Prüfbericht-Nr.: *Test report No.:*	**50297930 001**	**Auftrags-Nr.:** *Order No.:*	168132854	Seite 1 von 15 *Page 1 of 15*
Kunden-Referenz-Nr.: *Client reference No.:*	N/A	**Auftragsdatum:** *Order date.:*	12.08.2019	
Auftraggeber: *Client:*	**Compupal Group Corporation** P.O. Box 6264 General Post Office Hong Kong			
Prüfgegenstand: *Test item:*	Bluetooth Headset			
Bezeichnung / Typ-Nr.: *Identification / Type No.:*	NS-MBTHS, NS-MBTHS-C, NS-MBTxxxxxxx, DX-MBTxxxxxxx, MD-MBTxxxxxxx ("x"=0-9, A-Z, a-z, - or blank, for market purpose only, all models are identical except the model number or color or brand) (Trademark: INSIGNIA, DYNEX, MODAL)			
Auftrags-Inhalt: *Order content:*	FCC and IC approval			
Prüfgrundlage: *Test specification:*	CFR47 FCC Part 15: Subpart C Section 15.247 CFR47 FCC Part 15: Subpart C Section 15.207 CFR47 FCC Part 15: Subpart C Section 15.209 CFR47 FCC Part 2.1091		RSS-247 Issue 2 February 2017 RSS-Gen Issue 5 April 2015 RSS-102 Issue 5 March 2015	

Wareneingangsdatum: *Date of receipt:*	02.09.2019	Please refer to photo documents
Prüfmuster-Nr.: *Test sample No.:*	A000984535-001	
Prüfzeitraum: *Testing period:*	19.09.2019 - 25.09.2019	
Ort der Prüfung: *Place of testing:*	TÜV Rheinland (Shenzhen) Co., Ltd.	
Prüflaboratorium: *Testing laboratory:*	TÜV Rheinland (Shenzhen) Co., Ltd.	
Prüfergebnis*: *Test result*:*	Pass	

geprüft von / *tested by:*

Alex Lan

Datum *Date*	Name/Stellung *Name/Position*	Unterschrift *Signature*
12.10.2019	Alex Lan / Senior Project Engineer	

kontrolliert von / *reviewed by:*

Winnie Hou

Datum *Date*	Name/Stellung *Name/Position*	Unterschrift *Signature*
12.10.2019	Winnie Hou / Technical Certifier	

Sonstiges / *Other:*

FCC ID: Z5YNS-MBTHS

IC: 10828A-MBTHS HVIN: NS-MBTHS-C1

This test report is for approval of updating the antenna type and MIC based on original test report ATE20190993, issued by Shenzhen Accurate Technology Co., Ltd, the maximum peak conducted output power and the radiated spurious are retested, other test data refer to original test report ATE20190993.

Zustand des Prüfgegenstandes bei Anlieferung: Prüfmuster vollständig und unbeschädigt
Condition of the test item at delivery: *Test item complete and undamaged:*

* Legende:	1 = sehr gut	2 = gut	3 = befriedigend	4 = ausreichend	5 = mangelhalt
	P(ass) = entspricht o.g. Prüfgrundlage(n)		F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	N/A = nicht anwendbar	N/T = nicht getestet
Legend:	1 = very good	2 = good	3 = satisfactory	4 = sufficient	5 = poor
	P(ass) = passed a.m. test specifications(s)		F(ail) = failed a.m. test specifications(s)	N/A = not applicable	N/T = not tested

Test Summary

5.1.1 MAXIMUM PEAK CONDUCTED OUTPUT POWER
RESULT: Pass

5.1.2 RADIATED SPURIOUS & BAND EDGE EMISSION
RESULT: Pass

Contents

1 General Remarks

1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:

Appendix A: Test Photos.

Appendix B: Test Results of Radiated Testing

2 Test Sites

2.1 Test Facilities

TÜV Rheinland (Shenzhen) Co., Ltd.
East of F/1, F/2 - F/4, Building 1, Cybio Technology Building, No. 6 Langshan No. 2 Road, North Hi-tech Industry Park, Nanshan District, Shenzhen, P.R. China

FCC Registration No.: 694916

IC Registration No.: 25069

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

TÜV Rheinland (Shenzhen) Co., Ltd.

Unwanted Emission Testing				
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Until**
Signal Generator	Rohde & Schwarz	SMB100A	180840	2020-08-30
Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	165339	2020-08-30
Signal Analyzer	Rohde & Schwarz	FSV 40	101440	2020-08-30
System Controller Interface	Rohde & Schwarz	SCI-100	S10010036	N/A
Filterbank	Rohde & Schwarz	CDMA	100751	2020-08-30
Filterbank	Rohde & Schwarz	GSM	100811	2020-08-30
OSP	Rohde & Schwarz	OSP 120	102041	N/A
OSP	Rohde & Schwarz	OSP 150	101385	N/A
Pre-amplifier	Rohde & Schwarz	SCU08F1	08320030	2020-08-30
Amplifier	Rohde & Schwarz	SCU-18F	180079	2020-08-30
Amplifier	Rohde & Schwarz	SCU40A	100450	2020-09-03
Trilog Broadband Antenna (30 MHz - 1 GHz)	Schwarzbeck	VULB9162	192	2020-09-02
Double-Ridged Antenna (1 -18 GHz)	ETS-LINDGREN	3117	00218719	2020-09-02
Wideband Ridged Horn Antenna (12-18 GHz)	Steatite	QMS-00208	18312	2020-09-02
Wideband Ridged Horn Antenna (18-40 GHz)	Steatite	QMS-00880	19066	2020-09-02
Biconical Broadband Antenna (30 MHz - 1 GHz)	Schwarzbeck	VUBA 9117	357	2020-09-02
Double Ridged Broadband Horn Antenna (1 – 18 GHz)	Schwarzbeck	BBHA 9120 D	01760	2020-09-02
Broadband Horn Antenna (15 – 40 GHz)	Schwarzbeck	BBHA 9170	00862	2020-09-02
Test software	Rohde & Schwarz	EMC32 (V10.40.00)	N/A	N/A
Control PC	Dell	OptiPlex 7050	36NW9P2	N/A

2.3 Traceability

All measurement equipment calibrations are traceable to NIM (National Institute of Metrology) or where calibration is performed in other countries, 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 basics using in house standards or comparisons.

2.5 Measurement Uncertainty

The estimated combined standard uncertainty for radiated emissions and conducted emissions measurements as below table

Item		Extended Uncertainty
Radiated Emission (30-1000MHz)	Field strength (dBμV/m)	4.27dB
Radiated Emission (above 1000MHz)	Field strength (dBμV/m)	4.46dB
Radio Spectrum		± 1.5 dB

2.6 Location of Original Data

The original copies of all test data taken during actual testing were attached at Appendix A & B of this report and delivered to the applicant. A copy has been retained in the TÜV Rheinland (Shenzhen) file for certification follow-up purposes.

2.7 Status of Facility Used for Testing

The TÜV Rheinland (Shenzhen) Co., Ltd. Test facility located at East of F/1, F/2 - F/4, Building 1, Cybio Technology Building, No. 6 Langshan No. 2 Road, North Hi-tech Industry Park, Nanshan District, Shenzhen, P.R. China is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

3 General Product Information

3.1 Product Function and Intended Use

The EUTs are a Bluetooth Headset which supports Bluetooth 5.0 (BDR&EDR) technology.

All models are identical except the model number or color or brand, NS-MBTHS is for America market and NS-MBTHS-C is for Canada market, all test items were applied on model NS-MBTHS.

For details refer to the User Manual, Technical Description and Circuit Diagram.

3.2 Ratings and System Details

Table 2: Technical Specification of EUT

Technical Specification	Value
Kind of Equipment	Bluetooth Headset
Type Designation	NS-MBTHS, NS-MBTHS-C, NS-MBTxxxxxxx, DX-MBTxxxxxxx, MD-MBTxxxxxxx (“x”=0-9, A-Z, a-z, - or blank, for market purpose only, all models are identical except the model number or color or brand)
FCC ID	Z5YNS-MBTHS
IC	10828A-MBTHS
HVIN	NS-MBTHS-C1
Operating Frequency	2402 - 2480 MHz
Operating Voltage	DC 3.7V
Testing Voltage	DC 3.7V
Type of Modulation	GFSK, π/4DQPSK, 8DPSK
Channel Number	BDR & EDR mode:79 channels
Channel Separation	BDR & EDR mode:1MHz
Wireless Technology	Bluetooth 5.0
Antenna Type	Integral Antenna
Max. Antenna Gain	0.00 dBi

Table 3: RF Channel and Frequency of Bluetooth

RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
00	**2402.00**	20	2422.00	40	2442.00	60	2462.00
01	2403.00	21	2423.00	41	2443.00	61	2463.00
02	2404.00	22	2424.00	42	2444.00	62	2464.00
03	2405.00	23	2425.00	43	2445.00	63	2465.00
04	2406.00	24	2426.00	44	2446.00	64	2466.00
05	2407.00	25	2427.00	45	2447.00	65	2467.00
06	2408.00	26	2428.00	46	2448.00	66	2468.00
07	2409.00	27	2429.00	47	2449.00	67	2469.00
08	2410.00	28	2430.00	48	2450.00	68	2470.00
09	2411.00	29	2431.00	49	2451.00	69	2471.00
10	2412.00	30	2432.00	50	2452.00	70	2472.00
11	2413.00	31	2433.00	51	2453.00	71	2473.00
12	2414.00	32	2434.00	52	2454.00	72	2474.00
13	2415.00	33	2435.00	53	2455.00	73	2475.00
14	2416.00	34	2436.00	54	2456.00	74	2476.00
15	2417.00	35	2437.00	55	2457.00	75	2477.00
16	2418.00	36	2438.00	56	2458.00	76	2478.00
17	2419.00	37	2439.00	57	2459.00	77	2479.00
18	2420.00	38	2440.00	58	2460.00	**78**	**2480.00**
19	2421.00	**39**	**2441.00**	59	2461.00	--	--

Table 4: Frequency Hopping Information

Technical Specification	Description
Hopping Range	Hereby we declare that the frequency range of this device is 2402-2480MHz. This is according the Bluetooth Core Specification 5.0 for devices which will be operated in the USA. This was checked during the Bluetooth Qualification tests.
Hopping Sequence	Example of a 79 hopping sequence in data mode: 33,04,21,44,23,42,53,46,55,48,40,59,72,29,76,31,08,73, 07,75,09,45,60,39,58,13,47,11,77,52,35,50,65,54,67,56, 69,62,71,64, 7,25,27,66,57,70,74,61,78,63,10,41,05,43, 15,44,64,68,02,70,06,01,51,03,55,05,03,66,53,49,36,47..
Receiver input bandwidth	The input bandwidth of the receiver is 1MHz. In every connection one Bluetooth device is the master and the other one is the slave. The master determines the hopping sequence. The slave follows this sequence. Both devices shift between RX and TX time slot according to the clock of the master. Additionally the type of connection is set up at the beginning of the connection. The master adapts its hopping frequency and its TX/RX timing according to the packet type of the connection. Also the slave of the connection will use these settings. Repeating of a packer has no influence on the hopping sequence. The hopping sequence generated by the master of the connection will be followed in any case. That means a repeated packet will not be send on the same frequency, it is send on the next frequency of the hopping sequence.

3.3 Independent Operation Modes

The basic operation modes are:

A. On
   1. Bluetooth transmitting mode (BDR & EDR mode)
      a) Low Channel
      b) Middle Channel
      c) High Channel

B. On, Transmitting on Hopping channel

C. Off

3.4 Noise Generating and Noise Suppressing Parts

Refer to Circuit Diagram for further details.

3.5 Submitted Documents

- Application Form
- Block Diagram
- Schematics
- Technical Description
- FCC/IC Label and Location Info
- Photo Document
- User Manual

4 Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

Radio Spectrum: The equipment under test (EUT) was configured at its highest power output in order to measure its highest possible radiation and conducted level. The test modes were adapted accordingly in reference to the instructions for use.

Emission: The equipment under test (EUT) was configured to measure its highest possible radiation 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.

4.3 Special Accessories and Auxiliary Equipment

Table 5: List of Accessories and Auxiliary Equipment

Description	Manufacturer	Model	S/N
Notebook	Lenovo	ThinkPad X240	PC0GP71G

4.4 Countermeasures to Achieve EMC Compliance

The test sample which has been tested contained the noise suppression parts as described in the Technical Construction File (TCF).

No additional measures were employed to achieve compliance.

4.5 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test (Below 1GHz)

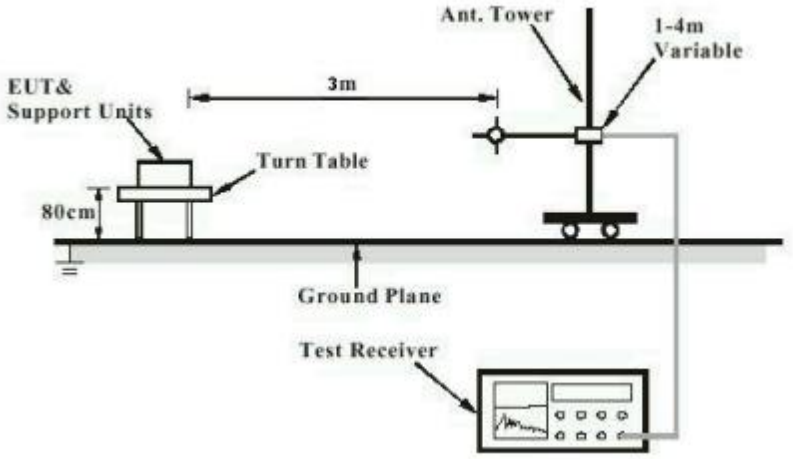


Diagram of Measurement Configuration for Radiation Test (Above 1GHz)

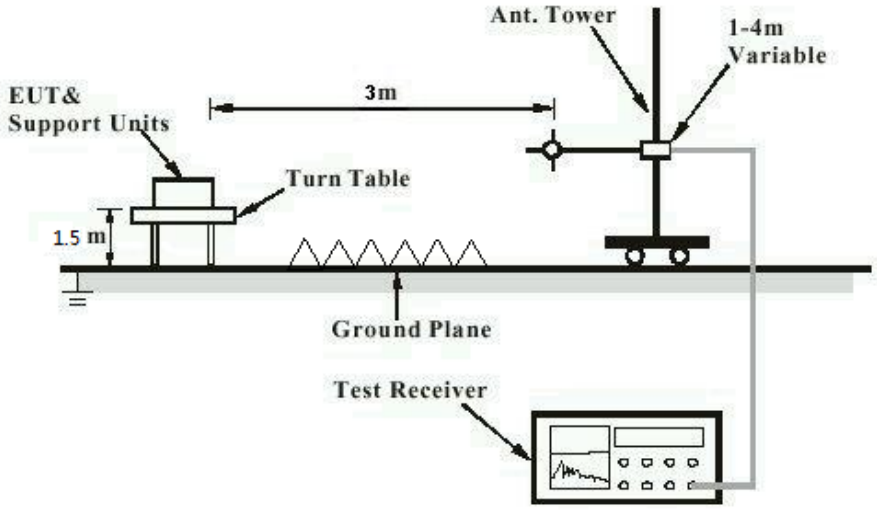
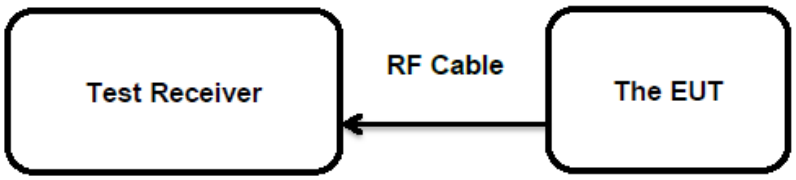


Diagram of Measurement Configuration for Conducted Transmitter Measurement



5 Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Maximum Peak Conducted Output Power

RESULT: **Pass**

Test Specification

Test standard	:	FCC Part 15.247(b)(1) RSS-247 Clause 5.4(b)
Basic standard	:	ANSI C63.10: 2013
Limits :		FHSS<0.125W(Maximum peak conducted output power) < 4 W (e.i.r.p.)
Kind of test site	:	Shielded Room

Test Setup

Date of testing	:	19.09.2019 - 25.09.2019
Input voltage	:	DC 3.7V
Operation mode	:	A.1
Test channel	:	Low, Middle, High
Ambient temperature	:	23 ℃
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

Table 6: Test Result of Maximum Peak Conducted Output Power

Test Mode	Channel Frequency (MHz)	Measured Peak Output Power		Limit (W)
		(dBm)	(W)	
BDR	2402	-3.53	0.00044	< 0.125
	2441	-3.15	0.00048	
	2480	-2.98	0.00050	
EDR	2402	-2.43	0.00057	< 0.125
	2441	-2.04	0.00063	
	2480	-1.92	0.00064	

Note: The cable loss is taken into account in results and the maximum e.i.r.p. is -1.92 dBm less than 4W(36dBm).

5.1.2 Radiated Spurious & Band Edge Emission

RESULT: **Pass**

Test Specification

Test standard	:	FCC Part 15.247(d) & FCC Part 15.205 RSS-247 Clause 3.3
Basic standard	:	ANSI C63.10: 2013
Limits	:	Refer to 15.209(a) of FCC part 15.247(d) RSS-Gen Table 6 & Table 7
Kind of test site	:	3m Semi-anechoic Chamber

Test Setup

Date of testing	:	19.09.2019 - 25.09.2019
Input voltage	:	DC 3.7V
Operation mode	:	A.1
Test channel	:	Low, Middle, High
Ambient temperature	:	23 ℃
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

Remark:
During the pretest the EUT was rotated through three orthogonal axes to determine the attitude that maximizes the emissions. After that the EUT was manually handled to find the orientation that has the maximum emission, which is the orientation shown in the test set-up photos.

Testing was carried out within frequency range 9kHz to the tenth harmonics.

For the measurement records, refer to the appendix B.

6 Photographs of the Test Set-Up

For photographs of the test set-up, refer to the appendix A.

7 List of Tables

Appendix B

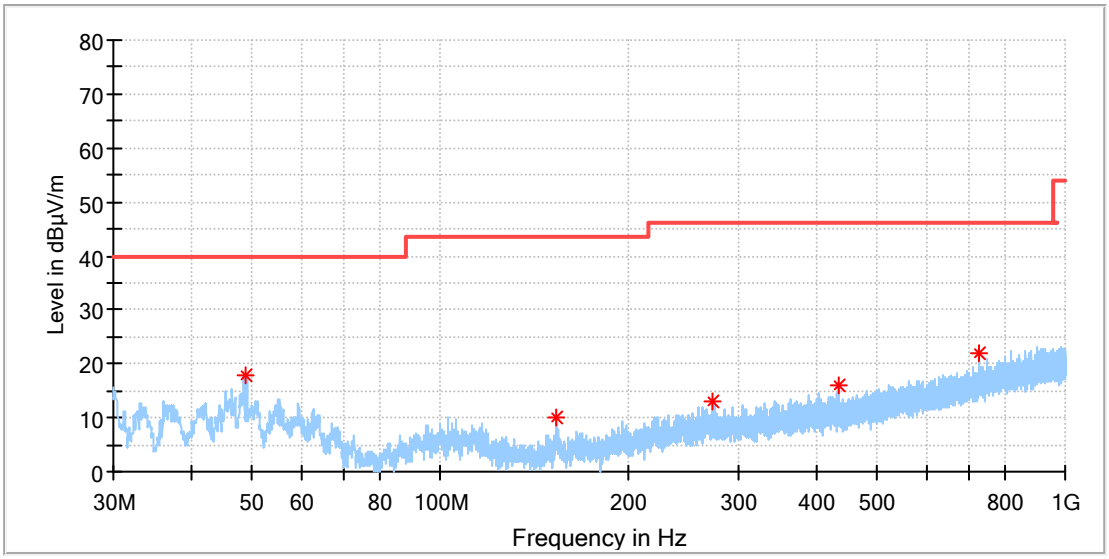
Test Results of Radiated Emission

Note: The radiated spurious emission were measured from 9KHz to 26.5GHz, the measurements from 9KHz-30MHz with active loop antenna were greater than 20dB below the limit, so the radiated Spurious Emissions (9kHz – 30MHz) tests were recorded but not showed in the appendix B.

Appendix B.1: Test Plots of Radiated Spurious Emission

BDR mode, 30MHz - 1GHz

EUT Name:	Bluetooth headset
Model:	NS-MBTHS
Test Mode:	TX
Test Voltage::	DC 3.7V from Battery
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

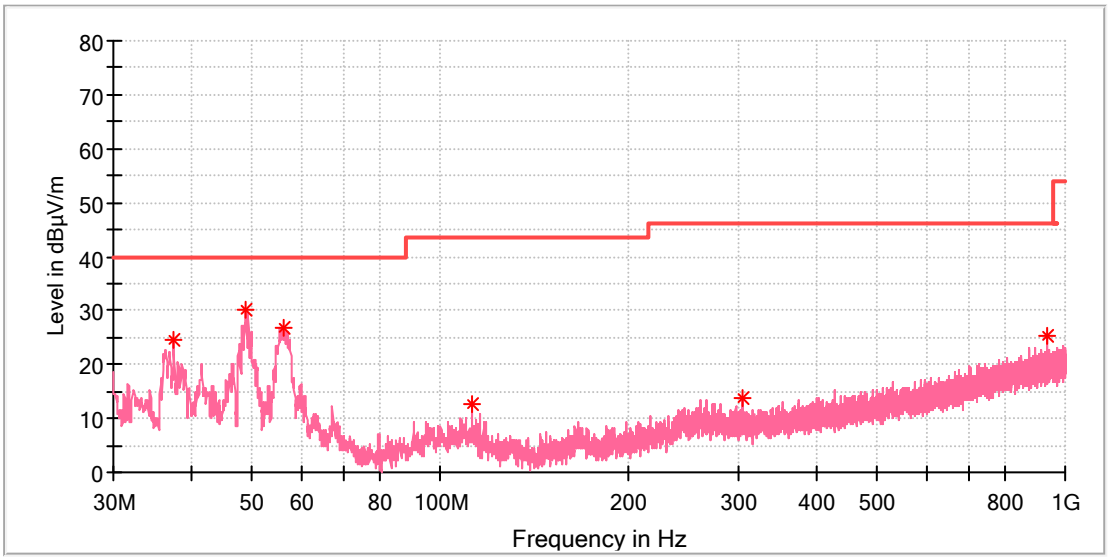


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
49.012000	17.97	---	40.00	22.03	100.0	H	153.0	-18.6
153.093000	10.22	---	43.50	33.28	100.0	H	209.0	-22.4
272.597000	12.93	---	46.00	33.07	100.0	H	218.0	-17.2
433.326000	15.82	---	46.00	30.18	100.0	H	103.0	-13.5
728.594000	22.09	---	46.00	23.91	100.0	H	68.0	-7.9

EUT Information

EUT Name:	Bluetooth headset
Model:	NS-MBTHS
Test Mode:	TX
Test Voltage::	DC 3.7V from Battery
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

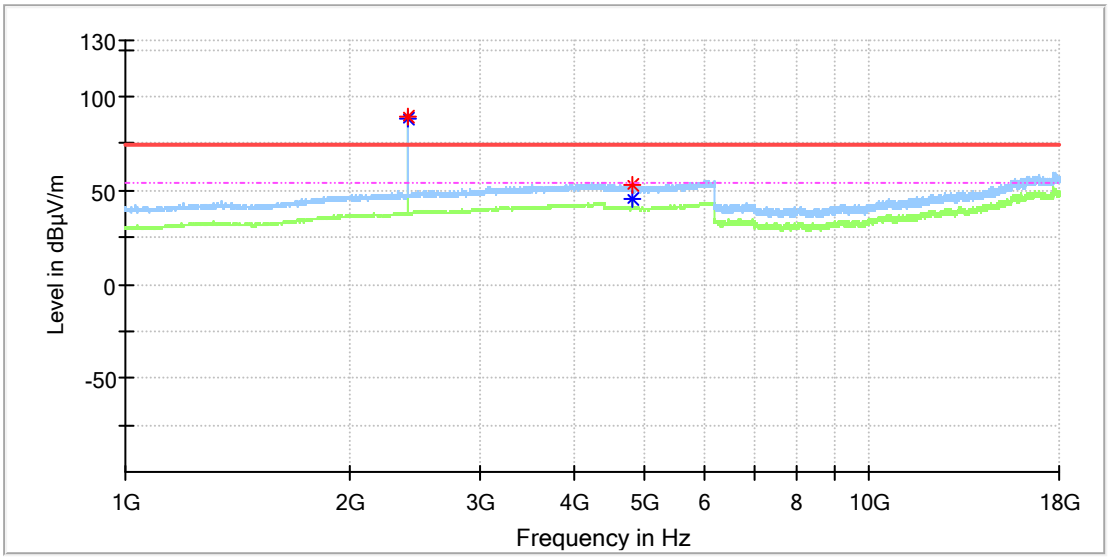


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
37.469000	24.62	---	40.00	15.38	100.0	V	79.0	-21.3
48.818000	30.15	---	40.00	9.85	100.0	V	195.0	-18.6
56.335500	26.76	---	40.00	13.24	100.0	V	71.0	-18.9
112.450000	12.51	---	43.50	30.99	100.0	V	0.0	-19.7
304.267500	13.94	---	46.00	32.06	100.0	V	48.0	-16.5
937.532000	25.26	---	46.00	20.74	100.0	V	252.0	-5.0

BDR mode, 1GHz - 18GHz

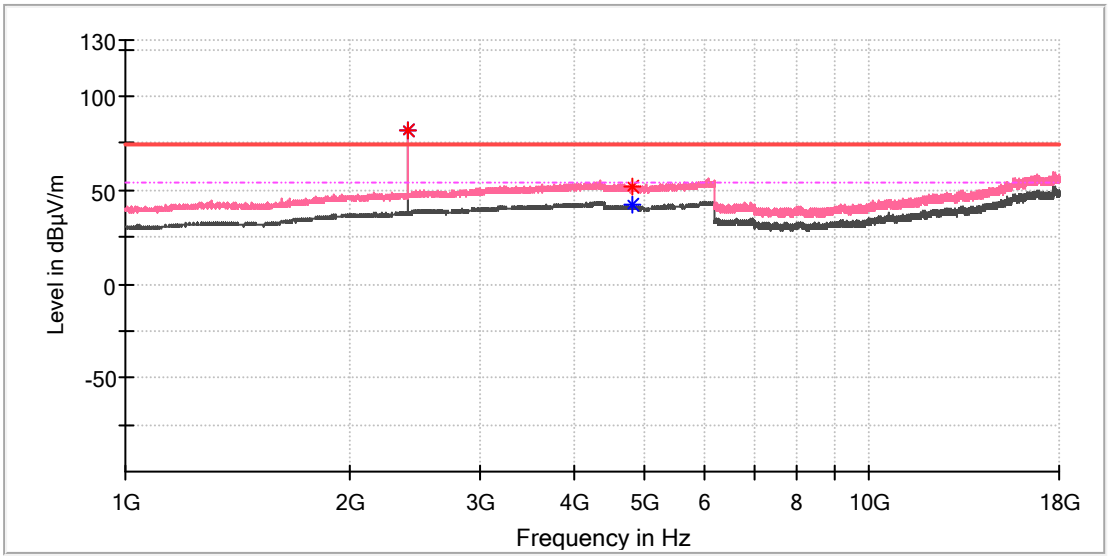
EUT Name:	Bluetooth headset
Model:	NS-MBTHS
Test Mode:	TX BT Low Channel
Test Voltage::	DC 3.7V from Battery
Test Standard:	FCC 15.247
Reviewed By:	Terry Yin



Criti

cal_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2402.000000	---	88.57	54.00	-34.57	100.0	H	183.0	7.0
2402.000000	89.17	---	74.00	-15.17	100.0	H	183.0	7.0
4804.000000	52.78	---	74.00	21.22	100.0	H	162.0	13.6
4804.000000	---	45.62	54.00	8.38	100.0	H	162.0	13.6

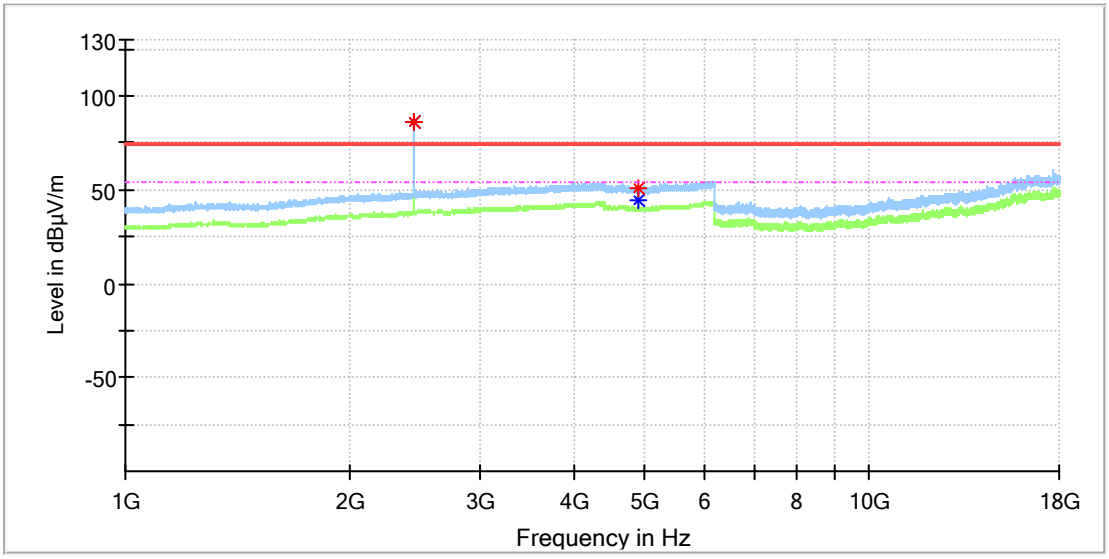


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2402.000000	---	81.92	54.00	-27.92	200.0	V	176.0	7.0
2402.000000	82.37	---	74.00	-8.37	200.0	V	176.0	7.0
4804.000000	---	42.06	54.00	11.94	100.0	V	234.0	13.6

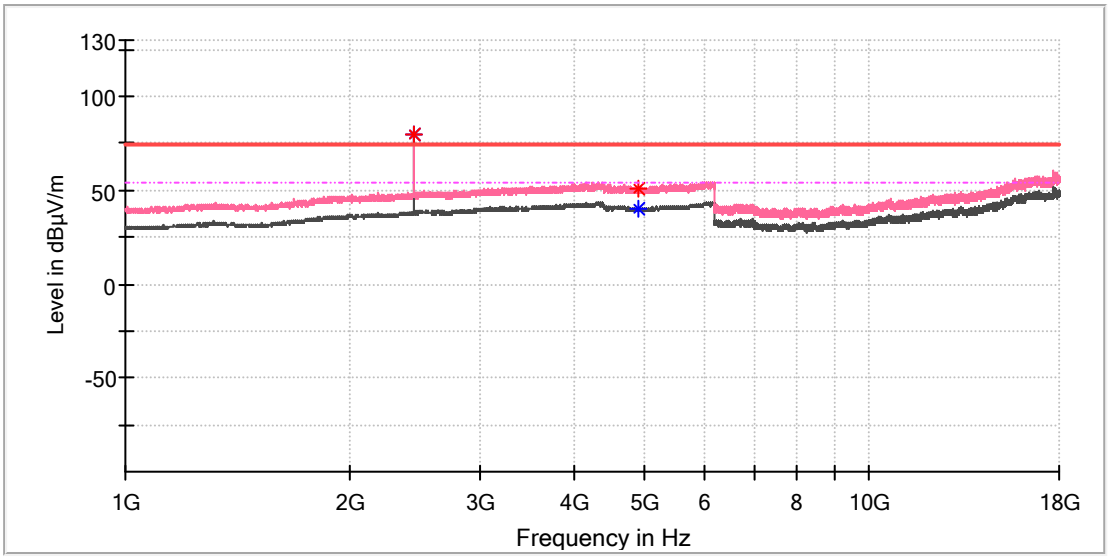
4806.500000	**51.94**	**---**	**74.00**	**22.06**	**100.0**	**V**	**10.0**	**13.6**

EUT Name: Bluetooth headset
Model: NS-MBTHS
Test Mode: TX BT Mid Channel
Test Voltage:: DC 3.7V from Battery
Test Standard: FCC 15.247
Reviewed By: Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2441.000000	**---**	**85.79**	**54.00**	**-31.79**	**100.0**	**H**	**172.0**	**7.4**
2441.000000	**86.34**	**---**	**74.00**	**-12.34**	**100.0**	**H**	**172.0**	**7.4**
4882.000000	**50.85**	**---**	**74.00**	**23.15**	**100.0**	**H**	**196.0**	**13.4**
4882.000000	**---**	**44.00**	**54.00**	**10.00**	**100.0**	**H**	**196.0**	**13.4**

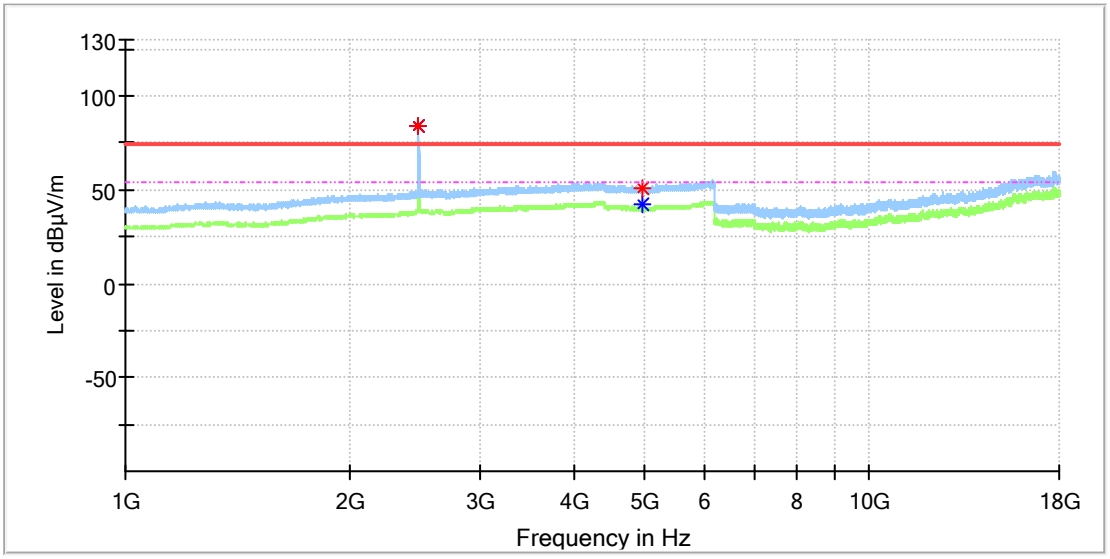


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2441.000000	**79.62**	**---**	**74.00**	**-5.62**	**100.0**	**V**	**198.0**	**7.4**
2441.000000	**---**	**79.20**	**54.00**	**-25.20**	**100.0**	**V**	**198.0**	**7.4**
4882.000000	**---**	**40.15**	**54.00**	**13.85**	**100.0**	**V**	**276.0**	**13.4**

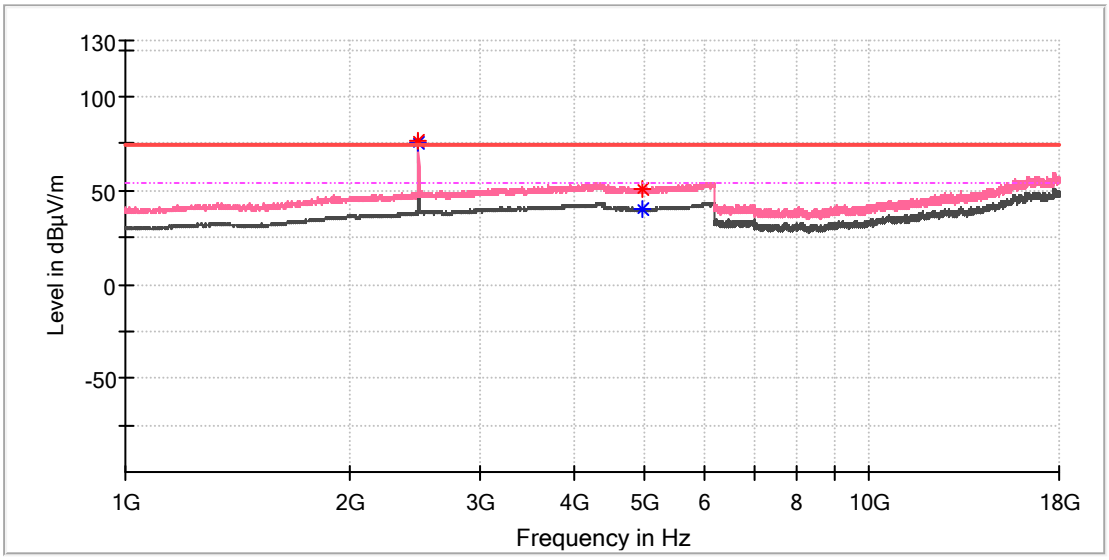
4890.500000	**51.21**	**---**	**74.00**	**22.79**	**100.0**	**V**	**310.0**	**13.3**

EUT Name: Bluetooth headset
Model: NS-MBTHS
Test Mode: TX BT High Channel
Test Voltage:: DC 3.7V from Battery
Test Standard: FCC 15.247
Reviewed By: Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2480.000000	**84.30**	**---**	**74.00**	**-10.30**	**100.0**	**H**	**179.0**	**7.4**
2480.000000	**---**	**83.89**	**54.00**	**-29.89**	**100.0**	**H**	**179.0**	**7.4**
4960.000000	**---**	**42.43**	**54.00**	**11.57**	**100.0**	**H**	**159.0**	**13.2**
4966.000000	**51.11**	**---**	**74.00**	**22.89**	**100.0**	**H**	**152.0**	**13.2**



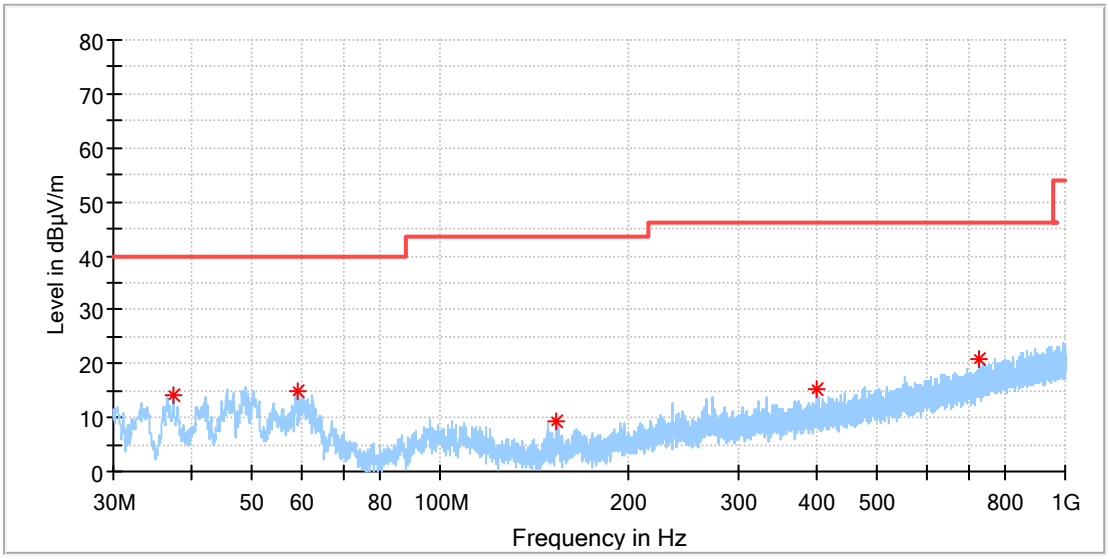
Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2480.000000	**---**	**75.77**	**54.00**	**-21.77**	**100.0**	**V**	**186.0**	**7.4**
2480.000000	**76.24**	**---**	**74.00**	**-2.24**	**100.0**	**V**	**186.0**	**7.4**
4955.500000	**50.94**	**---**	**74.00**	**23.06**	**100.0**	**V**	**83.0**	**13.2**
4960.000000	**---**	**40.33**	**54.00**	**13.67**	**100.0**	**V**	**2.0**	**13.2**

EDR mode, 30MHz - 1GHz

EUT Information

EUT Name:	Bluetooth headset
Model:	NS-MBTHS
Test Mode:	TX
Test Voltage::	DC 3.7V from Battery
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

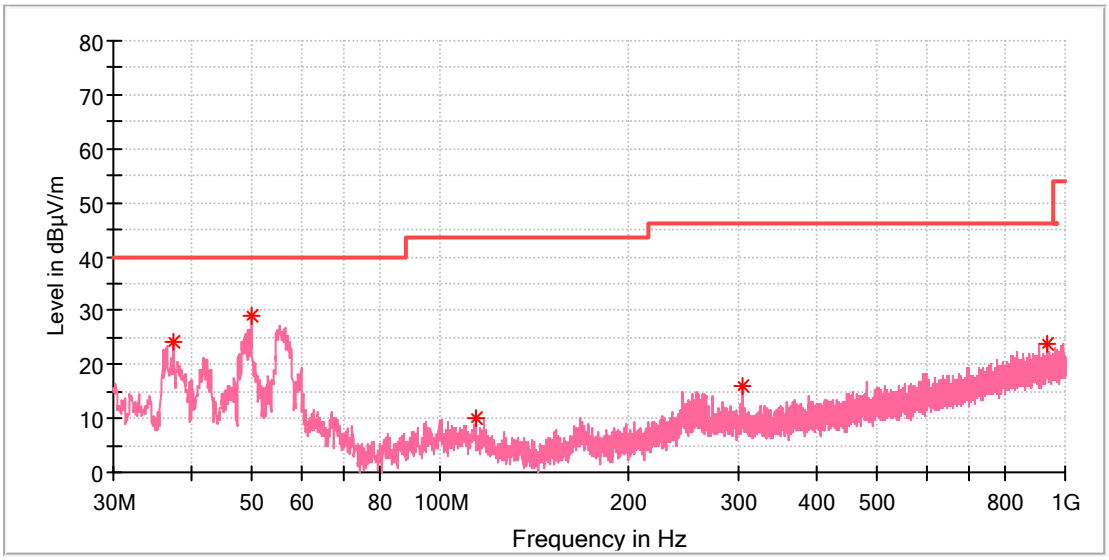


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
37.469000	14.03	---	40.00	25.97	100.0	H	228.0	-21.3
58.954500	14.78	---	40.00	25.22	100.0	H	106.0	-19.2
153.141500	9.42	---	43.50	34.08	100.0	H	220.0	-22.4
398.988000	15.11	---	46.00	30.89	100.0	H	122.0	-14.1
729.224500	20.87	---	46.00	25.13	100.0	H	337.0	-7.9

EUT Information

EUT Name:	Bluetooth headset
Model:	NS-MBTHS
Test Mode:	TX
Remark:	Temp 23 Humi:56%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

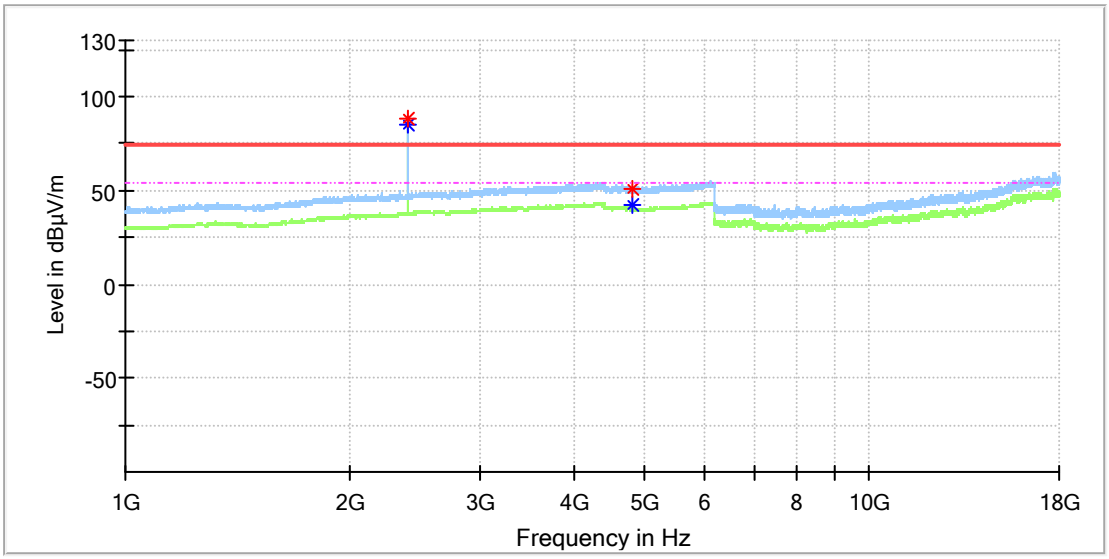


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
37.469000	24.34	---	40.00	15.66	100.0	V	64.0	-21.3
49.982000	29.06	---	40.00	10.94	100.0	V	204.0	-18.6
114.002000	10.13	---	43.50	33.37	100.0	V	15.0	-19.9
303.782500	16.10	---	46.00	29.90	100.0	V	179.0	-16.5
937.532000	23.84	---	46.00	22.16	100.0	V	345.0	-5.0

EDR mode, 1GHz - 18GHz

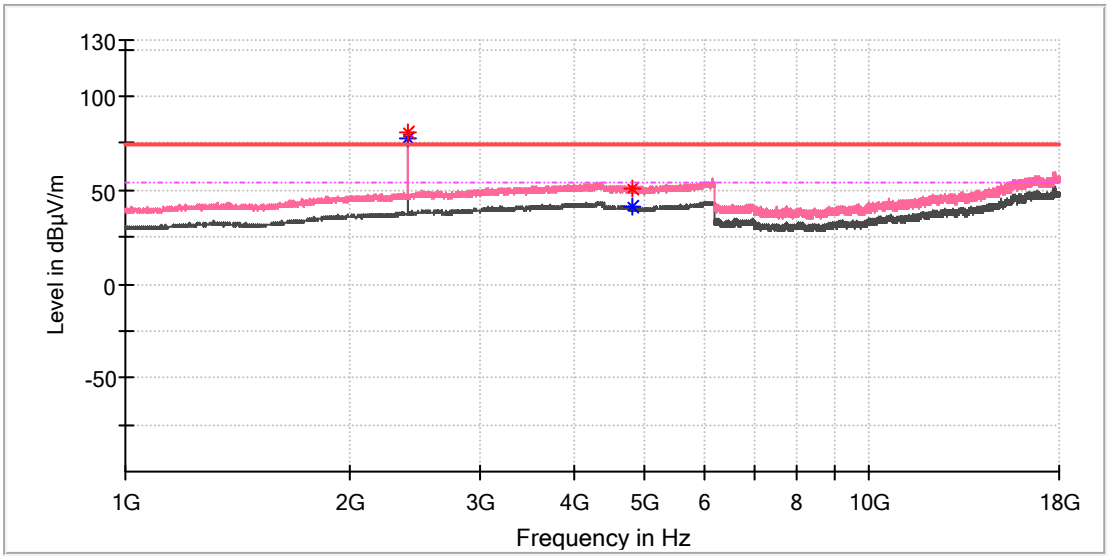
EUT Name:	Bluetooth headset
Model:	NS-MBTHS
Test Mode:	TX BT Low Channel
Test Voltage::	DC 3.7V from Battery
Test Standard:	FCC 15.247
Reviewed By:	Terry Yin



Criti

cal_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2402.000000	---	84.58	54.00	-30.58	100.0	H	179.0	7.0
2402.000000	87.81	---	74.00	-13.81	100.0	H	179.0	7.0
4800.000000	51.27	---	74.00	22.73	100.0	H	297.0	13.6
4803.500000	---	42.33	54.00	11.67	100.0	H	187.0	13.6



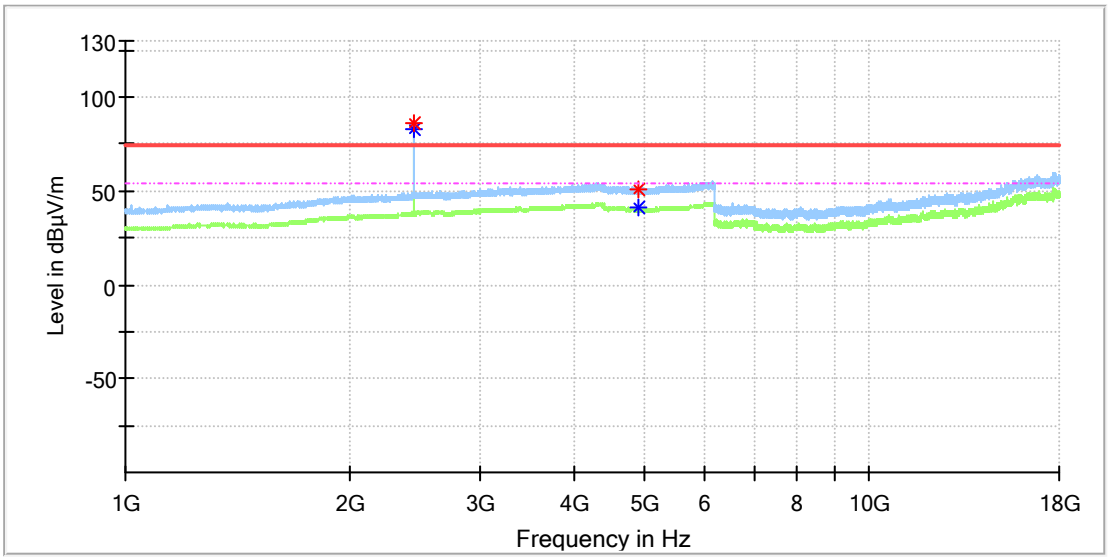
Criti

cal_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2402.000000	---	77.79	54.00	-23.79	100.0	V	186.0	7.0
2402.000000	81.09	---	74.00	-7.09	100.0	V	186.0	7.0

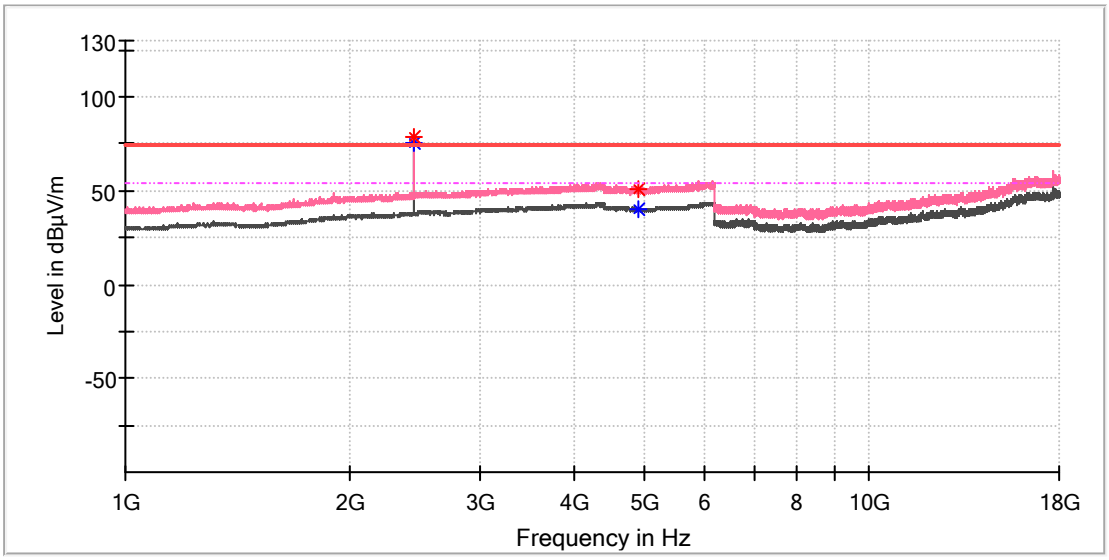
4804.000000	**51.19**	**---**	**74.00**	**22.81**	**100.0**	**V**	**45.0**	**13.6**
4805.500000	**---**	**40.82**	**54.00**	**13.18**	**100.0**	**V**	**136.0**	**13.6**

EUT Name: Bluetooth headset
Model: NS-MBTHS
Test Mode: TX BT Mid Channel
Test Voltage:: DC 3.7V from Battery
Test Standard: FCC 15.247
Reviewed By: Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2441.000000	**---**	**82.61**	**54.00**	**-28.61**	**100.0**	**H**	**184.0**	**7.4**
2441.000000	**86.08**	**---**	**74.00**	**-12.08**	**100.0**	**H**	**184.0**	**7.4**
4882.000000	**---**	**41.29**	**54.00**	**12.71**	**100.0**	**H**	**195.0**	**13.4**
4884.500000	**50.69**	**---**	**74.00**	**23.31**	**100.0**	**H**	**315.0**	**13.4**

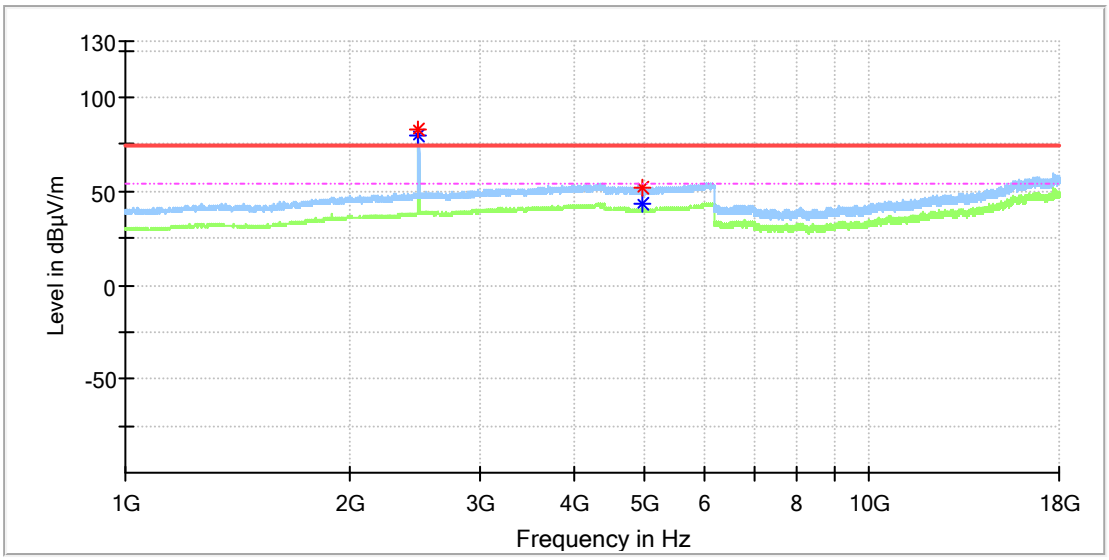


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2441.000000	**---**	**75.58**	**54.00**	**-21.58**	**100.0**	**V**	**193.0**	**7.4**
2441.000000	**79.05**	**---**	**74.00**	**-5.05**	**100.0**	**V**	**193.0**	**7.4**
4886.000000	**51.19**	**---**	**74.00**	**22.81**	**100.0**	**V**	**97.0**	**13.3**

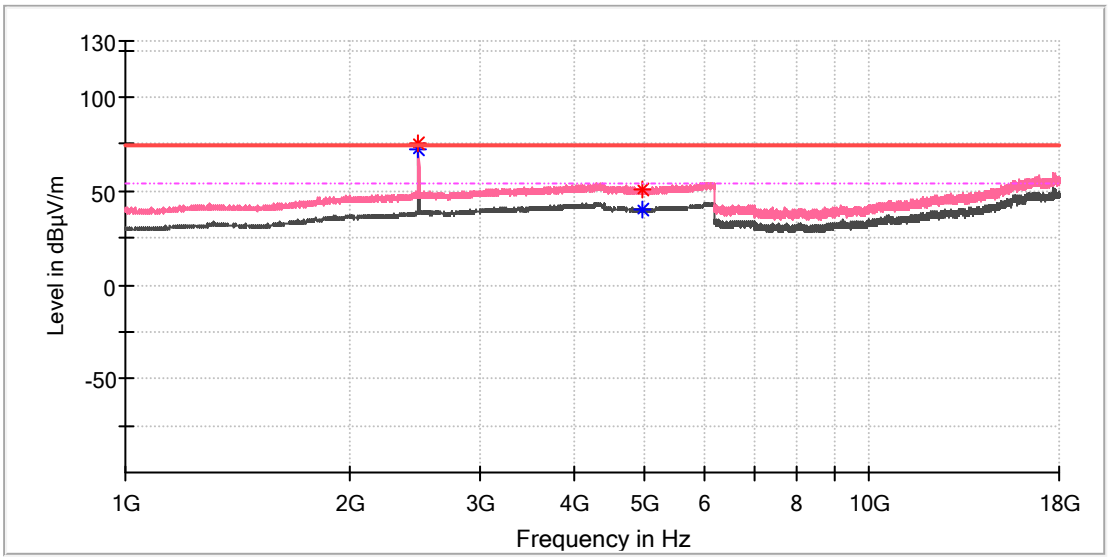
4886.500000	---	39.66	54.00	14.34	100.0	V	66.0	13.3

EUT Name: Bluetooth headset
Model: NS-MBTHS
Test Mode: TX BT High Channel
Test Voltage:: DC 3.7V from Battery
Test Standard: FCC 15.247
Reviewed By: Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2480.000000	---	80.10	54.00	-26.10	100.0	H	173.0	7.4
2480.000000	83.38	---	74.00	-9.38	100.0	H	173.0	7.4
4959.000000	52.38	---	74.00	21.62	100.0	H	164.0	13.2
4959.500000	---	42.86	54.00	11.14	100.0	H	164.0	13.2



Critical_Freqs

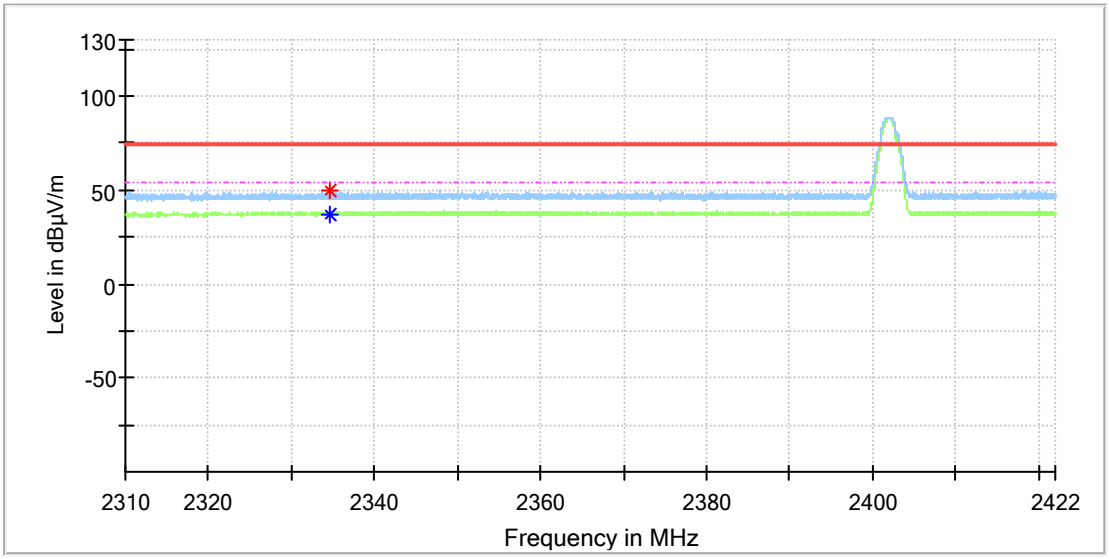
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2480.000000	75.11	---	74.00	-1.11	100.0	V	149.0	7.4
2480.000000	---	72.11	54.00	-18.11	100.0	V	149.0	7.4
4961.000000	---	40.39	54.00	13.61	100.0	V	60.0	13.2

4963.500000	**50.66**	**---**	**74.00**	**23.34**	**100.0**	**V**	**208.0**	**13.2**

Appendix B.2: Test Plots of Band Edge (Radiated)

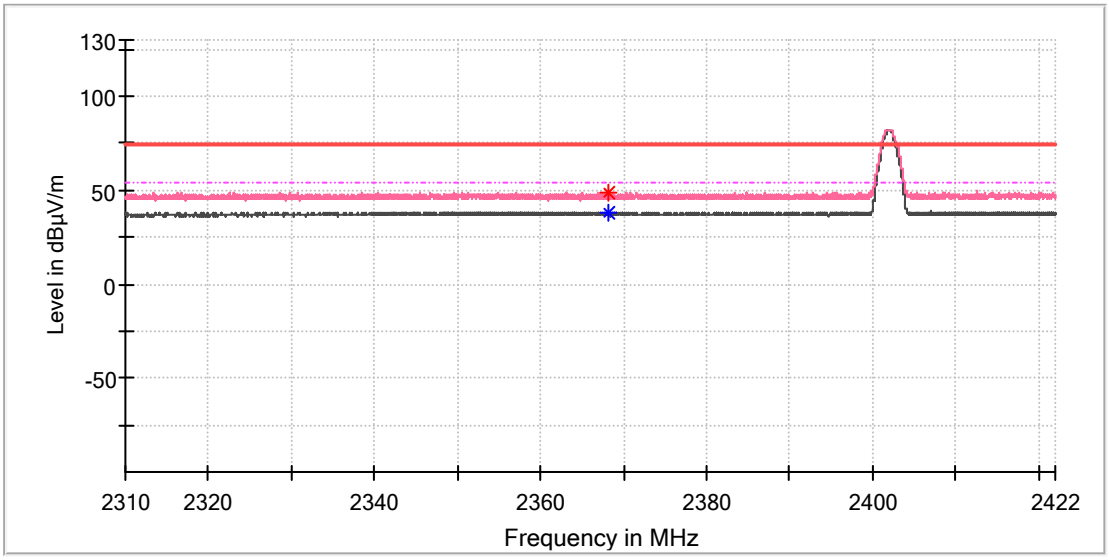
BDR mode, Low Channel

EUT Name:	Bluetooth headset
Model:	NS-MBTHS
Test Mode:	TX BT Low Channel
Test Voltage::	DC 3.7V from Battery
Test Standard:	FCC 15.247
Reviewed By:	Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2334.508235	49.88	---	74.00	24.12	100.0	H	181.0	6.8
2334.557647	---	37.46	54.00	16.54	100.0	H	190.0	6.8

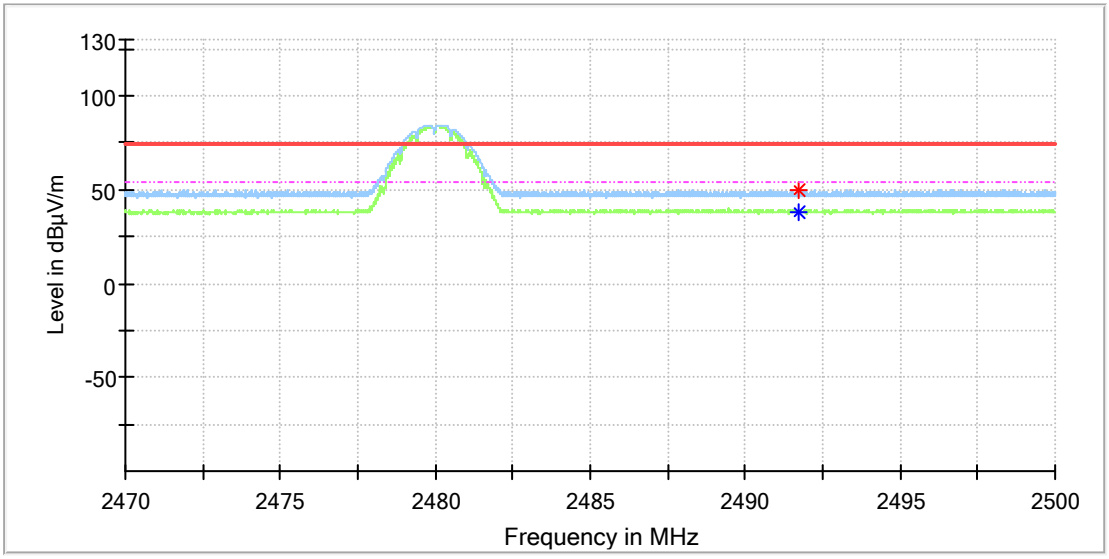


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2368.075294	48.95	---	74.00	25.05	100.0	V	288.0	6.9
2368.157647	---	37.70	54.00	16.30	100.0	V	203.0	6.9

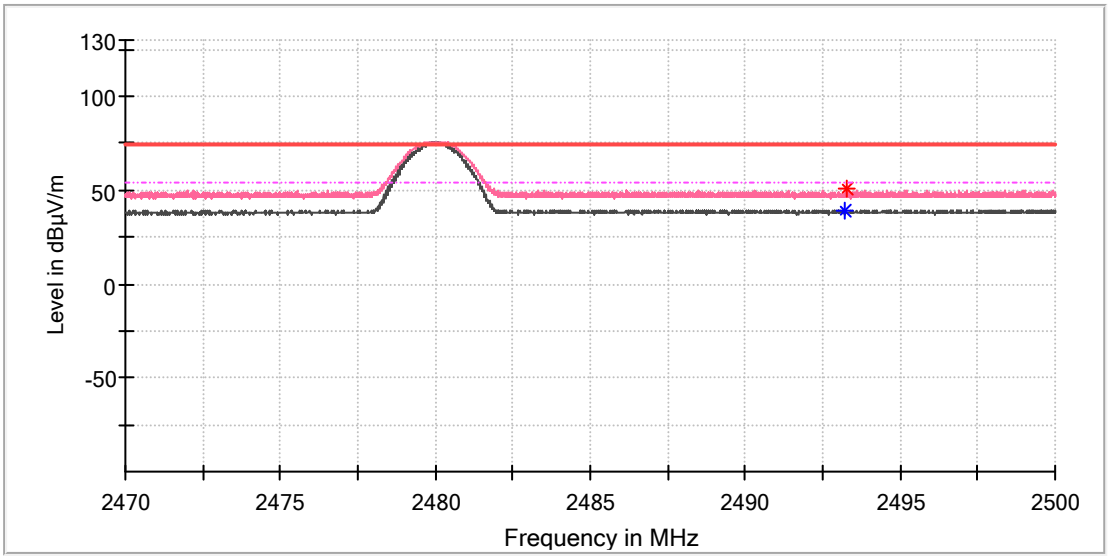
BDR mode, High Channel

EUT Name:	Bluetooth headset
Model:	NS-MBTHS
Test Mode:	TX BT High Channel
Test Voltage::	DC 3.7V from Battery
Test Standard:	FCC 15.247
Reviewed By:	Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2491.714706	49.37	---	74.00	24.63	100.0	H	338.0	7.4
2491.741177	---	38.40	54.00	15.60	100.0	H	276.0	7.4

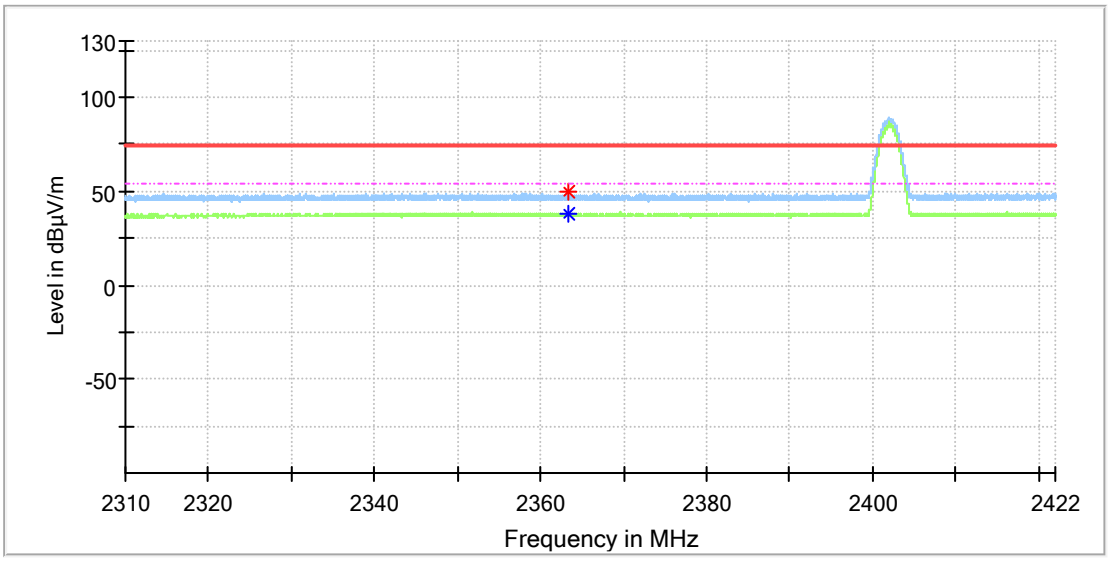


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2493.214706	---	38.56	54.00	15.44	100.0	V	15.0	7.4
2493.245588	50.38	---	74.00	23.62	100.0	V	0.0	7.4

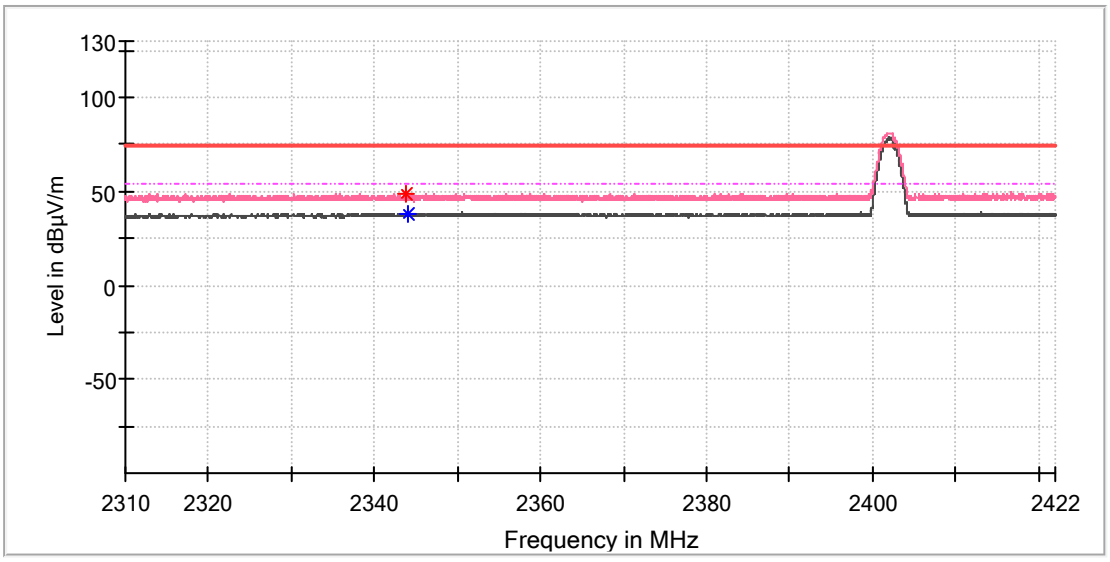
EDR mode, Low Channel

EUT Name:	Bluetooth headset
Model:	NS-MBTHS
Test Mode:	TX BT Low Channel
Test Voltage::	DC 3.7V from Battery
Test Standard:	FCC 15.247
Reviewed By:	Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2363.331765	---	38.13	54.00	15.87	100.0	H	195.0	6.9
2363.331765	49.30	---	74.00	24.70	100.0	H	195.0	6.9

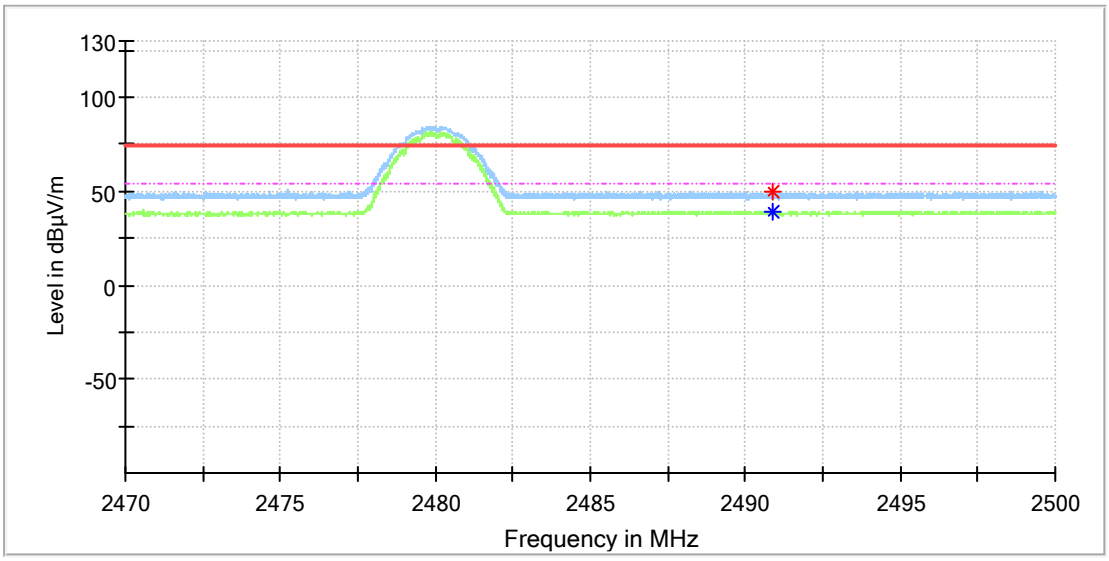


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2343.731765	49.23	---	74.00	24.77	100.0	V	79.0	6.9
2343.978824	---	37.71	54.00	16.29	100.0	V	183.0	6.9

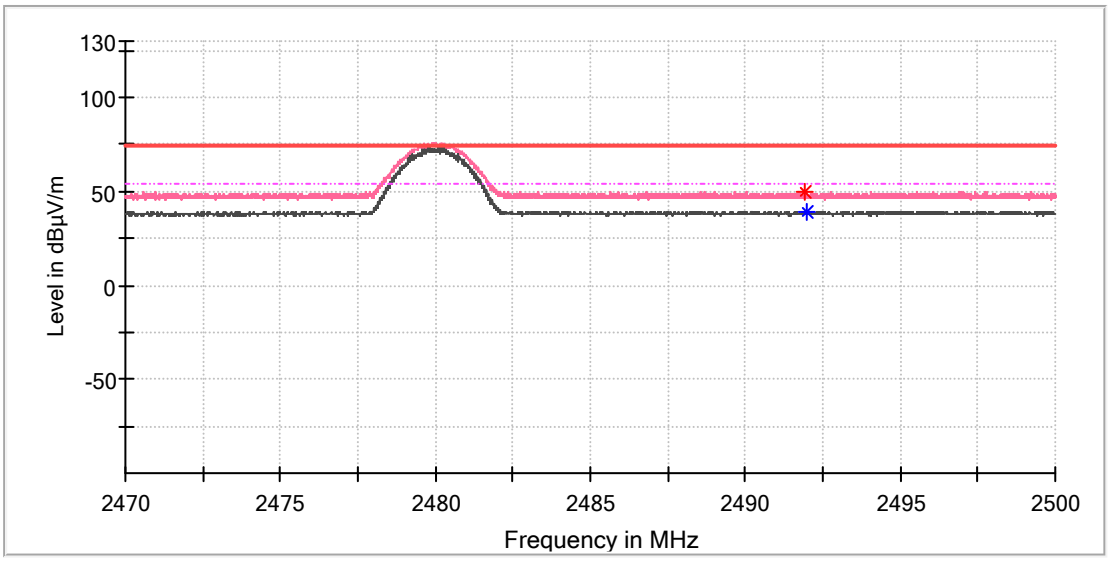
EDR mode, High Channel

EUT Name:	Bluetooth headset
Model:	NS-MBTHS
Test Mode:	TX BT High Channel
Test Voltage::	DC 3.7V from Battery
Test Standard:	FCC 15.247
Reviewed By:	Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2490.854412	49.33	---	74.00	24.67	100.0	H	93.0	7.4
2490.880882	---	39.06	54.00	14.94	100.0	H	6.0	7.4



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2491.930882	49.78	---	74.00	24.22	100.0	V	236.0	7.4
2491.952941	---	38.71	54.00	15.29	100.0	V	254.0	7.4