Elliot	t	EMO	C Test Data
Client:	Nokia	Job Number:	T36596
Model:	2.4GHz FHSS Wireless 10/100	T-Log Number:	T38016
		Proj Eng:	Mark Briggs
Contact:	Ivar Sanders		
Emissions Spec:	FCC	Class:	В
Immunity Spec:		Environment:	N/A

EMC Test Data

For The

Nokia

Model

2.4GHz FHSS Wireless 10/100

Client	Nokia			Job Number	T36596
Model:	2 4GHz FHSS Wireless 1	0/100		T-Log Number:	T38016
would.		0/100		Proi Fna	Mark Briggs
Contact:	Ivar Sanders				inan Engge
missions Spec:	FCC			Class:	В
mmunity Spec:				Environment:	N/A
	Т	EST SUM	MARY		
Date	Test Performed	Level	Results	Comment	S
06/15/2000	Spurious Emissions In	FCC Part	Pass	-13.3dB @ 7202	91MHz
	Restricted Bands - Omni	15.209 /			
	Antenna	15.247(c)			
06/15/2000	Spurious Emissions In	FCC Part	Pass	-14.8dB @ 7202	.91MHz
	Restricted Bands - Panel	15.209 /			
	Antenna	15.247(c)			
06/15/2000	Spurious Emissions In	FCC Part	Pass	-6.9dB @ 7202	91MHz
	Restricted Bands -	15.209 /			
	Sector Antenna	15.247(c)			
06/19/2000	Antenna Conducted	FCC Part	Pass	> 20dB	
	Spurious Emissions	15.209 /			
06/19/2000	Output Power	15.247(b)	Pass	24.4dBm	
06/19/2000	Channel Occupancy /	15.247(a)	Pass		
	Separation / Number of				
	Channels	500 45 007()			
06/22/2000	CE, AC Power	FCC 15.207(a)	Pass	Required modif	ication
	120V/60HZ				

Abbreviations Used: RE - Radiated Emissions, CE- Conducted Emissions, RI - Radiated Immunity, CI - Conducted Immunity, ESD - Electrostatic Discharge, EFT - Electrical Fast Transients, VDI - Voltage Dips and Interrupts

Elliot	t	EMC Te	st Data
Client:	Nokia	Job Number:	T36596
Model:	2.4GHz FHSS Wireless 10/100	T-Log Number:	T38016
		Proj Eng:	Mark Briggs
Contact:	Ivar Sanders		
Emissions Spec:	FCC	Class:	В
Immunity Spec:		Environment:	N/A

EUT INFORMATION

General Description

The EUT is a 2.4 – 2.4835 GHz frequency-hopping spread spectrum (FHSS) transceiver that is designed for multipoint operation. Normally, the EUT would be placed on a table top during operation. The EUT was, therefore, placed in this position during testing to simulate the end user environment.

Equipment Under Test

Manufacturer	Model	Description	Serial Number	FCC ID
Nokia		РСВ	792924	
Nokia		Radio	0G3UH3	

EUT Enclosure

It measures approximately 13.7 cm wide by 11.4 cm deep by 3.4 cm high. It is primarily constructed of plastic with an internal conductive coating. The amplifier and dc injector are mounted in die-cast metal boxes.

Modification History

Mod. #	Test	Date	Modificaiton
1			
2			
3			

0111		1		
Client:		10/100	JOD NUMDER:	130590
Model:		5 10/100	I-LOG NUMBER:	138010 Mark Priggs
Contact:	Ivar Sanders		FIUJ EIIY.	IVIAIK DI 1995
Emissions Snec	FCC		Class.	B
Immunity Spec:			Environment	N/A
	Test Co	ocal Support Equipme	nation (1)	
Manufacturer	Model		Serial Number	ECC ID
Maxrad	MFB24010	10 dBi Omni Antenna	N/A	I COID
Til-Tek	TA-2408	17dBi Panel Antenna	N/A	
Til-Tek	TA-2304	12 dBi Sector Antenna	N/A	
Manufacturer	Model	Description	Sendi Mamber	FUUID
Manufacturer IBM IBM	Model	Laptop AC Adapter	78-LZ070 J15JR533PB4	
Manufacturer IBM IBM te: The laptop was or	ly used to configure the	Laptop AC Adapter EUT prior to testing. It was not	78-LZ070 J15JR533PB4 ot connected during testir	ng.
Manufacturer IBM IBM ie: The laptop was or	Ily used to configure the	EUT Interface Ports	78-LZ070 J15JR533PB4 ot connected during testir	ng.
Manufacturer IBM IBM re: The laptop was or	Ily used to configure the	EUT Interface Ports	78-LZ070 J15JR533PB4 ot connected during testir Cable(s)	ig.
Manufacturer IBM IBM e: The laptop was or EUT Port Antenna Output	IVIODEI	Laptop AC Adapter EUT prior to testing. It was not EUT Interface Ports Description Coax (Andrew)	78-LZ070 J15JR533PB4 ot connected during testir Cable(s) Shielded or Unshield Shielded	led Length(

	ott		EMC	Test	Data
Client: Nokia				Job Number:	T36596
Model: 2.4GHz	FHSS Wireless 10/100		T-I	_og Number:	T38016
				Proj Eng:	Mark Briggs
Contact: Ivar San	ders				
Spec: FCC				Class:	N/A
	Rac	diated Emissior	าร		
est Specifics Objective	: The objective of this test sessio specification defined above.	n is to perform final quali	fication test	ing the EUT	relative to the
Date of Test Test Engineer Test Location	: 06/15/2000 : Mehran Birgani : OATS #1	Config. Used: Config Change: EUT Voltage:	1 None 120V /60H	Iz	
General Test Co	onfiguration	ted on the turntable for ra	adiatod cou	rique omiseir	and tooting
For radiated emis	sions testing the measurement an	itenna was located 3 met	ers from the	e EUT.	ons lesting.
For radiated emis	sions testing the measurement an erwise the EUT was operating suc	tenna was located 3 met	ed on either	e EUT. the low, cer	nter or high ch
For radiated emis Unless stated oth mbient Condit	sions testing the measurement an erwise the EUT was operating suctions:	tenna was located 3 met that it constantly hopp 17°C	ed on eithe	e EUT.	nter or high ch
For radiated emis Unless stated oth	sions testing the measurement an erwise the EUT was operating suc ions: Temperature: Rel. Humidity:	itenna was located 3 met ch that it constantly hopp 17°C 93%	ed on either	e EUT.	nter or high ch
For radiated emis Unless stated oth Minimient Condit	sions testing the measurement an erwise the EUT was operating suc ions: Temperature: Rel. Humidity: sults	atenna was located 3 met ch that it constantly hopp 17°C 93%	ed on eithe	e EUT.	nter or high ch
For radiated emis Unless stated oth Ambient Condit	sions testing the measurement an erwise the EUT was operating suc ions: Temperature: Rel. Humidity: sults Test Performed	tenna was located 3 met that it constantly hopp 17°C 93%	ed on either	e EUT. r the low, cer	nter or high ch
For radiated emis Unless stated oth Ambient Condit Summary of Re Run # 1	sions testing the measurement an erwise the EUT was operating suc ions: Temperature: Rel. Humidity: sults Test Performed Spurious Emissions In Restricted Bands - Omni Antenna	Limit FCC Part 15.209 / 15.247(c)	ed on either Result Pass	EUT. the low, cer 	argin 3dB @ .91MHz
For radiated emis Unless stated oth Ambient Condit Summary of Re Run # 1	sions testing the measurement an erwise the EUT was operating suc ions: Temperature: Rel. Humidity: sults Test Performed Spurious Emissions In Restricted Bands - Omni Antenna Spurious Emissions In Restricted Bands - Panel Antenna	Limit FCC Part 15.209 / 15.247(c)	Result Pass Pass	EUT. the low, cer 	argin 3dB @ .91MHz .91MHz

6	Elliott	EMC Test	Data
Client:	Nokia	Job Number:	T36596
Model:	2.4GHz FHSS Wireless 10/100	T-Log Number:	T38016
		Proj Eng:	Mark Briggs
Contact:	Ivar Sanders		
Spec:	FCC	Class:	N/A

Frequency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/Avg	degrees	meters	
7202.910	40.7	Н	54.0	-13.3	Avg	186	1.8	
7202.910	37.5	V	54.0	-16.5	Avg	260	1.2	
4801.910	36.6	Н	54.0	-17.4	Avg	28	1.2	
7202.910	52.2	Н	74.0	-21.8	Pk	186	1.8	
7202.910	48.0	V	74.0	-26.0	Pk	260	1.2	
4801.910	47.4	Н	74.0	-26.6	Pk	28	1.2	

Run #1b: Radiated Spurious Emissions, 2400-24000 MHz. Center Channel @ 2439 MHz UNIT: 10 dBi OMNI

Frequency	Level	Pol	15.209	15.247	Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
7317.000	39.8	V	54.0	-14.2	Avg	164	1.4	
7317.000	38.0	Н	54.0	-16.0	Avg	128	1.0	
4878.000	37.9	V	54.0	-16.1	Avg	270	2.0	
7317.000	51.5	V	74.0	-22.5	Pk	164	1.4	
7317.000	50.7	Н	74.0	-23.3	Pk	128	1.0	
4878.000	47.3	V	74.0	-26.7	Pk	270	2.0	

Run #1c: Radiated Spurious Emissions, 2400-24000 MHz. High Channel @ 2479 MHz UNIT: 10 dBi OMNI

Frequency	Level	Pol	15.209/	/ 15.247	Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
7436.910	38.5	V	54.0	-15.5	Avg	15	2.0	
7436.910	37.0	Н	54.0	-17.0	Avg	251	1.0	
4957.940	34.7	V	54.0	-19.3	Avg	209	1.4	
7436.910	52.3	V	74.0	-21.7	Pk	15	2.0	
7436.910	49.3	H	74.0	-24.7	Pk	251	1.0	
4957.940	46.2	V	74.0	-27.8	Pk	209	1.4	

Client:	Nokia						J	ob Number:	T36596
Model:	2.4GHz FI	HSS Wir	eless 10/10	0			T-L	og Number:	T38016
								Proj Eng:	Mark Briggs
Contact:	Ivar Sande	ers							
Spec:	FCC							Class:	N/A
Run #2a:	Radiated	spurio	ous emiss	ions, 2400	1-24000 MHz	LOW Cha	nnel @ 24	IU I MHZ	
UNIT : 17	dRi Panel								
••••••									
Frequency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments	
Frequency MHz	Level dBµV/m	Pol V/H	15.209 Limit	/ 15.247 Margin	Detector Pk/QP/Avg	Azimuth degrees	Height meters	Comments	
Frequency MHz 7202.910	Level dBµV/m 39.2	Pol V/H V	15.209 Limit 54.0	/ 15.247 Margin -14.8	Detector Pk/QP/Avg Avg	Azimuth degrees 312	Height meters 1.2	Comments	
Frequency MHz 7202.910 4801.910	Level dBµV/m 39.2 38.6	Pol V/H V V	15.209 Limit 54.0 54.0	/ 15.247 Margin -14.8 -15.4	Detector Pk/QP/Avg Avg Avg	Azimuth degrees 312 83	Height meters 1.2 1.0	Comments	
Frequency MHz 7202.910 4801.910 7202.910	Level dBµV/m 39.2 38.6 38.3	Pol V/H V V H	15.209 Limit 54.0 54.0 54.0	/ 15.247 Margin -14.8 -15.4 -15.7	Detector Pk/QP/Avg Avg Avg Avg	Azimuth degrees 312 83 320	Height meters 1.2 1.0 1.5	Comments	
Frequency MHz 7202.910 4801.910 7202.910 7202.910	Level dBµV/m 39.2 38.6 38.3 51.3	Pol V/H V V H V	15.209 Limit 54.0 54.0 54.0 74.0	/ 15.247 Margin -14.8 -15.4 -15.7 -22.7	Detector Pk/QP/Avg Avg Avg Avg Pk	Azimuth degrees 312 83 320 312	Height meters 1.2 1.0 1.5 1.2	Comments	
Frequency MHz 7202.910 4801.910 7202.910 7202.910 7202.910	Level dBµV/m 39.2 38.6 38.3 51.3 50.6	Pol V/H V V H V H	15.209 Limit 54.0 54.0 54.0 74.0 74.0	/ 15.247 Margin -14.8 -15.4 -15.7 -22.7 -23.4	Detector Pk/QP/Avg Avg Avg Avg Pk Pk	Azimuth degrees 312 83 320 312 320	Height meters 1.2 1.0 1.5 1.2 1.2 1.5	Comments	

Frequency	Level	Pol	15.209	15.247	Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
7317.000	37.7	Η	54.0	-16.3	Avg	123	1.0	
7317.000	37.6	V	54.0	-16.4	Avg	8	1.6	
4878.000	35.5	Η	54.0	-18.5	Avg	320	2.2	
7317.000	51.0	V	74.0	-23.0	Pk	8	1.6	
7317.000	50.4	Η	74.0	-23.6	Pk	123	1.0	
4878.000	46.3	Η	74.0	-27.7	Pk	320	2.2	

Run #2c: Radiated Spurious Emissions, 2400-24000 MHz. High Channel @ 2479 MHz UNIT: 17 dBi Panel

Frequency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
7436.910	38.1	Н	54.0	-15.9	Avg	185	1.5	
7436.910	37.7	V	54.0	-16.3	Avg	163	1.3	
4957.940	33.2	V	54.0	-20.8	Avg	335	1.3	
4957.940	32.7	Н	54.0	-21.3	Avg	60	1.4	
7436.910	50.4	Н	74.0	-23.6	Pk	185	1.5	
7436.910	50.0	V	74.0	-24.0	Pk	163	1.3	
4957.940	46.0	V	74.0	-28.0	Pk	335	1.3	
4957.940	46.0	Н	74.0	-28.0	Pk	60	1.4	
			-					-

E	Ellic	ott					ЕМС	Test	Data
Client:	Nokia						J	ob Number:	T36596
Model:	2.4GHz F	HSS Wir	eless 10/10	0			T-L	og Number:	T38016
								Proj Eng:	Mark Briggs
Contact:	Ivar Sand	ers						, ,	
Spec:	FCC							Class:	N/A
Run #3a: UNIT: 12	Radiated dBi Secto	I Spuric ^{or}	ous Emissi	ions, 2400)-24000 MH	z. Low Cha	nnel @ 24	01 MHz	
Frequency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	V/H	Limit	Margin	Pk/QP/Avg	degrees	meters		
7202.910	47.1	V	54.0	-6.9	Avg	203	1.0		
7202.910	43.1	Η	54.0	-10.9	Avg	135	1.2		
4801.910	41.2	V	54.0	-12.8	Avg	120	1.0		
7202.910	54.8	V	74.0	-19.2	Pk	203	1.0		
7202.910	53.1	Н	74.0	-20.9	Pk	135	1.2		
4801.910	49.3	V	74.0	-24.7	Pk	120	1.0		
Run #3b: UNIT: 12	Radiated dBi Secto	i Spuri o or	ous Emiss	ions, 2400)-24000 MH	z. Center C	hannel @	2439 MHz	
Frequency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		

IVITIZ	ubμv/m	V/11	LIIIII	iviaryiri	FNQFIAVY	uegiees	IIIelei S	
7317.000	45.6	V	54.0	-8.4	Avg	180	1.9	
4878.000	45.0	V	54.0	-9.0	Avg	180	1.3	
7317.000	41.5	Н	54.0	-12.5	Avg	140	1.0	
7317.000	54.1	V	74.0	-19.9	Pk	180	1.9	
7317.000	52.0	Н	74.0	-22.0	Pk	140	1.0	
4878.000	51.0	V	74.0	-23.0	Pk	180	1.3	

Run #3c: Radiated Spurious Emissions, 2400-24000 MHz. High Channel @ 2479 MHz

UNIT: 12 dBi Sector

Frequency	Level	Pol	15.209/	/ 15.247	Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
7436.910	39.5	V	54.0	-14.5	Avg	330	1.3	
4957.940	39.1	V	54.0	-14.9	Avg	248	1.3	
4957.940	37.9	Н	54.0	-16.1	Avg	225	2.1	
7436.910	51.6	V	74.0	-22.4	Pk	330	1.3	
7436.910	50.1	Н	74.0	-23.9	Pk	140	1.5	
4957.940	48.1	Н	74.0	-25.9	Pk	225	2.1	

	U IL		EMC 1	Test L)ata
Client: Nokia			loh	Number: T	36596
Model: 2 /GHz	EHSS Wirdlass 10/100				28016
	11133 WIICIE33 10/100		I-LUg		Jork Priggs
Contact: Juar San	dorc				lar briggs
	uers			Classe	1/A
Spec. I CC	A . (Class.	
	Antenna	Conducted Em	NISSIONS		
est Specifics					
Objective	: The objective of this test session specification) defined above.	n is to perform final quali	fication testing	the EUT re	lative to the
Date of Test	: 06/19/2000	Confia. Used:	1		
0 00		O and a Oh and a	None		
Test Engineer	: Vishal Narayan	Config Change:			
Test Engineer Test Location General Test Co When measuring spectrum analyze corrected to allow	: Vishal Narayan : SVOATS 2 onfiguration the conducted emissions from the r via a suitable attenuator to preve for the external attenuators used.	EUT Voltage: EUT Voltage: EUT's antenna port, the nt overloading the meas	120V/60Hz antenna port o surement syste	of the EUT m. All mea	was connected to surements are
Test Engineer Test Location General Test Co When measuring spectrum analyze corrected to allow Unless stated oth Ambient Condit	: Vishal Narayan : SVOATS 2 onfiguration the conducted emissions from the r via a suitable attenuator to preve for the external attenuators used. erwise the EUT was operating suc ions: Temperature: Rel. Humidity:	EUT's antenna port, the nt overloading the meas h that it constantly hopp 25.6°C 55%	120V/60Hz antenna port o surement syste	of the EUT t m. All mea e low, cente	was connected to surements are er or high channe
Test Engineer Test Location General Test Co When measuring spectrum analyze corrected to allow Unless stated oth Ambient Condit	 Vishal Narayan SVOATS 2 Onfiguration the conducted emissions from the r via a suitable attenuator to preve for the external attenuators used. erwise the EUT was operating suc ions: Temperature: Rel. Humidity: sults 	EUT's antenna port, the nt overloading the meas h that it constantly hopp 25.6°C 55%	120V/60Hz antenna port o surement syste	of the EUT t m. All mea e low, cente	was connected to surements are er or high channe
Test Engineer Test Location General Test Co When measuring spectrum analyze corrected to allow Unless stated oth Unless stated oth Minimiant Condit	: Vishal Narayan : SVOATS 2 onfiguration the conducted emissions from the r via a suitable attenuator to preve for the external attenuators used. erwise the EUT was operating suc ions: Temperature: Rel. Humidity: sults Test Performed	EUT's antenna port, the nt overloading the meas h that it constantly hopp 25.6°C 55%	120V/60Hz antenna port o surement syste ed on either th	of the EUT (m. All mea e low, cente	was connected to surements are er or high channe
Test Engineer Test Location General Test Co When measuring spectrum analyze corrected to allow Unless stated oth Unless stated oth Minimient Condit	: Vishal Narayan : SVOATS 2 onfiguration the conducted emissions from the r via a suitable attenuator to preve for the external attenuators used. erwise the EUT was operating suc ions: Temperature: Rel. Humidity: sults Test Performed Antenna Conducted Spurious Emissions	EUT's antenna port, the nt overloading the meas h that it constantly hopp 25.6°C 55% Limit FCC Part 15.209 / 15.247(c)	120V/60Hz antenna port o surement syste ed on either th Result Pass	of the EUT f m. All mea e low, cente be low, center Mar > 20	was connected to surements are er or high channe gin dB
Test Engineer Test Location General Test Co When measuring spectrum analyze corrected to allow Unless stated oth Mbient Condit Gummary of Re Run # 1	 Vishal Narayan SVOATS 2 Onfiguration the conducted emissions from the r via a suitable attenuator to preve for the external attenuators used. erwise the EUT was operating suc tions: Temperature: Rel. Humidity: sults Test Performed Antenna Conducted Spurious Emissions Output Power 	EUT's antenna port, the nt overloading the meas h that it constantly hopp 25.6°C 55% Limit FCC Part 15.209 / 15.247(c) 15.247(b)	120V/60Hz antenna port o surement syste ed on either th Result Pass Pass	of the EUT (m. All mea e low, cente Mar > 20 24.4c	was connected to surements are er or high channe gin dB IBm

EMC Test Data

Client: Nokia

Model: 2.4GHz FHSS Wireless 10/100

T-Log Number: T38016 Proj Eng: Mark Briggs

Class: N/A

Job Number: T36596

Contact: Ivar Sanders

Elliott

Spec: FCC

Run #1: Radiated Spurious Emissions, 30-2484 MHz. Low Channel @ 2401 MHz

Channel	Graph reference #s	Comments
Low	T38016/101-104	All out of band omissions more than 20dP
Mid	T38016/105-108	helew the highest in hand signal level
High	T38016/109-113	below the highest in-ballu signal level

Run #2: Signal Bandwidth

Channel	Frequency (MHz)	Resolution Bandwidth	20dB Signal Bandwidth	Graph reference #
Low	2401	30 kHz	To be measured on the	configuration with the
Mid	2439	30 kHz	TO be measured on the	ifior
High	2479	30 kHz	ampi	iller.

Run #3: Output Power

Channel	Frequency (MHz)	Res BW	Output Power	Graph reference #
Low	2401	2 MHz	24.2	T38016/301
Mid	2439	2 MHz	24.4	T38016/302
High	2479	2 MHz	23.4	T38016/303

Run #4: Number of Channels, Channel Occupancy And Spacing

There were 79 channels (refer to graph T38016/401), giving a channel spacing of 1000kHz. The channel occupancy was measured with the radio transmitting normally (i.e. In hopping mode)

The dwell time on a particular channel was:	130	ms
The period between successive transmissions on a channel was:	10	S
Period of occupancy in 30 seconds was, therefore:	390	ms
Refer to graphs numbered T384016/401 and 402		

6	Elliott		ЕМС	Test	Data
Client:	Nokia		Jo	b Number:	T36596
Model:	2.4GHz FHSS Wireless 10/100		T-Lo	g Number:	T38016
				Proj Eng:	Mark Briggs
Contact:	Ivar Sanders				
Spec:	FCC			Class:	В
	Co	nducted Emissio	ns		
⊺est Spe	Cifics Objective: The objectiveThe objective o the specification(s) defined a	f this test session is to perfor bove.	rm final quali	fication tes	sting the EUT relativ
Da Test Test	te of Test: 06/22/2000 Engineer: David W. Bare Location: CCA#1	Config. Used: Config Change: EUT Voltage:	1 230V/50 Hz	or 120V/60	0Hz or 208V/60 Hz
General For table	Test Configuration top equipment, the EUT was located or 80 cm from the EUT.	a wooden table, 40 cm from	n a vertical co	oupling pla	ne. The LISN was
located					
	Conditions: Temperatu Rel. Humid y of Results	re: 21°C ity: 45%			
located	Conditions: Temperatu Rel. Humid y of Results	re: 21°C ity: 45%	Recult	M	aroin
located Imbient Summar	Conditions: Temperatu Rel. Humid y of Results n # Test Performed CE, AC Power 120V/60Hz	re: 21°C ity: 45%	Result	Ma	argin

Model:2.4GHz FHSS Wireless 10/100Contact:Ivar SandersSpec:FCCRun #1: AC Power Port Conducted Emissions,FrequencyLevelPowerFCC 15.207(a)MHzdB μ VLeadLimitMargir19.99657.1Line148.09.119.99651.6Line148.09.119.99651.6Line148.0-4.521.79045.5Line148.0-5.719.99636.8Line148.0-5.719.99636.8Line148.0-11.2Note 1:Average less than 6 dB below the QP, sNote 2:Removed Ethernet cableNote 3:Added copper tape to end of radio modMadded copper tape to end of radio modRun #2: AC Power Port Conducted Emissions,FrequencyLevelPowerFCC 15.207(a)MHzdB μ VLeadLimitMargir28.22742.4Line148.0-5.61.25434.0Line148.0-14.0	D.45 - 30 MH Detector QP/Ave QP Avg QP QP QP QP QP up ule	z 120 V / 60 H Comments Note 1 Note 2 Note 3 s narrowband	Z	og Number: Proj Eng: Class:	T38016 Mark Briggs B
Contact: Ivar Sanders Spec: FCC Run #1: AC Power Port Conducted Emissions, Frequency Level Power FCC 15.207(a) MHz dBµV Lead Limit Margir 19.996 57.1 Line1 48.0 9.1 19.996 57.1 Line1 48.0 9.1 19.996 51.6 Line1 48.0 -4.5 21.790 45.5 Line1 48.0 -2.5 19.996 36.8 Line1 48.0 -5.7 19.996 36.8 Line1 48.0 -11.2 Note 1: Average less than 6 dB below the QP, state Note 2: Removed Ethernet cable Note 3: Added copper tape to end of radio mod Run #2: AC Power Port Conducted Emissions, Frequency Level Power FCC 15.207(a) MHz BµV Lead Limit Margir 28.227 42.4 Line1 48.0 -5.6 1.254 34.0<	Detector QP/Ave QP Avg QP QP QP QP QP QP QP QP QP QP	z 120 V / 60 H Comments Note 1 Note 2 Note 3 s narrowband	Z	Proj Eng: Class:	Mark Briggs
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Spec: FCC Run #1: AC Power Port Conducted Emissions, Frequency Level Power FCC 15.207(a) MHz dBµV Lead Limit Margir 19.996 57.1 Line1 48.0 9.1 19.996 51.6 Line1 48.0 9.1 19.996 51.6 Line1 48.0 -4.5 21.790 45.5 Line1 48.0 -2.5 19.996 36.8 Line1 48.0 -5.7 19.996 36.8 Line1 48.0 -11.2 Note 1: Average less than 6 dB below the QP, stress Note 2: Removed Ethernet cable Note 2: Removed Ethernet cable Note 3: Added copper tape to end of radio mod Run #2: AC Power Port Conducted Emissions, Frequency Level Power FCC 15.207(a) MHz dBµV Lead Limit Margir 28.227 42.4 Line1 48.0 -5.6 1.254 <t< td=""><td>Detector QP/Ave QP Avg QP QP QP QP QP QP QP QP QP QP</td><td>z 120 V / 60 H Comments Note 1 Note 2 Note 3 s narrowband</td><td>2</td><td>Class:</td><td>B</td></t<>	Detector QP/Ave QP Avg QP QP QP QP QP QP QP QP QP QP	z 120 V / 60 H Comments Note 1 Note 2 Note 3 s narrowband	2	Class:	B
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1.254 34.0 Line1 48.0 -14.0	QP				
	QP	Note 1			
1.254 37.4 Line1 48.0 -10.6	Avg	Note 1			
2.398 33.0 Line1 48.0 -15.0	QP	Note 1			
2.398 34.9 Line1 48.0 -13.1	Avg	Note 1			
28.226 39.5 Neutral 48.0 -8.5	QP				
2.398 41.6 Neutral 48.0 -6.4	QP				
1.177 42.2 Neutral 48.0 -5.8	QP				
Note 1: Emisssion considered broadband so 13		Incode of furgers 1	o Quaci nor	ak amnlitud≙	
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17 E 111(off		FMC Test	Data					
	USS Wiroloss 10/100			1: 130390 r: T20016					
	133 WIEless 10/100		Droi En	a: Mark Priggs					
Contact: Ivar Sand	ore								
		Clas	s: B						
Spec. FCC			Cids	5. D					
	Cond	ducted Emissio	ns						
Test Specifics									
Objective:	The objective of this test session specification(s) defined above.	n is to perform final qualif	ication testing the EU	T relative to the					
Date of Test:	07/20/2000	Config. Used:	1						
Test Engineer:	Pamela Galvan	Config Change:	Config Change: None						
Test Location:	SVOATS #3	EUT Voltage:	EUT Voltage: 120V/60Hz						
General Test Cor	ofiguration								
	ingulation								
For tabletop equipme 80 cm from the EUT.	nt, the EUT was located on a work A second LISN was used for a	ooden table, 40 cm from a Il local support equipmen	a vertical coupling pla t. Remote support ec	ne. The LISN was located uppendix was located					
approximately 30 met	ters from the EUT with all I/O cor	nnections running on top	of the groundplane.						
Ambient Conditio	ons: Temperature:	??°C							
	Rel. Humidity:								
Summary of Res	ults								
, j									
Run #	Test Performed	Limit	Result	Vargin					
1	CE, AC Power 120V/60Hz	FCC 15.207(a)	Pass						
Modifications Ma	nde During Testing: None								

E	Ellio	ott					EMC Test	Data
Client:	Nokia						Job Number:	T36596
Model: 2.4GHz FHSS Wireless 10/100						T-Log Number:	T38016	
							Proj Eng:	Mark Briggs
Contact:	Ivar Sand	lers						
Spec:	c: FCC						Class:	В
Transmit 75% / Receive 20 %mode Frequency Level Power FCC 15.207(a) Detector C						Comments		
MHz	dBµV	Lead	Limit	Margin	QP/Ave			
0.5219	35.7	Line	48.0	-12.3	QP	Signal is broadband, QP reading corrected by -13dB		
0.6714	30.1	Line	48.0	-17.9	QP	Signal is broadband, QP reading corrected by -13dB		
0.9266	33.9	Line	48.0	-14.1	QP			
		Neutral	0.0	0.0	QP			
		Neutral	0.0	0.0	QP			
		Neutral	0.0	0.0	QP			