81	-8.63	3	Horizontal	345	2.00	-	37.32	14.92	2.98	26.53
PK	388.8M	36.30	46.00	-9.70	-7.29	3	Horizontal	245	2.00	-	43.59	15.89	4.06	27.24
PK	926M	37.98	46.00	-8.02	1.81	3	Horizontal	114	4.00	-	36.17	21.89	6.40	26.48
PK	958.8M	38.39	46.00	-7.61	2.35	3	Horizontal	284	2.00	"Worst"	36.04	22.14	6.54	26.33