

CHANNEL ACCESS BASED ON AMBIENT LEVELS, 2 CHANNEL

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.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Probe - Near Field Set	ETS Lindgren	7405	IPO	NCR	NCR
Directional Coupler	Fairview Microwave	SMC4039-10	RGS	NCR	NCR
Power Divider/Combiner	Fairview Microwave Inc (SM electronics)	MP8451-2	IAD	NCR	NCR
Power Divider/Combiner	Fairview Microwave Inc (SM electronics)	MP8451-2	IAC	NCR	NCR
Generator - Signal	Agilent	N5183A	TIK	10/17/2014	10/17/2017
Generator - Signal	Agilent	N5182A	TIF	8/12/2014	8/12/2017
Cable	ESM Cable Corp.	TTBJ141 KMKM-72	MNU	9/18/2015	9/18/2016
Attenuator	S.M. Electronics	SA26B-20	RFW	2/26/2016	2/26/2017
Block - DC	Fairview Microwave	SD3379	AMI	9/18/2015	9/18/2016
Analyzer - Spectrum Analyzer	Agilent	E4440A	AAX	3/24/2016	3/24/2017

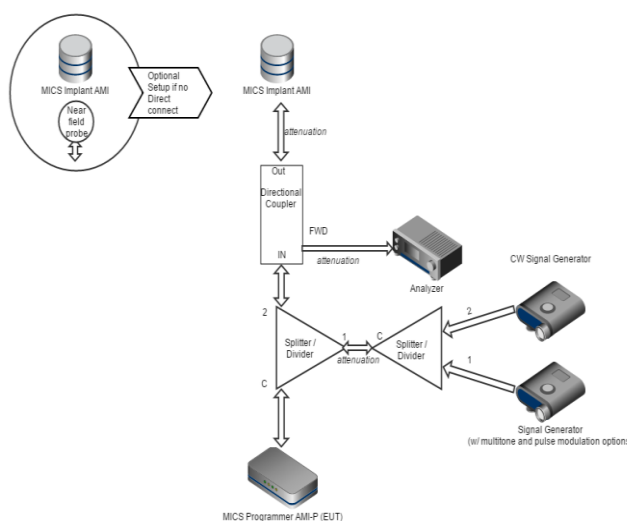
TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The EUT was configured according to the following block diagram:

The signal generator was set to multitone operation to cause equal interference across the entire band. The amplitude of the multitone signals (out of operation region) were set to the LBT threshold of $10 \cdot \log(\text{Bandwidth}) - 150 + \text{Antenna Gain} + 10 \text{ dB}$.

The intended frequency (F_c) was set to the LBT threshold - 3 dB. A least interfered channel (LIC) was set to the LBT threshold + 3 dB. The EUT was verified to transmit on F_c . The amplitude of F_c was then raised to the LBT threshold + 6 dB. The EUT was verified to transmit on LIC.

The spectrum analyzer was set to measure the transmit band of 402-405 MHz. Screen captures were provided to show the EUT behavior at the different LBT threshold levels.



CHANNEL ACCESS BASED ON AMBIENT LEVELS, 2 CHANNEL

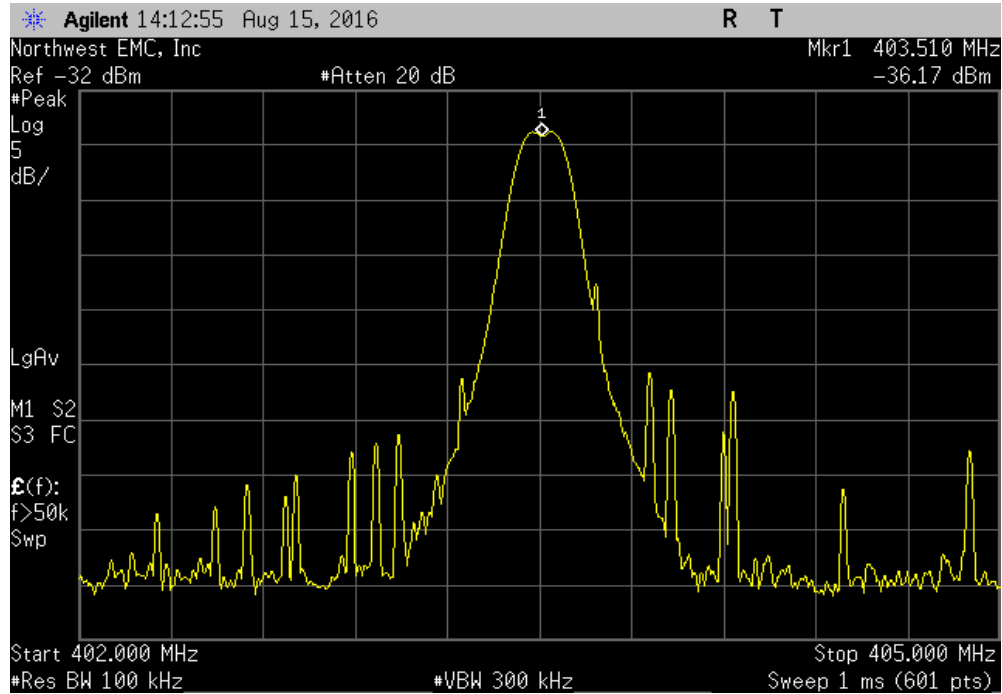


XMR 2016.05.06

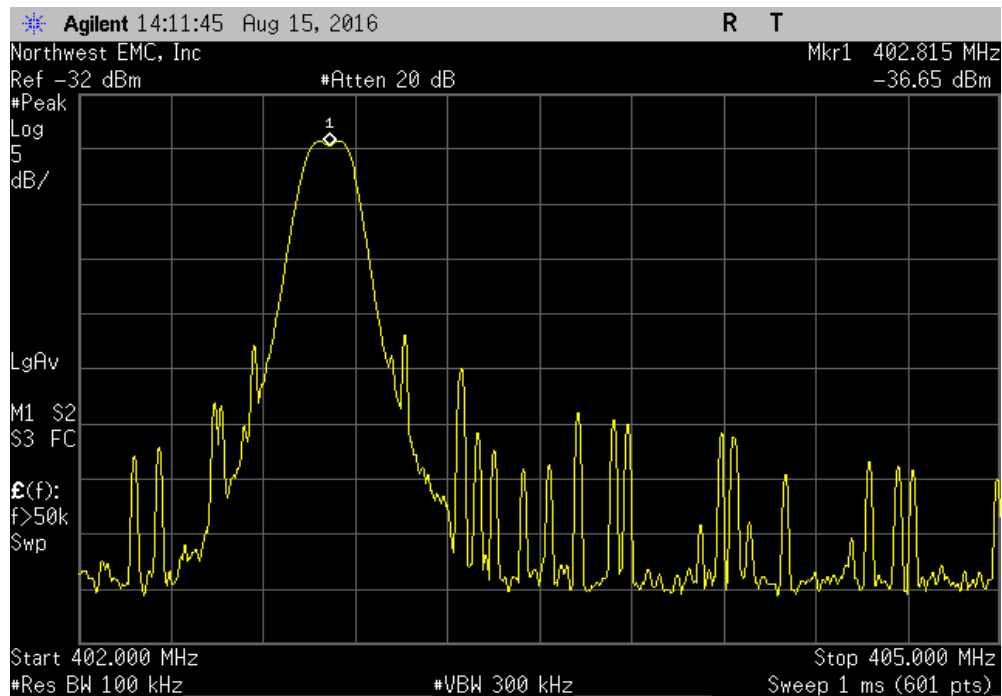
EUT: Model 3300		Work Order: BSTN0663	
Serial Number: 058		Date: 08/16/16	
Customer: Boston Scientific Corporation		Temperature: 23.4 °C	
Attendees: Pete Musto		Humidity: 60.1% RH	
Project: Laramie Vision		Barometric Pres.: 1019 mbar	
Tested by: Dustin Sparks	Power: 110VAC/60Hz	Job Site: MN08	
TEST SPECIFICATIONS		Test Method	
EN 301 839 V2.1.1:2016		EN 301 839 V2.1.1:2016	
COMMENTS			
EUT bandwidth is 300000 Hz with an antenna gain of -5 dBi.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	10	Signature 	
		Transmit on LIC?	Transmit on Fc?
Fc LBT Threshold -3 dB		No	Yes
Fc LBT Threshold +6 dB		Yes	No
		Limit (LIC)	Result
		No	Pass
		Yes	Pass

CHANNEL ACCESS BASED ON AMBIENT LEVELS, 2 CHANNEL

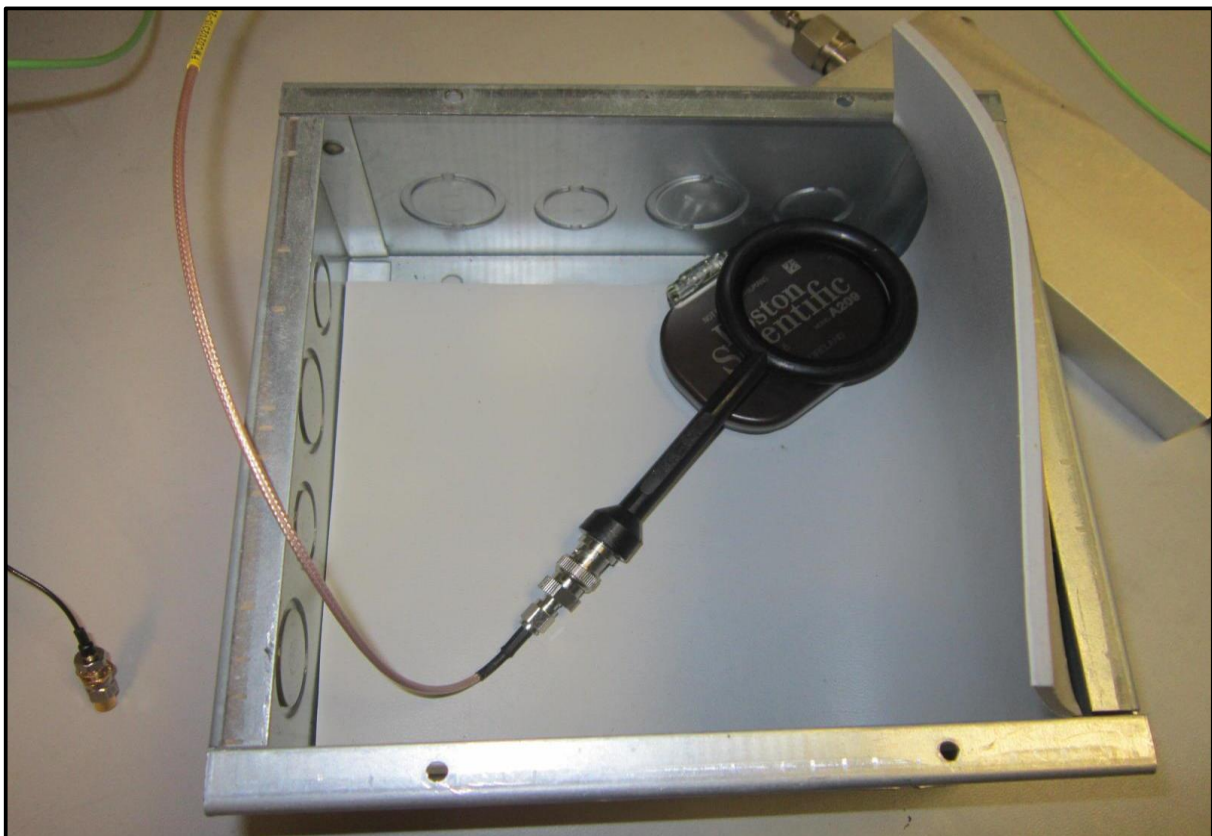
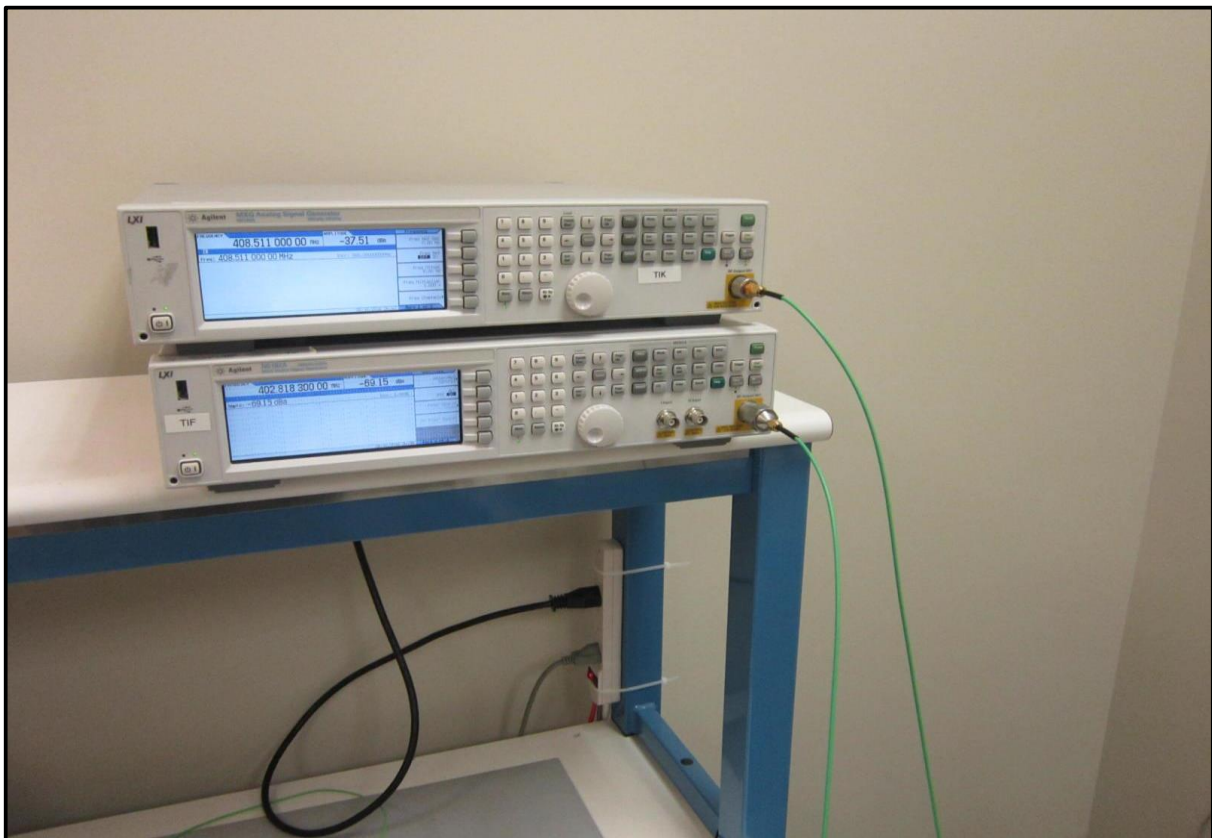
Fc LBT Threshold -3 dB						
			Transmit on LIC?	Transmit on Fc?	Limit (LIC)	Result
			No	Yes	No	Pass



Fc LBT Threshold +6 dB						
			Transmit on LIC?	Transmit on Fc?	Limit (LIC)	Result
			Yes	No	Yes	Pass



CHANNEL ACCESS BASED ON AMBIENT LEVELS, 2 CHANNEL



CHANNEL ACCESS BASED ON AMBIENT LEVELS, 2 CHANNEL

**NORTHWEST
EMC**

XMit 2016.05.06



DISCONTINUATION OF A MICS SESSION, 10 CHANNEL

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.

TEST EQUIPMENT

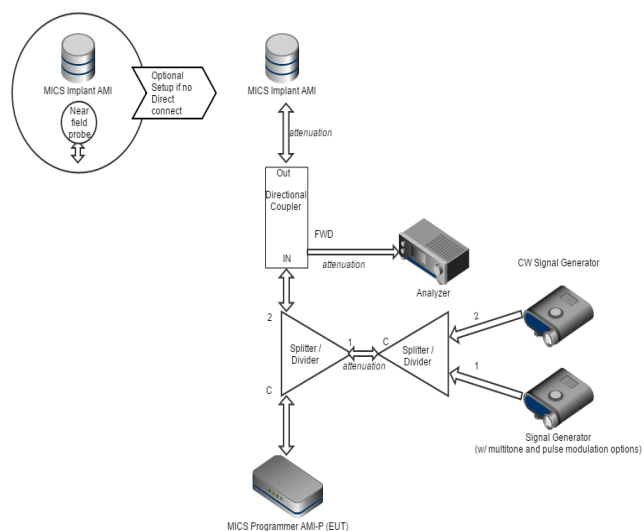
Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Probe - Near Field Set	ETS Lindgren	7405	IPO	NCR	NCR
Directional Coupler	Fairview Microwave	SMC4039-10	RGS	NCR	NCR
Power Divider/Combiner	Fairview Microwave Inc (SM electronics)	MP8451-2	IAD	NCR	NCR
Power Divider/Combiner	Fairview Microwave Inc (SM electronics)	MP8451-2	IAC	NCR	NCR
Generator - Signal	Agilent	E4422B	TGQ	3/17/2015	3/17/2018
Generator - Signal	Agilent	N5182A	TIF	8/12/2014	8/12/2017
Cable	ESM Cable Corp.	TTBJ141 KMKM-72	MNU	9/18/2015	9/18/2016
Block - DC	Fairview Microwave	SD3379	AMI	9/18/2015	9/18/2016
Analyzer - Spectrum Analyzer	Agilent	E4440A	AAX	3/24/2016	3/24/2017

TEST DESCRIPTION

A near-field probe was placed near the transmitter. A low-loss coaxial cable was used to connect the near-field probe to the spectrum analyzer. The EUT was configured according to the following block diagram:

The signal generator was set to multitone operation to cause equal interference across the entire band. The amplitude of the multitone signals (out of operation region) were set to the LBT threshold of $10 \cdot \text{LOG}(\text{Bandwidth}) - 150 + \text{Antenna Gain} + 10 \text{ dB}$.

The intended frequency (F_c) was set to the LBT threshold + 6 dB. A least interfered channel (LIC) was set to the LBT threshold + 3 dB. The spectrum analyzer was set to measure the time between the removal of the MICS Implant AMI to when the EUT does not transmit on the LIC.

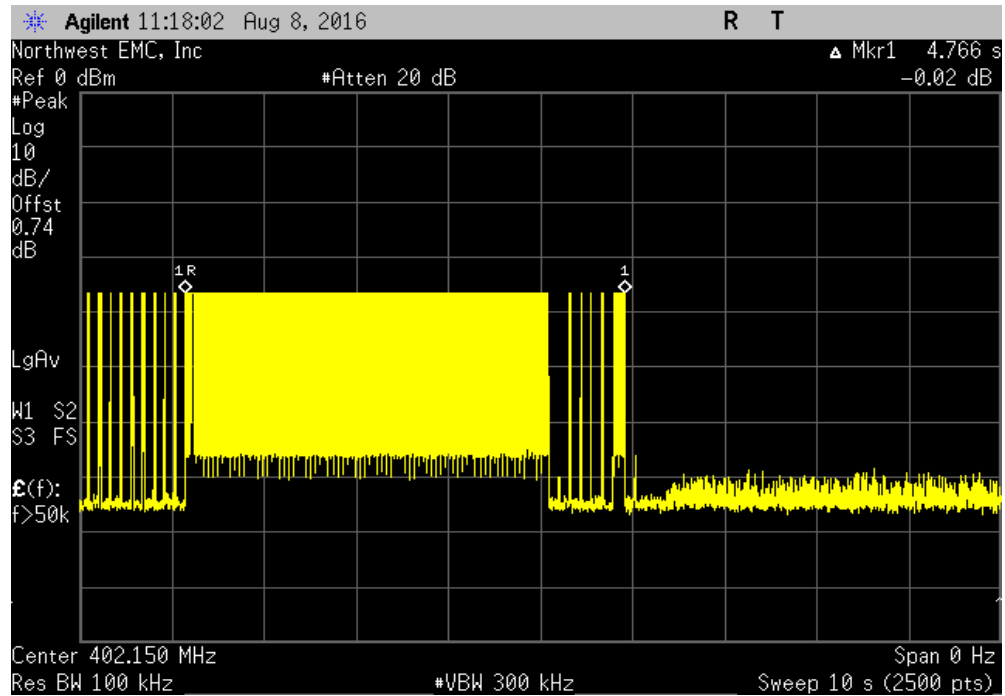


DISCONTINUATION OF A MICS SESSION, 10 CHANNEL

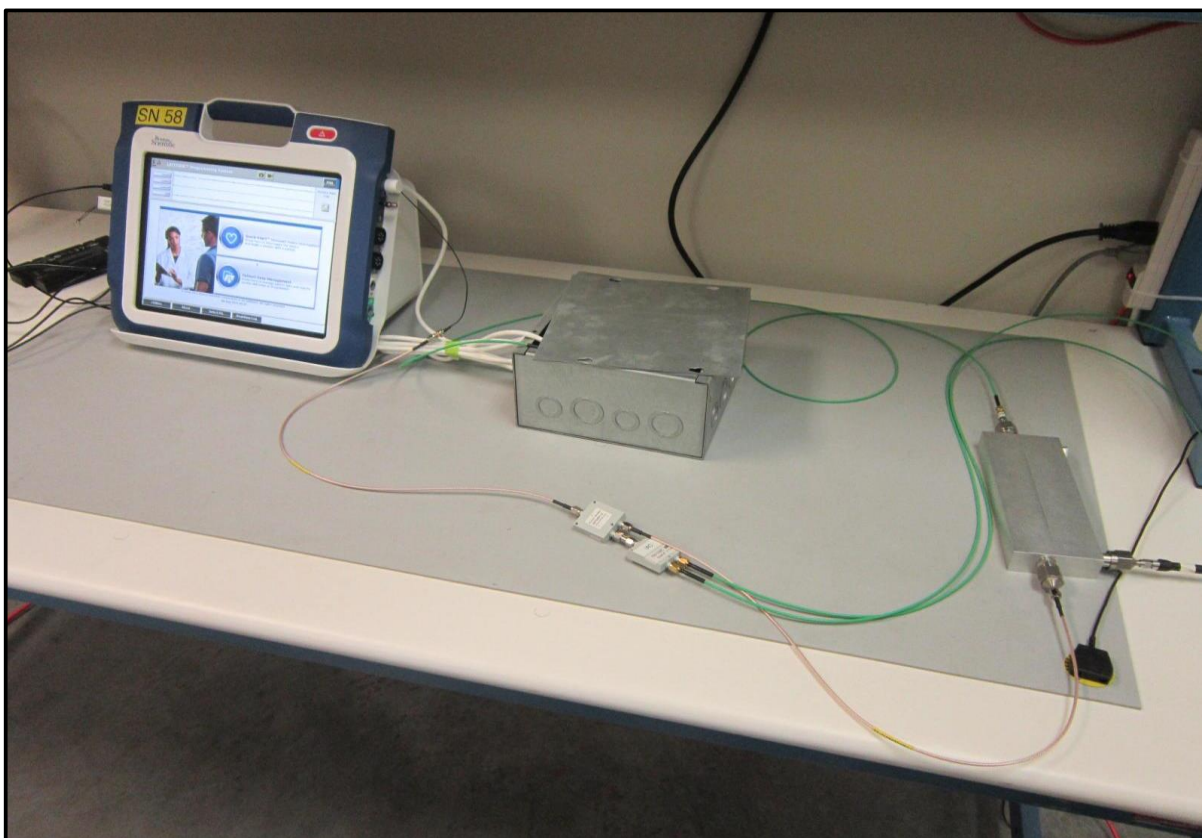
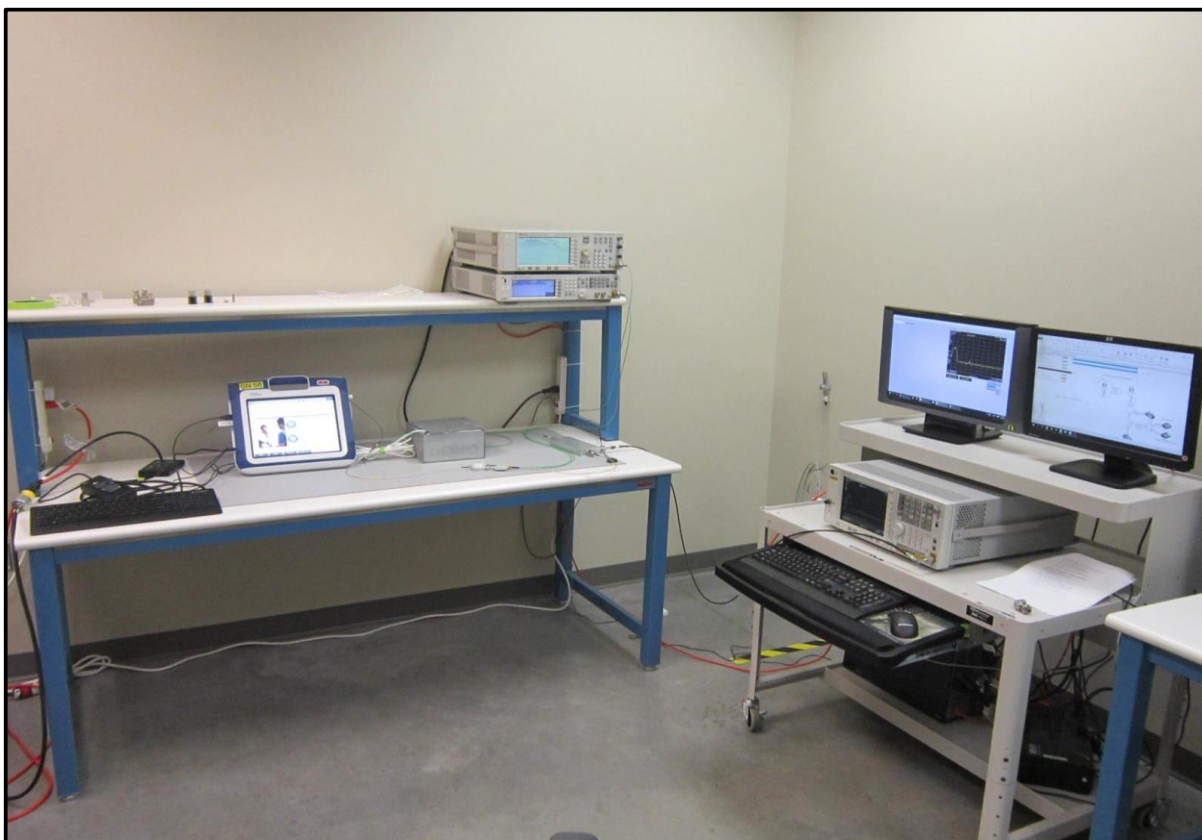
EUT: Model 3300		Work Order: BSTN0663	
Serial Number: 058		Date: 08/08/16	
Customer: Boston Scientific Corporation		Temperature: 23.4 °C	
Attendees: Pete Musto		Humidity: 54.6% RH	
Project: Laramie Vision		Barometric Pres.: 1018 mbar	
Tested by: Dustin Sparks	Power: 220VAC/60Hz	Job Site: MN02	
TEST SPECIFICATIONS		Test Method	
EN 301 839 V2.1.1:2016		EN 301 839 V2.1.1:2016	
COMMENTS			
EUT emissions bandwidth is 300000 Hz, 2.7 dBi antenna gain. Antenna port B, PRM application 3869 0.03.13			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	7	Signature 	
		Value (s)	Limit (s)
20 Second Sweep		4.766	<= 5
			Result
			Pass

DISCONTINUATION OF A MICS SESSION, 10 CHANNEL

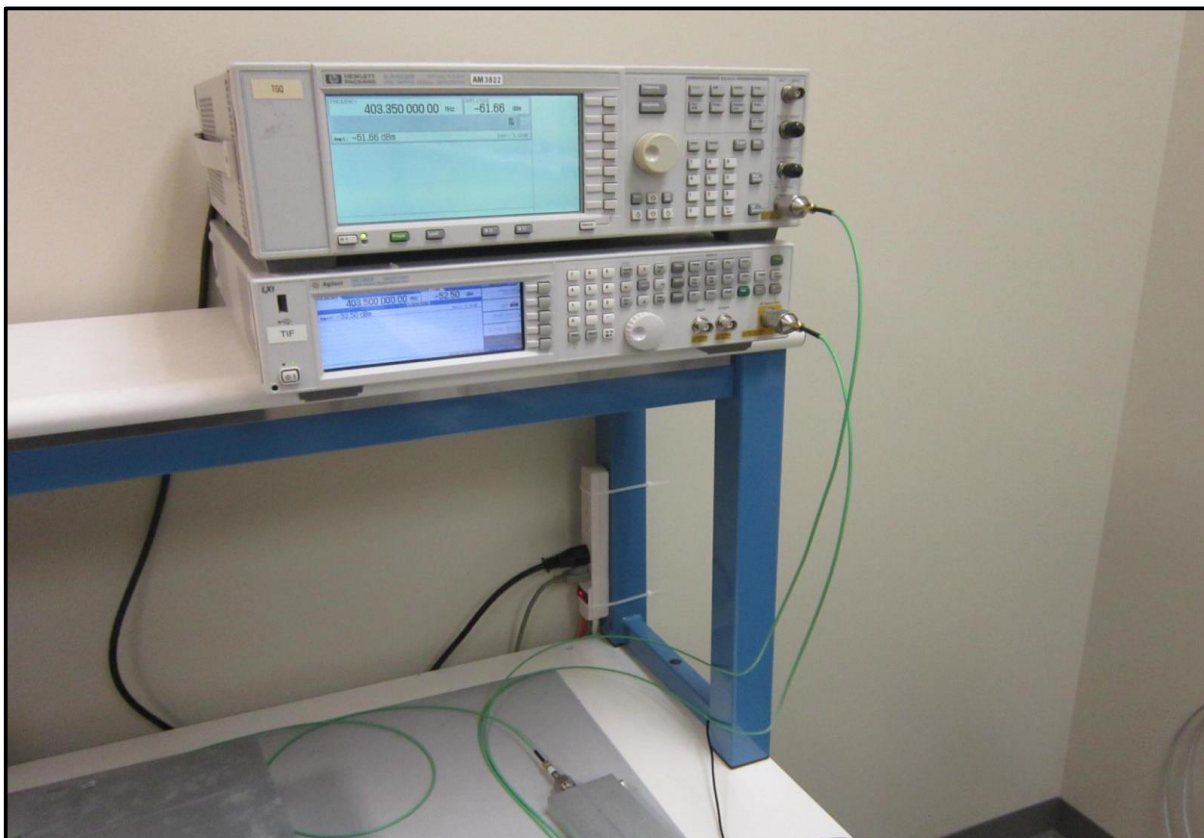
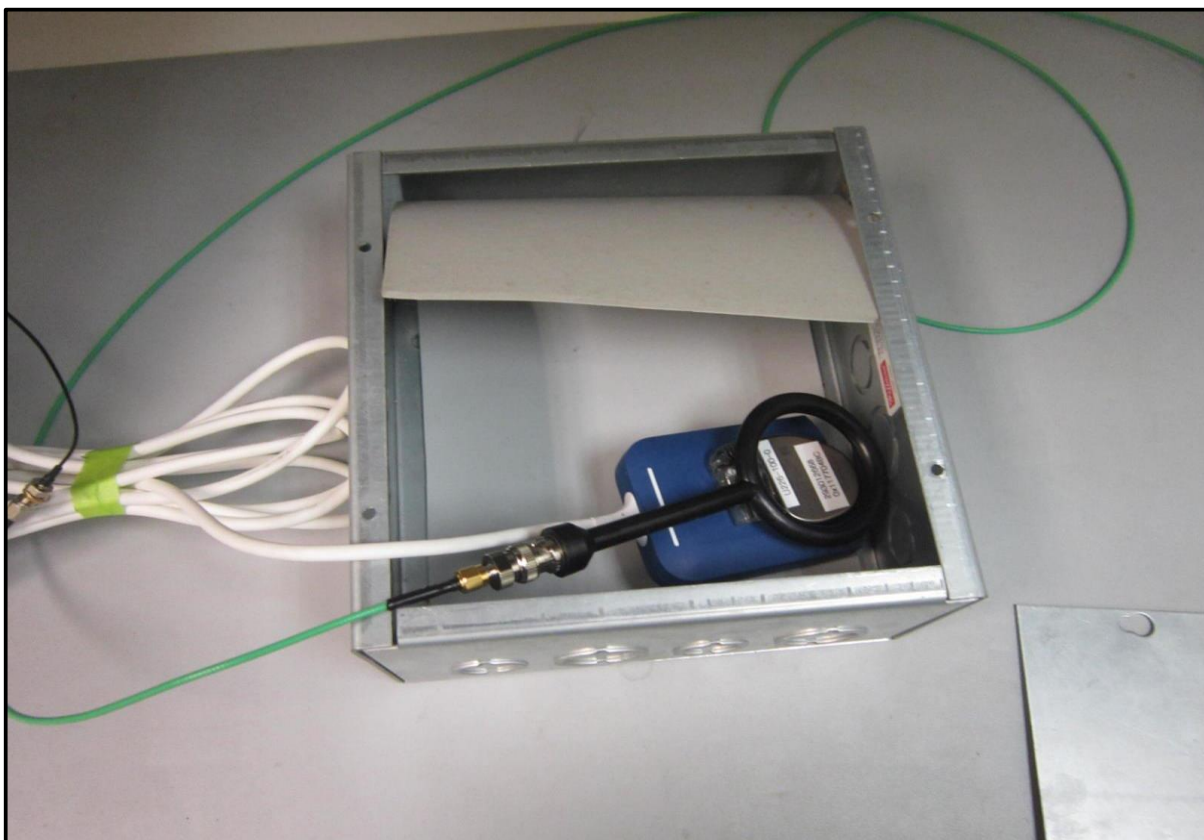
20 Second Sweep						
				Value (s)	Limit (s)	Result
				4.766	<= 5	Pass



DISCONTINUATION OF A MICS SESSION, 10 CHANNEL



DISCONTINUATION OF A MICS SESSION, 10 CHANNEL



DISCONTINUATION OF A MICS SESSION, 2 CHANNEL

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.

TEST EQUIPMENT

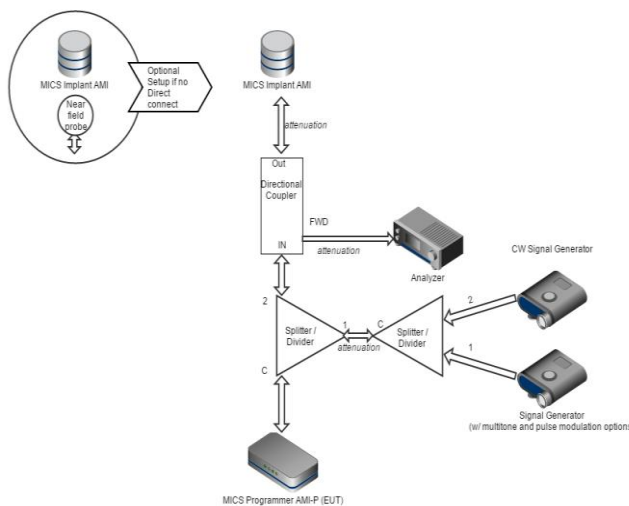
Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Probe - Near Field Set	ETS Lindgren	7405	IPO	NCR	NCR
Directional Coupler	Fairview Microwave	SMC4039-10	RGS	NCR	NCR
Power Divider/Combiner	Fairview Microwave Inc (SM electronics)	MP8451-2	IAD	NCR	NCR
Power Divider/Combiner	Fairview Microwave Inc (SM electronics)	MP8451-2	IAC	NCR	NCR
Generator - Signal	Agilent	N5183A	TIK	10/17/2014	10/17/2017
Generator - Signal	Agilent	N5182A	TIF	8/12/2014	8/12/2017
Cable	ESM Cable Corp.	TTBJ141 KMKM-72	MNU	9/18/2015	9/18/2016
Attenuator	S.M. Electronics	SA26B-20	RFW	2/26/2016	2/26/2017
Block - DC	Fairview Microwave	SD3379	AMI	9/18/2015	9/18/2016
Analyzer - Spectrum Analyzer	Agilent	E4440A	AAX	3/24/2016	3/24/2017

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The EUT was configured according to the following block diagram:

The signal generator was set to multitone operation to cause equal interference across the entire band. The amplitude of the multitone signals (out of operation region) were set to the LBT threshold of $10 \cdot \text{LOG}(\text{Bandwidth}) - 150 + \text{Antenna Gain} + 10 \text{ dB}$.

The intended frequency (F_c) was set to the LBT threshold + 6 dB. A least interfered channel (LIC) was set to the LBT threshold + 3 dB. The spectrum analyzer was set to measure the time between the removal of the MICS Implant AMI to when the EUT does not transmit on the LIC.

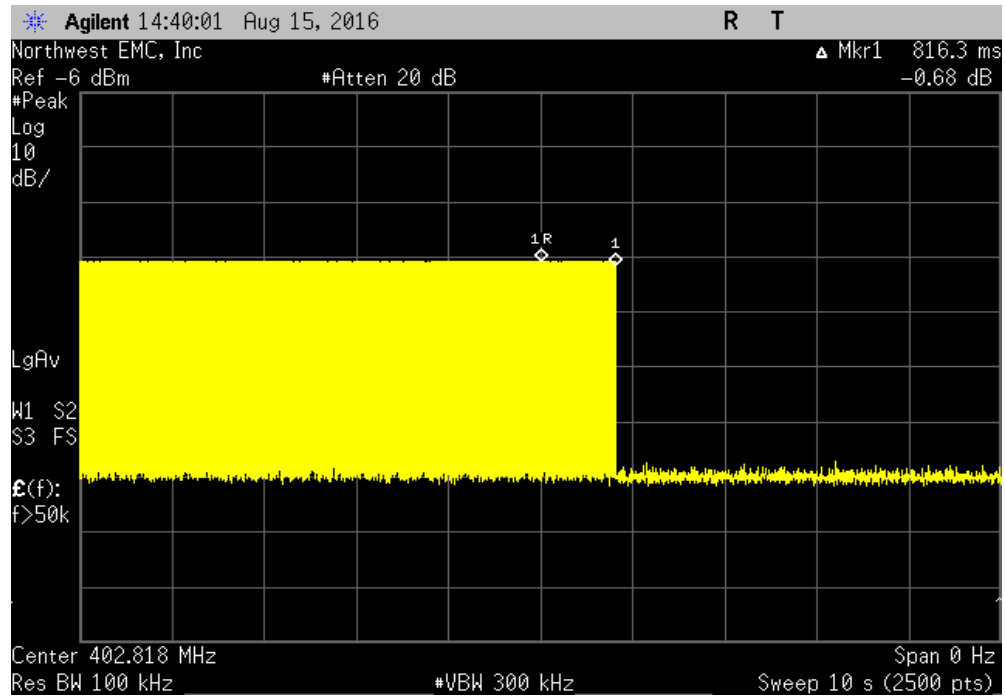


DISCONTINUATION OF A MICS SESSION, 2 CHANNEL

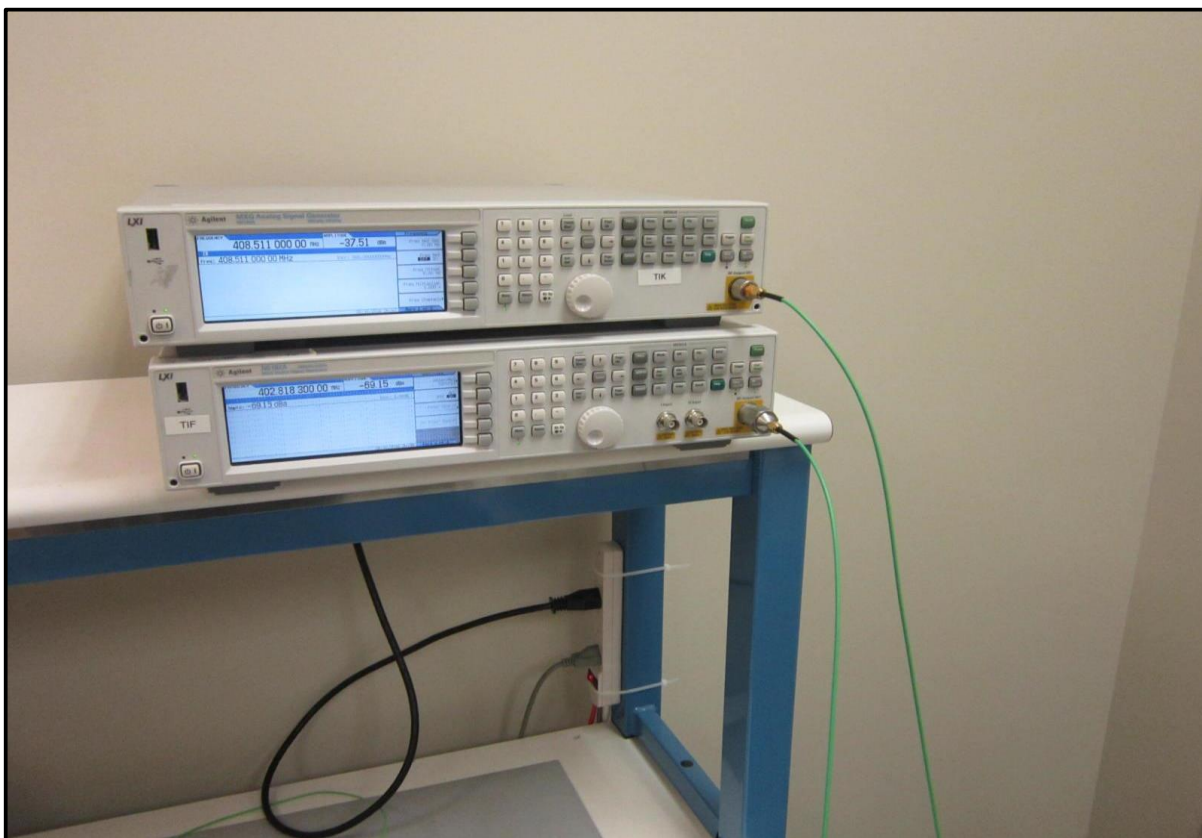
EUT: Model 3300		Work Order: BSTN0663	
Serial Number: 058		Date: 08/16/16	
Customer: Boston Scientific Corporation		Temperature: 23.7 °C	
Attendees: Pete Musto		Humidity: 61% RH	
Project: Laramie Vision		Barometric Pres.: 1019 mbar	
Tested by: Dustin Sparks	Power: 110VAC/60Hz	Job Site: MN08	
TEST SPECIFICATIONS		Test Method	
EN 301 839 V2.1.1:2016		EN 301 839 V2.1.1:2016	
COMMENTS			
EUT bandwidth is 300000 Hz with an antenna gain of -5 dBi. Communications session was interrupted at ~5 seconds into the 10 second single sweep.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	10	Signature 	
		Value (seconds)	Limit (seconds)
10 Second Sweep		0.8163	<= 5
			Result Pass

DISCONTINUATION OF A MICS SESSION, 2 CHANNEL

10 Second Sweep						
				Value (seconds)	Limit (seconds)	Result
				0.8163	<= 5	Pass



DISCONTINUATION OF A MICS SESSION, 2 CHANNEL



DISCONTINUATION OF A MICS SESSION, 2 CHANNEL



USE OF PRE-SCANNED ALTERNATIVE CHANNEL

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TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Probe - Near Field Set	ETS Lindgren	7405	IPO	NCR	NCR
Directional Coupler	Fairview Microwave	SMC4039-10	RGS	NCR	NCR
Power Divider/Combiner	Fairview Microwave Inc (SM electronics)	MP8451-2	IAD	NCR	NCR
Power Divider/Combiner	Fairview Microwave Inc (SM electronics)	MP8451-2	IAC	NCR	NCR
Generator - Signal	Agilent	E4422B	TGQ	3/17/2015	3/17/2018
Generator - Signal	Agilent	N5182A	TIF	8/12/2014	8/12/2017
Cable	ESM Cable Corp.	TTBJ141 KMKM-72	MNU	9/18/2015	9/18/2016
Block - DC	Fairview Microwave	SD3379	AMI	9/18/2015	9/18/2016
Analyzer - Spectrum Analyzer	Agilent	E4440A	AAX	3/24/2016	3/24/2017

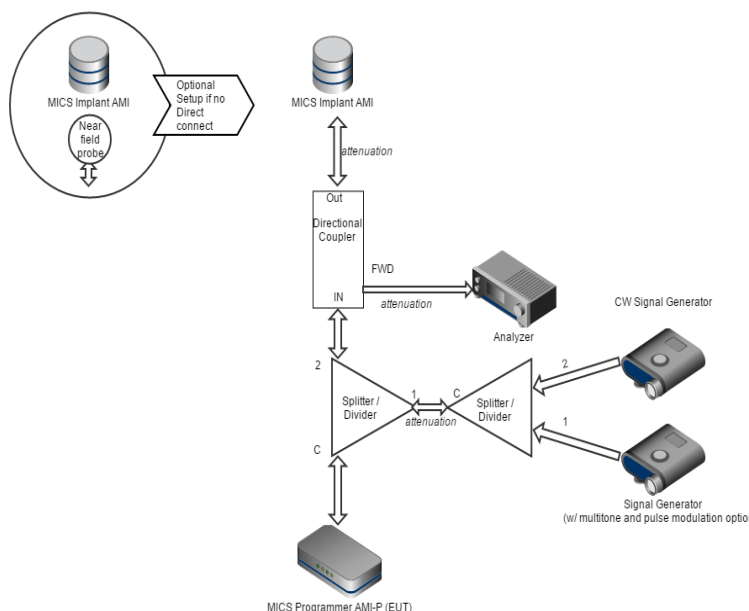
TEST DESCRIPTION

A near-field probe was placed near the transmitter. A low-loss coaxial cable was used to connect the near-field probe to the spectrum analyzer. The EUT was configured according to the following block diagram:

The signal generator was set to multitone operation to cause equal interference across the entire band. The amplitude of the multitone signals (out of operation region) were set to the LBT threshold of $10 \cdot \text{LOG}(\text{Bandwidth}) - 15$ + Antenna Gain + 10 dB.

The intended frequency (F_c) was set to the LBT threshold - 3 dB. A least interfered channel (LIC) was set to the LBT threshold + 3 dB. The EUT was verified to transmit on F_c . While the session was still active a second least interfered channel (LIC2) was set to the LBT threshold - 2 dB. The amplitude of F_c was then raised to the LBT threshold + 6 dB.

The spectrum analyzer was set to measure the transmit band of 402-405 MHz. Screen captures were provided to show the EUT behavior at the different LBT threshold levels. The EUT was verified to transmit on LIC2 which shows that the EUT does not use pre-scanned alternate channels.

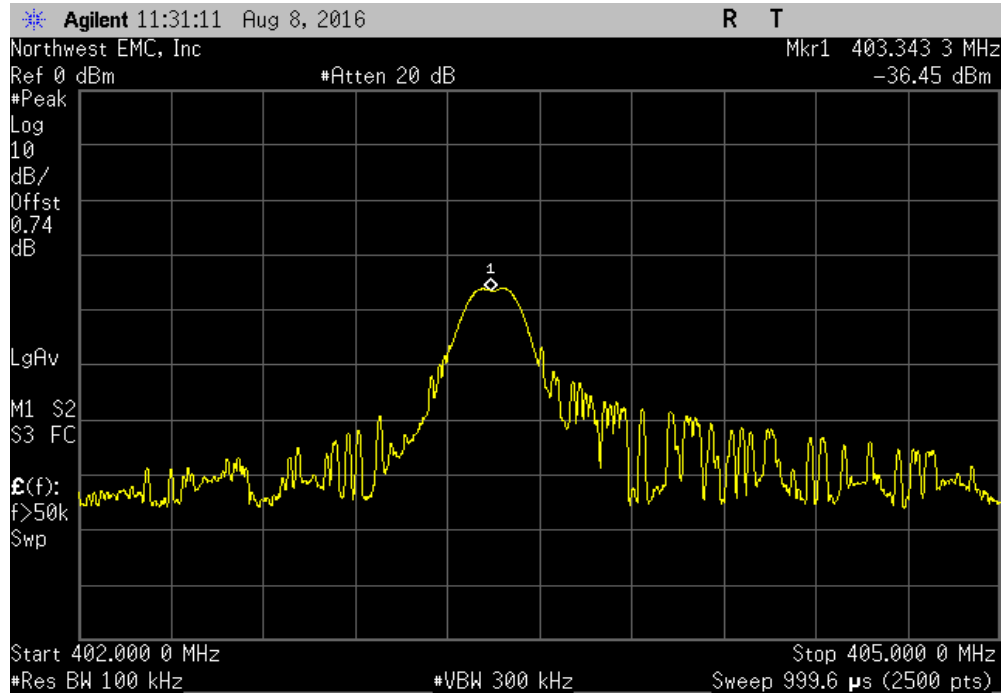


USE OF PRE-SCANNED ALTERNATIVE CHANNEL

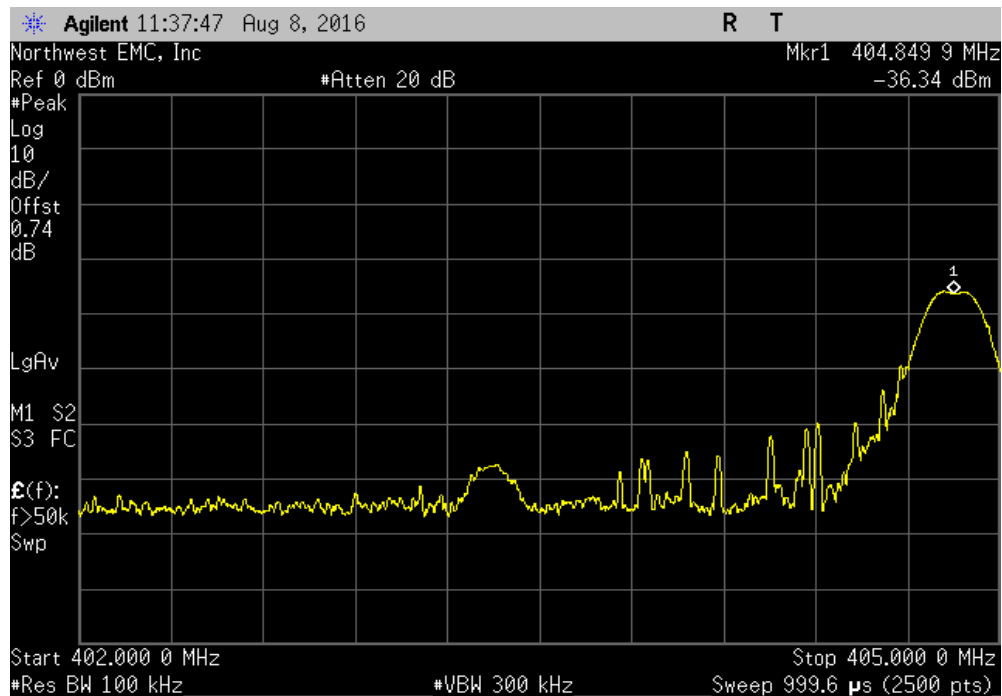
EUT: Model 3300		Work Order: BSTN0663	
Serial Number: 058		Date: 08/08/16	
Customer: Boston Scientific Corporation		Temperature: 23.3 °C	
Attendees: Pete Musto		Humidity: 54.2% RH	
Project: Laramie Vision		Barometric Pres.: 1018 mbar	
Tested by: Dustin Sparks		Power: 220VAC/60Hz	
		Job Site: MN02	
TEST SPECIFICATIONS		Test Method	
EN 301 839 V2.1.1:2016		EN 301 839 V2.1.1:2016	
COMMENTS			
EUT emissions bandwidth is 300000 Hz, 2.7 dBi antenna gain. Antenna port B, PRM application 3869 0.03.13			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	7	Signature 	
		Transmit on LIC	Transmit on LIC2
		Transmit on Fc	Limit
		Result	
Initial on Fc		No	No
LIC2 Available		No	Yes
		Yes	No
		N/A	N/A
		N/A	N/A

USE OF PRE-SCANNED ALTERNATIVE CHANNEL

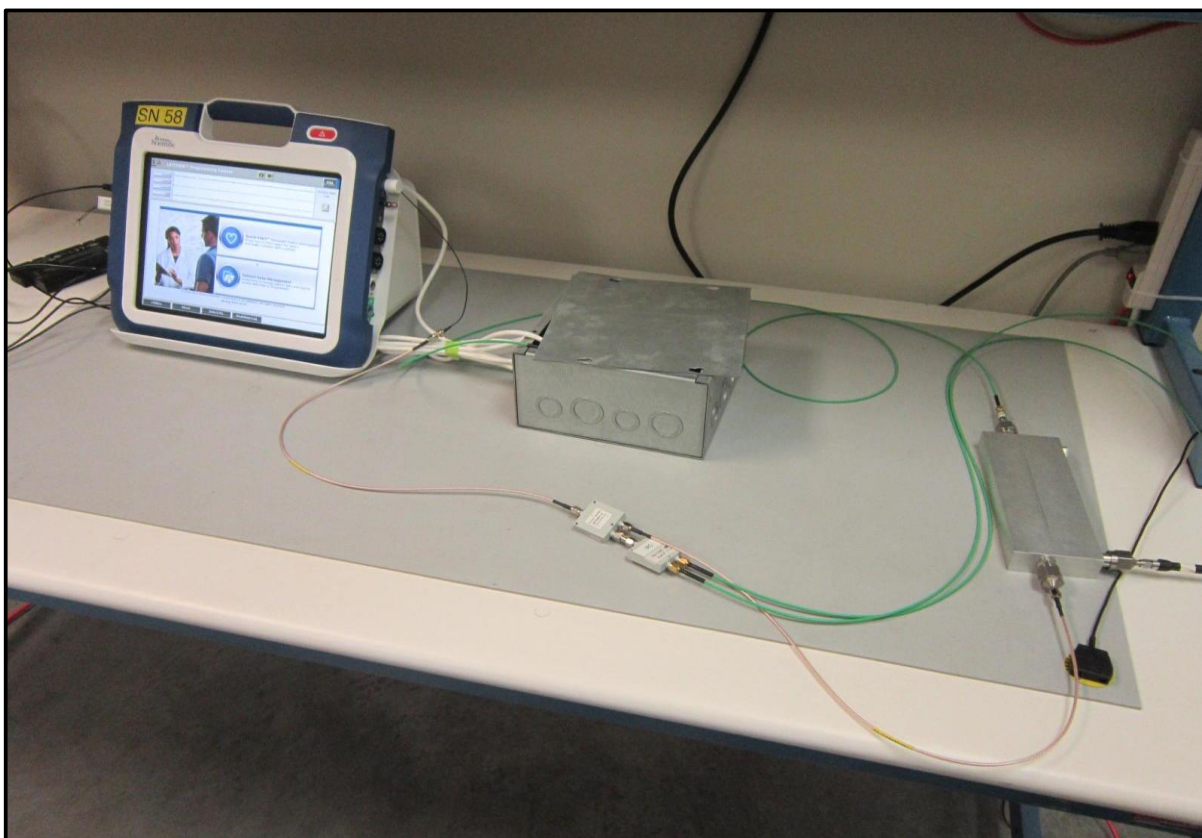
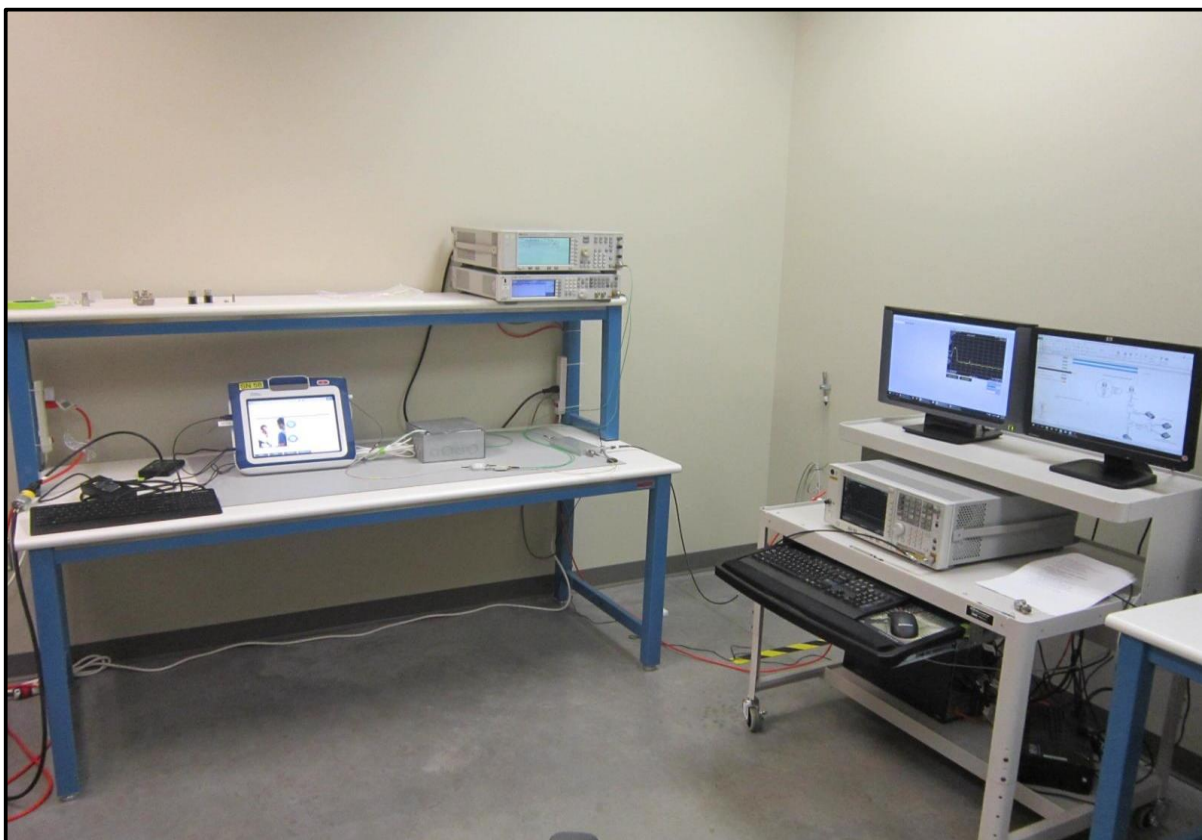
Initial on Fc						
	Transmit on LIC	Transmit on LIC2	Transmit on Fc	Limit	Result	
	No	No	Yes	N/A	N/A	



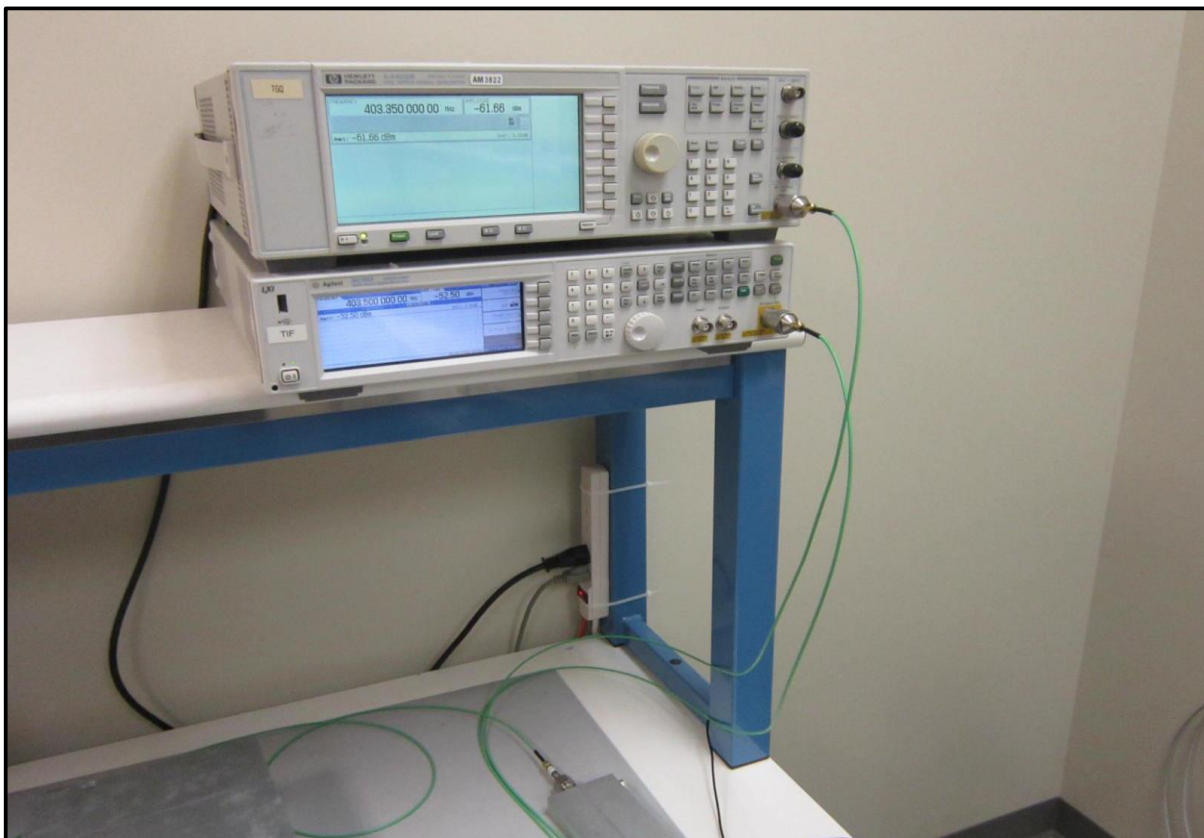
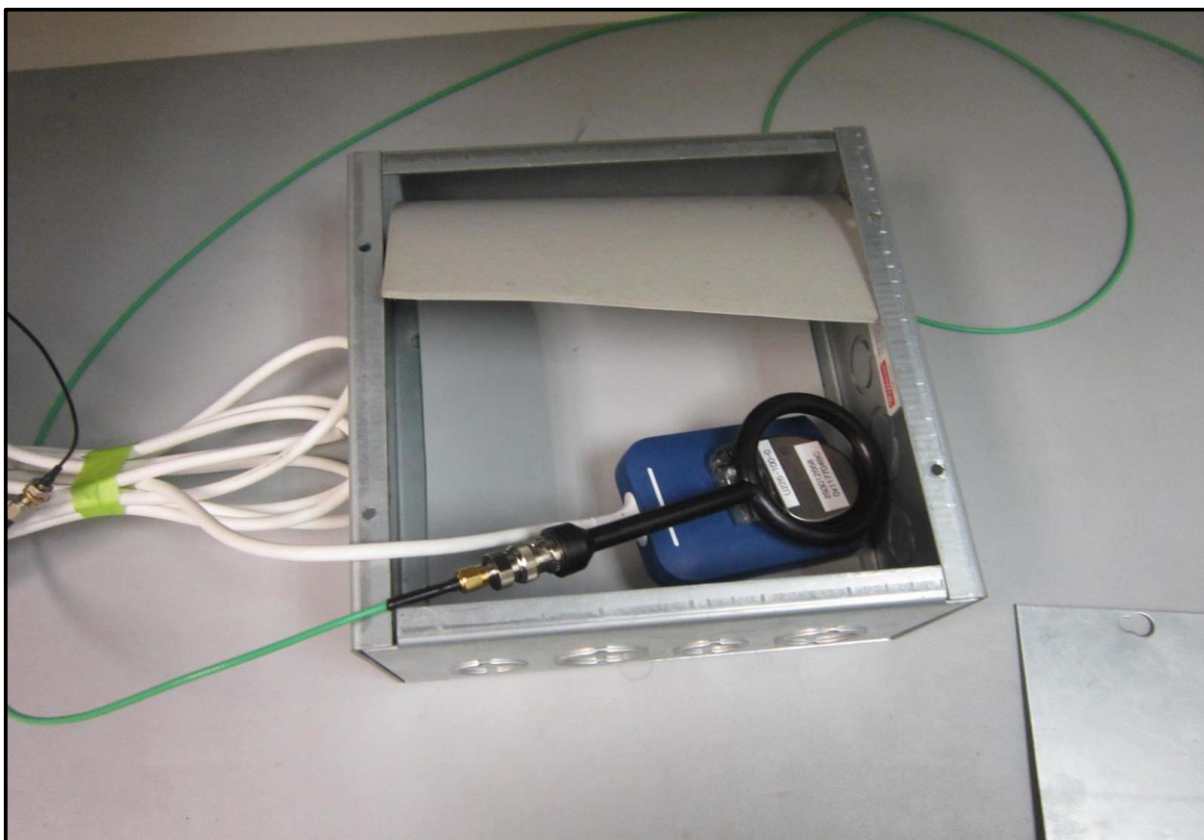
LIC2 Available						
	Transmit on LIC	Transmit on LIC2	Transmit on Fc	Limit	Result	
	No	Yes	No	N/A	N/A	



USE OF PRE-SCANNED ALTERNATIVE CHANNEL



USE OF PRE-SCANNED ALTERNATIVE CHANNEL



RECEIVER BLOCKING, 10 CHANNEL

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.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Generator - Signal	Agilent	E4422B	TGQ	3/17/2015	3/17/2018
Directional Coupler	Fairview Microwave	SMC4039-10	RGS	NCR	NCR
Power Divider/Combiner	Fairview Microwave Inc (SM electronics)	MP8451-2	IAD	NCR	NCR
Power Divider/Combiner	Fairview Microwave Inc (SM electronics)	MP8451-2	IAC	NCR	NCR
Generator - Signal	Agilent	N5182A	TIF	8/12/2014	8/12/2017
Cable	ESM Cable Corp.	TTBJ141 KMKM-72	MNU	9/18/2015	9/18/2016
Attenuator	S.M. Electronics	SA26B-20	RFW	2/26/2016	2/26/2017
Block - DC	Fairview Microwave	SD3379	AMI	9/18/2015	9/18/2016
Analyzer - Spectrum Analyzer	Agilent	E4440A	AAX	3/24/2016	3/24/2017

TEST DESCRIPTION

The EUT was placed in a shielded enclosure to prevent communication with the support equipment's integral antenna. The signal generator was set to multitone operation to cause equal interference across the entire band. The amplitude of the multitone signals (out of operation region) were set to the LBT threshold of $10 \cdot \text{LOG}(\text{Bandwidth}) - 150 + \text{Antenna Gain} + 10 \text{ dB}$.

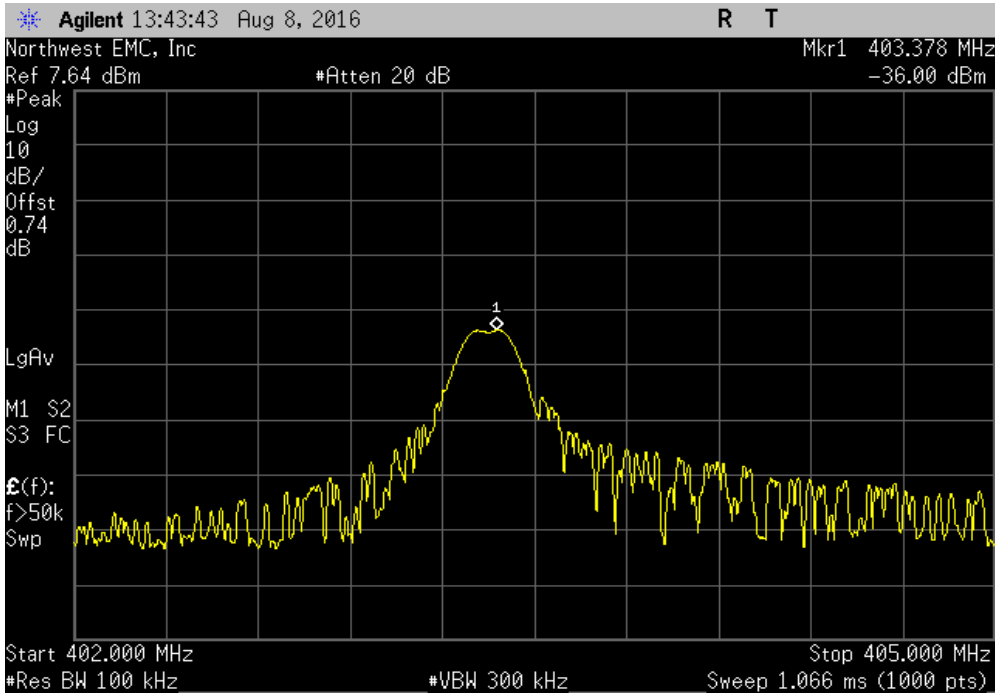
The intended frequency (Fc) was set to the LBT threshold - 3 dB. The EUT was verified to transmit on Fc. An unmodulated test signal was applied from the signal generator at offsets of approximately +5 MHz and -5 MHz from the center frequency. The level of the signal generator was set to the LBT calculated access threshold + 35dB. The EUT was verified for its ability to initiate a communications session in the presence of an unwanted emission (the blocking signal.)

RECEIVER BLOCKING, 10 CHANNEL

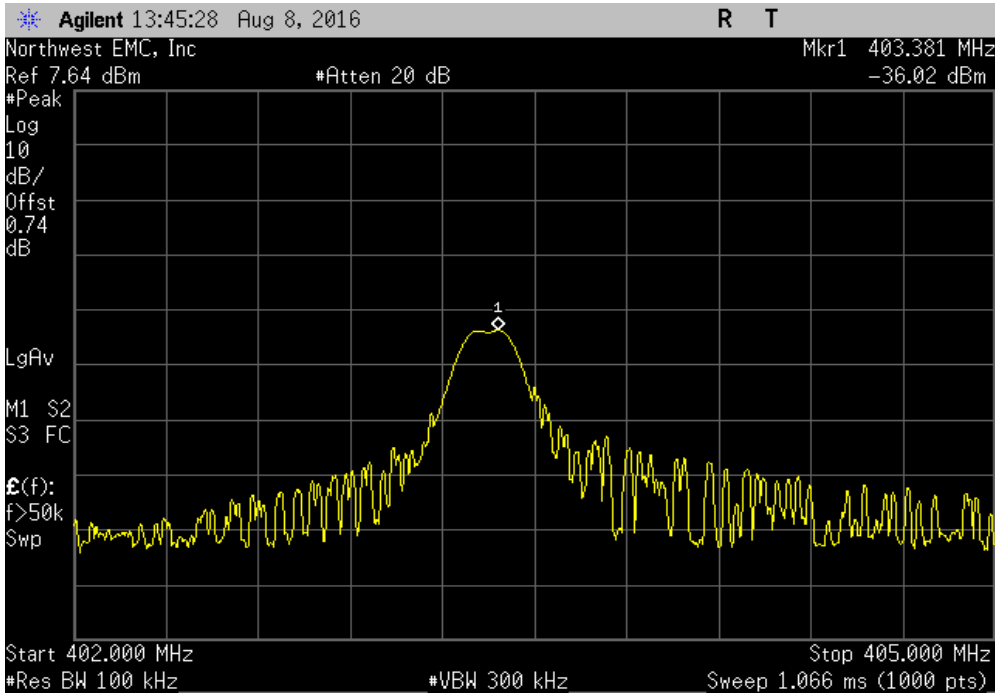
EUT: Model 3300		Work Order: BSTN0663	
Serial Number: 058		Date: 08/11/16	
Customer: Boston Scientific Corporation		Temperature: 23.2 °C	
Attendees: None		Humidity: 60.2% RH	
Project: Laramie Vision		Barometric Pres.: 1014 mbar	
Tested by: Dustin Sparks		Power: 230VAC/50Hz	
		Job Site: MN08	
TEST SPECIFICATIONS		Test Method	
EN 301 839 V2.1.1:2016		EN 301 839 V2.1.1:2016	
COMMENTS			
Per customer request, blocking was performed to meet the requirements of EN 301 839 V2.1.1:2016. Fc = 403.35 MHz			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	7	Signature <i>Dustin Sparks</i>	
		Fc Blocked? (Yes/No)	Limit
Fc + 5 MHz		No	No
Fc - 5 MHz		No	No
			Result
			Pass
			Pass

RECEIVER BLOCKING, 10 CHANNEL

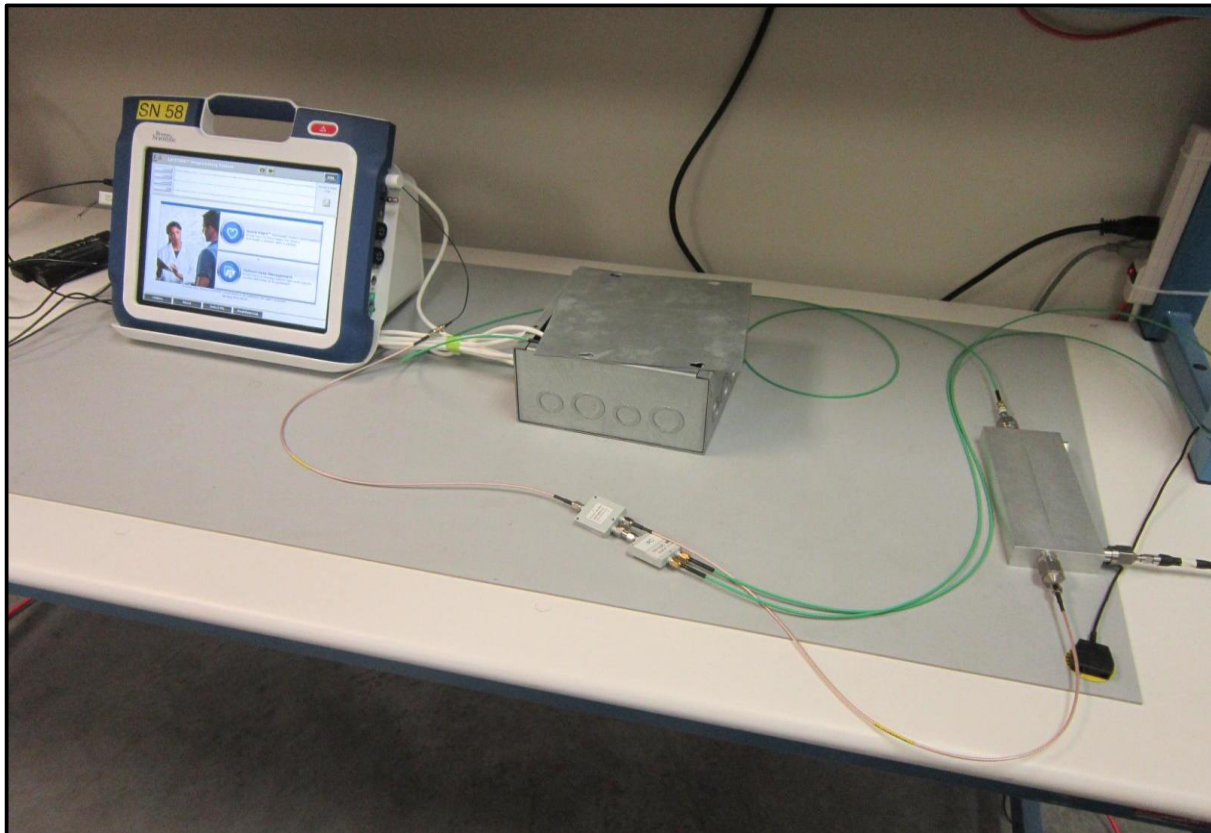
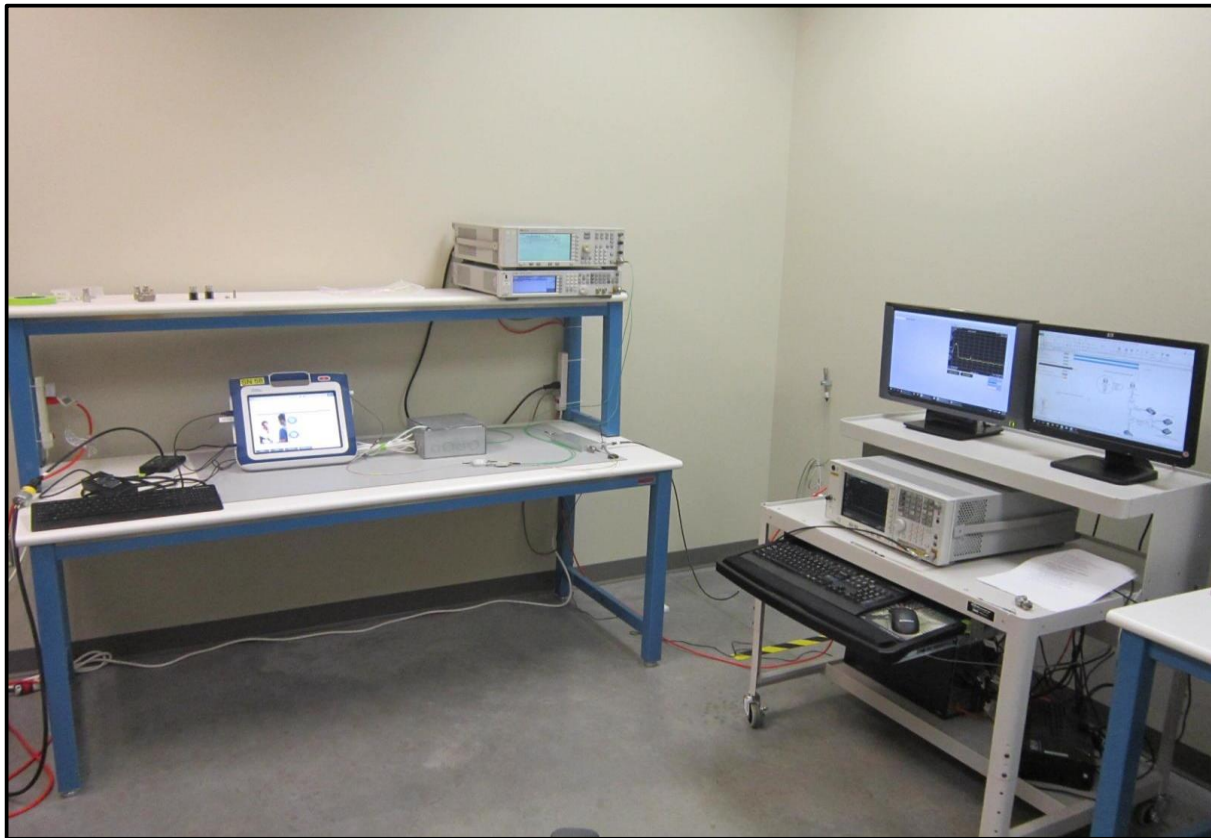
Fc + 5 MHz						
				Fc Blocked? (Yes/No)	Limit	Result
				No	No	Pass



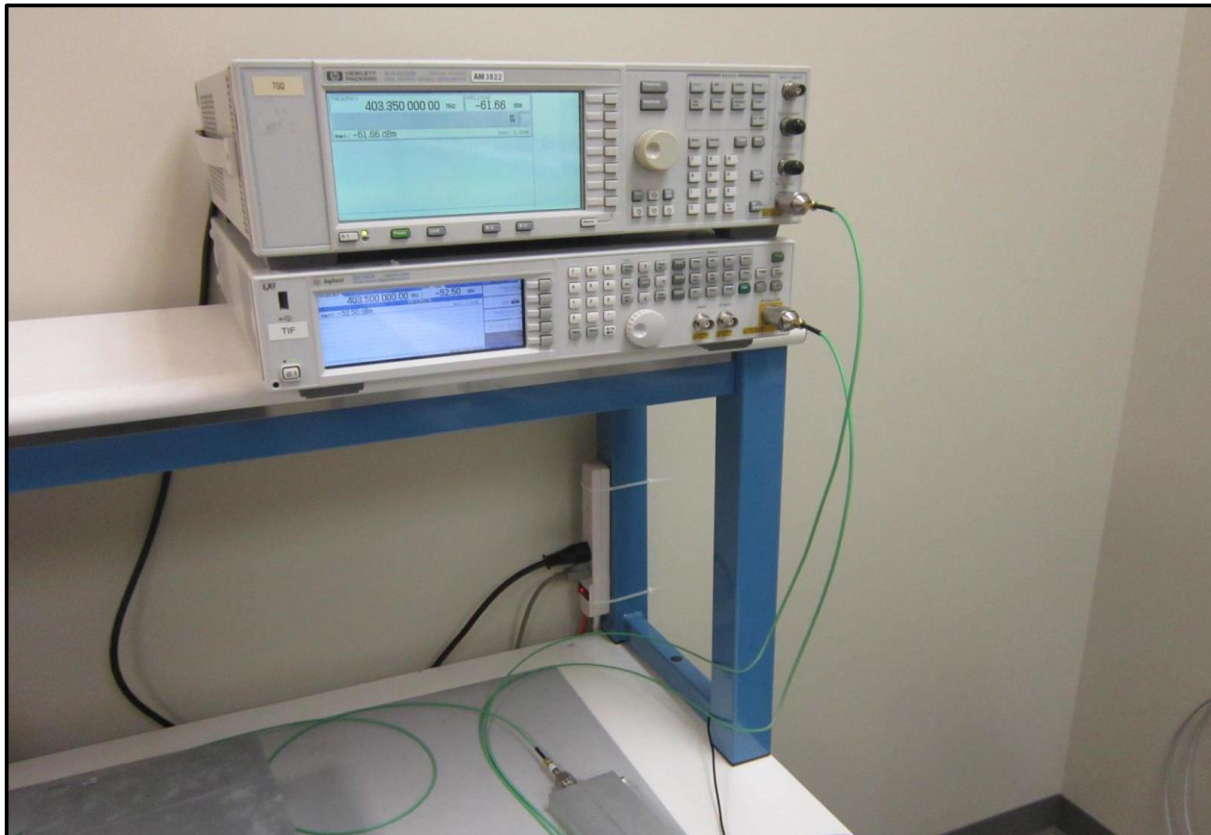
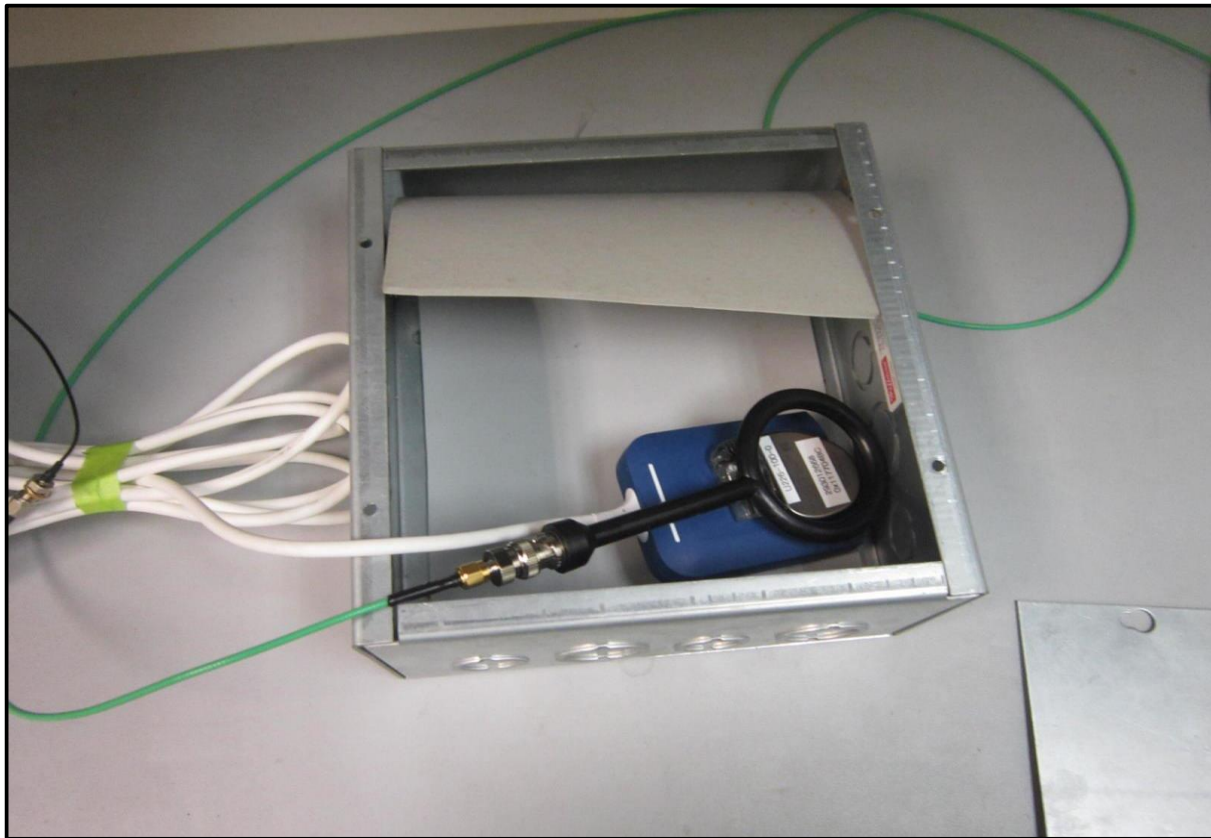
Fc - 5 MHz						
				Fc Blocked? (Yes/No)	Limit	Result
				No	No	Pass



RECEIVER BLOCKING, 10 CHANNEL



RECEIVER BLOCKING, 10 CHANNEL



RECEIVER BLOCKING, 2 CHANNEL

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TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Probe - Near Field Set	ETS Lindgren	7405	IPO	NCR	NCR
Directional Coupler	Fairview Microwave	SMC4039-10	RGS	NCR	NCR
Power Divider/Combiner	Fairview Microwave Inc (SM electronics)	MP8451-2	IAD	NCR	NCR
Power Divider/Combiner	Fairview Microwave Inc (SM electronics)	MP8451-2	IAC	NCR	NCR
Generator - Signal	Agilent	N5183A	TIK	10/17/2014	10/17/2017
Generator - Signal	Agilent	N5182A	TIF	8/12/2014	8/12/2017
Cable	ESM Cable Corp.	TTBJ141 KMKM-72	MNU	9/18/2015	9/18/2016
Attenuator	S.M. Electronics	SA26B-20	RFW	2/26/2016	2/26/2017
Block - DC	Fairview Microwave	SD3379	AMI	9/18/2015	9/18/2016
Analyzer - Spectrum Analyzer	Agilent	E4440A	AAX	3/24/2016	3/24/2017

TEST DESCRIPTION

The EUT was placed in a shielded enclosure to prevent communication with the support equipment's integral antenna. The signal generator was set to multitone operation to cause equal interference across the entire band. The amplitude of the multitone signals (out of operation region) were set to the LBT threshold of $10 \cdot \text{LOG}(\text{Bandwidth}) - 150 + \text{Antenna Gain} + 10 \text{ dB}$.

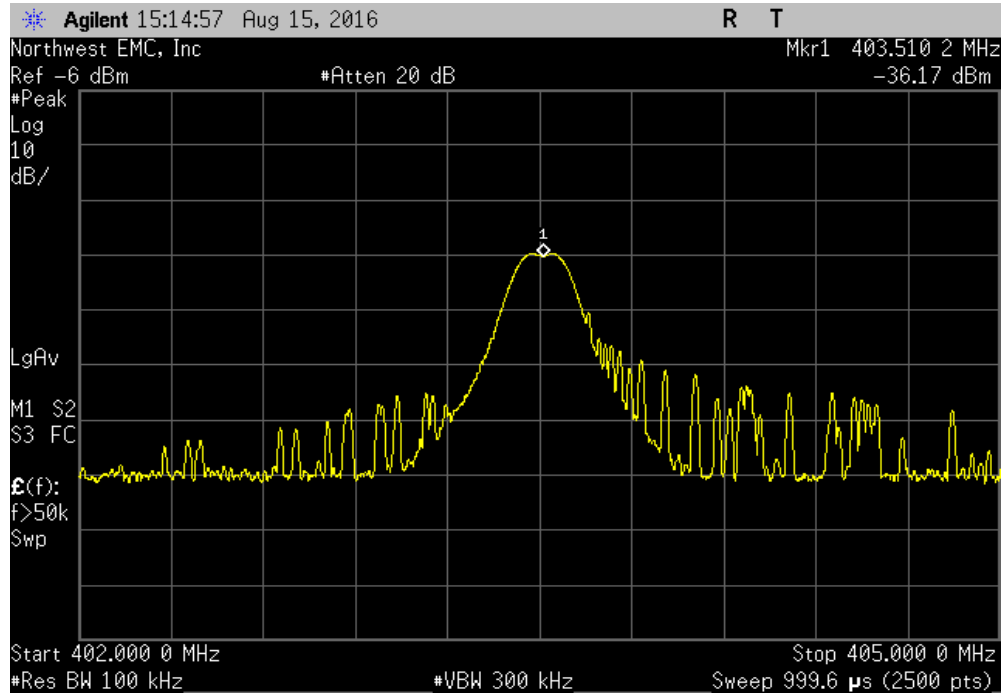
The intended frequency (F_c) was set to the LBT threshold - 3 dB. The EUT was verified to transmit on F_c . An unmodulated test signal was applied from the signal generator at offsets of approximately +5 MHz and -5 MHz from the center frequency. The level of the signal generator was set to the LBT calculated access threshold + 35dB. The EUT was verified for its ability to initiate a communications session in the presence of an unwanted emission (the blocking signal.)

RECEIVER BLOCKING, 2 CHANNEL

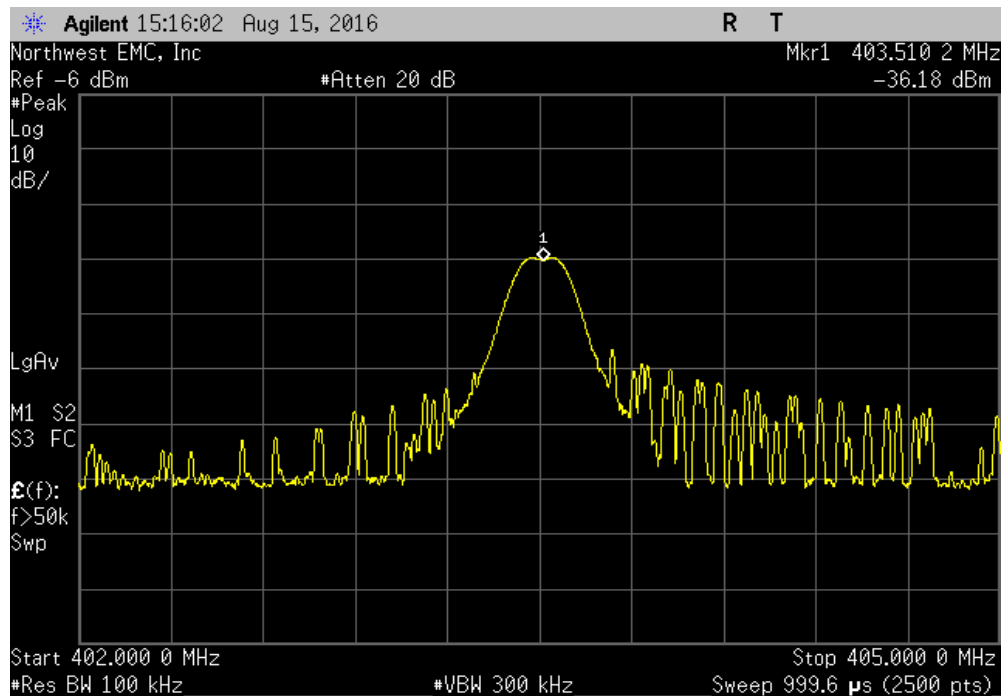
EUT: Model 3300		Work Order: BSTN0663	
Serial Number: 058		Date: 08/16/16	
Customer: Boston Scientific Corporation		Temperature: 23.5 °C	
Attendees: Pete Musto		Humidity: 60.2% RH	
Project: Laramie Vision		Barometric Pres.: 1019 mbar	
Tested by: Dustin Sparks	Power: 230VAC/50Hz	Job Site: MN08	
TEST SPECIFICATIONS			
EN 301 839 V2.1.1:2016		Test Method	
EN 301 839 V2.1.1:2016		EN 301 839 V2.1.1:2016	
COMMENTS			
Per customer request, blocking was performed to meet the requirements of EN 301 839 V2.1.1:2016. Fc = 403.5108 MHz			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	10	Signature 	
		Fc Blocked? (Yes/No)	Limit
Fc - 5 MHz		No	No
Fc + 5 MHz		No	No
			Result
			Pass
			Pass

RECEIVER BLOCKING, 2 CHANNEL

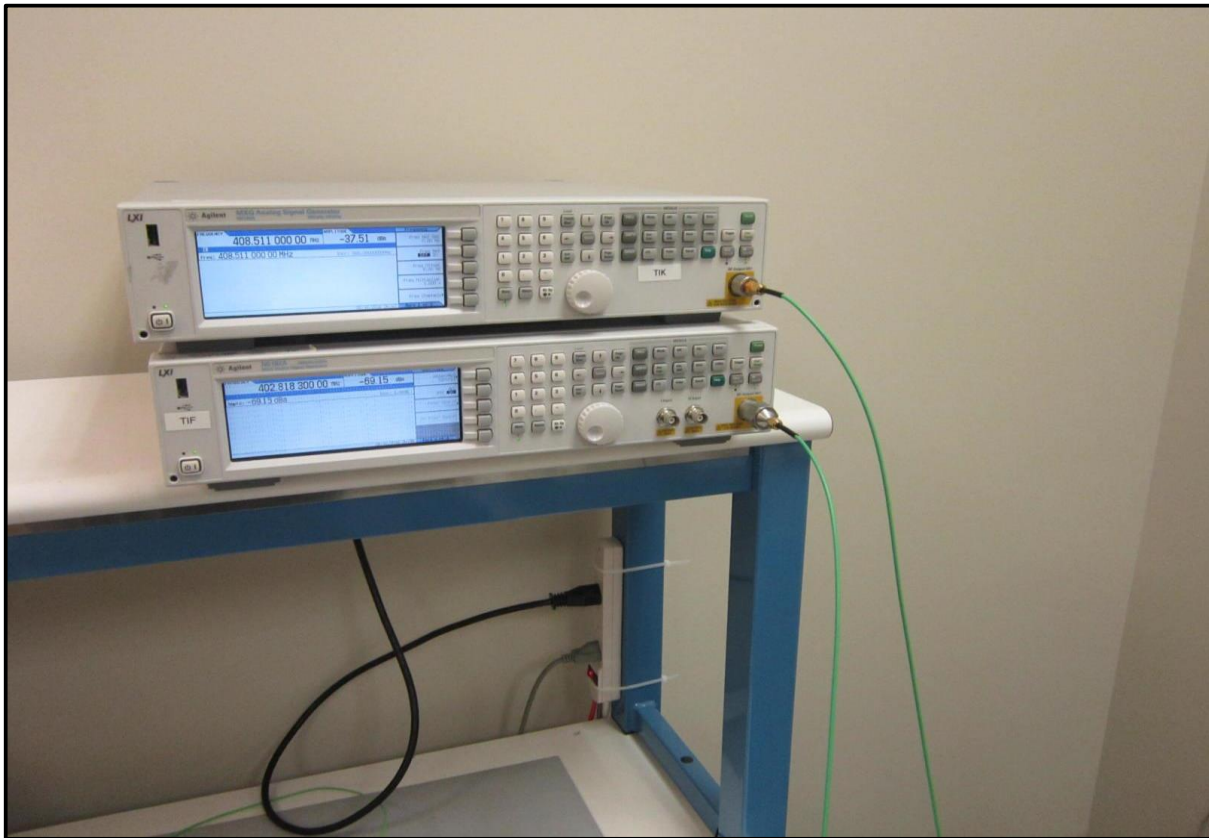
Fc - 5 MHz				Fc Blocked? (Yes/No)	Limit	Result
				No	No	Pass



Fc + 5 MHz				Fc Blocked? (Yes/No)	Limit	Result
				No	No	Pass



RECEIVER BLOCKING, 2 CHANNEL



RECEIVER BLOCKING, 2 CHANNEL

