

OUTPUT POWER



TEST DESCRIPTION

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

The peak output power was measured with the EUT set to low, medium and high transmit frequencies. The EUT was transmitting in a no hop mode at the data rate(s) listed in the datasheet.

The method found in ANSI C63.10:2013 Section 7.8.5 was used for a FHSS radio.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFO	2023-10-04	2024-10-04
Block - DC	Fairview Microwave	SD3379	AMW	2023-03-13	2024-03-13
Attenuator	S.M. Electronics	SA26B-20	AUY	2023-03-13	2024-03-13
Cable	Micro-Coax	UFD150A-1-0720-200200	EVI	2022-12-02	2023-12-02
Generator - Signal	Keysight	N5182B	TFU	2022-12-02	2024-12-02

OUTPUT POWER



EUT:	APx516B	Work Order:	AUDIO315
Serial Number:	3516 B	Date:	2023-11-06
Customer:	Audio Precision	Temperature:	20.5°C
Attendees:	None	Relative Humidity:	51.4%
Customer Project:	None	Bar. Pressure (PMSL):	1002 mbar
Tested By:	Christopher Ladwig and Jeff Alcock	Job Site:	EV06
Power:	110VAC/60Hz	Configuration:	AUDIO315-1
Signature:			

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.247:2023	ANSI C63.10:2013
RSS-247 Issue 2:2023	ANSI C63.10:2013

COMMENTS

Reference level offset includes: DC Block, 20 dB attenuator, and measurement cable

DEVIATIONS FROM TEST STANDARD

None

TEST RESULTS

		Out Pwr (dBm)	Limit (dBm)	Result
Source				
	DH5, GFSK			
	Low Channel, 2402 MHz	9.214	21	Pass
	Mid Channel, 2441 MHz	9.267	21	Pass
	High Channel, 2480 MHz	8.983	21	Pass
	2DH5, pi/4-DQPSK			
	Low Channel, 2402 MHz	8.618	21	Pass
	Mid Channel, 2441 MHz	8.669	21	Pass
	High Channel, 2480 MHz	8.282	21	Pass
	3DH5, 8-DPSK			
	Low Channel, 2402 MHz	8.711	21	Pass
	Mid Channel, 2441 MHz	8.778	21	Pass
	High Channel, 2480 MHz	8.458	21	Pass
Sink				
	DH5, GFSK			
	Low Channel, 2402 MHz	8.917	21	Pass
	Mid Channel, 2441 MHz	9.023	21	Pass
	High Channel, 2480 MHz	8.775	21	Pass
	2DH5, pi/4-DQPSK			
	Low Channel, 2402 MHz	8.313	21	Pass
	Mid Channel, 2441 MHz	8.355	21	Pass
	High Channel, 2480 MHz	8.043	21	Pass
	3DH5, 8-DPSK			
	Low Channel, 2402 MHz	8.395	21	Pass
	Mid Channel, 2441 MHz	8.49	21	Pass
	High Channel, 2480 MHz	8.211	21	Pass

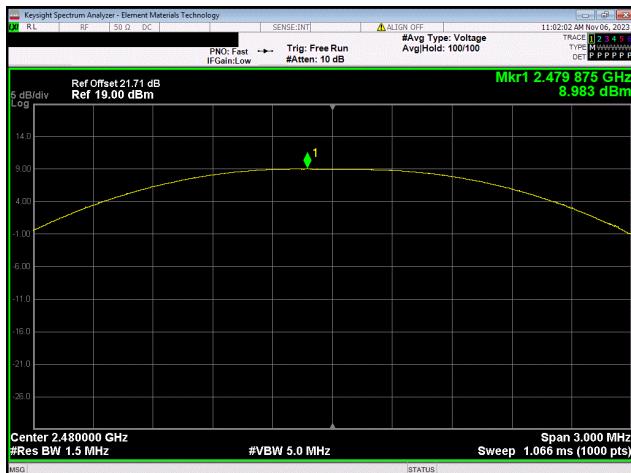
OUTPUT POWER



Source
DH5, GFSK
Low Channel, 2402 MHz



Source
DH5, GFSK
Mid Channel, 2441 MHz



Source
DH5, GFSK
High Channel, 2480 MHz

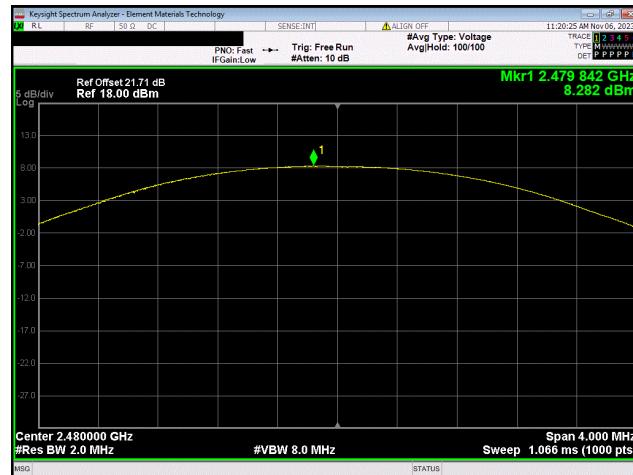


Source
2DH5, pi/4-DQPSK
Low Channel, 2402 MHz

OUTPUT POWER



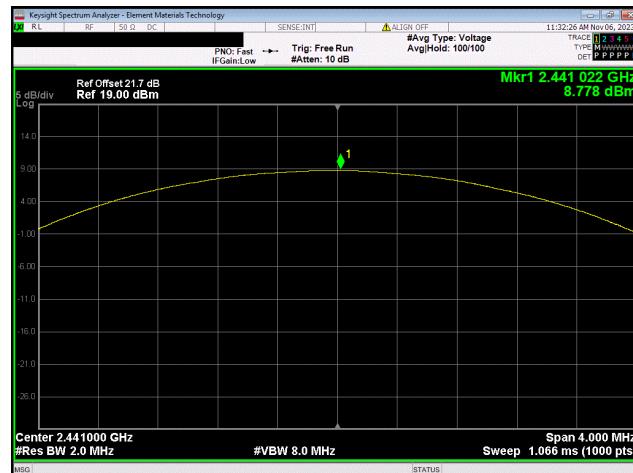
Source
2DH5, pi/4-DQPSK
Mid Channel, 2441 MHz



Source
2DH5, pi/4-DQPSK
High Channel, 2480 MHz

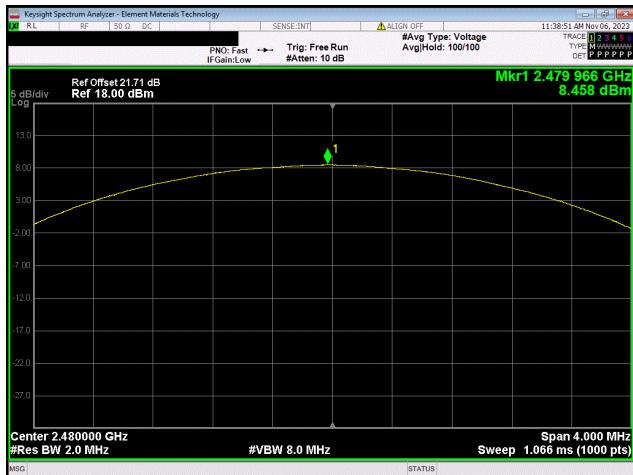


Source
3DH5, 8-DPSK
Low Channel, 2402 MHz



Source
3DH5, 8-DPSK
Mid Channel, 2441 MHz

OUTPUT POWER



Source
3DH5, 8-DPSK
High Channel, 2480 MHz



Sink
DH5, GFSK
Low Channel, 2402 MHz



Sink
DH5, GFSK
Mid Channel, 2441 MHz

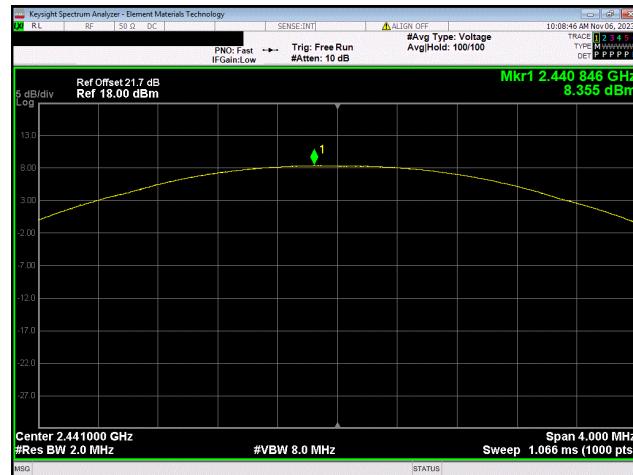


Sink
DH5, GFSK
High Channel, 2480 MHz

OUTPUT POWER



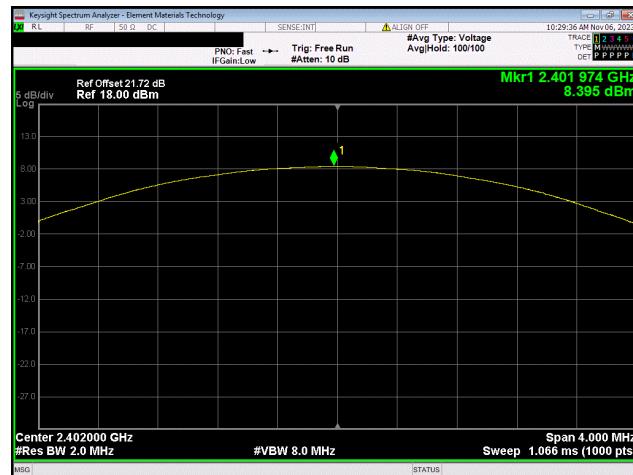
Sink
2DH5, pi/4-DQPSK
Low Channel, 2402 MHz



Sink
2DH5, pi/4-DQPSK
Mid Channel, 2441 MHz

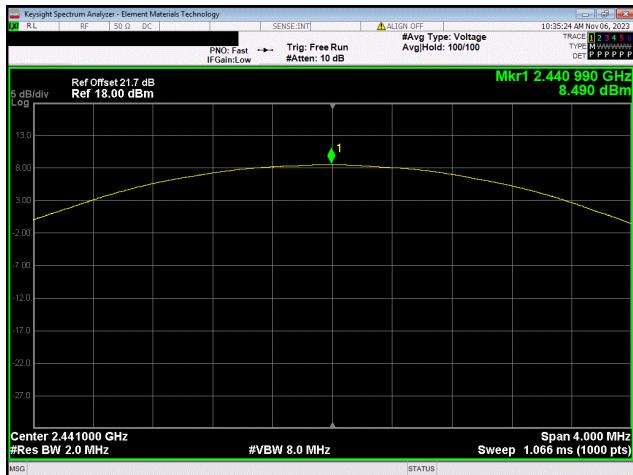


Sink
2DH5, pi/4-DQPSK
High Channel, 2480 MHz

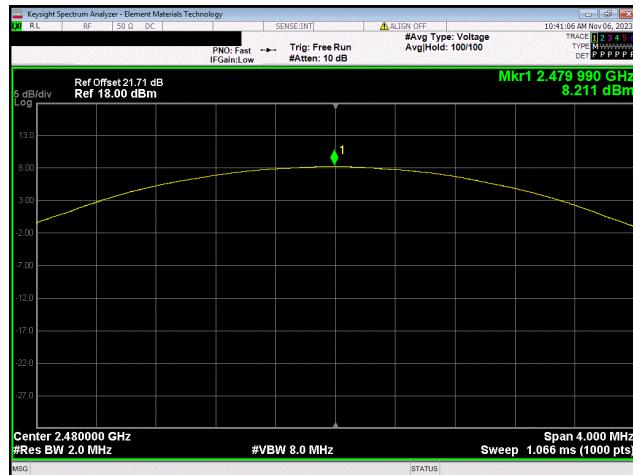


Sink
3DH5, 8-DPSK
Low Channel, 2402 MHz

OUTPUT POWER



Sink
3DH5, 8-DPSK
Mid Channel, 2441 MHz



Sink
3DH5, 8-DPSK
High Channel, 2480 MHz

EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)



TEST DESCRIPTION

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

The peak output power was measured with the EUT set to low, medium and high transmit frequencies. The EUT was transmitting in a no hop mode at the data rate(s) listed in the datasheet.

The method found in ANSI C63.10:2013 Section 7.8.5 was used for a FHSS radio.

Equivalent Isotropic Radiated Power (EIRP) = Max Measured Power + Antenna gain (dBi)

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFO	2023-10-04	2024-10-04
Block - DC	Fairview Microwave	SD3379	AMW	2023-03-13	2024-03-13
Attenuator	S.M. Electronics	SA26B-20	AUY	2023-03-13	2024-03-13
Cable	Micro-Coax	UFD150A-1-0720-200200	EVI	2022-12-02	2023-12-02
Generator - Signal	Keysight	N5182B	TFU	2022-12-02	2024-12-02

EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)



EUT:	APx516B	Work Order:	AUDIO315
Serial Number:	3516 B	Date:	2023-11-06
Customer:	Audio Precision	Temperature:	20.5°C
Attendees:	None	Relative Humidity:	51.7%
Customer Project:	None	Bar. Pressure (PMSL):	1002 mbar
Tested By:	Christopher Ladwig	Job Site:	EV06
Power:	110VAC/60Hz	Configuration:	AUDIO315-1
Signature:			

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.247:2023	ANSI C63.10:2013
RSS-247 Issue 2:2023	ANSI C63.10:2013

COMMENTS

None

DEVIATIONS FROM TEST STANDARD

None

TEST RESULTS

		Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
Source	DH5, GFSK					
	Low Channel, 2402 MHz	9.214	2.6	11.8	27	Pass
	Mid Channel, 2441 MHz	9.267	2.6	11.9	27	Pass
	High Channel, 2480 MHz	8.983	2.6	11.6	27	Pass
	2DH5, pi/4-DQPSK					
	Low Channel, 2402 MHz	8.618	2.6	11.2	27	Pass
	Mid Channel, 2441 MHz	8.669	2.6	11.3	27	Pass
	High Channel, 2480 MHz	8.282	2.6	10.9	27	Pass
	3DH5, 8-DPSK					
	Low Channel, 2402 MHz	8.711	2.6	11.3	27	Pass
	Mid Channel, 2441 MHz	8.778	2.6	11.4	27	Pass
	High Channel, 2480 MHz	8.458	2.6	11.1	27	Pass
Sink	DH5, GFSK					
	Low Channel, 2402 MHz	8.917	2.6	11.5	27	Pass
	Mid Channel, 2441 MHz	9.023	2.6	11.6	27	Pass
	High Channel, 2480 MHz	8.775	2.6	11.4	27	Pass
	2DH5, pi/4-DQPSK					
	Low Channel, 2402 MHz	8.313	2.6	10.9	27	Pass
	Mid Channel, 2441 MHz	8.355	2.6	11.0	27	Pass
	High Channel, 2480 MHz	8.043	2.6	10.6	27	Pass
	3DH5, 8-DPSK					
	Low Channel, 2402 MHz	8.395	2.6	11.0	27	Pass
	Mid Channel, 2441 MHz	8.49	2.6	11.1	27	Pass
	High Channel, 2480 MHz	8.211	2.6	10.8	27	Pass

BAND EDGE COMPLIANCE



TEST DESCRIPTION

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

The spurious RF conducted emissions at the edges of the authorized band were measured with the EUT set to low and high transmit frequencies. The EUT was transmitting at the data rate(s) listed in the datasheet in a no hop mode. The channels closest to the band edges were selected.

The spectrum was scanned below the lower band edge and above the higher band edge. The analyzer screen captures for this test show an example of the emission mask for the test mode also used during the radiated spurious emissions at the restricted band edges test.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFO	2023-10-04	2024-10-04
Block - DC	Fairview Microwave	SD3379	AMW	2023-03-13	2024-03-13
Attenuator	S.M. Electronics	SA26B-20	AUY	2023-03-13	2024-03-13
Cable	Micro-Coax	UFD150A-1-0720-200200	EVI	2022-12-02	2023-12-02
Generator - Signal	Keysight	N5182B	TFU	2022-12-02	2024-12-02

BAND EDGE COMPLIANCE



EUT:	APx516B	Work Order:	AUDI0315
Serial Number:	3516 B	Date:	2023-11-06
Customer:	Audio Precision	Temperature:	20.5°C
Attendees:	None	Relative Humidity:	51.4%
Customer Project:	None	Bar. Pressure (PMSL):	1002 mbar
Tested By:	Christopher Ladwig and Jeff Alcock	Job Site:	EV06
Power:	110VAC/60Hz	Configuration:	AUDI0315-1
Signature:			

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.247:2023	ANSI C63.10:2013
RSS-247 Issue 2:2023	ANSI C63.10:2013

COMMENTS

Reference level offset includes: DC Block, 20 dB attenuator, and measurement cable

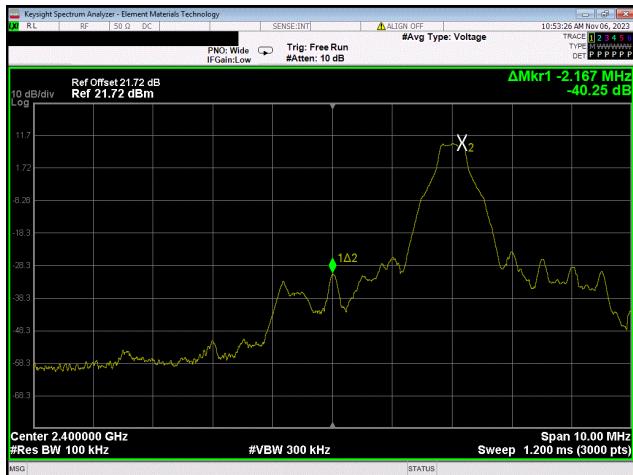
DEVIATIONS FROM TEST STANDARD

None

TEST RESULTS

		Value (dBc)	Limit ≤ (dBc)	Result
Source				
	DH5, GFSK			
	Low Channel, 2402 MHz	-40.25	-20	Pass
	High Channel, 2480 MHz	-62.01	-20	Pass
	2DH5, pi/4-DQPSK			
	Low Channel, 2402 MHz	-40.15	-20	Pass
	High Channel, 2480 MHz	-56.63	-20	Pass
	3DH5, 8-DPSK			
	Low Channel, 2402 MHz	-40.45	-20	Pass
	High Channel, 2480 MHz	-56.15	-20	Pass
Sink				
	DH5, GFSK			
	Low Channel, 2402 MHz	-43.86	-20	Pass
	High Channel, 2480 MHz	-61.8	-20	Pass
	2DH5, pi/4-DQPSK			
	Low Channel, 2402 MHz	-41.45	-20	Pass
	High Channel, 2480 MHz	-56.08	-20	Pass
	3DH5, 8-DPSK			
	Low Channel, 2402 MHz	-42.27	-20	Pass
	High Channel, 2480 MHz	-58.1	-20	Pass

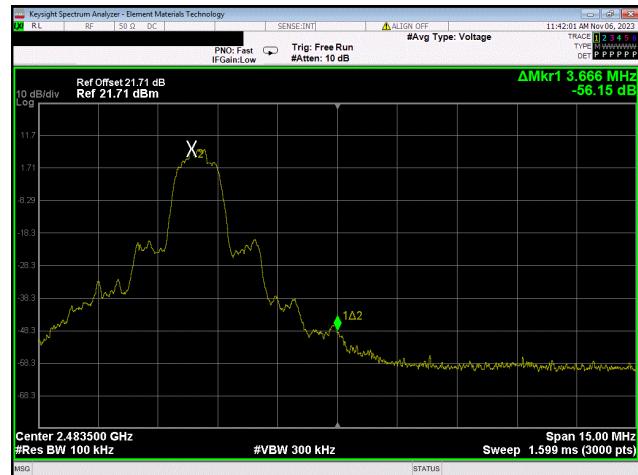
BAND EDGE COMPLIANCE



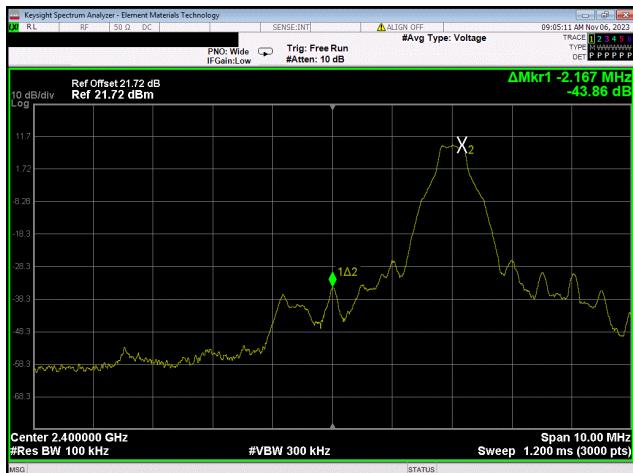
BAND EDGE COMPLIANCE



Source
3DH5, 8-DPSK
Low Channel, 2402 MHz



Source
3DH5, 8-DPSK
High Channel, 2480 MHz



Sink
DH5, GFSK
Low Channel, 2402 MHz



Sink
DH5, GFSK
High Channel, 2480 MHz

BAND EDGE COMPLIANCE



Sink
2DH5, pi/4-DQPSK
Low Channel, 2402 MHz



Sink
2DH5, pi/4-DQPSK
High Channel, 2480 MHz



Sink
3DH5, 8-DPSK
Low Channel, 2402 MHz



Sink
3DH5, 8-DPSK
High Channel, 2480 MHz

BAND EDGE COMPLIANCE - HOPPING MODE



TEST DESCRIPTION

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

The spurious RF conducted emissions at the edges of the authorized band were measured with the EUT set to its normal pseudo-random hopping sequence. The EUT was transmitting at the data rate(s) listed in the datasheet.

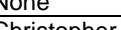
The spectrum was scanned below the lower band edge and above the higher band edge. The analyzer screen captures for this test show an example of the emission mask for the test mode also used during the radiated spurious emissions at the restricted band edges test.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFO	2023-10-04	2024-10-04
Block - DC	Fairview Microwave	SD3379	AMW	2023-03-13	2024-03-13
Attenuator	S.M. Electronics	SA26B-20	AUY	2023-03-13	2024-03-13
Cable	Micro-Coax	UFD150A-1-0720-200200	EVI	2022-12-02	2023-12-02
Generator - Signal	Keysight	N5182B	TFU	2022-12-02	2024-12-02

BAND EDGE COMPLIANCE - HOPPING MODE



EUT:	APx516B	Work Order:	AUDI0315
Serial Number:	3516 B	Date:	2023-11-06
Customer:	Audio Precision	Temperature:	20.6°C
Attendees:	None	Relative Humidity:	51.1%
Customer Project:	None	Bar. Pressure (PMSL):	1001 mbar
Tested By:	Christopher Ladwig and Jeff Alcock	Job Site:	EV06
Power:	110VAC/60Hz	Configuration:	AUDI0315-1
Signature:			

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.247:2023	ANSI C63.10:2013
RSS-247 Issue 2:2023	ANSI C63.10:2013

COMMENTS

Reference level offset includes: DC Block, 20 dB attenuator, and measurement cable

DEVIATIONS FROM TEST STANDARD

None

TEST RESULTS

		Value (dBc)	Limit ≤ (dBc)	Result
Source				
	Hopping Mode (All Channels)			
	DH5, GFSK			
	Low Channel, 2402 MHz	-43.52	-20	Pass
	High Channel, 2480 MHz	-59.94	-20	Pass
	2DH5, pi/4-DQPSK			
	Low Channel, 2402 MHz	-42.44	-20	Pass
	High Channel, 2480 MHz	-60.32	-20	Pass
	3DH5, 8-DPSK			
	Low Channel, 2402 MHz	-40.7	-20	Pass
	High Channel, 2480 MHz	-61.34	-20	Pass
Sink				
	Hopping Mode (All Channels)			
	DH5, GFSK			
	Low Channel, 2402 MHz	-44.58	-20	Pass
	High Channel, 2480 MHz	-58.79	-20	Pass
	2DH5, pi/4-DQPSK			
	Low Channel, 2402 MHz	-45.47	-20	Pass
	High Channel, 2480 MHz	-57.35	-20	Pass
	3DH5, 8-DPSK			
	Low Channel, 2402 MHz	-44.73	-20	Pass
	High Channel, 2480 MHz	-59.15	-20	Pass

BAND EDGE COMPLIANCE - HOPPING MODE



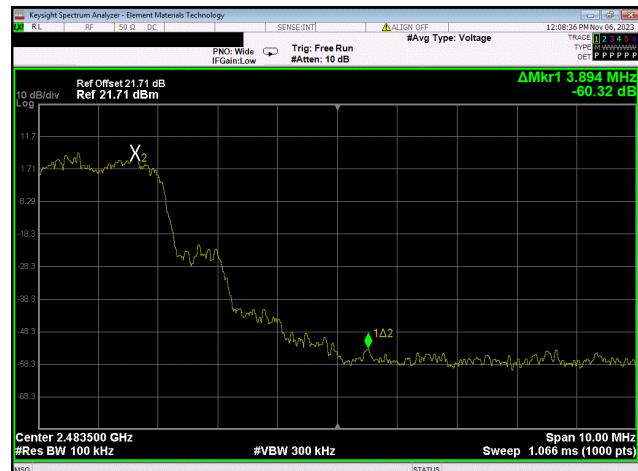
Source
Hopping Mode (All Channels)
DH5, GFSK
Low Channel, 2402 MHz



Source
Hopping Mode (All Channels)
DH5, GFSK
High Channel, 2480 MHz

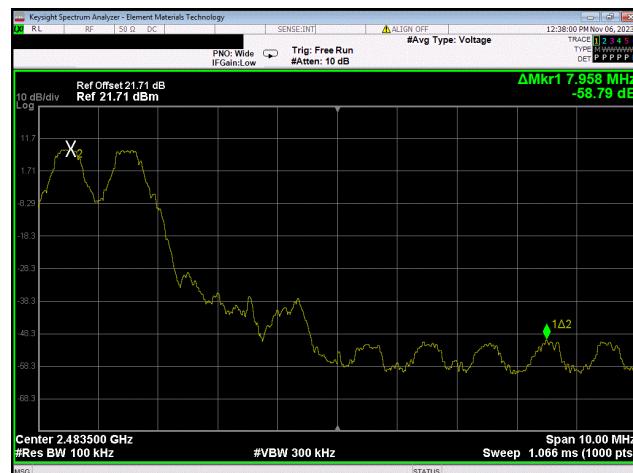


Source
Hopping Mode (All Channels)
2DH5, pi/4-DQPSK
Low Channel, 2402 MHz



Source
Hopping Mode (All Channels)
2DH5, pi/4-DQPSK
High Channel, 2480 MHz

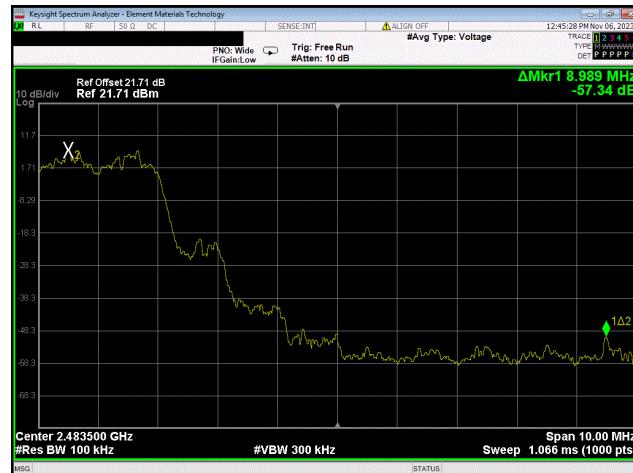
BAND EDGE COMPLIANCE - HOPPING MODE



BAND EDGE COMPLIANCE - HOPPING MODE



Sink
Hopping Mode (All Channels)
2DH5, pi/4-DQPSK
Low Channel, 2402 MHz



Sink
Hopping Mode (All Channels)
2DH5, pi/4-DQPSK
High Channel, 2480 MHz



Sink
Hopping Mode (All Channels)
3DH5, 8-DPSK
Low Channel, 2402 MHz



Sink
Hopping Mode (All Channels)
3DH5, 8-DPSK
High Channel, 2480 MHz

EMISSIONS BANDWIDTH



TEST DESCRIPTION

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

The 20 dB emissions bandwidth was measured with the EUT set to low, medium and high transmit frequencies in the band. The EUT was transmitting at the data rate(s) listed in the datasheet in a no-hop mode. The span of the analyzer shall be set to capture all products of the modulation process, including the emission skirts.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFO	2023-10-04	2024-10-04
Block - DC	Fairview Microwave	SD3379	AMW	2023-03-13	2024-03-13
Attenuator	S.M. Electronics	SA26B-20	AUY	2023-03-13	2024-03-13
Cable	Micro-Coax	UFD150A-1-0720-200200	EVI	2022-12-02	2023-12-02
Generator - Signal	Keysight	N5182B	TFU	2022-12-02	2024-12-02

EMISSIONS BANDWIDTH

EUT:	APx516B	Work Order:	AUDIO315
Serial Number:	3516 B	Date:	2023-11-06
Customer:	Audio Precision	Temperature:	20.5°C
Attendees:	None	Relative Humidity:	51.5%
Customer Project:	None	Bar. Pressure (PMSL):	1002 mbar
Tested By:	Christopher Ladwig and Jeff Alcocke	Job Site:	EV06
Power:	110VAC/60Hz	Configuration:	AUDIO315-1
Signature:			

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.247:2023	ANSI C63.10:2013
RSS-247 Issue 2:2023	ANSI C63.10:2013

COMMENTS

Reference level offset includes: DC Block, 20 dB attenuator, and measurement cable

DEVIATIONS FROM TEST STANDARD

None

TEST RESULTS

Source	Value	Limit		Result
		(<)	Result	
DH5, GFSK				
Low Channel, 2402 MHz	927.018 kHz	1.5 MHz	Pass	
Mid Channel, 2441 MHz	926.408 kHz	1.5 MHz	Pass	
High Channel, 2480 MHz	928.268 kHz	1.5 MHz	Pass	
2DH5, pi/4-DQPSK				
Low Channel, 2402 MHz	1.235 MHz	1.5 MHz	Pass	
Mid Channel, 2441 MHz	1.236 MHz	1.5 MHz	Pass	
High Channel, 2480 MHz	1.235 MHz	1.5 MHz	Pass	
3DH5, 8-DPSK				
Low Channel, 2402 MHz	1.263 MHz	1.5 MHz	Pass	
Mid Channel, 2441 MHz	1.263 MHz	1.5 MHz	Pass	
High Channel, 2480 MHz	1.264 MHz	1.5 MHz	Pass	
Sink				
DH5, GFSK				
Low Channel, 2402 MHz	926.985 kHz	1.5 MHz	Pass	
Mid Channel, 2441 MHz	930.768 kHz	1.5 MHz	Pass	
High Channel, 2480 MHz	926.759 kHz	1.5 MHz	Pass	
2DH5, pi/4-DQPSK				
Low Channel, 2402 MHz	1.238 MHz	1.5 MHz	Pass	
Mid Channel, 2441 MHz	1.239 MHz	1.5 MHz	Pass	
High Channel, 2480 MHz	1.236 MHz	1.5 MHz	Pass	
3DH5, 8-DPSK				
Low Channel, 2402 MHz	1.263 MHz	1.5 MHz	Pass	
Mid Channel, 2441 MHz	1.263 MHz	1.5 MHz	Pass	
High Channel, 2480 MHz	1.263 MHz	1.5 MHz	Pass	

EMISSIONS BANDWIDTH



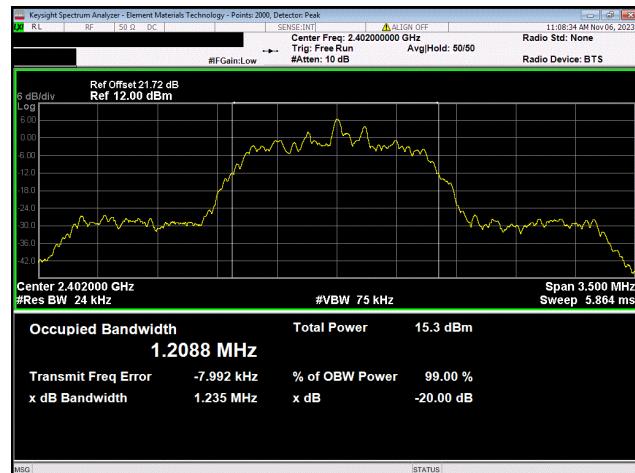
Source
DH5, GFSK
Low Channel, 2402 MHz



Source
DH5, GFSK
Mid Channel, 2441 MHz



Source
DH5, GFSK
High Channel, 2480 MHz



Source
2DH5, pi/4-DQPSK
Low Channel, 2402 MHz

EMISSIONS BANDWIDTH



Source
2DH5, pi/4-DQPSK
Mid Channel, 2441 MHz



Source
2DH5, pi/4-DQPSK
High Channel, 2480 MHz



Source
3DH5, 8-DPSK
Low Channel, 2402 MHz



Source
3DH5, 8-DPSK
Mid Channel, 2441 MHz

EMISSIONS BANDWIDTH



Source
3DH5, 8-DPSK
High Channel, 2480 MHz



Sink
DH5, GFSK
Low Channel, 2402 MHz



Sink
DH5, GFSK
Mid Channel, 2441 MHz



Sink
DH5, GFSK
High Channel, 2480 MHz

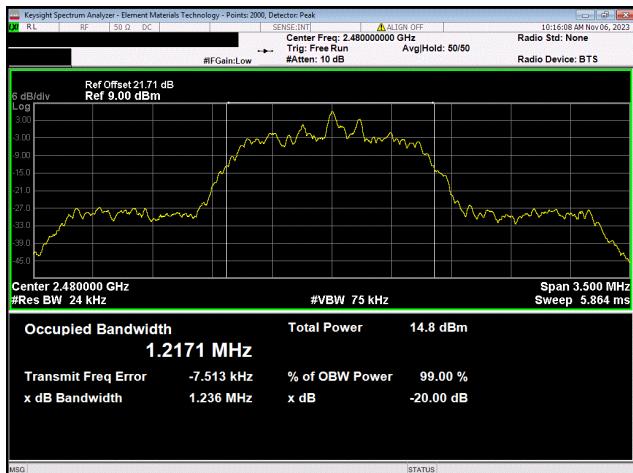
EMISSIONS BANDWIDTH



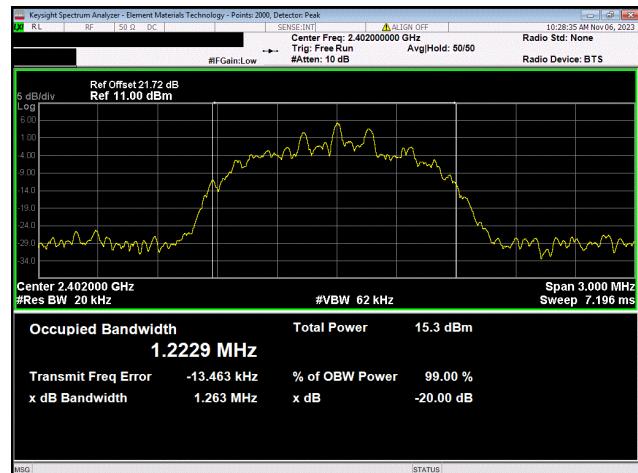
Sink
2DH5, pi/4-DQPSK
Low Channel, 2402 MHz



Sink
2DH5, pi/4-DQPSK
Mid Channel, 2441 MHz

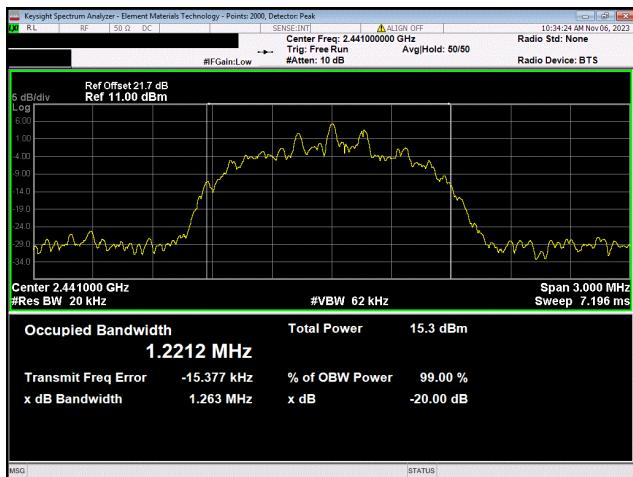


Sink
2DH5, pi/4-DQPSK
High Channel, 2480 MHz

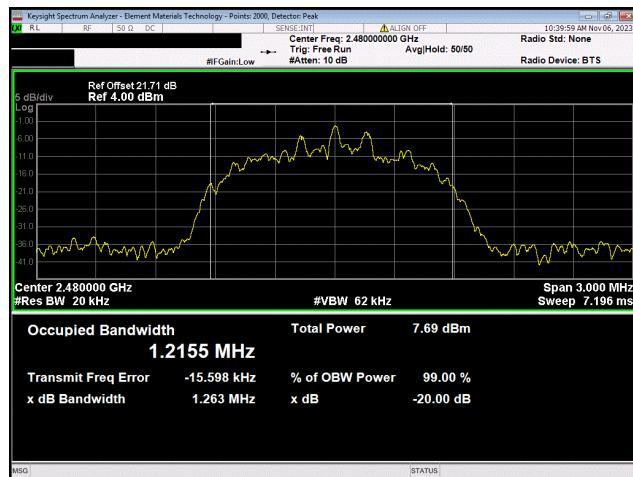


Sink
3DH5, 8-DPSK
Low Channel, 2402 MHz

EMISSIONS BANDWIDTH



Sink
3DH5, 8-DPSK
Mid Channel, 2441 MHz



Sink
3DH5, 8-DPSK
High Channel, 2480 MHz